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ABB AB
Robotics Products
SE-721 68 Västerås
Sweden
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Overview of this manual

About this manual

This manual contains information, procedures and descriptions, for troubleshooting IRC5 based robot systems.

Usage

This manual should be used whenever robot operation is interrupted by malfunction, regardless of whether an error event log message is created or not.

Who should read this manual?

This manual is intended for the following personnel:

- Machine and robot operators qualified to perform very basic troubleshooting and reporting to service personnel.
- Programmers qualified to write and change RAPID programs.
- Specialized troubleshooting personnel, usually very experienced service personnel, qualified for methodically isolating, analyzing and correcting malfunctions within the robot system.

Prerequisites

The reader should:

- Have extensive experience in troubleshooting industrial electro-mechanical machinery.
- Have in depth knowledge of the robot system function.
- Be familiar with the actual robot installation at hand, its surrounding equipment and peripherals.

References

<table>
<thead>
<tr>
<th>Reference:</th>
<th>Document ID:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product manual - IRC5</td>
<td>3HAC021313-001</td>
</tr>
<tr>
<td>Emergency safety information</td>
<td>3HAC027098-001</td>
</tr>
<tr>
<td>General safety information</td>
<td>3HAC031045-001</td>
</tr>
<tr>
<td>Operating manual - IRC5 with FlexPendant</td>
<td>3HAC16590-1</td>
</tr>
<tr>
<td>Operating manual - RobotStudio</td>
<td>3HAC032104-001</td>
</tr>
<tr>
<td>Operating manual - Getting started, IRC5 and RobotStudio</td>
<td>3HAC027097-001</td>
</tr>
<tr>
<td>Technical reference manual - System parameters</td>
<td>3HAC17076-1</td>
</tr>
<tr>
<td>Application manual - MultiMove</td>
<td>3HAC021272-001</td>
</tr>
</tbody>
</table>
# Overview of this manual

*Continued*

## Revisions

<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>First edition.</td>
</tr>
<tr>
<td>A</td>
<td>Information has been added. The document has been partly restructured.</td>
</tr>
<tr>
<td>B</td>
<td>Information on how to submit error report has been changed. Information on RAPID change logs have been added. Event log messages have been added.</td>
</tr>
<tr>
<td>C</td>
<td>Updated Event log messages.</td>
</tr>
<tr>
<td>D</td>
<td>Updated Event log messages.</td>
</tr>
<tr>
<td>E</td>
<td>Updated Event log messages.</td>
</tr>
<tr>
<td>F</td>
<td>Minor corrections. Updated Event log messages.</td>
</tr>
<tr>
<td>G</td>
<td>Minor corrections. Updated Event log messages.</td>
</tr>
<tr>
<td>H</td>
<td>New information in section Serial Measurement Unit regarding the battery pack. More detailed information about trouble shooting power supplies DSQC 604, 661 and 662. Removed safety I/O signals: DRV1PANCH1, DRV1PANCH2, DRV1SPEED. New drive system introduced. Drive System 04 and Drive System 09 are both described.</td>
</tr>
<tr>
<td>J</td>
<td>Released with RobotWare 5.13 The chapter Safety updated with: • Updated safety signal graphics for the levels Danger and Warning, see Safety signals in the manual on page 7. • New safety labels on the manipulators, see Safety symbols on the manipulator labels on page 9. • Updated the graphic in the section DANGER - Live voltage inside Drive Module! on page 17. The contents in the following sections were updated: • Corrections regarding drive system information in chapter Descriptions and background information on page 65. • Restructured the chapters as per the new document startergy. • Updated the graphic in the Recommended actions of the section No voltage in service outlet on page 38. • Updated the Possible causes in the section Problem starting the FlexPendant on page 40. • Updated the graphics in the section LEDs in the Control Module on page 65. • Updated the graphic in Possible causes of the section Problem releasing Robot brakes on page 50.</td>
</tr>
<tr>
<td>K</td>
<td>Updated Event log messages.</td>
</tr>
</tbody>
</table>
1 Safety

1.1. Safety signals in the manual

Introduction to safety signals

This section specifies all dangers that can arise when doing the work described in this manual. Each danger consists of:

- A caption specifying the danger level (DANGER, WARNING, or CAUTION) and the type of danger.
- A brief description of what will happen if the operator/service personnel do not eliminate the danger.
- An instruction on how to eliminate the danger to simplify doing the work.

Danger levels

The table below defines the captions specifying the danger levels used throughout this manual.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Designation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>![danger]</td>
<td>DANGER</td>
<td>Warns that an accident will occur if the instructions are not followed, resulting in a serious or fatal injury and/or severe damage to the product. It applies to warnings that apply to danger with, for example, contact with high voltage electrical units, explosion or fire risk, risk of poisonous gases, risk of crushing, impact, fall from height, etc.</td>
</tr>
<tr>
<td>![warning]</td>
<td>WARNING</td>
<td>Warns that an accident may occur if the instructions are not followed that can lead to serious injury, possibly fatal, and/or great damage to the product. It applies to warnings that apply to danger with, for example, contact with high voltage electrical units, explosion or fire risk, risk of poisonous gases, risk of crushing, impact, fall from height, etc.</td>
</tr>
<tr>
<td>![Electrical shock]</td>
<td>ELECTRICAL SHOCK</td>
<td>Warns for electrical hazards which could result in severe personal injury or death.</td>
</tr>
<tr>
<td>![caution]</td>
<td>CAUTION</td>
<td>Warns that an accident may occur if the instructions are not followed that can result in injury and/or damage to the product. It also applies to warnings of risks that include burns, eye injury, skin injury, hearing damage, crushing or slipping, tripping, impact, fall from height, etc. Furthermore, it applies to warnings that include function requirements when fitting and removing equipment where there is a risk of damaging the product or causing a breakdown.</td>
</tr>
</tbody>
</table>

Continues on next page
1 Safety

1.1. Safety signals in the manual

*Continued*

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Designation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Electrostatic discharge (ESD)" /></td>
<td>ELECTROSTATIC DISCHARGE (ESD)</td>
<td>Warns for electrostatic hazards which could result in severe damage to the product.</td>
</tr>
<tr>
<td><img src="image" alt="Note" /></td>
<td>NOTE</td>
<td>Describes important facts and conditions.</td>
</tr>
<tr>
<td><img src="image" alt="Tip" /></td>
<td>TIP</td>
<td>Describes where to find additional information or how to do an operation in an easier way.</td>
</tr>
</tbody>
</table>
1.2. Safety symbols on the manipulator labels

Introduction to labels
This section describes safety symbols used on labels (stickers) on the manipulator. Symbol are used in combinations on the labels, describing each specific warning. The descriptions in this section are generic, the labels can contain additional information such as values.

Types of labels
Both the manipulator and the controller are marked with several safety and information labels, containing important information about the product. The information is useful for all personnel handling the manipulator system, for example during installation, service, or operation.

The safety labels are language independent, they only use graphics. See Symbols on safety labels on page 9.

The information labels can contain information in text (English, German, and French).

Symbols on safety labels

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="xd900000812" alt="Symbol" /></td>
<td><strong>Warning!</strong> Warnings that an accident <em>may occur</em> if the instructions are not followed that can lead to serious injury, possibly fatal, and/or great damage to the product. It applies to warnings that apply to danger with, for example, contact with high voltage electrical units, explosion or fire risk, risk of poisonous gases, risk of crushing, impact, fall from height, etc.</td>
</tr>
<tr>
<td><img src="xd900000811" alt="Symbol" /></td>
<td><strong>Caution!</strong> Warnings that an accident <em>may occur</em> if the instructions are not followed that can result in injury and/or damage to the product. It also applies to warnings of risks that include burns, eye injury, skin injury, hearing damage, crushing or slipping, tripping, impact, fall from height, etc. Furthermore, it applies to warnings that include function requirements when fitting and removing equipment where there is a risk of damaging the product or causing a breakdown.</td>
</tr>
<tr>
<td><img src="xd900000839" alt="Symbol" /></td>
<td><strong>Prohibition</strong> Used in combinations with other symbols.</td>
</tr>
</tbody>
</table>

Continues on next page
## 1.2. Safety symbols on the manipulator labels

*Continued*

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Product manual](xx900000813) | **Product manual**  
Read the product manual for details. |
| ![Before dismantling see product manual](xx900000816) | **Before dismantling see product manual** |
| ![Do not dismantle](xx900000815) | **Do not dismantle**  
Dismantling this part can cause injury. |
| ![Extended rotation](xx900000814) | **Extended rotation**  
This axis has extended rotation (working area) compared to standard. |
| ![Brake release](xx900000808) | **Brake release**  
Pressing this button will release the brakes. This means that the manipulator arm can fall down. |
| ![Tip risk when loosening bolts](xx900000819) | **Tip risk when loosening bolts**  
The manipulator can tip over if the bolts are not securely fastened. |
| ![Crush](xx900000817) | **Crush**  
Risk for crush injuries. |

*Continues on next page*
### 1.2. Safety symbols on the manipulator labels

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Heat](xd90000818) | Heat  
Risk of heat that can cause burns. |
| ![Moving robot](xd90000819) | Moving robot  
The robot can move unexpectedly. |
| ![Brake release buttons](xd90000820) | Brake release buttons |
| ![Lifting bolt](xd90000821) | Lifting bolt |
| ![Lifting of robot](xd90000822) | Lifting of robot |
| ![Oil](xd90000823) | Oil  
Can be used in combination with prohibition if oil is not allowed. |

*Continued*
1 Safety

1.2. Safety symbols on the manipulator labels

Continued

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="xx0900000824" alt="Mechanical stop" /></td>
<td>Mechanical stop</td>
</tr>
</tbody>
</table>
| ![Stored energy](xx0900000825) | Stored energy  
Warns that this part contains stored energy.  
Used in combination with *Do not dismantle* symbol. |
| ![Pressure](xx0900000826) | Pressure  
Warns that this part is pressurized. Usually contains additional text with the pressure level. |
| ![Shut off with handle](xx0900000827) | Shut off with handle  
Use the power switch on the controller. |
1.3. Safety during trouble shooting

General

All normal service work; installation, maintenance and repair work, is usually performed with all electrical, pneumatic and hydraulic power switched off. All manipulator movements are usually prevented by mechanical stops etc.

Trouble shooting work differs from this. While trouble shooting, all or any power may be switched on, the manipulator movement may be controlled manually from the FlexPendant, by a locally running robot program or by a PLC to which the system may be connected.

Dangers during trouble shooting

This implies that special considerations unconditionally must be taken when trouble shooting:

• All electrical parts must be considered as live.
• The manipulator must at all times be expected to perform any movement.
• Since safety circuits may be disconnected or strapped to enable normally prohibited functions, the system must be expected to perform accordingly.
1.4. Applicable safety standards

The manipulator system is designed in accordance with the requirements of:

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN ISO 12100 -1</td>
<td>Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology</td>
</tr>
<tr>
<td>EN ISO 12100 -2</td>
<td>Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles</td>
</tr>
<tr>
<td>EN ISO 13849-1</td>
<td>Safety of machinery, safety related parts of control systems - Part 1: General principles for design</td>
</tr>
<tr>
<td>EN ISO 13850</td>
<td>Safety of machinery - Emergency stop - Principles for design</td>
</tr>
<tr>
<td>EN ISO 10218-1(^1)</td>
<td>Robots for industrial environments - Safety requirements -Part 1 Robot</td>
</tr>
<tr>
<td>EN ISO 9787</td>
<td>Manipulating industrial robots, Coordinate systems and motion nomenclatures</td>
</tr>
<tr>
<td>EN ISO 9283</td>
<td>Manipulating industrial robots, Performance criteria and related test methods</td>
</tr>
<tr>
<td>EN ISO 14644-1(^2)</td>
<td>Classification of air cleanliness</td>
</tr>
<tr>
<td>EN ISO 13732-1</td>
<td>Ergonomics of the thermal environment - Part 1</td>
</tr>
<tr>
<td>EN 61000-6-4 (option 129-1)</td>
<td>EMC, Generic emission</td>
</tr>
<tr>
<td>EN 61000-6-2</td>
<td>EMC, Generic immunity</td>
</tr>
<tr>
<td>EN IEC 60974-1(^3)</td>
<td>Arc welding equipment - Part 1: Welding power sources</td>
</tr>
<tr>
<td>EN IEC 60974-10(^3)</td>
<td>Arc welding equipment - Part 10: EMC requirements</td>
</tr>
<tr>
<td>EN 60204-1</td>
<td>Safety of machinery - Electrical equipment of machines - Part 1 General requirements</td>
</tr>
<tr>
<td>IEC 60529</td>
<td>Degrees of protection provided by enclosures (IP code)</td>
</tr>
</tbody>
</table>

1. There is a deviation from paragraph 6.2 in that only worst case stop distances and stop times are documented.
2. Only robots with Protection Clean Room.
3. Only valid for arc welding robots. Replaces EN 61000-6-4 for arc welding robots.

European standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 614-1</td>
<td>Safety of machinery - Ergonomic design principles - Part 1: Terminology and general principles</td>
</tr>
<tr>
<td>EN 574</td>
<td>Safety of machinery - Two-hand control devices - Functional aspects - Principles for design</td>
</tr>
<tr>
<td>EN 953</td>
<td>Safety of machinery - General requirements for the design and construction of fixed and movable guards</td>
</tr>
</tbody>
</table>
### Other standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSI/RIA R15.06</td>
<td>Safety Requirements for Industrial Robots and Robot Systems</td>
</tr>
<tr>
<td>ANSI/UL 1740 (option 429-1)</td>
<td>Safety Standard for Robots and Robotic Equipment</td>
</tr>
<tr>
<td>CAN/CSA Z 434-03 (option 429-1)</td>
<td>Industrial Robots and Robot Systems - General Safety Requirements</td>
</tr>
</tbody>
</table>
1 Safety

1.5.1. DANGER - Robot without axes' holding brakes are potentially lethal!

1.5 Safe Trouble Shooting

1.5.1. DANGER - Robot without axes' holding brakes are potentially lethal!

Description

Since the robot arm system is quite heavy, especially on larger robot models, it is dangerous if the holding brakes are disconnected, faulty, worn or in any way rendered non-operational. For instance, a collapsing IRB 7600 arm system may kill or seriously injure a person standing beneath it.

Elimination

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If you suspect that the holding brakes are non-operational, secure the robot arm system by some other means before working on it.</td>
<td>Weight specifications etc. may be found in the Product manual of each robot model.</td>
</tr>
<tr>
<td>2. If you intentionally render the holding brakes non-operational by connecting an external voltage supply, the utmost care must be taken!</td>
<td>How to correctly connect an external voltage supply is detailed in the Product manual of each robot model.</td>
</tr>
</tbody>
</table>

**DANGER!**

NEVER stand inside the robot working area when disabling the holding brakes unless the arm system is supported by some other means!

**DANGER!**

Under no circumstance stand beneath any of the robot's axes!
1.5.2. DANGER - Live voltage inside Drive Module!

Description

The Drive Module has live voltage potentially accessible directly behind the rear covers and inside the front cover, even when the main switches have been switched off.

A Live voltage at transformer terminals even if the main power switches have been switched off.

B Live voltage at Motors ON terminals even if the main power switches have been switched off.
1 Safety

1.5.2. DANGER - Live voltage inside Drive Module!

Continued

Elimination

Read this information before opening the rear cover of either module.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Make sure the incoming mains power supply has been switched off.</td>
</tr>
<tr>
<td>2.</td>
<td>Use a voltmeter to verify that there is not voltage between any of the terminals.</td>
</tr>
<tr>
<td>3.</td>
<td>Proceed with the service work.</td>
</tr>
</tbody>
</table>
1.5.3. WARNING - The unit is sensitive to ESD!

Description
ESD (electrostatic discharge) is the transfer of electrical static charge between two bodies at different potentials, either through direct contact or through an induced electrical field. When handling parts or their containers, personnel not grounded may potentially transfer high static charges. This discharge may destroy sensitive electronics.

Elimination

<table>
<thead>
<tr>
<th>Action</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use a wrist strap</td>
<td>Wrist straps must be tested frequently to ensure that they are not damaged and are operating correctly.</td>
</tr>
<tr>
<td>2. Use an ESD protective floor mat.</td>
<td>The mat must be grounded through a current-limiting resistor.</td>
</tr>
<tr>
<td>3. Use a dissipative table mat.</td>
<td>The mat should provide a controlled discharge of static voltages and must be grounded.</td>
</tr>
</tbody>
</table>

Location of wrist strap button

The location of the wrist strap button is shown in the following illustration.

IRC5

The wrist strap button is located in the top right corner.

A

Wrist strap button
1 Safety

1.5.3. WARNING - The unit is sensitive to ESD!

Continued

Panel Mounted Controller

<table>
<thead>
<tr>
<th></th>
<th>Panel Mounted Control Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Panel Mounted Drive Module</td>
</tr>
<tr>
<td>C</td>
<td>Wrist strap button NOTE! When not used, the wrist strap must always be attached to the wrist strap button.</td>
</tr>
</tbody>
</table>
1.5.4. CAUTION - Hot parts may cause burns!

Description

During normal operation, many manipulator parts become hot, especially the drive motors and gears. Sometimes areas around these parts also become hot. Touching these may cause burns of various severity.

Because of a higher environment temperature, more surfaces on the manipulator get hot and may result in burns.

**NOTE!**
The drive parts in the cabinet can be hot.

Elimination

The instructions below detail how to avoid the dangers specified above:

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Always use your hand, at some distance, to feel if heat is</td>
<td></td>
</tr>
<tr>
<td>radiating from the potentially hot component before actually touching it.</td>
<td></td>
</tr>
<tr>
<td>2. Wait until the potentially hot component has cooled if it is to be</td>
<td></td>
</tr>
<tr>
<td>removed or handled in any other way.</td>
<td></td>
</tr>
<tr>
<td>3. The Bleeder can be hot upto 80 degrees.</td>
<td></td>
</tr>
</tbody>
</table>
1 Safety

1.5.4. CAUTION - Hot parts may cause burns!
2 Trouble shooting Overview

2.1. Documentation and references

General

A great deal of effort was put into writing the event log messages as well as the technical documentation. Though imperfect, they may give vital clues. They are also constantly being upgraded.

The product documentation is available in several languages.

Read the documentation!

Do not wait until nothing else works to read the manual!

References to document numbers are specified in the chapter Reference information in Product manual - IRC5.

Read the circuit diagram!

The complete electrical circuitry of the controller is documented in Product manual - IRC5.

It contains a lot of information useful, or even essential, to a trained trouble shooter.

Read the logs!

The error event logs which may be viewed on either the FlexPendant or RobotStudio, contain lots of information about any malfunction detected by the system.

Check the electronical unit’s LEDs!

If a fault is thought to be caused by an electronic unit (circuit board in the controller or other), the LEDs on the unit front may give leads.

These are described in section Indications on page 65.
2.2. Overview

How to use this manual when trouble shooting

The illustration and description detail how to put the information in this manual to best use during trouble shooting the robot system.

Trouble shooting manual

Fault symptoms and malfunctions:
- Each fault or error is first detected as a symptom, for which an error event log message may or may not be created. It could be an error event log message on the FlexPendant, an observation that the gearbox on axis 6 is getting hot or that the controller can not be started. The faults displaying an event log message are listed in the end of this manual.

Instructions, how to correct faults:
- The instructions are divided into two main categories: descriptions of how to correctly handle the different parts of the system and instructions of how to remedy faults causing the symptoms specified above. The latter category is divided into two sub-
categories, depending on whether to trouble shoot a specific symptom or a suspected unit causing the problem. The first category contains information on how to use the event log to facilitate trouble shooting, etc.

Recommended working procedures:

• Here, you will find a procedure for how to correctly perform certain specific tasks. These may be used to make sure the seemingly irrational behavior of the system is not due to incorrect handling.

Basic reference info:

• This section contains information about what tools to use, references to documents that may be useful when trouble shooting, etc.

Description, systems:

• The different systems and sub-systems are described to give a better understanding of its function when it works “as it’s supposed to”. This enables the trouble shooter to better see and understand the differences between a system that’s functional and one that’s not.

Description, components and details:

• Specific details of the system are described with regards to their function, etc.

Description, functions:

• Contains descriptions on how specific functions within the system work, e.g the RUN chain, and what signals and other systems affect that particular function. This provides for a better understanding of the relations and mechanisms of the robot system.

Indications

• All indication LEDs and other indications (as found on the Control and Drive Modules as well as separate circuit boards, etc) are described in this section along with information about their indication modes and significances respectively. Recommended actions are often specified or references containing such instructions.

Event log messages:

• This section is basically a printout of all available event log messages. These may be displayed either on the FlexPendant or using RobotStudio. Having access to all messages at the same time may be useful during trouble shooting.

Additional information

In addition to the information given in this document, other documents may provide vital information, e.g. the Circuit Diagram.

Such useful documents are listed in Overview of this manual on page 5.
2 Trouble shooting Overview

2.3. Standard toolkit

Continued

2.3. Standard toolkit

General

Listed are tools required to perform the actual trouble shooting work. All tools required to perform any corrective measure, such as replacing parts, are listed in their Product Manual section respectively.

Contents, standard toolkit, IRC5

<table>
<thead>
<tr>
<th>Tool</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw driver, Torx</td>
<td>Tx10</td>
</tr>
<tr>
<td>Screw driver, Torx</td>
<td>Tx25</td>
</tr>
<tr>
<td>Ball tipped screw driver, Torx</td>
<td>Tx25</td>
</tr>
<tr>
<td>Screw driver, flat blade</td>
<td>4 mm</td>
</tr>
<tr>
<td>Screw driver, flat blade</td>
<td>8 mm</td>
</tr>
<tr>
<td>Screw driver, flat blade</td>
<td>12 mm</td>
</tr>
<tr>
<td>Screw driver</td>
<td>Phillips-1</td>
</tr>
<tr>
<td>Box spanner</td>
<td>8 mm</td>
</tr>
</tbody>
</table>

Contents, standard toolkit, trouble shooting

<table>
<thead>
<tr>
<th>Qty</th>
<th>Art. no.</th>
<th>Tool</th>
<th>Rem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Multimeter</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Oscilloscope</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Recorder</td>
<td></td>
</tr>
</tbody>
</table>

Normal shop tools

Contents as specified above.
2.4 Tips and Tricks while trouble shooting

2.4.1. Trouble shooting strategies

Isolate the fault!

Any fault may give rise to a number of symptoms, for which error event log messages may or may not be created. In order to effectively eliminate the fault, it is vital to distinguish the original symptom from the consequential ones.

A help in isolating the fault may be creating a historical fault log as specified in section Make a historical fault log! on page 29.

Split the fault chain in two!

When trouble shooting any system, a good practice is to split the fault chain in two. This means:

- identify the complete chain.
- decide and measure the expected value at the middle of the chain.
- use this to determine in which half the fault is caused.
- split this half into two new halves, etc.
- finally, a single component may be isolated. The faulty one.

Example

A specific IRB 7600 installation has a 12 VDC power supply to a tool at the manipulator wrist. This tool does not work, and when checked, there is no 12 VDC supply to it.

- Check at the manipulator base to see if there is 12 VDC supply. Measurement show there are no 12 VDC supply. (Reference: Circuit Diagram in the Product manual, IRC5)
- Check any connector between the manipulator and the power supply in the controller. Measurement show there are no 12 VDC supply. (Reference: Circuit Diagram in the Product manual, IRC5)
- Check the power supply unit LED. (Reference: Indications on page 65)

Check communication parameters and cables!

The most common causes of errors in serial communication are:

- Faulty cables (e.g. send and receive signals are mixed up)
- Transfer rates (baud rates)
- Data widths that are incorrectly set.

Check the software versions!

Make sure the RobotWare and other software run by the system are the correct version. Certain versions are not compatible with certain hardware combinations.

Also, make a note of all software versions run, since this will be useful information to the ABB support people.

How to file a complete error report to your local ABB service personnel is detailed in section Filing an error report on page 30.
2 Trouble shooting Overview

2.4.2. Work systematically

Do not replace units randomly!

Before replacing any part at all, it is important to establish a probable cause for the fault, thus determining which unit to replace.

Randomly replacing units may sometimes solve the acute problem, but also leaves the trouble shooter with a number of units that may/may not be perfectly functional.

Replace one thing at a time!

When replacing a presumably faulty unit that has been isolated, it is important that only one unit be replaced at a time.

Always replace components as detailed in the Repairs section of the Product manual of the robot or controller at hand.

Test the system after replacing to see if the problem has been solved.

If replacing several units at once:

- it is impossible to determine which of the units was causing the fault.
- it greatly complicates ordering a new spare part.
- it may introduce new faults to the system.

Take a look around!

Often, the cause may be evident once you see it. In the area of the unit acting erroneously, be sure to check:

- Are the attachment screws secured?
- Are all connectors secured?
- Are all cabling free from damage?
- Are the units clean (especially for electronic units)?
- Is the correct unit fitted?

Check for tools left behind!

Some repair and maintenance work require using special tools to be fitted to the robot equipment. If these are left behind (e.g. balancing cylinder locking device or signal cable to a computer unit used for measuring purposes), they may cause erratic robot behavior.

Make sure all such tools are removed when maintenance work is complete!
2.4.3. Keeping track of history

Make a historical fault log!

In some cases, a particular installation may give rise to faults not encountered in others. Therefore, charting each installation may give tremendous assistance to the trouble shooter.

To facilitate trouble shooting, a log of the circumstances surrounding the fault gives the following advantages:

- it enables the trouble shooter to see patterns in causes and consequences not apparent at each individual fault occurrence.
- it may point out a specific event always taking place just before the fault, for example a certain part of the work cycle being run.

Check up the history!

Make sure you always consult the historical log if it is used. Also remember to consult the operator, or similar, who was working when the problem first occurred.

At what stage did the fault occur?

What to look for during trouble shooting depends greatly of when the fault occurred: was the robot just freshly installed? Was it recently repaired?

The table gives specific hints to what to look for in specific situations:

<table>
<thead>
<tr>
<th>If the system has just:</th>
<th>then:</th>
</tr>
</thead>
<tbody>
<tr>
<td>been installed</td>
<td>Check:</td>
</tr>
<tr>
<td></td>
<td>• the configuration files</td>
</tr>
<tr>
<td></td>
<td>• connections</td>
</tr>
<tr>
<td></td>
<td>• options and their configuration</td>
</tr>
<tr>
<td>been repaired</td>
<td>Check:</td>
</tr>
<tr>
<td></td>
<td>• all connections to the replaced part</td>
</tr>
<tr>
<td></td>
<td>• power supplies</td>
</tr>
<tr>
<td></td>
<td>• that the correct part has been fitted</td>
</tr>
<tr>
<td>had a software upgrade</td>
<td>Check:</td>
</tr>
<tr>
<td></td>
<td>• software versions</td>
</tr>
<tr>
<td></td>
<td>• compatibilities between hardware and software</td>
</tr>
<tr>
<td></td>
<td>• options and their configuration</td>
</tr>
<tr>
<td>been moved from one site to another (an already working robot)</td>
<td>Check:</td>
</tr>
<tr>
<td></td>
<td>• connections</td>
</tr>
<tr>
<td></td>
<td>• software versions</td>
</tr>
</tbody>
</table>
2 Trouble shooting Overview

2.5. Filing an error report

2.5. Filing an error report

Introduction

If you require the assistance of ABB support personnel in trouble shooting your system, you may file a formal error report as detailed below.

In order for the ABB support personnel to better solve your problem, you may attach a special diagnostics file that the system generates on demand.

The diagnostics file includes:

- **Event log** A list of all system events.
- **Backup** A backup of the system taken for diagnostics purposes.
- **System information** Internal system information useful to ABB support personnel.

NOTE that it is not required to create or attach any additional files to the error report if not explicitly requested by the support personnel!

Creating the diagnostics file

The diagnostics file is created manually as detailed below.

<table>
<thead>
<tr>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Tap ABB, then Control Panel and then Diagnostics. A display is shown:</td>
</tr>
<tr>
<td><strong>2.</strong> Specify the name you want for the diagnostics file, the save folder of it and tap OK. The default save folder is C:/Temp, but any folder may be selected, for instance an externally connected USB memory. This may take a couple of minutes, while “Creating file. Please wait!” is displayed.</td>
</tr>
<tr>
<td><strong>3.</strong> To shorten file transfer time, you may compress the data into a zip-file.</td>
</tr>
</tbody>
</table>
| **4.** Write a regular e-mail addressed to your local ABB support personnel, and make sure to include the following information:
  - Robot serial number
  - RobotWare version
  - External options
  - A written fault description. The more detailed, the easier for the ABB support personnel to assist you.
  - if available, enclose the license key.
  - attach the diagnostics file! |
| **5.** Mail it! |
3 Troubleshooting by fault symptoms

3.1. Start-up failures

Introduction

This section describes possible faults during start-up and the recommended action for each failure.

Consequences

Problem starting the system.

Symptoms and causes

The following are the possible symptoms of a start-up failure:

- LEDs not lit on any unit.
- Earth fault protection trips.
- Unable to load the system software.
- FlexPendant not responding.
- FlexPendant starts, but does not respond to any input.
- Disk containing the system software does not start correctly.

Recommended actions

The following are the recommended actions to be taken during a start-up failure:

NOTE!

This may be due to a loss of power supply in many stages.

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make sure the main power supply to the system is present and is within the specified limits.</td>
<td>Your plant or cell documentation can provide this information.</td>
</tr>
<tr>
<td>2. Make sure that the main transformer in the Drive module is correctly connected to the mains voltage levels at hand.</td>
<td>How to strap the mains transformer is detailed in the product manual for the controller.</td>
</tr>
<tr>
<td>3. Make sure that the main switches are switched on.</td>
<td></td>
</tr>
<tr>
<td>4. Make sure that the power supply to the Control module and Drive module are within the specified limits.</td>
<td>If required, trouble shoot the power supply units as explained in section Trouble shooting power supply on page 56.</td>
</tr>
<tr>
<td>5. If no LEDs lit, proceed to section All LEDs are OFF at Controller on page 36.</td>
<td></td>
</tr>
<tr>
<td>6. If the system is not responding, proceed to section Controller not responding on page 33.</td>
<td></td>
</tr>
<tr>
<td>7. If the FlexPendant is not responding, proceed to section Problem starting the FlexPendant on page 40.</td>
<td></td>
</tr>
</tbody>
</table>

Continues on next page
3 Troubleshooting by fault symptoms

3.1. Start-up failures

Continued

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>If the FlexPendant starts, but does not communicate with the controller, proceed to section <em>Problem connecting FlexPendant to the controller on page 41.</em></td>
</tr>
</tbody>
</table>
### 3.2. Controller not responding

#### Description

This section describes the possible faults and the recommended actions for each failure:

- Robot controller not responding
- LED indicators not lit

#### Consequences

System cannot be operated using the FlexPendant.

#### Possible causes

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Controller not connected to the mains power supply.</td>
<td>Ensure that the mains power supply is working and the voltage level matches that of the controller requirement.</td>
</tr>
<tr>
<td>2  Main transformer is malfunctioning or not connected correctly.</td>
<td>Ensure that the main transformer is connected correctly to the mains voltage level.</td>
</tr>
<tr>
<td>3  Main fuse (Q1) might have tripped.</td>
<td>Ensure that the mains fuse (Q1) inside the Drive Module is not tripped</td>
</tr>
<tr>
<td>4  Connection missing between the Control and Drive modules.</td>
<td>If the Drive Module does not start although the Control Module is working and the Drive Module main switch has been switched on, ensure that all the connections between the Drive module and the Control module are connected correctly.</td>
</tr>
</tbody>
</table>
3 Troubleshooting by fault symptoms

3.3. Low Controller performance

Description

The controller performance is low, and seems to work irrationally. The controller is not completely “dead”. If it is, proceed as detailed in section Controller not responding on page 33.

Consequences

These symptoms can be observed:

- Program execution is sluggish, seemingly irrational and sometimes stalls.

Possible causes

The computer system is experiencing too high load, which may be due to one, or a combination, of the following:

- Programs containing too high a degree of logical instructions only, causing too fast program loops and in turn, overloads the processor.
- The I/O update interval is set to a low value, causing frequent updates and a high I/O load.
- Internal system cross connections and logical functions are used too frequently.
- An external PLC, or other supervisory computer, is addressing the system too frequently, overloading the system.

Recommended actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustration</th>
</tr>
</thead>
</table>
| 1. Check whether the program contains logical instructions (or other instructions that take “no time” to execute), since such programs may cause the execution to loop if no conditions are fulfilled. To avoid such loops, you can test by adding one or more WAIT instructions. Use only short WAIT times, to avoid slowing the program down unnecessarily. | Suitable places to add WAIT instructions can be:  
- In the main routine, preferably close to the end.  
- In a WHILE/FOR/GOTO loop, preferably at the end, close to the ENDWHILE/ENDFOR etc. part of the instruction. |
| 2. Make sure the I/O update interval value for each I/O board is not too low. These values are changed using RobotStudio. I/O units that are not read regularly may be switched to “change of state” operation as detailed in the RobotStudio manual. | ABB recommends these poll rates:  
- DSQC 327A: 1000  
- DSQC 328A: 1000  
- DSQC 332A: 1000  
- DSQC 377A: 20-40  
- All others: >100 |
<p>| 3. Check whether there is a large amount of cross connections or I/O communication between PLC and robot system. | Heavy communication with PLCs or other external computers can cause heavy load in the robot system main computer. |</p>
<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Try to program the PLC in such a way that it uses event driven instructions, instead of looped instructions.</td>
<td>The robot system have a number of fixed system inputs and outputs that may be used for this purpose. Heavy communication with PLCs or other external computers can cause heavy load in the robot system main computer.</td>
</tr>
</tbody>
</table>
### 3.4. All LEDs are OFF at Controller

**Description**

No LEDs at all are lit on the Control Module or the Drive Module respectively.

**Consequences**

The system cannot be operated or started at all.

**Possible causes**

The symptom can be caused by (the causes are listed in order of probability):

- The system is not supplied with power.
- The main transformer is not connected for the correct mains voltage.
- Circuit breaker F6 (if used) is malfunctioning or open for any other reason.
- Contactor K41 is malfunctioning or open for any other reason.
### Recommended actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make sure the main switch has been switched on.</td>
<td></td>
</tr>
<tr>
<td>2. Make sure the system is supplied with power.</td>
<td>Use a voltmeter to measure incoming mains voltage.</td>
</tr>
<tr>
<td>3. Check the main transformer connection.</td>
<td>The voltages are marked on the terminals. Make sure they match the shop supply voltage.</td>
</tr>
<tr>
<td>4. Make sure circuit breaker F6 (if used) is closed in position 3.</td>
<td>The circuit breaker F6 is shown in the circuit diagram in the product manual for the controller.</td>
</tr>
<tr>
<td>5. Make sure contactor K41 opens and closes when ordered.</td>
<td></td>
</tr>
<tr>
<td>6. Disconnect connector X1 from the Drive Module power supply and measure the incoming voltage.</td>
<td>Measure between pins X1.1 and X1.5.</td>
</tr>
<tr>
<td>7. If the power supply incoming voltage is correct (230 VAC) but the LEDs still do not work, replace the Drive Module power supply.</td>
<td>Replace the power supply as detailed in the product manual for the controller.</td>
</tr>
</tbody>
</table>
3.5. No voltage in service outlet

**Description**

Some Control Modules are equipped with service voltage outlet sockets, and this information applies to these modules only.

No voltage is available in the Control Module service outlet for powering external service equipment.

**Consequences**

Equipment connected to the Control Module service outlet does not work.

**Probable causes**

The symptom can be caused by (the causes are listed in order of probability):

- Tripped circuit breaker (F5)
- Tripped earth fault protection (F4)
- Mains power supply loss
- Transformers incorrectly connected
3 Troubleshooting by fault symptoms

3.5. No voltage in service outlet

Recommended actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make sure the circuit breaker in the Control Module has not been tripped.</td>
<td>Make sure any equipment connected to the service outlet does not consume too much power, causing the circuit breaker to trip.</td>
</tr>
<tr>
<td>2. Make sure the earth fault protection has not been tripped.</td>
<td>Make sure any equipment connected to the service outlet does not conduct current to ground, causing the earth fault protection to trip.</td>
</tr>
<tr>
<td>3. Make sure the power supply to the robot system is within specifications.</td>
<td>Refer to the plant documentation for voltage values.</td>
</tr>
<tr>
<td>4. Make sure the transformer (A) supplying the outlet is correctly connected, i.e. input and output voltages in accordance with specifications.</td>
<td>Refer to the plant documentation for voltage values.</td>
</tr>
</tbody>
</table>
### 3.6. Problem starting the FlexPendant

**Description**

The FlexPendant is completely or intermittently "dead".

No entries are possible, and no functions are available.

If the FlexPendant starts but does not display a screen image, proceed as detailed in section *Problem connecting FlexPendant to the controller on page 41*.

**Consequences**

The system cannot be operated using the FlexPendant.

**Possible causes**

The symptom can be caused by (the causes are listed in order of probability):

- The system has not been switched on.
- The FlexPendant is not connected to the controller.
- The cable from the controller is damaged.
- The cable connector is damaged.
- FlexPendant power supply from controller is faulty.

**Recommended actions**

The following actions are recommended (listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make sure the system is switched on and that the FlexPendant is connected to the controller.</td>
<td>How to connect the FlexPendant to the controller is detailed in <em>Operating manual - Getting started, IRC5 and RobotStudio</em>.</td>
</tr>
<tr>
<td>2. Inspect the FlexPendant cable for any visible damage.</td>
<td>If faulty, replace the FlexPendant.</td>
</tr>
<tr>
<td>3. If possible, test by connecting a different FlexPendant to eliminate the FlexPendant and cable as error sources.</td>
<td></td>
</tr>
<tr>
<td>4. If possible, test the FlexPendant with a different controller to eliminate the controller as error source.</td>
<td></td>
</tr>
</tbody>
</table>
3.7. Problem connecting FlexPendant to the controller

**Description**

The FlexPendant starts but does not display a screen image. No entries are possible, and no functions are available. The FlexPendant is not completely dead. If it is dead, proceed as detailed in section *Problem starting the FlexPendant on page 40*.

**Consequences**

The system cannot be operated using the FlexPendant.

**Possible causes**

The symptom can be caused by (the causes are listed in order of probability):

- The Ethernet network has problems.
- The main computer has problems.

**Recommended actions**

The following actions are recommended (listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check all cables from power supply unit to main computer, making sure these are correctly connected.</td>
<td></td>
</tr>
<tr>
<td>2. Make sure the FlexPendant has been correctly connected to the controller.</td>
<td></td>
</tr>
<tr>
<td>3. Check all indication LEDs on all units in the controller.</td>
<td>All indication LEDs and their significance are specified in section <em>Indications on page 65</em>.</td>
</tr>
<tr>
<td>4. Check all status signals on the main computer.</td>
<td></td>
</tr>
</tbody>
</table>
3 Troubleshooting by fault symptoms

3.8. Erratic event messages on FlexPendant

3.8. Erratic event messages on FlexPendant

Description
The event messages displayed on the FlexPendant are erratic and do not seem to correspond to any actual malfunctions on the robot. Several types of messages can be displayed, seemingly erroneously.

This type of fault may occur after major manipulator disassembly or overhaul, if not performed correctly.

Consequences
Major operational disturbances due to the constantly appearing messages.

Possible causes
The symptom can be caused by (the causes are listed in order of probability):

- Internal manipulator cabling not correctly performed. Causes may be: faulty connection of connectors, cable loops too tight causing the cabling to get strained during manipulator movements, cable insulation chafed or damaged by rubbing short-circuiting signals to earth.

Recommended actions
The following actions are recommended (listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inspect all internal manipulator cabling, especially all cabling disconnected, connected re-routed or bundled during recent repair work.</td>
<td>Refit any cabling as detailed in the product manual for the robot.</td>
</tr>
<tr>
<td>2. Inspect all cable connectors to make sure these are correctly connected and tightened.</td>
<td></td>
</tr>
<tr>
<td>3. Inspect all cable insulation for damage.</td>
<td>Replace any faulty cabling as detailed in the product manual for the robot.</td>
</tr>
</tbody>
</table>
3.9. Problem jogging the robot

Description

The system can be started but the joystick on the FlexPendant does not work.

Consequences

The robot can not be jogged manually.

Possible causes

The symptom can be caused by (the causes are listed in order of probability):
- The joystick is malfunctioning.
- The joystick may be deflected.

Recommended actions

The following actions are recommended (listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make sure the controller is in manual mode.</td>
<td>How to change operating mode is described in Operating manual - IRC5 with FlexPendant.</td>
</tr>
<tr>
<td>2. Make sure the FlexPendant is connected correctly to the Control Module.</td>
<td></td>
</tr>
<tr>
<td>3. Reset the FlexPendant.</td>
<td>Press Reset button located on the back of the FlexPendant.</td>
</tr>
</tbody>
</table>

NOTE!

The Reset button resets the FlexPendant not the system on the Controller.
3 Troubleshooting by fault symptoms

3.10. Reflashing firmware failure

3.10. Reflashing firmware failure

Description

When reflashing firmware, the automatic process can fail.

Consequences

The automatic reflashing process is interrupted and the system stops.

Possible causes

This fault usually occurs due to a lack of compatibility between hardware and software.

Consequences

The following actions are recommended (listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check the event log for a message specifying which unit failed.</td>
<td>The logs may also be accessed from RobotStudio.</td>
</tr>
<tr>
<td>2. Was the relevant unit recently replaced? If YES; make sure the versions of the old and new unit is identical. If NO; check the software versions.</td>
<td></td>
</tr>
<tr>
<td>3. Was the RobotWare recently replaced? If YES; make sure the versions of the old and new unit is identical. If NO; proceed below!</td>
<td></td>
</tr>
<tr>
<td>4. Check with your local ABB representative for a firmware version compatible with your hardware/software combination.</td>
<td></td>
</tr>
</tbody>
</table>
3.11. Inconsistent path accuracy

Description

The path of the robot TCP is not consistent. It varies from time to time, and is sometimes accompanied by noise emerging from bearings, gearboxes, or other locations.

Consequences

Production is not possible.

Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- Robot not calibrated correctly.
- Robot TCP not correctly defined.
- Parallel bar damaged (applies to robots fitted with parallel bars only).
- Mechanical joint between motor and gearbox damaged. This often causes noise to be emitted from the faulty motor.
- Bearings damaged or worn (especially if the path inconsistency is coupled with clicking or grinding noises from one or more bearings).
- The wrong robot type may be connected to the controller.
- The brakes may not be releasing correctly.

Recommended actions

In order to remedy the symptom, the following actions are recommended (the actions are listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make sure the robot tool and work object are correctly defined.</td>
<td>How to define these are detailed in Operating manual - IRC5 with FlexPendant.</td>
</tr>
<tr>
<td>2. Check the revolution counters’ positions.</td>
<td>Update if required.</td>
</tr>
<tr>
<td>3. If required, recalibrate the robot axes.</td>
<td>How to calibrate the robot is detailed in Operating manual - IRC5 with FlexPendant.</td>
</tr>
<tr>
<td>4. Locate the faulty bearing by tracking the noise.</td>
<td>Replace faulty bearing as specified in the product manual for the robot.</td>
</tr>
<tr>
<td>5. Locate the faulty motor by tracking the noise. Study the path of the robot TCP to establish which axis, and thus which motor, may be faulty.</td>
<td>Replace the faulty motor/gearbox as specified in the product manual for the robot.</td>
</tr>
<tr>
<td>6. Check the trueness of the parallel bar (applies to robots fitted with parallel bars only).</td>
<td>Replace the faulty parallel bar as specified in the product manual for the robot.</td>
</tr>
<tr>
<td>7. Make sure the correct robot type is connected as specified in the configuration files.</td>
<td></td>
</tr>
<tr>
<td>8. Make sure the robot brakes work properly.</td>
<td>Proceed as detailed in section Problem releasing Robot brakes on page 50.</td>
</tr>
</tbody>
</table>
3.12. Oil and grease stains on motors and gearboxes

Description
The area surrounding the motor or gearbox shows signs of oil leaks. This can be at the base, closest to the mating surface, or at the furthest end of the motor at the resolver.

Consequences
Besides the dirty appearance, in some cases there are no serious consequences if the leaked amount of oil is very small. However, in some cases the leaking oil lubricates the motor brake, causing the manipulator to collapse at power down.

Possible causes
The symptom can be caused by (the causes are listed in order of probability):

- Leaking seal between gearbox and motor.
- Gearbox overfilled with oil.
- Gearbox oil too hot.

Recommended actions
In order to remedy the symptom, the following actions are recommended (the actions are listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>CAUTION!</strong> Before approaching the potentially hot robot component, observe the safety information in section <strong>CAUTION - Hot parts may cause burns! on page 21.</strong></td>
<td></td>
</tr>
<tr>
<td>2. Inspect all seals and gaskets between motor and gearbox. The different manipulator models use different types of seals. Replace seals and gaskets as specified in the product manual for the robot.</td>
<td></td>
</tr>
<tr>
<td>3. Check the gearbox oil level. Correct oil level is specified in the product manual for the robot.</td>
<td></td>
</tr>
</tbody>
</table>
| 4. Too hot gearbox oil may be caused by:  
  - Oil quality or level used is incorrect.  
  - The robot work cycle runs a specific axis too hard. Investigate whether it is possible to program small "cooling periods" into the application.  
  - Overpressure created inside gearbox. Check the recommended oil level and type as specified in the product manual for the robot. Manipulators performing certain, extremely heavy duty work cycles may be fitted with vented oil plugs. These are not fitted to normal duty manipulators, but may be purchased from your local ABB representative. |
3 Troubleshooting by fault symptoms

3.13. Mechanical noise

Description
During operation, no mechanical noise should be emitted from motors, gearboxes, bearings, or similar. A faulty bearing often emits scraping, grinding, or clicking noises shortly before failing.

Consequences
Failing bearings cause the path accuracy to become inconsistent, and in severe cases, the joint can seize completely.

Possible causes
The symptom can be caused by (the causes are listed in order of probability):

- Worn bearings.
- Contaminations have entered the bearing races.
- Loss of lubrication in bearings.

If the noise is emitted from a gearbox, the following can also apply:
- Overheating.

Recommended actions
The following actions are recommended (listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
</table>
| 1. **CAUTION!**  
Before approaching the potentially hot robot component, observe the safety information in section **CAUTION - Hot parts may cause burns! on page 21.**  
Determine which bearing is emitting the noise.  
Make sure the bearing has sufficient lubrication.  
If possible, disassemble the joint and measure the clearance.  
Bearings inside motors are not to be replaced individually, but the complete motor is replaced.  
Make sure the bearings are fitted correctly. |  
CAUTION! Before approaching the potentially hot robot component, observe the safety information in section **CAUTION - Hot parts may cause burns! on page 21.**  
As specified in the product manual for the robot.  
As specified in the product manual for the robot.  
Replace faulty motors as specified in the product manual for the robot.  
Also see the product manual for the robot for general instruction on how to handle bearings. |

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### 3 Troubleshooting by fault symptoms

#### 3.13. Mechanical noise

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
</table>
| 7. Too hot gearbox oil may be caused by:  
  - Oil quality or level used is incorrect.  
  - The robot work cycle runs a specific axis too hard. Investigate whether it is possible to program small "cooling periods" into the application.  
  - Overpressure created inside gearbox. | Check the recommended oil level and type as specified in the product manual for the robot. Manipulators performing certain, extremely heavy duty work cycles may be fitted with vented oil plugs. These are not fitted to normal duty manipulators, but may be purchased from your local ABB representative. |
# 3 Troubleshooting by fault symptoms

## 3.14. Manipulator crashes on power down

### Description

The manipulator is able to work correctly while Motors ON is active, but when Motors OFF is active, it collapses under its own weight.

The holding brake, integral to each motor, is not able to hold the weight of the manipulator arm.

### Consequences

The fault can cause severe injuries or death to personnel working in the area or severe damage to the manipulator and/or surrounding equipment.

### Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- Faulty brake.
- Faulty power supply to the brake.

### Recommended actions

The following actions are recommended (listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Determine which motor(s) causes the robot to collapse.</td>
<td>Also see the circuit diagrams in the product manuals for the robot and the controller.</td>
</tr>
<tr>
<td>2. Check the brake power supply to the collapsing motor during the Motors OFF state.</td>
<td>If found faulty, the motor must be replaced as a complete unit as detailed in the product manual for the robot.</td>
</tr>
<tr>
<td>3. Remove the resolver of the motor to see if there are any signs of oil leaks.</td>
<td></td>
</tr>
<tr>
<td>4. Remove the motor from the gearbox to inspect it from the drive side.</td>
<td></td>
</tr>
</tbody>
</table>

Continues on next page
3.15. Problem releasing Robot brakes

Description

When starting robot operation or jogging the robot, the internal robot brakes must release in order to allow movements.

Consequences

If the brakes do not release, no robot movement is possible, and a number of error log messages can occur.

Possible causes

The symptom can be caused by (the causes are listed in order of probability):

- Brake contactor (K44) does not work correctly.
- The system does not go to status Motors ON correctly.
- Faulty brake on the robot axis.
- Supply voltage 24V BRAKE missing.
3 Troubleshooting by fault symptoms

3.15. Problem releasing Robot brakes

Recommended actions

This section details how to proceed when the robot brakes do not release.

<table>
<thead>
<tr>
<th>Action</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make sure the brake contactor is activated.</td>
<td>A ‘tick’ should be audible, or you may measure the resistance across the auxiliary contacts on top of the contactor.</td>
</tr>
<tr>
<td>2. Make sure the RUN contactors (K42 and K43) are activated.</td>
<td>A ‘tick’ should be audible, or you may measure the resistance across the auxiliary contacts on top of the contactor.</td>
</tr>
<tr>
<td>3. Use the push buttons on the robot to test the brakes.</td>
<td>The location of the push buttons differ, depending on robot model. Please refer to the product manual for the robot!</td>
</tr>
<tr>
<td>If just one of the brakes malfunctions, the brake at hand is probably faulty and must be replaced.</td>
<td></td>
</tr>
<tr>
<td>If none of the brakes work, there is probably no 24V BRAKE power available.</td>
<td></td>
</tr>
<tr>
<td>4. Check the Drive Module power supply to make sure 24V BRAKE voltage is OK.</td>
<td></td>
</tr>
<tr>
<td>5. A number of other faults within the system can cause the brakes to remain activated. In such cases, event log messages will provide additional information.</td>
<td>The event log messages can also be accessed using RobotStudio.</td>
</tr>
</tbody>
</table>
3 Troubleshooting by fault symptoms

3.16. Intermittent errors

Description

During operation, errors and malfunctions may occur, in a seemingly random way.

Consequences

Operation is interrupted, and occasionally, event log messages are displayed, that sometimes do not seem to be related to any actual system malfunction. This sort of problem sometimes affects the Emergency stop or Enable chains respectively, and may at times be very hard to pinpoint.

Probable causes

Such errors may occur anywhere in the robot system and may be due to:

- external interference
- internal interference
- loose connections or dry joints, e.g. incorrectly connected cable screen connections.
- thermal phenomena, e.g. major temperature changes within the workshop area.

Recommended actions

In order to remedy the symptom, the following actions are recommended (the actions are listed in order of probability):

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Check all the cabling, especially the cables in the Emergency stop and Enable chains. Make sure all connectors are connected securely.</td>
</tr>
<tr>
<td>2.</td>
<td>Check if any indication LEDs signal any malfunction that may give some clue to the problem. The significance of all indication LEDs are specified in section Indications on page 65.</td>
</tr>
<tr>
<td>3.</td>
<td>Check the messages in the event log. Sometimes specific error combinations are intermittent. The event log messages may be viewed either on the FlexPendant or using RobotStudio.</td>
</tr>
<tr>
<td>4.</td>
<td>Check the robot's behaviour, etc, each time that type of error occurs. If possible, keep track of the malfunctions in a log or similar.</td>
</tr>
<tr>
<td>5.</td>
<td>Check whether any condition in the robot working environment also changes periodically, e.g. interference from any electric equipment only operating periodically.</td>
</tr>
<tr>
<td>6.</td>
<td>Investigate whether the environmental conditions (such as ambient temperature, humidity, etc) has any bearing on the malfunction. If possible, keep track of the malfunctions in a log or similar.</td>
</tr>
</tbody>
</table>

Continues on next page
4 Trouble shooting by Unit

4.1. Trouble shooting the FlexPendant

Continued

General

The FlexPendant communicates, through the Panel Board, with the Control Module main computer. The FlexPendant is physically connected to the Panel Board through a cable in which the +24 V supply and two Enabling Device chains run and emergency stop.

Procedure

The procedure below details what to do if the FlexPendant does not work correctly.

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If the FlexPendant is completely “dead”, proceed as detailed in section Problem starting the FlexPendant on page 40.</td>
<td></td>
</tr>
<tr>
<td>2. If the FlexPendant starts, but does not operate correctly, proceed as detailed in section Problem connecting FlexPendant to the controller on page 41.</td>
<td></td>
</tr>
<tr>
<td>3. If the FlexPendant starts, seems to operate, but displays erratic event messages, proceed as detailed in section Erratic event messages on FlexPendant on page 42.</td>
<td></td>
</tr>
<tr>
<td>4. Check the cable for connections and integrity.</td>
<td></td>
</tr>
<tr>
<td>5. Check the 24 V power supply.</td>
<td></td>
</tr>
<tr>
<td>6. Read the error event log message and follow any instructions of references.</td>
<td></td>
</tr>
</tbody>
</table>
4 Trouble shooting by Unit

4.2. Trouble shooting communications

Overview

This section details how to trouble shoot data communication in the Control and Drive Modules.

Trouble shooting procedure

When trouble shooting communication faults, follow the outline detailed below:

<table>
<thead>
<tr>
<th>Action</th>
<th>Info/illustrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faulty cables (e.g. send and receive signals are mixed up).</td>
<td></td>
</tr>
<tr>
<td>2. Transfer rates (baud rates).</td>
<td></td>
</tr>
<tr>
<td>3. Data widths that are incorrectly set.</td>
<td></td>
</tr>
</tbody>
</table>
4.3. Trouble shooting fieldbuses and I/O units

Where to find information

Information about how to trouble shoot the fieldbuses and I/O units can be found in the manual for the respective fieldbus or I/O unit.
4 Trouble shooting by Unit

4.4.1. Trouble shooting DSQC 604

4.4 Trouble shooting power supply

4.4.1. Trouble shooting DSQC 604

Required test equipment

Equipment needed for trouble shooting:

• Ohmmeter

• Resistive load (e.g. Main Computer DSQC 639 on +24V_PC)

• Voltmeter

Preparations

<table>
<thead>
<tr>
<th>Action</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check the FlexPendant for errors and warnings.</td>
<td></td>
</tr>
</tbody>
</table>

Trouble shooting procedure, DSQC 604

The trouble shooting table is supposed to be used as a detailed instruction together with the trouble shooting flowchart, see Trouble shooting flowchart, DSQC 604 on page 58.

<table>
<thead>
<tr>
<th>Test</th>
<th>Note</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check the indicator LED on DSQC 604.</td>
<td>The indicator LED is labelled DCOK.</td>
<td>If the LED is GREEN, the power supply should be working properly. If the LED is PULSING GREEN, the DC outputs are probably not connected to any units or there may be a short circuit on an output. Proceed with step 2. If the LED is OFF, either the power supply is faulty or it does not have sufficient input voltage. Proceed with step 4.</td>
</tr>
<tr>
<td>2. Check connections between DC outputs and connected units.</td>
<td>Make sure that the power supply is connected to its proper units. A minimum load of 0.5-1A is required on at least one DC output for the 604 to work properly.</td>
<td>If the connections are OK, proceed with step 3. If the connections are faulty or the power supply is not connected to any units at all, repair connections/connect units. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
<tr>
<td>3. Check for short circuits on DC outputs.</td>
<td>Check both the DC outputs on DSQC 604 and the inputs on surrounding units. Measure the resistance between voltage pins and ground. The resistance should NOT be zero. The DC outputs are shown in the Circuit Diagram in Product manual - IRC5.</td>
<td>If no short circuit is found, proceed with step 4. If a short circuit is found on DSQC 604, proceed with step 10. If a short circuit is found on any surrounding unit, get that unit working. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
</tbody>
</table>
## Trouble shooting DSQC 604

### Test 4: Disconnect one DC output at a time and measure its voltage.

- **Make sure that at least one unit is connected at all times. A minimum load of 0.5-1A is required on at least one output for the 604 to work properly.**
- Measure the voltage using a voltmeter. The voltage should be: 
  \[ +24V < U < +27V. \]
- The DC outputs are shown in the Circuit Diagram in *Product manual - IRC5*.
- **If the correct voltage is detected on all outputs and the DCOK LED is green, the power supply is working properly.**
- **If the correct voltage is detected on all outputs and the DCOK LED is off, the power supply is regarded as faulty but does not have to be replaced instantly.**
- **If no or the wrong voltage is detected, proceed with step 5.**

### Test 5: Measure the input voltage to the 604.

- **Measure the voltage using a voltmeter. Voltage should be: \[ 172 < U < 276V. \]**
- The AC input is shown in the Circuit Diagram in *Product manual - IRC5*.
- **If the input voltage is correct, proceed with step 10.**
- **If no or the wrong input voltage is detected, proceed with step 6.**

### Test 6: Check switches Q1-2.

- **Make sure that they are closed.**
- Their physical location is shown in the Circuit Diagram in *Product manual - IRC5*.
- **If the switches are closed, proceed with step 7.**
- **If the switches are open, close them. Verify that the fault has been fixed and restart this guide if necessary.**

### Test 7: Check main fuse F2 and optional fuse F6 if used.

- **Make sure that they are open.**
- Their physical location is shown in the Circuit Diagram in *Product manual - IRC5*.
- **If the fuses are open, proceed with step 8.**
- **If the fuses are closed, open them. Verify that the fault has been fixed and restart this guide if necessary.**

### Test 8: Make sure that the input voltage to the cabinet is the correct one for that particular cabinet.

- **If the input voltage is correct, proceed with step 9.**
- **If the input voltage is incorrect, adjust it. Verify that the fault has been fixed and restart this guide if necessary.**

### Test 9: Check the cabling.

- **Make sure that the cabling is correctly connected and not faulty.**
- **If the cabling is OK, the problem is likely to be the transformer T1 or the input filter. Try to get this part of the supply working. Verify that the fault has been fixed and restart this guide if necessary.**
- **If the cabling is found unconnected or faulty, connect/replace it. Verify that the fault has been fixed and restart this guide if necessary.**
4 Trouble shooting by Unit

4.4.1. Trouble shooting DSQC 604

Trouble shooting flowchart, DSQC 604

1. Check LED
   - Pulsing green
   - Off
   - Green

2. Check output connections
3. Check for short circuits on outputs
4. Measure DC outputs

5. Measure AC input
6. Check switches Q1-2
7. Check fuses F2 (F6)
8. Close switches Q1-2
9. Recheck AC input

10. Replace DSQC 604

Faulty cabling
Cabling ok

Faulty transformer T1 or filter
Probable cause of malfunction: transformer T1 or filter

Power supply unit works properly

Correct DC level
Wrong DC level
Correct AC level
Wrong AC level

Correct AC level
Wrong DC level
Connections not ok
Connections ok
Short circuit on unit(s)
Short circuit on output(s)
Fix short circuit
Fix connections
Fix short circuit
Fix cable

Power supply unit works properly
4.4.2. Trouble shooting DSQC 661

**Required test equipment**

Equipment needed for trouble shooting:

- Ohmmeter
- Resistive load (e.g. Main Computer DSQC 639 on +24V_PC)
- Voltmeter

**Preparations**

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Check the FlexPendant for errors and warnings.</td>
</tr>
<tr>
<td>2.</td>
<td>Make sure that the control system power supply is in run-time mode. (Do this by waiting 30 seconds after power-on.)</td>
</tr>
</tbody>
</table>

**Trouble shooting procedure, DSQC 661**

The trouble shooting table is supposed to be used as a detailed instruction together with the trouble shooting flowchart, see *Trouble shooting flowchart, DSQC 661 on page 61.*

<table>
<thead>
<tr>
<th>Test</th>
<th>Note</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check the indicator LED on DSQC 661.</td>
<td>The indicator LED is labelled DCOK.</td>
<td>If the LED is GREEN, the 661 should be working properly. If the LED is PULSING GREEN, the DC output is probably not connected to any unit (load) or there may be a short circuit on the output. Proceed with step 2. If the LED is OFF, either the 661 is faulty or it does not have sufficient input voltage. Proceed with step 4.</td>
</tr>
<tr>
<td>2. Check connection between DC output and connected unit.</td>
<td>Make sure that the power supply is connected to DSQC 662. A minimum load of 0.5-1A is required on the DC output for the 661 to work properly.</td>
<td>If the connection is OK, proceed with step 3. If the connection is faulty or the power supply is not connected to DSQC 662, repair connection/ connect it. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
<tr>
<td>3. Check for short circuit on DC output.</td>
<td>Check both the DC output on DSQC 661 and the input on DSQC 662. Measure the resistance between voltage pins and ground. The resistance should NOT be zero. The DC output is shown in the Circuit Diagram in <em>Product manual - IRC5.</em></td>
<td>If no short circuit is found, proceed with step 4. If a short circuit is found on DSQC 661, proceed with step 10. If a short circuit is found on DSQC 662, get that unit working. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
</tbody>
</table>

*Continues on next page*
### 4.4.2. Trouble shooting DSQC 661

Continued

<table>
<thead>
<tr>
<th>Test</th>
<th>Note</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>Measure the DC voltage while the output is connected to DSQC 662 or some other load. DSQC 661 requires a minimum load of 0.5-1A in order for it to deliver +24V. Measure the voltage using a voltmeter. The voltage should be: $+24V &lt; U &lt; +27V$. The DC output is shown in the Circuit Diagram in <em>Product manual - IRC5</em>.</td>
<td>If the correct voltage is detected and the DCOK LED is green, the power supply is working properly. If the correct voltage is detected and the DCOK LED is off, the power supply is regarded as faulty but does not have to be replaced instantly. If no or the wrong voltage is detected, proceed with step 5.</td>
</tr>
<tr>
<td>5.</td>
<td>Measure the input voltage to the 661. Measure the voltage using a voltmeter. Voltage should be: $172 &lt; U &lt; 276V$. The AC input is shown in the Circuit Diagram in <em>Product manual - IRC5</em>.</td>
<td>If the input voltage is correct, proceed with step 10. If no or the wrong input voltage is detected, proceed with step 6.</td>
</tr>
<tr>
<td>6.</td>
<td>Check switches Q1-2. Make sure that they are closed. Their physical location is shown in the Circuit Diagram in <em>Product manual - IRC5</em>.</td>
<td>If the switches are closed, proceed with step 7. If the switches are open, close them. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
<tr>
<td>7.</td>
<td>Check main fuse F2 and optional fuse F6 if used. Make sure that they are open. Their physical location is shown in the Circuit Diagram in <em>Product manual - IRC5</em>.</td>
<td>If the fuses are open, proceed with step 8. If the fuses are closed, open them. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
<tr>
<td>8.</td>
<td>Make sure that the input voltage to the cabinet is the correct one for that particular cabinet.</td>
<td>If the input voltage is correct, proceed with step 9. If the input voltage is incorrect, adjust it. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
<tr>
<td>9.</td>
<td>Check the cabling. Make sure that the cabling is correctly connected and not faulty.</td>
<td>If the cabling is OK, the problem is likely to be the transformer T1 or the input filter. Try to get this part of the supply working. Verify that the fault has been fixed and restart this guide if necessary. If the cabling is found unconnected or faulty, connect/replace it. Verify that the fault has been fixed and restart this guide if necessary.</td>
</tr>
<tr>
<td>10.</td>
<td>The 661 may be faulty, replace it and verify that the fault has been fixed. How to replace the unit is detailed in <em>Product manual - IRC5</em>.</td>
<td></td>
</tr>
</tbody>
</table>
Trouble shooting flowchart, DSQC 661

1. Check LED
   - PULSING GREEN
   - OFF
   - GREEN

   Fix connection
   - Connections not ok

   1. Check output connection

   2. Check for short circuit on output

   3. Check for short circuit on output

   Fix short circuit
   - Short circuit(s) not identified

   4. Measure DC output

   5. Measure AC input

   6. Check switches Q1-2

   7. Check fuses F2 (F6)

   8. Measure AC to cabinet

   9. Check cabling

   10. Replace DSQC 661

   Problem cause of dysfunction:
   - Transformer T1 or filter
   - The power supply unit works properly

   The power supply unit works properly
4 Trouble shooting by Unit

4.4.3. Trouble shooting DSQC 662

Required test equipment

Equipment needed for trouble shooting:

- Ohmmeter
- Resistive load (e.g. Main Computer DSQC 639 on +24V_PC)
- Voltmeter

Preparations

<table>
<thead>
<tr>
<th>Action</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check the FlexPendant for errors and warnings.</td>
<td></td>
</tr>
<tr>
<td>2. Make sure that the power distribution board is in run-time mode. Do this by waiting 1 minute after power-on.</td>
<td>When the AC power has been cut off, the indicator LED (Status LED) on DSQC 662 will turn red and stay red until UltraCAP is empty. This may take a long time and is completely normal. It does not mean that there is something wrong with the 662.</td>
</tr>
</tbody>
</table>

Trouble shooting procedure, DSQC 662

The trouble shooting table is supposed to be used as a detailed instruction together with the trouble shooting flowchart, see Trouble shooting flowchart, DSQC 662 on page 64.

<table>
<thead>
<tr>
<th>Test</th>
<th>Note</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check the indicator LED on DSQC 662.</td>
<td>The indicator LED is labelled Status LED.</td>
<td>If the LED is GREEN, the 662 should be working properly. If the LED is PULSING GREEN, a USB communication error has occurred. Proceed with step 2. If the LED is RED, the input/output voltage is low, and/or the logic signal ACOK_N is high. Proceed with step 4. If the LED is PULSING RED, one or more DC outputs are under specified voltage level. Make sure cables are properly connected to its respective units. Proceed with step 4. If the LED is PULSING REDGREEN, a firmware upgrade error has occurred. This is not supposed to happen during runtime mode, proceed with step 6. If the LED is OFF, either the 662 is faulty or it does not have sufficient input voltage. Proceed with step 4.</td>
</tr>
</tbody>
</table>
2. Check USB connection on both ends.  
   If the connection seems OK, proceed with step 6.  
   If there is a problem with the connection, proceed with step 3.

3. Try to fix the communication between the power supply and the computer by reconnecting the cable.  
   Make sure that the USB cable is properly connected on both ends.  
   If the communication comes back up, verify that the fault has been fixed and restart this guide if necessary.  
   If unable to fix the communication, proceed with step 6.

4. Disconnect one DC output at a time and measure its voltage.  
   Make sure that at least one unit is connected at all times.  
   A minimum load of 0.5-1A is required on at least one output for the 662 to work properly.  
   Measure the voltage using a voltmeter. The voltage should be: +24V < U < +27V.  
   The DC outputs are shown in the Circuit Diagram in Product manual - IRC5.  
   If the correct voltage is detected on all outputs and the Status LED is green, the power supply is working properly.  
   If the correct voltage is detected on all outputs and the Status LED is NOT green, the power supply is regarded as faulty but does not have to be replaced instantly.  
   If no or the wrong voltage is detected, proceed with step 5.

5. Measure the input voltage to the 662 and the ACOK_N signal.  
   Measure the voltage using a voltmeter. Input voltage should be: 24 < U < 27V and ACOK_N should be 0V.  
   Make sure that connectors X1 and X2 are connected properly on both ends.  
   The DC input X1 and ACOK_N connector X2 are shown in the Circuit Diagram in Product manual - IRC5.  
   If the input voltage is correct, proceed with step 6.  
   If no or the wrong input voltage is detected, troubleshoot DSQC 661.

6. The 662 may be faulty, replace it and verify that the fault has been fixed.  
   How to replace the unit is detailed in Product manual - IRC5.
4 Trouble shooting by Unit

4.4.3. Trouble shooting DSQC 662

Trouble shooting flowchart, DSQC 662

1. DC OK LED

2. Check USB connection

3. Fix connection

4. Measure DC outputs

5. Measure 24V DC input and AC OK

6. Replace DSQC 662

Troubleshoot DSQC 661

The power supply unit works properly

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5 Descriptions and background information

5.1 Indications

5.1.1. LEDs in the Control Module

General

The Control Module features a number of indication LEDs, which provide important information for trouble shooting purposes. If no LEDs light up at all when switching the system on, trouble shoot as detailed in section All LEDs are OFF at Controller on page 36. All LEDs on the respective units, and their significance, are described in the following sections.

All units with LEDs are shown in the illustration below:

<table>
<thead>
<tr>
<th>LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Ethernet board (any of the four board slots)</td>
</tr>
<tr>
<td>B</td>
<td>Computer unit (DSQC 639)</td>
</tr>
<tr>
<td>C</td>
<td>Customer I/O power supply (up to three units)</td>
</tr>
<tr>
<td>D</td>
<td>Control module power supply</td>
</tr>
<tr>
<td>E</td>
<td>LED board</td>
</tr>
</tbody>
</table>
5 Descriptions and background information

5.1.1. LEDs in the Control Module

Continued

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Ethernet board (any of the four board slots)</td>
</tr>
<tr>
<td>C</td>
<td>Computer unit (DSQC 639)</td>
</tr>
<tr>
<td>D</td>
<td>Customer I/O power supply (up to three units)</td>
</tr>
<tr>
<td>E</td>
<td>Control module power supply</td>
</tr>
<tr>
<td>F</td>
<td>LED board</td>
</tr>
</tbody>
</table>
### 5 Descriptions and background information

#### 5.1.1. LEDs in the Control Module

**Continued**

The illustration below shows the LEDs on the Ethernet board:

![Ethernet board diagram](en0400000919)

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
</table>
| **AXC2 connector LED** | Shows the status of Ethernet communication between Axis Computer 2 and the Ethernet board.  
GREEN OFF: 10 Mbps data rate has been selected.  
GREEN ON: 100 Mbps data rate has been selected.  
YELLOW flashing: The two units are communicating on the Ethernet channel.  
YELLOW steady: A LAN link is established.  
YELLOW OFF: A LAN link is not established. |
| **AXC3 connector LED** | Shows the status of Ethernet communication between Axis Computer 3 and the Ethernet board  
See the description above! |
| **AXC4 connector LED** | Shows the status of Ethernet communication between Axis Computer 4 and the Ethernet board  
See the description above! |

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Control module Power supply

The illustration below shows the LEDs on the Control module power supply:

DSQC

A

xx0400001073

DSQC 661

en1000000041

DSQC 662

A

en1000000042

A

DCOK indicator

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCOK indicator</td>
<td>GREEN: When all DC outputs are above the specified minimum levels.</td>
</tr>
</tbody>
</table>
### Control module Power distribution board

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCOK indicator</td>
<td><strong>GREEN</strong>: When DC output is above the specified minimum level. <strong>OFF</strong>: When the DC output below the specified minimum level.</td>
</tr>
</tbody>
</table>

### Customer Power Supply

The illustration below shows the LEDs on the Customer Power Supply Module:

![Customer Power Supply Module](image)

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCOK indicator</td>
<td><strong>GREEN</strong>: When all DC outputs are above the specified minimum levels. <strong>OFF</strong>: When one or more DC output/s below the specified minimum level.</td>
</tr>
</tbody>
</table>

### Computer unit

The illustration below shows the LEDs on the Computer unit:

![Computer unit](image)

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status LED</td>
<td>Shows the status of the communication on the computer unit</td>
</tr>
</tbody>
</table>
5 Descriptions and background information

5.1.1. LEDs in the Control Module

Continued

Panel board

The illustration below shows the LEDs on the Panel board:

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status LED</td>
<td>GREEN flashing: serial communication error. GREEN steady: no errors found and system is running. RED flashing: system is in power up/selftest mode. RED steady: other error than serial communication error.</td>
</tr>
<tr>
<td>Indication LED, ES1</td>
<td>YELLOW when Emergency stop chain 1 closed</td>
</tr>
<tr>
<td>Indication LED, ES2</td>
<td>YELLOW when Emergency stop chain 2 closed</td>
</tr>
<tr>
<td>Indication LED, GS1</td>
<td>YELLOW when General stop switch chain 1 closed</td>
</tr>
<tr>
<td>Indication LED, GS2</td>
<td>YELLOW when General stop switch chain 2 closed</td>
</tr>
<tr>
<td>Indication LED, AS1</td>
<td>YELLOW when Auto stop switch chain 1 closed</td>
</tr>
<tr>
<td>Indication LED, AS2</td>
<td>YELLOW when Auto stop switch chain 2 closed</td>
</tr>
<tr>
<td>Indication LED, SS1</td>
<td>YELLOW when Superior stop switch chain 1 closed</td>
</tr>
<tr>
<td>Indication LED, SS2</td>
<td>YELLOW when Superior stop switch chain 2 closed</td>
</tr>
<tr>
<td>Indication LED, EN1</td>
<td>YELLOW when ENABLE1=1 and RS-communication is OK</td>
</tr>
</tbody>
</table>

LED board

The function of the LEDs on the LED board are identical to those on the Panel board as described above.

Should the LED board not be working, but the Panel board is, the problem is the communication between these boards or the LED board itself. Check the cabling between them.

Continues on next page
5.1.2. LEDs in the Drive Module for Drive System 04

General

The Drive Module features a number of indication LEDs, which provide important information for trouble shooting purposes. If no LEDs light up at all when switching the system on, trouble shoot as detailed in section *All LEDs are OFF at Controller on page 36*. All LEDs on the respective units, and their significance, are described in the following sections.

All units with LEDs are shown in the illustration below:

LEDs

A | Rectifier
B | Axis Computer
C | Contactor interface board
D | Single servo drive
E | Drive Module Power Supply
F | Main drive unit
The illustration below shows the LEDs on the Axis computer:

A Axis computer

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status LED</td>
<td>Normal sequence during startup:</td>
</tr>
<tr>
<td></td>
<td>1. RED steady: Default at power-up.</td>
</tr>
<tr>
<td></td>
<td>2. GREEN flashing: Establish connection to main computer, retrieve IP address and download the application file.</td>
</tr>
<tr>
<td></td>
<td>3. GREEN steady. Start-up sequence ready. Application is running.</td>
</tr>
<tr>
<td></td>
<td>The following indicates errors:</td>
</tr>
<tr>
<td></td>
<td>• RED steady (forever): The axis computer has failed to initialize basic hardware.</td>
</tr>
<tr>
<td></td>
<td>• RED (long) -&gt; GREEN flashing (short) -&gt; RED (long) -&gt; GREEN flashing (short) -&gt; ...: Missing connection to main computer. Possible cable problem.</td>
</tr>
<tr>
<td></td>
<td>• GREEN flashing (forever): Possible cable or RobotWare problem in main computer.</td>
</tr>
<tr>
<td>Ethernet LED</td>
<td>Shows the status of Ethernet communication between an additional axis computer (2, 3 or 4) and the Ethernet board.</td>
</tr>
<tr>
<td></td>
<td>• GREEN OFF: 10 Mbps data rate has been selected. This is an error state.</td>
</tr>
<tr>
<td></td>
<td>• GREEN ON: 100 Mbps data rate has been selected.</td>
</tr>
<tr>
<td></td>
<td>• YELLOW flashing: The two units are communicating on the Ethernet channel.</td>
</tr>
<tr>
<td></td>
<td>• YELLOW steady: A LAN link is established.</td>
</tr>
<tr>
<td></td>
<td>• YELLOW OFF: A LAN link is not established.</td>
</tr>
</tbody>
</table>
Main drive unit, single drive unit and rectifier unit

The illustration below shows the indication LEDs on the main drive unit, single drive unit and rectifier unit.

NOTE that there are two types of main drive units: a six unit drive and a three unit drive which are both used to power a six axes robot. Shown in the illustration is a six unit drive. The three unit drive is half the size of the six unit drive, but the indication LED is positioned in the same place.

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication LEDs D, E and F</td>
<td>GREEN flashing: Internal function is OK and there is a malfunction in the interface to the unit. The unit does not need to be replaced. \nGREEN steady: Program loaded successfully, unit function OK and all interfaces to the units is fully functional. \nRED steady: Permanent internal fault detected. The LED is to have this mode in case of failure at internal self test at start-up, or in case of detected internal failure state in running system. The unit probably needs to be replaced.</td>
</tr>
</tbody>
</table>
5 Descriptions and background information

5.1.2. LEDs in the Drive Module for Drive System 04

Continued

Drive Module Power Supply

The illustration below shows the LEDs on the Drive Module power supply:

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCOK indicator</td>
<td>GREEN: When all DC outputs are above the specified minimum levels. OFF: When one or more DC output/s below the specified minimum level.</td>
</tr>
</tbody>
</table>

Contactor interface board

The illustration below shows the LEDs on the Contractor interface board:

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Status LED</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Status LED</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEN flashing: serial communication error. GREEN steady: no errors found and system is running. RED flashing: system is in power up/selftest mode. RED steady: other error than serial communication error.</td>
<td></td>
</tr>
</tbody>
</table>
5.1.3. LEDs in the Drive Module for Drive System 09

**General**

The Drive Module features a number of indication LEDs, which provide important information for trouble shooting purposes. If no LEDs light up at all when switching the system on, trouble shoot as detailed in section *All LEDs are OFF at Controller on page 36*. All LEDs on the respective units, and their significance, are described in the following sections.

All units with LEDs are shown in the illustration below:

---

### Units

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Main Drive Unit</td>
</tr>
<tr>
<td>B</td>
<td>Additional Drive Units</td>
</tr>
<tr>
<td>C</td>
<td>Axis computer</td>
</tr>
<tr>
<td>D</td>
<td>Drive Module power supply</td>
</tr>
<tr>
<td>E</td>
<td>Contactor interface board</td>
</tr>
</tbody>
</table>

---

*Continues on next page*
5.1.3. LEDs in the Drive Module for Drive System 09

Continued

Axis computer

The illustration below shows the LEDs on the Axis computer:

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status LED</td>
<td>Normal sequence during startup:</td>
</tr>
<tr>
<td></td>
<td>1. RED steady: Default at power-up.</td>
</tr>
<tr>
<td></td>
<td>2. RED flashing: Establish connection to main computer and load program to axis computer.</td>
</tr>
<tr>
<td></td>
<td>3. GREEN flashing: Start-up of axis computer program and connect peripheral units.</td>
</tr>
<tr>
<td></td>
<td>4. GREEN steady. Start-up sequence ready. Application is running.</td>
</tr>
<tr>
<td></td>
<td>The following indicates errors:</td>
</tr>
<tr>
<td></td>
<td>• DARK: No power to axis computer or internal error (hardware/firmware).</td>
</tr>
<tr>
<td></td>
<td>• RED steady (forever): The axis computer has failed to initialize basic hardware.</td>
</tr>
<tr>
<td></td>
<td>• RED flashing (forever): Missing connection to main computer, main computer start-up problem or RobotWare installation problem.</td>
</tr>
<tr>
<td></td>
<td>• GREEN flashing (forever): Missing connections to peripheral units or RobotWare start-up problem.</td>
</tr>
</tbody>
</table>
5 Descriptions and background information

5.1.3. LEDs in the Drive Module for Drive System 09

Continued

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet LED</td>
<td>Shows the status of Ethernet communication between an additional axis</td>
</tr>
<tr>
<td></td>
<td>computer (2, 3 or 4) and the Ethernet board.</td>
</tr>
<tr>
<td></td>
<td>• GREEN OFF: 10 Mbps data rate has been selected.</td>
</tr>
<tr>
<td></td>
<td>• GREEN ON: 100 Mbps data rate has been selected.</td>
</tr>
<tr>
<td></td>
<td>• YELLOW flashing: The two units are communicating on the Ethernet channel.</td>
</tr>
<tr>
<td></td>
<td>• YELLOW steady: A LAN link is established.</td>
</tr>
<tr>
<td></td>
<td>• YELLOW OFF: A LAN link is not established.</td>
</tr>
</tbody>
</table>

Main Drive Unit and Additional Drive Unit

The illustration below shows the indication LEDs on the Main Drive Unit and Additional Drive Units.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Main Drive Unit</td>
</tr>
<tr>
<td>B</td>
<td>Main Drive Unit Ethernet LEDs</td>
</tr>
<tr>
<td>C</td>
<td>Additional Drive Unit</td>
</tr>
<tr>
<td>D</td>
<td>Additional Drive Unit Ethernet LEDs</td>
</tr>
</tbody>
</table>

Continues on next page
5 Descriptions and background information

5.1.3. LEDs in the Drive Module for Drive System 09

Continued

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet LEDs (B and D)</td>
<td>Shows the status of Ethernet communication between an additional axis computer (2, 3 or 4) and the Ethernet board.</td>
</tr>
<tr>
<td></td>
<td>- GREEN OFF: 10 Mbps data rate has been selected.</td>
</tr>
<tr>
<td></td>
<td>- GREEN ON: 100 Mbps data rate has been selected.</td>
</tr>
<tr>
<td></td>
<td>- YELLOW flashing: The two units are communicating on the Ethernet channel.</td>
</tr>
<tr>
<td></td>
<td>- YELLOW steady: A LAN link is established.</td>
</tr>
<tr>
<td></td>
<td>- YELLOW OFF: A LAN link is not established.</td>
</tr>
</tbody>
</table>

Drive Module Power Supply

The illustration below shows the LEDs on the Drive Module power supply:

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCOK indicator</td>
<td>GREEN: When all DC outputs are above the specified minimum levels.</td>
</tr>
<tr>
<td></td>
<td>OFF: When one or more DC output/s below the specified minimum level.</td>
</tr>
</tbody>
</table>

Contactor interface board

The illustration below shows the LEDs on the Contractor interface board:

<table>
<thead>
<tr>
<th>Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status LED</td>
<td>GREEN flashing: serial communication error.</td>
</tr>
<tr>
<td></td>
<td>GREEN steady: no errors found and system is running.</td>
</tr>
<tr>
<td></td>
<td>RED flashing: system is in power-up/self-test mode.</td>
</tr>
<tr>
<td></td>
<td>RED steady: other error than serial communication error.</td>
</tr>
</tbody>
</table>
6 Trouble shooting by Event log

10002, Program pointer has been reset
Description
The program pointer of task arg has been reset.
Consequences
When started, program execution will start on the first instruction of the task's entry routine. NOTE that the manipulator may move to unexpected position when restarted!
Probable causes
The operator has probably requested this action manually.

10009, Work memory full
Description
The task arg has no memory left for new RAPID instructions or data.
Recommended actions
Save the program and then restart the system.

10010, Motors OFF state
Description
The system is in the Motors OFF state. It enters this state either after switching from Manual mode to Automatic, or after the Motors ON circuit has been opened during program execution.
Consequences
No operation will be possible until after closing the Motors ON circuit. The manipulator's axes are meanwhile held in position by mechanical holding brakes.

10011, Motors ON state
Description
The system is in the Motors ON state.
Consequences
The Motors ON circuit has been closed, enabling power supply to the manipulator's motors. Normal operation may be resumed.

10012, Safety guard stop state
Description
The system is in the Guard stop state. It enters this state either after switching from Automatic mode to Manual, or after the Motors ON circuit has been opened by an Emergency Stop, General Stop, Automatic Stop or Superior Stop.
Consequences
No operation will be possible until after closing the Motors ON circuit. The manipulator's axes are meanwhile held in position by mechanical holding brakes.

10013, Emergency stop state
Description
The system is in the Emergency stop state, since the Motors ON circuit has been opened by an Emergency Stop device.
Consequences
All program execution and thus robot actions are immediately halted. The robot axes are meanwhile held in position by mechanical holding brakes.
Probable causes
Any emergency stop device connected to the emergency stop input have been opened. These may be internal (on the controller or on the teach pendant) or external (devices connected by the system builder). The internal devices are shown in the Circuit Diagram.
Recommended actions
1) Check which emergency stop device caused the stop.
2) Close/reset the device.
3) To resume operation, switch the system back to state Motors ON by pressing this button on the Control Module.

10014, System failure state
Description
Execution of all NORMAL tasks has been stopped due to malfunction.
Consequences
No start of program execution or manual manipulator jogging will be possible until after the system has been restarted.
Probable causes
A large number of malfunctions may cause this condition. Please use the teach pendant or RobotStudio to check other event log messages for events occurring at this time!
Recommended actions
1. Determine what caused the stop by studying the event log.
2. Remedy the fault.

10015, Manual mode selected
Description
The system is in the Manual mode.

Continues on next page
6 Trouble shooting by Event log

Continued

Consequences
Programmed operation is possible, but only with a max. speed of 250 mm/s. The manipulator may also be jogged manually after pressing the enabling device on the teach pendant.

10016, Automatic mode requested
Description
The system has been ordered to go to the Automatic mode.

Consequences
The system will go to the Automatic mode after confirmed from teach pendant.

10017, Automatic mode confirmed
Description
The system is in the Automatic mode.

Consequences
The enabling device is disconnected. The robot can move without human intervention.

10018, Manual mode full speed requested
Description
The system has been ordered to go to the Manual mode without any speed restraints.

Consequences
The system will go to the Manual mode full speed.

10019, Manual mode full speed confirmed
Description
The system is in the Manual mode without any speed restraints.

Consequences
Programmed operation is possible while pressing the hold-to-run button on the teach pendant. The manipulator may also be jogged manually after pressing the enabling device on the teach pendant.

10020, Execution error state
Description
The program execution in task arg has been stopped due to a spontaneous error.

Consequences
No program execution will be possible until the error has been removed.

Probable causes
A large number of malfunctions may cause this condition. Please use the teach pendant or RobotStudio to check other event log messages for events occurring at this time!

Recommended actions
1. Determine what caused the stop by studying the event log.
2. Remedy the fault.
3. If necessary, move Program Pointer to main before pressing start button.

10021, Execution error reset
Description
The program execution in task arg has left a spontaneous error state.

10024, Collision triggered
Description
Some mechanical part of the manipulator has collided with a piece of fixed equipment in the cell.

Consequences
Manipulator movement is interrupted and program execution is stopped.

10025, Collision confirmed
Description
The collision detection has been confirmed.

Recommended actions

10026, Collision retraction
Description
The manipulator has attempted to back away from the obstacle, into which it collided, and succeeded.

Consequences
The system is ready to go back to normal operation.

10027, Collision retraction fail
Description
The manipulator has attempted to back away from the obstacle, into which it collided, and failed.

Consequences
The system is NOT ready to go back to normal operation.

Probable causes
This may be caused by the robot being stuck to the object into which it collided.

Recommended actions
1) Go to Manual Mode.
2) Manually run the robot away from the object.
3) Resume operation by restarting the program.

Continues on next page
### 10030, All axes commutated

**Description**
After checking, the system has found all manipulator axes to be commutated.

**Consequences**
Normal operation is possible.

### 10031, All axes calibrated

**Description**
After checking, the system has found all manipulator axes to be calibrated.

**Consequences**
Normal operation is possible.

### 10032, All revolution counters updated

**Description**
After checking, the system has found all revolution counters for all manipulator axes to be updated.

**Consequences**
Normal operation is possible.

### 10033, All axes synchronized

**Description**
After checking, the system has found all manipulator axes to be synchronized.

**Consequences**
Normal operation is possible.

### 10034, Axis not commutated

**Description**
After checking, the system has found that one or more manipulator axes are not commutated.

**Consequences**
To enable operation, all manipulator axes must be commutated.

**Probable causes**
The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

**Recommended actions**
Commutate the manipulator axes as detailed in the manipulator Product Manual.

### 10035, Axis not calibrated

**Description**
After checking, the system has found that one or more manipulator axes are not calibrated.

**Consequences**
To enable operation, all manipulator axes must be calibrated.

**Probable causes**
The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

**Recommended actions**
Calibrate the manipulator axes as detailed in the manipulator Product Manual.

### 10036, Revolution counter not updated

**Description**
After checking, the system has found that the revolution counters of one or more manipulator axes are not updated.

**Consequences**
To enable operation, the revolution counters of all manipulator axes must be updated.

**Probable causes**
The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

**Recommended actions**
Update the revolution counters of all manipulator axes as detailed in the manipulator Product Manual.

### 10037, Axis not synchronized

**Description**
After checking, the system has found that one or more manipulator axes are not synchronized.

**Consequences**
To enable operation, all manipulator axes must be synchronized.

**Probable causes**
The manipulator drive motor and related units may have been altered, e.g. after replacing a faulty unit.

**Recommended actions**
Synchronize the manipulator axes as detailed in the manipulator Product Manual.

### 10038, SMB memory is OK

**Description**
During startup, the system has found that all data on the Serial Measurement Board (SMB) is OK.
6 Trouble shooting by Event log

Continued

Consequences
Operation is possible.

10039, SMB memory is not OK

Description
During startup, the system has found that data in the Serial Measurement Board (SMB) memory is not OK.

Consequences
All data must be OK before automatic operation is possible. Manually jogging the robot is possible.

Probable causes
There are differences between the data stored on the SMB and the data stored in the controller. This may be due to replacement of SMB, controller or both.

Recommended actions

10040, Program loaded

Description
A program or program module has been loaded into task arg. After loading, arg bytes memory remain. The size of the loaded program is arg.

10041, Program deleted

Description
A program or program module was deleted from task arg.

Consequences
If the deleted program contained the task entry routine, the program will no longer be executable.

Probable causes
The program may have been removed manually.

Recommended actions
1) Define an entry routine in one of the task's remaining programs, or: 2) Load a program containing an entry routine.

10042, Axis recalibrated

Description
Fine calibration or rev counter update was made for an axis in an already synchronized mechanical unit.

10043, Restart failed

Description
The task arg can't restart.

10044, Program Pointer updated

Description
The task arg could have changed the Program Pointer position.

Recommended actions

10045, System restarted

Description
An already installed system was restarted.

Recommended actions

10046, System restarted in cold mode

Description
First start after installation.

Recommended actions

10048, Background task did stop

Description
The task arg stopped without reason.

Recommended actions

10051, Event routine error

Description
The task arg could not start the specified system event routine arg. The routine is either unknown to the system or the program is unlinkable.

Recommended actions
Insert the routine in a system module or correct the program.

10052, Regain start

Description
A regain movement has started.

Recommended actions

10053, Regain ready

Description
The regain movement is ready.

Recommended actions

10054, Regain rejected

Description
Regain on path not possible, as one client has already ordered it.
6 Trouble shooting by Event log

**Recommended actions**
A new regain movement is ordered during an already started regain movement. Reduce the number of start orders from e.g. system I/O

**10055, Path process restarted**

**Description**
The path process has been restarted.

**Recommended actions**

**10060, Test of enable chain**

**Description**
The enable chain is always tested at startup. If the test failed an error message concerning enable will follow.

**Recommended actions**
If enable chain test at startup failed the related error message will be "Enable chain timeout"

**10061, A target has been modified**

**Description**
A target in module arg in task arg has been modified or tuned.
Start line arg, column arg, end line arg.

**10062, A module has been edited.**

**Description**
Module arg in task arg has been edited between lines: arg, arg.

**10063, Module has been edited**

**Description**
Module arg in task arg has been edited.

**10064, A module has been erased.**

**Description**
Module arg in task arg has been erased.

**10065, New user has started to modify RAPID.**

**Description**
User arg has started with RAPID program modifications in task arg.

**10066, Not possible to load system module**

**Description**
System module arg in task arg cannot be loaded since the file is not found.

**10067, Program Pointer Reset**

**Description**
Unable to reset the program pointer for task arg.

**Consequences**
The program will not start.

**Probable causes**
- No program is loaded.
- The main routine is missing.
- There are errors in the program.

**Recommended actions**
1. Load program if no program is loaded.
2. Check that the program has a main routine. If there is no main routine, add one.
3. Check for errors in the program and correct them.
4. See previous error messages in the Event log.

**10068, Start Program**

**Description**
Unable to start program for task arg.

**Consequences**
The program will not execute.

**10074, NFS server up**

**Description**
The control system communicates correctly with the NFS server arg.

**10075, NFS server down**

**Description**
The control system is not able to communicate correctly with the NFS server arg.

- If the server arg is defined as TRUSTED, robot program execution will be stopped. If the server is defined as NON-TRUSTED, execution will proceed. These definitions are specified in the Application manual - Robot communication and I/O control.

**Probable causes**
If this message is displayed at first start-up, the server configuration may be incorrect. If displayed during operation, the previously working communication has been lost due to a broken connection. Also see the I/O event log!

**Recommended actions**
1. Check the NFS server configuration.
2. Check all communication hardware, cables and such.
3. Check NFS client configuration on the controller.
6 Trouble shooting by Event log

10076, FTP server up
Description
The control system communicates correctly with the FTP server arg.

10077, FTP server down
Description
The control system is not able to communicate correctly with the FTP server arg.
Consequences
If the server arg is defined as TRUSTED, robot program execution will be stopped. If the server is defined as NON-TRUSTED, execution will proceed. These definitions are specified in the Application manual - Robot communication and I/O control.
Probable causes
If this message is displayed at first start-up, the server configuration may be incorrect. If displayed during operation, the previously working communication has been lost due to a broken connection. Also see the I/O event log!
Recommended actions
1. Check the FTP server configuration.
2. Check all communication hardware, cables and such.
3. Check the FTP client configuration on the controller.

10080, An updated RAPID file is found
Description
The SEMISTATIC task arg has an older version of a module installed than the source arg
Recommended actions
Restart the system with a P-START to install the newer version.

10081, Background task arg
Description
failed to load a newer version of a module. The source of the module is arg.
Recommended actions
See previous messages for the cause or restart the system with a P-START to load the newer version.

10082, RAPID Task supervision
Description
Task arg is not running. The system will be in SysFail state. It's now impossible to change to motors on arg.
Recommended actions
See previous messages for the cause. Restart the system to reset the error state.

10083, RAPID Task supervision
Description
Task arg is not running. The system will be set in motors off state. arg
Recommended actions
See previous messages for the cause.

10084, RAPID Task supervision
Description
Task arg is not running. All NORMAL tasks will also be stopped.
Recommended actions
See previous messages for the cause.

10085, RAPID Task supervision
Description
Task arg can't be stopped. The trustLevel is set to a safety level.
Recommended actions
If the task should be possible to stop change the trustLevel or task type in the system parameters menu.

10086, Robot is purged OK
Description
Purging pressure regained after a purge fault.
Recommended actions

10087, Purge state: arg.
Description
State changed.
Recommended actions

10089, P-Start done
Description
A P-Start is done.
Consequences
After restart the system's state will be resumed except for manually loaded programs and modules. Static and semistatic tasks are restarted from the beginning, not from the state they had when the system was stopped.
Modules will be installed and loaded in accordance with the set configuration. System parameters will not be affected.
Probable causes
1. The P-start was ordered by the user.
2. The system forced the P-start due to inconsistent data, malfunction or unrecoverable task state.
6 Trouble shooting by Event log

10091, Restart not possible
Description
A restart after collision detection is not possible before acknowledge the error dialogue.
Recommended actions

10092, (Re)start not possible
Description
(Re)start is not possible due to lost contact with IO module arg configured with trustlevel 3.
Recommended actions

10093, (Re)start not possible
Description
(Re)start of task arg is not possible before a warm start is done.
Recommended actions
The background task is configured with Trustlevel set to SysHalt

10095, At least one task is unchecked in the task selection panel
Description
One or more of the NORMAL tasks are unchecked in the task selection panel when performing a (re)start.
Recommended actions

10096, arg not active!
Description
The workobject arg contains a coordinated mechanical unit which is not activated.
Recommended actions
Activate the mechanical unit and perform the operation again.

10097, Restart not possible
Description
The task arg is set in blocked state and the program is for that reason not possible to restart from the current program position.
Recommended actions
The Program Pointer must be moved before restart.

10098, Restart not possible
Description
The task arg has been in system failure state and the program is for that reason not possible to restart from the current program position.

10099, Program start rejected
Description
The system has performed a soft stop, and the program may not be restarted.
Consequences
The system goes to the Motors OFF state and can not be started. The full meaning of this status is described in the Trouble shooting manual, IRC5.
Probable causes
The soft stop may be caused by opening the safety circuit.
Recommended actions
1) Check the safety circuits for an open switch.
2) Go to Motors ON and restart the program.

10106, Service Message
Description
It's time for service for robot arg because it is arg days since the last service.
Recommended actions

10107, Service Message
Description
It remains arg days for robot arg until it's time for service.
Recommended actions

10108, Service Message
Description
It's time for service for robot arg cause it's arg hours of production since last service.
Recommended actions

10109, Service Message
Description
It remains arg hours of production for robot arg to next service.
Recommended actions

10110, Service Message
Description
The gearbox at arg of robot arg needs service.
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Recommended actions

10111, Service Message
Description
The gearbox at arg of robot arg has reached arg of its service interval.

Recommended actions

10112, Service Message
Description
The system date and time has changed.
This could cause problems with the SIS calender notification.

Recommended actions
The SIS parameters Calender Limit and Calender Warning might need to be changed

10120, Program stopped
Description
The task arg has stopped. The reason is that an external or internal stop after current instruction has occurred.

Recommended actions

10121, Program stopped
Description
The task arg has stopped. The reason is that the task has reached an exit instruction.

Recommended actions

10122, Program stopped
Description
The task arg has stopped. The reason is that the task is ready.

Recommended actions

10123, Program stopped
Description
The task arg has stopped. The reason is that the task is ready with this step.

Recommended actions

10124, Program stopped
Description
The task arg has stopped. The reason is that the task has reached a break instruction.

Recommended actions

10125, Program stopped
Description
The task arg has stopped. The reason is that an external or internal stop has occurred.

Recommended actions

10126, Program stopped
Description
The task arg has stopped. The reason is that an error has occurred.

Recommended actions

10127, Backward execution not possible
Description
The task arg has stopped. The reason is that it is not possible to execute backward past beginning of instruction list.

Recommended actions

10128, Backward execution not possible
Description
The task arg has stopped. The reason is that it is not possible to execute backward past the instruction.

Recommended actions

10129, Program stopped
Description
The task arg has stopped. The reason is that the event routine for RESET or POWER_ON is ready.

Recommended actions

10130, Program stopped
Description
The task arg has stopped. The reason is that the task is ready with this move step.

Recommended actions

10131, Program stopped
Description
The task arg has stopped. The reason is that the routine called from system IO interrupt is ready.
<table>
<thead>
<tr>
<th>Recommended actions</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10132, Program stopped</strong></td>
<td><strong>10157, Program restarted</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>The task \textit{arg} has stopped. The reason could not be determined.</td>
<td>Execution of task \textit{arg} has been restarted from where it was previously stopped. The restart order was initiated by an action causing the UNDO handler to execute.</td>
</tr>
<tr>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10133, Program stopped</strong></td>
<td><strong>10170, Background task \textit{arg}</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>The task \textit{arg} has stopped. The reason is that the task is ready with the execution of the UNDO handlers.</td>
<td>refuse to start. Task is empty.</td>
</tr>
<tr>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10150, Program started</strong></td>
<td><strong>10171, Background task \textit{arg}</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Execution of task \textit{arg} has been started from the first instruction of the task's entry routine. The originator could not be determined.</td>
<td>refuse to start. Wrong state.</td>
</tr>
<tr>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10151, Program started</strong></td>
<td><strong>10172, Background task \textit{arg}</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Execution of task \textit{arg} has been started from the first instruction of the task's entry routine. The originator is an external client.</td>
<td>refuse to start. Can't set execution mode.</td>
</tr>
<tr>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10152, Program started</strong></td>
<td><strong>10173, Background task \textit{arg}</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Execution of task \textit{arg} has been started from the first instruction of the task's entry routine. The start order was initiated by an action causing the UNDO handler to execute.</td>
<td>refuse to start. Can't set PP to the main routine.</td>
</tr>
<tr>
<td><strong>Probable causes</strong></td>
<td><strong>Probable causes</strong></td>
</tr>
<tr>
<td>The module that contains the main routine was not loaded since the module file is missing in the target directory.</td>
<td>The module that contains the main routine was not loaded since the configuration file has no entry for automatic loading of the module.</td>
</tr>
<tr>
<td>The module that contains the main routine was not loaded since the configuration file has no entry for automatic loading of the module.</td>
<td>The main routine is missing.</td>
</tr>
<tr>
<td>The main routine is corrupted.</td>
<td>The main entry is corrupted.</td>
</tr>
<tr>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
</tr>
<tr>
<td>Load the module by hand or perform an I-start when the cause of the problem is removed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10155, Program restarted</strong></td>
<td><strong>10174, Background task \textit{arg}</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Execution of task \textit{arg} has been restarted from where it was previously stopped. The originator could not be determined.</td>
<td>refuse to start. Can't set the execution mode.</td>
</tr>
<tr>
<td><strong>Recommended actions</strong></td>
<td><strong>Recommended actions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10156, Program restarted</strong></td>
<td><strong>10175, Background task \textit{arg}</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Execution of task \textit{arg} has been restarted from where it was previously stopped. The originator is an external client.</td>
<td>refuse to start. The start order failed.</td>
</tr>
</tbody>
</table>
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Recommended actions

10175, Background task **arg**
Description
refuse to start due to a syntax error.
Recommended actions

10176, Background task **arg**
Description
refuse to start. Can't load module.
Probable causes
The module file is missing in the target directory.
Recommended actions
1. Copy the module file to the target directory.
2. Perform an I-start.

10177, Task refuses to start
Description
Task **arg**:
There is not sufficient program memory or the program memory is fragmented. Modules could be missing or data may not have been installed.
Recommended actions
1. Unload/reload modules and warmstart.
2. Split large data structures.
3. P-start the system.

10178, A static/semistatic task can't be stepped
Description
Task **arg** can't be started.
A static/semistatic task can only run in continuous mode.
Consequences
No tasks will be started.
Probable causes
Trying to step (forward or backward) a static/semistatic task.
Recommended actions
Start **arg** in continuous mode.

10185, Task could not be prepared for start
Description
Task **arg**:
There is not sufficient program memory or the program memory is fragmented. Modules could be missing or data may not have been installed.
Recommended actions
1. Unload/reload modules and warmstart.
2. Split large data structures.
3. P-start the system.

10190, Protected area not done
Description
A power fail did occur in the middle of a protected area for the task **arg**. The system is trying to selfheal.
Recommended actions

10191, Protected area not done
Description
A power fail did occur in the middle of a protected area for the task **arg**. A pending error is removed from the queue.
Recommended actions

10192, Protected area not done
Description
A power fail did occur in the middle of a protected area for the task **arg**. A pending exit is removed from the queue.
Recommended actions

10193, Protected area not done
Description
A power fail did occur in the middle of a protected area for the task **arg**. This may result in an extra program cycle.
Recommended actions

10194, Protected area not done
Description
A power fail did occur in the middle of a protected area for the task **arg**. The task will be restarted from the main routine.
Recommended actions

10195, Protected area not done
Description
A power fail did occur in the middle of a protected area for the task **arg**. All tasks are reset and all user programs are lost.
Recommended actions
Try to save the user program and do a warm start of the system.
### 10196, Protected area not done

**Description**
A power fail did occur in the middle of a protected area for the task \( arg \).

**Recommended actions**

### 10210, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of a POWER ON system event routine.

**Recommended actions**

### 10211, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of a STOP system event routine.

**Recommended actions**

### 10212, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of an EMERGENCY STOP system event routine.

**Recommended actions**

### 10213, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of a START system event routine.

**Recommended actions**

### 10214, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of a RESTART system event routine.

**Recommended actions**

### 10215, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of a RESET system event routine.

**Recommended actions**

### 10216, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of an INTERNAL system event routine.

**Recommended actions**

### 10217, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of a USER routine.

**Recommended actions**

### 10218, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \).

**Recommended actions**

### 10219, Execution cancelled

**Description**
The restart will clear the execution in task \( arg \) of a STEP system event routine.

**Recommended actions**

### 10230, Backup step ready

**Description**
The backup step Prepare is ready.

**Recommended actions**

### 10231, Backup step ready

**Description**
The backup step Configuration is ready.

**Recommended actions**

### 10232, Backup step ready

**Description**
The backup of Task is ready.
6 Trouble shooting by Event log

Recommended actions

10250, Restore step ready
Description
The restore step Prepare is ready.
Recommended actions

10251, Restore step ready
Description
The restore step Configuration is ready.
Recommended actions

10252, Restore step ready
Description
The restore of Task is ready.
Recommended actions

10253, Restore step ready
Description
The restore of User Task is ready.
Recommended actions

10260, System diagnostics info generated
Description
System diagnostics information was successfully generated to file arg
Recommended actions

10261, System diagnostics info unavailable
Description
User requested to save diagnostics system information to file arg. System was unable to fulfill this request.

Consequences
Diagnostics system information is normally used when reporting a problem with the system to ABB support.

Probable causes
The system is in such state that it is not possible to generate the requested information.
Please check that the device has enough space left.

Recommended actions
If you are experiencing a problem with the system contact ABB support.

10270, Cyclic Brake Check Done
Description
The Cyclic Brake Check has been done for all brakes supervised by Safety Controllers.

10300, A P-Start is ordered
Description
The P-Start has been ordered from the system.
Recommended actions

10301, A P-Start is ordered
Description
The P-Start has been ordered manually or automatically during a configuration.
Recommended actions

10304, An update has been ordered
Description
An update of program configuration is done.
Recommended actions

10350, Update of task failed
Description
The system could not update task arg to the new configuration.
Recommended actions

10351, A task is removed
Description
The task arg was removed because of configuration changes.
Recommended actions

10352, A task is added
Description
The task arg was installed because of configuration changes.
Recommended actions

10353, A task is reinstalled
Description
The task arg was reinstalled because of configuration changes.
Recommended actions

10354, Restore aborted due to lost system data.

Description
The system is using a backup of the system data, since the system data was not properly saved at last shutdown. Due to this, a previously ordered Restore from directory arg was attempted again, but was aborted.

Consequences
No RAPID programs or modules will be loaded.

Probable causes
The system data was not properly saved at last shutdown.

Recommended actions
After recovering from the system data loss by a (B)ackup-Restart or system re-installation, please verify that the backup directory arg is OK, and perform the Restore again.

10355, Restore error

Description
Error during the restore of Task. Trying to load to unknown task, arg.

Consequences
Loading has been aborted for arg.

Probable causes
The current system doesn't have the same options as the one used to create the backup.

10400, User arg logged on

Description
User arg logged on using arg.

10401, User arg logged off

Description
User arg using arg logged off.

10420, New unsafe robot path

Description
The robot path has been cleared after a target has been modified in task arg. The robot will for that reason move towards the position pointed out by the move instruction at the program pointer. Move instructions between the modified target and the program pointer will be skipped.

Consequences
The programmed speed is used for this movement.
The new untested path may contain obstacles that might cause a collision.

Recommended actions
Check your program pointer and move it if necessary.
Reduce the speed.

10421, Planned path not aborted

Description
A target that may be part of the planned robot path has been modified. The new target position will be used the next time the instruction with the target is executed.

Consequences
The current planned path is using the old target position.

Recommended actions
If the current planned path is unsafe, move the program pointer to abort it.

11020, Backup error

Description
Error during the backup step Prepare. Unknown error.

Recommended actions

11021, Backup error

Description
Error during the backup step Prepare. General error.

Recommended actions

11022, Backup error

Description
Error during the backup step Prepare. The directory contains items that are to be created.

Recommended actions

11023, Backup error

Description
Error during the backup step Prepare. The directory lacks at least one necessary item.

Recommended actions

11024, Backup error

Description
Error during the backup step Prepare. The directory does not exist.
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<table>
<thead>
<tr>
<th>Recommended actions</th>
</tr>
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<tbody>
<tr>
<td>11025, Backup error</td>
</tr>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Error during the backup step Prepare. Directory cannot be created.</td>
</tr>
<tr>
<td>Recommended actions</td>
</tr>
<tr>
<td>arg</td>
</tr>
</tbody>
</table>

| 11026, Backup error |
| Description         |
| Error during the backup step Prepare. Error whilst writing the backup. |
| Recommended actions |
| arg                 |

| 11027, Backup error |
| Description         |
| Error during the backup step Prepare. Error reading configuration parameters. |
| Recommended actions |
| arg                 |

| 11028, Backup error |
| Description         |
| Error during the backup step Prepare. Error writing configuration parameters. |
| Recommended actions |
| arg                 |

| 11029, Backup error |
| Description         |
| Error during the backup step Prepare. The structure is too deep. |
| Recommended actions |
| arg                 |

| 11030, Backup error |
| Description         |
| Error during the backup step Prepare. No more objects. |
| Recommended actions |
| arg                 |

| 11031, Backup error |
| Description         |
| Error during the backup step Prepare. The directory lacks at least one necessary item. |
| Recommended actions |
| arg                 |

| 11032, Backup error |
| Description         |
| Error during the backup step Prepare. The system version doesn't match the backup. |
| Recommended actions |
| arg                 |

| 11033, Backup error |
| Description         |
| Error during the backup step Prepare. Error restoring configuration parameters. |
| Recommended actions |
| arg                 |

| 11034, Backup error |
| Description         |
| Error during the backup step Prepare. Error restoring configuration parameters. |
| Recommended actions |
| arg                 |

| 11035, Backup error |
| Description         |
| Error during the backup step Prepare. Mismatch between current system and the backup. |
| Recommended actions |
| arg                 |

| 11036, Backup error |
| Description         |
| Error during the backup step Prepare. Write error. |
| Consequences        |
| The backup will be incomplete. |
| Probable causes     |
| You may not have write access to the backup drive. |
| The drive might be full. |
| If it is a network drive you might have lost connection. |
Recommended actions

11037, Backup error
Description
Error during the backup step Prepare. At least one modname is too long.
Recommended actions

11038, Backup error
Description
Error during the backup step Prepare. Unknown task.
Recommended actions

11039, Backup error
Description
Error during the backup step Prepare. Storage media full.
Recommended actions

11040, Backup error
Description
Error during the backup step Prepare. Item not possible to delete.
Recommended actions

11120, Backup error
Description
Error during the backup step Configuration. Unknown error.
Recommended actions

11121, Backup error
Description
Error during the backup step Configuration. General error.
Recommended actions

11122, Backup error
Description
Error during the backup step Configuration. The directory contains items that are to be created.
Recommended actions

11123, Backup error
Description
Error during the backup step Configuration. The directory lacks at least one necessary item.
Recommended actions

11124, Backup error
Description
Error during the backup step Configuration. The directory does not exist.
Recommended actions

11125, Backup error
Description
Error during the backup step Configuration. Directory cannot be created.
Recommended actions

11126, Backup error
Description
Error during the backup step Configuration. Error whilst writing the backup.
Recommended actions

11127, Backup error
Description
Error during the backup step Configuration. Error reading configuration parameters.
Recommended actions

11128, Backup error
Description
Error during the backup step Configuration. Error writing configuration parameters.
Recommended actions

11129, Backup error
Description
Error during the backup step Configuration. The structure is too deep.
### 6 Trouble shooting by Event log

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>11130</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. No more objects.</td>
</tr>
<tr>
<td>11131</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. The directory lacks at least one necessary item.</td>
</tr>
<tr>
<td>11132</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. The system version doesn't match the backup.</td>
</tr>
<tr>
<td>11133</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. Error restoring configuration parameters.</td>
</tr>
<tr>
<td>11134</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. Error restoring configuration parameters.</td>
</tr>
<tr>
<td>11135</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. Mismatch between current system and the backup.</td>
</tr>
<tr>
<td>11136</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. Write error.</td>
</tr>
<tr>
<td>11137</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. At least one modname is too long.</td>
</tr>
<tr>
<td>11138</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. Unknown task.</td>
</tr>
<tr>
<td>11139</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. Storage media full.</td>
</tr>
<tr>
<td>11140</td>
<td>Backup error</td>
<td>Error during the backup step Configuration. Item not possible to delete.</td>
</tr>
<tr>
<td>11220</td>
<td>Backup error</td>
<td>Error during the backup of Task. Unknown error.</td>
</tr>
<tr>
<td>11221</td>
<td>Backup error</td>
<td>Error during the backup of Task. General error.</td>
</tr>
<tr>
<td>11222</td>
<td>Backup error</td>
<td>Error during the backup of Task. The directory contains items that are to be created.</td>
</tr>
</tbody>
</table>
Recommended actions

11223, Backup error
Description
Error during the backup of Task. The directory lacks at least one necessary item.
Recommended actions

11224, Backup error
Description
Error during the backup of Task. The directory does not exist.
Recommended actions

11225, Backup error
Description
Error during the backup of Task. Directory cannot be created.
Recommended actions

11226, Backup error
Description
Error during the backup of Task. Error whilst writing the backup.
Recommended actions

11227, Backup error
Description
Error during the backup of Task. Error reading configuration parameters.
Recommended actions

11228, Backup error
Description
Error during the backup of Task. Error writing configuration parameters.
Recommended actions

11229, Backup error
Description
Error during the backup of Task. The structure is too deep.
Recommended actions

11230, Backup error
Description
Error during the backup of Task. No more objects.
Recommended actions

11231, Backup error
Description
Error during the backup of Task. The directory lacks at least one necessary item.
Recommended actions

11232, Backup error
Description
Error during the backup of Task. The system version doesn't match the backup.
Recommended actions

11233, Backup error
Description
Error during the backup of Task. Error restoring configuration parameters.
Recommended actions

11234, Backup error
Description
Error during the backup of Task. Error restoring configuration parameters.
Recommended actions

11235, Backup error
Description
Error during the backup of Task. Mismatch between current system and the backup.
Recommended actions

11236, Backup error
Description
Error during the backup of Task. Write error.
Recommended actions
Check: No space left on device. Corrupt device.
<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>11237</td>
<td>Backup error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the backup of Task. At least one modname is too long.</td>
<td></td>
</tr>
<tr>
<td>11238</td>
<td>Backup error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the backup of Task. Unknown task.</td>
<td></td>
</tr>
<tr>
<td>11239</td>
<td>Backup error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the backup of Task. Storage media full.</td>
<td></td>
</tr>
<tr>
<td>11240</td>
<td>Backup error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the backup of Task. Item not possible to delete.</td>
<td></td>
</tr>
<tr>
<td>12020</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. Unknown error.</td>
<td></td>
</tr>
<tr>
<td>12021</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. General error.</td>
<td></td>
</tr>
<tr>
<td>12022</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. The directory contains items that are to be created.</td>
<td></td>
</tr>
<tr>
<td>12023</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. The directory lacks at least one necessary item.</td>
<td></td>
</tr>
<tr>
<td>12024</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. The directory does not exist.</td>
<td></td>
</tr>
<tr>
<td>12025</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. Directory cannot be created.</td>
<td></td>
</tr>
<tr>
<td>12026</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. Error whilst writing the backup.</td>
<td></td>
</tr>
<tr>
<td>12027</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. Error reading configuration parameters.</td>
<td></td>
</tr>
<tr>
<td>12028</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. Error writing configuration parameters.</td>
<td></td>
</tr>
<tr>
<td>12029</td>
<td>Restore error</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error during the restore step Prepare. The structure is too deep.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Recommended Actions</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>12030</td>
<td>Error during the restore step Prepare. No more objects.</td>
<td>arg</td>
</tr>
<tr>
<td>12031</td>
<td>Error during the restore step Prepare. The directory lacks at least one necessary item.</td>
<td>arg</td>
</tr>
<tr>
<td>12032</td>
<td>Error during the restore step Prepare. The system version doesn't match the backup.</td>
<td>arg</td>
</tr>
<tr>
<td>12033</td>
<td>Error during the restore step Prepare. Error restoring configuration parameters.</td>
<td>arg</td>
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<tr>
<td>12034</td>
<td>Error during the restore step Prepare. Error restoring configuration parameters.</td>
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<tr>
<td>12035</td>
<td>Error during the restore step Prepare. Mismatch between current system and the backup.</td>
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<tr>
<td>12036</td>
<td>Error during the restore step Prepare. Write error.</td>
<td>arg</td>
</tr>
<tr>
<td>12037</td>
<td>Error during the restore step Prepare. At least one modname is too long.</td>
<td>arg</td>
</tr>
<tr>
<td>12038</td>
<td>Error during the restore step Prepare. Unknown task.</td>
<td>arg</td>
</tr>
<tr>
<td>12039</td>
<td>Error during the restore step Prepare. Storage media full.</td>
<td>arg</td>
</tr>
<tr>
<td>12040</td>
<td>Error during the restore step Prepare. Item not possible to delete.</td>
<td>arg</td>
</tr>
<tr>
<td>12120</td>
<td>Error during the restore step Configuration. Unknown error.</td>
<td>arg</td>
</tr>
<tr>
<td>12121</td>
<td>Error during the restore step Configuration. General error.</td>
<td>arg</td>
</tr>
</tbody>
</table>
Recommended actions

12122, Restore error
Description
Error during the restore step Configuration. The directory contains items that are to be created.
Recommended actions

12123, Restore error
Description
Error during the restore step Configuration. The directory lacks at least one necessary item.
Recommended actions

12124, Restore error
Description
Error during the restore step Configuration. The directory does not exist.
Recommended actions

12125, Restore error
Description
Error during the restore step Configuration. Directory cannot be created.
Recommended actions

12126, Restore error
Description
Error during the restore step Configuration. Error whilst writing the backup.
Recommended actions

12127, Restore error
Description
Error during the restore step Configuration. Error reading configuration parameters.
Recommended actions

12128, Restore error
Description
Error during the restore step Configuration. Error writing configuration parameters.
Recommended actions

12129, Restore error
Description
Error during the restore step Configuration. The structure is too deep.
Recommended actions

12130, Restore error
Description
Error during the restore step Configuration. No more objects.
Recommended actions

12131, Restore error
Description
Error during the restore step Configuration. The directory lacks at least one necessary item.
Recommended actions

12132, Restore error
Description
Error during the restore step Configuration. The system version doesn't match the backup.
Recommended actions

12133, Restore error
Description
Error during the restore step Configuration. Error restoring configuration parameters.
Recommended actions

12134, Restore error
Description
Error during the restore step Configuration. Error restoring configuration parameters.
Recommended actions

12135, Restore error
Description
Error during the restore step Configuration. Mismatch between current system and the backup.
Recommended actions

12136, Restore error
Description
Error during the restore step Configuration. Write error.

Recommended actions

12137, Restore error
Description
Error during the restore step Configuration. At least one modname is too long.

Recommended actions

12138, Restore error
Description
Error during the restore step Configuration. Unknown task.

Recommended actions

12139, Restore error
Description
Error during the restore step Configuration. Storage media full

Recommended actions

12140, Restore error
Description
Error during the restore step Configuration. Item not possible to delete.

Recommended actions

12220, Restore error
Description
Error during the restore of Task. Unknown error.

Recommended actions

12221, Restore error
Description
Error during the restore of Task. General error.

Recommended actions

12222, Restore error
Description
Error during the restore of Task. The directory contains items that are to be created.

Recommended actions

12223, Restore error
Description
Error during the restore of Task. The directory lacks at least one necessary item.

Recommended actions

12224, Restore error
Description
Error during the restore of Task. The directory does not exist

Recommended actions

12225, Restore error
Description
Error during the restore of Task. Directory cannot be created

Recommended actions

12226, Restore error
Description
Error during the restore of Task. Error whilst writing the backup

Recommended actions

12227, Restore error
Description
Error during the restore of Task. Error reading configuration parameters

Recommended actions

12228, Restore error
Description
Error during the restore of Task. Error writing configuration parameters

Recommended actions
### 6 Trouble shooting by Event log

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>12229, Restore error</td>
<td>Error during the restore of Task. The structure is too deep</td>
<td></td>
</tr>
<tr>
<td>12230, Restore error</td>
<td>Error during the restore of Task. No more objects</td>
<td></td>
</tr>
<tr>
<td>12231, Restore error</td>
<td>Error during the restore of Task. The directory lacks at least one necessary item.</td>
<td></td>
</tr>
<tr>
<td>12232, Restore error</td>
<td>Error during the restore of Task. The system version doesn't match the backup.</td>
<td></td>
</tr>
<tr>
<td>12233, Restore error</td>
<td>Error during the restore of Task. Error restoring configuration parameters.</td>
<td></td>
</tr>
<tr>
<td>12234, Restore error</td>
<td>Error during the restore of Task. Error restoring configuration parameters.</td>
<td></td>
</tr>
<tr>
<td>12235, Restore error</td>
<td>Error during the restore of Task. Mismatch between current system and the backup.</td>
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</tr>
<tr>
<td>12236, Restore error</td>
<td>Error during the restore of Task. Write error.</td>
<td></td>
</tr>
<tr>
<td>12237, Restore error</td>
<td>Error during the restore of Task. At least one modname is too long.</td>
<td></td>
</tr>
<tr>
<td>12238, Restore error</td>
<td>Error during the restore of Task. Unknown task.</td>
<td></td>
</tr>
<tr>
<td>12239, Restore error</td>
<td>Error during the restore of Task. Storage media full.</td>
<td></td>
</tr>
<tr>
<td>12240, Restore error</td>
<td>Error during the restore of Task. Item not possible to delete.</td>
<td></td>
</tr>
<tr>
<td>12320, Restore error</td>
<td>Error during the restore of User Task. Unknown error.</td>
<td></td>
</tr>
<tr>
<td>12321, Restore error</td>
<td>Error during the restore of User Task. General error.</td>
<td></td>
</tr>
<tr>
<td>12322, Restore error</td>
<td>Error during the restore of User Task. The directory contains items that are to be created.</td>
<td></td>
</tr>
</tbody>
</table>
### 12323, Restore error

**Description**  
Error during the restore of User Task. The directory lacks at least one necessary item.

**Recommended actions**

---

### 12324, Restore error

**Description**  
Error during the restore of User Task. The directory does not exist.

**Recommended actions**

---

### 12325, Restore error

**Description**  
Error during the restore of User Task. Directory cannot be created.

**Recommended actions**

---

### 12326, Restore error

**Description**  
Error during the restore of User Task. Error whilst writing the backup.

**Recommended actions**

---

### 12327, Restore error

**Description**  
Error during the restore of User Task. Error reading configuration parameters.

**Recommended actions**

---

### 12328, Restore error

**Description**  
Error during the restore of User Task. Error writing configuration parameters.

**Recommended actions**

---

### 12329, Restore error

**Description**  
Error during the restore of User Task. The structure is too deep.

**Recommended actions**

---

### 12330, Restore error

**Description**  
Error during the restore of User Task. No more objects.

**Recommended actions**

---

### 12331, Restore error

**Description**  
Error during the restore of User Task. The directory lacks at least one necessary item.

**Recommended actions**

---

### 12332, Restore error

**Description**  
Error during the restore of User Task. The system version doesn't match the backup.

**Recommended actions**

---

### 12333, Restore error

**Description**  
Error during the restore of User Task. Error restoring configuration parameters.

**Recommended actions**

---

### 12334, Restore error

**Description**  
Error during the restore of User Task. Error restoring configuration parameters.

**Recommended actions**

---

### 12335, Restore error

**Description**  
Error during the restore of User Task. Mismatch between current system and the backup.

**Recommended actions**

---

### 12336, Restore error

**Description**  
Error during the restore of User Task. Write error.
### 6 Trouble shooting by Event log

<table>
<thead>
<tr>
<th>Event Code</th>
<th>Description</th>
<th>Consequences</th>
<th>Probable causes</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>12337, Restore error</td>
<td>Error during the restore of User Task. At least one modname is too long.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12338, Restore error</td>
<td>Error during the restore of User Task. Unknown task.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12339, Restore error</td>
<td>Error during the restore of User Task. Storage media full.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12340, Restore error</td>
<td>Error during the restore of User Task. Item not possible to delete.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12510, Network subnet mask illegal</td>
<td>The subnet mask <em>arg</em> for network interface <em>arg</em> is illegal.</td>
<td></td>
<td></td>
<td>1) Make sure the network subnet mask is correct.</td>
</tr>
<tr>
<td>12512, Network gateway IP address illegal</td>
<td>The default gateway IP address <em>arg</em> is illegal/missing or the LAN IP address <em>arg</em> is illegal.</td>
<td></td>
<td></td>
<td>1) Make sure the gateway IP and LAN IP addresses are correct.</td>
</tr>
<tr>
<td>12513, No parameters from the DHCP server</td>
<td>The network interface <em>arg</em> has not received any parameters from the DHCP server.</td>
<td></td>
<td></td>
<td>1) Make sure the LAN cable is working and correctly connected. 2) Make sure the DHCP server is activated. 3) Set the LAN IP address manually.</td>
</tr>
<tr>
<td>12514, Network interface initialization error</td>
<td>The network interface <em>arg</em> could not be initialized.</td>
<td></td>
<td></td>
<td>1) Make sure the network parameters for the interface at hand are correct. 2) Isolate the cause, by replacing the suspected hardware.</td>
</tr>
</tbody>
</table>
### 20010, Emergency stop state

**Description**
The emergency stop circuit has previously been broken, and while broken, an attempt was made to operate the robot.

**Consequences**
The system remains in state "Waiting for Motors ON after emergency stop".

**Probable causes**
An attempt has been made to manoeuvre a control, before switching the system back to status Motors ON.

**Recommended actions**
1) To resume operation, switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

---

### 20011, Emergency stop state

**Description**
Emergency stop reset is required.

**Recommended actions**
First release the Em stop button and then press the panel button.

---

### 20012, Sys failure state active

**Description**
Fatal non-recoverable system error.

**Recommended actions**
Turn the mains switch off and on again if the soft restart command is ignored or not possible to reach.

---

### 20025, Stop order timeout

**Description**
The stop order was carried out as a forced guard stop when no acknowledgement was received within the expected time

**Recommended actions**
Order Motors On and synchronize all mechanical units in the list.

---

### 20030, Axis not commutated

**Description**
One or several internal drive unit axes are not commutated.

---

### 20031, Axis not calibrated.

**Description**
One or several absolute/relative measurement axes are not calibrated.

**Recommended actions**
Check what axis that are not calibrated and calibrate them.

---

### 20032, Rev. counter not updated

**Description**
Revolution counter is not updated.

**Recommended actions**
Move the axes to the sync position and update the revolution counters.

---

### 20033, Axis not synchronized.

**Description**
One or several relative measurement axes are not synchronized.

**Recommended actions**
Order Motors On and synchronize all mechanical units in the list.

---

### 20034, SMB memory is not OK

**Description**
This action or state is not allowed since data in the Serial Measurement Board (SMB) memory is not OK.

**Consequences**
All data must be OK before automatic operation is possible. Manually jogging the robot is possible.

**Probable causes**
There are differences between the data stored on the SMB and the data stored in the controller. This may be due to replacement of SMB, controller or both, or manually cleared SMB.

**Recommended actions**
6 Trouble shooting by Event log

20051, Not allowed command

Description
The command is only allowed when the client is in control of the resource (program/motion).

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Check if the client is in control, by checking "Write Access" in RobotStudio.
2) Check if the client who ought to be in control really is.

20054, Not allowed command

Description
The command is NOT allowed when the program is executing.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the program is not executing.

20060, Not allowed command

Description
The command is not allowed in Auto mode.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is NOT in Auto Mode.

20061, Not allowed command

Description
The command is not allowed when changing to Auto mode.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is NOT changing to Auto Mode.

20062, Not allowed command

Description
The command is not allowed in Manual mode.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is NOT in Manual Mode.

20063, Not allowed command

Description
The command is not allowed in Manual full speed mode.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is NOT in Manual full speed Mode.

20064, Not allowed command

Description
The command is not allowed when changing to Manual full speed mode.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is NOT changing to Manual full speed Mode.

20065, Not allowed command

Description
The command is only allowed in Manual mode (reduced or full speed).

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is NOT in Mode (reduced or full speed).

20070, Not allowed command

Description
The command is not allowed in Motors ON state.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is in Motors OFF state.
20071, Not allowed command

Description
The command is not allowed while changing to Motors ON state.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Investigate by whom and why the action was requested, and, if required, correct the reason.

20072, Not allowed command

Description
The command is not allowed in Motors OFF state.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is in Motors ON state.

20073, Not allowed command

Description
The command is not allowed while changing to Motors OFF state.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Investigate by whom and why the action was requested, and, if required, correct the reason.

20074, Not allowed command

Description
The command is not allowed in Guard Stop state.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Make sure the system is NOT in Guard Stop state.

20075, Not allowed command

Description
The command is not allowed in Emergency Stop state.

Consequences
Emergency stop reset is required.

Recommended actions
1) Make sure the system is NOT in Emergency Stop state.

20076, Not allowed command

Description
The command is not allowed in System Failure state.

Consequences
A non-recoverable system error has resulted, and a warm start is required.

Recommended actions
1) Make sure the system is NOT in Emergency Stop state.
2) Perform a restart as detailed in the Operator's Manual, IRC5.
3) If restarting is not possible, switch the main power OFF and then back ON.

20080, Not allowed command

Description
The command is not allowed when axis has not been commutated.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Commutate the axis as detailed in the Additional Axes Manual.
2) Investigate by whom and why the action was requested, and, if required, correct the reason.

20081, Not allowed command

Description
The command is not allowed when axis is not calibrated.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Calibrate the axis as detailed in the Calibration Pendulum Instruction or the Instructions for Levelmeter calibration, depending on which equipment to be used.

20082, Not allowed command

Description
The command is not allowed when axis revolution counter is not updated.

Consequences
The system remains in the same status, and the requested action will not be performed.
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Recommended actions
1) Update the revolution counter as detailed in Operator's Manual, IRC5.

20083, Not allowed command
Description
The command is not allowed when axis is not synchronized.

Consequences
The system remains in the same status, and the requested action will not be performed.

Recommended actions
1) Synchronize the axis as detailed in the Calibration Pendulum Instruction or the Instructions for Levelmeter calibration, depending on which equipment to be used.

20084, Not allowed command
Description
This command is not allowed since data in the Serial Measurement Board (SMB) memory is not OK.

Consequences
All data must be OK before automatic operation is possible. Manually jogging the robot is possible.

Recommended actions

20088, Automatic Mode Rejected
Description
The speed could not be set to 100% when automatic mode was requested.

Consequences
The system can not enter automatic mode.

Probable causes
The speed could not be set to 100%.

Recommended actions
1) Switch back to manual mode.
2a) Set the speed in the QuickSet menu
2b) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3) Switch back to automatic mode and confirm.

20092, Not allowed command
Description
This command is not allowed in state System IO Start Blocked.

Recommended actions
1) Switch back to manual mode.
2a) Move PP to main.
2b) or if the program always shall start at the new routine, change System Parameter “Main entry” (Domain Controller, Type Task) to the new routine name.
2c) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3) Switch back to automatic mode and confirm.

20093, Automatic Mode Rejected
Description
One or more of the NORMAL tasks were disabled and could not be enabled when automatic mode was requested.

Consequences
The system can not enter automatic mode.

Probable causes
It is not possible to reset Task Selection Panel in synchronized block.

Recommended actions
1) Switch back to manual mode.
2a) Set PP to main.
2b) or step out of synchronized block.
2c) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3) Switch back to automatic mode and confirm.

20094, Load name could not be found
Description
Load name arg could not be found.

Consequences
It is not possible to jog without a correct defined load.

Probable causes
The module with the load definition is probably deleted.
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Recommended actions
Load module with load definition.
Choose other load.

20095, Tool name could not be found
Description
Tool name arg could not be found.
Consequences
It is not possible to jog without a correct defined tool.
Probable causes
The module with the tool definition is probably deleted.
Recommended actions
Load module with tool definition.
Choose other tool.

20096, WorkObject name could not be found
Description
WorkObject name arg could not be found.
Consequences
It is not possible to jog without a correct defined workobject.
Probable causes
The module with the workobject definition is probably deleted.
Recommended actions
Load module with workobject definition.
Choose other workobject.

20097, Not allowed to jog with LOCAL PERS
Load
Description
The object arg is of type LOCAL PERS and is not possible to jog.
Recommended actions
Change Load.

20098, Not allowed to jog with LOCAL PERS
Tool
Description
The object arg is of type LOCAL PERS and is not possible to jog.
Recommended actions
Change Tool.

20099, Not allowed to jog with LOCAL PERS
Work Object
Description
The object arg is of type LOCAL PERS and is not possible to jog.
Recommended actions
Change Work Object.

20101, TP (program) in control.
Description
The teachpandant programming window has focus and is in control of the program server.
Recommended actions
Change to the production window and perform the command again.

20103, Controller busy updating Task Selection Panel.
Description
The Task Selection Panel is having an update.
It is not possible to do the requested command.
Recommended actions
Perform the command again or make a warm start and perform the command again.

20105, Backup already in progress
Description
A backup is already in progress.
Consequences
The command “Backup” from System Input Signal will be rejected.
Recommended actions
Use System Output Signal “Backup in progress” to control if a backup can be started or not.

20106, Backup path
Description
There are errors in the backup path or the backup name in the configuration for the System Input Backup. The directory for the backup can not be created.
Backup path: arg
Backup name: arg
Consequences
The command "Backup" from System Input Signal will be rejected.
Recommended actions
Verify that configured path and name for the System Input Backup are correct.

20111, TP (program) in control
Description
The teachpendant programming window has focus and is in control of the program server.
Recommended actions
Change to the production window and perform the command again.

20120, System IO in control
Description
See Title
Recommended actions

20126, Load data has changed
Description
The active load arg was removed and replaced with arg. The load data was located in task: arg connected to mechanical unit arg.
Consequences
The load definition for jogging may not be correct.
Probable causes
The load data was removed. The module containing the original tool definition may have been deleted.
Recommended actions
If you require the old definition, locate the program or module of the original load data and load it.

20127, Tool data has changed
Description
The active tool arg was removed and replaced with arg. The tool data was located in task: arg connected to mechanical unit arg.
Consequences
The tool definition for jogging may not be correct.
Probable causes
The tool data was removed. The module containing the original tool definition may have been deleted.
Recommended actions
If you require the old definition, locate the program or module of the original tool data and load it.

20128, Work object data has changed
Description
The active work object arg was removed and replaced with arg. The work object data was located in task: arg connected to mechanical unit arg.
Consequences
The work object definition for jogging may not be correct.
Probable causes
The work object data was removed. The module containing the original tool definition may have been deleted.
Recommended actions
If you require the old definition, locate the program or module of the original work object data and load it.

20130, Active Task Menu is restored
Description
During warm start, the "Active Task Menu" is restored in Auto mode.
Consequences
If one or several tasks were unchecked, they are now checked again after the warm start in Auto mode.
Probable causes
A warm start has been performed
Recommended actions
Go to manual mode.
1. Check Event Log for errors related to I/O.
2b) or set System Parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to No if the system should be in debug mode when switching to auto.
3) Switch back to automatic mode and confirm.
### 20132, Blocked I/O signals

**Description**
One or more logical I/O signals were blocked during startup in automatic mode.

**Consequences**
Blocked signals will be unblocked.

**Probable causes**
System was switched to automatic mode during warm start.
System parameter AllDebugSettings is set to Yes.

**Recommended actions**
None, system has automatically reset debug settings.
To keep debug settings in auto:
1) Switch back to manual mode
2) Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to NO.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

### 20135, Debug Settings in Auto

**Description**
The call chain has been altered to begin at a routine other than main.

**Consequences**
Program pointer will not be set to main.
System will not be in full production mode in auto.

**Recommended actions**
For full production mode:
1) Switch back to manual mode
2) Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to YES.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

### 20133, Debug Settings in Auto

**Description**
One or more logical I/O signals were blocked during startup in automatic mode.

**Consequences**
Blocked I/O signals will stay blocked.
System will not be in full production mode in auto.

**Recommended actions**
For full production mode:
1) Switch back to manual mode
2) Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to YES.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

### 20136, Reduced Speed

**Description**
The system was running at reduced speed during startup in automatic mode.

**Consequences**
Speed will be set to 100%.

**Probable causes**
System was switched to automatic mode during warm start.

**Recommended actions**
None, system has automatically reset debug settings.
To keep debug settings in auto:
1) Switch back to manual mode
2) Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to NO.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

### 20134, Call Chain

**Description**
The call chain has been altered to begin at a routine other than main.

**Consequences**
Program pointer will be reset to main routine.

**Probable causes**
System was switched to automatic mode during warm start.
System parameter AllDebugSettings is set to Yes.

**Recommended actions**
For debug mode in auto:
1) Switch back to manual mode
2) Set system parameter AllDebugSettings, reset to NO.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

### 20137, Debug Settings in Auto

**Description**
The system was running at reduced speed during startup in automatic mode.

**Consequences**
Speed will stay unchanged.
System will not be in full production mode in auto.

**Recommended actions**
For full production mode:
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1) Switch back to manual mode
2) Set system parameter Controller/Auto Condition Reset/ AllDebugSettings/Reset to YES.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

20138, Disabled Tasks

Description
One or more of the NORMAL tasks were disabled during the startup when in automatic mode.

Consequences
All disabled normal tasks will be enabled.

Probable causes
System was switched to automatic mode during warm start
System parameter AllDebugSettings is set to Yes.

Recommended actions
None, system has automatically reset debug settings.
To keep debug settings in auto:
1) Switch back to manual mode
2) Set system parameter Controller/Auto Condition Reset/ AllDebugSettings/Reset to NO.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

20139, Debug Settings in Auto

Description
One or more of the NORMAL tasks were disabled during startup in automatic mode.

Consequences
Disabled tasks will stay disabled.
System will not be in full production mode in auto.

Recommended actions
For full production mode:
1) Switch back to manual mode
2) Set system parameter Controller/Auto Condition Reset/ AllDebugSettings/Reset to YES.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

20140, Motors On rejected

Description
Motors On, via System IO, was rejected.

Recommended actions

20141, Motors Off rejected

Description
Motors Off, via System IO, was rejected.

Recommended actions

20142, Start rejected

Description
Start/restart of program, via System IO, was rejected.
The reason could be that the robot is outside of regain distance.

Recommended actions

20143, Start at main rejected

Description
Start of program at main, via System IO, was rejected.

Recommended actions

20144, Stop rejected

Description
Stop of program, via System IO, was rejected.

Recommended actions

20145, Stop cycle rejected

Description
Stop of program after cycle, via System IO, was rejected.

Recommended actions

20146, Manual interrupt rejected

Description
Manual interrupt of program, via System IO, was rejected.

Recommended actions

20147, Load and start rejected

Description
Load and start of program, via System IO, was rejected.

Recommended actions
The name of the program file to be loaded (including mass memory unit) must be defined.
20148, Confirm rejected
Description
Emergency Stop reset confirm, via System IO, was rejected.
Recommended actions

20149, Error reset rejected
Description
Program execution error reset, via System IO, was rejected.
Recommended actions

20150, Load failure
Description
Load of program, via System IO, failed.
Consequences
Program will not be possible to start.
Probable causes
- The arguments for the System Input Load are wrong.
- The module was loaded, but the system failed to set the program pointer.
- The program was executing.
Recommended actions
Check the following:
- correct arguments for System Input Load.
- defined and correct name of the program file to be loaded (including mass memory unit).
- defined and correct name of the task that the program should be loaded in.
- program stopped before activating System Input Load.

20153, Motors On and Start rejected
Description
Motors On and Start/Restart of program, via System IO, was rejected. The reason could be that the robot is outside of regain distance.
Recommended actions

20154, Stop instruction rejected
Description
Stop of program after instruction, via System IO, was rejected.
Recommended actions

20156, Undefined Argument
Description
Interrupt routine name for System IO
Recommended actions
Manual Interrupt is not defined.
Configure the interrupt routine name.

20157, Undefined Argument
Description
Program name for System IO LoadStart is not defined
Recommended actions
Configure the program name.

20158, No System Input signal
Description
A System Input has been configured to an I/O-signal that doesn't exist.
System Input: arg
Signal Name: arg
Consequences
The system goes to status SYS FAIL.
Recommended actions
Add signal arg to eio.cfg or remove System Input arg from eio.cfg.
For every System Input a signal must be configured.

20159, No System Output signal
Description
A System Output has been configured to an I/O-signal that doesn't exist.
System Output: arg
Signal Name: arg
Consequences
The system goes to status SYS FAIL.
Recommended actions
Add signal arg to eio.cfg or remove System Output arg from eio.cfg.
For every System Output a signal must be configured.

20161, Path not found
Description
The system module arg in task arg has a corresponding specification in the configuration for "Task modules" that point out a non existing file path
Recommended actions
View "Task modules" in the "System Parameter" menu and change the path
in the item for this system module

**20162, Write error**

**Description**
A write error occur when the system try
to save the system module arg
at arg
in task arg. Or the file
system was full

**Recommended actions**
View "Task modules" in the "System
Parameter" menu and change the path
in the item for this system module

**20164, Reconfig failed**

**Description**
There are still some unsaved system
modules.

**Recommended actions**
Read error descriptions in earlier
messages.
Try another system start

**20165, Program Pointer lost.**

**Description**
Restart is no longer possible from
current position.

**Recommended actions**
The program has to be
started from the beginning.

**20166, Refuse to save module**

**Description**
The module arg
is older than the source
at arg
in task arg.

**Recommended actions**

**20167, Unsaved module**

**Description**
The module arg
is changed but not saved
in task arg.

**Recommended actions**

**20170, The system was stopped**

**Description**
An error was detected, which stopped the system.

**Consequences**
The system goes to status SYS STOP and the robot is stopped along
the path. The full meaning of this status is described in the Trouble
Shooting Manual, IRC5.

**Probable causes**
A number of errors may cause this status transition.

**Recommended actions**
1) Check other event log messages occurring at the same time to
determine the actual cause.
2) Fix the cause of the fault.

**20171, The system was halted**

**Description**
An error was detected, which halted the system.

**Consequences**
The system goes to status SYS HALT, the program and robot motion
is stopped and the motors are switched OFF. The full meaning of this
status is described in the Trouble Shooting Manual, IRC5.

**Probable causes**
A number of errors may cause this status transition.

**Recommended actions**
1) Check other event log messages occurring at the same time to
determine the actual cause.
2) Fix the cause of the fault.
3) Restart the program.

**20172, The system has failed**

**Description**
An error was detected, which caused the system to fail.

**Consequences**
The system goes to status SYS FAIL. The program and robot motion
is stopped and the motors are switched OFF. The full meaning of this
status is described in the Trouble Shooting Manual, IRC5.

**Probable causes**
A number of errors may cause this status transition.

**Recommended actions**
1) Check other event log messages occurring at the same time to
determine the actual cause.
2) Fix the cause of the fault.
3) Perform a system restart as detailed in the Operator's Manual, IRC5.
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20176, Analog System Output Outside Limits
Description
The value arg for the System Output arg, signal arg, is outside its limits (logical min: arg m/s, logical max: arg m/s).

Consequences
The new value is not set; the previous value of the analogue signal is preserved.

Probable causes
The logical upper and/or lower limit for the signal may be defined wrongly.

Recommended actions
Adjust the values of the logical upper and/or lower limit for the signal and restart the controller.

20177, Short circuit in Motor phase circuit
Description
The motor or motor cable for joint arg in drive module arg, drive unit number arg, is a short circuit.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by a faulty motor or motor cable. It may also be caused by contamination in the contactors for the cables or a failure of the motor windings.

Recommended actions
1) Make sure the motor cable is correctly connected to the drive unit.
2) Check the cable and motor by measuring their resistance respectively. Disconnect before measuring.
3) Replace any faulty component.

20178, Wrong task name configured
Description
Wrong task name arg configured for System Input arg.

Consequences
The digital input signal will not be connected to the specified event.

Recommended actions
Change the configuration and restart the system.

20179, Disk memory critically low
Description
The amount of free storage capacity on the disk has reached a critical level. It is now less than 10 Mb. Execution of RAPID programs is stopped.

Consequences
The disk memory is very close to being completely full. When this happens the system will not be able to function.

Probable causes
Too much data on the disk

Recommended actions
1) Save the files on some other disk connected to the network.
2) Erase data from disk.
3) After removing files from the drive, restart the program.

20181, System Reset rejected.
Description
System Reset via System IO not allowed.

Recommended actions

20184, Incorrect argument for System Inputs
Description
An undefined Start Mode has been declared for System IO.

Recommended actions

20185, Incorrect Name
Description
An undefined Name has been declared in current runchn_bool configuration.

Recommended actions

20187, Diagnostics record file created
Description
Due to any of a number of faults, a system diagnostics file was created at arg. This file contains internal debug info and is intended for trouble shooting and debugging purposes.

Consequences
The system will react to the error causing the stop as specified in its own event log text.

Probable causes
A number of errors may cause this. Faults causing the system to go to status SYS FAIL will generally also create a diagnostics record file.

Recommended actions
If required, the file may be appended to an error report sent to your local ABB representative.
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20188, System data is not valid

Description
The contents of the file, \textit{arg}, containing system persistent data is invalid. Internal error code: \textit{arg}. The system has been started using last good system data saved earlier at \textit{arg}.

Consequences
Any changes made in the system configuration or RAPID programs since \textit{arg} will NOT be available after restart. Any such changes will have to be re-implemented.

Recommended actions
1) Check other event log messages occurring at the same time to determine the actual cause.
2) If acceptable, perform a B-restart to accept starting with the loaded last good system data.
3) Reinstall the system.
4) Check the available disk storage capacity. If required, erase data to increase free storage capacity.

20189, Robot data not valid

Description
Could not load the system independent robot data from file \textit{arg}. The file exists but the content is not valid. Internal code: \textit{arg}

Recommended actions
Check other logged messages for needed actions.
Make sure there is free memory left on the device.

20192, Disk memory low

Description
The amount of free storage capacity on the disk is less than 25 MB. When reaching 10 MB, execution of RAPID programs will be stopped.

Consequences
The disk memory is close to being completely full. When this happens the system will not be able to function.

Probable causes
Too much data on the disk

Recommended actions
1) Save the files on some other disk connected to the network.
2) Erase data from disk.

20193, Robot data update warning

Description
Axis sync values and service information data (SIS) was restored from backup. The system independent robot data was not saved during system shutdown. The data was restored from latest backup.

Recommended actions
Make sure there is free memory left on the device.
The backup battery may be drained. Check the hardware log.

20194, System data backup could not be created

Description
The system was restored successfully but a backup of the current system data could not be created.

Recommended actions
Check other event log messages occurring at the same time to determine the actual cause.
2) If acceptable, perform a B-restart to accept starting with the loaded last good system data.
3) Reinstall the system.
4) Check the available disk storage capacity. If required, erase data to increase free storage capacity.

20195, System data from last shutdown is lost

Description
Normally, all system data is saved on shutdown. During the last shutdown saving data has failed. The system has been started using last good system data saved earlier at \textit{arg}.

Consequences
Any changes made in system configuration or RAPID programs since \textit{arg} will NOT be available after restart. Any such changes will have to be re-implemented.

Probable causes
The backup energy bank may have been drained at the time of the shutdown. The storage disk may be full.

Recommended actions
1) Check other event log messages occurring at the same time to determine the actual cause.
2) If acceptable, perform a B-restart to accept starting with the loaded system data.
3) Reinstall the system.
4) Check the available disk storage capacity. If required, erase data to increase free storage capacity.

20196, Module saved

Description
During reconfiguration of the system a changed and not saved module was found. The module was saved to \textit{arg}.
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Recommended actions

20197, System data from last shutdown can not be found

Description
Normally, all system data is saved on shutdown. The file containing system persistent data cannot be found. The system has been started using last good system data saved earlier at arg.

Consequences
Any changes made in system configuration or RAPID programs since arg will NOT be available after restart. Any such changes will have to be re-implemented.

Probable causes
The file containing the saved system data may have been manually moved or deleted.

Recommended actions
1) Check the location and availability of the saved system data file.
2) If acceptable, perform a B-restart to accept starting with the loaded last good system data.
3) Reinstall the system.

20199, System SoftStop Rejected

Description
The System Input SoftStop is not allowed

Recommended actions

20200, Limit Switch opened by SC

Description
The limit switch on the robot has been opened by the Safety Controller (SC)

Consequences
The system goes to the Guard stop state.

Probable causes
The Safety Controller has opened the limit switch because of a safety violation.

Recommended actions
1) Check for reason found in other event logs.
2) Check the cable between the contactor board and the Safety Controller
3) Do a Confirm Stop by pressing the Motors on push button or by activating the appropriated system input.

20201, Limit Switch open

Description
The limit switch on the robot has opened.

20202, Emergency Stop open

Description
The emergency stop circuit has previously been broken, and while broken, an attempt was made to operate the robot.

Consequences
The system remains in the Emergency Stop status.

Probable causes
An attempt has been made to manoeuvre a control, e.g. the enabling device.

Recommended actions
1) To resume operation, first reset the emergency stop button triggering the stop.
2) Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

20203, Enabling Device open

Description
Only one of the two Enabling Device chains was opened.

Consequences
The system goes to status SYS HALT.

Probable causes
The teach pendant Enabling Device may be faulty or incorrectly connected. The teach pendant and its Enabling Device is described in the Trouble Shooting Manual, IRC5.

Recommended actions
1) Check the teach pendant cable and its connection.
2) If required, replace the faulty teach pendant or its cable.

20204, Operation Key imbalance

Description
The system has detected an imbalance in the two parallel MANUAL / AUTO Operation Key circuits.

Probable causes
The contact pair in any of the cables connected to the Operation Key circuit is not working correctly.
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Recommended actions
1) Isolate the cable connection causing the conflict
2) Connect the cable in a correct way

20205, Auto Stop open

Description
The Automatic Mode Safeguarded Stop circuit has been broken.

Consequences
The system goes to the Auto Stop status.

Probable causes
One or more of the switch connected in series with the Automatic Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is only possible while in the Auto operational mode. The Automatic Mode Safeguarded Stop circuit is described in the Trouble Shooting Manual.

Recommended actions
1) Locate the switch, reset it and restart the system.
2) Check cables and connections.

20206, General Stop open

Description
The General Mode Safeguarded Stop circuit has been broken.

Consequences
The system goes to the General Stop status.

Probable causes
One or more of the switch connected in series with the General Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is possible in any operational mode. The General Mode Safeguarded Stop circuit is described in the Trouble Shooting Manual.

Recommended actions
1) Locate the switch, reset it and restart the system.
2) Check cables and connections.

20208, Chain switches open

Description
A safety chain, other than Auto Stop and General Stop, has been broken.

Consequences
The system goes to the Guard Stop status.

Probable causes
One or more of the switch connected in series with the RUN Chain Top circuit have been opened, which may be causes by a large number of faults. The RUN Chain Top is described in the Trouble Shooting Manual and Circuit Diagram.

Recommended actions
1) Check other error messages for primary fault reason.
2) Locate the switch, reset it and restart the system.
3) Check cables and connections.

20209, External Contactor open

Description
An external contactor has been opened.

Consequences
The system goes from the Motors OFF status to SYS HALT when attempting to start.

Probable causes
The RUN chain of external equipment has been broken, which may be caused by the external contactor auxiliary contacts or, if used, any PLC, controlling it. The external contactor supplies power to a piece of external equipment, equivalently to how the RUN contactor supplies a robot. This fault may occur when attempting to go to the Motors ON mode only. The RUN chain is described in the Trouble Shooting Manual and Circuit Diagram.

Recommended actions
1) Locate the switch, reset it and restart the system.
2) Check cables and connections.
3) Check the external contactor auxiliary contacts.
4) If used, check any PLC equipment controlling the external contactor.

20211, Two channel fault, ENABLE chain

Description
A switch in only one of the two ENABLE chains was briefly affected, opening the chain and then reclosing it, without the other chain being affected.

Consequences
The system goes to status SYS HALT.

Probable causes
There may be a loose signal connection on either the axis computer or the Safety System. The ENABLE chain is described in the Trouble Shooting Manual and Circuit Diagram.

Recommended actions
1) Check cables and connections.
2) Make sure all signal connectors on the axis computer board and the Safety System are securely connected.
3) If there is no loose connection, replace the faulty board.

20212, Two channel fault, RUN CHAIN

Description
Only one of the two RUN chains was closed.
Consequences
The system goes to status SYS HALT.

Probable causes
Any of the switches connected to the RUN chain may be faulty or not correctly connected, causing only one channel to close. The RUN chain is described in the Trouble Shooting Manual, IRC5.

Recommended actions
1) Check cables and connections.
2) Check other event log messages occurring at the same time to determine which switch caused the fault.
3) Make sure all switches are working correctly.
4) To assist in returning the chains to a defined status, first pressing, then resetting the Emergency Stop
5) If there is no loose connection, replace the faulty switch.

20213, Two channel fault

Description
A brief status change in any of the RUN or ENABLE chains has been detected.

Consequences
The system goes to status SYS HALT.

Probable causes
This may be caused by a number of faults. The ENABLE and RUN chains are described in the Trouble Shooting Manual, IRC5.

Recommended actions
1) Check cables and connections.
2) Check other event log messages occurring at the same time to determine the cause of the fault.
3) To assist in returning the chains to a defined status, first pressing, then resetting the Emergency Stop
4) If there is no loose connection, replace the faulty switch.

20214, Limit Switch open, DRV1

Description
The limit switch on the robot has opened.

Consequences
The system goes to the Motors OFF status.

Probable causes
The robot has been run outside the working range defined by the limit switches fitted to the robot.

Recommended actions
1) Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2) Resume operation.

20215, Superior Stop open

Description
The Superior Mode Safeguarded Stop circuit has been opened.

Consequences
The system goes to the Superior Stop status.

Probable causes
One or more of the switch connected in series with the Superior Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is possible in any operational mode. The Superior Mode Safeguarded Stop circuit is described in the Trouble Shooting Manual.

Recommended actions
1) Locate the switch, reset it and restart the system.

20216, Enabling device active in Auto mode

Description
The system has detected that the Enabling device has been pressed for more than 3 seconds in Automatic operating mode.

Consequences
The system goes to status Guard Stop.

Recommended actions
1. Release the Enabling device
2. Switch to Manual mode

20217, Limit Switch open, DRV2

Description
The limit switch on the robot has opened.

Consequences
The system goes to the Motors OFF status.

Probable causes
The robot has been run outside the working range defined by the limit switches fitted to the robot.

Recommended actions
1) Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2) Resume operation.

20218, Limit Switch open, DRV3

Description
The limit switch on the robot has opened.

Consequences
The system goes to the Motors OFF status.
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Probable causes
The robot has been run outside the working range defined by the limit switches fitted to the robot.

Recommended actions
1) Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2) Resume operation.

20219, Limit Switch open, DRV4

Description
The limit switch on the robot has opened.

Consequences
The system goes to the Motors OFF status.

Probable causes
The robot has been run outside the working range defined by the limit switches fitted to the robot.

Recommended actions
1) Press an eventual existing external "Override Limit" button and manually jog the robot back into the working area.
2) Resume operation.

20220, Superior stop conflict

Description
Only one of the two Superior Mode Safeguarded Stop chains was opened.

Consequences
The system goes to status SYS HALT.

Probable causes
Any of the switches connected to the Superior Stop chain may be faulty or not correctly connected, causing only one channel to close. The Superior Stop chain is described in the Trouble Shooting Manual, IRC5.

Recommended actions
1) Check cables and connections.
2) Check other event log messages occurring at the same time to determine which switch caused the fault.
3) Make sure all switches are working correctly.
4) If there is no loose connection, replace the faulty switch.

20221, Run chain conflict

Description
Status conflict for Run chain.

20222, Limit switch conflict

Description
Only one of the two Limit switch chains was opened.

Consequences
The system goes to status SYS HALT.

Probable causes
Any of the switches connected to the Limit switch chain may be faulty or not correctly connected, causing only one channel to close. The Limit switch chain is described in the Trouble Shooting Manual, IRC5.

Recommended actions
1) Check cables and connections.
2) Check other event log messages occurring at the same time to determine which switch caused the fault.
3) Make sure all switches are working correctly.
4) If there is no loose connection, replace the faulty switch.

20223, Emergency Stop conflict

Description
Only one of the two Emergency Stop chains was opened.

Consequences
The system goes to status SYS HALT.

Probable causes
Any of the switches connected to the Emergency Stop chain may be faulty or not correctly connected, causing only one channel to close. The Emergency Stop chain is described in the Trouble Shooting Manual, IRC5.

Recommended actions
1) Check cables and connections.
2) Check other event log messages occurring at the same time to determine which switch caused the fault.
3) Make sure all switches are working correctly.
4) If there is no loose connection, replace the faulty switch.

20224, Enabling Device conflict

Description
Only one of the two Enabling Device chains was opened.

Consequences
The system goes to status SYS HALT.

Probable causes
The teach pendant Enabling Device may be faulty or incorrectly connected. The teach pendant and its Enabling Device is described in the Trouble Shooting Manual, IRC5.
Recommended actions
1) Check the teach pendant cable and its connection.
2) If required, replace the faulty teach pendant or its cable.

\textbf{20225, Auto Stop conflict}

\textbf{Description}
Only one of the two Automatic Mode Safeguarded Stop chains was opened.

\textbf{Consequences}
The system goes to status SYS HALT.

\textbf{Probable causes}
Any of the switches connected to the Auto Stop chain may be faulty or not correctly connected, causing only one channel to close. The Auto Stop chain is described in the Trouble Shooting Manual, IRC5.

\textbf{Recommended actions}
1) Check cables and connections.
2) Check other event log messages occurring at the same time to determine which switch caused the fault.
3) Make sure all switches are working correctly.
4) If there is no loose connection, replace the faulty switch.

\textbf{20226, General Stop conflict}

\textbf{Description}
Only one of the two General Mode Safeguarded Stop chains was opened.

\textbf{Consequences}
The system goes to status SYS HALT.

\textbf{Probable causes}
Any of the switches connected to the General Stop chain may be faulty or not correctly connected, causing only one channel to close. The General Stop chain is described in the Trouble Shooting Manual, IRC5.

\textbf{Recommended actions}
1) Check cables and connections.
2) Check other event log messages occurring at the same time to determine which switch caused the fault.
3) Make sure all switches are working correctly.
4) If there is no loose connection, replace the faulty switch.

\textbf{20227, Motor Contactor conflict, DRV1}

\textbf{Description}
Only one of the two Motor Contactors for drive system 1 has acknowledged the activation order.

\textbf{Consequences}
The system goes to status SYS HALT.

\textbf{Probable causes}
A failure of the motor contactor auxiliary contacts or the supply to these.

\textbf{Recommended actions}
1) Check cables and connections.
2) Check the function of the auxiliary contacts.

\textbf{20231, Delayed Emergency Stop due to circuit imbalance}

\textbf{Description}
The system has detected an imbalance in the two parallel Emergency Stop circuits.

\textbf{Consequences}
The system goes to status Emergency Stop after approximately 1 sec.

\textbf{Probable causes}
The contact pair in any of the Emergency Stop buttons is not working correctly.

\textbf{Recommended actions}
1. Isolate the Emergency Stop button causing the conflict.
2. Check the contact pair.
3. Make sure all connections are tight.
4. Replace the button if required.

\textbf{20232, Delayed Auto Stop due to circuit imbalance}

\textbf{Description}
The system has detected an imbalance in the two parallel Auto Stop circuits.

\textbf{Consequences}
The system goes to status Guard Stop after approximately 1 sec.

\textbf{Probable causes}
The contact pair in any of the safety devices connected to the Auto Stop circuit is not working correctly.

\textbf{Recommended actions}
1. Isolate the safety device causing the conflict.
2. Make sure the device used is a two-channel device.
3. Check the contact pair.
4. Make sure all connections are tight.
5. Replace the device if required.

\textbf{20233, Delayed General Stop due to circuit imbalance}

\textbf{Description}
The system has detected an imbalance in the two parallel General Stop circuits.
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Consequences
The system goes to status Guard Stop after approximately 1 sec.

Probable causes
The contact pair in any of the safety devices connected to the General Stop circuit is not working correctly.

Recommended actions
1. Isolate the safety device causing the conflict.
2. Make sure the device used is a two-channel device.
3. Check the contact pair.
4. Make sure all connections are tight.
5. Replace the device if required.

**20234, Immediate Emergency Stop**

Description
The Emergency Stop circuits have been broken.

Consequences
The system goes directly to status Emergency Stop.

Probable causes
One or more of the red emergency stop buttons have been activated.

Recommended actions
1) Isolate the Emergency Stop button that was opened.
2) Reset the button.

**20235, Immediate Auto Stop**

Description
The Auto Stop circuits have been broken.

Consequences
The system goes directly to status Guard Stop.

Probable causes
One or more of the safety device switches in the Auto Stop circuit have been opened

Recommended actions
1) Isolate the safety device that was opened.
2) Reset the device switch.

**20236, Immediate General Stop**

Description
The General Stop circuits have been broken.

Consequences
The system goes directly to status Guard Stop.

Probable causes
One or more of the safety device switches in the General Stop circuit have been opened

Recommended actions
1) Isolate the safety device causing the conflict.
2) Make sure the device used is a two-channel device.
3. Check the contact pair.
4. Make sure all connections are tight.
5. Replace the device if required.

**20237, Immediate Superior Stop**

Description
The Superior Stop circuits have been broken.

Consequences
The system goes directly to status Guard Stop.

Probable causes
One or more of the safety device switches in the Superior Stop circuit have been opened

Recommended actions
1) Isolate the safety device that was opened.
2) Reset the device switch.

**20238, Delayed Superior Stop due to circuit imbalance**

Description
The system has detected an imbalance in the two parallel Superior Stop circuits.

Consequences
The system goes to status Guard Stop after approximately 1 sec.

Probable causes
One or more of the safety device switches in the Superior Stop circuit have been opened

Recommended actions
1) Isolate the safety device that was opened.
2) Reset the device switch.

**20240, Conflict between ENABLE signals**

Description
A switch in only one of the two ENABLE chains was affected, without the other chain being affected.

Consequences
The system goes to status SYS HALT.

Probable causes
There may be a loose signal connection on the Safety System. The ENABLE chain is described in the Trouble Shooting Manual and Circuit Diagram.

Recommended actions
1) Check cables and connections.
2) Make sure all signal connectors on the Safety System are securely connected.
3) If there is no loose connection, replace the faulty board.

**20241, Operating mode conflict**

**Description**
There is a conflict between the operating mode selected on the operating mode selector on the controller cabinet front and the actual operating mode as detected by the axis computer.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
There may be a hardware fault in the operating mode selector or its cabling to the Safety System.

**Recommended actions**
Check the operating mode selector and its cabling to the Safety System.

---

**20245, Run Control status conflict, DRV2**

**Description**
Status conflict between Run Control and Motor Contactors for drive system 2.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A failure of the Motor Contactors or the supply to these.

**Recommended actions**
1) Check cables and connections.
2) Do a Warm start.

---

**20246, Run Control status conflict, DRV3**

**Description**
Status conflict between Run Control and Motor Contactors for drive system 3.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A failure of the Motor Contactors or the supply to these.

**Recommended actions**
1) Check cables and connections.
2) Do a Warm start.

---

**20247, Run Control status conflict, DRV4**

**Description**
Status conflict between Run Control and Motor Contactors for drive system 4.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A failure of the Motor Contactors or the supply to these.

**Recommended actions**
1) Check cables and connections.
2) Do a Warm start.

---

**20248, Motor Contactor conflict, DRV2**

**Description**
Only one of the two Motor Contactors for drive system 2 has acknowledged the activation order.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A failure of the motor contactor auxiliary contacts or the supply to these.

**Recommended actions**
1) Check cables and connections.
2) Check the function of the auxiliary contacts.

---

**20249, Motor Contactor conflict, DRV3**

**Description**
Only one of the two Motor Contactors for drive system 3 has acknowledged the activation order.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A failure of the motor contactor auxiliary contacts or the supply to these.

**Recommended actions**
1) Check cables and connections.
2) Check the function of the auxiliary contacts.

---

**20250, Motor Contactor conflict, DRV4**

**Description**
Only one of the two Motor Contactors for drive system 4 has acknowledged the activation order.

**Consequences**
The system goes to status SYS HALT.
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Probable causes
A failure of the motor contactor auxiliary contacts or the supply to these.

Recommended actions
1) Check cables and connections.
2) Check the function of the auxiliary contacts.

**20252, Motor temperature high, DRV1**

Description
Over temperature in Manipulator Motor. Make sure to let the Motor cool down before ordering Motors On again.

Recommended actions
1) Wait until the overheated Motor has cooled down before ordering Motors On again.
2) If optional air filter is used, check if it is clogged and has to be exchanged.

**20253, External device temperature high, DRV1**

Description
Over temperature in External Device. Make sure to let the External Device cool down before ordering Motors On again.

Recommended actions
Wait until the overheated Motor has cooled down before ordering Motors On again.

**20254, Motor temperature high, DRV2**

Description
Over temperature in Manipulator Motor. Make sure to let the Motor cool down before ordering Motors On again.

Recommended actions
1) Wait until the overheated Motor has cooled down before ordering Motors On again.
2) If optional air filter is used, check if it is clogged and has to be exchanged.

**20255, External device temperature high, DRV2**

Description
Over temperature in External Device. Make sure to let the External Device cool down before ordering Motors On again.

Recommended actions
Wait until the overheated Motor has cooled down before ordering Motors On again.

**20256, Motor temperature high, DRV3**

Description
Over temperature in Manipulator Motor. Make sure to let the Motor cool down before ordering Motors On again.

Recommended actions
1) Wait until the overheated Motor has cooled down before ordering Motors On again.
2) If optional air filter is used, check if it is clogged and has to be exchanged.

**20257, External device temperature high, DRV3**

Description
Over temperature in External Device. Make sure to let the External Device cool down before ordering Motors On again.

Recommended actions
Wait until the overheated Motor has cooled down before ordering Motors On again.

**20258, Motor temperature high, DRV4**

Description
Over temperature in Manipulator Motor. Make sure to let the Motor cool down before ordering Motors On again.

Recommended actions
1) Wait until the overheated Motor has cooled down before ordering Motors On again.
2) If optional air filter is used, check if it is clogged and has to be exchanged.

**20259, External device temperature high, DRV4**

Description
Over temperature in External Device. Make sure to let the External Device cool down before ordering Motors On again.

Recommended actions
Wait until the overheated Motor has cooled down before ordering Motors On again.

**20260, Run Control status conflict, DRV1**

Description
Status conflict between Run Control and Motor Contactors for drive system 1.

Consequences
The system goes to status SYS Halt.

Probable causes
A failure of the Motor Contactors or the supply to these.

Recommended actions
1) Check cables and connections.
2) Do a Warm start.
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20262, SC arg Not found
Description
The system has an option for arg Safety Controller (SC) on drive module arg, but no Safety Controller was found.

Recommended actions
- Check Safety Controller cabling.
- Check Safety Controller health.
Warm start controller, after performing recommended actions.

20263, SC arg Communication Failure
Description
Communication error with Safety Controller (SC) arg

Recommended actions
- Check Safety Controller cabling.
- Check Safety Controller health.
Warm start controller, after performing recommended actions.

20264, SC arg Option Not Present
Description
Found arg Safety Controller (SC) on drive module arg. This system does not have the option for a Safety Controller on that drive module.

Recommended actions
- Check drive module software options.
- Install a system with Safety Controller option.

20265, SC Soft Stop Error
Description
Safety Controller (SC) Soft Stop has not opened the Motor Contactors within the calculated time

Recommended actions
Check Lim-switch connection if SafeMove is present

20266, SC arg PIN Code Request
Description
Safety Controller (SC) arg has a new Safety Configuration and needs a new PIN code to be activated.

Recommended actions
1. Log in as a user with Safety Configuration grants.
2. Enter new PIN-Code for the Safety Controller in the Control Panel.

20267, SC arg Initialization Failed
Description
Safety Controller (SC) arg failed to initialize properly, or failed to respond during start up.

Recommended actions
1. Check previous error logs for possible causes.
2. Restart the system.

20268, SC arg Wrong Type
Description
Found arg Safety Controller (SC) on drive module arg, expected arg.

Recommended actions
- Check drive module software options.
- Install a system with correct Safety Controller option.

20270, Access error
Description
Panel Module access error.

Recommended actions
Examine your I/O configuration files.

20280, Symbol conflict
Description
The signal arg defined in the IO configuration conflict with another program symbol with the same name. Due on that fact the signal will not be mapped to a program variable.

Recommended actions
Rename the signal in the IO configuration.

20281, IO configuration error
Description
arg arg with signal name arg has wrong signal type. Found arg expected arg.

Recommended actions
Change your configuration and restart the system.

20282, Resource and index exist
Description
Resource arg Index arg.
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Recommended actions

20283, Text database is full.
Description
Resource arg
Index arg
Recommended actions

20284, Wrong Signal Type For System Input
Description
The System Input arg is configured with an I/O-signal of wrong type.
The I/O-signal arg is of type arg and this System Input requires an I/O-signal of type arg.
Recommended actions
Change the configuration for the specified System Input.

20285, Wrong Signal Type For System Output
Description
The System Output arg is configured with an I/O-signal of wrong type.
The I/O-signal arg is of type arg and this System Output requires an I/O-signal of type arg.
Recommended actions
Change the configuration for the specified System Output.

20286, Not Unique I/O-Signal For System Output
Description
Each System Output must have a unique I/O-signal configured.
It is not possible to configure same I/O-signal to several System Outputs.
System Output: arg
Signal Name: arg
Recommended actions

20287, Not Unique I/O-signal For System Input
Description
Each System Input must have a unique I/O-signal configured.
It is not possible to configure same I/O-signal to several System Inputs.
System Input: arg
Signal Name: arg

20288, Unknown System Output Type
Description
The configured System Output type is unknown by the system.
Unknown System Output: arg
Recommended actions
Verify that the System Output name is correctly spelled.

20289, Unknown System Input Type
Description
The configured System Input type is unknown by the system.
Unknown System Input: arg
Recommended actions
Verify that the System Input name is correctly spelled.

20290, Unknown Mechanical Unit Name For System Output
Description
A System Output is configured with a mechanical unit name which is unknown by the system.
System Output: arg
Mechanical unit name: arg
Recommended actions
The specified mechanical unit must be configured in order to be used by System Outputs
Verify that the mechanical unit name is correctly spelled.

20291, Unknown System Input Restriction Type
Description
The configured System Input Restriction Type is unknown by the system.
Unknown System Input Restriction: arg
Recommended actions
Verify that the System Input Restriction name is correctly spelled.

20292, Unknown System Input Restriction
Description
The configured System Input Restriction is unknown by the system.
System Input Restriction Type: arg
Unknown System Input Restriction: arg
Recommended actions
Verify that the System Input Restriction name is correctly spelled.
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20293, System Input is Restricted

Description
The system input Arg is restricted by the system input Arg set by I/O signal Arg.

Consequences
The action called for by system input Arg will not take place, and the operation will NOT be affected.

Probable causes
System input Arg may be set by external equipment, such as PLCs, etc, for a number of reasons.

Recommended actions
1) Investigate why the system input was set, and, if required, correct the reason.

20294, Action Arg can not be fulfilled.

Description
The requested action cannot be fulfilled since the I/O unit is not responding.

Consequences
It is not possible to decide if there are any restrictions set to the action.

Probable causes
The requested action will not be fulfilled until the I/O unit is enabled again.

Recommended actions
Never disable a unit with System Inputs/Outputs.

20295, Signal cannot be used as System Output.

Description
The System Output Arg is configured with an I/O-signal with wrong category. The I/O-signal Arg has category Safety and can not be used as System Output.

Recommended actions
Choose another signal or set to another category.

20296, Wrong task name configured

Description
Wrong task name Arg configured for System Output Arg.

Consequences
The digital output signal will not be connected to the specified event.

Recommended actions
Change the configuration and restart the system.

20307, Motor cooling fan malfunction, axis 1

Description
The axis 1 motor cooling fan on the robot connected to Drive Module Arg does not work correctly.

Consequences
The full meaning of this status is described in the Trouble Shooting Manual, IRC5.

Probable causes
- The fan power cabling may be damaged or not connected correctly to motor or contactor unit.
- The fan or the Drive Module Power Supply may be faulty.

Recommended actions
1) Make sure the fan cable is correctly connected
2) Make sure the fan is free to rotate and that the air flow is not obstructed.
3) Make sure the Drive Module Power Supply output and input voltages are within specified limits as detailed in the Trouble shooting manual. Replace any faulty unit.

20308, Motor cooling fan malfunction, axis 2

Description
The axis 2 motor cooling fan on the robot connected to Drive Module Arg does not work correctly.

Consequences
The full meaning of this status is described in the Trouble Shooting Manual, IRC5.

Probable causes
- The fan power cabling may be damaged or not connected correctly to motor or contactor unit.
- The fan or the Drive Module Power Supply may be faulty.

Recommended actions
1) Make sure the fan cable is correctly connected
2) Make sure the fan is free to rotate and that the air flow is not obstructed.
3) Make sure the Drive Module Power Supply output and input voltages are within specified limits as detailed in the Trouble shooting manual. Replace any faulty unit.

20309, Motor cooling fan malfunction, axis 3

Description
The axis 3 motor cooling fan on the robot connected to Drive Module Arg does not work correctly.

Consequences
The full meaning of this status is described in the Trouble Shooting Manual, IRC5.
**Probable causes**
- The fan power cabling may be damaged or not connected correctly to motor or contactor unit.
- The fan or the Drive Module Power Supply may be faulty.

**Recommended actions**
1) Make sure the fan cable is correctly connected
2) Make sure the fan is free to rotate and that the air flow is not obstructed.
3) Make sure the Drive Module Power Supply output and input voltages are within specified limits as detailed in the Trouble shooting manual. Replace any faulty unit.

---

**20310, SC arg Communication Failed**

**Description**
An error occurred while trying to communicate with Safety Controller (SC) arg

**Recommended actions**
- Check Safety Controller cabling.
- Check Safety Controller health.

Warm start controller, after performing recommended actions.

---

**20311, Enable 1 open**

**Description**
The ENABLE 1 circuit monitoring the Safety System has been opened.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
There may be an internal fault in the Safety System or the internal supervision has detected a fault.

**Recommended actions**
1) Check all connections to the Safety System.
2) If faulty, replace the faulty board.

---

**20312, Enable 2 open**

**Description**
The ENABLE 2 circuit monitoring the Axis Computer has been opened.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
There may be a connection problem between Main Computer and Axis Computer.

**Recommended actions**
1) Check all connections to the axis computer.
2) Check cables connected to the Safety System.

---

**20313, Enable1 supervision fault**

**Description**
The ENABLE1 circuit has been broken. This circuit monitors the function of the Safety System and the main computer.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A fault, probably a software fault, has been detected by any of the units supervised by the ENABLE1 circuit.

**Recommended actions**
1) Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in Safety System, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.
2) Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

---

**20314, Enable2 supervision fault**

**Description**
The ENABLE2 circuit to drive module 1 has been broken. This circuit monitors e.g. the function of the Safety System and the axis computer.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A fault, probably a software fault, has been detected by any of the units supervised by the ENABLE2 circuit.

**Recommended actions**
1) Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in Safety System, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.
2) Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

---

**20315, Enable2 Supervision fault**

**Description**
The ENABLE2 circuit to drive module 2 has been broken. This circuit monitors e.g. the function of the Safety System and the axis computer.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
A fault, probably a software fault, has been detected by any of the units supervised by the ENABLE2 circuit.
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Recommended actions

1) Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in safety board, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.

2) Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

20316, Enable2 Supervision fault

Description
The ENABLE2 circuit to drive module 3 has been broken. This circuit monitors e.g. the function of the Safety System and the axis computer.

Consequences
The system goes to status SYS HALT.

Probable causes
A fault, probably a software fault, has been detected by any of the units supervised by the ENABLE2 circuit.

Recommended actions

1) Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in Safety System, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.

2) Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

20317, Enable2 Supervision fault

Description
The ENABLE2 circuit to drive module 4 has been broken. This circuit monitors e.g. the function of the Safety System and the axis computer.

Consequences
The system goes to status SYS HALT.

Probable causes
A fault, probably a software fault, has been detected by any of the units supervised by the ENABLE2 circuit.

Recommended actions

1) Attempt restarting by pressing the Motors ON button. If restarting is IMPOSSIBLE it indicates a hardware fault in Safety System, axis computer. If restarting is POSSIBLE, it indicates a software fault. In such case, contact your local ABB representative.

2) Determine which unit is faulty by checking its indication LEDs. The LEDs are described in the Trouble Shooting Manual. Replace the faulty unit.

20350, Not a valid task name

Description
The task name arg cannot be used as a name of a task. It is either already used as an installed symbol, a reserved word in the system or too long (max. 16 characters).

Consequences
The task will not be installed in the system.

Recommended actions
Change the configuration of the task name and restart the controller.

20351, Max number of tasks exceeded

Description
The maximum number of tasks, arg, of the configuration type arg is exceeded.

Consequences
All configured tasks will not be installed.

Recommended actions
Change the configuration and restart the system.

20352, Not a valid motion planner name

Description
The motion planner name for mechanical unit group arg in arg is not correct.
The reason can be one of the following:
1. empty name
2. not present in the motion configuration
3. already in use by another mechanical unit group

Consequences
The system will not be able to use.

Recommended actions
Change the configuration and restart the controller.

20353, Mechanical unit not found

Description
The mechanical unit arg in arg can not be found in the list of configured mechanical units.

Consequences
It is not possible to execute any RAPID instructions that use the configured mechanical units.

Probable causes
The unit is probably not present in the motion configuration.

Recommended actions
Change the configuration and restart the controller.
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20354, The argument is undefined

Description
The configured argument arg for task arg is not a valid type.

Consequences
The behaviour of the task will be undefined.

Recommended actions
Change the configuration and restart the controller.

20355, Mechanical unit group name not correct

Description
The configured name of arg in task arg is not correct.
The reason could be:
1. The argument is not used in the configuration
2. The configured name is not a member of the mechanical unit group
3. The configured name is already used by another task.

Consequences
The task will not be installed or it will not be possible to execute RAPID motion instructions.

Recommended actions
Change the configuration and restart the controller.

20356, Maximum number of motion tasks exceeded

Description
Only arg tasks are allowed to control mechanical units i.e. execute RAPID move instructions.

Recommended actions
Change the configuration and restart the controller.

20357, No configured motion task

Description
No task is configured to control mechanical units i.e. execute RAPID move instructions.

Consequences
It is not possible to execute any RAPID move instructions.

Recommended actions
Change the configuration and restart the controller.

20358, No members of arg configured

Description
The configuration type is required in a multi robot system.

Consequences
It is not possible to execute any RAPID move instructions.

Recommended actions
Change the configuration and restart the controller.

20359, Cfg type arg is configured

Description
The type was found but not expected in a system with current options.

Recommended actions
Check if the right configuration file is loaded or remove all instances of the type.
Restart the controller.

20360, Unknown event in cfg type arg

Description
The event arg is not a system event.

Recommended actions
Change the configuration and restart the system.

20361, Only shared modules in the shared task

Description
The module arg is not configured shared and cannot be loaded into the shared task.

Recommended actions
Change the configuration and restart the system.

20362, Not defined task name

Description
The task arg in cfg type arg is not configured in the system.

Recommended actions
Change the configuration and restart the system.

20363, Module not a system module

Description
The module arg loaded from the file arg is not a system module.

Recommended actions
Change the file suffix or add a module attribute to the module.
Load the module again or restart the system.

20364, Max number of mechanical unit groups exceeded

Description
The maximum number of mechanical unit groups, arg, of the configuration type arg is exceeded.
Consequences
Exceeded instances are ignored.

Recommended actions
Change the configuration and restart the controller.

20365, Update of configuration is done

Description
All tasks are reset to its main routine due to configuration changes.

Recommended actions

20366, Type error in task configuration

Description
The task arg is configured with wrong type. Task configured to control mechanical units i.e. execute RAPID move instructions must be of type arg.

Consequences
The task will not be installed.

Recommended actions
Change the configuration and restart the controller.

20367, No configured mechanical units

Description
The instance arg of configuration type arg has no mechanical unit argument.

Consequences
It will not be possible to perform any actions against the motion system, i.e. execute RAPID move instructions.

Recommended actions
Change the configuration and restart the controller.

20368, Not connected mechanical unit group

Description
There is no RAPID motion task connected with the mechanical unit group arg.

Consequences
It will not be possible to use the mechanical units that belong to this group.

Probable causes
The cause of this error can be a missing RAPID task instance in the controller domain of the configuration or a task that has not been configured as a motion task.

Recommended actions
1. Add a motion task instance that is connected to the mechanical unit group.
2. Change an existing non-motion task to a motion task.
3. Remove the mechanical unit group.
4. Check for misspelled names.

20369, Confusing configuration of system parameters.

Description
There is a mixture of old and new structure of type System Misc.

Consequences
It is possible that not the correct parameters are configured.

Probable causes
Configuration of old and new structure has been loaded into the system.

Recommended actions
1. Check that the correct parameters are configured.
2. Update the parameters in System Misc with correct values.
3. Save the controller domain and replace the old config file.

20370, Failed to read configuration data for regain distance

Description
The system failed to read the configuration data for the type <arg>. The regain distance is the limit when the system will warn before a start with regain movement.

Consequences
Default value for the regain distance will be used.

Probable causes
- The sys.cfg file loaded into the system does not contain any regain distance information.
- No sys.cfg file has been loaded due to file errors.

Recommended actions
1) Load a new sys.cfg file and restart the system

20371, A default mechanical unit group is used

Description
The configuration of task arg has no connection to arg. The attribute arg is required in a multimeove system and is missing.

Consequences
The task performs no movement by the mechanical unit, but can read motion data. The RAPID functions may fail, if they read motion data and is connected to the wrong mechanical unit. The mechanical unit group in arg has been connected to the task.

Probable causes
- The attribute was not specified when the configuration was created.
- The configuration file could have been created in a non-multi move system.
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Recommended actions
1) Make sure the correct mechanical unit group is connected to the task.

20372, Failed to read configuration data.
Description
The system failed to read the configuration data for the type <arg>.

Consequences
Hotedit or modpos will not be possible.

Probable causes
-The sys.cfg file loaded into the system does not contain hotedit and modpos information.
-No sys.cfg file has been loaded due to file errors.

Recommended actions
Load a new sys.cfg file and restart the system

20380, No motion planner connected to mechanical unit
Description
The mechanical unit arg has no motion planner connected.

Consequences
It is not possible to use this mechanical unit in any operations such as calibration or activation.

Probable causes
The cause of this error is probably an error in the configuration.

Recommended actions
Check the motion and/or controller configuration.

20381, Error when recreating path after power fail
Description
The path wasn't successfully recreated.

Consequences
The Program Pointer must be moved before restarting the program. It's recommended to move the robot to a safe position though the robot might not follow the original path when restarted.

Probable causes
A number of errors may cause this. Faults causing the system to go to status SYS FAIL will generally also cause path recreate after power fail to fail.

Recommended actions
1) Check other event log messages occurring at the same time to determine the actual cause.
2) Fix the cause of the fault.
3) Move the robot to a safe position before restarting. The robot may not follow the original path.

20390, Start rejected
Description
Start/restart of program, via System IO, was rejected.
The reason is that write access is held by arg using arg

Recommended actions
20391, Start at main rejected
Description
Start of program at main, via System IO, was rejected.
The reason is that write access is held by arg using arg

Recommended actions
20392, Manual interrupt rejected
Description
Manual interrupt of program, via System IO, was rejected.
The reason is that write access is held by arg using arg

Recommended actions
20393, Load and start rejected
Description
Load and start of program, via System IO, was rejected.
The reason is that write access is held by arg using arg

Recommended actions
20394, Motors On and Start rejected.
Description
Motors On and Start/restart of program, via System IO, was rejected.
The reason is that write access is held by arg using arg

Recommended actions
20395, Load rejected
Description
Load of program via System IO, was rejected.
The reason is that write access is held by arg using arg
20396, Manual interrupt rejected

Description
Manual interrupt of program, via System IO, was rejected in task arg.
Manual interrupt is not allowed during synchronized movement.

20397, Manual interrupt rejected

Description
Manual interrupt of program, via System IO, was rejected in task arg.
The interrupt is connected to arg, which is not a valid RAPID procedure.

Consequences
arg will not be executed.

Probable causes
1. arg does not exist.
2. arg is not a procedure (PROC) that takes zero (0) parameters.

Recommended actions
Make sure that arg is an existing procedure (PROC) that takes zero (0) parameters.

20398, Automatic Mode Rejected

Description
A stopped static/semistatic task (alias background task) could not be started when automatic mode was requested.

Consequences
The system can not enter automatic mode.

Probable causes
A stopped static/semistatic task could not be started.

Recommended actions
1) Switch back to manual mode.
2) Make sure that all static/semistatic tasks has a program/module containing the configured production entry.
3) Make sure that no static/semistatic task has any syntax errors.
4) Switch back to automatic mode and confirm.

20399, Static/Semistatic task started

Description
At least on static/semistatic task (alias background task) was not executing after startup in automatic mode.

Consequences
Execution was started in at least one static/semistatic task.

Probable causes
System was switched to automatic mode during warm start.

Recommended actions
None, system has automatically reset debug settings.

To keep debug settings in auto:
1) Switch back to auto mode
2) Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to NO.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

20400, Debug Settings In Auto

Description
A static/semistatic task (alias background task) has been stopped.

Consequences
The static/semistatic task will not be started.
System will not be in full production mode in auto.

Recommended actions
For full production mode:
1) Switch back to manual mode.
2) Set system parameter Controller/Auto Condition Reset/AllDebugSettings/Reset to Yes.
3) Switch back to automatic mode and confirm.
4) For more info, see the Technical Reference Manual - System Parameters.

20401, Too many CFG instances

Description
There are too many instances arg of type arg in topic arg.

Consequences
The wrong instance may be used and cause unexpected behavior.

Probable causes
There are multiple instances of arg of type arg in topic arg.

Recommended actions
Remove all instances but one.

20440, Failed to initialize FW upgrade framework

Description
The firmware upgrade framework for hardware boards could not be initialized

Consequences
No firmware upgrade of hardware boards will be performed

Probable causes
An invalid xml file in the controller installation:
arg

Recommended actions
For developers:
- Correct the file. Use the hw_compatibility.xsd schema to verify.
For other users:
- Reinstall the system.

20441, Failed to initialize firmware patch
Description
Failed to initialize the firmware patch handling for hardware boards.
Consequences
No firmware patches for hardware boards will be applied.
Probable causes
The firmware patch file was invalid: arg
Recommended actions
Correct the patch file. Use the schema hw_compatibility.xsd to verify.

20443, Multiple firmware upgrade restarts
Description
A new restart to firmware upgrade mode was ordered after two consecutive upgrade restarts.
Consequences
No further restart to firmware upgrade mode was performed.
Probable causes
Firmware upgrade of a hardware board has most likely failed. The board's firmware or hardware may be corrupt.
Recommended actions
Check the event log for previous error messages.

20450, SC arg CBC Speed exceeded
Description
Cyclic Brake Check (CBC) speed limit is exceeded in Safety Controller (SC) on Mechanical unit arg, when Brake check is required.
Recommended actions
Decrease speed and execute Brake check.

20451, SC arg Not synchronized
Description
Safety Controller (SC) arg is not synchronized with supervised Mechanical units.
Recommended actions
Move all Mechanical units supervised by Safety Controller arg to the synchronization positions defined in the Safety Configuration.

20452, SC arg Synchronized
Description
Safety Controller (SC) arg is now synchronized to supervised Mechanical units. Safety supervision can be used.

20453, SC arg Wrong Sync. Position
Description
The positions of the supervised Mechanical units do not match the synchronization positions defined in the Safety Configuration for Safety Controller (SC) arg on axis arg.
Recommended actions
- Check that all supervised Mechanical units are positioned at the configured synchronization position.
- Check that the synchronization switch is working properly.
- Check that motor calibration and revolution counters are updated and correct.
- Check that the synchronization position in the Safety Configuration is correct.
- Check for configuration error.
- Download Motor calibration values.
- Check if axis 4 or 6 is configured as independent, if YES, check that the EPS configuration is configured likewise.

20454, SC arg Servo-Lag Limit exceeded
Description
Safety Controller (SC) arg detected a too big difference between the ordered and actual position, for Mechanical unit arg on axis arg.
Recommended actions
- Check for collision.
- If using external axis, check Servo Lag settings in the Safety Configuration.
- If using Soft Servo, Check that the Operational Safety Range (OSR) Tolerance in the Safety Configuration is not set too low
- Verify that revolution counters are updated.
- Check for communication problems to the Main Computer, Axis Computer or the Serial Measurement Board.
- Check if tool weight is correctly defined.

20455, SC arg Incorrect Position Value
Description
Incorrect position value from Serial Measurement Board detected by Safety Controller (SC) arg on Mechanical unit arg.
Recommended actions
- Check resolver and resolver connections.
- Replace Serial Measurement Board.
- Replace resolver.

20456, SC arg Reference Data Timeout
Description
The Robot Controller has stopped sending reference data to Safety Controller (SC) arg.
Recommended actions
1. Check previous error logs for possible causes.
2. Restart System.

20457, SC arg Corrupt Safety Configuration

Description
The Safety Configuration for Safety Controller (SC) arg is corrupt or contains invalid data.

Recommended actions
- Warm start Robot Controller.
- Download a Safety Configuration to the Safety Controller.
- Reinstall System.

20458, SC arg Internal Failure

Description
Internal Failure in Safety Controller (SC) arg.

Recommended actions
- Check Safety Controller cabling.
- Check Safety Controller health on LED
- Replace Safety Controller if remaining error

20459, SC arg Input/Output Failure

Description
I/O Error on Safety Controller (SC) arg.

Recommended actions
- Check Safety Controller cabling.
- Check Safety Controller health.
Warm start Robot Controller, after performing recommended actions.

20460, SC arg Safety Configuration not found

Description
Failed to retrieve Safety Configuration for Safety Controller (SC) arg.

Recommended actions
- Warm start Robot Controller.
- Download a Safety Configuration to the SC.
- Reinstall System.

20461, SC arg Robot Configuration not found

Description
Failed to retrieve Robot Configuration for Safety Controller (SC) arg.

Recommended actions
- Warm start Robot Controller.
- Reinstall System.

20462, SC arg Calibration Offset not found

Description
Failed to retrieve Motor Calibration offsets for Safety Controller (SC) arg.

Recommended actions
Download new Calibration offsets to the SC.

20463, SC arg Safety Configuration downloaded

Description
Download of Safety Configuration was successful for Safety Controller (SC) arg.

20464, SC arg OSR Limit exceeded

Description
Safety Controller (SC) arg detected a too big difference between the ordered and actual position inside Operational Safety Range (OSR), for Mechanical unit arg on axis arg.

Recommended actions
- Check for collision.
- Check that Operational Safety Range (OSR) Tolerance in the Safety Configuration is not set too low.
- Synchronize the Safety Controller, if the revolution counters have been updated since last synchronization.

20465, SC arg SAS Speed exceeded

Description
Safe Axis Speed (SAS) violation on Mechanical unit arg Axis arg on Safety Controller (SC)

Recommended actions
Decrease speed on Axis arg

20466, SC arg Input/Output Failure

Description
I/O Error on Safety Controller (SC) arg I/O arg Type arg
Type 1: Input
Type 2: Output

Probable causes
- Wrong connection to I/O terminals on SC
- Two channel I/O mismatch

Recommended actions
- Check SC cabling.
- Check SC health.
Warm start Robot Controller, after performing recommended actions.
6 Troubleshooting by Event log

20467, SC arg STS speed exceeded

Description
Safe reduced Tool Speed (STS) in Safety Controller (SC) on Mechanical unit arg too high. Cause arg.

Probable causes
1. Tool0 speed
2. Elbow speed
3. Tool speed
4. Additional axis speed

Recommended actions
Reduce tool speed.

20468, SC arg STZ violation

Description
Safe Tool Zone (STZ) arg is violated on Mechanical unit arg. Cause arg.

Probable causes
1. Exceeded speed
2. Wrong tool position
3. Wrong tool orientation
4. Wrong elbow position
11. Wrong tool point 1 position
12. Wrong tool point 2 position
13. Wrong tool point 3 position
14. Wrong tool point 4 position
15. Wrong tool point 5 position
16. Wrong tool point 6 position
17. Wrong tool point 7 position
18. Wrong tool point 8 position

Recommended actions
- Reduce speed
- Move Robot tool to safe position
- Adjust tool orientation

20469, SC arg SAR violation

Description
Safe Axis Range (SAR) arg is violated on Mechanical unit arg. Axis arg

Recommended actions
Move Mechanical unit to safe position

20470, SC arg Synchronization Pre-warning

Description
Synchronization required for Mechanical units supervised by Safety Controller (SC) arg in less than arg hour(s).

Recommended actions
Perform synchronization before the time limit expires.

20471, SC arg Synchronization Timeout

Description
Synchronization time limit expired for Safety Controller (SC) arg. Last synchronization was arg hours ago.

Recommended actions
Perform synchronization.

20472, SC arg New Safety Configuration

Description
Safety Controller (SC) arg has received a new Safety Configuration. A new PIN-code is needed to activate.

Recommended actions
1. Log in as a user with Safety Configuration grants.
2. Enter new PIN-Code for the Safety Controller in the Control Panel.

20473, SC arg Dual Computer mismatch

Description
Safety Controller (SC) arg have had conflicting values for a Safety Output for too long.

Consequences
The Safety Controller has entered a Safe State and issue an error after 10 minutes of internal mismatch, if recommended actions are not performed.

Probable causes
- The Mechanical unit have been parked at a position on, or close to, a supervised or monitored function limit for too long time.
- Internal computation error in Safety Controller.

Recommended actions
Move all Mechanical units’ axes and tools well inside or outside monitored and supervised function limits.

20474, SC arg I/O Supply Failure

Description
I/O supply voltage level for Safety Controller (SC) arg is out of range.

Probable causes
Either the voltage is out of limits or the voltage is missing.

Recommended actions
1. Connect 24V supply with correct voltage level to I/O supply terminals.
2. Warm start Robot Controller.
6 Trouble shooting by Event log

20475, SC arg Synchronization rejected

Description
Safety Controller (SC) arg is not correctly configured for synchronization.

Probable causes
- Safety Configuration PIN is not set or is incorrect.
- Safety Configuration is empty.
- Safety Configuration is corrupt or missing.
- Safety Controller connected to the wrong SMB bus.
- I/O Power supply missing.

Recommended actions
Verify and check possible causes

20476, SC arg Disabled

Description
Safety Controller (SC) arg is disabled.

Consequences
All safety supervision has been disabled in the Safety Controller. Risk for Safety hazards.

Recommended actions
Download a Safety Configuration to the Safety Controller.

20477, SC arg SMB Communication Failure

Description
Safety Controller (SC) arg failed to communicate with Serial Measurement Board (SMB).

Recommended actions
1. Make sure that the cabling from SMB to Safety Controller is connected to the right SMB connector and functional.
2. Restart System.

20478, SC arg Main Supply Failure

Description
The main power supply voltage for Safety Controller (SC) arg is out of range.

Probable causes
Either the voltage is out of limit or the voltage is missing.

Recommended actions
1. Check Safety Controller cabling.
2. Check voltage from power supply.
3. Warm start Robot Controller.

20479, SC arg Additional Axis missing

Description
An Additional Axis that is supervised by Safety Controller (SC) arg is no longer present in the System Configuration.

Recommended actions
Reinstall the supervised Additional Axis, or Download a Safety Configuration without supervision of the Additional Axis.

20480, SC arg SST violation

Description
Safe Stand Still (SST) arg in Safety Controller (SC) is violated on Mechanical unit arg Axis arg.

Recommended actions
- Verify Rapid program
- Verify process equipment
- Check that movement is not ongoing when SST is active
- Check previous elog messages

20481, SC arg OVR active

Description
Override Operation (OVR) active on Safety Controller (SC) arg
SafeMove will stop the robot after approximately 20 minutes with OVR active.
Speed is limited to 250 mm/s or 18 degrees/s.

Recommended actions
Deactivate signal connected to OVR input

20482, SC arg OVR time out

Description
Override Operation (OVR) has been active too long time on Safety Controller (SC) arg.

Recommended actions
1. Warmstart Robot Controller
2. Toggle signal connected to OVR input
3. Activate Confirm stop by pressing Motors On push button
4. Jog Robot back into working area
5. Deactivate signal connected to OVR input

20483, SC arg CBC soon required

Description
Cyclic Brake Check (CBC) required in less than arg hours.

Recommended actions
Perform a Brake Check before the time limit expires.
### 6 Trouble shooting by Event log

#### 20484, SC arg CBC Time limit expired

**Description**
Cyclic Brake Check (CBC) time limit expired in Safety Controller (SC). Last Brake Check was executed \( \text{arg} \) hours ago.

**Recommended actions**
Perform a Brake Check.

#### 20485, SC arg Too low brake torque

**Description**
Too low brake torque in Safety Controller (SC) on Mechanical unit \( \text{arg} \).

**Probable causes**
- Axis has not been tested.
- Worn out brake(s).

**Recommended actions**
- Check that the failing axis is activated
- If failing axis is activated replace brake(s) as soon as possible.

#### 20486, SC arg CBC incorrect

**Description**
Safety Controller (SC) has detected that the last Cyclic Brake Check (CBC) on Mechanical unit \( \text{arg} \) was incorrect.

**Recommended actions**
- Perform a new Brake Check.
- Check previous elogs.

#### 20487, SC arg Unsynchronized speed exceeded

**Description**
Exceeded Axis speed when Safety Controller (SC) \( \text{arg} \) was unsynchronized.

**Recommended actions**
Jog Mechanical unit to synch position with low axis speed. Reduce speed to 250 mm/s or 18 degrees/s.

#### 20488, SC arg Unsynchronized time limit expired

**Description**
Available time to move the Robot when unsynchronized has expired for Safety Controller (SC) \( \text{arg} \).

**Recommended actions**
1. Do a Confirm stop by pressing the Motors ON push button or activate System input
2. Synchronize SC \( \text{arg} \).

#### 20489, SC arg has been disabled

**Description**
Safety Controller (SC) \( \text{arg} \) has been disabled and no supervision functions are active.

**Probable causes**
Either a C-start has been performed or it's the first startup of SC.

**Recommended actions**
Download a Configuration to SC \( \text{arg} \).

#### 20490, SC arg OVR Speed exceeded

**Description**
Override (OVR) Speed limit exceeded on Mechanical unit \( \text{arg} \).

**Probable causes**
If Override (OVR) is active, then OVR speed limitations will be active.

**Recommended actions**
- Decrease speed.
- Deactivate OVR.

#### 20491, SC arg Override active during startup

**Description**
Override digital input was active during startup on SC \( \text{arg} \).

#### 20492, SC arg SST violation in Brake test

**Description**
Movement detected during Brake test on Safety Controller (SC) \( \text{arg} \)
Mechanical unit \( \text{arg} \) Axis \( \text{arg} \)

**Probable causes**
- Interrupted brake test.
- Worn out Brakes.

**Recommended actions**
- Restart CBC.
- Replace Brake.

#### 20493, SC arg SBR triggered

**Description**
Safe Brake Ramp (SBR) on Safety Controller (SC) was interrupted by a Class 0 stop due to slow deceleration on Mechanical unit \( \text{arg} \). This is normal and occurs in cases when a stop1 is to slow. Check for other safety controller elog.

**Recommended actions**
- Change parameter value for SBR in motion configuration
- Trigger a new stop to test the Brake Ramp.
- If this happens frequently, check the Application manual for Mechanical units configuration.
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20494, SC arg Tool change incorrect

Description
Incorrect tool change with Tool arg on Mechanical unit arg

Recommended actions
- Check if correct tool.
- Decrease speed if needed.
- Perform a new tool change.

20501, ES panel open

Description
The emergency stop panel has previously been broken, and while broken, an attempt was made to operate the robot.

Consequences
The system remains in the Emergency Stop status.

Probable causes
An attempt has been made to manoeuvre a control, e.g. the enabling device.

Recommended actions
1) To resume operation, first reset the emergency stop panel button.
2) Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

20502, ES pendant open

Description
The emergency stop pendant has previously been broken, and while broken, an attempt was made to operate the robot.

Consequences
The system remains in the Emergency Stop status.

Probable causes
An attempt has been made to manoeuvre a control, e.g. the enabling device.

Recommended actions
1) To resume operation, first reset the emergency stop pendant button.
2) Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

20503, ES ext.cat.0 open

Description
The emergency stop external has previously been broken, and while broken, an attempt was made to operate the robot.

Consequences
The system remains in the Emergency Stop status.

Probable causes
An attempt has been made to manoeuvre a control, e.g. the enabling device.

Recommended actions
1) To resume operation, first reset the emergency stop external button.
2) Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

20505, Delayed stop open

Description
Delayed stop open.

Consequences
The system goes to status SYS HALT.

Recommended actions
1) To resume operation, first reset the delayed stop button.
2) Then switch the system back to state Motors ON by pressing the Motors ON button on the Control Module.

20506, Test Stop open

Description
The Test Mode Safeguarded Stop circuit has been broken.

Consequences
The system goes to status SYS HALT.

Probable causes
One or more of the switch connected in series with the Test Mode Safeguarded Stop circuit have been opened, which may be causes by a large number of faults. This is only possible while in the Manual operational mode

Recommended actions
1) Locate the switch, reset it and restart the system.
2) Check cables and connections.

20507, Hardware chain open

Description
Relays (KA16 and KA17) on Safety Interface Board (SIB) not activated.

Consequences
Motor on command rejected.

Recommended actions
Press motor ON button to close the chain.

20521, Test Stop conflict

Description
Status conflict for the Test Stop chain.

Consequences
The system goes to status SYS HALT.
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Recommended actions
Please check the two-channel safety guard that caused the status conflict.

Consequences
Paint enable chain opens.

20525, ES panel conflict
Description
Status conflict for the Emergency Stop panel chain.

Consequences
The system goes to status emergency stop.

Recommended actions
Please check the two-channel safety guard that caused the status conflict.

20526, ES pendant conflict
Description
Status conflict for the Emergency Stop pendant chain.

Consequences
The system goes to status emergency stop.

Recommended actions
Please check the two-channel safety guard that caused the status conflict.

20527, ES ext.cat.0 conflict
Description
Status conflict for the Emergency Stop ext.cat.0 chain.

Consequences
The system goes to status emergency stop.

Recommended actions
Please check the two-channel safety guard that caused the status conflict.

20528, HV Interlock input conflict
Description
Only one of the two input signals in the high voltage chains is opened.

Consequences
Paint enable chain opens.

Recommended actions
Please check the two-channel safety guard that caused the status conflict.

20529, Cabin Interlock input conflict
Description
Only one of the two input signals in cabin interlock chains is opened.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check cables and connections.

20531, Delayed Stop conflict
Description
Status conflict for the delayed stop circuit.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check cables and connections.

20534, Mode selector conflict
Description
Any of the connections to the mode selector are faulty.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check cables and connections.

20535, AUX Interlock conflict
Description
Only one of the two AUX interlock chains was opened. Normally used on CBS door interlock.

Consequences
Paint enable chain opens.

Recommended actions
Check cables and connections.

20536, Motor on chain conflict
Description
Only one of the two motor on chain signals in run chain is opened.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check cables and connections.

20556, Enable 2 AXC 1 open
Description
Status active when enable from Axis Computer 1 open.

Consequences
The system goes to status SYS HALT.
Recommended actions
1. Check other error messages for primary fault reason.
2. If no other error messages, please check line voltage for one phase missing.

20557, Enable 2 AXC 2 open

Description
Status active when enable from Axis Computer 2 open.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check other error messages for primary fault reason.
2. If no other error messages, please check line voltage for one phase missing.

20558, Manipulator fault

Description
Status active when power to manipulator arg connected to Manipulator Interface Board (MIB) arg is lost, or manipulator's enable chain conditions is not OK.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check the power to the manipulator.
2. Check that the enable chain on Manipulator Controller Board (MCOB) is OK.

20559, Collision sensor active

Description
Status active when digital collision sensor on Manipulator Controller Board (MCOB) is active.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check the collision sensors connected to MCOB.

20560, Axis limit on MCOB

Description
Status active when limit sensor on Manipulator Controller Board (MCOB) is active.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check the limit sensors connected to MCOB.

20561, MCOB software has opened enable chain

Description
Status active when Manipulator Controller Board (MCOB) software has opened the enable chain on MCOB.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check the MCOB software.

20562, Reset ES fault

Description
Status active when Reset Emergency Stop input is activated for more than 3 seconds.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check the connection of external reset of Emergency Stop.
2. Check the motor on push button.

20563, Servo disconnect open

Description
Status active when Servo disconnect switch on system arg is off.

Consequences
The system goes to status SYS HALT.

Recommended actions
If Servo disconnect switch is not installed, check the disable link on Manipulator Interface Board (MIB).

20564, Brake rel. on axes 1 & 7

Description
Status active when manual brake release on axes 1 and 7 enabled.

Consequences
The system goes to status SYS HALT.

Recommended actions
Check switch for manual brake release of axes 1 and 7.

20565, External enable 1 open

Description
Status active when external enable 1 on Manipulator Controller Board (MCOB) is open.

Consequences
The system goes to status SYS HALT.
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Recommended actions
Check connection on MCCB X25.

20566, External enable 2 open
Description
Status active when external enable 2 on Manipulator Controller Board (MCOB) is open.
Consequences
The system goes to status SYS HALT.
Recommended actions
Check connection on MCCB X43.

20567, Power low on MCOB
Description
Status active when power below 16V on Manipulator Controller Board (MCOB).
Consequences
The system goes to status SYS HALT.
Recommended actions
Check power on MCOB.

20568, Hardware enable open on MCOB
Description
Status active when firmware on Manipulator Controller Board (MCOB) has opened the enable chain.
Consequences
The system goes to status SYS HALT.

20569, Watchdog fault on MCOB
Description
Status active when watchdog on Manipulator Controller Board (MCOB) fails.
Consequences
The system goes to status SYS HALT.

20570, TPU wiring error
Description
Status active when Process Interface Board (PIB) detects fault on emergency stop pendant and enabling device signals (glitch test).
Consequences
The system goes to status SYS HALT.
Recommended actions
1. Check cables and connections to Teach Pendant Unit (TPU).
2. Check Pendant Interface Board (TIB) and Manipulator Interface Board (MIB).

20571, HV Interlock open
Description
Paint system High Voltage (HV) interlock is opened by external interlock connection.
Consequences
Paint enable chain opens.
Recommended actions
Check manual switch for disconnecting of the HV system.

20572, Cabin Interlock open
Description
Cabin Interlock is opened by external interlock connection.
Consequences
Paint enable chain opens.
Recommended actions
Check cabin ventilation and other cabin safety functions.

20573, Controller ID is Missing
Description
Controller ID is the controller's unique identity. It is by default equal to the serial number of the controller's cabinet. The software configuration of the controller is missing this identity information.
Probable causes
This may happen if the storage media of the controller has been replaced or reformatted.
Recommended actions
Read the serial number of the controller from the controller cabinet to find out what the controller ID should be. Use RobotStudio tools to set this value for the controller.

20574, Process Interlock open
Description
Process Interlock is opened by external interlock connection.
Consequences
Paint enable chain opens.
Recommended actions
Check manual switch for disconnecting of the process system.

20575, AUX Interlock open
Description
AUX Interlock is opened by external interlock connection. Normally used for Cartridge Bell System (CBS).
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20576, System 2 Interlock open

**Description**
System 2 Interlock is opened. Normally used for Cartridge Bell System (CBS) or paint pumps

**Consequences**
Paint enable chain opens.

**Recommended actions**
Check cables and equipments connected to AUX inputs.

20577, HV ON open

**Description**
High Voltage (HV) switch on operating panel is opened.

**Consequences**
Paint enable chain opens.

**Recommended actions**
Check cables and equipments connected to system 2.

20581, SPI communication towards SIB is down

**Description**
Status active when cyclic enable 1 test fails from Safety Interface Board (SIB).

**Consequences**
The system goes to status SYS HALT.

**Recommended actions**
1. Check status on Serial Peripheral Interface (SPI) status.
2. Check cables between Process Interface Board (PIB) and SIB.

20582, SPI communication towards MIB is down

**Description**
Status active when cyclic enable 1 test fails from Manipulator Interface Board (MIB).

**Consequences**
The system goes to status SYS HALT.

**Recommended actions**
Check cables and Serial Peripheral Interface (SPI) status.
2. Check cables between SIB and Manipulator Interface Board (MIB).

20583, Watchdog towards PIB software fails

**Description**
Status active when firmware on Process Interface Board (PIB) discover watchdog fault between PIB firmware and PIB software.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
Too high processor load on PIB software.

20584, Fault on internal SPI

**Description**
Status active when firmware on Process Interface Board (PIB) discover watchdog fault towards Safety Interface Board (SIB) and Manipulator Interface Board (MIB).

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
Serial Peripheral Interface (SPI) communication is down on SPI 1.

**Recommended actions**
Check cables between PIB, SIB and MIB.

20585, Enable chain opened from IPS

**Description**
Status active when enable chain is opened from signal Safety/PibSw/Enable.

**Consequences**
The system goes to status SYS HALT.

**Recommended actions**
Check the actuator connected to signal Safety/PibSw/Enable.

20586, Watchdog fault towards PIB firmware

**Description**
Status active when software on Process Interface Board (PIB) discover watchdog fault towards PIB firmware caused by fault on FPGA.

**Consequences**
The system goes to status SYS HALT.

20587, Watchdog fault towards PIB firmware

**Description**
Status active when software on Process Interface Board (PIB) discover watchdog fault towards PIB firmware caused by fault on the In-System Micro Controller.

**Consequences**
The system goes to status SYS HALT.
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Probable causes
Firmware not running.

20588, Watchdog fault between PIB and MC
Description
Status active when software on Process Interface Board (PIB) discover watchdog fault towards Main Computer (MC).

Consequences
The system goes to status SYS FAIL.

Recommended actions
Check ethernet cable between PIB and MC.

20589, Watchdog fault between PIB and MCOB
Description
Status active when agent connection on CAN between Process Interface Board (PIB) and Manipulator Controller Board (MCOB) is down.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check CAN cables.
2. Check MCOB status.

20590, Open circuit mask not set
Description
The open circuit mask for brakes on Manipulator Controller Board (MCOB) is not set. The mask should be set from Process Interface Board (PIB) during start-up.

Consequences
This message will be given every time the brakes are released, until the open circuit mask on MCOB is set.

Probable causes
IPS configuration on PIB is not loaded or configuration file for brake settings is missing.

Recommended actions
1. Check that IPS configuration is loaded during start-up.
2. Check that IPS configuration file for brake settings are installed on PIB.

20591, TPU hot plug timeout
Description
The TPU hot plug button is pressed for too long time.

Consequences
The system goes to status SYS HALT.

20600, Unofficial RobotWare release
Description
The current RobotWare is not an officially supported release. Unofficial RobotWare releases may only be used for time-limited test and validation purposes.

Consequences
ABB will not provide long-term support on unofficial releases.

Recommended actions
If this is a production system, install an official RobotWare release as soon as possible.

20601, Too long paths when unpacking RobotWare files
Description
The RobotWare installation package was not properly unpacked on the controller. Some files in the package have a path that is too long and could not be handled by the controller software. During the installation process the controller software was upgraded to handle longer paths, so a re-installation of the system should solve the problem.

Consequences
Some RobotWare files are missing on the controller and your system may not be able to operate properly.

Recommended actions
Re-install the system by using SystemBuilder. If the error is still present after the re-installation, contact customer support.

20602, Unofficial RobotWare image
Description
The current RobotWare main computer image is not the original, and is hence not officially supported.

Consequences
ABB will not provide long-term support on unofficial RobotWare releases.

Probable causes
The officially released main computer image has been replaced, e.g., for the purpose of collecting diagnostic data for a specific problem.

Recommended actions
If this is a production system, install an official RobotWare release as soon as possible.
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20610, Motor phase short circuit

Description
The drive unit for joint arg has reported short circuit. The joint is connected to drive module arg with unit position arg and node arg.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

Probable causes
1) Short circuit in cables or connectors between the phases or to ground.
2) Short circuit in motor between the phases or to ground.

Recommended actions
1) Check/replace cables and connectors.
2) Check/replace motor.

20620, The system has entered an internal test mode

Description
A feature to perform ABB Robotics internal tests has been enabled in arg.

Consequences
The system may not behave as expected.

Recommended actions
Restart the system when the test has been performed. If this was an unexpected message, please contact your local ABB representative for assistance.

31810, DeviceNet master/slave board is missing

Description
The DeviceNet master/slave board does not work.

Consequences
No communication on the Devicenet is possible.

Probable causes
The DeviceNet master/slave board is either malfunctioning or missing.

Recommended actions
1. Make sure a DeviceNet master/slave board is installed.
2. Replace the board if faulty.

31811, Second DeviceNet master/slave board is missing

Description
Dual option is configured but only one DeviceNet master/slave board is installed.

Consequences
Only one DeviceNet bus is available.

Probable causes
The Second DeviceNet master/slave board is either malfunctioning or missing.

Recommended actions
1. Make sure a Second DeviceNet master/slave board is installed.
2. Replace the Second board if faulty.

31812, Incompatible DeviceNet Boards

Description
The system has detected incompatible types of DeviceNet boards.

Consequences
No communication on the DeviceNet is possible.

Probable causes
Incompatible types of DeviceNet boards have been installed in the system.

Recommended actions
Make sure that compatible board types are installed.

31910, Profibus-DP master/slave board is missing

Description
The Profibus-DP master/slave board does not work.

Consequences
No communication on the Profibus is possible.

Probable causes
The Profibus-DP master/slave board is either malfunctioning or missing.

Recommended actions
1. Make sure a Profibus-DP master/slave board is installed.
2. Replace the board if faulty.

31911, Profibus board update error

Description
The RobotWare software was not able to download new driver software to the Profibus-DP master/slave board. The arg channel (ch arg) of the Profibus board could not be programmed. Internal error code:arg.

Consequences
No communication on the Profibus is possible.

Probable causes
The RobotWare software may be corrupt or the board hardware may be malfunctioning.
Recommended actions
1. Restart the system to reattempt downloading the software.
2. Reinstall the present system files.
3. Create and run a new system to download the driver software.
4. Replace the board if faulty.

31912, Profibus-DP master/slave board failure
Description
The Profibus-DP master/slave board did not start up correctly.

Consequences
No communication on the Profibus is possible.

Probable causes
The Profibus-DP master/slave board hardware may be malfunctioning.

Recommended actions
1. Restart the system.
2. Replace the Profibus-DP master/slave board if faulty.

31913, Profibus-DP master/slave board internal error
Description
The Profibus-DP master/slave board reported internal error arg.

Consequences
No communication on the Profibus is possible.

Probable causes
The Profibus-DP master/slave board hardware may be malfunctioning.

Recommended actions
1. Restart the system.
2. Replace the Profibus-DP master/slave board if faulty.

31914, Profibus startup error
Description
- Profibus master bus error Error code arg. Check cabling, terminators and modules then restart.

Recommended actions

31915, Profibus Bus Error
Description
Profibus master bus error.
Error code arg.

Consequences
Certain expected associated errors may be delayed.

Probable causes
Faulty profibus cabling, terminators and/or module(s).

Duplicated profibus addresses.

Recommended actions
Check cabling, terminators and modules.

31916, Profibus bus OK
Description
- Profibus regained contact on the master bus.

Recommended actions

31917, Profibus-DP master/slave board exception
Description
A fatal error has occurred on the Profibus-DP master/slave board. arg channel in task arg. Parameters arg

Consequences
No communication on the Profibus is possible.

Probable causes
The Profibus-DP master/slave board hardware may be malfunctioning.

Recommended actions
1. Restart the system.
2. Replace the Profibus-DP master/slave board if faulty.

32500, Robot Communication Card is missing
Description
The system cannot contact the Robot Communication Card.

Consequences
No communication with the Safety System is possible. The system goes to status SYS FAIL.

Probable causes
The Robot Communication Card is either malfunctioning or missing.

Recommended actions
1. Make sure a Robot Communication Card is installed.
2. Replace the unit if faulty.

32501, Incorrect RCC firmware
Description
The FPGAR11-Firmware on the RCC (DSQC602) is of an incompatible version. Current version: arg.arg Requested version: arg.arg

Recommended actions
1. Replace the DSQC602 board
2. Restart the system
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32502, Can't find file

Description
The system cannot find the file: [arg]

Recommended actions
Reinstall the system

32503, Requested info not in file

Description
The system cannot find information about what software to download to HardWare ID="arg", Version="arg", Revision="arg" in file [arg].

Probable causes
The file has either been damaged, or the actual hardware version of the unit is not supported.

Recommended actions
1. Reinstall the system
2. Replace the unit to a version which is supported by this SW-release.

32530, No Communication With The Safety System

Description
There is no serial communication between the Safety System and the Robot communication card.

Consequences
The system goes to status SYS FAIL.

Probable causes
Probably hardware fault in cable between Safety System and Robot Communication Card. The Safety System, or it's power supply, may also be faulty.

Recommended actions
1) Restart the system to resume operation.
2) Make sure the cable between robot communication card and Safety System is working and correctly connected.
3) Check the Safety System power supply.
4) Replace the unit if faulty.

32540, Drive unit firmware reflash started

Description
In drive module arg, a required upgrade of the firmware in the drive unit at unit position arg has started. The old firmware revision arg is replaced with revision arg.

Recommended actions
Wait for the firmware upgrade process to complete. Do not turn off system power!

32541, Drive unit firmware reflash complete

Description
In drive module arg, the upgrade of the firmware in the drive unit with unit position arg is completed. New revision is arg.

32542, Drive unit hardware not supported

Description
In drive module arg, the system cannot use the drive unit with hardware identity arg because the hardware revision arg is not supported.

Consequences
The system is unable to use the drive unit. The system goes to System Failure state.

Probable causes
The RobotWare version is too old to support the drive unit.

Recommended actions
1) Upgrade the system to a RobotWare version supporting the drive unit revision.
2) Replace the drive unit to one with compatible revision.

32543, Drive unit firmware reflash failed

Description
In drive module arg, the upgrade of the firmware in the drive unit at unit position arg failed.

Consequences
The required upgrade of the drive unit firmware is not performed.

Recommended actions
1) Check other hardware eventlog messages for detailed explanation of the error condition.
2) Try again by restart the system using the main power switch.

32544, Drive unit firmware file not found

Description
The file arg, required to upgrade a drive unit's firmware, is not found.

Consequences
The required upgrade of the drive unit firmware is not performed.

Probable causes
The RobotWare installation does not contain the firmware file.

Recommended actions
Reinstall the system.

32545, Drive unit firmware file type error

Description
The file arg, required to upgrade a drive unit's firmware, is of wrong type.
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Consequences
The required upgrade of the drive unit firmware is not performed.

Probable causes
The RobotWare installation is faulty.

Recommended actions
Reinstall the system.

32546, Drive unit firmware file error

Description
The file \textit{arg}, required to upgrade a drive unit’s firmware, is not usable because it failed the integrity check.

Consequences
The required upgrade of the drive unit firmware is not performed.

Probable causes
The RobotWare installation is faulty.

Recommended actions
Reinstall the system.

32550, Firmware reflash started

Description
A required update of the \textit{arg} firmware has started. File used: \textit{[arg]}.

Recommended actions
Wait for the reflash to complete

32551, Firmware reflash completed

Description
The update of \textit{arg} firmware has completed successfully.

32552, Firmware reflash failed

Description
The update of \textit{arg} firmware failed.

Recommended actions
1. Check other error messages for detailed explanation
2. Restart the system
3. Reinstall the system
4. Replace the \textit{arg}

32553, Firmware file is corrupt

Description
The firmware file \textit{[arg]} is corrupt. Internal errorcode: \textit{arg}

Recommended actions
Reinstall the system

32554, Firmware file not found

Description
The firmware file \textit{[arg]} is not found.

Recommended actions
Reinstall the system

32555, Safety System Unit Not Supported

Description
The system cannot use the Safety System unit \textit{arg}, revision \textit{arg}.

Consequences
The system is unable to use the affected hardware.

Recommended actions
1. Change the affected hardware to a compatible version.

32560, Axis computer firmware reflash started

Description
In drive module \textit{arg}, a required upgrade of the firmware in the axis computer \textit{arg} with hardware identity \textit{arg} has started. The old firmware revision \textit{arg} is replaced with revision \textit{arg}.

Recommended actions
Wait for the firmware upgrade process to complete. Do not turn off system power!

32561, Axis computer firmware reflash complete

Description
In drive module \textit{arg}, the upgrade of the firmware in the axis computer \textit{arg} with hardware identity \textit{arg} is completed. New revision is \textit{arg}.

32562, Axis computer communication error

Description
The system failed to communicate with the axis computer in drive module \textit{arg} when trying to read firmware information.

Consequences
The system is unable to determine if an upgrade is required of the firmware in the affected drive module. The system goes to System Failure state.

Probable causes
This may be due to a cable break, bad connector or high levels of interference in the cable between the main computer and the axis computer.

Recommended actions
1) Make sure the cable between the main computer and the axis computer is not damaged and that both connectors are correctly connected.
2) Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.

### 32563, Axis computer hardware not supported

**Description**
In drive module `arg`, the system cannot use the axis computer with hardware identity `arg` because the hardware revision `arg` is not supported.

**Consequences**
The system is unable to use the axis computer. The system goes to System Failure state.

**Probable causes**
The RobotWare version is too old to support the axis computer unit.

**Recommended actions**
1) Replace the axis computer to one with compatible revision.
2) Upgrade the system to a RobotWare version supporting the axis computer revision.

### 32564, Axis computer firmware reflash failed

**Description**
In drive module `arg`, the upgrade of the firmware in the axis computer `arg` with hardware identity `arg` failed.

**Consequences**
The required upgrade of the axis computer firmware is not performed.

**Probable causes**
The RobotWare installation does not contain the firmware file.

**Recommended actions**
1) Check other hardware eventlog messages for detailed explanation of the error condition.
2) Retry again by restarting the system using the main power switch.

### 32565, Axis computer firmware file not found

**Description**
The file `arg`, required to upgrade an axis computer’s firmware, is not found.

**Consequences**
The required upgrade of the axis computer firmware is not performed.

**Probable causes**
The RobotWare installation does not contain the firmware file.

**Recommended actions**
Reinstall the system.

### 32567, Axis computer firmware file type error

**Description**
The file `arg`, required to upgrade an axis computer firmware, is of wrong type.

**Consequences**
The required upgrade of the axis computer’s firmware is not performed.

**Probable causes**
The firmware file is corrupt.

**Recommended actions**
Reinstall the system.

### 32568, Axis computer firmware file error

**Description**
The file `arg`, required to upgrade an axis computer’s firmware, is not usable because it failed the integrity check.

**Consequences**
The required upgrade of the axis computer firmware is not performed.

**Probable causes**
The firmware file is corrupt.

**Recommended actions**
Reinstall the system.

### 32569, Corrupt axis computer hardware

**Description**
In drive module `arg`, the axis computer flash memory has a corrupt content.

**Recommended actions**
1. Retry again by restarting the system using the main power switch.
2. If the problem remains then replace the axis computer.

### 32570, Firmware reflash started

**Description**
A required update of the `arg` firmware has started. Replacing old firmware version: `[arg]`.

**Recommended actions**
Wait for the reflash to complete

### 32571, Firmware reflash completed

**Description**
The update of `arg` firmware has completed successfully. New version: `[arg]`. Internal code `[arg]`

### 32572, Firmware reflash failed

**Description**
The upgrade of `arg` firmware failed.

Current version: `arg`. Internal errorcode: `arg`
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Recommended actions
1. Check other hardware eventlog messages for detailed explanation of the error condition.
2. Reinstall the system.

32573, Unable to download firmware file

Description
The firmware file *arg* is not found. Internal error code:*arg*.

Recommended actions
Reinstall the system.

32574, Corrupt axis computer hardware

Description
The *arg* flash memory has a corrupt content. Internal error code:*arg*.

Recommended actions
1. Check other hardware eventlog messages for detailed explanation of the error condition.
2. Restart the system.
3. If failure occurs again, replace the axis computer.

32575, Found no axis computer board

Description
System failed to detect any connected axis computer.

Recommended actions
1. Check system for axis computer board.
2. Check ethernet cables between the main computer and the axis computer.
3. Restart the system.

32576, Axis firmware: No communication

Description
The system failed to communicate with axis board *arg* when trying to check the firmware version.

Consequences
The system is unable to check and if necessary upgrade the firmware in the affected axis computer.

Recommended actions
1. Check system for axis computer board.
2. Check ethernet cables between the main computer and the axis computer.
3. Restart system.

32577, Axis computer hardware data error

Description
In drive module *arg*, the axis computer has corrupt information stored on the unit.

Consequences
The system goes to System Failure state.

Probable causes
The integrity check of the axis computer information stored on the unit has failed.

Recommended actions
1) Retry again by restarting the system using the main power switch.
2) Replace the faulty axis computer.

32578, Firmware reflash started

Description
A required update of the *arg* firmware has started. Internal code: [arg]. File: [arg].

Recommended actions
Wait for the reflash to complete.

32579, Firmware reflash completed

Description
The update of *arg* firmware has completed successfully. Internal code:[arg]

Recommended actions
No action required

32582, Firmware reflash failed

Description
The update of *arg* firmware failed.

Recommended actions
Internal errorcode:*arg*

32583, Firmware file corrupt

Description
The update of *arg* firmware failed. The firmware file [arg] is corrupt.

Recommended actions
Reinstall the system

32584, Firmware file not found

Description
The update of *arg* firmware failed. The firmware file [arg] is not found.

Recommended actions
Internal errorcode:*arg*.
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**Recommended actions**
Reinstall the system

**32585, No Safety System Found By Axis Computer**

**Description**
Axis computer failed to detect the Safety System.

**Recommended actions**
1. Check communication cables between the axis computer and the Safety System.
2. Check power supply to the Safety System.
3. Restart the system

**32590, Firmware reflash started**

**Description**
A required update of the arg firmware in drive module arg has started.
File: [arg].

**Recommended actions**
Wait for the reflash to complete, this will take approximately 3.5 minutes.

**32591, Firmware reflash completed**

**Description**
The update of arg firmware in drive module arg has sucessfully completed.

**Recommended actions**
No action required

**32592, Firmware reflash failed**

**Description**
The update of arg firmware in drive module arg has failed.

**Recommended actions**
1. Check other error messages for detailed explanation.
2. Reinstall the system.

**32593, Firmware file corrupt**

**Description**
The update of arg firmware in drive module arg has failed.
The firmware file [arg] is corrupt.

**Recommended actions**
Reinstall the system

**32594, Firmware file not found**

**Description**
The update of arg firmware in drive module arg has failed.
The firmware file [arg] is not found.

**Recommended actions**
Reinstall the system

**32601, Interbus master/slave board is missing**

**Description**
The Interbus master/slave board does not work.

**Consequences**
No communication on the Interbus is possible.

**Probable causes**
The Interbus master/slave board is either malfunctioning or missing.

**Recommended actions**
1) Make sure a Interbus master/slave board is installed.
2) Replace the board if faulty.

**32651, Serial port hardware is not accessible**

**Description**
The system has tried to address the serial port arg, and failed.

**Consequences**
The optional serial port hardware can not be accessed. The connector and the physical channel using the connector will not be available for use.

**Probable causes**
The serial port hardware is missing or malfunctioning.

**Recommended actions**
1) Make sure the required serial port hardware has been correctly installed and is not faulty.
2) Replace the serial port hardware.

**33503, Revolution counter update failure**

**Description**
Update of the revolution counter for joint arg failed.

**Consequences**
Joint not synchronized

**Probable causes**
1. Joint missing or not active
2. Measurement system error

**Recommended actions**
1. Check if joint active
2. Check configuration files
3. Check measurement system
33601, Fieldbus Adapter is missing

**Description**
The Fieldbus Adapter is missing.

**Consequences**
No communication with the Fieldbus Adapter is possible.

**Probable causes**
The Fieldbus Adapter is either malfunctioning or missing.

**Recommended actions**
1. Make sure a Fieldbus Adapter is installed.
2. Replace the module if faulty.

34100, Drive system not supported

**Description**
The configured drive system in drive module arg is not of type Drive System '04.

**Consequences**
The system goes to System Failure state.

**Probable causes**
1. Wrong drive module key used, i.e., the configuration does not match hardware.
2. Wrong hardware used in the system.

**Recommended actions**
1. Reinstall the system with a drive module key that matches the hardware.
2. Replace the drive module with one that supports Drive System '04.

34101, Drive system not supported

**Description**
The configured drive system in drive module arg is not of type Drive System '09.

**Consequences**
The system goes to System Failure state.

**Probable causes**
1. Wrong drive module key used, i.e., the configuration does not match hardware.
2. Wrong hardware used in the system.

**Recommended actions**
1. Reinstall the system with a drive module key that matches the hardware.
2. Replace the drive module with one that supports Drive System '09.

34200, Lost communication with all drive units

**Description**
In drive module arg, the axis computer has lost communication with all drive units.

**Consequences**
No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**
Communication problem between drive units and the axis computer.

**Recommended actions**
1) Check that all cables are properly connected.
2) Check that the drive units have logic power.
3) Check/replace Ethernet cables.
4) Check for other hardware eventlog messages.
5) Check the event log for power supply unit error messages.
6) Check the cabling between the power supply unit and the drive unit.
7) Check the 24V output from the power supply unit.

34201, Connected drive unit not configured

**Description**
The drive unit in drive module arg with drive unit position arg is connected but not used in the configuration.

**Consequences**
Operation will be possible, but the extra drive unit will not be used.

**Probable causes**
The drive unit is not used in the configuration.

**Recommended actions**
1) Remove extra drive unit if not needed.
2) Reinstall the system with a drive module key supporting the extra drive unit.

34202, Lost communication with drive unit

**Description**
In drive module arg, the axis computer has lost communication with the drive unit at unit position arg.

**Consequences**
No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

**Probable causes**
Communication problem between the drive unit and the axis computer.

**Recommended actions**
1) Check that all cables are properly connected.
2) Check that the drive unit has logic power.
3) Check/replace Ethernet cables.
4) Check for other hardware eventlog messages.
5) Check the event log for power supply unit error messages.
6) Check the cabling between the power supply unit and the drive unit.
7) Check the 24V output from the power supply unit.
34203, Motor current too high

**Description**
The motor current is too high for joint arg, connected to drive module arg with the drive unit at unit position arg and node arg.

**Consequences**
No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**
1) The motor configuration is incorrect.
2) The axis load may be too high or the motor may have stalled (maybe due to a collision).
3) The motor is too small for the drive unit.
4) Short circuit between motor phases or ground.

**Recommended actions**
1) Check that the motor configuration is correct.
2) Check that the robot has not collided.
3) If possible, reduce the speed of the user program.
4) Check that the axis load is not too high for the motor.
5) Verify that the maximum motor current is not too small compared to the maximum current of the drive unit.
6) Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

34251, Incoming mains phase missing

**Description**
In drive module arg, the rectifier unit at drive unit position arg has detected a power loss in one phase.

**Consequences**
The system may stop with DC link too low voltage.

**Probable causes**
1) Incoming mains voltage loss of one phase.
2) Some malfunction in the cabling or in internal 3-phase components.
3) The rectifier unit is faulty.

**Recommended actions**
1) Check all incoming mains phases to the cabinet.
2) Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.
3) Verify that the fans are running and that the air flow is not obstructed.
4) Verify that the ambient temperature does not exceed the cabinet's temperature rating.

34252, Incoming mains missing

**Description**
In drive module arg, the rectifier unit at drive unit position arg has detected a mains voltage loss.

**Consequences**
No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**
1) Incoming mains voltage loss.
2) Some malfunction in the cabling or in internal 3-phase components.
3) The rectifier unit is faulty.

**Recommended actions**
1) Check the incoming mains voltage.
2) Check all the internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

34255, Rectifier temperature error

**Description**
In drive module arg, the rectifier unit at drive unit position arg has reached a too high temperature level.

**Consequences**
No operation will be possible until the rectifier has cooled down. The system goes to Motors Off state.

**Probable causes**
1) The cooling fans may be faulty or the air flow may be obstructed.
2) The ambient temperature may be too high.
3) The system may be running with a too high torque for extended periods of time.

**Recommended actions**
1) Verify that the fans are running and that the air flow is not obstructed.
2) Verify that the ambient temperature does not exceed the cabinet's temperature rating.
3) If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
4) Reduce the static torque due to gravity or external forces.

34256, Rectifier temperature warning

**Description**
In drive module arg, the rectifier unit at drive unit position arg is approaching a too high temperature level.

**Consequences**
It is possible to continue but the margin to maximum allowed temperature is too low to sustain long term operation.

**Probable causes**
1) The cooling fans may be faulty or the air flow may be obstructed.
2) The ambient temperature may be too high.
3) The system may be running with a too high torque for extended periods of time.

**Recommended actions**
1) Verify that the fans are running and that the air flow is not obstructed.
2) Verify that the ambient temperature does not exceed the cabinet's temperature rating.
3) If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
4) Reduce the static torque due to gravity or external forces.

34257, Open circuit in bleeder resistor circuit

Description
In drive module arg, the bleeder resistor connected to the rectifier unit at drive unit position arg has too high resistance (open circuit).

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state.
WARNING HIGH VOLTAGE: THE DC LINK WILL NOT BE DISCHARGED WHEN THE SYSTEM IS POWERED OFF.

Probable causes
This may be caused by a faulty bleeder resistor cable or a faulty bleeder resistor.

Recommended actions
WARNING HIGH VOLTAGE CAN BE PRESENT.
1) Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2) Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately arg ohms.

34258, Short circuit in bleeder resistor circuit

Description
In drive module arg, the bleeder resistor connected to the rectifier unit at drive unit position arg is indicating a short circuit.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state.
WARNING HIGH VOLTAGE: THE DC LINK WILL NOT BE DISCHARGED WHEN THE SYSTEM IS POWERED OFF.

Probable causes
This may be caused by a faulty bleeder resistor cable or a faulty bleeder resistor.

Recommended actions
WARNING HIGH VOLTAGE CAN BE PRESENT.
1) Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2) Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately arg ohms.
3) Check for bleeder short circuit against ground.

34261, Rectifier startup error

Description
In drive module arg, the inrush control relay in the rectifier unit at drive unit position arg indicates an error.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state.

Probable causes
This may be caused by a faulty rectifier inrush control relay.

Recommended actions
Restart the system and try again. If the problem remains then replace the unit.

34263, Rectifier inrush limitation active in Motors On

Description
In drive module arg, the inrush control resistor in the rectifier unit at drive unit position arg is wrongly engaged.

Consequences
The system goes to Motors Off state to protect the hardware.
Probable causes
This error occur when the DC link voltage becomes too low and all mains phases are missing.

Recommended actions
1) Check the hardware eventlog for other errors.
2) Check incoming mains voltage.
3) Check that the correct voltage is selected with jumpers on the transformer (optional).
4) Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

34265, DC link short circuit error

Description
In drive module arg, the DC link in the rectifier unit at drive unit position arg is short circuit.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state.

Probable causes
1) DC link cables for an additional drive unit is damaged or wrongly connected.
2) Internal error in rectifier unit or drive unit.

Recommended actions
Check DC link cables and connectors.

34266, Rectifier inrush limitation and bleeder active

Description
In drive module arg, with rectifier unit at drive unit position arg, the inrush control resistor is active at the same time as the bleeder resistor is active.
The inrush control resistor is located in the rectifier unit.
The bleeder resistor is connected to the rectifier unit or the drive unit with embedded rectifier.

Consequences
The system goes to Motors Off state to protect the hardware.

Probable causes
This problem is most likely to occur when the incoming mains voltage is too high to the rectifier.

Recommended actions
1) Check that the incoming mains voltage is according to specification for the drive unit.
2) Check that the correct voltage is selected with jumpers on the transformer (optional).

34267, Too many rectifiers connected

Description
In drive module arg the system has detected more rectifiers than the system can handle. The limit was reached when drive unit at unit position arg was detected.

Consequences
No operation will be possible until the fault is corrected. The system goes to System Failure state.

Probable causes
1) Too many drive unit that are equipped with rectifiers are connected.
2) 

Recommended actions
1) Verify that the proper drive units types are connected to the drive unit communication link.
2) Disconnect unused drive unit(s).

34300, Unknown drive unit type

Description
In drive module arg, the drive unit at unit position arg has an unknown hardware identity arg.

Consequences
No operation will be possible until the fault is corrected. The system goes to System Failure state.

Probable causes
The drive unit is either unsupported or faulty.

Recommended actions
1) Verify that the drive unit is supported by the RobotWare version. Upgrade RobotWare if needed.
2) Replace drive unit.

34303, Motor current warning

Description
For joint arg, the current controller detected a too large torque current deviation for the motor. The joint is connected to drive module arg in the drive unit at unit position arg and node arg.

Consequences
Operation will be possible but system is close to a stopping error.

Probable causes
1) The motor data in the configuration files may be wrong.
2) The motor cables are not correctly connected or damaged.
3) Short circuit in motor cable between phase to phase or phase to ground.
4) The DC link voltage may be too low.
5) The incoming mains voltage is not within specification.
6 Trouble shooting by Event log

Recommended actions

1) Verify that the motor data in the configuration file is correct for this joint. How to check the configuration file is detailed in the Trouble Shooting Manual.
2) Verify that the motor cables are not damaged or badly connected.
3) Verify that the motor cables has no short circuits internally or to ground.
4) Verify that no DC link errors are present in the event log.
5) Verify that the incoming mains voltage is within the specification.

34304, Motor current warning

Description

For joint arg, the current controller detected a too large current deviation for the motor. The joint is connected to drive module arg in the drive unit at unit position arg and node arg.

Consequences

Operation will be possible but system is close to a stopping error.

Probable causes

1) The motor data in the configuration files may be wrong.
2) The motor cables are not correctly connected or damaged.
3) Short circuit in motor cable between phase to phase or phase to ground.
4) The DC link voltage may be too low.
5) The incoming mains voltage is not within specification.

Recommended actions

1) Verify that the motor data in the configuration file is correct for this joint. How to check the configuration file is detailed in the Trouble Shooting Manual.
2) Verify that the motor cables are not damaged or badly connected.
3) Verify that the motor cables has no short circuits internally or to ground.
4) Verify that no DC link errors are present in the event log.
5) Verify that the incoming mains voltage is within the specification.

34306, Drive unit temperature error

Description

The drive unit for joint arg has reached a too high temperature level. The joint is connected to drive module arg with the drive unit at unit position arg and node arg.

Consequences

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

Probable causes

1) The cooling fans may be faulty or the air flow may be obstructed.
2) The cooling fins are covered by dust reducing the cooling effect.
3) The ambient temperature may be too high.
4) The joint may be running with a too high torque for extended periods of time.

Recommended actions

1) Verify that the fans are running and that the air flow is not obstructed.
2) Clean the cooling fins.
3) Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4) If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5) Reduce the static torque due to gravity or external forces.

34307, Drive unit temperature warning

Description

The drive unit for joint arg is approaching a too high temperature level. The joint is connected to drive module arg with the drive unit at unit position arg and node arg.

Consequences

It is possible to continue but the margin to maximum allowed temperature is too low to sustain long term operation.

Probable causes

1) The cooling fans may be faulty or the air flow may be obstructed.
2) The cooling fins are covered by dust reducing the cooling effect.
3) The ambient temperature may be too high.
4) The joint may be running with a too high torque for extended periods of time.

Recommended actions

1) Verify that the fans are running and that the air flow is not obstructed.
2) Clean the cooling fins.
3) Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4) If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5) Reduce the static torque due to gravity or external forces.

34308, Drive unit critical temperature error

Description

The drive unit for joint arg has reached a critical high temperature level. The joint is connected to drive module arg with the drive unit at unit position arg and node arg.

Consequences

No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

Probable causes

1) The cooling fans may be faulty or the air flow may be obstructed.
2) The cooling fins are covered by dust reducing the cooling effect.
3) The ambient temperature may be too high.
4) The joint may be running with a too high torque for extended periods of time.

Recommended actions

1) Verify that the fans are running and that the air flow is not obstructed.
2) Clean the cooling fins.
3) Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4) If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5) Reduce the static torque due to gravity or external forces.
**Recommended actions**

1) Verify that the fans are running and that the air flow is not obstructed.
2) Clean the cooling fins.
3) Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4) If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5) Reduce the static torque due to gravity or external forces.

**34309, Drive transistor current too high**

**Description**

The drive unit transistor current is too high for joint arg. The joint is connected to drive module arg with the drive unit at unit position arg and node arg.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to Motors Off state.

**Probable causes**

1) The motor configuration is incorrect.
2) The axis load may be too high or the motor may have stalled (maybe due to a collision).
3) Short circuit between motor phases or ground.

**Recommended actions**

1) Check that the motor configuration is correct.
2) Check that the robot has not collided.
3) If possible, reduce the speed of the user program.
4) Check that the axis load is not too high for the drive unit.
5) Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

**34311, Drive inverter saturated warning**

**Description**

The drive unit for joint arg has reached maximum output voltage. The joint is connected to drive module arg with the drive unit at unit position arg and node arg.

**Consequences**

Operation will be possible but system is close to a stopping error.

**Probable causes**

1) The motor is not properly connected to the drive unit.
2) The motor data in the configuration is not correct.
3) The DC link voltage is too low.
4) Short circuit between motor phases or ground.

**Recommended actions**

1) Check motor cables and connectors.
2) Check configuration of motor parameters.
3) Check for other hardware eventlog messages.
4) Check incoming mains voltage to the rectifier unit.

5) Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

**34312, Missing drive unit**

**Description**

For joint arg, the system cannot find configured drive unit. The joint is configured for drive module arg, in the drive unit at unit position arg.

**Consequences**

The system goes to System Failure state.

**Probable causes**

A joint is configured but drive unit is not found.

**Recommended actions**

1) Verify that the drive module contains the drive unit for the configured joint.
2) Verify that the configuration for the drive unit position is correct.
3) Verify that the cables between drive units are correctly inserted in the correct connector position.
4) If the cable is correctly connected, then it may be damaged and should be replaced.
5) Check the event log for power supply unit error messages.
6) Check the cabling between the power supply unit and the drive unit.
7) Check the 24V output from the power supply unit.

**34313, Wrong type of drive unit**

**Description**

In drive module arg, the hardware identity for drive unit at unit position arg is different from the one specified in the configuration. Installed drive unit hardware identity is arg, and the configured identity is arg.

**Consequences**

No operation will be possible until the fault is corrected. The system goes to System Failure state.

**Probable causes**

The drive unit type does not match the one specified in the installation key.

**Recommended actions**

1) Verify that the drive unit positions are correct, i.e., the Ethernet cables are correctly connected.
2) Verify that the drive module key match the installed hardware.
3) Replace the drive unit with the one specified in the drive module key.

**34314, Missing drive unit node**

**Description**

For joint arg, the drive unit does not support the node number configured. The joint is configured for drive module arg, in the drive unit at unit position arg with node arg.
Consequences
The system goes to System Failure state.

Probable causes
The configured drive unit node is not supported for the configured type of drive unit.

Recommended actions
Check the drive unit node number in the configuration.

34316, Motor current error
Description
For joint arg, the current controller detected a too large torque current deviation for the motor. The joint is connected to drive module arg in the drive unit at unit position arg and node arg.

Consequences
The system goes to Motors Off state.

Probable causes
1) The motor data in the configuration files may be wrong.
2) The motor cables are not correctly connected or damaged.
3) Short circuit in motor cable between phase to phase or phase to ground.
4) The DC link voltage may be too low.
5) The incoming mains voltage is not within specification.

Recommended actions
1) Verify that the motor data in the configuration file is correct for this joint. How to check the configuration file is detailed in the Trouble Shooting Manual.
2) Verify that the motor cables are not damaged or badly connected.
3) Verify that the motor cables has no short circuits internally or to ground.
4) Verify that no DC link errors are present in the event log.
5) Verify that the incoming mains voltage is within the specification.

34317, Motor current error
Description
For joint arg, the current controller detected a too large current deviation for the motor. The joint is connected to drive module arg in the drive unit at unit position arg and node arg.

Consequences
The system goes to Motors Off state.

Probable causes
1) The motor data in the configuration files may be wrong.
2) The motor cables are not correctly connected or damaged.
3) Short circuit in motor cable between phase to phase or phase to ground.
4) The DC link voltage may be too low.
5) The incoming mains voltage is not within specification.

Recommended actions
1) Check motor cables and connectors.
2) Check configuration of motor parameters.
3) Check for other hardware eventlog messages.
4) Check incoming mains voltage to the rectifier unit.
5) Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

34318, Drive inverter saturated error
Description
The drive unit for joint arg has reached maximum output voltage. The joint is connected to drive module arg with the drive unit at unit position arg and node arg.

Consequences
The system goes to Motors Off state.

Probable causes
1) The motor is not properly connected to the drive unit.
2) The motor data in the configuration is not correct.
3) The DC link voltage is too low.
4) Short circuit between motor phases or ground.

Recommended actions
1) Check motor cables and connectors.
2) Check configuration of motor parameters.
3) Check for other hardware eventlog messages.
4) Check incoming mains voltage to the rectifier unit.
5) Check the motor cable and motor by measuring their resistance respectively. Disconnect before measuring.

34319, Drive unit critical error
Description
The drive unit for joint arg gives an unspecified error, but is likely due to over temperature or short circuit. The joint is connected to drive module arg with the drive unit at unit position arg and node arg.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

Probable causes
1) The cooling fans may be faulty or the air flow may be obstructed.
2) The cooling fins are covered by dust reducing the cooling effect.
3) The ambient temperature may be too high.
4) The joint may be running with a too high torque for extended periods of time.
5) Short circuit in cables or connectors between the phases or to ground.
6) Short circuit in motor between the phases or to ground.
Recommended actions
1) Verify that the fans are running and that the air flow is not obstructed.
2) Clean the cooling fins.
3) Verify that the ambient temperature does not exceed the cabinet's temperature rating.
4) If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
5) Reduce the static torque due to gravity or external forces.
6) Check/replace cables and connectors.
7) Check/replace motor.

34320, Too many drive nodes connected

Description
In drive module arg the system has detected more drive nodes than the system can handle. The limit was reached when drive unit at unit position arg was detected.

Consequences
No operation will be possible until the fault is corrected. The system goes to System Failure state.

Probable causes
1) Too many drive units is connected to the drive unit communication link.
2) Too many drive unit that are equippted with many drive nodes are connected.

Recommended actions
1) Verify that the proper drive units types are connected to the drive unit communication link.
2) Disconnect unused drive unit(s).

34400, DC link voltage too high

Description
In drive module arg, the drive unit at unit position arg has a DC link voltage that is too high.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state.

Probable causes
1) The bleeder resistor is not connected or faulty.
2) The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.

Recommended actions
WARNING HIGH VOLTAGE CAN BE PRESENT.
1) Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2) Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately arg ohms.
3) Rewrite the user program to reduce the amount of hard decelerations.

34401, DC link voltage too low warning

Description
In drive module arg, the drive unit at unit position arg has a DC link voltage that is close to minimum limit.

Consequences
Operation will be possible but the system is close to a stopping error.

Probable causes
The incoming mains voltage to the rectifier unit is out of specification.

Recommended actions
1) Check for other hardware eventlog messages regarding mains voltage problem.
2) Check incoming mains voltage.
3) Check that the correct voltage is selected with jumpers on the transformer (optional).
4) Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

34402, DC link voltage too low

Description
In drive module arg, the DC link voltage is too low for the drive unit at unit position arg.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state.

Probable causes
The incoming mains voltage to the rectifier unit is out of specification.

Recommended actions
1) Check for other hardware eventlog messages regarding mains voltage problem.
2) Check incoming mains voltage.
3) Check that the correct voltage is selected with jumpers on the transformer (optional).
4) Check all internal 3-phase components (main switch, mains filter, fuse, contactors) and cabling in the drive module.

34404, DC link voltage is critically high

Description
In drive module arg, the drive unit at unit position arg has a DC link voltage that is critically high.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.
6 Trouble shooting by Event log

WARNING HIGH VOLTAGE: THE DC LINK MAY BE DISCHARGED VERY SLOWLY (APPROXIMATELY 1 HOUR) WHEN THE SYSTEM IS POWERED OFF.

Probable causes
1) The bleeder resistor is not connected or faulty.
2) The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.

Recommended actions
1) Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2) Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately arg ohms.
3) Rewrite the user program to reduce the amount of hard decelerations.

34405, DC link voltage too high warning

Description
In drive module arg, the drive unit at unit position arg has a DC link voltage that is close to maximum limit.

Consequences
Operation will be possible but the system is close to a stopping error.

Probable causes
1) The bleeder resistor is not connected or faulty.
2) The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.

Recommended actions
1) Make sure the bleeder resistor cable is properly connected to the rectifier unit.
2) Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately arg ohms.
3) Rewrite the user program to reduce the amount of hard decelerations.

34406, Drive unit power supply error

Description
In drive module arg, the drive unit at unit position arg has detected problem with the logic power.

Consequences
No operation will be possible until the fault is corrected. The system goes to Motors Off state with zero torque.

Probable causes
The 24V logic supply to the drive is temporary or constantly lost.

Recommended actions
1) Check the event log for power supply unit error messages.
2) Check the cabling between the power supply unit and the drive unit.
3) Check the 24V output from the power supply unit.

34407, Drive unit internal error

Description
In drive module arg, the drive unit at unit position arg has indicated an internal error.

Consequences
The system goes to System Failure state with zero torque.

Probable causes
An internal error has occurred in the drive unit firmware.

Recommended actions
Restart the system by using the main power switch.

34408, Drive unit hardware data error

Description
In drive module arg, the drive unit at unit position arg has corrupt information stored on the unit.

Consequences
The system goes to System Failure state.

Probable causes
The integrity check of the drive unit information stored on the drive unit has failed.

Recommended actions
1) Retry again by restarting the system using the main power switch.
2) Replace the faulty drive unit.

34409, Drive unit startup error

Description
The system has failed to complete the initialization phase of a drive unit. The drive unit is located in drive module arg at unit position arg.

Consequences
The system goes to System Failure state.

Probable causes
The system has failed to complete the initialization phase of the drive unit.

Recommended actions
1) Retry by restarting the system using the main power switch.
2) Check for other hardware eventlog messages.
34410, Too many drive units connected

Description
In drive module arg the system has detected more drive units than the system can handle. The maximum number of drive units supported is arg, but arg was detected.

Consequences
No operation will be possible until the fault is corrected. The system goes to System Failure state.

Probable causes
1) Too many drive unit that are connected.

Recommended actions
1) Disconnect unused drive unit(s).

37001, Motors ON contactor activation error

Description
Motors ON contactor arg in drive module arg failed to close when ordered.

Consequences
The mechanical unit can not be run manually or automatically.

Probable causes
1) The runchain for the contactor is open.
2) There are problems in the contactor itself, either mechanical or electrical.
3) The teach pendant enabling device may have been toggled too quickly, or the system may not be configured correctly. On rare occasions, this fault may occur in combination with other faults, in which case this may be found in the error log.

Recommended actions
1) To resume normal operation, first acknowledge the error, then release the enabling device and press it again after approx. one second.
2) Check cables and connections on the Safety System.
3) Check any other error log messages coinciding in time with this one for clues.
4) Check the system motion configuration regarding Motors ON relay. How to check the configuration file is detailed in the Trouble Shooting Manual.

37043, Safety signals overloaded

Description
The AC_ON or SPEED signals draw too much current.

Consequences
The Safety System shuts down the signals, causing the system to go to either status SYS FAIL (for AC_ON) or status SYS HALT (for SPEED).

Probable causes
A load connected to the circuit may be too high, or the Safety System may be malfunctioning. See the Circuit Diagram!

Recommended actions
1) Check all loads connected to the AC_ON and SPEED circuits
2) Check the Safety System cabling and connectors, and replace any faulty unit if required.

37044, Overload on Panel Board digital output signals

Description
The Panel Board User Digital outputs draw too much current.

Consequences
The Panel Board shuts down the signals, causing the system to go to status SYS HALT.

Probable causes
A load connected to the circuit may be too high, or the Panel Board may be malfunctioning. See the Circuit Diagram!

Recommended actions
1) Check all loads connected to the User Digital outputs
2) Check the Panel Board cabling and connectors, and replace any faulty unit if required.

37045, Faulty External Computer fan

Description
The External Computer fan in the Control Module spins too slowly.

Consequences
No system consequence. The Control Module temperature will rise.

Probable causes
Faulty fan, cabling or power supply. See the Circuit Diagram!

Recommended actions
1) Check the cabling to the External Computer fan.
2) Check the fan, and replace any faulty unit if required.

37046, Safety signals overloaded

Description
The 24 V PANEL supply draws too much current.

Consequences
The Safety System shuts down the signal, causing the system to go to status SYS HALT.

Probable causes
A load connected to the circuit may be too high, or the Safety System unit may be malfunctioning. See the Circuit Diagram!

Recommended actions
1) Check all loads connected to the 24V PANEL circuit.
2) Check cabling on the Safety System.
6 Trouble shooting by Event log

37049, Activation contactor activation error

**Description**
The activation relay for mechanical unit arg failed to close.

**Consequences**
The mechanical unit can not be run manually or automatically.

**Probable causes**
The activation relay configured within the system may be faulty, or the system may not be configured correctly.

**Recommended actions**
1) Check the contactor and make sure its connections are connected correctly.
2) Check the system motion configuration regarding the activation relay. How to check the configuration file is detailed in the Trouble Shooting Manual.

37050, Overtemperature in main computer

**Description**
The temperature in the main computer unit or the main computer processor is too high.

**Consequences**
The system might get damaged.

**Probable causes**
The unit may be overloaded, its fans may be malfunctioning or the air flow may be restricted.

**Recommended actions**
1) Make sure the fans are operating.
2) Check that air flow to the unit fans is not restricted.

37053, Low CMOS battery voltage level

**Description**
The CMOS battery on the computer board is empty.

**Consequences**
On restart, the system will use an erroneous setup or no restart will be possible.

**Probable causes**
Faulty battery.

**Recommended actions**
1. Replace the CMOS battery

37054, Faulty Computer Unit fan

**Description**
The fans in the Computer Unit spin too slowly.

**Consequences**
No system consequence. The Computer Unit temperature will rise.

**Probable causes**
Faulty fan, cabling or power supply. See the Circuit Diagram!

**Recommended actions**
1) Check the cabling to the Computer Unit fan.
2) Check the fan.
3) Check the fan power supply.
4) Replace the faulty component if required.

37056, Cooling fan error

**Description**
Cooling unit fan has stopped or is rotating very slowly (Less than arg rpm).

**Recommended actions**
1. Check the fan cables.
2. Replace the fan.

37058, Cooling fan error

**Description**
Cooling unit fan has stopped or is rotating very slowly (Less than arg rpm).

**Recommended actions**
1. Check the fan cables.
2. Replace the fan.

37062, Computer Module power supply warning

**Description**
The arg V voltage of the Computer Module power supply is arg V, which is out of the allowed range.

**Consequences**

**Probable causes**
The power supply unit, cabling, input voltage to the power supply or the output load may cause the faulty voltage level. See the Trouble Shooting Manual and Circuit Diagram!

**Recommended actions**
1) Check all cabling to the power supply unit.
2) Measure the output and input voltage levels.
3) Replace the faulty unit if required.

37069, Faulty backup Power Supply

**Description**
The backup energy bank in the Control Module supplying the backup voltage is faulty.

**Consequences**
After switching the power off, a B type restart must be performed. No system data changes will be saved at power off.

**Probable causes**
This may be caused by a faulty backup energy bank, cabling or charger.

**Recommended actions**
Do not turn the main power off until battery has been charged, or the system may perform a cold start!
1) Check the backup energy bank cabling and connectors.
2) Check the backup energy bank.
3) Check the power supply.
4) Replace the faulty unit if required.

37070, Overtemp in Control Module Power Supply

Description
The temperature in the control module power supply is too high.

Consequences
The system is shut down immediately.

Probable causes
This may be caused by poor cooling, too high a load on the power supply or by a faulty power supply.

Recommended actions
1) Check the cooling fan.
2) Check the output power.
3) Replace any faulty unit if required.

37074, Purge pressure too low

Description
Purge system number arg associated with Manipulator Interface Board (MIB) arg.

Recommended actions
Check the purge air supply and search for leaks in:
1. The purge unit.
2. The flexible hose conduit.
3. The manipulator itself.

37075, Purge pressure too high

Description
Purge system number arg associated with Manipulator Interface Board (MIB) arg.

Recommended actions
Check the purge unit and the air supply.

37076, Unexpected low purge flow

Description
Purge system number arg associated with Manipulator Interface Board (MIB) arg.

Recommended actions
Check the purge unit and the air supply. Search for leaks in the purge system.

37077, Unexpected high purge flow

Description
Purge system number arg associated with Manipulator Interface Board (MIB) arg.

Recommended actions
Check the purge unit and the air supply.

37078, Purge timers differ

Description
Unacceptable divergence between Process Interface Board (PIB) and Manipulator Interface Board (MIB) arg purge timers.

Consequences
The purge timer will be restarted.

Recommended actions
1. Check Serial Peripheral Interface (SPI) cables.
2. Replace MIB if faulty.
3. Replace PIB if faulty.

37080, Purge configuration not valid.

Description
The Purge Time Key on Manipulator Interface Board (MIB) arg X19 is not valid.

Consequences
Default time (300s) is used.

Probable causes
Faulty or missing Purge Time Key.

Recommended actions
1. Check that the Purge Time Key is correctly mounted.
2. Replace Purge Time Key.

37081, Purge timers differ

Description
Unacceptable divergence between CPLD and FPGA firmware on Manipulator Interface Board (MIB) arg purge timers.

Consequences
The purge timer will be restarted.

Recommended actions
Replace MIB if faulty.

37082, Divergence between PIB and MIB outputs

Description
Process Interface Board (PIB) and Manipulator Interface Board (MIB) arg are not agreed concerned to output status for purge relay and power relay.

Consequences
Purge sequence is restarted.
6 Trouble shooting by Event log

37090, Temp. too high, sensor arg

Description
System overheat detected. Sensors 1-7: motor 1-7, sensor 8: Serial measurement board. Run chain has been opened.

Recommended actions

37094, Activate connection error

Description
Could not activate arg. Connection relay input arg indicates no connection.

Recommended actions
1. Check that if mechanical unit is connected.
2. Check the connection relay input signal setup.

37095, Brake power fault

Description
The supervision of brake power on Manipulator Controller Board (MCOB) has detected fault on the power signal and turned ON all brakes.

Recommended actions
1. Check brake power on MCOB.
2. Check brake power relay in cabinet.
3. Check for disturbances on the brake power signal on MCOB/MCB.
4. Check for short circuit on brakes.

37096, Brake power fault

Description
The supervision of brake power on Manipulator Controller Board (MCOB/MCB) has detected fault on the power signal and turned ON all brakes.

Recommended actions
1. Check brake power on MCOB/MCB.
2. Check brake power relay in cabinet.
3. Check for disturbances on the brake power signal on MCOB/MCB.

37097, Brake short circuit fault

Description
The supervision of brakes on Manipulator Controller Board (MCOB/ MCB) has detected a short circuit on axis arg and turned ON all brakes.

Recommended actions
1. Check for short circuit on brakes.

37098, Brake open circuit fault

Description
The supervision of brakes on Manipulator Controller Board (MCOB/ MCB) has detected an open circuit on axis arg and turned ON all brakes.

Recommended actions
1. Check for open circuit on brakes.

37099, Temp. too high, sensor arg

Description
System overheat detected. Sensors 1-7: motor 1-7, sensor 8: Serial measurement unit (SMU) or process equipment. Run chain has been opened.

Recommended actions

37100, I/O node flash disk error

Description
Flash name: arg
Flash disk function: arg
Error description: arg

Recommended actions
Report error.

37101, Brake Failure

Description
The brakes for mechanical unit arg fail to engage.

Consequences
The mechanical unit may collapse when the motors are turned off.

Probable causes
The configuration of brake relay may be incorrect, or the brake relay may be faulty. If an external brake relay is being used, the relay must be correctly defined in the motion configuration file.

Recommended actions
1) Check that the external brake relay (if used) is correctly defined in the configuration file.
2) Check that the corresponding I/O signal is correctly defined in the I/O configuration file. How to check the configuration files is detailed in the Trouble Shooting Manual.
37102, Power supply warning, faulty 24V COOL level

Description
The 24V COOL output of the Control Module Power Supply is out of range.

Consequences
No system consequence.

Probable causes
The Control Module Power Supply unit cabling or the output load may cause the faulty voltage level. The power supplies are shown in the Trouble Shooting Manual and the Circuit Diagram!

Recommended actions
1) Check all cabling to the Control Module Power Supply unit.
2) Check the output voltage level, and replace any faulty unit if required.
3) Check the power supply.
4) Replace the faulty unit if required.

37103, Power supply warning, faulty 24V SYS level

Description
The 24V SYS output of the Control Module Power Supply is out of range.

Consequences
No system consequence.

Probable causes
The Control Module Power Supply unit, cabling or the output load may cause the faulty voltage level. The power supplies are shown in the Trouble Shooting Manual and the Circuit Diagram!

Recommended actions
1) Check all cabling to the Control Module Power Supply unit.
2) Check the output voltage level, and replace any faulty unit if required.
3) Check the cables and connectors of the backup energy bank.
4) Check the backup energy bank.
5) Replace the faulty unit if required.

37104, There is no backup voltage available!

Description
The backup energy bank maintaining the backup voltage is not functional.

Consequences
If switching the power off, a B type restart must be performed. No backup will be made at power off.

Probable causes
This may be caused by a faulty backup energy bank, cabling or charger.

Recommended actions
Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.
1) Check the cables and connectors of the backup energy bank.
2) Check the backup energy bank.
3) Replace the faulty unit if required.

37105, Regained communication with Power Supply

Description
The main computer has regained communication with the Control Module Power Supply.

37106, Low backup energy bank voltage level

Description
The voltage in the computer unit backup energy bank is too low to be functional.

Consequences
No system consequence. No system data changes will be saved at power off.

Probable causes
This may be caused by a faulty backup energy bank, cabling or charger.

Recommended actions
Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.
1) Check the cables and connectors of the backup energy bank.
2) Check the backup energy bank.
3) Check the power supply.
4) Replace the faulty unit if required.

37107, Faulty backup energy bank

Description
The backup energy bank in the Control Module maintaining the backup voltage is not functional.

Consequences
If switching the power off, a B type restart must be performed. No backup will be made at power off.

Probable causes
This may be caused by a faulty backup energy bank, cabling or charger.

Recommended actions
Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.
1) Check the backup energy bank cable and connector.
2) Check the backup energy bank.
3) Replace the faulty unit if required.
6 Trouble shooting by Event log

37108, Lost communication: Power Supply and Computer

Description
The main computer has lost communication with the Control Module Power Supply.

Consequences
The main computer cannot retrieve status info or switch the power supply off. No system data changes will be saved at power off.

Probable causes
The USB cable from the main computer to the Control Module Power Supply may be faulty or disconnected, or the power supply may be faulty.

Recommended actions
Before working on the system, perform a controlled shutdown to ensure all system data is correctly saved.
1) Check the cabling and connectors to the Control Module Power Supply.
2) Check the power supply unit, and replace any faulty unit if required.

37200, Power fault: Emergency Stop supply

Description
Power fault on 24V Emergency Stop supply. Feedback from Safety Interface Board (SIB).

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check power supply.

37201, Power fault: 24V Failsafe supply

Description
Power fault on 24V Failsafe supply. Feedback from Safety Interface Board (SIB).

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check power supply.

37202, Power fault: 24V I/O supply

Description
Power fault on 24V I/O supply. Feedback from Safety Interface Board (SIB).

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check power supply.

37203, Power fault: 24V SYS supply

Description
Power fault reported when 24V SYS < 18V. Feedback from Manipulator Interface Board (MIB).

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check power supply.

37204, Power fault: 24V I/O supply

Description
Power fault reported when 24V I/O < 18V. Feedback from Manipulator Interface Board (MIB).

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check power supply.

37205, Power fault: 12V Purge supply

Description
Power fault reported when 12V Purge < 10.8V. Feedback from Manipulator Interface Board (MIB).

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check power supply.

37206, Power fault: 12V TPU supply

Description
Power fault on 12V Teach Pendant Unit (TPU) supply. Feedback from Pendant Interface Board (TIB).

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check power supply.
37207, Battery charge low.

Description
Less than 2 months until the battery backup to Serial Measurement Board (SMB) is discharged. Counting from first time this message was displayed. The battery is mounted on Manipulator Interface Board (MIB).

Recommended actions
Replace battery mounted on MIB.

37208, Overtemperature in transformer

Description
The temperature in the transformer is too high.

Consequences
The system goes to status SYS HALT.

Probable causes
The unit may be overloaded, its fans may be malfunctioning or the air flow may be restricted.

Recommended actions
1) Make sure the fans are operating.
2) Check that air flow to the unit fans is not restricted.

37209, Overtemperature in cabinet

Description
The temperature in the cabinet is too high.

Consequences
The system goes to status SYS HALT.

Probable causes
The unit may be overloaded, its fans may be malfunctioning or the air flow may be restricted.

Recommended actions
1) Make sure the fans are operating.
2) Check that air flow to the unit fans is not restricted.

37210, Fault on contactor KM1

Description
A fault is observed on motor contactor KM1.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check contactor.

37211, Fault on contactor KM2

Description
A fault is observed on motor contactor KM2.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check contactor.

37212, Fault on contactor KM101

Description
A fault is observed on motor contactor KM101.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check contactor.

37213, Fault on contactor KM102

Description
A fault is observed on motor contactor KM102.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Check contactor.

37214, Run chain 1 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) report divergence on Run chain 1 feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37215, Run chain 2 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) report divergence on Run chain 2 feedback signals.
6 Trouble shooting by Event log

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37216, Brake chain 1 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on Brake chain 1 feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37220, HV Interlock chain 1 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on High Voltage (HV) Interlock chain 1 feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37217, Brake chain 2 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on Brake chain 2 feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37221, HV Interlock chain 2 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on High Voltage (HV) Interlock chain 2 feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37218, Cabin Interlock chain 1 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on Cabin Interlock chain 1 feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37222, System 2 Interlock chain feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on System 2 Interlock chain feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37219, Cabin Interlock chain 2 feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on Cabin Interlock chain 2 feedback signals.
6 Trouble shooting by Event log

37223, Main relay chain feedback conflict

Description
Safety Interface Board (SIB) and Manipulator Interface Board (MIB) arg reports divergence on Main relay chain feedback signals.

Consequences
The system goes to status SYS HALT.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.
3. Replace MIB if faulty.

37224, Cabin Interlock chain 1 conflict

Description
Divergence on Cabin Interlock chain 1 between input and output signals on Safety Interface Board (SIB).

Consequences
Paint enable chain opens.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.

37225, Cabin Interlock chain 2 conflict

Description
Divergence on Cabin Interlock chain 2 between input and output signals on Safety Interface Board (SIB).

Consequences
Paint enable chain opens.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.

37226, HV Interlock chain 1 conflict

Description
Divergence on High Voltage (HV) Interlock chain 1 between input and output signals on Safety Interface Board (SIB).

Consequences
Paint enable chain opens.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.

37227, HV Interlock chain 2 conflict

Description
Divergence on High Voltage (HV) Interlock chain 2 between input and output signals on Safety Interface Board (SIB).

Consequences
Paint enable chain opens.

Recommended actions
1. Check cables and connections.
2. Replace SIB if faulty.

37228, Cabin Interlock chain conflict from SIB

Description
Only one of the two Cabin Interlock chains is opened. Reported from Safety Interface Board (SIB).

Consequences
Paint enable chain opens.

Recommended actions
Replace SIB if faulty.

37229, HV Interlock chain conflict from SIB

Description
Only one of the two High Voltage (HV) Interlock chains is opened. Reported from Safety Interface Board (SIB).

Consequences
Paint enable chain opens.

Recommended actions
Replace SIB if faulty.

37230, Brake Performance Warning

Description
The Cyclic Brake Check indicates that the brake for the mechanical unit arg axis no arg has not full braking torque.

Consequences
This is only a warning and no immediate action need to be taken.

37231, Brake Performance Error

Description
The Cyclic Brake Check has found that the brake for the mechanical unit arg axis no arg has too low braking torque. This brake will not be approved by the Safety Controller for Drive Module no arg.

Consequences
WARNING: The brake performance is too low for this axis.
Until the brake has approved braking torque, it is only possible to move the robot with the specified "Reduced max speed (mm/s)" according to the setup in the Configurator for Cyclic Brake Check.

**Recommended actions**
1) Run the Cycle Brake Check once more.
2) Exchange the motor with its brake.

**37232, Cyclic Brake Check Configuration Error**

**Description**
The Cyclic Brake Check has found that the brake for the mechanical unit arg axis no arg has no defined brake torque requirement level.

**Consequences**
The Cyclic Brake Check will continue but no valid brake check will be done for this axis.

**Probable causes**
The motion configuration data are not correct specified for this axis.

**Recommended actions**
The motion configuration data are not correct specified for this axis:
1) Specify a value for parameter max_static_arm_torque if axis shell be tested.
2) Deactivate Cyclic Brake Check in motion configuration if axis not to be tested.

**37233, Cyclic Brake Check Configuration Error**

**Description**
The Cyclic Brake Check has found that the brake for the mechanical unit arg axis no arg should be tested according to the configuration. But the actual mechanical unit can not be included in the Safety Controller, because activation/deactivation at runtime is allowed.

**Consequences**
The Cyclic Brake Check will continue with other mechanical units.

**Probable causes**
The motion configuration data are not correct specified for this axis.

**Recommended actions**
The motion configuration data are not correct specified for this axis:
1) Cyclic Brake Check has been specified but should not be done for this axis
2) The mechanical unit must be active at startup and deactivation must not be allowed

**37240, Cabin Interlock chain conflict from MIB**

**Description**
Only one of the two cabin interlock chains is opened. Reported from Manipulator Interface Board (MIB) arg.

**Consequences**
Paint enable chain opens.

**Recommended actions**
Replace MIB if faulty.

**37241, HV Interlock chain conflict from MIB**

**Description**
Only one of the two High Voltage (HV) chains is opened. Reported from Manipulator Interface Board (MIB) arg.

**Consequences**
Paint enable chain opens.

**Recommended actions**
Replace MIB if faulty.

**37242, Run chain conflict from SIB**

**Description**
Only one of the two run chain feedback signals from Safety Interface Board (SIB) was opened.

**Consequences**
The system goes to status SYS HALT.

**Recommended actions**
Replace SIB if faulty.

**37243, Brake chain conflict from SIB**

**Description**
Only one of the two brake chain signals from Safety Interface Board (SIB) was opened.

**Consequences**
The system goes to status SYS HALT.

**Recommended actions**
Replace SIB if faulty.

**37244, Run chain conflict from MIB arg**

**Description**
Only one of the two run chain feedback signals from Manipulator Interface Board (MIB) was opened.

**Consequences**
The system goes to status SYS HALT.

**Recommended actions**
Replace MIB if faulty.

**37245, Brake chain conflict from MIB arg**

**Description**
Only one of the two brake chain feedback signals from Manipulator Interface Board (MIB) was opened.
Consequences
The system goes to status SYS HALT.

Recommended actions
Replace MIB if faulty.

37246, Emergency Stop relay conflict

Description
Only one of the two Emergency Stop chains was opened internal on Safety Interface Board (SIB).

Consequences
The system remains in the Emergency Stop status.

Recommended actions
1. Press emergency stop and reset emergency stop once again.
2. Replace SIB if faulty.

37247, Circulation Fan arg malfunction

Description
Circulation fan for the drive systems at the cabinet rear side has stopped or is rotating very slowly.

Consequences
The drive systems temperature will rise.

Probable causes
Faulty fan, cabling or power supply. See the Circuit Diagram!

Recommended actions
1. Check the fan cables.
2. Check the power supply.
3. Check the fan.

37248, Circulation Fan arg malfunction

Description
Circulation fan in the cabinet front door has stopped or is rotating very slowly.

Consequences
The temperature in the cabinet will rise.

Probable causes
Faulty fan, cabling or power supply. See the Circuit Diagram!

Recommended actions
1. Check the fan cables.
2. Check the power supply.
3. Check the fan.

37501, Filesystem unknown: USB Device

Description
The filesystem type on the USB device with logical unit arg is not supported.

Consequences
The USB device with the logical unit arg cannot be accessed. The filesystem is of type arg. The file(s) on the USB device with logical number arg will not be accessible.

Probable causes
The filesystem is formatted with an unsupported file system type.

Recommended actions
Format the USB device with the FAT32 filesystem.

37502, Mass storage device removed

Description
The mass storage device was removed.

Consequences
The system goes to sys fail. The filesystem on the mass storage device could be corrupt. The file(s) on the mass storage device could be corrupt. The file(s) on the mass storage device will not be accessible.

Probable causes
The mass storage device was removed or there was a malfunction of the mass storage device.

Recommended actions
Check that the mass storage device firmly is in place. If the problem persists, try with another device.

38100, Configuration failure

Description
Drive Module has detected configuration failure at measurement link.

Drive module: arg
Measurement link: arg
Board node: arg

Recommended actions
- Check configuration for measurement link.
- Check configuration for measurement board.
- Check configuration for measurement nodes.

38101, SMB Communication Failure

Description
A transmission failure has been detected between the axis computer and the serial measurement board on measurement link arg in Drive Module arg.

Consequences
The system goes to status SYS FAIL and loses its calibration information.
**Probable causes**
This may be caused by bad connections or cables (screening), especially if non-ABB cables are used for additional axes. Possible causes are also faulty serial measurement board or axis computer.

**Recommended actions**
1) Reset the robot's revolution counters as detailed in the robot Product Manual.
2) Make sure the cable between serial measurement board and axis computer is connected correctly, and that it meets the specification set by ABB.
3) Make sure the serial measurement board and axis computer are fully functional. Replace any faulty unit.

38102, Internal failure

**Description**
The measurement system has detected a hardware or software fault on measurement link arg in Drive Module arg.

**Consequences**
The system goes to status SYS HALT and loses its calibration information.

**Probable causes**
This may be caused by some temporary disturbance in the robot cell or by a faulty axis computer.

**Recommended actions**
1) Restart the system.
2) Reset the robot's revolution counters as detailed in the robot Product Manual.
3) Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.
4) Make sure the axis computer is fully functional. Replace any faulty unit.

38103, Lost communication with the SMB

**Description**
The communication has been lost between the axis computer and the serial measurement board on measurement link arg in Drive Module arg.

**Consequences**
The system goes to status SYS HALT and loses its calibration information.

**Probable causes**
This may be caused by bad connections or cables (screening), especially if non-ABB cables are used for additional axes. Possible causes are also faulty serial measurement board or axis computer.

**Recommended actions**
1) Reset the robot's revolution counters as detailed in the robot Product Manual.
2) Make sure the cable between serial measurement board and axis computer is connected correctly, and that it meets the specification set by ABB.
3) Make sure the serial measurement board and axis computer are fully functional. Replace any faulty unit.

38104, Overspeed During Teach Mode

**Description**
One or more axes of the robot connected to drive module arg has exceeded the maximum speed for teach mode operation.

**Consequences**
The system goes to status SYS HALT.

**Probable causes**
The robot may have been moved manually while in state Motors OFF. The error may also be caused by a misadjustment in the relation, commutation, between motor shaft and resolver on an additional axis, primarily during installation.

**Recommended actions**
1) Press the Enabling Device to attempt resuming operation.
2) Check other event log messages occurring at the same time to determine the actual cause.
3) Perform a re-commutation of the motor at hand. How to do this is specified in the Additional Axes Manual.

38105, Data not found.

**Description**
Configuration data for measurement board not found. System will use default data.

**Recommended actions**
Check configuration.

38200, Battery backup lost

**Description**
The battery backup to serial measurement board (SMB) arg in the robot connected to drive module arg on measurement link arg has been lost.

**Consequences**
When the SMB battery power supply is interrupted, the robot will lose the revolution counter data. This warning will also repeatedly be logged.
6 Trouble shooting by Event log

Probable causes
This may be due to an SMB battery that is discharged or not connected. For some robot models, the SMB battery power is supplied through a jumper in the robot signal cable (refer to the IRC5 Circuit Diagram), and disconnecting the cable interrupts the battery power supply. Some earlier robot versions used rechargeable batteries, and these must be charged for at least 18 hrs before working correctly.

Recommended actions
1) Make sure a charged SMB battery is connected to the board.
2) NOTE! Disconnecting the robot signal cable may disconnect the SMB battery power supply, triggering the battery warning to be logged.
3) Reset the battery power warning by updating the revolution counters as detailed in the Calibration or Product Manual.
4) Replace the battery if discharged.

38201, Serial Board not found
Description
Serial Measurement Board not found on measurement link.
Drive module: arg
Measurement link: arg
Measurement board: arg

Recommended actions
- Check system configuration parameters.
- Check connections and cables to Serial Measurement Board.
- Replace Serial Measurement Board.

38203, SMB offset X error
Description
Offset error for X signal at Serial Measurement Board.
Drive module: arg
Measurement link: arg
Measurement board: arg

Recommended actions
- Replace Serial Measurement Board.

38204, SMB offset Y error
Description
Offset error for Y signal at Serial Measurement Board.
Drive module: arg
Measurement link: arg
Measurement board: arg

Recommended actions
- Replace Serial Measurement Board.

38205, SMB Linearity Error
Description
Linearity error for X-Y signal difference at Serial Measurement Board.
System may still operate with warning.
System will not function with error.
Drive module: arg
Measurement link: arg
Measurement board: arg

Recommended actions
- Replace Serial Measurement Board.

38206, SMB Linearity X Error
Description
Linearity error for X signal on Serial Measurement Board.
Drive module: arg
Measurement link: arg
Measurement board: arg

Recommended actions
- Replace Serial Measurement Board.

38207, SMB Linearity Y Error
Description
Linearity error for Y signal at Serial Measurement Board.
Drive module: arg
Measurement link: arg
Measurement board: arg

Recommended actions
- Replace Serial Measurement Board.

38208, Resolver error
Description
Too high voltage from X or Y resolver signals.
Sum of squared X and Y exceeds max.
Joint: arg
Drive module: arg
Measurement link: arg
Measurement board: arg
Board node: arg

Recommended actions
- Check resolver and resolver connections.
- Replace Serial Measurement Board.
- Replace resolver.
6 Trouble shooting by Event log

38209, Resolver error
Description
Too low voltage from X or Y resolver signals.
Sum of squared X and Y too low.
Joint: arg
Drive module: arg
Measurement link: arg
Measurement board: arg
Board node: arg
Recommended actions
- Check resolver and resolver connections.
- Replace Serial Measurement Board.
- Replace resolver.

38210, Transmission fault.
Description
Serial Measurement Board SMS communication failed.
Status: arg
Drive module: arg
Measurement link: arg
Measurement board: arg
Board node: arg
Recommended actions
- Restart system.
- Check cable and connectors for SMB communication.
- Replace the Serial Measurement Board.

38211, Functionality error.
Description
The Serial Measurement Board does not support 7 axes.
Drive module: arg
Measurement link: arg
Measurement board: arg
Recommended actions
- Check configurations of the 7th axis.
- Replace Serial Measurement Board to a board with 7 axes functionality.

38212, Data not found.
Description
Configuration data for Serial Measurement Board not found. System will use default data.
Drive module: arg
Measurement link: arg
Measurement board: arg

38213, Battery charge low.
Description
Less than 2 months until battery on Serial Measurement Board is discharged. Counting from first time this message was displayed.
Drive module: arg
Measurement link: arg
Measurement board: arg
Recommended actions
- Replace battery on serial measurement.

38214, Battery failure.
Description
Transportation shut down of battery failed. The battery will still be in normal mode.
Drive module: arg
Measurement link: arg
Measurement board: arg
Recommended actions
- Retry shut down.
- Replace serial measurement board.

38215, Battery supervision failure.
Description
Failure occurred during reset of battery supervision circuit in Serial Measurement Board.
Drive module: arg
Measurement link: arg
Measurement board: arg
Recommended actions
- Repete update of revolution counter for joint connected to the SMB.
- Replace serial measurement board.

38230, PMC card not connected correctly
Description
The PMC card that is configured in the motion configuration is not connected or is not working correctly.
Consequences
The application that needs this PMC card can not be ran.
Probable causes
The PMC card is not connected or the card is broken.
Recommended actions
Please check the PMC card that is attached to the axis computer in the drive module arg.
6 Trouble shooting by Event log

38231, PMC card can not be started
Description
The PMC card that is configured in the motion configuration is not set up correctly and can not be started.
Consequences
The application that uses this PMC card can not be ran.
Probable causes
The error is problably a error in the motion configuration.
Recommended actions
Please check the limits for channels for this card in the motion configuration.

38232, PMC max channels reached
Description
The PMC card that is configured in the motion configuration is not set up correctly and can not be started.
Consequences
The application that uses this PMC card can not be ran.
Probable causes
The error is problably a error in the motion configuration.
Recommended actions
Please check the limits for channels for this card in the motion configuration.

38233, Force sensor safety channel error
Description
The safety channel in the cable between the force sensor and measurment board is under configured safety channel voltage level. The force sensor is connected to the axis computer in drive module arg.
Consequences
The system will go to SYS HALT and the application that uses this sensor can not be ran until cable is connected or replaced. Safety channel supervision can be disconnected in the motion configuration.
Probable causes
1. The cable is not attached correctly.
2. The cable has damage to the connectors or the cable itself.
3. The sensor cable does not have satefy channel.
Recommended actions
Assure that the cable is connected properly and inspect the connectors at both ends of the cable and the cable itself. Replace if damaged.

38234, Max Force or Torque reached
Description
The measurend force or torque in the force sensor attached to the axis computer in drive module arg has higher value than it is configured for.
Consequences
The system will not stop due to this.
Probable causes
The applied force or torque on the sensor is higher that configured. Too high ordered reference can be the cause. The configuration might also be faulty.
Recommended actions
Check the force and torque references in the program and if the environment have applied too high force or torque to the sensor.

38235, Saturation warning of force sensor input
Description
The analog input values of the measurment board connected to the force sensor have saturated and the time in saturation has reached the warning level.
The measurment board is connected to the axis computer in drive module arg
Recommended actions
Check the load that was applied to the force/torque sensor. Check that the cable, sensor and measurment board is not damaged. Increase the system parameter: time in satuartion before warning.

38236, Saturation error of of force sensor input
Description
The analog input values of the measurment board connected to the force sensor have saturated and the time in saturation has reached the error level. The measurment board is connected to the axis computer in drive module arg
Consequences
System will stop
Recommended actions
Check the load that was applied to the force/torque sensor. Check that the cable, sensor and measurment board is not damaged. Increase the system parameter: time in satuartion before error

38237, Configuration error for Force Measurement Board
Description
The configuration input values for the Force Measurement Board connected to the force sensor is erroneous. The board is connected to drive module arg, link arg.
Consequences
The system goes to System Failure state.
Recommended actions
Check the configuration.

### 39401, Torque Current Reference Error

**Description**
The torque-current reference is increasing too quickly for joint arg, connected to drive module arg.

**Consequences**
-

**Probable causes**
The resolver feedback may be poor or the speed loop gain may be badly adjusted.

**Recommended actions**
1) Check the resolver cable and the resolver grounding for this joint. If this joint is an additional axis, then check that the motor data in the configuration file is correct. How to check the configuration file is detailed in the Trouble Shooting Manual.
2) Reduce the gain of the speed loop.

### 39402, Motor Angle Reference Warning

**Description**
The motor angle reference is increasing too quickly for joint arg, connected to drive module arg.

**Consequences**
-

**Probable causes**
The resolver feedback may be poor or the speed loop gain may be badly adjusted.

**Recommended actions**
1) Check the resolver cable and the resolver grounding for this joint. If this joint is an additional axis, then check that the motor data in the configuration file is correct. How to check the configuration file is detailed in the Trouble Shooting Manual.
2) Reduce the gain of the speed loop.

### 39403, Torque Loop Undercurrent

**Description**
The torque-current controller detected too low current for joint arg, connected to drive module arg.

**Consequences**
-

**Probable causes**
The motor data in the configuration files may be wrong or the DC bus voltage may be too low.

**Recommended actions**
1) Check that the motor data in the configuration file is correct for this joint. How to check the configuration file is detailed in the Trouble Shooting Manual.
2) Check that no DC bus errors are present in the event log.
3) Check that the incoming mains voltage is within the specification.
4) Check that the motor cables are not damaged or badly connected.

### 39404, Torque Loop Overcurrent

**Description**
The field-current controller detected too high current for joint arg, connected to drive module arg.

**Consequences**
-

**Probable causes**
The motor data in the configuration files may be wrong.

**Recommended actions**
1) Check that the motor data in the configuration file is correct for this joint. How to check the configuration file is detailed in the Trouble Shooting Manual.
2) Check that no DC bus errors are present in the event log.
3) Check that the incoming mains voltage is within the specification.
4) Check that the motor cables are not damaged or badly connected.

### 39405, Maximum PWM Reached in Torque Controller

**Description**
The torque-current control loop has been saturated for joint arg, connected to drive module arg.

**Consequences**
-

**Probable causes**
The mains voltage may be too low or the motor windings or motor cables may be broken.

**Recommended actions**
1) Check that no DC bus errors are present in the event log.
2) Check that the incoming mains voltage is within specified limits.
3) Check the motor cables and motor windings for open circuits.

### 39406, Field Loop Overcurrent

**Description**
The field-current control loop has produced too high current for joint arg, connected to drive module arg.

**Consequences**
-

**Probable causes**
The motor data in the configuration files may be wrong or the DC bus voltage may be too low.
**Probable causes**
The motor data in the configuration files may be wrong.

**Recommended actions**
1) Check that no DC bus errors are present in the event log.
2) Check that the incoming mains is within specified limits.
3) Check the motor cables and motor windings.

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**39407, Drive Unit has the wrong type code**

**Description**
The type code in drive unit for joint arg in drive module arg is different from the one specified in the configuration file. Installed drive unit type is arg, and the configured type is arg.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The configuration file may contain incorrect values, the configuration key may be incorrect or the hardware may be of the wrong type. If the drive unit was recently replaced, a drive unit with the wrong type code may have been fitted or the key was not replaced with one for the correct hardware/software combination.

**Recommended actions**
1) Make sure the values in the configuration file match the installed hardware.
2) Make sure the configuration key match the installed hardware/software combination. How to check the configuration file is detailed in the Trouble Shooting Manual.
3) If the drive unit was recently replaced, make sure a unit of the correct type code is used.

---

**39408, Rectifier Unit has the wrong type code**

**Description**
The type code for rectifier unit arg in drive module arg is different from the one specified in the configuration file. Installed rectifier unit type is arg, and the configured type is arg.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The configuration file may contain incorrect values, the configuration key may be incorrect or the hardware may be of the wrong type. If the rectifier unit was recently replaced, a rectifier unit with the wrong type code may have been fitted or the key was not replaced with one for the correct hardware/software combination.

**Recommended actions**
1) Make sure the values in the configuration file match the installed hardware.
2) Make sure the configuration key match the installed hardware/software combination. How to check the configuration file is detailed in the Trouble Shooting Manual.
3) If the rectifier unit was recently replaced, make sure a unit of the correct type code is used.

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**39409, Capacitor Unit has the wrong type code**

**Description**
The type code for capacitor unit arg in drive module arg is different from the one specified in the configuration file. Installed capacitor unit type is arg, and the configured type is arg.

**Consequences**
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

**Probable causes**
The configuration file may contain incorrect values, the configuration key may be incorrect or the hardware may be of the wrong type. If the capacitor unit was recently replaced, a capacitor unit with the wrong type code may have been fitted or the key was not replaced with one for the correct hardware/software combination.

**Recommended actions**
1) Make sure the values in the configuration file match the installed hardware.
2) Make sure the configuration key match the installed hardware/software combination. How to check the configuration file is detailed in the Trouble Shooting Manual.
3) If the capacitor unit was recently replaced, make sure a unit of the correct type code is used.

---

**39410, Drive Unit communication warning**

**Description**
Many communication errors are being detected between the axis computer and drive unit number arg in drive module arg. (error rate per time unit)

**Consequences**
If the number of communication errors increases further, there is a risk that the controller will be forced to stop

**Probable causes**
External noise may interfere with the communication signals.

**Recommended actions**
1) Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2) Check that the module is properly grounded.
3) Check for external electromagnetic noise sources close to the drive module.
6 Trouble shooting by Event log

39411, Too Many communication errors
Description
Four or more consecutive communication packets have been lost between the axis computer and drive unit arg in drive module arg.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.
Probable causes
There may be a break in the communication link cable between the axis computer and the main drive unit, the drive module may be incorrectly grounded or excessive noise may interfere with the communication signals.
Recommended actions
1) Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2) Check that the module is properly grounded.
3) Check for external electromagnetic noise sources close to the drive module.

39412, Too Many Missed Reference Updates
Description
Too many missed communication packets have been detected for joint arg in drive module arg.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.
Probable causes
There may be a break in the communication link cable between the axis computer and the main drive unit, the drive module may be incorrectly grounded or excessive noise may interfere with the communication signals.
Recommended actions
1) Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2) Check that the module is properly grounded.
3) Check for external electromagnetic noise sources close to the drive module.

39413, Drive Software Not Synchronised
Description
The axis computer software in drive module arg has become unsynchronised with the drive software for joint arg. This is an unstable software state.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.
Probable causes
There may be glitches in the system timing.
Recommended actions
1) Restart the controller.
2) If the problem persists, contact your local ABB representative.

39414, Unknown Capacitor Type Code
Description
The type code for the capacitor unit arg in drive module arg is not recognised by the system.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.
Probable causes
The wrong type of capacitor unit may have been fitted or the capacitor version used is not supported by the software.
Recommended actions
1) Check the type of capacitor unit fitted. Replace if it is the wrong type.
2) If the problem persists, contact your local ABB representative.

39415, Communication with the Drive Unit Lost
Description
Communication with drive unit number arg in drive module arg has been lost.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.
Probable causes
There may be a break in the communication link cable between the axis computer and the main drive unit, the drive module may be incorrectly grounded or excessive noise may interfere with the communication signals.
Recommended actions
1) Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2) Check that the module is properly grounded.
3) Check for external electromagnetic noise sources close to the drive module.

39416, Drive Unit Not Responding
Description
The main drive unit in drive module arg is not responding.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.
Probable causes
There may be a break in the communication link cable between the axis computer and the main drive unit, or there may be a lock-up in the software.

Recommended actions
1) Check the communication link cable between the axis computer and the main drive unit is correctly connected.
2) Restart the controller.
3) If the problem persists, contact your local ABB representative.

39418, Unknown Drive Unit type code
Description
The type code for the drive unit arg in drive module arg is not recognised by the system. Installed drive unit type is arg, and the configured type is arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The connection to the drive unit may be bad or incorrect hardware may have been fitted.

Recommended actions
1) Make sure the cable connections on the drive unit are correct.
2) Make sure the drive unit is one supported by this controller.
3) If the drive unit was recently replaced, make sure a unit of the correct type code is used.

39421, Drive Unit configuration test failure
Description
Drive unit number arg in drive module arg has detected an internal error.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The connection to the drive unit may be bad or incorrect hardware may have been fitted.

Recommended actions
1) Perform a shutdown and then restart the system.
2) If the problem persists, isolate the faulty drive unit and replace it.

39422, Drive Unit watchdog timeout
Description
The time limit for watchdog timer for drive unit number arg in drive module arg has expired.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The connection to the drive unit may be bad or incorrect hardware may have been fitted. It may also be caused by an internal error in the drive unit.
6 Trouble shooting by Event log

Recommended actions
1) Perform a shutdown and then restart the system.
2) If the problem persists, isolate the faulty drive unit and replace it.

39423, Drive Unit Internal Warning
Description
Internal measurement warning for drive unit number arg in drive module arg.
supervision code = arg

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
There may be problems with the control cable, the DC link connection (bus bar or cable) or internal hardware.

Recommended actions
1) Check the control cables and DC link connection (bus bar or cable) are correctly inserted for this unit.
2) Restart the system.

39424, Drive Unit internal error
Description
Internal measurement warning for drive unit number arg in drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The connection to the drive unit may be bad or incorrect hardware may have been fitted. It may also be caused by faulty control cable, DC link connection (bus bar or cable) or internal hardware.

Recommended actions
1) Make sure the control cables and DC link connection (bus bar or cable) are correctly connected for this unit.
2) Perform a shutdown and then restart the system.
3) If the problem persists, isolate the faulty unit and replace it.

39425, Drive Unit measurement failure
Description
A current measurement circuit in drive unit number arg, drive module arg, attached to joint arg has failed.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by a faulty or lacking DC link connection between the rectifier and drive units.

Recommended actions
1) Make sure the DC link connection (bus bar or cable) is correctly connected between the rectifier and drive unit.
2) Check the indication LEDs on the rectifier and drive units. The significance of the LEDs is described in the Trouble Shooting Manual.

39426, Rectifier internal failure
Description
The rectifier on communication link arg attached to drive module arg has detected an internal failure.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by a faulty or lacking signal connection between the rectifier and drive units.

Recommended actions
1) Make sure the signal cable is correctly connected between the rectifier and drive unit.
2) Check the indication LEDs on the rectifier and drive units. The significance of the LEDs is described in the Trouble Shooting Manual.

39427, Rectifier communication missing
Description
The communication with the rectifier on drive comm link arg, drive module arg, has been lost.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by a faulty or lacking signal connection between the rectifier and drive units.

Recommended actions
1) Make sure the signal cable is correctly connected between the rectifier and drive unit.
2) Perform a shutdown and then restart the system.
3) If the problem persists, isolate the faulty unit and replace it.

39428, Rectifier startup error
Description
The rectifier on drive comm link arg, drive module arg has detected a startup error.
6 Trouble shooting by Event log

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by an internal error in the rectifier unit.

Recommended actions
1) Make sure the signal cable is correctly connected between the rectifier and drive unit.
2) Perform a shutdown and then restart the system.
3) If the problem persists, isolate the faulty rectifier unit and replace it.

39431, Update of Drive Unit Software in Progress

Description
The drive unit software in drive module arg is being updated. Please wait for the upgrade to be completed. This will take approximately 3.5 minutes.

NOTE: Please do not turn off the power or restart the controller until the download is complete.

Recommended actions
Please wait...

39432, Incompatible boot version in drive unit

Description
The boot version in drive module arg is version arg, which is not allowed. The latest allowed boot version is arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The boot version is not compatible with the hardware version.

Recommended actions
1) Replace the drive unit with one using a boot version equal to or greater than the latest allowed one.

39434, Drive Unit Start Failure

Description
The drive unit in drive module arg failed to start. drive boot status = arg. drive dsp1 status = arg

Consequences
The robot can not be operated.

Probable causes
A number of errors may cause this.

Recommended actions
1) Switch the main power off to the module and then switch it back on. Note that a normal restart will NOT suffice!
2) If the problem persists, replace the drive unit.

39435, Cannot find additional axis drive unit

Description
The system cannot detect an additional axis drive for joint arg in drive module arg.

Consequences
System goes to SYS_FAIL.

Probable causes
This can be due to:
1) Having an additional axis configured but not having a drive unit in the drive module.
2) Having an external drive unit but not connecting the cable to the Xarg connector position on the main drive unit.
3) Damaged cable between the additional axis drive and the main drive unit.

Recommended actions
1) Check the drive module contains enough additional axis drives.
2) Check that the configuration key does not define more external drive units then are connected in the drive module.
3) Check the cable between the additional axis drive unit and to the main drive unit is correctly inserted in the right connector position.
4) If the cable exists and is correctly inserted, then it may be damaged and should be replaced.

39440, Open circuit in bleeder resistor circuit

Description
The bleeder resistor connected to the rectifier on drive link arg, drive module arg, is an open circuit.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by a faulty bleeder resistor cable or bleeder resistor.

Recommended actions
1) Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2) Make sure the cable and resistor is working correctly by measuring their resistance respectively. Disconnect before measuring.
3) Replace any faulty component.

39441, Short circuit in bleeder resistor circuit

Description
The bleeder resistor connected to the rectifier on drive link arg, drive module arg, is a short circuit.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by a faulty bleeder resistor cable or bleeder resistor.

Recommended actions
1) Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2) Make sure the cable and resistor is working correctly by measuring their resistance respectively. Disconnect before measuring.
3) Replace any faulty component.

39442, Bleeder Resistance Too Low
Description
The bleeder resistance is too low for the rectifier on drive comm link arg, drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The bleeder may have the wrong resistance value or one of the bleeder may have failed, causing a short circuit.

Recommended actions
1) Check the bleeder resistors to see that they are the correct resistance value for this drive module configuration.
2) Check that none of the resistors have failed. How to check the configuration file is detailed in the Trouble Shooting Manual.

39443, Bleeder Resistor Overload Warning
Description
The power consumed by the bleeder resistors is approaching overload for the rectifier on drive communication link arg, drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The user program may contain too much hard braking of the manipulators, which is more likely if the system contains additional axes.

Recommended actions
1) Rewrite the user program to reduce the amount of hard braking.

39444, Bleeder resistor overload error
Description
The bleeder resistors have been overloaded for the rectifier on drive communication link arg, drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The user program may contain too much hard braking or too high a payload of the manipulators. This is more likely if the system contains additional axes.

Recommended actions
1) Rewrite the user program to reduce the amount of hard braking.

39450, Faulty Fan Unit Power Supply
Description
The power supply for the fan unit in drive module arg is not within its allowed voltage limits.

Consequences

Probable causes
The main fan power supply unit may be faulty or the supply to this power supply unit may not be within its allowed voltage limits.

Recommended actions
1) Check the fan cable is correctly inserted.
2) Check that all fans are working. 3) Check the input voltage to the main fan power supply unit. Replace any faulty unit.

39451, Fan Unit Malfunction
Description
The fan unit in drive module arg has malfunctioned.

Consequences

Probable causes
The fan unit may be faulty, a loss of power supply or the fan power cable may not be connected correctly.

Recommended actions
1) Make sure the fan cable is correctly connected.
2) Make sure all fans are working and that air flow is not obstructed. 3) Measure the output voltage from the drive unit supplying the fan. Replace any faulty unit.

39452, Axis Computer Cooling Fan Malfunction
Description
The cooling fan for the axis computer in drive module arg has malfunctioned.

Recommended actions
1) Check that the fan cable is correctly inserted.
2) Replace the faulty fan unit.
Troubleshooting by Event Log

39453, Transformer Cooling Fan Malfunction

Description
The cooling fan for the transformer supplying drive module arg has malfunctioned.

Recommended actions
1) Check if fan cable is correctly inserted.
2) Replace the faulty fan unit.

39460, DC Link Voltage Too Low

Description
The DC link voltage is too low for the rectifier on drive communication link arg, drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The DC link bus bar may be incorrectly connected or the three-phase mains power may be interrupted while the robot is in the Motors ON state. The mains contactor may also have been opened whilst the robot is in Motors ON state (breaking the safety chain). The incoming main power supply may also be too low.

Recommended actions
1) Make sure the DC link bus bar is correctly connected.
2) Make sure the mains supply has not been interrupted.
3) Make sure the safety chain has not been broken.
4) Make sure the Drive Module Power Supply output voltage is within acceptable limits as specified in the Product Manual.

39461, DC Link Voltage Too High

Description
The DC link voltage is too high for the rectifier on drive communication link arg, drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The user program may contain too much hard braking of the manipulators, which is more likely if the system contains additional axes. The brake resistors may also be faulty.

Recommended actions
1) Check the bleeder resistors to see that they are the correct resistance value for this drive module configuration.
2) Check that none of the resistors have failed.
3) Rewrite the user program to reduce the amount of hard braking.

39462, DC Link Voltage at Critical

Description
The DC link voltage is critically high for the rectifier on drive communication link arg, drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The user program may contain too much hard braking of the manipulators, which is more likely if the system contains additional axes. The brake resistors may also be faulty.

Recommended actions
1) Check the bleeder resistors to see that they are the correct resistance value for this drive module configuration.
2) Check that none of the resistors have failed.
3) Rewrite the user program to reduce the amount of hard braking.

39463, Motor Phase Short Circuit Warning

Description
A brief short circuit was detected in the motor/motor cable for the motor attached to joint arg in drive module arg.

Consequences
- 

Probable causes
This may be due to dust or metal fragments contaminating the contacts or motor windings.

Recommended actions
No action is required if the problem does not persist.

39464, Short circuit in Motor phase circuit

Description
The motor or motor cable for joint arg in drive module arg, drive unit number arg, is a short circuit.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by a faulty motor or motor cable. It may also be caused by contamination in the contactors for the cables or a failure of the motor windings.

Recommended actions
1) Make sure the motor cable is correctly connected to the drive unit.
2) Check the cable and motor by measuring their resistance respectively. Disconnect before measuring.
3) Replace any faulty component.
6 Trouble shooting by Event log

39465, Motor current warning

Description
The motor current is higher than the allowed for joint arg in drive module arg, drive unit number arg.

Consequences
-

Probable causes
The motor load may be too high or the motor may have stalled (maybe due to a collision).

Recommended actions
1) Check that the robot has not collided with anything.
2) If possible, reduce the speed of the user program.
3) If the axis is an additional axis, check that the motor load is not too high for the drive unit.

39466, Motor Current Overload

Description
The motor current is too high for joint arg in drive module arg, drive unit number arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The motor load may be too high or the motor may have stalled (maybe due to a collision).

Recommended actions
1) Check that the robot has not collided.
2) If possible, reduce the speed of the user program.
3) If the axis is an additional axis, check that the motor load is not too high for the drive unit.

39467, Drive Unit Temperature Warning

Description
The temperature has risen above the warning level in drive unit number arg, drive module arg, which is the lowest abnormal level of three.

Consequences
-

Probable causes
The ambient temperature may be too high, the cooling fans may have failed or the user program may consume more current than the drive system can supply.

Recommended actions
1) Check that the fans are running and that the air flow is not obstructed.
2) Check that the ambient temperature does not exceed the cabinet rating.
3) If the system contains additional axes then check that motors are not too large for the drive units.
4) If possible, rewrite the user program to reduce the amount of hard acceleration.

39468, Drive Unit Temperature Alarm

Description
The temperature has risen above the alarm level in drive unit number arg, drive module arg, which is the second abnormal level of three.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The ambient temperature may be too high, the cooling fans may have failed or the user program may consume more current than the drive system can supply.

Recommended actions
1) Check that the fans are running and that the air flow is not obstructed.
2) Check that the ambient temperature does not exceed the cabinet rating.
3) If the system contains additional axes then check that motors are not too large for the drive units.
4) If possible, rewrite the user program to reduce the amount of hard acceleration.

39469, Drive Unit Temperature Critical

Description
The temperature has risen above the critical level in drive unit number arg, drive module arg, which is the top abnormal level of three.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The ambient temperature may be too high, the cooling fans may have failed or the user program may consume more current than the drive system can supply.

Recommended actions
1) Check that the fans are running and that the air flow is not obstructed.
2) Check that the ambient temperature does not exceed the cabinet rating.
3) If the system contains additional axes then check that motors are not too large for the drive units.
4) If possible, rewrite the user program to reduce the amount of hard acceleration.
39470, Power Semiconductor Warning

Description
The power semiconductor is approaching overload for joint arg, in drive unit number arg, drive module arg.

Consequences

Probable causes
The motor load may be too high, the motor may have stalled (maybe due to a collision), the motor load may be too high or there may not be enough cooling.

Recommended actions
1) Check that the robot has not collided.
2) Check that the fans are running and that the air flow is not obstructed.
3) Check that the ambient temperature does not exceed the cabinet rating.
4) If the system contains additional axes then check that motors are not too large for the drive units.
5) If possible, rewrite the user program to reduce the amount of hard acceleration.

39471, Power Semiconductor Overload Error

Description
The power semiconductor has been overloaded for joint arg, in drive unit number arg, drive module arg.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The motor load may be too high, the motor may have stalled (maybe due to a collision), the motor load may be too high or there may not be enough cooling.

Recommended actions
1) Check that the robot has not collided.
2) Check that the fans are running and that the air flow is not obstructed.
3) Check that the ambient temperature does not exceed the cabinet rating.
4) If the system contains additional axes then check that motors are not too large for the drive units.
5) If possible, rewrite the user program to reduce the amount of hard acceleration.

39472, Incoming Mains Phase Missing

Description
The rectifier connected to communication link arg in drive module arg detects a power loss in one phase.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by an actual mains power loss, some malfunction in the Motors ON contactors or its cabling or in another part of the three phase chain inside the cabinet. On rare occasions, this fault may occur in combination with other faults, in which case this may be found in the error log.

Recommended actions
1) Make sure the mains switch is closed and that there is mains voltage present. No volts means the problem is in mains cable connector or the factory power supply.
2) If the voltage is OK, disconnect the input mains cable and measure the resistance of all three phases across all the components in the 3 phase supply chain. Start from the contactor closest to the rectifier and work backwards towards the mains switch. The contactors can be closed manually to perform the test. Refer to the electrical drawings for the cabinet.
3) Check the indication LEDs on the rectifier unit. The significance of these is described in the Trouble Shooting Manual.
4) If the voltage is OK, check any other error log messages coinciding in time with this one for clues.

39473, All Incoming Mains Phases Missing

Description
The rectifier connected to communication link arg in drive module arg detects a power loss in one or more phases.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
This may be caused by an actual mains power loss, some malfunction in the Motors ON contactors or its cabling or in another part of the three phase chain inside the cabinet. On rare occasions, this fault may occur in combination with other faults, in which case this may be found in the error log.

Recommended actions
1) Make sure the mains switch is closed and that there is mains voltage present. No volts means the problem is in mains cable connector or the factory power supply.
2) If the voltage is OK, disconnect the input mains cable and measure the resistance of all three phases across all the components in the 3 phase supply chain. Start from the contactor closest to the rectifier and work backwards towards the mains switch. The contactors can be closed manually to perform the test. Refer to the electrical drawings for the cabinet.
3) Check the indication LEDs on the rectifier unit. The significance of these is described in the Trouble Shooting Manual.
4) If the voltage is OK, check any other error log messages coinciding in time with this one for clues.
6 Trouble shooting by Event log

39474, Rectifier Current Warning

Description
The rectifier connected to drive communication link arg in drive module arg is approaching overload.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The total motor current may be greater than that which the rectifier can supply.

Recommended actions
1) If possible, rewrite the user program to reduce the amount of hard acceleration.

39475, Rectifier Current Error

Description
The rectifier connected to drive communication link arg in drive module arg has reached overload.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The total motor current may be greater than that which the rectifier can supply.

Recommended actions
1) If possible, rewrite the user program to reduce the amount of hard acceleration.

39476, Rectifier Temperature Warning

Description
The temperature in the rectifier unit connected to drive communication link arg in drive module arg is approaching a too high a level.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The cooling fans may be faulty or the air flow may be obstructed. The ambient temperature may be too high or the system may be running with a too high load for extended periods.

Recommended actions
1) Check that the fans are running and that the air flow is not obstructed.
2) Check that the ambient temperature does not exceed the cabinet rating.
3) If the system contains additional axes then check that motors are not too large for the drive units.
4) If possible, rewrite the user program to reduce the amount of hard acceleration.

39477, Rectifier Temperature Error

Description
The temperature in the rectifier unit connected to drive communication link arg in drive module arg has reached a too high a level.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The cooling fans may be faulty or the air flow may be obstructed. The ambient temperature may be too high or the system may be running with a too high load for extended periods.

Recommended actions
1) Check that the fans are running and that the air flow is not obstructed.
2) Check that the ambient temperature does not exceed the cabinet rating.
3) If the system contains additional axes then check that motors are not too large for the drive units.
4) If possible, rewrite the user program to reduce the amount of hard acceleration.

39478, Internal Motor PTC Temperature Error

Description
The temperature in one or more robot motors connected to drive module arg is has reached a too high a level.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The motor may have stalled (possibly due to a collision), the motor may be overloaded or the ambient temperature may be higher than the rated level for the robot.

Recommended actions
1) Check that the robot has not collided.
2) Check that the ambient temperature does not exceed the robot rating.
3) Allow the robot to cool down, and then run the system again. Replace any motors damaged by the excessive heat.
4) If possible, rewrite the user program to reduce the amount of hard acceleration.

39479, External Motor PTC Temperature Error

Description
One or more additional axis motors connected to drive module arg is has reached a too high a level.
Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS_HALT.

Probable causes
The motor may have stalled (possibly due to a collision), the motor may be overloaded or the ambient temperature may be higher than the rated level for the robot.

Recommended actions
1) Check that the additional axis has not collided.
2) Check that the ambient temperature does not exceed the rating.
3) Allow the motor to cool down, and then run the system again.
4) If possible, rewrite the user program to reduce the amount of hard acceleration.

39482, Mains Voltage Too High

Description
The mains voltage detected in drive module arg is too high.

Consequences
The robot can not be operated.

Probable causes
The mains transformer may be incorrectly wired or the external supply voltage may be too high.

Recommended actions
1) Measure the incoming mains voltage at the main contactor in the drive module. Make sure it is within the range specified for this module.
2) Check the wiring of the mains transformer as detailed in the robot Product Manual.

39483, DC Link Short Circuit

Description
A short circuit has been detected on the DC link of drive module arg.

Consequences
The robot can not be operated.

Probable causes
The DC bus bar may be badly connected or its contact surfaces may be contaminated causing a short circuit.

Recommended actions
1) Check that all DC link bus bars have been correctly connected.
2) Check that all contacts are free from contamination.

39484, Run chain open in motor on state

Description
Run chain arg is open when system is in motor on state. The problem occurred in drive system arg.

39485, Run chain close in motor off state

Description
Run chain arg is open when system is in motor on state. The problem occurred in drive system arg.

Consequences
System goes to SYS_HALT.

Probable causes
1) The contactor for this run chain placed in the drive module has been pulled down manually.
2) The contactor has been welded in close position.

Recommended actions
1) If the contactor is not released and stays in pulled position, shut down the system and replace the contactor.
2) If the contactor has been pulled down manually, take this message as a warning only.

39486, DC Link Not Connected

Description
The DC Link connection to the drive serving joint arg in drive module arg, drive unit number arg is missing or is not properly connected.

Consequences
The system goes to SYS_HALT.

Probable causes
1) The DC Bussbar is either missing or is not properly connected.
2) If the bussbar is correctly connected. The drive unit reporting the error may have a fault.

Recommended actions
1) Check the DC Bussbar is properly connected to all the drive units

39500, Logic Voltage to Drive Unit Warning

Description
The 24V supply from the Drive Module Power Supply to the main drive unit in drive module arg is out of range.
Consequences
-  
Probable causes
The 24V supply from the Drive Module Power Supply may be out of range.

Recommended actions
1) Make sure the power cable from the Drive Module Power Supply to the main drive unit is connected correctly.
2) Check if the power supply unit LED is red. The full meaning of all LED indications are described in the Trouble Shooting Manual, IRC5.

39501, Logic Voltage to Drive Unit Error
Description
The 24V supply to the main drive unit in drive module arg is out of range.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The 24V supply from the power supply unit may be out of range.

Recommended actions
1) Make sure the power cable from the power supply unit to the main drive unit is connected correctly.
2) Check if the power supply unit LED is red. The full meaning of all LED indications are described in the Trouble Shooting Manual, IRC5.

39502, Logic Voltage to Rectifier Error
Description
The 24V to the rectifier in drive module arg is out of range.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The cable between the drive unit and the rectifier may be badly connected, or the power supply voltage to the drive unit may be out of range.

Recommended actions
1) Check that the power cable between the power supply unit and the rectifier unit has been connected correctly.
2) Check the 24 V voltage in the power cable to the drive unit.

39503, Power Supply Overtemperature
Description
The temperature in the Drive Module Power Supply of drive module arg has reached a critical level.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS FAIL.

Probable causes
The fan unit may be faulty, the cooling air flow may be obstructed or the ambient temperature may be too high.

Recommended actions
1) NOTE! Do not try to restart the controller for approx. ten minutes to let it cool down.
2) Make sure the fans are running and that the air flow is not obstructed.
3) Make sure the ambient temperature does not exceed the drive module rating.
4) Make sure the power supply connectors are correctly connected to the axis computer.

39504, Power Supply to Brakes Overload
Description
The brake power circuit in drive module arg draws too much current.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS HALT.

Probable causes
The brake power cable may be faulty (short circuit), or additional axis motors with brakes consuming too much power may be used. The fault may also occur if the cable from the power supply unit is not correctly connected to the drive module.

Recommended actions
1) Make sure the power supply cable is correctly connected to the drive module.
2) Check the brake supply cable for short circuits.
3) Make sure the total current consumed by additional axes' motors does not exceed the specification for the drive module.
4) Make sure the power supply connectors are correctly connected to the axis computer.
5) Make sure the 24 V BRAKE voltage is within specified limits. See the Circuit Diagram in the Product Manual, IRC5.

39505, Mains Voltage to Power Supply Lost
Description
The mains power supply to the power supply unit in Drive Module arg is missing.

Consequences
No operation will be possible until after correcting the fault. The system goes to status SYS FAIL.
Probable causes
The main power switch on the Drive Module may be turned off. The incoming mains cable may be faulty (break), or the circuit breaker for the power supply may have tripped. The fault may also occur if the connector from the power supply unit is not correctly connected to the axis computer.

Recommended actions
1) Check that the main power switch in turned on for the Drive Module and restart the system.
2) Check that the connector from the power supply unit is correctly connected to the axis computer.
3) Measure the voltage at the mains contactor to ensure that the mains is present.
4) Check that the power supply fuses/circuit breakers in the drive module have not tripped.

39520, Communication lost with Drive Module
Description
The main computer has lost contact with drive module arg.

Consequences
The system goes to status SYS HALT. No operation will be possible until the fault has been corrected.

Probable causes
This may be due to a cable break, badly connected connector or high levels of interference in the cable.

Recommended actions
1) Make sure the cable between Control Module and Drive Module is not damaged and that both connectors are correctly connected.
2) Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.

39521, Drive Module Communication Warning
Description
There are a large number of communication errors being detected on the ethernet link to drive module arg.

This can be due to external noise sources interfering with the cable.

Recommended actions
Check that there are no electromagnetic interference sources running near the cable or the drive or computer modules.

39522, Axis computer not found
Description
The axis computer in drive module arg is not connected to the main computer.

Consequences
The system goes to status SYS FAIL. No operation will be possible until the fault has been corrected.

Probable causes
This may be due to a cable break, badly connected connectors or loss of power supply.

Recommended actions
1) Make sure the main power switch on Drive Module arg has been switched ON.
2) Make sure the cable between Control Module and Drive Module is not damaged and that both connectors are correctly connected.
3) Make sure the cable is connected to the correct AXC connector on the Main Computer Unit Robot Communication Card or EtherNet Board (if the MultiMove option has been installed).
4) Restart the system.
5) Make sure the Power Supply Unit in Drive Module arg is working correctly.

39523, Unused Axis computer connected
Description
Axis computer in the drive module arg is connected to the main computer but not in use.

Probable causes
This can be due to configuration problem.

Recommended actions
1. Disconnect the unused axis computer or setup the system to use the axis computer.
2. Restart the system.

39524, Drive Module Command timeout
Description
Drive Module arg does not respond to command arg. The system has stopped the program for safety reasons.

Recommended actions
1. Check that drive module is powered on.
2. Check the cable between the main computer and axis computer.
3. Restart the system.

39525, Drive Module startup error
Description
The system has failed to complete the initialization phase of drive module arg.

Consequences
The system goes to System Failure state.

Probable causes
The system has failed to complete the initialization phase of the drive module.

Recommended actions
1) Retry by restarting the system using the main power switch.
2) Check for other hardware eventlog messages.
6 Trouble shooting by Event log

39530, Axis Computer Lost Communication With Safety System

Description
Communication has been lost between axis computer and the Safety System in drive module arg.

Consequences
System goes to status SYS FAIL.

Probable causes
This may be due to a faulty communication cable or connection between the axis computer and the Safety System. It may also be due to severe interference or if the Safety System has lost its power.

Recommended actions
1) Check cable between the axis computer and the Safety System is intact and correctly connected.
2) Check power supply connected to the Safety System.
3) Make sure no extreme levels of electromagnetic interference are emitted close to the robot cabling.

39531, Run chain glitch test not running

Description
The glitch test of the run chain has not been performed. The problem was discovered by the Safety System connected to the axis computer in drive module arg.

Consequences
System goes to status SYS HALT.

Probable causes
This may be due internal errors.

Recommended actions
Contact your local ABB support office.

40003, Argument error

Description
An argument for the required parameter arg was expected, but the optional argument arg was found.

Recommended actions
1) Make sure all arguments are specified in the same order as the parameters for the routine called.

40004, Argument error

Description
The argument for REF parameter arg is not a data reference.

Recommended actions
1) Make sure the argument is a data or a parameter reference.

40005, Argument error

Description
The argument for INOUT parameter arg is not a variable or persistent reference, or it is read-only.

Recommended actions
1) Make sure the argument is a variable or a persistent variable parameter or a persistent parameter reference and that it is NOT read-only.
2) Also make sure the argument is NOT written within brackets ().

40006, Argument error

Description
Parameter arg is missing an optional argument value.

Recommended actions
The only parameters that may be specified by a name only are "switch" parameters. All others must be assigned a value.
1) Make sure parameter has a value.

40007, Argument error

Description
The optional argument arg is not found in its correct position in the argument list.

Recommended actions
1) Make sure all arguments are specified in the same order as the parameters for the routine called.

40008, Argument error

Description
A reference to the optional parameter arg is missing.
Recommended actions
Each optional parameter must have a reference argument, specified with a leading backslash character (\).
1) Change the required argument into an optional argument.

40009, Argument error
Description
A reference to the required parameter arg in a conditional argument is missing.
Recommended actions
Each conditional value for an optional parameter must refer to an optional parameter in the calling routine.
1) Change the conditional value.

40010, Argument error
Description
A reference to the required parameter arg in an optional argument is missing.
Recommended actions
Each required parameter must have a reference argument, specified with a leading backslash character (\).
1) Change the optional argument into a required argument.

40011, Argument error
Description
The required argument arg is not found in its correct position in the argument list.
Recommended actions
Make sure all arguments are specified in the same order as the parameters for the routine called.

40012, Argument error
Description
The "switch" argument arg has a value.
Probable causes
An argument corresponding to a "switch" parameter may not be assigned a value.
Recommended actions
1) Remove the value.

40013, Argument error
Description
The call to routine arg has too few arguments.

40014, Argument error
Description
The call to routine arg has too many arguments.
Recommended actions
No arguments, more than those defined by the called routine parameter list, must be supplied. The argument list must have as many arguments, as the parameter list has parameters.
1) Remove excessive arguments from the argument list.

40015, Data declaration error
Description
The number of array dimensions is arg, but may be 1, 2 or 3 only.
Recommended actions
1) Change the dimension expression.

40016, Data declaration error
Description
Too many dimensions in array definition.
Recommended actions
An array may have at most 3 dimensions.
Rewrite the program so that no more than 3 dimensions are needed.

40017, Type error
Description
Indexed data arg, arg is not of array type.
Recommended actions
Only data that have been declared to be arrays may be indexed.
1) Remove the index or indices.
2) Declare the data to be an array.

40018, Type error
Description
Data arg, arg is not of record type.
Recommended actions
Components are only available for data of record type.
1) Check the type and name of the referenced data.
6 Trouble shooting by Event log

40019, Limit error

Description
Task arg: Error when creating the persistent variable arg.
The error occurred when the persistent variable was to be inserted into the database.

Program Ref. arg

Consequences
The created persistent variable can not be used in a RAPID program.

Probable causes
The program memory is full or fragmentated.

Recommended actions
Check if large data structures could be split into smaller blocks. Use of installed modules can save program memory.

40020, Data declaration error

Description
Expression arg is not a constant expression.

Recommended actions
Any expression contained within a data declaration must be a constant expression.
1) Make sure no expression contains variables or persistent references, or function calls.

40021, Instruction error

Description
Missing expression in RETURN instruction.

Probable causes
A RETURN instruction within a function must specify a value to be returned.

Recommended actions
1) Add a value expression.

40022, Type error

Description
Illegal combination of operand types arg and arg for the '*' operator.

Recommended actions
Allowed operand type combinations are: "num"*"num", "num"*"pos", "pos"*"num", "pos"*"pos" and "orient"*"orient".
1) Check the operand types.

40023, Instruction error

Description
Cannot transfer control into another instruction list.

Probable causes
It is not possible to jump into a program flow instruction.

Recommended actions
1) Make sure that the label is located in the same instruction list as the GOTO instruction, at the same or an outer level.

40024, Type error

Description
Illegal type arg for left operand of binary '+' or '-' operator.

Recommended actions
Allowed operand types for the binary '+' operator are "num", "pos" and "string", and for the binary '-' operator "num" and "pos".
1) Check the operand types.

40025, Type error

Description
Illegal type arg for operand of unary '+' or '-' operator.

Recommended actions
Allowed operand types for the unary '+' and '-' operators are "num" and "pos".
1) Check the operand types.

40026, Type error

Description
Illegal type arg for right operand of binary '+' or '-' operator.

Recommended actions
Allowed operand types for the binary '+' operator are "num", "pos" and "string", and for the binary '-' operator "num" and "pos".
1) Check the operand types.

40027, Type error

Description
Illegal type arg for left operand of '/', 'DIV' or 'MOD' operator.

Recommended actions
Allowed operand type for the '/', 'DIV' or 'MOD' operators is "num".
1) Check the operand types.

40028, Type error

Description
Illegal type arg for left operand of '/', 'DIV' or 'MOD' operator.

Recommended actions
Allowed operand type for the '/', 'DIV' or 'MOD' operators is "num".
1) Check the operand types.
40029, Type error

Description
Illegal type arg for left operand of '<', '<=', '>' or '>=' operator.

Recommended actions
Allowed operand type for the '<', '<=', '>' or '>=' operators is "num".
1) Check the operand types.

40030, Type error

Description
Illegal type arg for right operand of '<', '<=', '>' or '>=' operator.

Recommended actions
Allowed operand type for the '<', '<=', '>' or '>=' operators is "num".
1) Check the operand types.

40031, Type error

Description
Illegal type arg for left operand of '*' operator.

Recommended actions
Allowed operand types for the '*' operator are "num", "pos" or "orient".
1) Check the operand types.

40032, Type error

Description
Illegal type arg for right operand of '*' operator.

Recommended actions
Allowed operand types for the '*' operator are "num", "pos" or "orient".
1) Check the operand types.

40033, Type error

Description
Illegal type arg for operand of 'NOT' operator.

Recommended actions
Allowed operand type for the "NOT" operator is "bool".
1) Check the operand types.

40034, Type error

Description
Illegal type arg for left operand of 'OR', 'XOR' or 'AND' operator.

Recommended actions
Allowed operand type for the "OR", "XOR" or "AND" operators is "bool".
1) Check the operand types.

40035, Type error

Description
Illegal type arg for right operand of 'OR', 'XOR' or 'AND' operator.

Recommended actions
Allowed operand type for the "OR", "XOR" or "AND" operators is "bool".
1) Check the operand types.

40036, Type error

Description
Incorrect number of indices in index list for array arg with arg dimension(s).

Recommended actions
1) Make sure that the number of indices in the index list corresponds to the number of dimensions of the indexed data array.

40037, Data declaration error

Description
LOCAL illegal in routine constant declaration.

Recommended actions
Only program data declarations may have the LOCAL attribute. Remove the LOCAL attribute or move the declaration outside of the routine.

40038, Data declaration error

Description
LOCAL illegal in routine variable declaration

Recommended actions
Only program data declarations may have the LOCAL attribute. Remove the LOCAL attribute or move the declaration outside of the routine.

40039, Name error

Description
Constant name arg ambiguous.

Recommended actions
Routine data must have names that are unique within the routine. Program data must have names that are unique within the module. Rename the data or change the conflicting name.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>40040</td>
<td>Name error</td>
<td>Global constant name arg ambiguous. Modules must have names that are unique among all the global types, global data, global routines and modules in the entire program. Rename the module or change the conflicting name.</td>
</tr>
<tr>
<td>40041</td>
<td>Name error</td>
<td>Global persistent name arg ambiguous. Parameters must have names that are unique within the routine. Rename the parameter or change the conflicting name.</td>
</tr>
<tr>
<td>40042</td>
<td>Name error</td>
<td>Global routine name arg ambiguous. Routines must have names that are unique within the module. Rename the routine or change the conflicting name.</td>
</tr>
<tr>
<td>40043</td>
<td>Name error</td>
<td>Global variable name arg ambiguous. Routine data must have names that are unique within the routine. Program data must have names that are unique within the module. Rename the data or change the conflicting name.</td>
</tr>
<tr>
<td>40044</td>
<td>Name error</td>
<td>Label name arg ambiguous. Labels must have names that are unique within the routine. Rename the label or change the conflicting name.</td>
</tr>
<tr>
<td>40045</td>
<td>Name error</td>
<td>Module name arg ambiguous. Operand types arg and arg for binary ‘+’ or ‘-’ operator not equal. The two operands of the ‘+’ and ‘-’ operators must have equal type. Check the operand types.</td>
</tr>
<tr>
<td>40046</td>
<td>Name error</td>
<td>Module name arg ambiguous.</td>
</tr>
<tr>
<td>40047</td>
<td>Name error</td>
<td>Persistent name arg ambiguous. Program data must have names that are unique within the module. Rename the data or change the conflicting name.</td>
</tr>
<tr>
<td>40048</td>
<td>Name error</td>
<td>Routine name arg ambiguous.</td>
</tr>
<tr>
<td>40049</td>
<td>Name error</td>
<td>Variable name arg ambiguous.</td>
</tr>
<tr>
<td>40050</td>
<td>Type error</td>
<td>Operand types arg and arg for binary ‘&lt;’ or ‘&gt;’ operator not equal.</td>
</tr>
<tr>
<td>40051</td>
<td>Type error</td>
<td>Operand types arg and arg for ‘&lt;’ or ‘&gt;’ operator not equal.</td>
</tr>
</tbody>
</table>
Recommended actions
The two operands of the '=' and '<>' operators must have equal type. Check the operand types.

40052, Instruction error
Description
RETURN with expression only allowed in function
Recommended actions
In a procedure or trap the return instruction must not specify a return value expression. Remove the expression.

40054, Type error
Description
Different dimension of array type (arg) and aggregate (arg)
Recommended actions
Make sure that the number of expressions in the aggregate is the same as the dimension of the data array.

40055, Type error
Description
Assignment target type arg is not value or semi-value type.
Recommended actions
The type of the data to be assigned a value, must be a value or semi-value type. Data of non-value types may only be set by special type specific predefined instructions or functions.

40056, Type error
Description
Type arg for left operand of '=' or '<>' operator not value or semi-value type
Recommended actions
The '=' and '<>' operators may only be applied to expressions of value or semi-value type. If comparisons are to be made, special type specific predefined functions are needed.

40057, Type error
Description
Type arg for right operand of '=' or '<>' operator not value or semi-value type
Recommended actions
The '=' and '<>' operators may only be applied to expressions of value or semi-value type. If comparisons are to be made, special type specific predefined functions are needed.

40058, Type error
Description
TEST expression type arg not value or semi-value type
Recommended actions
The TEST instruction may only be applied to an expression of value or semi-value type. If comparisons are to be made, special type specific predefined functions are needed.

40059, Data declaration error
Description
Place holder for value expression not allowed in definition of named constant
Recommended actions
Complete the data declaration or change the data name to a place holder.

40060, Data declaration error
Description
Place holder for array dimension not allowed in definition of named constant or variable
Recommended actions
Complete the data declaration or change the data name to a place holder.

40061, Routine declaration error
Description
Place holder for parameter array dimensions not allowed in definition of named routine
Recommended actions
Complete the parameter declaration or change the routine name to a place holder.

40062, Name error
Description
Place holder for parameter name not allowed in definition of named routine
Recommended actions
Complete the routine declaration or change the routine name to a place holder.

40063, Data declaration error
Description
Place holder for initial value expression not allowed in definition of named persistent
Recommended actions
Complete the data declaration or change the data name to a place holder.

40064, Routine declaration error
Description
Place holder for parameter not allowed in definition of named routine
Recommended actions
Complete the parameter declaration, remove the place holder or change the routine name to a place holder.

40065, Reference error
Description
Place holder for type not allowed in definition of named data, record component or routine
Recommended actions
Complete the data or routine declaration or change the data or routine name to a place holder.

40066, Data declaration error
Description
Place holder for initial value expression not allowed in definition of named variable
Recommended actions
Complete the data declaration or change the data name to a place holder.

40067, Type error
Description
Too few components in record aggregate of type arg
Recommended actions
Make sure that the number of expressions in the aggregate is the same as the number of components in the record type.

40068, Type error
Description
Too many components in record aggregate of type arg
Recommended actions
Make sure that the number of expressions in the aggregate is the same as the number of components in the record type.

40069, Reference error
Description
Data reference arg is ambiguous
Recommended actions
At least one object sharing the same name as the referred data is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

40070, Reference error
Description
function reference arg is ambiguous
Recommended actions
At least one other object sharing the same name as the referred function is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

40071, Reference error
Description
Label reference arg is ambiguous
Recommended actions
At least one other object sharing the same name as the referred label is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

40072, Reference error
Description
Procedure reference arg is ambiguous
Recommended actions
At least one other object sharing the same name as the referred procedure is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

40073, Reference error
Description
Trap reference arg is ambiguous.
Recommended actions
At least one other object sharing the same name as the referred trap is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

40074, Reference error
Description
arg not entire data reference
Recommended actions
The specified name identifies an object other than data. Check if the desired
data is hidden by some other object with the same name.

40075, Reference error
Description
arg
not function reference
Recommended actions
The specified name identifies an object other than a function. Check if the desired function is hidden by some other object with the same name.

40076, Reference error
Description
arg
not label reference
Recommended actions
The specified name identifies an object other than a label. Check if the desired label is hidden by some other object with the same name.

40077, Reference error
Description
arg
not optional parameter reference in conditional argument value
Recommended actions
The specified name identifies an object other than an optional parameter. Change the name to refer to an optional parameter.

40078, Reference error
Description
arg
not trap reference
Recommended actions
The specified name identifies an object other than a trap. Check if the desired trap is hidden by some other object with the same name.

40079, Reference error
Description
Task arg: arg is not a procedure reference
Recommended actions
The specified name identifies an object other than a procedure. Check if the desired procedure is hidden by some other object with the same name.

40080, Reference error
Description
arg
not required parameter reference
Recommended actions
The specified name identifies an object other than a required parameter. Change the name to refer to a required parameter.

40081, Reference error
Description
arg
not trap reference
Recommended actions
The specified name identifies an object other than a trap. Check if the desired trap is hidden by some other object with the same name.

40082, Reference error
Description
arg
not type name
Recommended actions
The specified name identifies an object other than a type. Check if the desired type is hidden by some other object with the same name.

40083, Type error
Description
arg
not value type
Recommended actions
Only variables that lack initial value,
and 'VAR' mode parameters may be of semi-value or non-value type.

### 40086, Reference error

**Description**
Reference to unknown label \( arg \)

**Recommended actions**
The routine contains no label (or other object) with the specified name.

### 40087, Reference error

**Description**
Reference to unknown optional parameter \( arg \)

**Recommended actions**
The called routine contains no optional parameter (or other object) with the specified name.

### 40089, Reference error

**Description**
Reference to unknown record component \( arg \)

**Recommended actions**
The record type contains no record component with the specified name.

### 40090, Reference error

**Description**
Reference to unknown required parameter \( arg \)

**Recommended actions**
The called routine contains no required parameter (or other object) with the specified name.

### 40092, Reference error

**Description**
Unknown type name \( arg \)

**Recommended actions**
No data type (or other object) with the specified name is visible from this program position.

### 40093, Instruction error

**Description**
Assignment target is read only

**Recommended actions**
The data to be assigned a value may not be a constant, read only variable or read only persistent.

### 40094, Data declaration error

**Description**
Persistent declaration not allowed in routine

**Recommended actions**
Persistents may only be declared at module level. Move the persistent declaration from the routine.

### 40095, Instruction error

**Description**
RAISE without expression only allowed in error handler

**Recommended actions**
Add an error number expression to the RAISE instruction.

### 40096, Instruction error

**Description**
RETRY only allowed in error handler

**Recommended actions**
The RETRY instruction may only be used in error handlers. Remove it.

### 40097, Instruction error

**Description**
TRYNEXT only allowed in error handler

**Recommended actions**
The TRYNEXT instruction may only be used
in error handlers. Remove it.

40098, Parameter error
Description
'switch'
parameter must have transfer mode IN

Recommended actions
Remove the parameter transfer mode specifier. If IN transfer mode is not sufficient, change the data type of the parameter.

40099, Parameter error
Description
'switch'
parameter cannot be dimensioned

Recommended actions
Remove the array dimension specification, or change the data type of the parameter.

40100, Parameter error
Description
'switch'
only allowed for optional parameter

Recommended actions
Change the parameter into an optional parameter, or change the data type of the parameter. If the object is not a parameter, change the data type.

40101, Type error
Description
Type mismatch of
expected type arg and
found type arg

Recommended actions
The expression is not of the expected data type.

40102, Type error
Description
Type mismatch of
aggregate, expected type
arg

Recommended actions
The aggregate does not match the expected data type.

40103, Type error
Description
Persistent
arg, arg type
mismatch

Recommended actions
There is already a persistent data with the same name but with another data type. Rename the persistent, or change its data type.

40104, Data declaration error
Description
Cannot determine array dimensions (circular constant references ?)

Recommended actions
Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the declarations.

40105, Data declaration error
Description
Cannot determine type of constant value (circular constant references ?)

Recommended actions
Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the declarations.

40106, Data declaration error
Description
Cannot evaluate constant value expression (circular constant references ?)

Recommended actions
Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the
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declarations.

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Recommended Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>40107, Data declaration error</td>
<td>Cannot determine type of variable value (circular constant references?)</td>
<td>Check that any referred constants are correctly defined. If so, the program is too complex. Try to rewrite the declarations.</td>
</tr>
<tr>
<td>40108, Type error</td>
<td>Unknown aggregate type</td>
<td>An aggregate may not be used in this position since there is no expected data type. Declare data with the desired data type and aggregate value. Use the name of the data instead of the aggregate.</td>
</tr>
<tr>
<td>40109, Type definition error</td>
<td>Cannot determine type of record component ( \text{arg} ) (circular type definitions?)</td>
<td>Check that the type of the component is correctly defined. If so, it could be a circular definition, the type of a component could not refer to the its own record type.</td>
</tr>
<tr>
<td>40110, Reference error</td>
<td>Record name ( \text{arg} ) is ambiguous</td>
<td>At least one other object sharing the same name as the referred record name is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.</td>
</tr>
<tr>
<td>40111, Name error</td>
<td>Global record name ( \text{arg} ) ambiguous</td>
<td>Global type must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the record or change the conflicting name.</td>
</tr>
<tr>
<td>40112, Reference error</td>
<td>Alias name ( \text{arg} ) is ambiguous</td>
<td>At least one other object sharing the same name as the referred alias name is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.</td>
</tr>
<tr>
<td>40113, Name error</td>
<td>Global alias name ( \text{arg} ) ambiguous</td>
<td>Global type must have names that are unique among all the global types, data, global routines and modules in the entire program. Rename the alias or change the conflicting name.</td>
</tr>
<tr>
<td>40114, Type definition error</td>
<td>Type reference of alias name ( \text{arg} ) is an alias type</td>
<td>Check that the type of the component is correctly defined. If so, it could be a circular definition. The type of a component could not refer to its own record type.</td>
</tr>
</tbody>
</table>
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**40115, Type definition error**

**Description**
Cannot determine type of alias \(arg\) (circular type definitions?)

**Recommended actions**
Check that the type of the alias is correctly defined. If so, it could be a circular definition, the type of an alias could not refer to a record that use this alias as a component.

**40116, Reference error**

**Description**
Record component name \(arg\) is ambiguous

**Recommended actions**
At least one other object sharing the same name as the referred component is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

**40117, Type definition error**

**Description**
Place holder for record component not allowed in definition of named record

**Recommended actions**
Complete the definition or change the data name to a place holder.

**40119, Reference error**

**Description**
Cannot use the semi-value type \(arg\) for record components

**Recommended actions**
Install the referring ReaL object/archive or RAPID module in each task (not shared).

**40121, Reference error**

**Description**
Cannot use semi-value type for arrays

**Recommended actions**

**40122, Reference error**

**Description**
\(arg\) not procedure reference

**Recommended actions**
The specified name identifies an object other than a procedure. Check if the desired procedure is hidden by some other object with the same name.

**40123, Argument error**

**Description**
Argument for 'PERS' parameter \(arg\) is not a persistent reference or is read only

**Recommended actions**
Make sure the argument is just a persistent or persistent parameter reference and that it is writable.
Do not use () around the argument.

**40124, Argument error**

**Description**
Argument for 'VAR' parameter \(arg\) is not variable reference or is read only

**Recommended actions**
Make sure the argument is just a variable or variable parameter reference and that it is writable.
Do not use () around the argument.

**40125, Instruction error**

**Description**
The Interrupt number is not static variable reference, or it is shared, or it is read only

**Recommended actions**
Make sure the interrupt number is just a variable or variable parameter reference. The variable must be static and not shared. The variable may not be read only.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Recommended Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>40126</td>
<td><strong>Value error</strong></td>
<td>The value of the expression must be an integer value. The current value is outside the integer range.</td>
</tr>
<tr>
<td>40127</td>
<td><strong>Value error</strong></td>
<td>The value of the expression must be an exact integer value. The current value has a fraction part.</td>
</tr>
<tr>
<td>40128</td>
<td><strong>Reference error</strong></td>
<td>No data (or other object) with the specified name is visible from this program position.</td>
</tr>
<tr>
<td>40129</td>
<td><strong>Reference error</strong></td>
<td>No function (or other object) with the specified name is visible from this program position.</td>
</tr>
<tr>
<td>40130</td>
<td><strong>Reference error</strong></td>
<td>No procedure (or other object) with the specified name is visible from this program position.</td>
</tr>
<tr>
<td>40131</td>
<td><strong>Reference error</strong></td>
<td>No trap (or other object) with the specified name is visible from this program position.</td>
</tr>
<tr>
<td>40132</td>
<td><strong>Reference error</strong></td>
<td>No data (or other object) with the specified name is visible from this program position.</td>
</tr>
<tr>
<td>40133</td>
<td><strong>Reference error</strong></td>
<td>No function (or other object) with the specified name is visible from this program position.</td>
</tr>
<tr>
<td>40134</td>
<td><strong>Reference error</strong></td>
<td>No procedure (or other object) with the specified name is visible from this program position.</td>
</tr>
<tr>
<td>40135</td>
<td><strong>Syntax error</strong></td>
<td>Make the value smaller.</td>
</tr>
<tr>
<td>40136</td>
<td><strong>Syntax error</strong></td>
<td>Make the string shorter.</td>
</tr>
<tr>
<td>40137</td>
<td><strong>Syntax error</strong></td>
<td>Make the value smaller.</td>
</tr>
<tr>
<td>40138</td>
<td><strong>Syntax error</strong></td>
<td>Make the string shorter.</td>
</tr>
<tr>
<td>40139</td>
<td><strong>Syntax error</strong></td>
<td>Make the value smaller.</td>
</tr>
<tr>
<td>40140</td>
<td><strong>Numerical value for symbol arg is out of range.</strong></td>
<td>Make the value smaller.</td>
</tr>
<tr>
<td>40141</td>
<td><strong>String too long</strong></td>
<td>Make the value smaller.</td>
</tr>
<tr>
<td>40142</td>
<td><strong>TxId is out of range</strong></td>
<td>Make the value smaller.</td>
</tr>
<tr>
<td>Recommended actions</td>
<td>Recommended actions</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td><strong>40143, Aggregate is out of range</strong>&lt;br&gt;Description: The aggregate arg is out of range.&lt;br&gt;Recommended actions: Make the aggregate smaller</td>
<td>Rename the placeholder with a shorter name.</td>
<td></td>
</tr>
<tr>
<td><strong>40150, Unexpected unknown token</strong>&lt;br&gt;Description: Unexpected unknown token.&lt;br&gt;Recommended actions: Remove the unknown token.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>40144, Integer out of range</strong>&lt;br&gt;Description: The integer arg is out of range.&lt;br&gt;Recommended actions: Make the integer smaller.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>40151, Initial value of PERS not updated.</strong>&lt;br&gt;Description: The initial value of PERS: arg will not be updated. A PERS with the same name in another task has already an initial value of the PERS.&lt;br&gt;Recommended actions: Reduce program complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>40145, Parser stack is full</strong>&lt;br&gt;Description: The parser stack is full.&lt;br&gt;Recommended actions: Reduce program complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>40152, Data declaration error</strong>&lt;br&gt;Description: TASK illegal in routine variable declaration&lt;br&gt;Recommended actions: Only program data declarations may have the TASK attribute. Remove the TASK attribute or move the declaration outside of the routine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>40146, Not enough heap space.</strong>&lt;br&gt;Description: There is not enough heap space to fulfill the action.&lt;br&gt;Recommended actions: Rewrite your program</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>40155, Argument error</strong>&lt;br&gt;Description: Task arg: Argument for 'PERS' parameter arg is not persistent reference or is read only&lt;br&gt;Recommended actions: Make sure the argument is just a persistent or persistent parameter reference and that it is writable. Do not use () around the argument.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>40156, Argument error</strong>&lt;br&gt;Description: Task arg: Argument for 'VAR' parameter arg is not variable reference or is read only&lt;br&gt;Recommended actions: Make sure the argument is just a variable or variable parameter reference and that it is writable.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Do not use () around the argument.

40157, Instruction error

Description
Task arg: Interrupt number is not a static variable reference, is shared, or is read only.

Recommended actions
Make sure the interrupt number is just a variable or variable parameter reference. The variable must be static and not shared. The variable may not be read only.

40158, Value error

Description
Task arg: Integer value arg too large

Recommended actions
The value of the expression must be an integer value. The current value is outside the integer range.

40159, Value error

Description
Task arg: arg not integer value

Recommended actions
The value of the expression must be an exact integer value. The current value has a fraction part.

40160, Errors in RAPID program.

Description
Task arg: There are errors in the RAPID program.

Recommended actions
Check for RAPID errors using Check program in the Program editor and correct the program.

40161, Option is missing.

Description
The instruction arg requires the option arg.

Consequences
The program will not execute properly.

40162, Errors in RAPID program.

Description
Task arg: There are errors in the RAPID program.

Recommended actions
Take the following actions to be able to debug the program:
1 Change the type of the task to NORMAL.
2 Restart the controller.
3 Check for RAPID errors and correct the program.

40165, Reference error

Description
Task arg: Reference to unknown entire data arg

Recommended actions
No data (or other object) with the specified name is visible from this program position.

40166, Reference error

Description
Task arg: Reference to unknown function arg

Recommended actions
No function (or other object) with the specified name is visible from this program position.

40168, Reference error

Description
Task arg: Reference to unknown procedure arg

Recommended actions
No procedure (or other object) with the specified name is visible from this program position.
To avoid run time errors like this, add code in error handler to handle this.
ERRNO will be set to "ERR_REFUNKPRC".

40170, Reference error

Description
Task arg: Reference to unknown trap arg
Recommended actions
No trap (or other object) with the specified name is visible from this program position.

40171, Reference error
Description
Task arg:
Reference to unknown data (or other object) found during execution of module arg.
Recommended actions
Check the program for unresolved references.

40172, Reference error
Description
Task arg:
Reference to unknown module arg.
Recommended actions
No module (or other object) with the specified name is visible from this program position. Check the program for incorrect module reference or if the module is missing.

40173, Reference error
Description
Task arg:
Reference to object arg that is not a module.
Recommended actions
The specified name identifies an object other than a module. Check the program for incorrect module reference.

40174, Reference error
Description
Task arg:
Reference to module arg is ambiguous.
Recommended actions
At least one other object sharing the same name as the referred module is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

40175, Reference error
Description
Task arg:
Reference to procedure arg is ambiguous.
Recommended actions
At least one other object sharing the same name as the referred procedure is visible from this program position. Make sure that all object names fulfill the naming rules regarding uniqueness.

40191, Instruction error
Description
Task arg: Variable and trap routine already connected
Recommended actions
It is not legal to connect a specific variable with a trap routine more than once.

40192, Argument error
Description
Task arg: arg is second present conditional argument for excluding parameters
Recommended actions
Arguments may not be present for more than one parameter from a list of parameters that exclude each other.

40193, Execution error
Description
Task arg: Late binding procedure call error arg
Recommended actions
There is an error in the procedure call instruction. See previous message for the actual cause.

40194, Value error
Description
Task arg: Division by zero
Recommended actions
Cannot divide by 0. Rewrite the program so that the divide operation is not executed when the divisor is 0.

40195, Limit error
Description
Task arg:
The configured maximum number of RETRYs (arg retries)
is exceeded.

**Recommended actions**
The error correction performed before the RETRY instruction is executed, is probably not enough to cure the error. Check the error handler.

**40196, Instruction error**

**Description**
Task arg: Attempt to execute place holder

**Recommended actions**
Remove the place holder or the instruction containing it, or make the instruction complete. Then continue execution.

**40197, Execution error**

**Description**
Task arg: Function does not return any value

**Recommended actions**
The end of the function has been reached without a RETURN instruction being executed. Add a RETURN instruction specifying a function return value.

**40198, Value error**

**Description**
Task arg: Illegal orientation value arg

**Recommended actions**
Attempt to use illegal orientation (quaternion) value

**40199, Value error**

**Description**
Task arg: Illegal error number arg in arg

**Recommended actions**
Use error numbers in the range 1-90 or book error numbers with the instruction BookErrNo.

**40200, Limit error**

**Description**
Task arg: No more interrupt number available

**Recommended actions**
There is a limited number of interrupt numbers available. Rewrite the program to use fewer interrupt numbers. This message may also occur as a consequence of a system error.

**40202, Type error**

**Description**
Task arg: Dimensions arg and arg of conformant array dimension number arg are incompatible

**Recommended actions**
The array is not of the expected size. Array assignment may only be performed on arrays of identical size.

**40203, Reference error**

**Description**
Task arg: Optional parameter arg not present

**Recommended actions**
The value of a non-present optional parameter may not be referred. Use the predefined function 'Present' to check the presence of the parameter before using its value.

**40204, Value error**

**Description**
Task arg: Array index arg for dimension number arg out of bounds (1-arg)

**Recommended actions**
The array index value is non-positive or violates the declared size of the array.

**40205, Value error**

**Description**
Task arg: Rapid String arg too long
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Recommended actions
String value exceeds the maximum allowed length. Rewrite the program to use strings of less length.

40206, Interrupt queue full
Description
Execution of all normal tasks has stopped. Too many interrupts has occurred in arg while executing a trap routine.

Consequences
The system goes to blocked state and can not be restarted before moving the program pointer to an arbitrary position.

Probable causes
Too many interrupts has occurred while executing a trap routine. This can be caused by heavy CPU load.

Recommended actions
1) Minimize execution time in the trap routine.
2) Disable/enable interrupts while executing a trap routine using the Isleep or Iwatch commands.

40207, Value error
Description
Task arg: Illegal error number arg in arg

Recommended actions
Error numbers used in an ERROR handler must be positive.

40208, Error event queue full
Description
Task arg: The program was already executing an error event when a new event occurred.

Recommended actions
Attend the cause of the error event and restart the program.

40209, Error context already consumed
Description
An error event in task arg has occurred. The context of the RAPID instruction that has generated this event is however already consumed. No error handling is therefore possible to execute.

Recommended actions
Attend the cause of the error event and restart the program.

40210, Interrupt removed from queue
Description
All interrupts have been deleted from the interrupt queue in task arg.

Consequences
No trap routines, connected with the interrupt, may be executed.

40211, Execution error
Description
Task arg: Execution aborted

Recommended actions
Execution was aborted due to a fatal error.

40221, Execution error
Description
Task arg: Execution aborted

Probable causes
- The program has been stopped
- A service routine or an event routine may be executing.
- The program is executing in step mode.

Recommended actions
-

40222, Limit error
Description
Task arg: Execution stack overflow

Recommended actions
The program is too complex to execute. Probably the program contains recursive routines.

40223, Execution error
Description
The execution of task arg has been stopped by a runtime error.

Consequences
The program execution is immediately halted.

Probable causes
The program error is considered UNRECOVERABLE so no error recovery attempt by an error handler routine (if used) was allowed. The actual cause of the error may vary, and is likely to be specified in an event log message logged simultaneously as this one.

Recommended actions
1) Check other event log messages logged simultaneously to determine the actual cause.

40224, Execution error
Description
Task arg: Illegal return code arg from ReaL routine

This is always caused by an internal error in the ReaL routine.
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Recommended actions

40225, Execution error

Description
Task arg: Execution could not be restarted
Execution of the program could not be continued after power failure.

Recommended actions
Restart the program.

40226, Name error

Description
Task arg: Procedure name arg is not a RAPID identifier excluding reserved words

Recommended actions
The procedure name must be a legal RAPID identifier not equal to any of the reserved words of the RAPID language. Change the name expression.

40227, Limit error

Description
Task arg: Runtime stack overflow
The program is too complex to execute. Probably the program contains recursive routines.

Recommended actions

40228, Execution error

Description
The execution of task arg has been stopped by a runtime error arg.

Consequences
The program execution is immediately halted.

Probable causes
The program error is considered RECOVERABLE but the error was not recovered. The actual cause of the error may vary, and is likely to be specified in an event log message logged simultaneously as this one.

Recommended actions
1) Check other event log messages logged simultaneously to determine the actual cause.

40229, Execution error

Description
Task arg: Unhandled error

Recommended actions
An error occurred in called instruction but was not handled by any ERROR clause in the program.
Check the previous error or warning in the common log for the cause.

40230, Execution error

Description
Task arg: Unhandled non-fatal runtime error

Recommended actions
A non-fatal runtime error has occurred but was not handled by any ERROR clause.

40241, Value error

Description
Task arg: Array dimension number arg out of range (1-arg)

Recommended actions
The value of the 'DimNo' parameter of the 'Dim' function must be an integer value in the specified range.

40242, Type error

Description
Task arg: Data is not an array

Recommended actions
The 'DatObj' parameter of the 'Dim' function must be an array.

40243, Value error

Description
Task arg: Unknown interrupt number

Recommended actions
Check that the specified interrupt variable has been initialized by CONNECT, and that the interrupt has been defined using the ISignalDI or other interrupt definition instruction.
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40244, Value error
Description
Task arg: Object arg is of non-value type
Recommended actions
Use expression or data object of value or semivalue type.

40245, Parameter error
Description
Parameters in arg and arg is not matching (late binding)
Recommended actions
Make sure that all procedures that are called from the same late binding node have matching parameters. I.e. they should be matching concerning base type, mode and required/optional parameters.

40246, Cannot Deactivate Safe Interrupt
Description
Task: arg
It is not possible to deactivate a Safe Interrupt with the instruction ISleep.
Program ref. arg
Recommended actions
Recovery: arg

40251, Name error
Description
Task arg: Ambiguous symbol name arg
Recommended actions
Installed objects must have names that are unique. Rename the object or change the conflicting name.

40252, Limit error
Description
Task arg: Error arg when creating sdb entry for arg
Recommended actions
An error occurred when the persistent was to be inserted into the shared database. Probably the database is full.

40253, Type definition error
Description
Task arg: Alias arg of alias arg not allowed
Recommended actions
It is not possible to define an alias type equal to another alias type. Instead, define two alias types equal to the same atomic or record type.

40254, Symbol definition error
Description
Task arg: 'ANYTYPE#' parameter arg cannot be dimensioned
Recommended actions
Remove the dimension specification. 'ANYTYPE#' includes array types.

40255, Symbol definition error
Description
Task arg: 'ANYTYPE#' only allowed for parameter (not for arg)
Recommended actions
Use another type.

40256, Parameter error
Description
Task arg: 'alt' must not be set for first optional parameter arg in alternatives list
Recommended actions
Make sure that only the second and following in each list of excluding optional parameters are marked as alternatives.

40257, Parameter error
Description
Task arg: REF mode parameter arg cannot be dimensioned
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**Recommended actions**
Remove the array dimension specification, or change the mode of the parameter.

**40258, Parameter error**

**Description**
Task arg: 'switch'
parameter arg can not be dimensioned

**Recommended actions**
Remove the array dimension specification, or change the data type of the parameter.

**40259, Parameter error**

**Description**
Task arg: 'switch'
parameter arg must have transfer mode IN (specified value arg)

**Recommended actions**
Remove the parameter transfer mode specifier. If IN transfer mode is not sufficient, change the data type of the parameter.

**40260, Symbol definition error**

**Description**
Task arg: 'switch' only allowed for optional parameter (not for arg)

**Recommended actions**
Change the parameter into an optional parameter, or change the data type of the parameter. If the object is not a parameter, change the data type.

**40261, Type definition error**

**Description**
Task arg: Value type class for arg must be one of REAL_SYMVAL,TYPE,SEMIVAL, NONVAL or _NONE (specified value arg)

**Recommended actions**
Change the value type class.

**40262, Data declaration error**

**Description**
Task arg: Too many array dimensions for arg (specified value arg)

**Recommended actions**
An array may have at most 3 dimensions.

**40263, Name error**

**Description**
Task arg: Symbol name arg is not a RAPID identifier excluding reserved words

**Recommended actions**
The names of installed objects, including parameters and components, must be legal RAPID identifiers not equal to any of the reserved words of the RAPID language. Change the name.

**40264, Symbol definition error**

**Description**
Task arg: Missing C function for arg

**Recommended actions**
A C-function that executes the Real function being defined, must be specified.

**40265, Symbol definition error**

**Description**
Task arg: Missing value initialization function for arg

**Recommended actions**
A value initialization function must be specified.

**40266, Reference error**

**Description**
Task arg: arg is not a data type name (object arg)
The specified name identifies an object
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other than a type.

**Recommended actions**

---

**40267, Reference error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40268, Symbol definition error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40269, Symbol definition error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40270, Type definition error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40271, Type definition error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40272, Type error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40273, Reference error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40274, Parameter error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---

**40275, Symbol definition error**

**Description**

Task `arg: arg`

is not a value data type (object `arg`)

Only record components, alias types, variables and 'VAR' mode parameters may be of semi-value or non-value type.

**Recommended actions**

---
Recommended actions

40277, Undo Aborted

Description
Task arg
The program execution was stopped while processing the UNDO statements.
UNDO was not fully executed.
The routine arg was executing when UNDO was stopped.

Recommended actions
If the processing of UNDO takes too long, try to remove time-consuming instructions such as TPWrite from the UNDO-clause.
If the undo processing never seems to finish, make sure any loops in the undo-statements are correct.

40278, Undo Aborted

Description
Task arg
The processing of UNDO was aborted due to an EXIT-statement in the routine arg.
UNDO was not fully executed.

Recommended actions

40279, Undo Aborted

Description
Task arg
The processing of UNDO was aborted due to a run-time error in routine arg.
UNDO was not fully executed.

Recommended actions
Investigate the cause of the error.

40280, Undo Aborted

Description
Task arg
The instructions BREAK, RAISE, RETURN and STOP are not allowed to use in an undo-clause or any routine that is called from an undo-clause.
The instruction arg was found in UNDO context when executing the routine arg.

Recommended actions
Avoid executing the instruction when in undo-context.

40281, Undo Aborted

Description
Task arg
The program execution of UNDO statements was aborted due to edit operation.

40301, File access error

Description
Task arg is trying to access file arg, but failing.

Consequences
No data in the file may be accessed.

Probable causes
File may be write protected.

Recommended actions
1) Check if the file is write protected, and in such case change the setting.

40302, File access error

Description
Task arg is trying to access file arg, but does not find file or directory.

Consequences
If the missing file is a module, no automatic loading to a task is possible.

Probable causes
- File may not have been correctly copied to the target directory.
- File or directory may have incorrect name.

Recommended actions
1) Make sure the file and directory names are correct.

40303, File access error

Description
Task arg is trying to access file arg, but failing.

Consequences
No data in the file may be accessed.

Probable causes
No storage space available on device.

Recommended actions
1) Make sure there is enough storage space available.

40304, File access error

Description
Task arg is trying to access file arg, but failing.
Consequences
No data in the file may be accessed.

Probable causes
- File may be write protected.
- File or directory may have incorrect name.
- No storage space available on device.

Recommended actions
1) Check if the file is write protected, and in such case change the setting.
2) Make sure the file and directory names are correct.
3) Make sure there is enough storage space available.

40322, Load error
Description
Task arg: RAPID syntax error(s) in file arg

Recommended actions
The source file to be loaded contains RAPID syntax errors. Correct the source file.

40323, Load error
Description
Task arg: Syntax error(s) in header in file arg

Recommended actions
The source file to be loaded contains syntax error in the file header. Correct the source file. The syntax errors are logged in a separate file.

40324, Load error
Description
Task arg: Keywords not defined in specified language (file arg)

Recommended actions
Cannot load RAPID source code in the national language specified in the file header.

40325, Load error
Description
Task: Program memory is full.
arg

Recommended actions
The module arg could not be loaded because the program memory is full.
Recovery: arg

40326, Load error
Description
Task arg : Parser stack full (file arg)

Recommended actions
The program is too complex to load.

40327, Load error
Description
Task arg: Not current RAPID version (file arg)

Recommended actions
Cannot load RAPID source code of the version specified in the file header.

40328, Load error
Description
Task: Program memory is full.
arg

Recommended actions
The module arg could not be loaded because the program memory is full.
Recovery: arg

40329, Module installation failure
Description
Task: arg It is not possible to install a module from file arg.

Consequences
The module will not be installed.

Probable causes
The RAPID module may have RAPID errors.

Recommended actions
1) Check the event messages in the Elog domain RAPID
2) Correct the RAPID errors and make a P-start.
### 40330, Rapid errors in installed module

**Description**
Task: arg. Module (line/column): arg
There is an error with symbol: arg.

**Consequences**
The module will not be installed.

**Recommended actions**
Check the mechanical unit component of the workobject.

### 40331, Type error

**Description**
Operand types arg and arg for the '/', 'DIV' or 'MOD' operator not equal

**Recommended actions**
The two operands of the '/', 'DIV' or 'MOD' operators must have equal type. Check the operand types.

### 40332, Type error

**Description**
Operand types arg and arg for the '<', '<=', '>' or '>=', operator not equal

**Recommended actions**
The two operands of the '<', '<=', '>' or '>=', operators must have equal type. Check the operand types.

### 40351, Memory allocation error

**Description**
Task arg: Failed to allocate hash table, use linear list

**Recommended actions**

### 40352, Memory allocation error

**Description**
Task arg: Failed to update persistent expression, keep old one

**Recommended actions**

### 40353, Mechanical Unit arg Missing!

**Description**
The mechanical unit component of the workobject arg is faulty.

**Probable causes**
- No mechanical unit is defined.
- The mechanical unit defined can not be found.
- The robot can not move the workobject by itself.

**Recommended actions**
Check the mechanical unit component of the workobject.

### 40354, A copy of a dynamic loaded module has been saved.

**Description**
Task: arg
A dynamic loaded module arg has been changed.
The module is lost when PP is set to main.
A copy of the changed module is saved on arg

**Probable causes**
- A dynamic loaded module has been changed.
- PP is set to main.
- The dynamic loaded module is removed.
- A copy of the changed module is saved.

**Recommended actions**
If the changes shall be saved, replace the original file with the copy.

### 40355, A Stop/QStop event routine has been stopped.

**Description**
Task: arg
A event routine has been stopped by an external stop command.
Any running Stop/QStop event routines will be stopped after arg ms when controller receives second stop command.

**Recommended actions**
Keep all event routines short and free from RAPID instructions of type WaitTime, WaitDI, etc.

### 40357, Missing Error Handler

**Description**
There is no error handler that deals with the process error for task arg.

**Consequences**
The program will not be able to execute past the next move instruction.

**Probable causes**
The error handler is missing.

**Recommended actions**
Add an error handler. The error handler should include the StartMove (StartMoveRetry) instruction.

### 40358, RMQ message discarded

**Description**
A RMQ message was discarded in task arg. arg received a RMQ message that couldn't be handled.
Consequences
The RMQ message was discarded without any notification to the sender.

Probable causes
There can be several different reasons.
1. No interrupt is connected to the type of the received message.
2. No interrupt could be created because the interrupt queue was full.
3. The received message was corrupt.

Recommended actions
Make sure that the task has connected an interrupt to all types of messages that is possible to receive. Read about IRMQMessage in the RAPID reference manual.

40502, Digital Input Break

Description
Task: arg
A digital input interrupted the execution.
Program Ref. arg

Recommended actions
Recovery: arg

40504, Parameter error

Description
Task: arg
arg
arg

Recommended actions
Recovery: arg

40506, System Access Error

Description
Task: arg
arg
arg

Recommended actions
Recovery: arg

40507, Limit Error

Description
Task: arg
Can not step further back on path arg.
Program Ref. arg

Recommended actions
Recovery: arg

40508, Orientation Value Error

Description
Task: arg
Wrong orientation value in arg.
Program Ref. arg

Recommended actions
All used orientations must be normalized, i.e. the sum of the quaternion elements squares must equal 1.

40511, Parameter Error

Description
Task: arg
The parameter arg in arg is specified with a negative value.
Program Ref. arg

Recommended actions
The parameter must be set to a positive value.

40512, Missing External Axis Value

Description
Some active external axis have incorrect or no order value.

Recommended actions
Reprogram the position.

40513, Mechanical Unit Error

Description
Task: arg
Not possible to activate or deactivate mechanical unit. Previous message may contain more information.
Program Ref. arg

40514, Execution Error

Description
Task: arg
The robot is too far from path to perform StartMove of the interrupted movement.
Program Ref. arg

Recommended actions
Position the robot to the interrupted position in the program
Recovery: arg

40515, Type Error

Description
Task: arg
Illegal data type of argument for parameter arg.
Recommended actions
Change the parameter to a legal type. Make sure the value type is value or semivalue.

40518, Type Error
Description
Task: arg
Expected type differs from read type in arg.
Program Ref. arg

Recommended actions
Check the type in the argument.

40519, End Of File
Description
Task: arg
End of file was found before all bytes were read in arg.
Program Ref. arg

Recommended actions
Recovery: arg

40522, Limit Error
Description
Task: arg
Stop watch overflow.
Program Ref. arg

Recommended actions
Recovery: arg

40523, Mechanical Unit Conflict
Description
Not possible to deactivate mechanical unit arg due to the configuration.

Recommended actions
Check the configuration.

40524, Conveyor Access Error
Description
Task: arg
The conveyor is not activated.
Program Ref. arg

Recommended actions
Recovery: arg

40525, Conveyor Access Error
Description
Task: arg
No single number defined.
Program Ref. arg

40526, Conveyor Access Error
Description
Task: arg
The mechanical unit arg is not a single.
Program Ref. arg

40527, File Access Error
Description
Task: arg
Unable to open arg.
Program Ref. arg

Probable causes
- The I/O device reference is already in use.

Recommended actions
- If the I/O device reference is already in use, close it or use another.
Recovery: arg

40528, File Access Error
Description
Task: arg
File or serial channel is not open.
ProgramRef. arg

Probable causes
- The I/O device reference is not open, or has already been closed

Recommended actions
- Check that device is open
Recovery: arg

40529, File Access Error
Description
Task: arg
Could not access the file arg.
Program Ref. arg

Probable causes
- The path or filename is wrong.
- The I/O device reference is already in use.
- The maximum number of simultaneously opened files is exceeded.
- The disk is full.
Recommended actions
- Check the path or filename.
- If the I/O device reference is already in use, close it or use another.
- Check the disk space.
Recovery: arg

40530, Parameter Error
Description
Task: arg
The number of characters, parameter arg in WriteBin, you want to write to the serial channel is greater than the size of the array containing the characters to be written.
Program Ref. arg
Recommended actions
Make the array bigger or decrease the parameter.

40531, Parameter Error
Description
Task: arg
The array arg in WriteBin is smaller than 0 or greater than 255.
Program Ref. arg
Recommended actions
Change the size of the array to be 0 - 255.

40534, Timeout
Description
Task: arg
A timeout interrupted the execution.
Program Ref. arg
Recommended actions
Recovery: arg

40535, Type Error
Description
Task: arg
The data you was trying to read in the file was not a numeric type.
Program Ref. arg
Recommended actions
Recovery: arg

40536, System Access Error
Description
Task: arg
Too many pending read requests.
Program Ref. arg

40537, File Access Error
Description
Task: arg
The serial channel is not open, or you are trying to use the instruction on a file.
Program Ref. arg
Recommended actions
- Open the serial channel.
- Check that the instruction is used on a serial channel.
Recovery: arg

40538, Max Time Expired
Description
Task: arg
The programmed waiting time has expired.
Program Ref. arg
Recommended actions
Recovery: arg

40539, System Access Error
Description
Task: arg
Not allowed option in this task.
Program Ref. arg

40540, File Access Error
Description
Task: arg
arg is not a directory.
Program Ref. arg
Recommended actions
Check that the path is the correct path to the directory you want to open.
Recovery: arg

40541, File Access Error
Description
Task: arg
Directory arg is not accessible.
Program Ref. arg
Recommended actions
Check the directory you are trying to open.
Recovery: arg
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40542, File Access Error

Description
Task: arg
Could not access the file system arg.
Program Ref. arg

Recommended actions
- Check the path and filename.

Recovery: arg

40543, File Access Error

Description
Task: arg
You can not open arg.
Program Ref. arg

Probable causes
There are too many directories already open.

Recommended actions
Close one of the already open directories.

Recovery: arg

40544, File Access Error

Description
Task: arg
Could not create the directory arg.
Program Ref. arg

Recommended actions
- Check the path.
- Check write and execute permission for the directory under which the new directory should be created.

Recovery: arg

40545, File Access Error

Description
Task: arg
Could not remove the directory arg.
Program Ref. arg

Recommended actions
- Check the path.
- Check write and execute permission for the directory under which the directory you want to remove is located.

Recovery: arg

40546, File Access Error

Description
Task: arg
Could not remove the file arg.
Program Ref. arg

Recommended actions
- Check the path.
- Check if you have write permission for the file.
- Check write and execute permission for the directory under which the file you want to remove is located.

Recovery: arg

40547, File Access Error

Description
Task: arg
Could not rename the file arg.
Program Ref. arg

Recommended actions
- Check the path.
- Check write permission for the file you want to rename.
- Check write and execute permission for the directory under which the file you want to remove is located.

Recovery: arg

40548, File Access Error

Description
Task: arg
Could not copy the file arg.
Program Ref. arg

Recommended actions
- Check the path.
- Check write permission for the directory that you want to copy the file to.
- Check the available space.

Recovery: arg

40549, System Access Error

Description
Task: arg
Unknown mechanical unit arg.
The data of type mecunit is unknown for the system.
Program Ref. arg

Probable causes
Data of type mecunit has been declared in the program.

Recommended actions
Remove the declaration of mecunit data in the program and use one of the predefined data of type mecunit (automatic defined by the system).
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### 40555, I/O Error

**Description**
Task: `arg`
Unable to read I/O signal.
Program Ref. `arg`

**Recommended actions**
Check the name of the module.

### 40556, I/O Error

**Description**
Task: `arg`
Unable to write I/O signal.
Program Ref. `arg`

### 40557, I/O Error

**Description**
Task: `arg`
Configuration error for I/O signal.
Program Ref. `arg`

**Recommended actions**
Check the I/O signal configuration or alias definition.

### 40558, I/O Error

**Description**
Task: `arg`
Unable to read the I/O signal `arg` in unit `arg`.
Program Ref. `arg`

### 40559, I/O Error

**Description**
Task: `arg`
Unable to write to the I/O signal `arg` in unit `arg`.
Program Ref. `arg`

### 40560, System Access Error

**Description**
Task: `arg`
Can't save program module `arg`.
Program Ref. `arg`

### 40561, System Access Error

**Description**
Task: `arg`
`arg` is not a module name.
Program Ref. `arg`

**Consequences**
You cannot unload, save or erase this module.

### 40562, Parameter Error

**Description**
Task: `arg`
Unknown axis number for the mechanical unit `arg`.
Program Ref. `arg`

**Recommended actions**
Check the value for argument AxisNo.
Recovery: `arg`

### 40563, System Access Error

**Description**
Task: `arg`
Mechanical unit `arg` is not active.
Program Ref. `arg`

**Recommended actions**
Activate the mechanical unit.
Recovery: `arg`

### 40564, Argument Error

**Description**
Task: `arg`
Orientation definition error.
GripLoads attach frame in tool or work object (user + object) is unnormalized.
Program Ref. `arg`

**Recommended actions**
Check the orientation. All used orientations must be normalized i.e. the sum of the quaternion elements squares must equal 1.

### 40565, Parameter Error

**Description**
Task: `arg`
Both arguments must be > 0.
Program Ref. `arg`

**Recommended actions**
Check the value of the arguments.

### 40566, Parameter Error

**Description**
Task: `arg`
Both arguments must be > 0 and <= 100.
Program Ref. `arg`
Recommended actions
Check the value of the arguments.

40567, Parameter Error
Description
Task: arg
Quaternion error.
Program Ref. arg

Recommended actions
Check the aom component of loaddata.

40568, Parameter Error
Description
Task: arg
Axis may not have a value less than 0.
Program Ref. arg

Recommended actions
Change to a positive value.

40569, Argument Error
Description
Task: arg
The argument AccMax must be set if the argument AccLim is set to TRUE.
Program Ref. arg

Recommended actions
Set a value to argument AccMax.

40570, Argument Error
Description
Task: arg
The argument DecelMax must be set if argument DecelLim is set to TRUE.
Program Ref. arg

Recommended actions
Set a value to argument DecelMax.

40571, Argument Error
Description
Task: arg
The value of parameter AccMax is too low.
Program Ref. arg

Recommended actions
Increase the value of parameter AccMax.
Recovery: arg

40572, Argument Error
Description
Task: arg
The value of parameter DecelMax is too low.
Program Ref. arg

Recommended actions
Increase the value of parameter DecelMax.
Recovery: arg

40573, Argument Error
Description
Task: arg
The value of argument On is too low.
Program Ref. arg

Recommended actions
Increase the value of argument On.
Recovery: arg

40574, Search Warning
Description
Task: arg
Number of hits during search was arg.
Before performing next search, make sure that TCP is moved back to the start position of the search path.
Program Ref. arg

Consequences
If no repositioning is done, before restart of circular search, movement that can cause damage might occur.

Recommended actions
Recovery: arg

40576, ParId Error
Description
Task: arg
The array size of argument AxValid is not equal to number of axes.
Program Ref. arg

Recommended actions
Check the size of the array.

40577, ParId Error
Description
Task: arg
This parameter identification can not be done in this robot type.
Program Ref. arg
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Faulty StartIndex.
Program Ref. arg

**Recommended actions**
Check the StartIndex.

**40589, ParId Error**

**Description**
Task: arg
ParIdMove / Parameter StartIndex:
Point at negative movetype.
Program Ref. arg

**Recommended actions**

**40590, ParId error**

**Description**
arg
arg

**Recommended actions**
arg

**40591, Argument Error**

**Description**
Task: arg
Unknown type of parameter identification.
Program Ref. arg

**Recommended actions**
Check the argument ParIdType.

**40592, Program Stop During Load Identification**

**Description**
Task: arg
No type of program stop is allowed during load identification.
Program Ref. arg

**Recommended actions**
Start the identification procedure from the beginning again.
Recovery: arg

**40593, Power Fail During Load Identification**

**Description**
Task: arg
A Power Fail during load identification results in faulty load result.
Program Ref. arg

**Recommended actions**
Restart the program execution again with the same run mode (without PP move) for load identification from the beginning.
Recovery: arg

**40594, User Error During Load Identification**

**Description**
Task: arg
Error resulting in raise of PP to the beginning of the parameter identification procedure.
Program Ref. arg

**Recommended actions**
Start the identification procedure from the beginning again.
Recovery: arg

**40595, Argument Error**

**Description**
Task: arg
Unknown type of load identification.
Program Ref. arg

**Recommended actions**
Check the argument LoadIdType.

**40596, Program Stop During Load Identification**

**Description**
Task: arg
Any type of program stop during load identification is not allowed.
Program Ref. arg

**Recommended actions**
Restart the program execution again for load identification from beginning.

**40597, Speed Override**

**Description**
Task: arg
Speed override is not 100 percent.
Program Ref. arg

**Recommended actions**
- Change the speed override to 100.
- Restart the program execution again for load identification from beginning.

**40598, Program Stop during Load Identification**

**Description**
No type of Program Stop is allowed during the Load Identification movements.

**Consequences**
Not possible to complete the Load Identification sequence.
Note that some axes for the actual mechanical unit are now in independent mode.
Probable causes
Interrupt of the Load Identification sequence with Program Stop or release of the Enable Device.

Recommended actions
1) Restart the program. The Load Identification service routine will then start from beginning.
2) Also possible to cancel the Service Routine to completely skip the Load Identification.

40603, Argument Error
Description
Argument arg may not have a negative value.

Recommended actions
Set argument arg to a positive value.

40607, Execution Error
Description
Task: arg
Not allowed to change run mode from forward to backward or vice versa when running a circular movement.

Recommended actions
If possible, select the original run mode and press start to continue the stopped circular movement. If this is not possible, move robot and program pointer for a new start.

40608, Argument Error
Description
Task: arg
Orientation definition error in arg.

Recommended actions
All used orientations must be normalized i.e. the sum of the quaternion elements squares must equal 1.

40609, Argument Error
Description
Task: arg
Argument \WObj specifies a mechanical unit with too long name.

Recommended actions
Use max. 16 characters to specify the name of a mechanical coordinated unit.

40611, Execution Error
Description
Task: arg
Not allowed to step backwards with this move instruction.

Recommended actions
Check tool and work object.

40612, Argument Error
Description
Task: arg
No argument programmed for the name of the output signal.

Recommended actions
Possible to set one position fix IO such as digital, group of digital or analog output signals during the robot movement.

40613, Argument Error
Description
Task: arg
Optional argument arg can only be combined with output signal argument arg.

Recommended actions
Check and change the arguments.

40614, Argument Error
Description
Task: arg
Argument arg is not 0 or 1.

Recommended actions
Digital signals can only be set or checked to 0 or 1.

40615, Argument Error
Description
Task: arg
Argument arg is not an integer value.

Recommended actions
Digital group of in/out signals, process identity or process selector can only have an integer value.
40616, Argument Error

Description
Task: arg
Argument arg is outside allowed limits.
Program Ref. arg

Recommended actions
Used group of digital in/out signals can only be set or checked within 0 to arg according to configuration in system parameters.
Recovery: arg

40617, Argument Error

Description
Task: arg
One of the arguments SetValue, SetDvalue, ScaleValue, CheckValue or CheckDvalue is outside allowed limits.
Program Ref. arg

Probable causes
The analog signal can only be set/checked within arg to arg according to the I/O system parameter configuration.

Recommended actions
Check the RAPID program or the I/O configuration.
Recovery: arg

40620, Argument Error

Description
Task: arg
Argument arg have too large negative value.
Program Ref. arg

Recommended actions
Set argument arg to arg or more.

40622, Argument Error

Description
Task: arg
The value of argument Time is too low for cyclic interrupts.
Program Ref. arg

Recommended actions
Change the value for Time to a value greater than or equal to 0.1 s.

40623, Argument Error

Description
Task: arg
The value of argument Time is too low for single interrupts.
Program Ref. arg

Recommended actions
Change the value for Time to a value greater than or equal to 0.01 s.

40624, Argument Error

Description
Task: arg
Argument arg is not between 0 and 2.
Program Ref. arg

Recommended actions
Specify the flank to generate the interrupt.
0 = Negative flank (high -> low).
1 = Positive flank (low -> high).
2 = Both negative and positive flank.

40625, Limit Error

Description
Task: arg
The robot is outside its limits.
Program Ref. arg

Probable causes
- Axis outside working area.
- Limits exceeded for at least one coupled joint.

Recommended actions
Recovery: arg

40631, Instruction Error

Description
Task: arg
Too many move instructions in sequence with concurrent RAPID program execution.
Program Ref. arg

Recommended actions
Edit the program to max. 5 MoveX`Conc in sequence on the basic execution level of the program.

40632, Instruction Error

Description
Task: arg
No move instructions with concurrent RAPID program execution are allowed within the StorePath-RestoPath part of the program.
Program Ref. arg

Recommended actions
Edit the program so it does not contain any MoveX `Conc instructions within the StorePath-RestoPath part of the program.
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---

**40634, Reference Error**

**Description**
Task: arg
The signal arg is unknown in the system.
Program Ref. arg

**Probable causes**
If the signal is defined in the RAPID program, it must be connected to the configured signal with instruction AliasIO.

**Recommended actions**
All signals (except AliasIO signals) must be defined in the system parameters and can not be defined in the RAPID program.

---

**40636, Sensor Error**

**Description**
Task: arg
No measurement from sensor.
Program Ref. arg

**Recommended actions**
Requested data is not available.
Recovery: arg

---

**40637, Sensor Error**

**Description**
Task: arg
Not ready yet.
Program Ref. arg

**Recommended actions**
Requested function is not ready yet.
Recovery: arg

---

**40638, Sensor Error**

**Description**
Task: arg
General error.
Program Ref. arg

**Recommended actions**
General error has occurred which is not specifically connected to the requested action. Read the block "Error log" if the function is available.
Recovery: arg

---

**40639, Sensor Error**

**Description**
Task: arg
Sensor busy, try later.

Program Ref. arg

**Recommended actions**
The sensor is busy with an other function.
Recovery: arg

---

**40640, Sensor Error**

**Description**
Task: arg
Unknown command.
Program Ref. arg

**Recommended actions**
The function requested from the sensor is unknown.
Recovery: arg

---

**40641, Sensor Error**

**Description**
Task: arg
Illegal variable or block number.
Program Ref. arg

**Recommended actions**
Requested variable or block is not defined in the sensor.
Recovery: arg

---

**40642, Sensor Error**

**Description**
Task: arg
External alarm.
Program Ref. arg

**Recommended actions**
Alarm from external equipment.
Recovery: arg

---

**40643, Sensor Error**

**Description**
Task: arg
Camera alarm.
Program Ref. arg

**Recommended actions**
Some error has been detected in the camera. Run Camcheck to test if the camera is OK.
Recovery: arg

---
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#### 40644, Sensor Error

**Description**

Task: `arg`
Temperature alarm.
Program Ref. `arg`

**Recommended actions**

The camera is overheated it needs more cooling air or water.
Recovery: `arg`

#### 40645, Sensor Error

**Description**

Task: `arg`
Value out of range.
Program Ref. `arg`

**Recommended actions**

The value of the data sent to the sensor is out of range.
Recovery: `arg`

#### 40646, Sensor Error

**Description**

Task: `arg`
Camera check failed.
Program Ref. `arg`

**Recommended actions**

The CAMCHECK function failed. The camera is broken. Send it for repair.
Recovery: `arg`

#### 40647, Sensor Error

**Description**

Task: `arg`
Communication time out.
Program Ref. `arg`

**Recommended actions**

Increase the time out time and check the connections to the sensor.
Recovery: `arg`

#### 40648, Search Error

**Description**

Task: `arg`
Not allowed to do StorePath while searching is active on motion base path level.
Program Ref. `arg`

**Consequences**

Program is stopped.

**Probable causes**

Executing of instruction StorePath while searching is active.

**Recommended actions**

Not possible to use StorePath in TRAP, event or service routine while searching is active on motion base path level.
If using interrupts in the program for execution of TRAPs, such interrupt must be deactivated during any search.
E.g. ISleep - SearchL - IWatch

#### 40649, Path Limitation

**Description**

Task: `arg`
`arg` is already done or executing. Instruction `arg` must first be executed, before a new `arg` can be done.
Program Ref. `arg`

**Recommended actions**

Check the RAPID program.

#### 40650, Wrong Combination Of Parameters

**Description**

Task: `arg`
Optional parameters and switches are not used in a correct combination.
Program Ref. `arg`

**Recommended actions**

- No optional parameters and no switch keep the old coordinate system.
- The switch Old has the same function.
- RefPos or RefNum has to be defined with Short, Fwd or Bwd.

#### 40651, Use Numeric Input

**Description**

Task: `arg`
Use numeric input for the position instead of a robtarget.
Program Ref. `arg`

**Recommended actions**

The position can not be defined with a robtarget for robot axes.
Use the optional parameter for numeric input of the position.

#### 40652, Axis Is Moving

**Description**

Task: `arg`
A Robot axis, an external axis or an independent axis is moving.
Program Ref. `arg`

**Recommended actions**

All Robot axes, external axes and independent axes have to stand still.

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Use MoveL with Fine argument for the Robot and external axes.
Use IndRMove for the independent axes.
Recovery: arg

40654, Axis Not Active

Description
Task: arg
The axis destination position to move to is undefined (9E9) or the axis to move is not active at present.
Program Ref. arg

Probable causes
1) The position to move to has been programmed or ModPos with not active mechanical unit
2) The mechanical unit is not active at present

Recommended actions
The mechanical unit has to be activated before programming, ModPos or execution of this instruction.
Recovery: arg

40655, Axis Is Not Independent

Description
Task: arg
The axis is not in independent mode.
Program Ref. arg

Consequences
It is only possible to get the status from an axis in independent mode.

Recommended actions
Set the axis to independent.
Recovery: arg

40658, Parameter Error

Description
Task: arg
Parameter arg can only be used, if parameter arg is greater than zero.
Program Ref. arg

Recommended actions
Parameter arg has effect only in the first TriggX instruction, in a sequence of several TriggX instructions, that controls the speed proportional AO signal.

40661, Search Error

Description
Task: arg
The signal arg for the SearchX instruction is already high at the start of searching or the I/O-unit for the signal isn't up and running for the occasion.

Before performing next search, make sure that TCP is moved back to the start position of the search path.
Program Ref. arg

Consequences
If no repositioning is done, before restart of circular search, movement that can cause damage might occur.

Recommended actions
Recovery: arg

40662, Invalid Worldzone Type

Description
Task: arg
The switch \arg must be associated with a arg worldzone.
Program Ref. arg

Recommended actions
If use of switch \Temp, the datatype must be wztemporary in WorldZone.
If use of switch \Stat, the datatype must be wzstationary in WorldZone.

40663, World Zone Not In Use

Description
Task: arg
The argument arg of the instruction arg refers to a not used worldzone.
Program Ref. arg

Recommended actions
The worldzone must have been defined and activated by a WZLimSup or WZDOSet instruction.

40664, World Zone Already In Use

Description
Task: arg
The 'arg' worldzone has already been defined and activated.
A world zone can only be defined once.
Program Ref. arg

Recommended actions
Use a worldzone with another name.

40665, Too Many World Zones

Description
Task: arg
It is not possible to add the world zone arg . The world zone table is full.
Program Ref. arg

Recommended actions
Check the RAPID program to see if any word zone might be removed.
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### 40666, Illegal World Zones

**Description**
Task: arg
Worldzone ' arg ' is defined locally in current routine.

**Program Ref.** arg

**Recommended actions**
Define the world zone as global or local in module.

### 40671, Illegal Use Of World Zone

**Description**
Task: arg
The argument ' arg ' for arg must be a temporary world zone.

**Program Ref.** arg

**Recommended actions**
Check the argument.

### 40667, Illegal World Zones

**Description**
Task: arg
WorldZone arg is not entire data reference.

**Program Ref.** arg

**Recommended actions**
Check the value of argument WorldZone.

### 40668, Shapedata Not In Use

**Description**
Task: arg
The ' arg ' argument of the instruction arg must refer to a defined shapedata.

**Program Ref.** arg

**Recommended actions**
A shapedata is used to store a volume definition. It must have been defined by WZBoxDef, WZSphDef or WZCylDef before it can be used by WZLimSup or WZDOSet.

### 40669, World Zone Too Small

**Description**
Task: arg
At least one side or radius is less than the minimal allowed in instruction arg.

**Program Ref.** arg

**Recommended actions**
Check previous volume definition instruction.

### 40672, World Zone Already In Use

**Description**
Task: arg
It is not possible to add the world zone arg. Another world zone with the same name is already defined in the system.

**Program Ref.** arg

**Recommended actions**
Check the name of the world zone.

### 40673, I/O Access Error

**Description**
Task: arg
The signal given in parameter arg is write protected for RAPID access.

**Program Ref.** arg

**Recommended actions**
Select other user signal or change the access mode for the signal.

### 40674, I/O Access Error

**Description**
Task: arg
The signal given in parameter arg is not write protected for user access from teach pendant or RAPID.

**Program Ref.** arg

**Recommended actions**
Change the access mode to system type for the signal in the I/O configuration.

### 40675, Execution Error

**Description**
Not allowed changing the run mode from forward to backward or vice versa when running an invisible trap routine.

**Recommended actions**
If possible, select the original run mode and press start to continue.

### 40676, Parameter Error

**Description**
Task: arg
The DeltaJointVal for robot axis \textit{arg} is \(<= 0 \). 

\textbf{Program Ref.: arg}

\textbf{Recommended actions}

Check the value for DeltaJointVal. The DeltaJointVal for all axes to supervise must be \(> 0 \) mm or degrees.

\textbf{40677, Parameter Error}

\textbf{Description}

Task: \textit{arg}

The DeltaJointVal for external axis \textit{arg} is \(<= 0 \).

\textbf{Program Ref.: arg}

\textbf{Recommended actions}

Check the value for DeltaJointVal. The DeltaJointVal for all axes to supervise must be \(> 0 \) mm or degrees.

\textbf{40678, Parameter Error}

\textbf{Description}

Task: \textit{arg}

LowJointVal is higher than or equal to HighJointVal for robot axis \textit{arg}.

\textbf{Program Ref.: arg}

\textbf{Recommended actions}

Check the values for HighJointVal and LowJointVal. The HighJointVal must be higher than the LowJointVal for all axes with defined high or/and low limits.

\textbf{40679, Parameter Error}

\textbf{Description}

Task: \textit{arg}

LowJointVal is higher than or equal to HighJointVal for external axis \textit{arg}.

\textbf{Program Ref.: arg}

\textbf{Recommended actions}

Check the values for HighJointVal and LowJointVal. The HighJointVal must be higher than the LowJointVal for all axes with defined high or/and low limits.

\textbf{40680, Parameter Error}

\textbf{Description}

Task: \textit{arg}

Error in used WZHomeJointDef. It is not allowed to specify supervision of not active axis \textit{arg}.

\textbf{Program Ref.: arg}

\textbf{Recommended actions}

Set the argument MiddleJointVal to 9E9 for the actual axis.

\textbf{40681, Parameter Error}

\textbf{Description}

Task: \textit{arg}

Error in used WZLimJointDef. It is not allowed to specify limitation of not active axis \textit{arg}.

\textbf{Program Ref.: arg}

\textbf{Recommended actions}

Set the argument LowJointVal and HighJointVal to 9E9 for the actual axis.

\textbf{40698, Read error}

\textbf{Description}

Task \textit{arg} is trying to read file \textit{arg}, but is failing.

\textbf{Consequences}

It was not possible to read/load \textit{arg}.

\textbf{Probable causes}

If trying to access file on FTP mounted disc, make sure that the size of \textit{arg} isn't larger then the maximum file size configured in the FTP protocol settings.

\textbf{40699, Program Memory Full}

\textbf{Description}

The task \textit{arg}, has only \textit{arg} bytes in its program memory.

\textbf{Consequences}

It was not possible to load module \textit{arg}.

\textbf{Recommended actions}

1. Remove some other module and try again.
2. Check if large data structures could be split into smaller blocks
3. Use of installed modules can save program memory.

\textbf{40700, Syntax Error}

\textbf{Description}

Task: \textit{arg}

Syntax error. \textit{arg}

\textbf{40701, Program Memory Full}

\textbf{Description}

The task \textit{arg}, has only \textit{arg} free bytes in its user space.

\textbf{Consequences}

The ordered operation could not be completed.

\textbf{Recommended actions}

1. Remove some modules and try again.
2. Check if large data structures could be split into smaller blocks
3. Use of installed modules can save program memory.

### 40702, File Not Found

**Description**

Task: `arg`
The file `arg` was not found.
Program Ref. `arg`

**Recommended actions**

- Check the file path and the file name.
- Check if the file exists.

**Recovery:** `arg`

### 40703, Unload Error

**Description**

Task: `arg`
The program module could not be unloaded.
The reason is that the module is changed but not saved.
Program Ref. `arg`

**Recommended actions**

The instruction UnLoad:
Use the optional switch ErrIfChanged, without recover from this situation, in an Error handler.

**Recovery:** `arg`

### 40704, UnLoad Error

**Description**

Task: `arg`
The program module couldn't be unloaded.
Program Ref. `arg`

**Probable causes**

- Module not loaded with Load instr.
- Not same file path as used for Load

**Recommended actions**

- Check if the program module has been loaded with the instruction Load.
- Check if the file path and name are the same in the UnLoad and Load instruction.

**Recovery:** `arg`

### 40705, Syntax Error

**Description**

Task: `arg`
Syntax error

**Recommend actions**

More syntax errors will follow this.

### 40706, Load Error

**Description**

Task: `arg`
The program module is already loaded.
Program Ref. `arg`

**Probable causes**

The module name in the head of the file `arg` already exists in the program memory.

**Recommended actions**

**Recovery:** `arg`

### 40707, I/O Unit Name Invalid

**Description**

Task: `arg`
The unit name `arg` does not exist.
Program Ref. `arg`

**Recommended actions**

- Check if the unit name is misspelled.
- Check if the unit is defined.

**Recovery:** `arg`

### 40708, I/O Unit Is Not Enabled

**Description**

Task: `arg`
I/O unit `arg` was not enabled.
Program Ref. `arg`

**Probable causes**

The maximum period of waiting time was too short.

**Recommended actions**

Increase the waiting time or make a retry.

**Recovery:** `arg`

### 40709, I/O Unit Is Not Disabled

**Description**

Task: `arg`
I/O unit `arg` was not disabled.
Program Ref. `arg`

**Probable causes**

The maximum period of waiting time was too short.

**Recommended actions**

Increase the waiting time or make a retry.

**Recovery:** `arg`
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**40710, Argument Error**

**Description**
Task: \( arg \)
The argument \( arg \) is an expression value, is not present or is of the type switch.

**Program Ref. \( arg \)**

**Recommended actions**
Change the parameter \( arg \) to a valid one.

**Recovery: \( arg \)**

**40711, Alias Type Error**

**Description**
Task: \( arg \)
The data types for the arguments FromSignal and ToSignal must be the same and must be of signalxx type.

**Program Ref. \( arg \)**

**Recommended actions**
Change the type to a valid one (signalai/ao, signaldi/do, signalgi/go).

**Recovery: \( arg \)**

**40712, Event Routine Error**

**Description**
Task: \( arg \)
Too many event routines, the routine \( arg \) will not be executed.

**Recommended actions**
Encapsulate the routine in one of the others that are specified for the same event.

**40713, Alias Define Error**

**Description**
Task: \( arg \)
The signal in argument FromSignal: \( arg \), must be defined in the IO configuration and the signal in argument ToSignal: \( arg \), must be declared in the RAPID program and not defined in the IO configuration.

**Program Ref. \( arg \)**

**Recommended actions**
Check the IO configuration and the RAPID program.

**Recovery: \( arg \)**

**40714, Argument Error**

**Description**
Task: \( arg \)
Orientation definition error in \( arg \).

**Program Ref. \( arg \)**

**Recommended actions**
This is probably an off-line generated "dummy" position (undefined orientation), which needs to be modified with modpos.

**40720, Alias IO Installation**

**Description**
The system could not refresh all IO signals as RAPID symbols.

**Consequences**
No IO signals can be used in a RAPID program.

**Probable causes**
- Incorrect IO configuration
- Incorrect task configuration

**Recommended actions**
Restart the controller.

**40721, IO Installation**

**Description**
Task \( arg \):
The system could not refresh all IO signals as RAPID symbols.

**Consequences**
No IO signals can be used in a RAPID program.

**Probable causes**
- Incorrect IO configuration
- Incorrect task configuration

**Recommended actions**
Restart the controller.

**40722, Mechanical Units**

**Description**
The system could not refresh all mechanical units as RAPID symbols.

**Consequences**
No mechanical units can be used in a RAPID program.

**Probable causes**
- Incorrect motion configuration
- Incorrect task configuration

**Recommended actions**
Restart the controller.

**40724, Save or Erase Error**

**Description**
Task: \( arg \)
The program module \( arg \) could not be saved or could not be erased.

**Program Ref. \( arg \)**
6 Trouble shooting by Event log

Recommended actions
- Check the spelling of the module name
- Check if the module is loaded.
Recovery: arg

40726, Reference Error
Description
Task: arg
The reference to the load session is not valid.
Program Ref. arg

Recommended actions
Check if the specified reference is the same as in StartLoad.
Recovery: arg

40727, Save Error
Description
Task: arg
Missing file source arg.
Program Ref. arg

Recommended actions
Use FilePath argument to specify the file destination.
Recovery: arg

40728, Frame Error
Description
Task: arg
Unable to calculate new frame.
Program Ref. arg

Probable causes
The positions have not the required relations or are not specified with enough accuracy.

Recommended actions
Check if the positions are too close or not specified with enough accuracy.
Recovery: arg

40731, Value Error
Description
Task: arg
The value of the argument arg for signal arg is above its maximum logical value.
Program Ref. arg

Recommended actions
Change the argument or change the maximum logical value parameter for the signal.
Recovery: arg

40732, Value Error
Description
Task: arg
The value of the argument arg for signal arg is below its minimum logical value.
Program Ref. arg

Recommended actions
Change the argument or change the min logical value parameter for the signal.
Recovery: arg

40733, Value Error
Description
Task: arg
The value of the argument arg for signal arg is below the value for argument arg.
Program Ref. arg

Recommended actions
Change the values of the arguments.

40734, Symbol Definition Error
Description
Task: arg
The string in text table arg at index arg is too long.
Program Ref. arg

Recommended actions
Change the file for the text table and perform a cold start.

40735, Argument Error
Description
The axis is not defined.

Recommended actions
The axis has to be defined, before this instruction is executed.

40736, Mechanical Unit Error
Description
Task: arg
It is not possible to define a payload on the robot with this instruction.
Program Ref. arg

Recommended actions
Use the instruction GripLoad instead of MechUnitLoad.
40737, Symbol Definition Error
Description
Task: arg
The requested text or text package does not exist. Text table arg, Index arg.
Program Ref. arg
Recommended actions
Check the arguments.
Recovery: arg

40738, I/O Error
Description
Unable to access the I/O signal arg on unit arg.
Impossible to restart.
Probable causes
The connection with the I/O module is broken.
Recommended actions
Re-establish the connection with the I/O unit. To make it possible to restart the program move PP to a safe restart position.

40739, Parameter Error
Description
Task: arg
None of the option arguments DO1, GO1, GO2, GO3 or GO4 are specified.
Program Ref. arg
Recommended actions
Specify at least one of the arguments.

40740, Execution Error
Description
The PERS variable specified in the instruction TriggStopProc can not be updated, because it does not exist any more.
Probable causes
The program module with the PERS variable is probably removed from the program memory.
Recommended actions
Check if the module with the PERS variable is removed, if so put it back.

40741, Context Error
Description
Task: arg
Instruction arg may only be used in an event routine.
Program Ref. arg
Recommended actions
Remove the instruction.

40742, Parameter Error
Description
Task: arg
The timing parameter DipLag is larger than the system parameter Event preset time.
Program Ref. arg
Recommended actions
Increase the system parameter Event preset time or check the equipment dip lag (delay) compensation.
Recovery: arg

40743, Parameter Error
Description
Task: arg
Not a valid subtype in argument arg.
Program Ref. arg
Recommended actions
Check the argument.

40744, Parameter Error
Description
Task: arg
Invalid value in arg in argument arg.
Program Ref. arg
Recommended actions
Check the argument.

40745, Parameter Error
Description
Task: arg
arg is less than arg in argument arg.
Program Ref. arg
Recommended actions
Check the argument.

40746, Parameter Error
Description
Task: arg
arg TRUE in parameter arg in combination with conveyor coordination.
6 Trouble shooting by Event log

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40747, Access Error</td>
<td>Cannot use fine points when leaving conveyors after coordinated stoppoint. Use a zone instead.</td>
</tr>
<tr>
<td>40748, Value Error</td>
<td>The data to write from parameter CfgData to the system parameter arg. The parameter is internal and protected from reading and writing.</td>
</tr>
<tr>
<td>40749, Execution Error</td>
<td>It is not possible to execute StartMove when the robot is moving.</td>
</tr>
<tr>
<td>40752, Argument Error</td>
<td>Some load session with StartLoad - WaitLoad has not been finished.</td>
</tr>
<tr>
<td>40753, Memory Fault</td>
<td>Because of power fail in executed Load or StartLoad ... WaitLoad instruction, the RAPID program memory is inconsistent. *** TO REPAIR DO P-START ***</td>
</tr>
<tr>
<td>40754, Argument Error</td>
<td>There are no arguments given.</td>
</tr>
<tr>
<td>40755, Context Error</td>
<td>Instruction arg may only be used in a trap routine.</td>
</tr>
<tr>
<td>40756, Context Error</td>
<td>Instruction arg may only be used in a trap routine ordered through instruction arg.</td>
</tr>
<tr>
<td>40757, Argument Error</td>
<td>The load session you are trying to cancel is not in use.</td>
</tr>
</tbody>
</table>

**Recommended actions**

- **40747, Access Error**
  - Task: arg
  - Recommended actions
    - Use a zone instead.

- **40748, Value Error**
  - Task: arg
  - Recommended actions
    - Recovery: arg

- **40749, Execution Error**
  - Task: arg
  - Recommended actions
    - Recovery: arg

- **40752, Argument Error**
  - Task: arg
  - Recommended actions
    - Finish the load session with WaitLoad, cancel it with CancelLoad or set PP to main.
    - Recovery: arg

- **40753, Memory Fault**
  - Task: arg
  - Recommended actions
    - Recovery: arg

**Recommended actions**

- **40754, Argument Error**
  - Task: arg
  - Recommended actions
    - Recovery: arg

- **40755, Context Error**
  - Task: arg
  - Recommended actions
    - Remove the instruction.

- **40756, Context Error**
  - Task: arg
  - Recommended actions
    - Check that INTNO has the interrupt number used by arg.

- **40757, Argument Error**
  - Task: arg
  - Recommended actions
    - Recovery: arg
### 40758, I/O Error

**Description**  
Unable to access the I/O signal `arg unit arg`.

**Probable causes**  
The connection with the I/O module is broken.

**Recommended actions**  
Re-establish the connection with the I/O unit.

### 40759, Parameter Error

**Description**  
Task: `arg`  
The argument `Data in arg` has improper data type.

**Program Ref.**  
`arg`

**Recommended actions**  
Check the data type. Non-value and semi-value types may not be used.

### 40761, Parameter Error

**Description**  
Task: `arg`  
The argument `arg` has a negative value.

**Program Ref.**  
`arg`

**Recommended actions**  
Set the value positive or to zero.

### 40762, Value Error

**Description**  
Task: `arg`  
The value of argument `arg` forces the robot out of workspace.

**Program Ref.**  
`arg`

**Recommended actions**  
Decrease the value.

### 40763, Execution Error

**Description**  
Task: `arg`  
The instruction `arg` can not be executed while the system is in a stop state.

**Program Ref.**  
`arg`

**Recommended actions**  
Recovery: `arg`

### 40764, Switch Argument Error

**Description**  
Task: `arg`  
The instruction `arg` must be used with one switch argument.

**Program Ref.**  
`arg`

**Recommended actions**  
Use one of the switch `Total` or `Free`.

### 40765, Argument Error

**Description**  
Task: `arg`  
In the instruction `arg` the argument `arg` is not an open directory.

**Program Ref.**  
`arg`

**Recommended actions**  
Open the directory before trying to read it.  
Recovery: `arg`

### 40766, Parameter Error

**Description**  
Task: `arg`  
In the instruction `arg` the argument `arg` can't be used without the argument `arg`.

**Program Ref.**  
`arg`

**Recommended actions**  
Check the RAPID program.

### 40767, Search Error

**Description**  
Task: `arg`  
Object of the type `arg` could not be searched for.

**Program Ref.**  
`arg`

**Recommended actions**  
Check the RAPID program.

### 40768, Symbol Access Error

**Description**  
Task: `arg`  
No system symbol `arg` is accessible in the system.

**Program Ref.**  
`arg`

**Recommended actions**  
Recovery: `arg`

### 40769, Symbol Read Access Error

**Description**  
Task: `arg`  
The symbol `arg` is not a readable object.

**Program Ref.**  
`arg`

**Recommended actions**  
Recovery: `arg`
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<th>Description</th>
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<tr>
<td>40770</td>
<td>Symbol Type Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>The symbol arg is of type arg and not the expected type arg.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
<tr>
<td></td>
<td>Recommended actions</td>
</tr>
<tr>
<td></td>
<td>Check the RAPID program.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>40771</td>
<td>Symbol Access Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>The symbol arg is not accessible in this scope.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
<tr>
<td></td>
<td>Recommended actions</td>
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<tr>
<td></td>
<td>Recovery: arg</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>40772</td>
<td>IO Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>The arg instruction has lost contact with the conveyor.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
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<tr>
<td>40773</td>
<td>Instruction Interrupted</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>The instruction arg was interrupted, reason unknown.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
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<tbody>
<tr>
<td>40774</td>
<td>Object Dropped</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>The object that the instruction arg was waiting for has been dropped.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
<tr>
<td></td>
<td>Probable causes</td>
</tr>
<tr>
<td></td>
<td>Start window passed or Checkpoint not satisfied.</td>
</tr>
<tr>
<td></td>
<td>Recommended actions</td>
</tr>
<tr>
<td></td>
<td>If Checkpoint not used, Checkpoint Distance and Checkpoint Window Width must be set to zero.</td>
</tr>
<tr>
<td></td>
<td>Rerun the instruction</td>
</tr>
<tr>
<td></td>
<td>Recovery: arg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>40775</td>
<td>Conveyor Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>Another arg instruction is waiting for a distance to the object.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40776</td>
<td>Conveyor Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>Another arg instruction is waiting for the object.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>40777</td>
<td>Conveyor Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>The arg instruction is already connected.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
<tr>
<td></td>
<td>Recommended actions</td>
</tr>
<tr>
<td></td>
<td>Recovery: arg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40778</td>
<td>Value Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>Booking of the new error number arg failed. The init value must be -1 or the old number.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
<tr>
<td></td>
<td>Recommended actions</td>
</tr>
<tr>
<td></td>
<td>Recovery: arg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40779</td>
<td>Error Number Local</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>The RAPID user error number arg must not be declared as local in routine.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
<tr>
<td></td>
<td>Recommended actions</td>
</tr>
<tr>
<td></td>
<td>Check the errnum declaration.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40780</td>
<td>Data Object Error</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Task: arg</td>
</tr>
<tr>
<td></td>
<td>There is no valid data object for the argument arg of the instruction arg.</td>
</tr>
<tr>
<td></td>
<td>Program Ref. arg</td>
</tr>
<tr>
<td></td>
<td>Recommended actions</td>
</tr>
<tr>
<td></td>
<td>Check if there is a right data object.</td>
</tr>
</tbody>
</table>
**40781, File Error**

**Description**
Task: arg
The parameter arg does not correspond to any loaded text file.
Program Ref. arg

**Recommended actions**
Check if the text file is (correct) installed.

---

**40782, Mode Error**

**Description**
Task: arg
File or serial channel is not opened for writing.
Program Ref. arg

**Recommended actions**
Check how the file or serial channel was opened.

---

**40783, Mode Error**

**Description**
Task: arg
File or serial channel is not opened in a character-based mode.
Program Ref. arg

**Recommended actions**
Check how the file or serial channel was opened.

---

**40784, Mode Error**

**Description**
Task: arg
File or serial channel is not opened in a binary mode.
Program Ref. arg

**Recommended actions**
Check how the file or serial channel was opened.

---

**40785, Mode Error**

**Description**
Task: arg
File or serial channel is not opened for reading.
Program Ref. arg

**Recommended actions**
Check how the file or serial channel was opened.

---

**40786, Read Error**

**Description**
Task: arg

One or more bytes is not read properly. The value of the read data might be inconsistent.
Program Ref. arg

**Consequences**
Because the checksum for the received message is not the same as calculated at sending, the message data can not be used.

**Probable causes**
The reason can be:
- Communication problem
- Different WriteAnyBin - ReadAnyBin software version between the sending WriteAnyBin and the receiving ReadAnyBin

**Recommended actions**
Error Recovery for communication problem: arg

---

**40787, User Frame Error**

**Description**
Task: arg
Not possible to get the coordinated user frame.
Program Ref. arg

---

**40788, Axis Error**

**Description**
Task: arg
The single axis is not init correctly.
Program Ref. arg

---

**40789, Limitation Error**

**Description**
Task: arg
The string length of the argument for the file path is too long.
Program Ref. arg

**Probable causes**
The maximum allowed string length for the full system file path is arg characters.

**Recommended actions**
Shorten the length of the path.

---

**40790, Value Error**

**Description**
Task: arg
The RAPID string is too long.
Program Ref. arg

**Probable causes**
String value exceeds the maximum allowed length.
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40791, I/O Error

Description
Task: arg
No space left on device (file name arg).
Program Ref. arg

Recommended actions
Recovery: arg

40792, I/O Error

Description
Task: arg
File open/access error for path arg.
Program Ref. arg

Recommended actions
- Check permission, is the file write protected?
- Check if the file or directory exists.
- Check if there is any space left on device.
Recovery: arg

40793, Error Installing Text Table

Description
Task: arg
No or faulty text resource name or index number in the text file.
Program Ref. arg

Consequences
The contents of some of the text tables may have been destroyed.

Recommended actions
Correct the error, cold start the system and try again.

40794, Error Installing Text Table

Description
Task: arg
The specified index within the text resource already exists in the system.
Program Ref. arg

Probable causes
- Error in the index numbering.
- The file has been installed twice.

Recommended actions
If error in the index, correct it, cold start the system and try again.

40795, Error Installing Text Table

Description
Task: arg
System memory for text tables is full.
Program Ref. arg

Recommended actions
Reduce the amount of user defined text string installed from RAPID.
Cold start the system and try again.

40796, Overload Error

Description
Task: arg
The system is overloaded so the actual order can not be ready in time.
Program Ref. arg

Recommended actions
- Add WaitTime in RAPID loops
- Increase filter time for I/O signals
- Avoid cyclic interrupts

40797, I/O Error

Description
Unable to access the I/O signal arg on unit arg.

Probable causes
The connection with the I/O module is broken.

Recommended actions
Re-establish the connection with the I/O unit.

40798, System Access Error

Description
arg

40799, Execution Error

Description
Task: arg
TestSignRead is using a channel without a defined signal.
Program Ref. arg

Recommended actions
Use TestSignDefine to define a signal to the channel.

40800, Tool Error

Description
Task: arg
The component robhold in the tool has not got the correct value.
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Program Ref. arg

**Recommended actions**

Change the value of robhold.
If the robot is holding the tool the value should be TRUE. If the robot
is not holding the tool, i.e. a stationary tool, the value should be
FALSE.

**40801, Calculation error**

**Description**

Task: arg
Can not calculate the tool frame.
Program Ref. arg

**Probable causes**

It is not possible to calculate the tool frame with the selected approach
points.

**Recommended actions**

Select new approach points as accurate as possible.

**40802, Execution Error**

**Description**

Task: arg
Not possible to do subscribe.
Program Ref. arg

**Probable causes**

There is no memory left to make another subscription on this variable.

**Recommended actions**

To continue, PP must be moved to main!

**40803, Error msg too long**

**Description**

The length of the following error message was too long and has been
cut.
This means you will not be able to read the whole message.

**40804, Argument Error**

**Description**

Task: arg
The argument "type" in stoppointdata may not be followtime in the
instructions MoveJ, MoveAbsJ and MoveExtJ.
Program Ref. arg

**Recommended actions**

Change "type" to inpos or stoptime.

**40805, Motion Error**

**Description**

Task: arg
Error from MocGenInstr.
Ref to former message for reason.
Program Ref. arg

**40806, IOF Error**

**Description**

Task: arg
Error from IofGenInstr.
Ref to former message for reason.
Program Ref. arg

**40807, File Error**

**Description**

Task: arg
The file arg already exists.
Program Ref. arg

**Recommended actions**

To be able to rename or copy:
Change the file name or remove the existing file.
Recovery: arg

**40811, No Contact With Unit**

**Description**

Task: arg
There is no contact with unit.
Program Ref. arg

**Probable causes**

- The unit may have been disabled ( IODisable "UNIT1", 1; )
- No power to the unit.

**40812, Execution Error**

**Description**

Task: arg
Not allowed to run this program in non_motion_execution_mode.
Program Ref. arg

**Recommended actions**

Change mode.

**40813, Execution Error**

**Description**

Task: arg
The task is not allowed to execute the instruction arg.
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Program Ref. arg

Probable causes
The task is not configured to control mechanical units.

Recommended actions
Change the configuration or remove the instruction.

40814, Execution Error

Description
StartMove could not get the regain distance.

Probable causes
Application error.

Recommended actions
Please restart the path.

Recovery: arg

40815, Non Existing Axis Number

Description
Unknown axis number for the mechanical unit arg

Recommended actions
Check the value for the argument Axis.

40816, RolGenInstr Error

Description
Error from instruction RolGenInstr.
Ref. to former user or internal error message for reason.

Program Ref. arg

Recovery: arg

41000, Item source exists

Description
Item source arg already exists. Two item sources may not have the same name.

41001, Not a valid name

Description
Choose arg or arg

41002, Buffer size exceeded

Description
Fatal internal error for item source arg. Try warm start or cold start. Please report this error.

41003, Item source not defined

Description
The item source object has not been defined.

41004, Itmsrc internal error

Description
Internal error for item source arg.
Error type: arg.

41005, Flush item source first

Description
Item source arg must be flushed before it is used.

41006, Ack item target first

Description
Item target must be acknowledged before executing the GetItmTgt(s) instruction again.
Error occurred for item source arg.

41007, Item target buffer full

Description
Item target buffer full for item source arg.

41008, Conveyor I/O init error

Description
Error in the initialization of the I/O signal for item source arg, for conveyor arg. I/O signal name arg.

41009, Conveyor does not exist

Description
Error for item source arg. The conveyor arg does not exist.

41010, No conveyor name given

Description
Error for item source arg. No conveyor name specified.
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41011, Conveyor limits error

Description
Error for item source arg, conveyor arg. The limits are incorrectly specified.

41012, Conveyor data are defined late

Description
Error for item source arg, conveyor arg. The ItmSrcCnvDat instruction must be called before the ItmSrcFlush instruction.

41050, Record not activated

Description
Record not ready for activation

Consequences
Record not activated

Probable causes
Try to activate record too early

Recommended actions
Instruction Start Record must be called before activate record

41051, Record not stored

Description
No valid record to store

Consequences
Nothing stored

Probable causes
Try to store a record not existing or not activated.

Recommended actions
Instruction Activate must be called before Store record

41052, Can't use this record file

Description
File not found or data not valid

Consequences
Record not used

Probable causes
File not found or data not valid.

Recommended actions
Check file directory and name and record data.

41100, Too Many Corrections

Description
Task: arg
Max 5 correction descriptors are allowed to be connected.

Program Ref. arg

Recommended actions
Check number of connected descriptors.
Recovery: arg

41101, Correction Not Connected

Description
Task: arg
Can not write to correction descriptor.

Program Ref. arg

Recommended actions
Check that the current correction descriptor is connected.
Recovery: arg

41102, No Corrections Connected

Description
Task: arg
Correction unable to be read.

Program Ref. arg

Probable causes
No correction descriptor connected.

Recommended actions
Check if any correction generator is connected.
Recovery: arg

41200, Servo Tool Open Error

Description
Task: arg
Not possible to open servo gun in motors off state.

Program Ref. arg

Recommended actions
Retry after setting motors on.
Recovery: arg

41201, Servo Tool Close Error

Description
Task: arg
Not possible to close servo gun in motors off state.

Program Ref. arg
Recommended actions
Retry after setting motors on.
Recovery: arg

41202, Servo Tool Calibration Error.
Description
Task: arg
Not possible to calibrate servo gun in motors off state.
Program Ref. arg

Recommended actions
Retry after setting motors on.
Recovery: arg

41203, Servo Tool Error.
Description
Task: arg
Servo tool arg does not exist.
Program Ref. arg

Recommended actions
Check mechanical unit name.
Recovery: arg

41204, Servo Tool Error.
Description
Task: arg
Emergency stop when executing instruction in background task.
Program Ref. arg

Recommended actions
Retry after emergency stop reset.
Recovery: arg

41205, Servo Tool Error.
Description
Task: arg
Not possible to close servo gun. The gun is not open.
Program Ref. arg

Recommended actions
Retry after opening the gun.
Recovery: arg

41206, Servo Tool Parameter Error.
Description
Task: arg
The parameter PrePos must be a positive value.
Program Ref. arg

Recommended actions
Change the parameter value.
Recovery: arg

41207, Servo Tool Init Error.
Description
Task: arg
The position for servo tool arg is not initialized.
Program Ref. arg

Recommended actions
Change the parameter value or perform a tip change calib.
Recovery: arg

41208, Servo Tool Synchronization Error.
Description
Task: arg
The tips for servo tool arg are not synchronized.
Program Ref. arg

Recommended actions
Synchronize via ManServiceCalib or perform a tool change calibration.
Recovery: arg

41209, Servo Tool Activation Error.
Description
Task: arg
Servo tool arg is not activated.
Program Ref. arg

Recommended actions
Use ActUnit to activate.
Recovery: arg

41210, Servo Tool Error.
Description
Task: arg
Not possible to execute instruction in motors off state for servo tool arg.
Program Ref. arg

Recommended actions
Retry after setting motors on.
Recovery: arg

41211, Servo Tool Error.
Description
Task: arg
Not possible to perform a recalibration of the gun arg.
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41417, System Access Error

Description
Task: arg
Can not convert date.
Program Ref. arg

Recommended actions
Warm start and retry.

41419, Parameter Error

Description
Task: arg
arg must be num, bool or string.
Program Ref. arg

Recommended actions
Check and change the RAPID program.

41420, Parameter Error

Description
Task: arg
The argument type of arg is not compatible with cfg type. Expected arg.
Program Ref. arg

Recommended actions
Recovery: arg

41421, Parameter Error

Description
Task: arg
Unknown cfg domain in argument arg.
Program Ref. arg

Recommended actions
Check and change the RAPID program.
Recovery: arg

41422, Parameter Error

Description
Task: arg
Unknown cfg type in argument arg.
Program Ref. arg

Recommended actions
Check and change the RAPID program.
Recovery: arg

41423, Parameter Error

Description
Task: arg
Unknown cfg instance in argument arg.
Program Ref. arg

Recommended actions
Check and change the RAPID program.
Recovery: arg

41424, Parameter Error

Description
Task: arg
The path 'arg' in argument arg is incorrect.
Program Ref. arg

Recommended actions
Check and change the path.
Recovery: arg

41425, Parameter Error

Description
Task: arg
The path 'arg' in argument arg is incorrect.
Program Ref. arg

Recommended actions
Check and change the path.
Recovery: arg

41426, I/O Error

Description
Unable to access the I/O signal. Signal and unit unknown.

Consequences
Impossible to restart.

Probable causes
The connection with the I/O module is broken.

Recommended actions
Re-establish the connection with the I/O unit. To make it possible to restart the program move PP to a safe restart position.

41427, Argument Error

Description
Task arg:
The delaytime has to be positive.
Program Ref. arg
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Recommended actions
Change the value of delaytime.

41428, Axis Error
Description
Task: arg
The single axis is not init correctly. The sensor is not activated.
Program Ref. arg

41429, Axis Error
Description
Task: arg
The single axis is not init correctly.
The sensor process is not init correctly.
Program Ref. arg

41430, Argument Error
Description
Task: arg
Orientation definition error in arg .
Program Ref. arg
Recommended actions
Check orientation.
All used orientations must be normalized i.e. the sum of the quaternion elements squares must equal 1.

41431, System Access Error
Description
Task: arg
Unknown LOGSRV instance.
Program Ref. arg
Recommended actions
Warm start and retry.

41432, System Access Error
Description
Task: arg
Can not set test signals.
Program Ref. arg
Recommended actions
Warm start and retry.

41433, Parameter Error
Description
Task: arg

Unknown mechanical unit.
Program Ref. arg

Recommended actions
Check if the mechanical unit exists in the system.
Recovery: arg

41434, Parameter Error
Description
Task: arg
Argument Axis is out of range.
Program Ref. arg
Recommended actions
Check and change the value of the argument axis.
Recovery: arg

41435, Parameter Error
Description
Task: arg
Argument Channel is out of range.
Program Ref. arg
Recommended actions
Check and change the value of argument Channel.

41437, System Access Error
Description
Task: arg
Can not reset all test signals.
Program Ref. arg
Recommended actions
Warm start and retry.

41438, Undefined Load
Description
Task: arg
WARNING!
Argument arg has undefined load (mass=0).
Program Ref. arg
Consequences
IMPORTANT TO DEFINE CORRECT LOAD to avoid mechanical damages of the robot.

Recommended actions
Define the actual load for the tool or the grip load before program movement or jogging. A good motion performance requires a correctly defined load.
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41439, Undefined Load

Description
Task: arg
WARNING!
Argument arg has undefined load center of gravity.
Program Ref. arg

Consequences
IMPORTANT TO DEFINE CORRECT LOAD to avoid mechanical
damage of the robot.

Recommended actions
Define the actual center of gravity for the tool load or the grip load
before program movement or jogging (cog.x, cog.y and cog.z can not
be 0 mm at the same time). Load identification can be done with the
service routine LoadIdentify.

41440, Argument Is Missing

Description
Task: arg
One of the switch parameter arg or arg has to be defined.
Program Ref. arg

Consequences
The called RAPID routine could not be executed.

Recommended actions
An argument of the data type switch must be specified.

41441, UnLoad Error

Description
Task: arg
Module loaded with path arg is active and therefore can not be erased.
Program Ref. arg

Probable causes
Instruction UnLoad or WaitLoad is executed in the same module as the
module that should be removed.
Instruction UnLoad or WaitLoad is in a trap that is executed earlier
then expected.
If there is a CONNECT to a trap routine in the module, an IDelete on
the trap has to be done before the module can be unloaded.

Recommended actions
Check that the module does not contain routines or data that are still
active, for example CONNECT.
Recovery: arg

41442, Reference Error

Description
Task: arg
The reference in argument arg is not an entire persistent variable.
Program Ref. arg

Recommended actions
It is not possible to use record component or array element in arg .arg .
It is only possible to use entire persistent variables for Tool, WObj or
Load in any motion instruction.

41443, Argument Error

Description
Task: arg
Argument Tool has negative load of the tool.
Program Ref. arg

Recommended actions
Define the correct load of the tool before use of the tool for jogging or
program movement. Load identification of the tool can be done with the
service routine LoadIdentify.

41444, Argument Error

Description
Task: arg
Argument Tool has at least one inertia data component with negative
value.
Program Ref. arg

Recommended actions
Define all inertia data components (ix, iy or iz) to actual positive
values.

41445, Argument Error

Description
Task: arg
No \WObj specified for movement with stationary TCP.
Program Ref. arg

Recommended actions
Add argument \WObj for actual work object.
If not movement with stationary TCP, change the component
"robhold" in argument Tool to TRUE (robot holds the tool).

41446, Argument Error

Description
Task: arg
Undefined if robot holds the tool or the work object.
Program Ref. arg

Recommended actions
Check if mismatch between argument Tool and argument \WObj for
data component robhold.
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**41447, Argument Error**
**Description**
Task: arg
Argument arg has at least one data component with negative value.
Program Ref. arg

**Recommended actions**
Set all data components in argument arg to positive values.

**41448, Argument Error**
**Description**
Task: arg
Argument arg may not have a negative value.
Program Ref. arg

**Recommended actions**
Set argument arg to a positive value.

**41449, Value Error**
**Description**
Task: arg
Illegal value in argument arg.
Program Ref. arg

**Recommended actions**
Check the RAPID program.

**41450, Argument Error**
**Description**
Task: arg
Argument \
WObj specifies a mechanical unit name, which is not activated
or is unknown in the system.
Program Ref. arg

**Recommended actions**
The mechanical unit name defined in \WObj must correspond to the name earlier defined in the system parameters and must be activated.

**41451, Argument Error**
**Description**
Task: arg
Argument arg contains an illegal interrupt number.
Program Ref. arg

**Probable causes**
Input interrupt number is illegal because it has not been allocated by the instruction CONNECT.

**Recommended actions**
Use the instruction CONNECT to allocate and connect an interrupt number to a trap routine.

**41452, Argument Error**
**Description**
Task: arg
Argument arg contains an interrupt number, which is already in use for other purposes.
Program Ref. arg

**Recommended actions**
Before reuse of an interrupt variable in the program, it must have been cancelled with the instruction IDelete.

**41453, Type Error**
**Description**
Task: arg
Illegal data type of argument arg.
Program Ref. arg

**Recommended actions**
Check the RAPID program.

**41454, Reference Error**
**Description**
Task: arg
Trigg parameter number arg, reference to undefined trigg data.
Program Ref. arg

**Recommended actions**
Define trigg data by executing instruction TriggIO, TriggInt, TriggEquip, TriggSpeed or TriggCheckIO before execution of instruction TriggL, TriggC, TriggJ, CapL or CapC.

**41455, System Access Error**
**Description**
Task: arg
Operative system get time failed.
Program Ref. arg

**Recommended actions**
Warm start and retry.

**41456, Argument Error**
**Description**
Task: arg
Argument arg not within range.
Program Ref. arg
6 Trouble shooting by Event log

Recommended actions
The argument must be in range arg

41457, Argument Error
Description
Task: arg
Missing optional argument.
Program Ref. arg
Recommended actions
Add one of the optional arguments arg or arg.

41458, Argument Error
Description
Task: arg
Argument arg or arg not within range.
Program Ref. arg
Recommended actions
Check and change the value of the argument.

41459, Argument Error
Description
Task: arg
Argument arg not within range.
Program Ref. arg
Recommended actions
Check and change the value of the argument.

41460, Argument Error
Description
Task: arg
Argument arg or arg or arg not within range.
Program Ref. arg
Recommended actions
Check and change the value of the argument.

41461, Value Error
Description
Task: arg
Illegal value of argument arg.
Program Ref. arg
Recommended actions
The index must be an integer and in range 1 to 1024.

41462, Value Error
Description
Task: arg
Illegal value of argument for parameter arg.
Program Ref. arg
Recommended actions
The value must be an integer and in the correct range.

41463, Argument Switch Is Missing.
Description
Task: arg
There is an argument missing.
Program Ref. arg
Recommended actions
One of the switch parameters \Hex1, \Long4, \Float4 or \ASCII has to be defined.

41464, Index To High.
Description
Task: arg
Illegal value in argument arg.
Program Ref. arg
Recommended actions
Check the RAPID program.

41465, The String Is Empty.
Description
Task: arg
Illegal value in argument arg.
Program Ref. arg
Recommended actions
Check the argument, and use a non-empty string.

41466, The Variables Are Equal.
Description
Task: arg
The argument FromRawData and ToRawData are equal.
Program Ref. arg
Recommended actions
Check and change the RAPID program.

41467, Value Error
Description
Task: arg
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Illegal value in argument arg.

Recommended actions
Check and change the value. It must be an integer and in range 0 to 255.

41468, Value Error

Description
Task: arg
Illegal value in argument arg.

Recommended actions
Check and change the value. NoOfBytes must be an integer and in range 1 to 1024, and not higher than RawData length.

41469, Value Error

Description
Task: arg
Illegal value in argument arg.

Recommended actions
Check the value. NoOfBytes must not be higher than RawData length.

41470, Argument Error

Description
Task: arg
Argument arg or arg not within range.

Recommended actions
Check the value.

41471, Instruction Error

Description
Task: arg
You are not allowed to disable unit arg.

Recommended actions
Add the task to the system (in sys.cfg) or remove it from the tasklist.

41472, Instruction Error

Description
Task: arg
There is no client e.g. a teach pendant taking care of instruction.

Recommended actions
Recovery: arg

41473, System Access Error

Description
It was not possible to send data using SCWrite to external computer.
Failed to send variable arg

41474, Value Error

Description
Task: arg
Illegal value in argument arg.

Recommended actions
Check the value: arg must be a positive integer.

41475, Wrong size of tasklist

Description
Task: arg
The tasklist has wrong number of elements. It must not have less than 1 or more than arg.

Recommended actions
Check and change the number of arguments in the tasklist.

41476, Non-consistent task list

Description
Task: arg
arg in the tasklist is not one of the tasks that are configured in the system (max arg tasks can be configured).

Recommended actions
Add the task to the system (in sys.cfg) or remove it from the tasklist.

41477, TimeOut

Description
Task: arg
The time set in argument arg in instruction WaitSyncTask has expired.

Recommended actions
Recovery: arg
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---

**41483, Argument Error**

**Description**

Task: arg  
The value of the ID is negative or is not an integer.

**Program Ref.** arg

**Recommended actions**

Check the value of the optional argument ID. The value must be a nonnegative integer.

---

**41484, TimeOut**

**Description**

Task: arg  
The time set in argument arg in instruction SyncMoveOn has expired.

**Program Ref.** arg

**Recommended actions**

Recovery: arg

---

**41486, Instruction Error**

**Description**

Task: arg  
The instruction arg is only available if there is a TCP-robot defined in the program task.

**Program Ref.** arg

**Recommended actions**

- Check the configuration.
- The instruction must be removed, if the task is not supposed to have a TCP-robot.

---

**41487, Instruction Error**

**Description**

Task: arg  
The instruction arg only works if the TCP-robot is active.

**Program Ref.** arg

**Recommended actions**

Activate the TCP-robot in the task.

---

**41488, Value Error**

**Description**

Task: arg  
There is no TCP-robot defined in the program task. One or several robot axis value input is not equal to 9E9.

**Program Ref.** arg

**Recommended actions**

Change the robot axis value to 9E9.

---

**41489, Value error**

**Description**

Task: arg  
The robot axis arg is not moveable and therefore must not be supervised.

**Program Ref.** arg

**Recommended actions**

Change the value of axis arg to 9E9.

---

**41490, TimeOut**

**Description**

Task: arg  
The time set in argument arg in instruction SyncMoveOff has expired.

**Program Ref.** arg

**Recommended actions**

Recovery: arg

---

**41491, Instruction Error**

**Description**

Task: arg  
The instruction arg is not available if there is a TCP-robot defined in the program task.

**Program Ref.** arg

**Recommended actions**

- Check the configuration.
- The instruction must be removed, if the task is supposed to have a TCP-robot.

---

**41492, Instruction Error**

**Description**

Task: arg  
The instruction arg only works if the mechanical unit is active.

**Program Ref.** arg

**Recommended actions**

Activate the mechanical unit in the task.

---

**41493, Execution Error**

**Description**

Task: arg  
There is no TCP-robot available in the task.

**Program Ref.** arg

**Recommended actions**

To be able to run the instruction a TCP-robot must be available in the task.
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41494, Instruction error
Description
Task: arg
The task does not control mechanical unit: arg.
Program Ref. arg
Recommended actions
Check the configuration.

41495, Move PP Error
Description
Task: arg
Not ready with the switch from independent to synchronized mode.
Program Ref. arg
Consequences
Restart of current instruction is blocked.
The system can either be in synchronized motion mode or still in independent motion mode.
Probable causes
Stop of program when having an active instruction. Then a PP movement within program has been done.
Recommended actions
Move PP to start the program again. PP must be moved in all program tasks. To have a well defined state of the system you should move PP to main.

41496, Move PP Error
Description
Task: arg
Not ready with the switch from synchronized to independent mode.
Program Ref. arg
Consequences
Restart of current instruction is blocked.
The system can either be in synchronized motion mode or still in independent motion mode.
Probable causes
Stop of program when having an active instruction. Then a PP movement within program has been done.
Recommended actions
Move PP to start the program again. PP must be moved in all program tasks. To have a well defined state of the system you should move PP to main.

41497, Move PP Notification
Description
Task: arg
Instruction arg was active in this task. Moving PP within the program can be dangerous in some cases.
Program Ref. arg
Consequences
Moving PP in the RAPID program can result in unsynchronized RAPID tasks or/and collision between robots.
Probable causes
PP movement within RAPID program when having active arg instruction.
Recommended actions
Move PP to suitable position in this program task.

41498, No Defined UserFrame In Mechanical Unit arg!
Description
The workobject arg contains a coordinated mechanical unit which has no defined userframe.
Recommended actions
Check the mechanical unit component of the workobject.

41499, Synchronized Mode
Description
Task: arg
System is in synchronized mode. Instruction must have an ID.
Program Ref. arg
Recommended actions
Add switch \ID with an identification number to the instruction.

41500, Independent Mode
Description
Task: arg
System is in independent mode. Instruction must not have an ID.
Program Ref. arg
Recommended actions
Remove switch \ID from the instruction.

41501, Illegal Id
Description
Task: arg
ErrorId has wrong value. It must be an integer in interval arg - arg.
Program Ref. arg
Recommended actions
Change the value.
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41502, Illegal Domain
Description
Task: arg
Domain arg can not be used.
Program Ref. arg

Recommended actions
Choose another Elog Domain.

41503, Illegal Error Type
Description
Task: arg
Error type TYPE_ALL can not be used.
Program Ref. arg

Recommended actions
Use another Error Type.

41504, No Mechanical Unit Stated
Description
Task: arg
No TCP in the system and no Mechanical Unit added to the instruction.
Program Ref. arg

Recommended actions
Add a Mechanical Unit, that exists in the task, to the instruction.

41505, Mechanical Unit Not In Task
Description
Task: arg
The Mechanical Unit stated does not exist in the task.
Program Ref. arg

Recommended actions
Add another Mechanical Unit to the instruction.

41506, Task Does Not Read a TCP Robot
Description
Task: arg
The read task does not read a tcp robot.
Program Ref. arg

Recommended actions
Change the configuration or add a Mechanical Unit, that exists in the task, to the instruction.

41507, Task Reads Other Mechanical Unit
Description
Task: arg

Task reads another Mechanical Unit than the one stated in the instruction.
Program Ref. arg

Recommended actions
Change Mechanical Unit in the instruction.

41508, LoadId Error
Description
Task: arg
Load Identification is not available for this robot type.
Program Ref. arg

Recommended actions
Check next Event Log message, for the next user action to do.

41509, LoadId Error
Description
Task: arg
Not valid load identification position.
Program Ref. arg

Recommended actions
Change the position for the robot.
Check next Event Log message, for the next user action to do.

41510, LoadId Error
Description
Task: arg
Not allowed to identify (or use) tool0.
Program Ref. arg

Recommended actions
Set the tool that should be identified, active in the jogging window.
Check next Event Log message, for the next user action to do.

41511, LoadId Error
Description
Task: arg
Not allowed to identify load0.
Program Ref. arg

Recommended actions
Use another load for identification.
Check next Event Log message, for the next user action to do.

41512, Internal Error
Description
Task: arg
Measurement axes > 2 at the same time.
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Program Ref. arg

Recommended actions
Check next Event Log message, for the next user action to do.

41513, LoadId Error

Description
Task: arg
Selection of PayLoad out of limits.
Program Ref. arg

Recommended actions
Select a PayLoad in the system.
Press Start to continue.

41514, LoadId Error

Description
Task: arg
wobj0 can not be active for roomfix TCP.
Program Ref. arg

Recommended actions
Select another Work Object.
Check next Event Log message, for the next user action to do.

41515, LoadId Error

Description
Task: arg
Selection of method out of limits.
Program Ref. arg

Recommended actions
Select one of the identification methods given.
Press Start to continue.

41516, LoadId Error

Description
Task: arg
The configuration angle is not adequate.
Program Ref. arg

Consequences
It is not possible to run the identification.

Probable causes
The selected value of the configuration angle is less than 30, or has another value that is not possible to use for identification.

Recommended actions
Select a configuration angle between $\pm 30$ and $\pm 90$ degrees.
Press Start to continue.

41517, LoadId Error

Description
Task: arg
PP has been moved to the beginning of the Load Identification routine and is now ready for a new restart.
Program Ref. arg

Probable causes
Service routine was stopped during measurement, interrupted with cancel by the user or interrupted because some type of other error.
Check former Event Log message for reason.

Recommended actions
1) Start service routine again
2) Use Debug - Cancel Call Routine to quit execution of service routine.
NOTE: Cancel Call Routine result in loose of Program Pointer.
Use Debug - PP to Main to get a new Program Pointer.

41518, LoadId Error

Description
Task: arg
Selection of MechUnit out of limits.
Program Ref. arg

Recommended actions
Select one of the Mechanical Units displayed.
Press Start to continue.

41519, LoadId Error

Description
Task: arg
Mass must be $> 0$ kg.
Program Ref. arg

Recommended actions
Specify the mass to something greater than 0.
Press Start to continue.

41520, Error Recovery Constant Not Booked

Description
Task: arg
Error recovery constant arg is not booked.
Program Ref. arg

Recommended actions
Use instruction BookErrNo to book the constant or use an error recovery constant booked by the system (can not be used with ErrRaise).
<table>
<thead>
<tr>
<th>Code</th>
<th>Error Description</th>
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<tr>
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<td><strong>Task Status Error</strong>&lt;br&gt;None of the tasks in the tasklist is a NORMAL, activated task.</td>
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<tr>
<td>41522</td>
<td><strong>Wrong Error Recovery Constant Used</strong>&lt;br&gt;Error recovery constant arg has been booked by the system. The constant can not be used with instruction ErrRaise.</td>
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<td>41523</td>
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<td>41524</td>
<td><strong>Instruction Error</strong>&lt;br&gt;The program is executing in an UNDO handler. It is not allowed to execute the instruction arg in an UNDO handler.</td>
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<tr>
<td>41525</td>
<td><strong>Instruction Error</strong>&lt;br&gt;The program is executing in an EVENT routine. It is not allowed to execute the instruction arg in an EVENT routine.</td>
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<tr>
<td>41526</td>
<td><strong>Instruction Error</strong>&lt;br&gt;Instruction arg may only be used in an ERROR handler.</td>
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<td>41528</td>
<td><strong>Instruction Error</strong>&lt;br&gt;Instruction arg may only be used in a no stepin routine.</td>
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<tr>
<td>41529</td>
<td><strong>Instruction Error</strong>&lt;br&gt;The switch \Inpos is only allowed when the task is in control of a mechanical unit.</td>
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<tr>
<td>41530</td>
<td><strong>Instruction Error</strong>&lt;br&gt;It is not possible to execute the instruction arg, while the coordinated workobject has a reference to the mechanical unit arg, located in another task.</td>
</tr>
</tbody>
</table>

*Recommended actions*<br>Check in the Task Selection Panel that at least one of the tasks in the tasklist are selected = activated.<br>Check in the .cfg-file that at least one of the tasks selected is NORMAL.<br>Book a new error recovery constant with instruction BookErrNo.<br>Change the value of the argument to a non-negative integer.<br>Remove the instruction or move it to an ERROR handler.<br>One of the switch parameters 'Continue or 'BreakOff' in arg has to be defined.<br>Remove the instruction or move it to a no stepin routine.<br>Remove the switch \Inpos from the instruction.<br>Change to a workobject with reference to a mechanical unit located in the same task as the TCP robot.<br>Function CalcJointT can be used even when the coordinated workobject is located in another task if:<br>- Switch \UseCurWObjPos is used.
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- The coordinated workobject is standing still

41531, Task Not In TaskList

Description
Task: arg
arg is not one of the tasks in the TaskList, or there is a mismatch between the tasklists in the different tasks.

Program Ref. arg

Recommended actions
- Add current task to the TaskList.
- Check that the tasklists in the different tasks are similar.

When using PERS variables, it might be necessary to unload the modules containing the tasklists, and then reload them again.

41532, Mismatch of task list

Description
Task: arg
Failed to synchronize because of:
1) The task list, arg, does not match with the task lists with the same SyncID in the other tasks, or a task name is used multiple times in the task list.
2) Not the same active tasks in task selection panel in the first executed instruction as in the following instructions.

Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
The reason for this error is one of the following:
1) Tasklists do not have the same content for the same SyncID or a taskname is used multiple times.
2) One or several tasks has been enabled/disabled in the task selection panel after first instruction was executed.

Recommended actions
1) Check and modify tasklists and SyncIDs, or the same error will occur again.
2) Start again. The instructions will be executed with the current status of the task selection panel.

41533, Mismatch Of SyncID

Description
Task: arg
SyncID arg does not match with SyncID in the other task/tasks.

Program Ref. arg

Probable causes
Use of tasklists that are non global can cause this error.

Recommended actions
Change SyncID and check the tasklists.

PP must be moved to main in all tasks before you can continue.

41534, Inconsistent Synch Data

Description
Task: arg
Inconsistent synchdata in TaskList arg.

Program Ref. arg

Recommended actions
Change content of the TaskList.

PP must be moved to main in all tasks before you can continue.

41535, Unexpected SyncMoveOn

Description
Task: arg
Unexpected SyncMoveOn (SyncID arg). The system is already in synchronized mode.

Program Ref. arg

Probable causes
The program task is already in synchronized mode because SyncMoveOn has already been executed.
Use of tasklists that are non global can cause this error.

Recommended actions
PP must be moved to main in all task before you can continue the program execution.
Remove the SyncMoveOn instruction. Every SyncMoveOn must be followed by a SyncMoveOff instruction.
Check your tasklists.

41536, Unexpected SyncMoveOn

Description
Task: arg
Unexpected SyncMoveOn (SyncID arg). The system is waiting for a SyncMoveOff.

Program Ref. arg

Recommended actions
Remove the SyncMoveOn instruction. Every SyncMoveOn must be followed by a SyncMoveOff instruction.

41537, Unexpected SyncMoveOff

Description
Task: arg
Unexpected SyncMoveOff (SyncID arg). The system is waiting for a SyncMoveOn.

Program Ref. arg

Recommended actions
Remove the SyncMoveOff instruction. Every SyncMoveOn must be followed by a SyncMoveOff instruction.
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41538, Wrong TaskList
Description
Task: arg
The task, arg, in the TaskList is a read task and can not be synchronized.
Program Ref. arg
Recommended actions
Change the TaskList or the configuration.

41539, Speed Too High
Description
Task: arg
Speed is over 100 mm/s. This is too fast when Stiff Stop (switch \Stop) is used.
Program Ref. arg
Recommended actions
Change the speed.

41540, Wrong Mechanical Unit
Description
Task: arg
The task reads the control task, arg, which does not control the mechanical unit arg.
Program Ref. arg
Recommended actions
Change \MechUnit or the configuration.

41541, Not Allowed From a Read Task
Description
Task: arg
The instruction is not allowed to execute in a read task.
Program Ref. arg
Recommended actions
Remove the instruction.

41542, Program Stop
Description
Task: arg
Not possible to regain to path because of program stop in the system.
Program Ref. arg
Recommended actions
Recovery: arg

41543, Argument Error
Description
Task: arg
A loaddata has been defined, but is no longer available in the system.
Program Ref. arg
Probable causes
The instruction GripLoad might have been run in a module that is no longer available in the system.
Recommended actions
Be sure to run GripLoad Load0, to reset loaddata.

41544, Obsolete Instruction
Description
Task: arg
The procedure arg is obsolete and will not have the expected behavior.
PFIOResto will do nothing at all.
PFDOVal and PFGOVal will act as the functions DOutput and GOutput respectively.
Program Ref. arg

41545, Argument Error
Description
Task: arg
The argument arg may not be of type LOCAL PERS.
Program Ref. arg
Recommended actions
Remove the directive LOCAL from the data declaration.

41546, Argument Error
Description
Task: arg
The \Corr switch can not be used without the option Path Offset.
Program Ref. arg
Recommended actions
- Declare the object
- Remove the directive LOCAL from the data declaration

41547, Argument Error
Description
Task: arg
The \Corr switch can not be used without the option Path Offset.
Program Ref. arg
Recommended actions
Remove the argument or install the option.
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**41548, Module Error**

Description
Task: arg
The module you are trying to erase, arg, is active and thus cannot be removed.
Program Ref. arg

Recommended actions
Check that the module you want to erase is not active.

**41549, Unexpected SyncMoveOn or SyncMoveOff**

Description
Task: arg
Wrong path level. It is not possible to use SyncMoveOn or SyncMoveOff on StorePath level.
Used arg: arg
Program Ref. arg

Recommended actions
Check the RAPID program.

**41550, PathRecorder Start/Stop Error**

Description
Task: arg
Unable to execute arg
Program Ref. arg

Recommended actions
Ensure that a backward motion has not been initiated with PathRecMoveBwd without being terminated with PathRecMoveFwd.

**41551, PathRecorder Move Error**

Description
Task: arg
Unable to execute arg. The given identifier cannot be reached.
Program Ref. arg

Recommended actions
Ensure that the PathRecorder has been started.
Ensure that the program pointer not is being moved manually.
Ensure that the limit of arg recorded move instructions is not exceeded.

**41552, PathRecorder Path Level Error**

Description
Task: arg
Can not execute arg on current path level.
Program Ref. arg

Recommended actions

**41553, Destroyed Data**

Description
System data arg in one of the tasks has been changed. It is NOT allowed to change this data.

Recommended actions
The system has restored the data when it was started, but the program has to be checked. Remove where arg has been assigned a value.

**41554, Synchronized Mode**

Description
Task: arg
It is not possible to use the optional parameter \Conc when the system is in synchronized mode.
Program Ref. arg

Recommended actions
Remove the optional parameter \Conc from any move instruction used in synchronized mode.

**41555, No Contact With Unit**

Description
Task: arg
There is no contact with the unit arg.
Program Ref. arg

Probable causes
The unit may have been disabled (IODisable "UNIT1", 1;)
No power to the unit.

Recommended actions
Recovery: arg

**41556, No Contact With Unit**

Description
Task: arg
There is no contact with unit.
Program Ref. arg

Probable causes
The unit may have been disabled (IODisable "UNIT1", 1;)
No power to the unit.

Recommended actions
Recovery: arg
### 41557, Mec. Unit not stopped

**Description**
Task: arg
Not allowed to change run mode, if not all motion program tasks are stopped.

**Recommended actions**
Do program stop and try again.

### 41558, Argument Switch Missing

**Description**
Task: arg
An argument is missing to instruction arg.

**Recommended actions**
Add switch SyncOrgMoveInst or SyncLastMoveInst to the instruction.

### 41559, Not PERS variable

**Description**
Task: arg
The task list, arg, is either LOCAL or TASK persistent. It is not allowed. It has to be global.

**Recommended actions**
Change the task list to PERS.

### 41560, No Start of Movement

**Description**
Task: arg
It was not possible to start the movement.

**Probable causes**
1. There has been an emergency stop.
2. There was another error in the system.

**Recommended actions**
1. Reset the emergency stop, if there has been one.
2. Check former error messages for reason.

**Recovery:**

### 41561, No Text in Function Key

**Description**
Task: arg
The instruction TPReadFK has no text in either of the function keys.

**Consequences**
When the instruction is executing there will be no button available to press.

**Recommended actions**
Put a text in at least one of the function keys TPFK1 .. TPFK5

### 41562, Risk for faulty circular movement

**Description**
Task: arg
Risk for faulty circular movement because of:
1) An asynchronous process error has occurred and was not handled in any error handler
2) Program Pointer at circular instruction in combination with done MODPOS of any previous move instruction

**Probable causes**
One of following:
1) The RAPID program is missing an error handler or the error handler does not handle this specific error
2) MODPOS operation done when not running in step or move step mode

**Recommended actions**
One of following:
1) Edit the program
2) Move the program pointer to be able to start the program.

### 41563, Argument Error

**Description**
Task: arg
The Mechanical Unit arg specified in the WObj for this MOVE instruction is the same Mechanical Unit arg as the robot for this program task.

**Consequences**
It is not possible that the robot moves the work object itself.

**Recommended actions**
Edit the used wobjdata.

### 41564, Not allowed to run from a Motion Task

**Description**
Task: arg
The instructions StopMove, StartMove and StopMoveReset with the option parameter \\AllMotionTasks are not allowed to run from a motion program task.
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Program Ref.: arg

Probable causes
It is only allowed to do stop and restart of all movements in the system from a supervision program task running as a read (or background) program task.

Recommended actions
Remove the instruction.

41565, Not allowed value

Description
Task: arg
Illegal value in argument arg.
Program Ref: arg

Recommended actions
Check and change the value. It must be an integer between arg and arg.

41566, Signal exceeds max number of allowed bits

Description
Task: arg
The signal arg is too big.
Program Ref: arg

Recommended actions
Group signals consisting of 23 bits or less can be represented by the num datatype, and group signals of 32 bits or less can be represented by the dnum datatype, if they are used in a RAPID program.

41567, Digital Output Break

Description
Task: arg
A digital output interrupted the execution.
Program Ref: arg

Recommended actions
Recovery: arg

41568, Specified name is not a bus

Description
Task: arg
The bus name arg doesn't exist.
Program Ref: arg

Probable causes
The unit name is misspelled or not defined.

Recommended actions
Recovery: arg

41569, Socket error

Description
Task: arg
The socket is already connected and can not be used to listen for incoming connections.
Program Ref: arg

Recommended actions
Use another socket to listen for incoming connections.

41570, Socket error

Description
Task: arg
The socket can not accept incoming connection requests since it is not set to listen state.
Program Ref: arg

Probable causes
SocketAccept is used before SocketListen.

Recommended actions
Set socket to listen for incoming connections before trying to accept.

41571, Socket error

Description
Task: arg
The address and port is already in use and can not be used by this socket.
Program Ref: arg

Recommended actions
Recovery: arg

41572, Socket error

Description
Task: arg
Unexpected error creating socket.
Check log for further messages of possible cause.
Program Ref: arg

Recommended actions
Move program pointer to main and restart program.

41573, Socket error

Description
Task: arg
No more sockets can be created. The maximum number of concurrent sockets is eight.
Program Ref: arg
Recommended actions
Close one or more sockets, to allow a new socket to be created.

41574, Socket error

Description
Task: arg
The socket must be created before it can be used in any socket instruction.
Program Ref. arg

Probable causes
The reason for this error is one of the following:
1) Socket not created at all.
2) PP movements has been done.
3) Start of program after power fail.
4) The socket has been closed after SocketCreate.

Recommended actions
Insert an SocketCreate instruction at a suitable place in the program before the socket is used.

Recovery: arg

41575, Socket error

Description
Task: arg
The specified address is invalid. The only valid addresses are the LAN address of the controller or the service port address, 192.168.125.1.
Program Ref. arg

Recommended actions
Specify the LAN address or the service port address.

41576, Socket error

Description
Task: arg
The specified port is invalid.
Program Ref. arg

Recommended actions
It is recommended that a port number in the range 1025-4999 is used.

41577, Socket error

Description
Task: arg
The timeout specified in the instruction is too low. The timeout is specified in seconds and must not be zero.
Program Ref. arg

Recommended actions
Use a timeout value greater than zero.

41578, Socket error

Description
Task: arg
Unexpected error when connecting socket.
Check event log for other messages for possible cause.
Program Ref. arg

Recommended actions
Move program pointer to Main and restart program.

41579, Socket error

Description
Task: arg
The connection was refused by the remote host.
Program Ref. arg

41580, Socket error

Description
Task: arg
The socket is already connected and can not be connected again.
Program Ref. arg

Probable causes
SocketConnect has already been executed for the specified socket.

Recommended actions
Close the socket and recreate before connecting.

41581, Socket error

Description
Task: arg
The instruction was not finished within the timeout period.
Program Ref. arg

Recommended actions
Use a higher timeout value or use an error handler to retry the instruction.
Recovery: arg

41582, Socket error

Description
Task: arg
Empty data was specified to be sent or as storage in receive.
Program Ref. arg

Recommended actions
Use a string, rawbyte or byte array with size greater than zero.
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41583, Socket error
Description
Task: arg
The specified data is too big.
Program Ref. arg
Recommended actions
A socket can handle at most 1024 bytes in one instruction.

41584, Socket error
Description
Task: arg
The specified string or data to be sent is empty.
Program Ref. arg
Recommended actions
Check that the data is correct.

41585, Socket error
Description
Task: arg
The number of bytes to send has to be a value bigger than zero.
Program Ref. arg
Recommended actions
Change the value for the optional parameter NoOfBytes to a value bigger than zero.

41586, Socket error
Description
Task: arg
The specified number of bytes to be sent is longer than the length of the actual data.
Program Ref. arg
Recommended actions
Change the value for the optional parameter NoOfBytes to be less than or equal to the actual data.
If all data should be sent remove the optional parameter.

41587, Socket error
Description
Task: arg
An unexpected error occurred when sending data.
Check the event log for other messages for the possible cause.
Program Ref. arg
Recommended actions
Move the program pointer to Main and restart the program.

41590, Socket error
Description
Task: arg
The byte array is invalid. A byte array can only contain integers between 0 and 255.
Program Ref. arg
Recommended actions
Change the byte array to contain valid data or use rawbytes to send complex data.

41591, Socket error
Description
Task: arg
Unexpected error when trying to get socket state.
Program Ref. arg
Recommended actions
Move program pointer to Main and restart program.

41592, Socket error
Description
Task: arg
No data was received.
Program Ref. arg
Probable causes
The connection may have been closed by the remote host.
Recommended actions
Move program pointer to Main and restart program.

41593, Socket error
Description
Task: arg
The data received is too long to be stored in a string. The maximum length of data that can be stored in a string is 80 characters.
Program Ref. arg
Recommended actions
Use an byte array or rawbytes to receive data longer than 80 bytes.

41594, Socket error
Description
Task: arg
The socket is not connected.
Program Ref. arg
Probable causes
For client, use SocketConnect before receiving/sending data.
For server, use SocketAccept before receiving/sending data.
Recommended actions
Use SocketConnect or SocketAccept to connect socket before trying to receive/send.

41595, Socket error
Description
Task: arg
The connection has been closed by the remote host.
Program Ref. arg
Recommended actions
Use error handler to re-establish connection before retrying to send/receive.
Recovery: arg

41596, Socket error
Description
Task: arg
Unexpected error binding socket.
Program Ref. arg
Recommended actions
Move programpointer to Main and restart program.

41597, Socket error
Description
Task: arg
The socket has already been bound to an address and can not be bound again.
Program Ref. arg
Recommended actions
Close socket and recreate before trying to bind socket to a new address.

41598, Socket error
Description
Task: arg
Unexpected error trying to listen for connections.
Program Ref. arg
Recommended actions
Move programpointer to Main and restart program.

41599, Socket error
Description
Task: arg
The socket has not been bound to an address.
Program Ref. arg
Recommended actions
Use another socket or close socket before creating.

41600, Socket error
Description
Task: arg
Use SocketBind to specify which address to listen for incoming connections.

41601, Socket error
Description
Task: arg
The specified client socket is already in use. The client socket must not be created before calling SocketAccept.
Program Ref. arg
Probable causes
SocketAccept has already been executed for the specified socket.
Recommended actions
Close the client socket before using it in the call to SocketAccept, or remove multiple SocketAccept with same client socket.

41602, Socket error
Description
Task: arg
Unexpected error accepting connection.
Program Ref. arg
Recommended actions
Move programpointer to Main and restart program.

41603, Socket error
Description
Task: arg
Unexpected error receiving data.
Program Ref. arg
Recommended actions
Move programpointer to Main and restart program.

41604, Socket error
Description
Task: arg
The socket has already been created.
A socket can only be created once and must be closed before it can be created again.
Program Ref. arg
Recommended actions
Use another socket or close socket before creating.
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The socket is already listening for incoming connections. A socket can only be used once to listen for incoming connections.

Program Ref. arg

Probable causes
Multiple use of SocketListen with same socket.

Recommended actions
Use another socket or close socket before using it again.

41611, UIMsgBox - No user or program action defined

Description
Task: arg
The instruction UIMsgBox or function UIMessageBox has no user or program action defined.
None of the option arguments \Buttons, \BtnArray, \MaxTime, \DI Break or \DO Break are used.
Program Ref. arg

Consequences
The RAPID program will be executed for ever.

Recommended actions
Use one or several of the arguments \Buttons, \BtnArray, \MaxTime, \DI Break or \DO Break.
Recovery: arg

41612, MinValue greater than MaxValue

Description
Task: arg
In function arg, the argument \MinValue is greater than \MaxValue.
Program Ref. arg

Consequences
Not possible to continue the program execution.

Recommended actions
Change the RAPID program so argument \MaxValue is greater than \MinValue.
Recovery: arg

41613, InitValue not within specified value range

Description
Task: arg
In function arg, the argument \InitValue is not specified within the range \MaxValue ... \MinValue.
Program Ref. arg

Consequences
Not possible to continue the program execution.

Recommended actions
Change the argument \InitValue so it's inside the value range.
Recovery: arg

41614, InitValue is not an integer

Description
Task: arg
In function arg, the argument \InitValue is not an integer value as specified in argument \AsInteger.
Program Ref. arg

Consequences
The program execution can not continue.

Recommended actions
Change the argument \InitValue to an integer.
Recovery: arg

41615, Reference Error

Description
Task: arg
The datapos arg is undefined.
Program Ref. arg

Recommended actions
All datapos is retrieved with the function GetNextSym.

41616, Reference Error

Description
Task: arg
The taskid arg is unknown in the system.
Program Ref. arg

Recommended actions
Program tasks must be defined in the system parameter and not in the RAPID program. (Taskid can be used as a parameter when declaring a routine).

41617, Too intense frequency of Write Instructions

Description
A high usage frequency of user interface write instructions, such as TPWrite, has forced the program execution to slow down.

Recommended actions
Decrease the usage frequency of user interface write instructions. Add wait instructions, such as WaitTime, when many write instructions are used in conjunction.
6 Trouble shooting by Event log

41618, Argument error buttondata

Description
Task: arg
The argument Buttons of type buttondata has not allowed value. Only allowed to use the predefined data of type buttondata.
Program Ref. arg

Probable causes
Buttondata must be:
- an integer
- have a value within the predefined range

Recommended actions
Edit the program.

41619, Argument error icondata

Description
Task: arg
The argument Icon of type icondata has not allowed value. Only allowed to use the predefined data of type icondata.
Program Ref. arg

Probable causes
Icondata must be:
- an integer
- have a value within the predefined range

Recommended actions
Edit the program.

41620, Socket Error

Description
Task: arg
The Socket Messaging subsystem is overloaded.
Program Ref. arg

Probable causes
This can happen if sockets are created and closed frequently and very rapidly.

Recommended actions
Try to rewrite the program in such a way that sockets are reused instead of closed and then recreated.

41621, StorePath Error

Description
Task: arg
Instruction arg is used with arg switch in one or several tasks together with arg without arg switch.
Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
Error in the RAPID program.

Recommended actions
Check that no mix of StorePath and StorePath `KeepSync is used. Change the program. PP must be moved in all tasks before you can continue.

41622, Unexpected instruction

Description
Task: arg
The instruction arg can only be used in between instruction arg and instruction arg (on store path level).
Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
Error in the RAPID program.

Recommended actions
Check and change the RAPID program. PP must be moved in all tasks before you can continue.

41623, Faulty use of arg

Description
Task: arg
Instruction arg is used multiple times, or the instruction is used when already in synchronized motion mode. arg suspends synchronized coordinated movements. arg resumes synchronized coordinated movements.
Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
Error in the RAPID program.

Recommended actions
Check and change the RAPID program. PP must be moved in all tasks before you can continue.

41625, Unexpected arg

Description
Task: arg
Instruction arg is used directly after instruction arg, or the system is not in synchronized motion mode.
A change to independent motion mode can not be done.
Trouble shooting by Event log

**Program Ref. arg**

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program.

**41626, Unexpected arg `arg`**

**Description**
Task: arg
Instruction `arg` is used in independent motion mode.
Program Ref. arg

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program.
PP must be moved in all tasks before you can continue.

**41627, Faulty use of arg**

**Description**
Task: arg
`arg` is used on store path level and system was not in synchronized motion mode before `arg`.
Program Ref. arg

**Consequences**
The program execution is immediately halted.

**Probable causes**
Error in the RAPID program.

**Recommended actions**
Check and change the RAPID program.
PP must be moved in all tasks before you can continue.

**41630, Unsafe Synchronization**

**Description**
Task: arg
To reach safe synchronization functionality, variable `arg` should be used only one time, not in several `arg` or `arg` instructions.
Program Ref. arg

**Consequences**
Program tasks/movements may not always be synchronized.

**Probable causes**
Use of `arg` several times in the same program.

**Recommended actions**
Check and change the RAPID program.

**41631, Instruction Error**

**Description**
Task: arg
The program is executing in an EVENT routine. It is not allowed to execute the instruction `arg` in an EVENT routine with shelf `arg`.
Program Ref. arg

**Recommended actions**
Remove the instruction.

**41632, Argument does not exist**

**Description**
Task: arg
The functionality when using arguments TP_SCREENVIEWER and TP_PROGRAM in instruction TPShow has been removed.
Program Ref. arg

**Consequences**
When the instruction with these arguments is executing nothing will happen.

**Recommended actions**
Remove the instruction.

**41633, Can only be used in an UNDO handler**

**Description**
Task: arg
The instruction `arg` can only be used in an UNDO handler.
Program Ref. arg

**Consequences**
Program execution will be stopped.

**Recommended actions**
Use another instruction and/or move this instruction to the UNDO handler.

**41634, Unknown Task Name**

**Description**
Task: arg
The task name `arg` is unknown in the system.
Program Ref. arg

**Consequences**
It is not possible to execute this instruction with a task name that is not found in the system.
6 Trouble shooting by Event log

Probable causes
1. The program task is not defined in the system parameters.
2. The task name is wrong spelled.

Recommended actions
Recovery: arg

41635, Unexpected SyncMoveOff

Description
Task: arg
Unexpected SyncMoveOff (SyncId arg). The system is already in unsynchronized mode.
Program Ref. arg

Probable causes
Use of tasklists that are non global can cause this error.

Recommended actions
Remove the SyncMoveOff instruction. Every SyncMoveOn must be followed by one SyncMoveOff instruction.
Check your tasklists.

41636, Unexpected SyncMoveOff

Description
Task: arg
Unexpected SyncMoveOff (SyncId arg) from Task not included in synchronized group.
Program Ref. arg

Probable causes
Use of tasklists that are non global can cause this error.

Recommended actions
Remove the SyncMoveOff instruction. Every SyncMoveOn must be followed by one SyncMoveOff instruction.
Check your tasklists.

41637, Task not active in task selection panel anymore

Description
Task: arg
The task arg is not active in the task selection panel anymore.
The task arg was active in task selection panel at start from main.
Because of that not possible to pass this arg instruction.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
The task arg has been deactivated in the task selection panel.

Recommended actions
1) Activate task arg in the task selection panel.

2) To permanent skip task arg for the rest of this cycle run the service routine SkipTaskExec.
After that restart the instruction arg.

41638, Not allowed task activation

Description
Task: arg
The task arg is active in the task selection panel. This task was not active in the task selection panel when start from main was done. It is not allowed to add tasks in the task selection panel after start from main.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
1) The task arg was not active when start from main was done.
2) Deactivation of task arg with service routine arg, but not deactivating the task in the task selection panel.
3) Activation of task arg that earlier was deactivated in task selection panel and deactivated with service routine arg.

Recommended actions
Move PP to main to reset tasks used at start from main. Then use the task selection panel to select which tasks that you want to execute.

41640, Move PP Warning

Description
Task: arg
Move of program pointer when path is stored may cause problems if moved to a place after the path restore.

Consequences
Path may unintentionally stay in a stored state.

Probable causes
Stop of program when having a stored path. Then a PP movement within the program has been done.

Recommended actions
Ensure that restore of path is not skipped by moving PP to a RestoPath instruction if necessary.

41641, Move PP Warning

Description
Task: arg
Move of program pointer when stop motion is active may cause problems if moved to a place after stop motion deactivation.

Consequences
Restart of motion may be blocked.
Program execution may be waiting at motion instructions.
6 Trouble shooting by Event log

Probable causes
Stop of program when stop motion is active. Then a PP movement within the program has been done.

Recommended actions
Ensure that stop motion deactivation is not skipped.

41642, Argument Error
Description
Task: arg
Argument arg not within range.
Program Ref. arg

Recommended actions
arg must be > 0 when arg = 0.

41643, Argument Error
Description
Task: arg
Argument arg not within range.
Program Ref. arg

Recommended actions
arg must be an integer when arg < 0

41644, Argument Error
Description
Task: arg
Argument arg not within range.
Program Ref. arg

Recommended actions
arg must greater or equal to 0.

41645, Program Stopped from RAPID
Description
Task: arg
Program and movement are stopped with System Stop from RAPID.
Program Ref. arg

Consequences
Due to a programmed System Stop in RAPID both program execution and movements are stopped. The problem causing the stop has preferably been presented in another log.

Recommended actions
Find out why the program has been stopped (maybe in other logs), correct the problem and restart the program.

41646, Program Blocked from RAPID
Description
Task: arg
Program and movement are stopped and blocked with System Stop RAPID Block from RAPID.
Program Ref. arg

Consequences
Due to a programmed System Stop RAPID Block in RAPID both program execution and movements are stopped. The problem causing the stop has preferably been presented in another log.

Recommended actions
Find out why the program has been blocked (maybe in other logs), correct the problem and move program pointer in all motion tasks before restarting the program.

41647, Program Halted from RAPID
Description
Task: arg
Program and movement are halted with System Halt from RAPID.
Program Ref. arg

Consequences
Due to a programmed System Halt in RAPID both program execution and movements are stopped. The problem causing the stop has preferably been presented in another log.

Recommended actions
Find out why the program has been halted (maybe in other logs), correct the problem and turn motors on before restarting the program.

41648, Execution Error
Description
Task: arg
Not allowed to change run mode from forward to backward, from continues to stepwise or vice versa.
Program Ref. arg

Recommended actions
Select the original run mode and continue program execution.

41649, Incorrect Error Message
Description
Task: arg
At least one of the arguments in the instruction arg exceeds the limitations described in the manual.
Program Ref. arg
Probable causes
The arguments to instruction \textit{arg} contain limitations both on each string and the total amount of characters used in the instruction. This is described in the manual.

Recommended actions
Consult the manual and correct the arguments.

41650, Task already stopped by another task
Description
The non motion task \textit{arg} has executed a StopMove instruction. No stop action has, however, been taken because the motion task \textit{arg} was already stopped by task \textit{arg}.

Consequences
The motion task must be started, with the instruction StartMove, from the task that stopped it or the switch \texttt{\textbackslash AllMotionTasks} has to be used in StartMove from this task.

41651, Ignored StartMove actions for task
Description
The non motion task \textit{arg} has executed a StartMove instruction. The motion task \textit{arg} has, however, not been started.

Consequences
No movements can be performed if the motion task has been stopped by another non motion task.

Probable causes
1. The motion task has not been stopped.
2. The motion task was stopped by another non motion task \textit{arg}.
   This time the cause was \textit{arg}.

Recommended actions
Use the switch \texttt{\textbackslash AllMotionTasks} in StartMove if this instruction should start a movement that is stopped by another non motion task.

41652, Forced StartMove action
Description
The non motion task \textit{arg} has executed a StartMove instruction. The instruction discovered that the motion task \textit{arg} has been stopped by this task. That motion task will be started to prevent inexplicable stopped movements.

Probable causes
1. The motion task has been stopped with the switch \texttt{\textbackslash AllMotionTasks} active in the StopMove instruction but not in the StartMove instruction.
2. The StopMove instruction has been executed in synchronized mode and the StartMove in independent mode.

41653, Argument error CalcJointT
Description
Task: \textit{arg}
It is not possible to execute the function CalcJointT with argument \texttt{\textbackslash UseCurWObjPos}, if the coordinated workobject moved by some mechanical unit is located in the same task as the TCP robot or if the workobject is not moved by any mechanical unit at all.

Program Ref. \textit{arg}

Recommended actions
Remove the argument \texttt{\textbackslash UseCurWObjPos}, so can the function CalcJointT be executed and the calculation can be done with data solely from the RAPID program.

41654, Execution error CalcJointT
Description
Task: \textit{arg}
It was not possible to execute the function CalcJointT with argument \texttt{\textbackslash UseCurWObjPos}, because the mechanical unit \textit{arg} was moving at the time of execution of CalcJointT.

Program Ref. \textit{arg}

Recommended actions
Function CalcJointT with argument \texttt{\textbackslash UseCurWObjPos} can only be executed without error, if the coordinated workobject moved by another task is standing still.

Recovery: \textit{arg}

41655, Argument not a motion task
Description
Task: \textit{arg}
The function CRobT or CJointT has been used with an argument that refer to an other task, \textit{arg}. That task is not a motion task (controlling mechanical units) and can therefore not be used.

Program Ref. \textit{arg}

Probable causes
CRobT or CJointT with argument \texttt{\textbackslash TaskRef} or \texttt{\textbackslash TaskName} can only be used without errors if the task that the arguments refer to is a motion task.

Recommended actions
Change the argument \texttt{\textbackslash TaskRef} or \texttt{\textbackslash TaskName} or remove it and restart the program execution.

Recovery: \textit{arg}

41656, Not allowed value
Description
Task: \textit{arg}
Illegal value in argument \textit{arg}.

Program ref. \textit{arg}
6 Trouble shooting by Event log

Recommended actions
Check and change the value. It must be between \text{arg} and \text{arg}.

41657, File Access Error

Description
Task: \text{arg}
Could not access the file/device \text{arg}.
Program Ref. \text{arg}

Probable causes
- The path or filename is wrong.
- The maximum number of simultaneously opened files is exceeded.
- The disk is full.
- Function does not support check of selected device.

Recommended actions
- Check the path or filename.
- Check the disk space.

Recovery: \text{arg}

41658, Program task is in StopMove state

Description
Task: \text{arg}
No movement will be performed in this motion task, because the task is currently set in StopMove state ordered by some non-motion task.

Consequences
Not possible to start any movements.

Probable causes
Some non-motion task connected to this motion task has set the task in StopMove state.

Recommended actions
To perform movements in this motion task, the StopMove state must be reset by the responsible non-motion task with one of the following actions:
1) Execute StartMove
2) Start the non-motion task from main
   a) Do power off-on if semi static non-motion task
   b) Do installation start if static non-motion task
   c) Set PP to main if normal non-motion task

Recovery: \text{arg}

41660, No space left for the new view

Description
Task: \text{arg}
Maximum number of views has been exceeded. There is no space left on the FlexPendant for the new view.
Program Ref. \text{arg}

Consequences
The view will not be launched.

Probable causes
Too many open views.

Recommended actions
Close one view and try again.
Recovery: \text{arg}

41661, Assembly could not be found

Description
Task: \text{arg}
1) The assembly could not be found, or does not exist.
2) The FlexPendant Interface option is missing.
Status \text{arg}.
Program Ref. \text{arg}

Consequences
The view will not be launched.

Probable causes
1) The assembly \text{arg} could not be found.
2) The system image does not include the required option FlexPendant Interface.

Recommended actions
1) Check inparameters. Make sure that the modules been loaded correctly to the robot controller.
2) Check that FlexPendant Interface option is used.
Recovery: \text{arg}

41662, Assembly could not be loaded

Description
Task: \text{arg}
The assembly was found but could not be loaded.
Status \text{arg}.
Program Ref. \text{arg}

Consequences
The view will not be launched.

Recommended actions
Make sure that the loaded modules are executable files for the FlexPendant.
Recovery: \text{arg}

41663, Instance could not be created

Description
Task: \text{arg}
The assembly exist but no new instance could be created.
Status \text{arg}.
Program Ref. \text{arg}
Consequences
The view will not be launched.

Recommended actions
Make sure that the loaded modules are executable files for the FlexPendant.
Recovery: arg

41664, The typename is invalid for this assembly

Description
Task: arg
The inparameter arg is invalid. The typename does not match the assembly.
Status arg.
Program Ref arg.

Consequences
The view will not be launched.

Recommended actions
Check the inparameters.
Recovery: arg

41665, arg does not match assembly to load

Description
Task: arg
The type or name of the assembly does not match with the used arg.
Status arg.
Program Ref arg.

Consequences
The view will not be launched.

Probable causes
Use of arg without setting it to 0 first.

Recommended actions
Set arg to 0 before using it.
Recovery: arg

41666, Fatal UIShow error

Description
Task: arg
Unknown error code arg received.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Recommended actions
Report this to ABB Robotics.

41670, Entire Array Not Allowed As Argument

Description
Task: arg
The argument arg is of data type any type and can for that reason only be checked during runtime.
An entire array can not be used as argument even if the array is of right data type.
Program ref. arg

Consequences
The program execution is immediately stopped.

Recommended actions
Replace the array with a valid argument.

41671, Too high poll rate

Description
Task: arg
The specified poll rate is too high for the robot system.
Program Ref. arg

Consequences
The system can be overloaded.

Recommended actions
Change instruction WaitUntil, argument \PollRate to a value greater than or equal to 0.01 s.

41672, Invalid Combination

Description
Task: arg
Invalid combination of paramters in Trigg
Program Ref: arg

Recommended actions
Either run Trigg without /Time option or use TriggRampAO with option \Time on ramplength.

41673, Index Out Of Bounds

Description
Task: arg
Index for cfg instance was out of bounds
Program Ref: arg

Consequences
The program execution is immediately stopped.

Recommended actions
Check and change the RAPID program.
Recovery: arg
6 Trouble shooting by Event log

41674, Value Out Of Bounds

Description
Task: arg
Parameter arg is not between the range of 0 to 100.
Program Ref: arg

Recommended actions
Check and change the RAPID program.
Recovery: arg

41675, Not Integer

Description
Task: arg
Parameter arg is not an integer.
Program Ref: arg

Recommended actions
Check the RAPID program, or use ERROR handler
Recovery: arg

41676, Device access error

Description
Task: arg
Unable to open File or Serial channel, 'arg' does not exist.
Program Ref: arg

Recommended actions
Check file or serial channel name.
Recovery: arg

41677, Device access error

Description
Task: arg
Unable to write to file: arg, the disc is full.
Program Ref: arg

Recommended actions
Make sure there are enough free space on the disc.
Recovery: arg

41678, Device access error

Description
Task: arg
Unable to write to file: arg, The file is write protected.
Program Ref: arg

Recommended actions
Remove the write protection of the file or select a different filename.
Recovery: arg

41679, Device access error

Description
Task: arg
The maximum number of simultaneously open files is exceeded.
Program Ref: arg

Recommended actions
Close one or more I/O devices and try again
Recovery: arg

41680, String too long

Description
Task: arg
The string arg exceeds the maximum number of characters allowed for a module.
Program Ref: arg

Recommended actions
Change the string for module name.
Recovery: arg

41682, Too many subscriptions from I/O

Description
Task: arg
The number of simultaneous subscriptions on signal events has been exceeded.
Program Ref: arg

Recommended actions
Remove some subscriptions on signals or change the time for the event.
(i.e any ISignalXX or TriggIO)

41683, Argument Error

Description
Task: arg
The argument arg must be given when searching for a not named parameter.
Program Ref: arg

Recommended actions
Add the parameter arg to the instruction.

41684, Value Error

Description
Task: arg
The argument arg is outside the range of value type unsigned long.
Program Ref: arg
Probable causes
The value is too large.

Recommended actions
Use a smaller value for arg

---

41685, Not valid value

Description
Task: arg
A wrong combination of switch and value is used.
The signal can have values between:
Min: arg
Max: arg
Switch and value used: arg
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
Wrong value used, or wrong switch used.

Recommended actions
Change the value used, or change the switch argument.

---

41687, File Open Error

Description
Task: arg
Unable to open arg
Program Ref. arg
An unknown error occurred while opening the file.

Probable causes
- If the file was located on an USB disk, check that the disk is not removed, or has to many files in root folder.
- Check that the given file is not a directory

Recommended actions
Do a check of Probable Causes.
Recovery: arg

---

41688, Invalid Argument

Description
Task: arg
In parameter arg is declared as a PERS.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
Using a PERS in argument arg to instruction arg.

---

41689, Parameter Error

Description
Task: arg
The argument arg is of the type arg and is not valid to use.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Recommended actions
Check the data type. Non-value, semi-value types or motsetdata data type can not be used.

41691, RMQ Error - Client name not valid

Description
Task: arg
The name arg can not be found. It is not a valid RMQ client name.
Program Ref. arg

Probable causes
A non valid name is used.

Recommended actions
Change name to search for.
Recovery: arg

41692, RMQ Error - Not valid Slot

Description
Task: arg
The arg used is not valid.
Program Ref. arg

Consequences
Communication with client with current arg is no longer possible.

Probable causes
1) The arg has not been initialized.
2) The destination slot is not valid anymore. This can happen if a remote client has disconnected from the controller.
3) Instruction RMQSendWait was restarted after a power fail. When the instruction is restarted, the arg is set to 0.

Recommended actions
Recovery: arg

41693, RMQ Error - Max size for message exceeded

Description
Task: arg

---
The size of the data in arg exceeds maximum size.
Program Ref. arg

Consequences
The message will not be sent.

Probable causes
Trying to send larger messages than arg. Due to limitations in RMQ, such big messages cannot be sent.

Recommended actions
Send smaller messages.
Recovery: arg

41694, RMQ Error - Not equal datatypes

Description
Task: arg
The datatype in the rmqmessage is of the type arg and the datatype in argument Data is of the type arg.
Program Ref. arg.

Consequences
No data can be fetched.

Probable causes
1) The data type in the rmqmessage is of type arg and the data type used in argument Data is of type arg.
2) If the data types has equal names, the structure of the data can be different.

Recommended actions
1) Use datatype arg in argument Data.
2) Check that the data types are equal defined in both sender and receiver code.
Recovery: arg

41695, RMQ Error - Not equal dimensions on data

Description
Task: arg
The data types are equal, but the dimensions differs between the data in the message and the parameter used in argument arg
Program Ref. arg

Consequences
The data could not be copied.

Recommended actions
Use a parameter in argument arg with equal dimensions as the data in the message.
Recovery: arg

41696, RMQ Error - Not valid use of instruction

Description
Task: arg
The instruction arg is only supported on TRAP level.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
Instruction arg is used either on user execution level or normal execution level.

Recommended actions
Remove instruction, or move it to a TRAP routine.

41697, RMQ Error - No RMQ configured

Description
Task: arg
No RMQ is configured for task arg.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
No configuration has been added for the RAPID Message Queue.

Recommended actions
Add configuration for the RAPID Message Queue.

41698, RMQ Error - Faulty use of instruction

Description
Task: arg
Instruction arg can only be used on normal level, not in a TRAP routine or service routine.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
Instruction arg used on wrong level.

Recommended actions
Use instruction on normal level.

41699, RMQ Error - Max size for message exceeded

Description
Task: arg
The size of the data in arg exceeds maximum size.
Program Ref. arg
6 Trouble shooting by Event log

Consequences
The message will not be sent.

Probable causes
Trying to send larger messages than allowed. The receiving client is not configured to receive the size of the message sent.

Recommended actions
Change the size of the RMQ for the receiver, or send smaller messages.

Recovery:

41700, RMQ Error - Interrupt setup failed

Description
Task: arg
Two different interrupt identities cannot be used for the same data type in instruction arg. Each data type needs a unique interrupt identity and unique TRAP routine.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
Same data type is used in two arg instructions with two different interrupt identities.

Recommended actions
An unique interrupt identity is needed for each data type when order and enable interrupts for a specific data type.

Recovery:

41701, RMQ Error - No message to collect

Description
Task: arg
Instruction arg failed. There was no message to collect.
Program Ref. arg

Consequences
No message was collected.

Probable causes
1) This can happen if a power fail occur between the trap was ordered and the instruction arg was executed.
2) If multiple use of arg in a TRAP routine.
3) If using arg in a TRAP routine that execute without any new message in the RMQ.

Recommended actions
Recovery: arg

41702, RMQ Error - arg not valid

Description
Task: arg
Use of non-valid data in argument arg.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
Use of a variable arg that not contain any valid data. The variable has only been initialized, no valid data has been copied to the variable.

Recommended actions
Check the RAPID program.

Recovery:

41703, RMQ Error - Data could not be copied

Description
Task: arg
The data type arg exceeds the maximum size supported for the RMQ configured for task arg.
Program Ref. arg

Consequences
No message has been received.

Probable causes
The RMQ of the receiving task is not configured for the size of the data sent. The sending client have sent data that is bigger then the size the RMQ for task arg can receive.

Recommended actions
Increase the size of the RMQ for task arg.
Or, send less data.
Recovery: arg

41704, RMQ Error - Full Queue

Description
Task: arg
The client named arg can not receive more messages.
Program Ref. arg

Consequences
The sent message will be thrown.

Probable causes
The client does not receive in the same pace as the sender is sending messages. If using instruction arg, you might need a wait time between each arg instruction.

Recommended actions
The client should receive messages to make room for new messages.
Or the sender should limit the number of messages sent.
Recovery: arg

41705, RMQ Error - Max Time Expired

Description
Task: arg
The programmed waiting time has expired.
Program Ref. arg
6 Trouble shooting by Event log

Consequences
There is no guarantee that the message has arrived to the client.

Probable causes
1) The client that should receive the message is not interested of receiving data of the specified data type. The message has been discarded.
2) The client has received the message, and in the answer sent a data type not matching with the specified data type used in arg of instruction arg.
3) The client has received the message. The answer is delayed so the time out time for instruction arg expired.

Recommended actions
1) Check the client program.
2) Increase the waiting time for instruction arg.
Recovery: arg

41706, RMQ Error - Max Time Expired
Description
Task: arg
The programmed waiting time has expired.
Program Ref: arg

Consequences
No message has been received.

Probable causes
The time out time for instruction arg expired.

Recommended actions
Increase the waiting time for instruction arg.
Recovery: arg

41707, RMQ Error - Instruction invalid in current mode
Description
Task: arg
arg is only allowed when RMQ is configured in arg mode.
Program Ref: arg

Consequences
The program execution is immediately stopped.

Probable causes
The RMQ is configured in arg mode.

Recommended actions
Change the configuration of the RAPID Message Queue in arg to arg mode, or use an instruction that is allowed in the current mode.

41708, RMQ Error - Invalid message
Description
Task: arg
The received RMQ message was invalid.
Program Ref: arg

Consequences
The received RMQ message was discarded.

Probable causes
A received RMQ message had a corrupt header or data part.

Recommended actions
Recovery: arg

41711, Value is not percent
Description
Task: arg
The value of argument arg is not a valid percent.
Program Ref: arg

Recommended actions
Check that the value is in the range of 0 to 100.

41712, Argument Error
Description
Task: arg
Tooldata arg has been defined, but is no longer available in the system.
Program Ref: arg

Probable causes
Tooldata might have been defined in a module that is no longer available in the system.

41713, Argument Error
Description
Task: arg
Wobjdata arg has been defined, but is no longer available in the system.
Program Ref: arg

Consequences
Wobjdata might have been defined in a module that is no longer available in the system.

41714, Too many error events
Description
Execution of task arg has stopped. There are too many unhandled error events in queue. The system can only handle one error event at a time.

Consequences
The system goes to blocked state and can not be restarted before moving the program pointer to an arbitrary position.
Probable causes
A power fail restart (warm start) occurred while handling a process error.

Recommended actions
Never warm start the system while handling a process error. If warm start is needed, first move PP to Main in all tasks to reset the process error.

41715, Invalid Direction

Description
Task: arg
The argument arg must be either CSS_X, CSS_Y or CSS_Z.
Program Ref: arg

Recommended actions
Check the value of arg

41716, Invalid Offset Direction

Description
Task: arg
The argument arg must be either CSS_POSX, CSS_NEGX, CSS_POSY, CSS_NEGY, CSS_POSZ, CSS_NEGZ
Program Ref: arg

Recommended actions
Check the value of arg

41717, Too Low Value

Description
Task: arg
The value of argument arg is too low.
Program Ref: arg

Recommended actions
Increase the value of arg

41718, Invalid Dimensions

Description
Task: arg
Dimension arg on searched symbol is incompatible with dimension arg in argument.
Program Ref: arg.
A dimension of ‘(0)’ means given symbol is of non array type.

Recommended actions
Recovery: arg

41719, Illegal Parameter

Description
Task: arg
The symbol in argument arg is an array from a parameter. Arrays from parameters are illegal to use in SetDataVal/GetDataVal.
Program Ref: arg

41720, Path Not In Stop Point

Description
Task: arg
The path did not finish for the following task(s): arg make sure the task is running.
Program Ref: arg

Probable causes
The task is not running or the movement has been stopped.

Recommended actions
Recovery: arg

41721, Invalid Argument

Description
Task: arg
The type arg in argument arg is invalid.
Program Ref: arg

Recommended actions
Change the type to a valid one (arg).

41722, Too High Value

Description
Task: arg
The value of argument arg is too high. The value must be between arg and arg.
Program Ref: arg

41723, Bus is in error state

Description
Task: arg
The I/O unit arg can not be activated. The bus arg is in error state.
Program Ref: arg

Consequences
Unit arg could not be activated.

Probable causes
Bus is in error state.

Recommended actions
Recovery arg
6 Trouble shooting by Event log

41724, Current Work Object is Invalid
Description
Task: arg
Cartesian Soft Servo Activation is not allowed with a moving work object. Only a programmed user frame is allowed.
Program Ref: arg

41725, Invalid Configuration Settings
Description
Task: arg
The configuration parameters for Cartesian Soft Servo are invalid. The current combination can lead to unstable behaviour.
Program Ref: arg
Recommended actions
Change the configuration for Cartesian Soft Servo

41726, Ignored StopMoveReset actions for task
Description
Task: arg
The StopMoveReset instruction had no impact on the system
Program Ref: arg
Consequences
The StopMove was not reset.
Probable causes
1. The motion task has not been stopped.
2. The motion task was stopped by another non motion task: arg.
This time the cause was arg.
Recommended actions
Use the switch \AllMotionTasks in StopMoveReset if this instruction should reset a StopMove from another non motion task.

41727, The size can not be represented in a num
Description
Task: arg
When using instruction arg to read the size of the file system, it was detected that the value is too big to be set in a num.
Program Ref: arg
Consequences
The size can not be read.
Probable causes
The value can not be represented in a num.
Recommended actions
Use a switch to specify another unit to show the size in.
Recovery: arg

41730, Signal exceeds max number of allowed bits
Description
Task: arg
The signal arg is too big. If using signals over 23 bits, use the datatype triggiosdnum that accept signals up to 32 bits.
Program ref. arg
Recommended actions
Group signals can have 23 bits or less if using datatype triggios in arg instruction.

41731, Signal name undefined
Description
Task: arg
The signal arg is unknown in the system.
Program Ref. arg
Consequences
The program execution is immediately stopped.
Probable causes
The signal must be defined in the system parameters.
Recommended actions
Define the signal in the system parameters.

41732, Too many trigs used
Description
Task: arg
Too many trigs has been set up for instruction arg. The limit is arg.
Program Ref. arg
Consequences
The program execution is immediately stopped.
Recommended actions
Remove some trig actions in arg instruction.

41737, Instruction order Error
Description
Task: arg
The instruction arg needs to be executed before instruction arg.
Program Ref. arg.
Probable causes
Instruction arg was executed before instruction arg.
Recommended actions
Execute instructions in right order.
Recovery: arg
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41738, Wrist Interpolation option needed

Description
Task: arg
Instruction arg is used with a switch that requires option Wrist Interpolation.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
Missing a Robotware option.

Recommended actions
Do not use any of the following switches: arg.

41739, StorePath required

Description
Task: arg
Instruction arg is executing in an error handler or a trap routine. Use arg before using a movement instruction on other level then base.
Program Ref. arg

Consequences
The program execution is immediately stopped.

Probable causes
A movement instruction executed without having the path stored.

Recommended actions
Execute arg before using movement instruction arg.
Read Programming type examples in the RAPID manual to see how to use movement instructions in TRAP routines and error handlers.

41740, Load Identification failed

Description
Task: arg
WARNING!
Not possible to identify the mass for the arg because of too small weight for automatic load identification.
Program Ref. arg

Recommended actions
Do a manually estimation of the actual load and manually edit the RAPID program.

41741, Calculation overflow

Description
Task: arg
The calculation result is not within the range 0 - 4294967295.
Program Ref. arg

Consequences
The calculation will return error.

Probable causes
The values in the operation is probably to big.

Recommended actions
Recovery: arg

41742, Negative subtraction

Description
Task: arg
The subtraction result is negative.
Program Ref. arg

Consequences
The calculation will return error.

Probable causes
The first value in the subtraction is smaller than the second value.

Recommended actions
Make sure the first value is larger than the second upon subtraction.
Recovery: arg

41743, Division with zero

Description
Task: arg
Division with zero
Program Ref. arg

Consequences
Calculation will return error.

Probable causes
Division with zero.

Recommended actions
Recovery: arg

41744, Instruction Error

Description
Task: arg
The program is executing in an ERROR handler. It is not allowed to execute the instruction arg in an ERROR handler.
Program Ref. arg

Recommended actions
Remove the instruction

41745, Instruction Error

Description
Task: arg
The program is executing in an BACKWARD handler. It is not allowed to execute the instruction \textit{arg} in an BACKWARD handler.

**Program Ref.** \textit{arg}

**Recommended actions**
Remove the instruction

---

### 41746, Instruction Error

**Description**
Task: \textit{arg}
The program is executing at USER level, i.e. in an event routine or a service routine. It is not allowed to execute the instruction \textit{arg} at USER level.

**Program Ref.** \textit{arg}

**Recommended actions**
Remove the instruction

---

### 41747, Process signal off

**Description**
Task: \textit{arg}
The process signal \textit{arg} is set to off (0).

**Program Ref.** \textit{arg}

**Consequences**
A recoverable error ERR_PROCSIGNAL_OFF is thrown.

**Probable causes**
The optional argument "ProcSignal has been used for the instruction ProcerrRecovery. The signal makes it possible for the user to turn on/off the instruction ProcerrRecovery.

**Recommended actions**
Add an error handler for ERR_PROCSIGNAL_OFF error or remove the optional argument "ProcSignal from the instruction call.

---

### 41748, Value Error

**Description**
Task: \textit{arg}
Illegal value in argument \textit{arg}.

**Program Ref.** \textit{arg}

**Recommended actions**
Check the RAPID program.

**Recovery:** \textit{arg}

---

### 41749, Value Error

**Description**
Task: \textit{arg}
The value for parameter \textit{arg} is out of limit.

**Program Ref.** \textit{arg}

---

### 41750, Not allowed value

**Description**
Task: \textit{arg}
Illegal value in argument \textit{arg}.

**Program Ref.** \textit{arg}

**Probable causes**
1) The system has interpreted the expression as a num data type, and the value is above the maximum integer value for num (value 8388608).
2) The system has interpreted the expression as a dnum data type, and the value is above the maximum integer value for a dnum (value 4503599627370496).

**Recommended actions**
Check and change the value.
The parameter name \textit{arg} can give you information about how the system interpreted the indata.

---

### 41751, Array size error

**Description**
Task: \textit{arg}
The array \textit{arg} is not big enough to fit \textit{arg} number of elements.

**Program Ref.** \textit{arg}

**Consequences**
The program execution is immediately stopped.

**Recommended actions**
Change the size of the array to fit all elements.

---

### 41752, Num Limit Error

**Description**
Task: \textit{arg}
The value for parameter \textit{arg} is out of limit.

**Program Ref.** \textit{arg}

**Recommended actions**

**Recovery:** \textit{arg}

---

### 41753, Invalid path level

**Description**
Task: \textit{arg}
The value for parameter \textit{arg} is out of limit.

**Program Ref.** \textit{arg}

**Recommended actions**

**Recovery:** \textit{arg}
**6 Trouble shooting by Event log**

**Consequences**
The program execution is immediately stopped.

**Probable causes**
Executing arg on wrong path level.

**Recommended actions**
Check the RAPID program.

**41754, Path Recorder cleared**

**Description**
Task: arg
WARNING!
Path Recorder is cleared. The stored path is cleared before doing friction identification.
Program Ref. arg

**41755, Path time too long**

**Description**
Task: arg
Execution time is too long for friction tuning. \( \text{arg} > \text{arg} \), which is the maximum time in seconds.
Program Ref. arg

**Consequences**
The program execution is immediately stopped.

**Recommended actions**
Increase speed or shorten the length of the path.

**41756, Missing FricIdInit**

**Description**
Task: arg
arg must be executed before arg.
Program Ref. arg

**Consequences**
The program execution is immediately stopped.

**Recommended actions**
Specify another mechanical unit.

**41757, Mechanical unit not found**

**Description**
Task: arg
Mechanical unit arg not found.
Program Ref. arg

**Consequences**
The program execution is immediately stopped.

**Recommended actions**
Use a variable of the type arg instead of a variable of type arg.

**41758, Array too small**

**Description**
Task: arg
The array used is too small.
The size of the array arg must be equal to arg, the number of robot axes.
Program Ref. arg

**Consequences**
The program execution is immediately stopped.

**Recommended actions**
Increase the size of the array arg.

**41759, Signal exceeds max number of allowed bits**

**Description**
Task: arg
The signal arg is too big.
Program ref. arg

**Recommended actions**
Group signals consisting of 23 bits or less can be used in IF statements and assigned to the num datatype.
Group signals consisting of 24 - 32 bits can not be used in IF statements. Instead use the functions arg or arg.

**41760, arg when in synchronized mode**

**Description**
Task: arg
arg cannot be used together with synchronized movement.
Program ref.: arg

**Consequences**
The program execution is immediately stopped.

**Recommended actions**
Remove any SyncMoveOn between arg and arg.

**41761, Value out of range**

**Description**
Task: arg
The integer value arg can not be copied to a arg datatype. The value is out of limit for the data type arg.
Program ref.: arg

**Consequences**
The program execution is immediately stopped.

**Recommended actions**
Use a variable of the type arg instead of a variable of type arg.
41762, The argument string value is invalid

**Description**

Task: arg

The argument string arg is invalid and can not be converted.

**Program ref.:** arg

**Consequences**

The program execution is immediately stopped.

**Probable causes**

1) The only valid letter characters is a-f and A-F and only for HexToDec.
2) The ., - and + characters is not valid for HexToDec.
3) The - character is not valid for DecToHex.
4) The value is not an valid integer.

**Recommended actions**

Edit the argument string so it gets valid and can be converted.

41763, The argument string value is too high

**Description**

Task: arg

The argument string arg value exceeds the highest supported value in the system.

**Program ref.:** arg

**Consequences**

The argument value string is converted but it is set to the highest supported value (9223372036854775807).

**Probable causes**

The argument string value exceeds the highest supported value.

**Recommended actions**

Edit the argument value string so it do not exceed the highest supported value.

41764, Wrong combination in arg

**Description**

Task: arg

When using instruction arg, you can not add a dnum variable/persistent to a num variable/persistent.

**Program ref.:** arg

**Probable causes**

The value to be added is of the type dnum, and the variable/persistent that should be changed is a num.

**Recommended actions**

Read about arg in RAPID reference manual

41765, The argument value is too high

**Description**

Task: arg

Too high value in argument arg.

**Program Ref.** arg

**Probable causes**

The argument value exceeds the highest supported value. (arg)

**Recommended actions**

Decrease the value for argument arg.

Recovery: arg

41766, Illegal combination of inarguments

**Description**

Task: arg

It is not allowed to combine argument arg with argument arg.

The value to be stored in the variable can be higher then the maximal value for a num integer.

**Program Ref.** arg

**Consequences**

The program execution is immediately stopped.

**Recommended actions**

Use argument arg instead.

50021, Joint position error

**Description**

Actual position of joint arg is too far away from the ordered position.

**Recommended actions**

Check tuning parameters, external forces or hardware.

50022, Too low DC-link voltage

**Description**

The drive units cannot detect the dc link voltage, or the voltage is too low.

This can occur if the DC link bus bar is not correctly inserted or if the mains contactors do not close properly.

**Recommended actions**

Check the DC bus bar is correctly inserted between the drive unit and the rectifier.

Check that the motors on contactors are closed and that there is voltage on the side connected to the rectifier.

50024, Corner path failure

**Description**

Task: arg
Corner path executed as stop point due to some of the following reasons:
- Time delay.
- Closely programmed points.
- System requires high CPU-load.

Program Ref. arg

Recommended actions
- Reduce the number of instructions between consecutive move instructions.
- Reduce speed, use wider spaced points, use /CONC option.
- Increase ipol_prefetch_time.

50025, Restart interrupted

Description
Current position is too far from path.

Recommended actions
Make a new restart with regain.

50026, Close to singularity

Description
Task: arg
Robot too close to singularity.
Program Ref. arg
(Internal code: arg)

Recommended actions
Modify path away from the singularity or change to joint interpolation.

50027, Joint Out of Range

Description
Position for arg joint arg is out of working range.

Recommended actions
Use the joystick to move the joint into its working range.

50028, Jog in wrong direction

Description
Position for arg joint arg is out of working range.

Recommended actions
Use the joystick to move the joint in opposite direction.

50029, Robot outside its limits

Description
The robot arg has reached the configuration limit for the parallelogram transmission.

Recommended actions
Use the joystick to move the involved joint into the working range again.

50030, Robot outside its limits

Description
Jogging was made in wrong direction when parallelogram was out of working range for robot arg.

Recommended actions
Use the joystick to move the joint in opposite direction.

50031, Command not allowed

Description
System parameters cannot be changed in MOTORS ON state.

Recommended actions
Change to MOTORS OFF.

50032, Command not allowed

Description
An attempt was made to calibrate while in MOTORS ON state.

Recommended actions
Change to MOTORS OFF.

50033, Command not allowed

Description
An attempt was made to commutate the motors in MOTORS ON state.

Recommended actions
Change to MOTORS OFF.

50035, Command not allowed

Description
An attempt was made to synchronize in MOTORS ON state.

Recommended actions
Change to MOTORS OFF.

50036, Correct regain impossible

Description
A stop occurred with too many close points with corner zones. At restart the robot will move to a point farther forward in the program.

Recommended actions
Reduce the number of close points, increase the distance between them or reduce the speed.
50037, MOTORS ON order ignored

**Description**
MOTORS ON order ignored since the previous stop was not yet acknowledged.

**Recommended actions**
Order MOTORS ON again.

50041, Robot in a singularity

**Description**
The robot is too close to a singularity.

**Recommended actions**
During program execution, use SingArea instruction or joint interpolation.
During jogging, use axis by axis.

50042, Could not create path

**Description**
The path could not be created.

**Recommended actions**
Increase the distance between close points and/or decrease speed and/or change acceleration value.

50050, Position outside reach

**Description**
Position for arg joint arg is outside working area.
Joint 1-6: Number of the axis which causes the error.
Joint 23: Combination of axis 2 and 3 causes the error.

**Probable causes**
The reason may be that ConfL_Off is used and a movement is too large, more than 90 degrees for an axis.

**Recommended actions**
- Check work object or working range.
- Move the joint in joint coordinates.
- Check motion configuration parameters.
- Insert intermediate points on large movements.

50052, Joint speed error

**Description**
The speed of joint arg is wrong relative the ordered speed due to error in system or collision.

**Recommended actions**
- Check the tune parameters, external forces on the joint and hardware.
- Reduce programmed speed.

50053, Too large revolution counter difference

**Description**
Too large revolution counter difference for joint arg. The system has detected too large a difference between the actual revolution counter value on the serial measurement board and the value anticipated by the system.

**Consequences**
The robot is not calibrated and may be jogged manually, but no automatic operation is possible.

**Probable causes**
The position of the robot arm may have been changed manually while the power supply was switched off. The serial measurement board, resolver or cables may also be faulty.

**Recommended actions**
1) Update the revolution counter.
2) Check resolver and cables.
3) Check the serial measurement board to determine whether it is faulty. Replace the unit if faulty.

50055, Joint load too high

**Description**
Actual torque on joint arg too high. Might be caused by incorrect load data, too high acceleration, high external process forces, low temperature or hardware error.

**Recommended actions**
- Check load data.
- Reduce acceleration or speed.
- Check hardware.

50056, Joint collision

**Description**
Actual torque on joint arg is higher than ordered while at low or zero speed. Might be caused by jam error (the arm has got stuck) or hardware error.

**Recommended actions**
Check that arm is not stuck.
Check hardware.
Check for other hardware eventlogs.

50057, Joint not synchronized

**Description**
The position of joint arg after power down/failure is too far away from the position before the power down/failure.

**Recommended actions**
Make a new update of the revolution counter.
50058, Tool coord. system error
Description
The z-direction of the tool coordinate system is almost parallel with the path direction.
Recommended actions
Change the tool coordinate system to achieve at least 3 degrees deviation between z-direction and path direction.

50060, Incorrect tool
Description
The definition of stationary tool is not valid.
Recommended actions
Check the tool and object data.

50063, Circle uncertain
Description
Task: arg
The points are misplaced, reason: arg:
1 End point too close to start point.
2 Circle point too close to start point.
3 Circle point too close to end point.
4 Uncertain reorientation.
5 Circle too large > 240 degrees.
Program Ref: arg
Recommended actions
Check the points of the circle and the end point of the move instruction before. The points of the circle can be verified by stepping through the circle in manual mode.

50065, Kinematics error
Description
The destination of the movement is outside the reach of the robot or too close to a singularity. Robot arg.
Recommended actions
Change the destination position.

50066, Robot not active
Description
Attempt to coordinate motion or calculate position of deactivated robot arg.
Recommended actions
Activate robot via the Motion Unit key, then Jogging window, or program. Check work object and program.

50067, Unit not active
Description
Attempt to coordinate motion or calculate position of deactivated single unit arg.
Recommended actions
Activate unit via Motion Unit key, then Jogging window, or program. Check work object and program.

50076, Orientation not correct
Description
Orientation is incorrectly defined.
Recommended actions
Make an accurate normalization of the quaternion elements.

50078, Too many close positions
Description
Too many consecutive closely spaced positions.
Recommended actions
Increase the distance between consecutive close positions.

50079, Cannot use wrist weaving
Description
Wrist weaving not possible.
Recommended actions
Use smaller weaving amplitude or a larger TCP.

50080, Position not compatible
Description
The desired position cannot be reached with the given robot configuration. Robot arg.
Recommended actions
Modify the robot position in the program.

50082, Deceleration limit
Description
The path calculation for mechanical units running in motion planner arg exceeds internal limit. The motion planner task did not execute within its time limit.
Probable causes
The cpu load is too high. Could for example be generated by too frequent EIO communication.
Recommended actions
1. Set system parameter High Interpolation Priority for the affected Motion Planner.
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2. Try to reduce the cpu load by one or more of the following actions:
   - Reduce speed
   - Change AccSet
   - Avoid singularity (SingArea/Wrist).
   - Increase Path Resolution for the affected Motion Planner using system parameter or by using the Rapid instruction PathResol for critical movements.

50083, Speed lowered by system.

Description
The speed has been lowered by the system due to dynamic limitations.

Recommended actions
Decrease speed and/or do not use close positions at high speed and/or increase acceleration (if below 100%).

50085, Too many user frames.

Description
For mechanical unit arg more than one user frame has been defined.

Recommended actions
Take away one user frame or define one more mechanical unit.

50086, Singularity problem

Description
Too close to wrist singularity with respect to numerical resolution for joint 4 of arg.

Recommended actions
Change destination position a few increments.

50087, Singularity problem

Description
Too close to wrist singularity with respect to numerical resolution for joint 6 of arg.

Recommended actions
Change destination position a few increments.

50088, Restart not possible

Description
It is not possible to restart the path due to a previous error.

Recommended actions
Move the program pointer to clear the path and start a new movement.

50089, Weaving changed

Description
Task: arg
The ordered weaving is not achieved due to:

- high weaving frequency
- not allowed shift of weave method or
- that SingArea/Wrist is used with wrist weave.

Program Ref. arg

Recommended actions
Increase weave length or period time.
Don't shift between arm and wrist weave.
Use SingArea/Off with wrist weave.

50091, Restart not possible.

Description
Restart no longer possible. Change of unit state made restart of program impossible.

Recommended actions
Move the program pointer and start a new movement.

50092, Axis computer response

Description
Incorrect response from axis computer.

Recommended actions
Check motion configuration parameters.
Check axis computer hardware.

50094, TuneServo not possible

Description
Tuning is not implemented for the specified joint.

Recommended actions
Verify that a parameter and/or joint that can be used with TuneServo is chosen.

50095, Cannot access joint.

Description
Cannot access external joint.

Recommended actions
Check configuration and activation of external Joints.

50096, TuneServo not allowed

Description
Tuning is not allowed for the specified joint.

Recommended actions
Verify that a parameter and/or joint that can be used with TuneServo is chosen.
<table>
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<tr>
<th>ID</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
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<td>There are more configurations or numerical errors in motion domain.</td>
<td>Correct previous ones and try again.</td>
</tr>
<tr>
<td>50101, Manipulator configuration</td>
<td>'arg' is not free for the param. 'arg' in type 'arg' named 'arg'.</td>
<td>Use another one. For internal names, see moc_chk.log.</td>
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<td>50102, Manipulator configuration</td>
<td>'arg' used in the parameter 'arg' in type 'arg' named 'arg' is not defined.</td>
<td>Use another one that is defined or define the used one. For internal names, see moc_chk.log.</td>
</tr>
<tr>
<td>50103, Manipulator configuration</td>
<td>The orientation defined by quaternions including 'arg' in the type 'arg' named 'arg' is not normalized. (SQRSUM =1)</td>
<td>Check the quaternions and/or recalculate them. For internal names, see moc_chk.log.</td>
</tr>
<tr>
<td>50104, Manipulator configuration</td>
<td>The parameter 'arg' in type 'arg' named 'arg' is not 'arg'.</td>
<td>Check the value. For internal names, see moc_chk.log.</td>
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<tr>
<td>50128, Manipulator configuration</td>
<td>Terminating the topic check for manipulator due to earlier errors.</td>
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</tr>
<tr>
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<td>Commutation failed for joint arg.</td>
<td>- Make a new commutation.</td>
</tr>
<tr>
<td>50133, Test signal error.</td>
<td>No test signals are available for robot arg.</td>
<td>Verify that correct test signals are defined.</td>
</tr>
<tr>
<td>50134, Corr. vector warning</td>
<td>Sensor correction vector calculations failed due to previous error.</td>
<td></td>
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<td>50135, SoftAct not possible.</td>
<td>Soft servo is not possible to activate.</td>
<td>Verify that a joint that can be used with SoftAct is chosen.</td>
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<td>Continuous mode without any finepoint in the program.</td>
<td></td>
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<tr>
<td>50138, Arm check point limit</td>
<td>The robot arg has reached the limit for arm check point.</td>
<td></td>
</tr>
<tr>
<td>50139, Arm check point limit</td>
<td>Jogging was made in wrong direction when arm check point was out of working range for robot arg.</td>
<td>Use the joystick to move the joint in opposite direction.</td>
</tr>
</tbody>
</table>
### 50140, Payload too large

**Description**
Heavy payload caused static torque limit to be exceeded on joint arg.

**Recommended actions**
Check and reduce payload for arm and/or wrist. Reduce joint working range to decrease static torque due to gravity.

### 50141, Jog or Speed error

**Description**
One of the following problems occurred:
- Jogging error
- High speed error
- Robot too close to singularity

**Recommended actions**
- Jog with incremental movement
- Reduce the programmed speed

### 50142, Manipulator configuration

**Description**
Configuration of the manipulator failed.

**Recommended actions**
Check the parameter values under System parameters: Manipulator. If mismatch between int/ext parameters i.e. wrong MOC.cfg loaded - cold start the system with correct parameters.

### 50143, Robot axes configuration

**Description**
Actual configuration is not the same as ordered and/or movement of any robot axis is larger than 90 degrees. Robot arg, axis arg.

**Recommended actions**
Use SingArea_Wrist, ConfL_Off, modify position or insert intermediary point. Proceeding in Auto mode will not be possible without correcting the configuration. To be able to move to the position anyway change to Manual mode and repeat start.

### 50144, Displ frame uncertain

**Description**
Calibration of displacement frame uncertain for robot arg, due to one or several of:
- Wrong TCP.
- Reference points inaccurate.
- Reference points badly spaced.

**Recommended actions**
If estimated error is unacceptable:
- Verify that correct TCP is used.
- Try more than 3 reference points.
- Be careful when positioning robot to reference points.

### 50145, Kinematic limitation

**Description**
Kinematic limitation for robot arg, no solution found.
- Long segment.
- Position close to singularity.
- Joint 1, 2 or 3 out of range.
- Position outside reach.

**Recommended actions**
- Insert an intermediary point to reduce the length of the segment.
- Use MoveAbsJ.
- Check working range.

### 50146, Restart limitation

**Description**
Corner path executed as a stop point. Power fail restart not possible near the stop point.

**Recommended actions**
Use finepoint in the Move-instr before RestoPath, ActUnit, Wait or Stop-instr to make power fail restart possible.

### 50147, Power fail restart failed

**Description**
Re-creation of the path failed.

**Recommended actions**
Move the program pointer and start a new movement.

### 50153, Command not allowed

**Description**
The given instruction, or command, was not allowed since the robot program was executing in a hold state.

**Internal code:** arg

**Recommended actions**
Modify program or stop program execution before issuing command.

### 50154, Command not allowed

**Description**
SingArea_Wrist mode interpolation is not supported for the arg robot.
6 Trouble shooting by Event log

Recommended actions
Replace SINGAREA\WRIST instruction with SINGAREA\OFF.

50155, Power fail restart failed
Description
Not possible to restart the Move-instruction before RestoPath, ActUnit, Wait or Stop-instruction.
Recommended actions
Remove MOTION WARNING 50146 Restart limitation, by changing the Move-instruction to finepoint. Move the program pointer and start a new movement.

50156, Not an independent joint
Description
Joint arg is not configured as an independent joint.
Recommended actions
Modify the program or configure the joint as an independent joint.

50157, Corr. vector warning
Description
Sensor correction vector X calculations failed due to previous error.
Recommended actions

50158, Sensor process missing
Description
Sensor process missing during initialization. Named sensor process arg could not be found or initialized.
Recommended actions
Check process name in motion and process configuration files.

50159, No external process
Description
Attempt to coordinate motion or calculate position of single arg without an external process.
Recommended actions
Check process name in motion and process configuration files.

50160, Cannot reach position
Description
Programmed position of independent joint arg is outside working range and thus cannot be reached.
Recommended actions
- Change the position.
- Check the joint working area limits.

50161, Singularity area
Description
Robot arg is close to a singularity. Work area with kinematic limitations.
Recommended actions
During jogging, use axis by axis. During program execution, use MoveAbsJ.

50162, Internal position error
Description
Error caused by internal numerical limitation.
Recommended actions
- Reset independent joint.
- Reduce work area if extended.
- Remove or separate close points.

50163, Position adjustment
Description
External position adjustment too large. TCP speed, orientation speed, or external position speed exceed allowed robot performance.
Recommended actions
- Reduce programmed TCP- and orientation speeds.
- Modify the path.
- WaitWObj closer to sync.
- Run in AUTO.

50164, Deactivation not possible
Description
Deactivation of mechanical unit may not be done while in independent mode.
Recommended actions
Make sure that independent mode is not used and try to deactivate again.

50167, Warning: new sync
Description
Warning: a new object sync signal has arrived while conveyor is active and program is running.
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Recommended actions

50168, New sync on arg
Description
New object sync arrived while conveyor was tracking the previous object. Cannot track two objects simultaneously.
Recommended actions
Reduce speed of conveyor. Increase programmed speed.

50171, Speed too low
Description
Numerical problem when interpolation of long segments with low speed and heavy additional axes or when interpolation close to singularity.
Recommended actions
Split segments with long interpolation time (path_resolution * 4 minutes) or change to joint interpolation or move position away from singularity.

50172, MoveJ not allowed
Description
MoveJ not allowed with work object coordinated with external position mechanical unit.
Recommended actions
Change interpolation mode or work object.

50173, Fine point necessary
Description
Use fine point when changing tool or work object coordination when work object is coordinated with external position mechanical unit.
Recommended actions
Create a fine point and then change the tool.

50174, WObj not connected
Description
The WObj is not connected to the conveyor arg. Robot TCP cannot be coordinated to work object. Object can be dropped because of time synchronization fault on conveyor node.
Recommended actions
Check for missing WaitWObj.
Check for DropWObj occurring before end of coordination.
Check for time synchronization fault, see status on conveyor node.

50175, Conveyor moving
Description
Conveyor arg moving while attempt to coordinate robot TCP to conveyor work object while in prohibited mode.
Recommended actions
It is not possible to coordinate to conveyor while in Manual Reduced Speed, or stepping in Auto, and the conveyor is moving.

50176, Conveyor not active
Description
Conveyor arg was not active when attempt to coordinate robot TCP to conveyor work object.
Recommended actions
Make sure conveyor mechanical unit is active. Check for fine point for last coordinated motion before DeactUnit.

50177, Unable to restart
Description
Conveyor arg moving while attempting to restart or before pressing Stop or stepping through program.
Recommended actions
Make sure conveyor is standing still. Move the program pointer and start a new movement.

50178, Non optimal movement
Description
Required torque too high. Manual adjustment of acceleration or speed is needed.
Recommended actions
Reduce acceleration (AccSet 50 100) in this movement, restore it afterwards (AccSet 100 100). Optimize performance by search for max acceleration 50-99. Alternatively, reduce speed.

50181, Out of coupled range
Description
Joint arg and arg are out of coupled working range.
Recommended actions
Use the joystick to move joints into their coupled working range.

50182, Jog in wrong direction
Description
Joint arg and arg are out of coupled working range.
Recommended actions
Use the joystick to move joints into their coupled working range.
50183, Robot outside work area.

Description
The robot has reached the World Zone arg, arg

Recommended actions
Check the reason of the World Zone. Use the joystick to move the robot out of the World Zone if needed.

50184, Corr. vector warning

Description
Sensor correction vector calculations failed due to previous error.

Recommended actions

50185, Corr. vector warning

Description
Sensor correction vector calculations failed due to previous error.

Recommended actions

50186, Missing function

Description
Not possible to run robot arg with coordinated base frame. Function not installed in this system.

Recommended actions
Install the option Multiple Axis Positioner.

50187, Missing function

Description
Not possible to coordinate user frame with robot arg Function not installed in this system.

Recommended actions
Install the option Multiple Axis Positioner.

50188, Non optimal movement

Description
Required torque too high. Manual adjustment of weave frequency or amplitude is needed.

Recommended actions
Reduce weave frequency or weave amplitude in this movement. Alternatively, reduce speed.

50189, Relay signal not found

Description
The signal arg for relay arg is not found in the I/O configuration. The mechanical unit using this relay is ignored.

Recommended actions
Check I/O signal definitions and System Parameters definition of Manipulator, Types: Relay.

50190, Permanent interpolator lock error

Description
Scanned number of active joints not equal to expected number of joints.

Recommended actions
Check configuration of the unit that is using general kinematics.

50191, Too many TCP speed's

Description
The number of TCP speed's in one segment is too large. Maximum number of TCP speed's is arg.

Recommended actions
Check if one segment has too many TCP speed's set or if a sequence of segments have increasing DipLag.

50192, Jogging error

Description
Jogging is started too soon after program stop.

Recommended actions
Try to jog the robot again.

50193, Joint not synchronized

Description
The speed of joint arg before power down/failure was too high.

Recommended actions
Make a new update of the revolution counter.

50194, Internal position error

Description

Recommended actions
- Adjust the system parameters in Uncal ctrl master 0.
- If TuneServo is used, adjust parameter Tune_df.

50195, Cannot move independent

Description
Joint arg cannot be moved in independent mode.

Recommended actions
Make sure that independent mode is not used when trying to move joint.
6 Trouble shooting by Event log

50196, Calibration failed
Description
Points 0 and 1 too close.
Recommended actions
Make a new calibration with larger distance between points 0 and 1.

50197, Calibration failed
Description
Points 0, 1, 2 on a line or point 2 too close to points 0 or 1.
Recommended actions
Make a new calibration with points moved so that 0, 1 and 2 are not on a line or with larger distance between point 2 and points 0 and 1.

50198, Calibration failed
Description
Internal error during calibration due to unknown origin switch.
Recommended actions
- Report the occurrence to ABB.
- Make a new calibration.

50200, Torque error
Description
Torque calculation error due to high speed for mechanical unit arg. Internal info code arg
Recommended actions
- Check load data.
- Reduce speed.

50201, Orientation outside reach
Description
The error of the programmed orientation exceeds the acceptance limit.
Recommended actions
- Adjust robtarget orientation.
- Adjust/check orientations of currently used frames: tool frame, base frame, user frame, object frame.
- It is possible (but not recommendable) to switch off the orientation supervision using the corresponding system parameter. Please see system parameters documentation for details (Topic Motion/Type Robot).

50203, Measurement node used
Description
The measurement node for joint arg is already used.

Recommended actions
Select another node.

50204, Motion supervision
Description
Motion supervision triggered for axis arg on mechanical unit arg.
Consequences
The movement of mechanical unit arg is halted immediately. It then returns to a position on the path on which it was running. There, it will remain in status Motors ON, awaiting a start request.
Probable causes
Triggering of the motion supervision may be caused by a collision, incorrect load definition or forces in external process.
Recommended actions
1) If possible, acknowledge the fault, and resume operation by pressing the Start button on the teach pendant.
2) Make sure any loads are defined and identified correctly.
3) If the mechanical unit is exposed to forces from the external processes, use RAPID command or system parameters to raise the supervision level.

50205, Data logger error:
Description
arg
Recommended actions
Solution:
arg

50206, Probe warning
Description
Probe buffer is full.
Recommended actions

50207, Add intermediate point
Description
Intermediate point not coordinated to external pos mechanical unit is necessary when changing conveyor.
Recommended actions
Create an intermediate point then change the conveyor.

50208, Missing function
Description
Friction compensation can not be activated for joint arg.
Recommended actions
Install the option Advanced Shape Tuning.
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50209, Kinematic limitation
Description
No acceptable solution found. Residual: $arg$ deg in orientation, $arg$ mm in x, $arg$ mm in y, $arg$ mm in z.
Recommended actions
Insert an intermediary point. Check singularity. Increase position and orient. tolerance. Use MoveAbsJ. Check working range.

50210, Load identification fail
Description
Cannot perform load identification because configuration angle is too small.
Recommended actions
- Increase configuration angle.

50212, Missing option
Description
General kinematics can not be used without the option 'GKIN'.
Recommended actions
Install the option 'GKIN'.

50214, Work area config failed
Description
Possibly the defined work area is larger than max allowed area for robot $arg$.
Recommended actions
Adjust the work area parameters in Robot system parameters and try again.

50215, Load identification fail
Description
Axis $arg$ will move outside working range.
Recommended actions
Move the axis to a position further from the working range limit.

50218, Path not finished
Description
Task: $arg$
Previous motion path was not finished before new motion was sent. Program Ref. $arg$
Recommended actions
Use StorePath when in Trap routines. Move the program pointer and start a new movement.

50220, No input signal
Description
No input signal to contactor relay for mechanical unit $arg$
Recommended actions
Ensure that an input signal is connected and configured.

50221, Object outside limit
Description
Object on conveyor $arg$ is outside max dist or min dist limits. Object Dropped.
Recommended actions
Check limits or reduce conveyor speed.

50222, Mismatch type - MechUnit
Description
Mismatch between selected manipulator type and selected mechanical unit.
Recommended actions
Make sure that selected manipulator corresponds to selected mechanical unit and try again.

50224, Cannot define load
Description
It is not allowed to define a load on axis $arg$ for mechanical unit $arg$ or the interpolation is not stopped in a finepoint.
Recommended actions
Change axis number, mechanical unit or change the move before to finepoint.

50225, Old boot safe area lost
Description
Error in boot safe memory area.
- Area updated with new data.
- System unsynchronized.
Recommended actions
Update all revolution counters.

50226, Motor reference error
Description
Calculation time for motor references exceeds internal limits.
Recommended actions
- Reduce load on main computer.
- Restart controller.
6 Trouble shooting by Event log

50227, Test signal error
Description
Invalid channel number arg.

Recommended actions
Allowed channel numbers are 1 - 12 for test signals and 1 - 6 for data log signals.

50228, Test signal error
Description
Unknown test signal number arg.

Recommended actions
Make sure that a valid test signal number is defined.

50229, Test signal error
Description
Unknown mechanical unit arg.

Recommended actions
Check spelling or configuration.

50230, Test signal error
Description
Invalid axis number arg for mechanical unit arg.

Recommended actions
Check mechanical unit and axis number.

50231, Test signal error
Description
Mechanical unit arg not active.

Recommended actions
Activate mechanical unit before defining test signals.

50234, Overflow during logging
Description
An overflow occurred when logging test signals or data log signals.

Recommended actions
- Define fewer signals.
- Reduce load on main computer.
- Reduce network load.

50235, No interrupts received
Description
No interrupts received from the robot communication card within timeout.

50236, Reference underrun
Description
Reference underrun in Main computer interrupt routine for Axis computer connected to connector board arg.

Recommended actions
- Reduce load on main computer.
- Restart controller.
- Replace Axis computer board.

50237, Reference task error
Description
Reference task queue full (Slot id = arg)

Recommended actions
- Reduce load on main computer.
- Restart controller.
- Replace Axis computer board(s).

50239, Optimal Em. Stop change
Description
Optimal Emergency Stop changed to Electrical brake mode because of acceleration limitation.

Recommended actions
Limit acceleration in the program.

50240, Optimal Em. Stop change
Description
Optimal Emergency Stop changed to Electrical brake mode because of torque limitation.

Recommended actions
Check load data.

50241, Missing function
Description
Absolute Accuracy not purchased.
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50242, Unsynchronized due to CFG data

Description
- Mismatch between controller and CFG data for joint arg (calibration offset or calibration position), or
- Valid flags for calibration offset or commutation offset not true in CFG.

Recommended actions
Update measurement system:
- Update revolution counter.
- Recalibrate joint.
- Change CFG data.

50243, No acceleration limit

Description
Acceleration limitation is not implemented for robot arg.

Recommended actions
- Restart controller.
- Check that the harddrive isn't full.
- Install more memory.

50244, AbsAcc calibration failed

Description
Could not perform an AbsAcc calibration.

Recommended actions
- Restart controller.
- Check that the harddrive isn't full.
- Install more memory.

50245, Command not allowed

Description
Cannot set non motion execution mode when in MOTORS ON state.

Recommended actions
- Change to MOTORS OFF.

50246, Linked motor error

Description
Large position offset between follower axis and master axis.

Recommended actions
Start linked motor service program. Jog the follower axis to same position as the master axis.

50247, Clear of Path failed

Description
The movement has to be stopped when the path is to be cleared.

Recommended actions
Use StopMove before the ClearPath instruction. Move the program pointer and start a new movement.

50248, Internal Servo Tool error

Description
Internal error for tool arg in state arg
arg
arg
arg

Recommended actions
Contact ABB.

50249, Programmed force reduced

Description
Programmed tip force too high for tool arg. Requested motor torque (Nm)= arg. Force was reduced to max motor torque.

Recommended actions
1) Reduce programmed tip force.
2) Check force vs torque calibration in system parameters.
3) Check max motor torque in system parameters.

50250, Calibration force reduced

Description
Requested calibration force too high for tool arg. Requested motor torque (Nm)= arg. Force was reduced to max motor torque.

Recommended actions
1) Check calib forces in sys par.
2) Check force vs torque calibration in system parameters.
3) Check max motor torque in system parameters.

50251, Tool opening failed

Description
An ordered tool axis movement of arg was detected during tool opening.

Recommended actions
Make sure the tool opening is ready before executing next tool axis movement. Decrease the system parameter 'post sync time'.

50252, Tool opening failed

Description
An ordered tool axis movement of arg was detected during tool opening in calibration.

Recommended actions
Make sure no movements of the tool axis are ordered during calibration.
## 6 Trouble shooting by Event log

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<td>50256, Sync pos warning</td>
<td>Sensor movement outside limits. The sensor start pos should be arg than arg and found arg.</td>
<td>Check programmed sensor position in robtarget. Start sync earlier or change robtarget.</td>
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| 50257, Sync speed warning | Programmed speed outside limits. The speed should be arg than arg and found arg. | - Check programmed robot speed  
- Check sensor teach pos  
- Check sensor nominal speed. |
| 50258, Sensor direction error | Programmed sensor pos speed arg and found sensor speed arg in opposite direction. | - Check programmed sensor positions in robtarget.  
- Start sync earlier or reduce waitsensor dist. |
| 50259, Sensor max dist error | Distance between sensor position and programmed position too large. | - Check programmed sensor positions in robtarget.  
- Check sensor speed.  
- Start sync earlier or reduce waitsensor dist. |
| 50260, Sensor Check dist error | Distance sensor pos to programmed pos arg too large arg. | - Check programmed sensor positions in robtarget.  
- Check sensor speed  
- Increase max deviation. |
| 50261, WZone outside work area | The definition of minimum limit for the World Zone arg is outside work area for: argargargargarg... | Change the definition of the World Zone so the limit will be inside work area or insert 9E9 to remove an axis from test by the WZone. |
| 50262, WZone outside work area | The definition of maximum limit for the World Zone arg is outside work area for: argargargarg... | Change the definition of the World Zone so the limit will be inside work area or insert 9E9 to remove an axis from test by the WZone. |
| 50263, Duty factor warning | The duty factor for the gearbox of joint arg of robot arg is too high. Continued running without adjustment may cause damage to motor and gearbox. Contact your local ABB service support center. | Reduce the speed or increase the wait time. |
| 50264, Saved parameters used | Valid calibration data was found after system update and will be used unless a calib.cfg file is added with RobInstall or in syspar directory. | |
Recommended actions
If calibration data from file should be used, add a calib.cfg file with RobInstall or in syspar directory and make a new installation of system.

50265, Thickness out of reach
Description
Servo Tool: arg Programmed thickness arg mm is out of reach
Recommended actions
- Adjust programmed thickness
- Check working range (min. stroke)

50266, Close request failed
Description
Not allowed to close Servo Tool: arg in reverse direction
Pre close position: arg mm
Programmed thickness: arg mm
Recommended actions
- Adjust pre close position
- Adjust programmed thickness

50267, Open request failed
Description
Not allowed to open Servo Tool: arg in reverse direction
Recommended actions
Check that programmed robtarget positions of the Servo Tool are larger than programmed thickness.

50268, Calibration failed
Description
Not allowed to calibrate Servo Tool: arg from negative position
Recommended actions
Adjust Servo Tool position before calibration

50269, Tune value out of limit
Description
Tune value for Servo Tool: arg is out of limit. Parameter: arg
Recommended actions
Adjust tune value

50271, Poor event accuracy
Description
Task: arg
The system is presently configured with time event supervision, and now an event could not be accurately activated.

Program Ref. arg

Recommended actions
Decrease the programmed speed or increase the distance between the programmed positions. Turn off this check by changing the system parameters.

50272, Manipulator configuration
Description
Failed to read arg data for arg, from the configuration file.
Recommended actions
Check the configuration file - cold start the system with correct parameters.
Check both configuration data for the current instance and any instances below in the structure.

50273, Manipulator configuration
Description
Incorrect configuration parameter arg for arg. The configuration parameter could for instance be an unknown type or a numerical value that is out of range.
Recommended actions
Check the configuration file - cold start the system with correct parameters.

50274, Manipulator configuration
Description
Failed to read or create arg with the name: arg. If the current instance exists it is read, else it is created. In other words, the instance could not be read or created.
Recommended actions
Check the configuration file - cold start the system with correct parameters.

50275, Manipulator configuration
Description
Failed to read next arg name, previous name is arg. The previous instance is ok, but the next instance cannot be read.
Check also the configuration error log for more details.
Recommended actions
Check the configuration file - cold start the system with correct parameters.

50276, Manipulator configuration
Description
Standard servo queue length (arg) out of range (min=1, max=arg).
Recommended actions
Check std_servo_queue_length in the configuration file - cold start the system with correct parameters.

50277, Manipulator configuration
Description
Number of joints (arg) in dynamic group override. Allowed number is arg.
Recommended actions
Check the configuration file - cold start the system with correct parameters.

50278, Manipulator configuration
Description
Failed to configure servo gun (arg).
Recommended actions
Check the servo gun data in the configuration file. Cold start the system with correct parameters.

50279, Manipulator configuration
Description
Servo tool change requires option Servo Tool Change. Without this option, installation of this mechanical unit is not allowed.
Recommended actions
Check the configuration file - cold start the system with correct parameters.

50280, System configuration
Description
Mechanical Unit arg is defined in more than one Rapid program.
Recommended actions
Check the configuration file - cold start the system with correct parameters.

50281, Process failed
Description
A process in the task arg has failed. This is caused by a failure of a process in this task or a synchronized task if MultiMove is used.
arg
Recommended actions
Check other messages occuring at the same time for the reason. Recovery: arg

50282, Record not ready
Description
Record not ready to activate
Recommended actions
Make sure that record is finished before activating.
Check sensor_start_signal

50283, Unknown record file name
Description
Record file name: arg is unknown.
Recommended actions
Check file name or existence with file manager.
Record a new file

50284, Cannot activate Mechanical Unit
Description
The Mechanical Unit arg cannot be activated because it is not connected to a Rapid task.
Recommended actions
Check that the connection between Mechanical Unit and Rapid task is done correctly in the SYS.cfg.

50285, DitherAct not possible
Description
Dithering is not possible to activate.
Recommended actions
Verify that a joint that can be used with DitherAct is chosen.

50286, Mix of coordinated frames
Description
Task: arg
More than one unit move frames, reasonarg:
1 It is not allowed to have a chain of coordinated frames.
2 It is not allowed to exchange the unit that control the frame in a cornerzone.
Program Ref: arg
Recommended actions
1 Rearrange the units so that all units, which perform coordinated movements, are following the same unit.
2 Insert a finepoint or a not coordinated movement between the two coordinated movements.
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50287, Unit out of position
Description
The robot arg is semi coordinated to Unit arg and the Unit must stand in a finepoint when the Robot is moving in the user_frame.

Recommended actions
Use WaitSyncTask to separate the semi coordinated move from other moves, SyncMoveOn, SyncMoveResume and SyncMoveOff. After a SyncMoveOff the Unit must also be moved (MoveL or MoveExtJ) to a finepoint to make regain possible after a stop during the semi coordinated move. Keep the program active for the Unit in the task selection panel to get a regain of the Unit at restart, the reason is that the Unit can move a little when doing motors off and on.

50288, Synchronization ID mismatch
Description
The specified id number for the move instruction has to be equal for all cooperating program tasks.

Recommended actions
Verify that the specified id numbers are equal and that all PP are synchronized before program start.

50289, Point type mismatch at sync
Description
The move instructions with syncId = arg, have a mix between finepoints and zonepoints.

Recommended actions
Make sure that the move instruction in all cooperating program tasks specifies the same kind of point type, either finepoints or zonepoints.

50290, Service unavailable
Description
Unable to obtain correct license.

Recommended actions
Please check the license settings.

50291, Deactivation not allowed
Description
Deactivation of mechanical unit arg is not allowed when task is in synchronized motion mode.

Probable causes
Instruction DeactUnit is used in a synchronized part of the program.

Recommended actions
- Make sure no DeactUnit instruction is used in a synchronized part of the program.
- Move the program pointer to main.

50292, Activation not allowed
Description
Activation of mechanical unit arg is not allowed when task is in synchronized motion mode.

Probable causes
Instruction ActUnit is used in a synchronized part of the program.

Recommended actions
- Make sure no ActUnit instruction is used in a synchronized part of the program.
- Move the program pointer to main.

50293, Configuration error
Description
The configuration file is erroneous concerning SMB memory storage.

Probable causes
Wrong parameter set up in configuration file. Wrong type of SMB-board.

Recommended actions
- Make sure that parameter memory_index is defined.
- Use SMB-board with memory functionality.

50294, Transmission error of data
Description
Transmission of data between cabinet and SMB-memory has failed.

Probable causes
Cable, or transmission electronics failed. Electrical interference high.

Recommended actions
- Restart try once more.
- Check cables.
- Check SMB-board.
- Check drive module.

50295, Manipulator data missing
Description
Data in SMB- and cabinet memory missing for mechanical unit arg.

Probable causes
Configuration file missing. New SMB-board together with new cabinet.

Recommended actions
- Load new configuration files.

50296, SMB memory data difference
Description
Data in SMB memory is not same as in cabinet for mechanical unit arg.
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**Probable causes**
Not the same data or serial number in SMB memory and cabinet. Manipulator (SMB module) or cabinet exchanged or configuration parameters changed.

**Recommended actions**
Check status via teach pendant and check if right configuration data (serial number) loaded in cabinet. Check that serial number belongs to the manipulator connected to the cabinet. If not, replace configuration files or manually transfer data from SMB memory to cabinet if cabinet has been exchanged.
If Serial Measurement Board replaced with board from another manipulator (serial numbers not the same), clear first SMB memory via teach pendant and then transfer data from cabinet to SMB.

---

**50297, Memory updated in SMB**

**Description**
Data for mechanical unit `arg` is moved from cabinet to SMB-memory.

**Probable causes**

**Recommended actions**

---

**50298, Memory updated in cabinet**

**Description**
Data for mechanical unit `arg` is moved from SMB-memory to cabinet.

**Probable causes**

**Recommended actions**

---

**50299, Speed control warning**

**Description**
Speed for Unit `arg` is reduced due to limiting Unit `arg`.
Task: `arg` Intraction line: `arg`

**Probable causes**
Programmed speed too high on this Unit or movement too long on limiting Unit

**Recommended actions**
Change path or programmed speed.
Set speed control off

---

**50300, SMB memory not used**

**Description**
SMB-memory is not used for this mechanical unit.

**Probable causes**
Additional axes can’t and should not use the SMB-memory.

---

**50301, All SMB data missing**

**Description**
All data is missing in SMB-memory at board `arg`, link `arg`, drive module `arg`.

**Probable causes**
An error in SMB-memory or communication has occurred. The data has been cleared.

**Recommended actions**
If proper data exists in cabinet - transfer the data to SMB-memory. If still problem - check communication cable to SMB-board. Replace SMB-board.

---

**50302, Sensor data missing**

**Description**
No serial number is defined for mechanical unit `arg` in SMB-memory.

**Probable causes**
The SMB-memory has been cleared or new SMB-board has been installed.

**Recommended actions**
If proper data exists in cabinet - transfer the data to SMB-memory.

---

**50303, Cabinet data missing**

**Description**
No serial number is defined for mechanical unit `arg` in cabinet.

**Probable causes**
The cabinet memory has been cleared or new cabinet has been installed.

**Recommended actions**
If proper data exists in SMB-memory - transfer the data to cabinet memory.

---

**50304, Transfer of data not allowed**

**Description**
The SMB-memory for mechanical unit `arg` has another serial number, than used in the cabinet.

**Probable causes**
A SMB-board from another robot has been installed in the used robot.

**Recommended actions**
Clear first the data in SMB-memory via calibration/SMB-memory/advanced/. Then repeat the transfer command once again.
### 6 Trouble shooting by Event log

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Probable causes</th>
<th>Recommended actions</th>
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</thead>
<tbody>
<tr>
<td>50305</td>
<td>Old SMB board used</td>
<td>Old SMB board used without data memory.</td>
<td>Replace board with a new with data memory or set parameter &quot;Use old SMB&quot; in configuration MOTION/ROBOT.</td>
</tr>
<tr>
<td>50306</td>
<td>Load identification error</td>
<td>Cannot perform load identification because configuration angle makes inertia matrix singular.</td>
<td>- Move axis 6 on the robot about 30 degrees in any direction.</td>
</tr>
<tr>
<td>50307</td>
<td>Extended working range</td>
<td>The option Extended working range has been installed.</td>
<td>Make sure that the mechanical stop has been removed.</td>
</tr>
<tr>
<td>50308</td>
<td>In Position timeout</td>
<td>Condition for finepoint not fulfilled within arg seconds.</td>
<td>Check tuning of additional axes, In Position Conditions (In Position Range, Zero Speed) and check if disturbance of resolver cables.</td>
</tr>
<tr>
<td>50309</td>
<td>AbsAcc error</td>
<td>Data moved from SMB-memory to cabinet. AbsAcc data not valid in SMB-memory.</td>
<td>Load new AbsAcc data if data available.</td>
</tr>
<tr>
<td>50310</td>
<td>Independent joint not active</td>
<td>Mechanical unit arg with independent joint is not active.</td>
<td>Activate the mechanical unit before executing the independent joint instruction.</td>
</tr>
<tr>
<td>50311</td>
<td>Cannot activate Mechanical Unit in task</td>
<td>The Mechanical Unit arg cannot be activated in specified task.</td>
<td>Check the connection between Mechanical Unit and Rapid task in the SYS.cfg.</td>
</tr>
<tr>
<td>50312</td>
<td>Mechanical Unit already active in other task</td>
<td>Cannot activate Mechanical Unit arg, since it is already active in another Rapid task.</td>
<td>Make sure the synchronized speed of the servo tool is zero during execution of independent reset movements.</td>
</tr>
<tr>
<td>50313</td>
<td>Independet move reset failed</td>
<td>Independent reset movement failed for arg, a synchronized movement (MoveL/MoveJ) of the servo tool occurred during the the independent reset movement.</td>
<td>Make sure the synchronized speed of the servo tool is zero during execution of independent reset movements.</td>
</tr>
<tr>
<td>50314</td>
<td>Independent move outside reach</td>
<td>Programmed independent move position for arg is outside reach.</td>
<td>Adjust independent move position. Check working range of the servo tool.</td>
</tr>
<tr>
<td>50315</td>
<td>Corner path failure</td>
<td>Interpolation and process stopped before the corner path due to some of the following reasons:</td>
<td>- Reduce the number of instructions between consecutive move instructions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Closely programmed points.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- System requires high CPU-load.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>arg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Increase ipol_prefetch_time.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recovery: arg</td>
</tr>
</tbody>
</table>
6 Trouble shooting by Event log

50316, Absolute accuracy not activated

Description
Absolute accuracy function not activated.

Consequences
Robot positioning will not be absolute accurate.

Recommended actions
Make sure absacc.cfg is loaded into controller memory and switch AbsAcc on. Verify status in jogging window.

50317, Disconnecting the Drive Module not allowed

Description
An attempt was made to disconnect drive module arg, which is not allowed.

Consequences
The system goes to state Motors OFF, and then disconnects the Drive Module.

Probable causes
Disconnecting drive modules is only allowed in the Motors OFF state.

Recommended actions
Make sure that the system is in Motors OFF state before disconnecting the Drive Module.

50318, Reconnecting the Drive Module not allowed

Description
Drive Module should not be reconnected since the system is not in the state Motors OFF.

Consequences
An attempt was made to reconnect drive module arg, which is not allowed.

Probable causes
Reconnecting drive modules is only allowed in the Motors OFF status.

Recommended actions
Make sure that the system is in Motors OFF state before reconnecting the Drive Module.

50319, Cannot activate Mechanical Unit

Description
An attempt was made to activate mechanical unit arg, which failed.

Consequences
The mechanical unit remains deactivated.

Probable causes
The mechanical unit is connected to Drive Module arg which is disconnected.

Recommended actions
1) Reconnect the Drive Module. 2) Retry to activate the Mechanical Unit.

50320, Drive Module has been disconnected

Description
Drive Module arg has been disconnected.

Consequences
No mechanical units connected to the drive module may be operated.

50321, Drive Module has been reconnected

Description
Drive Module arg has been reconnected after being disconnected.

Consequences
All mechanical units connected to drive module arg may be operated.

50322, Mechanical Unit not connected to motion task

Description
Cannot activate Mechanical Unit arg, since it is not connected to any motion task.

Recommended actions
Check the connection between Mechanical Unit and Rapid task in the SYS.cfg.

50323, Failed to read force sensor

Description
Failed to return calibrated force sensor reading.

Probable causes
Force control system not calibrated.

Recommended actions
Use the instruction FCCalib before using this instruction.

50324, Force control calibration failed

Description
Failed to calibrate the force control system.

Probable causes
The system is not in position control.

Recommended actions
Make sure the robot is in position control mode before using the FCCalib instruction.
6 Trouble shooting by Event log

50325, Failed to activate force control
Description
Activation of force control failed.

Probable causes
The system is either not calibrated or we are already in force control. Another reason for this could be incorrect arguments.

Recommended actions
Only use the FCAct or FCPress1LStart instruction when the force control system is calibrated and we are in position control. Check all arguments to the activation instruction.

50326, Failed to deactivate force control
Description
Failed to return to position control.

Probable causes
Can not set position control if the robot is moving due to external forces or ordered references.

Recommended actions
Stop any active references and remove any external forces and try again.

50327, Failed to start references
Description
Failed to start the user specified references

Probable causes
Only allowed to start references when in force control.

Recommended actions
Must activate force control before trying to start references.

50328, Parameter error in FCRefSprForce or FCRefSprTorque
Description
Error in parameter Stiffness in instruction FCRefSprForce or FCRefSprTorque.

Recommended actions
Change the parameter Stiffness in instruction FCRefSprForce or FCRefSprTorque to a value larger than zero.

50329, Parameter error in FCRefForce
Description
Error in parameter MaxForce in instruction FCRefForce.

Recommended actions
Change the parameter MaxForce in instruction FCRefForce to a value larger than zero.

50330, Parameter error in FCRefSprTorque
Description
Error in parameter MaxTorque in instruction FCRefSprTorque.

Recommended actions
Change the parameter MaxTorque in instruction FCRefSprTorque to a value larger than zero.

50331, Parameter error in FCRefForce
Description
Error in parameter Amp in instruction FCRefForce.

Recommended actions
Change the parameter Amp in instruction FCRefForce to a value larger than zero.

50332, Parameter error in FCRefTorque
Description
Error in parameter Amp in instruction FCRefTorque.

Recommended actions
Change the parameter Amp in instruction FCRefTorque to a value larger than zero.

50333, Error FCRefLine, FCRefRot or FCRefCircle
Description
The parameter Distance in instruction FCRefLine or instruction FCRefRot and the parameters Radius and Speed in instruction FCRefCircle have to be larger than zero.

Recommended actions
Change the parameters above according to the manual.

50334, Parameter error in FCRefLine
Description
Not allowed parameter value used in function FCRefLine.

Probable causes
Error in parameter values of function FCRefLine.

Recommended actions
Modify the parameter values in function FCRefLine.

50335, Parameter error in FCRefSpiral
Description
Not allowed parameter value used in function FCRefSpiral.

Probable causes
Error in parameter values of function FCRefSpiral.
Recommended actions
Modify the parameter values in function FCRefSpiral.

50336, Parameter error in FCGetProcessData
Description
Failed to retrieve process information.
Probable causes
Using the optional parameter DataAtTrigTime in instruction FCGetProcessData. If no trig has occurred this error is reported.
Recommended actions
Remove the optional parameter.

50337, Force sensor not setup
Description
Error in the force sensor parameters.
Recommended actions
Check the force sensor configuration parameters.

50338, Parameter error in FCCondAdvanced
Description
Error in parameter LogicCond in instruction FCCondAdvanced.
Recommended actions
Modify the parameter LogicCond in instruction FCCondAdvanced.

50339, Parameter error in FCCondTime
Description
Error in parameter Time in instruction FCCondTime.
Recommended actions
Change the parameter Time in instruction FCCondTime to a value larger than zero.

50340, Error in force control box definition
Description
An error in the parameter Box in either FCCondPos or FCSupvPos.
Recommended actions
Change the parameter Box in either FCCondPos or FCSupvPos.

50341, Error in force control cylinder definition
Description
An error in the parameter Cylinder in either FCCondPos or FCSupvPos.
Recommended actions
Change the parameter Cylinder in either FCCondPos or FCSupvPos.

50342, Error in force control sphere definition
Description
An error in the parameter Sphere in either FCCondPos or FCSupvPos.
Recommended actions
Change the parameter Sphere in either FCCondPos or FCSupvPos.

50343, Error in force control cone definition
Description
An error in the parameters for either FCCondOrient or FCSupvOrient.
Recommended actions
Change the parameters in either FCCondOrient or FCSupvOrient.

50344, Joints outside limits in force control
Description
One or more joints are outside their working range in force control.
Recommended actions
Modify the program to avoid the physical joint limits.

50345, Force control supervision error
Description
The user specified supervision has triggered. The type is arg. Types:
1: TCP position
2: Tool Orientation
3: TCP speed
4: Reorientation speed
5: Force
6: Torque
7: Teach TCP Speed
8: Teach Reorientation Speed
Consequences
The robot will stop.
Recommended actions
Modify the supervision or the program.

50346, Motor temperature error
Description
Motor temperature for joint arg is too high.
Consequences
It is not possible to continue until the motor has cooled down.
**50347, Program pointer moved in Force Control mode**

**Description**
Program pointer has been moved in Force Control mode.

**Consequences**
Robot is stopped and the mode is changed from Force Control mode to normal mode.
If Force Control mode is desired the program pointer must be moved to the FCAct instruction.

**50348, Test signal error**

**Description**
Definition of a test signal failed for arg, axis arg on channel arg.

**Probable causes**
The Mechanical Unit is not active.
The test signal number does not correspond to an actual test signal.
The channel number is too high.

**50349, Synchronization ID Warning**

**Description**
Two consecutive synchronized move instructions in arg have the same synchronization ID value arg.

**Consequences**
If the ID value is repeated for more than one move instruction it can be very difficult to keep track of which move instructions are synchronized. This can, for example, cause problems when modifying positions.

**Recommended actions**
Change the synchronized move instruction arg in arg so that it has a unique synchronization ID value.

**50350, Software Equalizing Not Allowed**

**Description**
It is not possible to run Software Equalizing since Independent Move is active.

**Recommended actions**
Make sure independent move is not active when executing a Software Equalizing servo spot.

**50351, Independent Move not allowed**

**Description**
It is not possible to execute an Independent Move when Software Equalizing is active.

**Recommended actions**
Make sure Software Equalizing is off when executing an Independent Gun Move.

**50352, Number of move instruction mismatch**

**Description**
Using the path recorder within synchronised motion requires:
That Tool offset must be present for all or none cooperating program tasks.
That all cooperating program tasks move backwards/forwards the same number of move instructions.

**Recommended actions**
Verify that the all tasks or none of the tasks use the optional argument Tool Offset.
Verify that the pathrec identifier moving towards are at the same position in all tasks within the synchronised block.

**50353, Failed to read data from encoder card**

**Description**
The system has failed to read data from one encoder card.

**Consequences**
The tracking accuracy during acceleration and deceleration might be reduced.

**Probable causes**
Wrong unit name has probably been specified in the process parameter for arg.

**Recommended actions**
1) Check that the correct unit name is specified in the process parameter eio unit name for arg

**50354, Ordered force reference is too large**

**Description**
The ordered force reference is larger than the configured maximum value.

**Consequences**
The ordered force reference has been reduced to the configured maximum value.

**Recommended actions**
To allow a larger reference force the system parameters need to be updated. Note that there is an absolute limit of force reference size that depends on the robot type.

**50355, Ordered torque reference is too large**

**Description**
The ordered torque reference is larger than the configured maximum value.

**Consequences**
The ordered torque reference has been reduced to the configured maximum value.

**Recommended actions**
The ordered torque has been reduced to the configured maximum value.
6 Trouble shooting by Event log

50362, Brake release time out
Description
Joint arg was not in position after max time for brake release.

Recommended actions
Try once more. Check cables. Check hardware. Check tuning if error on additional axis.

50363, SyncMoveOn failed
Description
Starting synchronized movements failed due to an internal error.

Consequences
It is not possible to restart the programs from the current position.

Recommended actions
Move the program pointers and try again.

50364, Axis in current vector mode
Description
Warning: Joint arg is configed in arg data as a current vector axis. Drive system will be disconnected for this axis during normal operation.

Recommended actions
Run service program to activate the current vector. Set configuration data for the DRIVE SYSTEM parameter current_vector_on to FALSE, for normal operation.

50365, Cyclic Brake Check Warning
Description
Cyclic Brake Check has failed

Consequences
Cyclic Brake Check has detected that robot arg may have reduced brake performance on axis arg.

Recommended actions
Repeat the test to verify the result.

50366, Reference Error
Description
An error has occurred in the reference calculation. Internal status arg.

Consequences
The controller goes to Motors Off

Recommended actions
Check the error logs for previous errors that could be causing this problem. Try to restart the program possibly after moving the program pointer. Restart the controller.

50356, Ordered MaxForce is too large
Description
The parameter MaxForce in instruction FCRefSprForce is larger than the configured maximum value.

Consequences
The parameter MaxForce has been reduced to the configured maximum value.

Recommended actions
To allow a larger value the system parameters need to be updated.

50357, Ordered MaxTorque is too large
Description
The parameter MaxTorque in instruction FCRefSprTorque is larger than the configured maximum value.

Consequences
The parameter MaxTorque has been reduced to the configured maximum value.

Recommended actions
To allow a larger value the system parameters need to be updated.

50358, Close to singularity when in force control
Description
Close to singularity when in force control mode for robot arg.

Recommended actions
Modify path away from the singularity or change to joint interpolation.

50359, Path Recorder on StorePath level not allowed
Description
The Path Recorder can only be used on base path level. The Path Recorder has been stopped.

Recommended actions
Stop Path Recorder before StorePath, restart it after RestoPath.

50361, Brake release error
Description
Too large position error of joint arg after brake release.

Recommended actions
Try once more. Check cables. Check hardware. Check tuning if error on additional axis.

50360, Cyclic Brake Check Warning
Description
Cyclic Brake Check has failed

Consequences
Cyclic Brake Check has detected that robot arg may have reduced brake performance on axis arg.

Recommended actions
Repeat the test to verify the result.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Probable causes</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>50367, Sensor Sync machine stop</td>
<td>Sensor Sync device arg has set machine stop signal arg.</td>
<td>Do not restart robot before machine is open. Sensor sync is disabled.</td>
<td>Lower the programmed speed or modify the configuration parameters.</td>
</tr>
<tr>
<td>50368, Too Short distance between equidistant events</td>
<td>The events are too close together. End of internal resources (events).</td>
<td>Increase the distance between equidistant events or use intermediate positions to decrease segment length.</td>
<td></td>
</tr>
<tr>
<td>50369, Calibration using stored offset failed</td>
<td>Failed to calibrate the sensor using stored offset.</td>
<td>Calibration using stored offset is only possible if a normal calibration has been performed earlier.</td>
<td></td>
</tr>
<tr>
<td>50370, Transfer of data to SMB memory failed</td>
<td>Transfer of data from cabinet to SMB memory not allowed or interrupted for mechanical unit arg due to disconnect of SMB.</td>
<td>SMB was disconnected before or during calibration or manual move of data to SMB memory.</td>
<td>Retry to calibrate or manually move data from cabinet to SMB memory when SMB is reconnected.</td>
</tr>
<tr>
<td>50371, The programmed speed is too high</td>
<td>The speed change functionality is only allowed for low programmed speed.</td>
<td>The programmed speed is too high.</td>
<td>Increase the zone size, move the programmed point, change tool orientation or change interpolation method.</td>
</tr>
<tr>
<td>50372, Contact force too high</td>
<td>The contact force is too high during the recover phase.</td>
<td>The programmed path in the recover function causes too high contact forces.</td>
<td>Check and modify the recover function or allow higher contact force.</td>
</tr>
<tr>
<td>50373, Too high Event Preset Time</td>
<td>The configured Event Preset Time is too high. The maximum value is arg.</td>
<td>This error can occur for robots with a low Dynamic Resolution and a high Event Preset Time. The reason is a computer memory limitation.</td>
<td>Reduce the Event Preset Time in the configuration parameters to a value no higher than arg.</td>
</tr>
<tr>
<td>50375, Dynamic load too high</td>
<td>Required torque for robot arg axis arg too high.</td>
<td>If weaving one of these actions may help:</td>
<td>- Reduce weave frequency or weave amplitude for this movement. - Reduce process speed. - Increase zone size if small zones are used. - Increase distance between programmed points if they are close. If Conveyor Tracking: Reduce conveyor speed.</td>
</tr>
<tr>
<td>50376, Geometric interpolation failed.</td>
<td>Failed to interpolate the desired geometry.</td>
<td></td>
<td>Increase the zone size, move the programmed point, change tool orientation or change interpolation method.</td>
</tr>
</tbody>
</table>
50377, Only allowed in position control

Description
The instruction is only allowed when the robot is in position control mode.

Probable causes
The error depends on calling an instruction that is only allowed to be used in position control while in force control mode.

Recommended actions
Call the instruction only when the robot is in position control mode.

50378, Error in FCSetMaxForceChangeTune

Description
Incorrect value of the parameter ForceChange in instruction FCSetMaxForceChangeTune.

Consequences
The program will stop.

Probable causes
The parameter must be set larger than zero and less than the configured value.

Recommended actions
Change the parameter value.

50379, Active mechanical units have changed

Description
When calling RestoPath all mechanical units have to be in the same active state as when StorePath was called.

Recommended actions
Make sure that all mechanical units that were active when calling StorePath still are and that no other mechanical unit is active when calling RestoPath.

50380, Checksum error

Description
Data in SMB memory for mechanical unit arg has erroneous checksum.

Probable causes
New SMB-board. System shut down before data save finished.

Recommended actions
- Load new configuration files.

50381, Speed too low.

Description
Task. arg
The speed is too low (numerical resolution).
Program Ref. arg

Recommended actions
Increase the programmed speed.
Check also the other synchronized tasks in a multimove application.

50382, Weave pattern error

Description
Calculation of weave pattern has failed due to an internal error.

Recommended actions
Try to restart.

50383, Cartesian Soft Servo configuration error

Description
Some configuration parameter for Cartesian Soft Servo is not valid.

Consequences
The system will not start.

Probable causes
Some configuration parameter has been set to a value that is not allowed.

Recommended actions
Verify that any modified parameter are within allowed limits.

50384, Cartesian Soft Servo quaternions invalid

Description
The quaternions of the tool, workobject or the argument RefOrient in the CSSAct instruction are invalid.

Consequences
Cartesian Soft Servo will not activate.

Recommended actions
Check the quaternions of the tool, workobject or the argument RefOrient in the CSSAct instruction.

50385, Cartesian Soft Servo activation failed

Description
The instruction CSSAct failed.

Probable causes
Cartesian Soft Servo already active.

Recommended actions
Cartesian Soft Servo needs to be deactivated before it can be activated.

50386, Cartesian Soft Servo offset activation failed

Description
The instruction CSSForceOffsetAct failed.
Consequences
Force offset was not activated.

Probable causes
CSSForceOffsetAct instruction is only allowed when Cartesian Soft Servo is active.

Recommended actions
Activate Cartesian Soft Servo with the instruction CSSAct before using the instruction CSSForceOffsetAct.

50387, Cartesian Soft Servo close to unstable
Description
Cartesian Soft Servo is close to unstable.

Consequences
The robot is halted as a security measure.

Probable causes
The system damping is too low.

Recommended actions
Increase the value of Damping in the CSSAct instruction or if that does not help increase the value of the configuration parameter Damping Stability Limit.

50388, Cartesian Soft Servo position supervision error
Description
The user defined position supervision in Cartesian Soft Servo mode triggered.

Consequences
The robot halts.

Probable causes
The position error is larger than the allowed range specified in the configuration.

Recommended actions
Increase the allowed position error in the configuration or modify the program.

50389, Cartesian Soft Servo singularity
Description
The robot is too close to singularity which affects the Cartesian Soft Servo behaviour.

Consequences
The robot behaviour will be different from specified.

Recommended actions
Modify the program to avoid the singularity.

50390, Cartesian Soft Servo speed supervision
Description
The user defined speed supervision in Cartesian Soft Servo mode triggered.

Consequences
The robot halts.

Probable causes
The speed error is larger than the allowed range specified in the configuration.

Recommended actions
Increase the allowed speed error in the configuration or modify the program.

50391, Cartesian Soft Servo movement not allowed
Description
Jogging or a programmed movement has been detected.

Consequences
The ordered movement is ignored.

Recommended actions
Movement during Cartesian Soft Servo is only allowed if the switch AllowMove has been used in the CSSAct instruction.

50392, SafeMove communication error
Description
Communication with SafeMove controller on drive module arg has failed.

Consequences
Brake tests can not be done.

Recommended actions
Check if SafeMove hardware is connected.

50393, Force offset applied in non-soft direction
Description
The force-offset direction in CSSForceOffsetAct is not the same as the soft direction specified by CSSAct.

Consequences
The robot will not become easier to push in the soft direction. There can also be position deviations from the programmed path in the non-soft directions.

Recommended actions
Make sure the direction given in CSSForceOffsetAct is compatible with the direction given in CSSAct.
50394, Unit out of position

Description
The Robot arg is semi coordinated to Unit arg and the Unit must stand in a fine point when the Robot is moving in the user frame.

Consequences
The restart will be interrupted.

Recommended actions
Use WaitSyncTask to separate the semi coordinated move from other moves, SyncMoveOn, SyncMoveResume and SyncMoveOff. After a SyncMoveOff the Unit must also be moved (MoveL or MoveExtJ) to a fine point to make regain possible after a stop during the semi coordinated move. If the programmed position of the Unit is moved by modpos the Robot program must be reset by moving the PP to be able to restart the program. Step also the unit to the new position to make stepping of the robot possible.

50395, Too long programmed move

Description
Task: arg
This move is too long for the programmed speed. The numerical resolution in the path planning is not enough.
Program Ref. arg

Consequences
The speed will be increased i.e. higher than the programmed speed.

Recommended actions
Insert intermediate points or increase the speed.

50396, Default FC force supervision error

Description
The default force supervision has trigged because the programmed or measured external forces are larger than the safety limit for the robot type.

Consequences
The robot will stop.

Recommended actions
Modify the program to decrease the total external force acting on the robot.

50397, Path frame rotation speed error

Description
The rotation speed of the path frame is too high when using FC Machining with ForceFrameRef set to FC_REFFRAME_PATH.

Consequences
The robot will stop.

Recommended actions
Reduce programmed speed, increase corner zones, or decrease the distance between the programmed path and the surface.

50398, AbsAcc circle begins with a frame change

Description
Task: arg
When having the AbsAcc option, MoveC instructions that are coordinated to another robot must use the same tool and work object as the previous move instruction.

Consequences
The robot will stop.

Recommended actions
Change the move instruction before arg so that they both use the same frames. Alternatively, add a (redundant) MoveL to the start point of the circle arc, using the same frames as the MoveC instruction.

50399, AbsAcc circle is first movement instruction

Description
Task: arg
When having the AbsAcc option, MoveC cannot be the first movement instruction.

Consequences
The robot will stop.

Recommended actions
Add a movement instruction before arg, using the same tool and frames.

50400, Manipulator configuration error

Description
The parameter disconnect_link_at_deactivate for MEASUREMENT_CHANNEL was inconsistent for measurement_link arg. All channels on the same link have to have the same setting for this parameter.

Recommended actions
Check the configuration file - cold start the system with correct parameters.

50401, Startup synchronization failed

Description
The system relay ‘arg’ is defined but no response was received during the startup(waited for arg minutes).

Recommended actions
Make sure that the in_signal of the relay is configured and connected and startup all synchronized systems simultaneously.
6 Troubleshooting by Event Log

50402, Correction is not ended in a finepoint

Description
Task: `arg`
The last move instruction with correction specified has to be a finepoint.

Program Ref.: `arg`

Recommended actions
Change the zone parameter to fine.

50403, AW board not connected

Description
During startup, no communication was established with unit `<arg>` on bus `<arg>`.

Consequences
It is not possible to access the unit or signals on the unit, since it is currently not communicating with the controller.

Probable causes
The unit is either not connected to the system, or it is connected, but has been assigned the wrong address.

Recommended actions
1. Make sure all unit addresses match the configuration.
2. Make sure all addresses are unique, and not used by more than one unit.
3. Change the address and/or connect the missing unit.
4. If you changed the address, the power supply to the unit must be cycled (switched OFF and then back ON), to make sure the address has been changed.

50404, Additional axis movement during Wrist Interpolation

Description
Task: `arg`
An additional axis is programmed to move during Wrist Interpolation.

Consequences
The task execution will stop.

Recommended actions
Make sure that no additional axis is programmed to move while doing Wrist Interpolation.

50405, Coordinated movement during Wrist Interpolation

Description
Task: `arg`
Attempt to do Wrist Interpolation against a moving frame.

Consequences
The task execution will stop.

Recommended actions
Remove movement coordination while doing the Wrist Interpolation.

50406, Wrist Interpolation point not on circle plane

Description
Task: `arg`
Program Ref.: `arg`
The target `<arg>` is not on the circle plane. The deviation is `<arg>` mm.
p1 = starting point
p2 = circle point
p3 = end point

Consequences
For a cutting process, the cut hole will not be circular.

Recommended actions
If a circular arc is intended, then change the corresponding target so that it is on the circle plane.

50407, Wrist axis locked

Description
Task: `arg`
Program Ref.: `arg`
Cannot do Wrist Interpolation using `<arg>` because axis `<arg>` is locked.

Consequences
The task execution will stop.

Recommended actions
Change to another wrist axis combination that does not involve the locked axis. Note that the robot must have at least two movable wrist axes to do Wrist Interpolation.

50408, Wrist joint limit

Description
Task: `arg`
Program Ref.: `arg`
Cannot do Wrist Interpolation because robot axis `<arg>` will violate a joint limit.

Consequences
The task execution will stop.

Recommended actions
Choose another robot configuration or another wrist axis combination.
### 50409, Wrist Interpolation not possible

**Description**
- **Task:** arg
- **Program Ref.** arg

The programmed Wrist Interpolation is not kinematically possible using arg.

**Consequences**
The task execution will stop.

**Recommended actions**
Choose another robot configuration or another wrist axis combination. Possible wrist axis combinations are: Wrist45, Wrist46, and Wrist56.

---

### 50410, Collinear targets in wrong order

**Description**
- **Task:** arg
- **Program Ref.** arg

The programmed targets are collinear, but the end point is between the start point and the circle point.

**Consequences**
The task execution will stop.

**Recommended actions**
If a straight line is intended, then let the circle point and the end point swap places with each other.

---

### 50411, Maximum allowed programmed TCP load exceeded

**Description**
The currently defined TCP load for robot arg exceeds the maximum allowed load for the robot model.

**Consequences**
The robot will stop.

**Probable causes**
The combination of the current tool load and payload exceeds the maximum load allowed for the robot model.

**Recommended actions**
Make sure that the total TCP load is inside the load diagram for the robot.

---

### 50412, Error in speed change tuning instruction

**Description**
The speed change tuning instruction resulted in an error.

**Consequences**
The robot will stop.

**Probable causes**
The speed change tuning instruction was not allowed, or the parameters given were invalid.

**Recommended actions**
Check the values for the parameter and tuning type, and make sure the correct force control option is installed and configured correctly.

---

### 50413, Bleeder resistor overload error

**Description**
- In drive module arg, the bleeder resistor connected to the rectifier unit at drive unit position arg was overloaded.

**Consequences**
No operation will be possible until the bleeder resistor has cooled down. The system goes to Motors Off state.

**Probable causes**
1) The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.
2) Bleeder resistor has wrong resistance.
3) Short circuit in motor cable between phase to phase or phase to ground.

**Recommended actions**
1) Rewrite the user program to reduce the amount of hard decelerations.
2) Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately arg ohms.
3) Verify that the motor cables has no short circuits internally or to ground.

---

### 50414, Bleeder resistor overload warning

**Description**
- In drive module arg, the bleeder resistor connected to the rectifier unit at drive unit position arg is close to overload.

**Consequences**
Operation will be possible but system is close to a stopping error.

**Probable causes**
1) The user program may contain too much deceleration of the manipulator's axes. This fault is more likely if the system contains additional axes.
2) Bleeder resistor has wrong resistance.
3) Short circuit in motor cable between phase to phase or phase to ground.

**Recommended actions**
1) Rewrite the user program to reduce the amount of hard decelerations.
2) Disconnect the bleeder and check the cable and measure the bleeder resistance. The expected resistance should be approximately arg ohms.
3) Verify that the motor cables has no short circuits internally or to ground.
### 50415, Motor temperature error

**Description**
Motor temperature for joint \( \text{arg} \) is too high.

**Consequences**
It is not possible to continue until the motor has cooled down. The system goes to Motors Off state.

**Probable causes**
The user program may contain too much hard acceleration and deceleration of the joint. Gravity torque or external forces for the joint can also be too high.

**Recommended actions**
Rewrite the user program to reduce the motor utilization.

### 50416, Motor temperature warning

**Description**
The motor temperature for joint \( \text{arg} \) is close to maximum value.

**Consequences**
It is possible to continue but the margin to maximum allowed temperature is too low to sustain long term operation.

**Probable causes**
The user program may contain too much hard acceleration and hard deceleration of the joint. The gravity torque or external forces for the joint can also be too high.

**Recommended actions**
Rewrite the user program to reduce the motor utilization.

### 50417, Drive unit overload error

**Description**
The drive unit for joint \( \text{arg} \) has reached a too high temperature level. The joint is connected to drive module \( \text{arg} \) with the drive unit at unit position \( \text{arg} \) and node \( \text{arg} \).

**Consequences**
No operation will be possible until the drive has cooled down. The system goes to Motors Off state.

**Probable causes**
1. The joint may be running with a too high torque for extended periods of time.
2. Short circuit in the manipulator using long motor cables.

**Recommended actions**
1. If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
2. Reduce the static torque due to gravity or external forces.
3. Check for short circuit in the motor cable or in the motor.
4. Check for other hardware eventlogs.

### 50418, Drive unit overload warning

**Description**
The drive unit for joint \( \text{arg} \), connected to drive module \( \text{arg} \) with the drive unit at unit position \( \text{arg} \) and node \( \text{arg} \) is approaching a too high temperature level.

**Consequences**
It is possible to continue but margin to max temperature is too low for long term operation.

**Probable causes**
1. The joint may be running with a too high torque for extended periods of time.
2. Short circuit in the manipulator using long motor cables.

**Recommended actions**
1. If possible, rewrite the user program to reduce the amount of hard acceleration and hard deceleration.
2. Reduce the static torque due to gravity or external forces.
3. Check for short circuit in the motor cable or in the motor.
4. Check for other hardware eventlogs.

### 50419, Common base_frame error

**Description**
Task: \( \text{arg} \)

The base_frame is moved by another task than the robot and could not be solved, reason \( \text{arg} \):

1. SingArea\Wrist not supported with MoveC.
2. The base_frame must be moved by first synchronized motion_group.
3. Only one common base_frame can be handled.
4. Absacc not supported with MoveC.
5. The common base_frame can only be solved in synchronized move. Program Ref. \( \text{arg} \)

**Recommended actions**
1. Use SingArea\Off. The CirPathMode can also be used.
2,3 Check SYS.cfg and MOC.cfg.
4 Use MoveL or remove absacc.
5 Use MoveAbsJ.

### 50420, IndCnv Mechanical Unit Error

**Description**
The mechanical unit \( \text{arg} \) is not correctly configured for IndCnv functionality.

**Consequences**
Program execution is stopped.

**Probable causes**
The mechanical unit \( \text{arg} \) consists of more than one single.

1. The single connected to \( \text{arg} \) is not of type FREE_ROT.
2. The single connected to \( \text{arg} \) is not defined as an Indexing Move single.
Recommended actions
Make sure mechanical unit arg consists of only one single.
Make sure configuration parameter Motion/Single Type/Mechanics is of type FREE_ROT.
Make sure configuration parameter Motion/Single Type/Indexing Move is TRUE.

50421, IndCnv Tracking Single Error

Description
The single arg is not configured as an Indexing Move single

Consequences
Program execution is stopped.

Recommended actions
Make sure configuration parameter Process/Can Interface/Single To Track refers to a single with Motion/Single Type/Indexing Move set to TRUE.

50422, IndCnv and Independent joint error

Description
Independent joint instructions are not allowed when single arg is in indexing mode.

Consequences
Program execution is stopped.

Recommended actions
Execute the RAPID instruction IndCnvReset before using the axis as an independent joint.

50423, IndCnv Time before indexing move too low

Description
The time between trig signal and start of indexing movement is configured too low.

Consequences
The program execution is stopped.

Recommended actions
Increase system parameter "Motion/Single Type/Time before indexing move" to at least arg (ms).
Remove or decrease robot acceleration limitations if possible.
Please consult the Conveyor Tracking application manual for further actions.

50424, IndCnv Robot type not supported

Description
The IndCnv functionality does not support the installed robot type.

Consequences
The program execution is stopped.

50425, Friction FFW parameter is not On

Description
Tuning friction parameters requires Friction FFW On to be set to True.

Consequences
Friction tuning for joint arg will have no effect.

Recommended actions
Set parameter Friction FFW On to True for joint arg in the type arg that belongs to the topic Motion.

50426, Out of interpolation objects

Description
The maximum number of available interpolation objects has been reached. This can occur if the dynamic performance is set to a very low value e.g. by use of the AccSet command.

Consequences
The program execution is stopped and the system goes to motors off.

Recommended actions
Increase the number of objects by adding 'extended_dec_dist 1' in cfg instance MOTION_PLANNER.

71001, Duplicated address

Description
The I/O configuration is invalid. The same addresses have been given for I/O unit <arg> and I/O unit <arg>.
I/O units connected to the same I/O bus must have unique addresses. This I/O unit has been rejected.

Recommended actions
1. Check that addresses are correct.
2. Check that the I/O units are connected to the correct I/O bus.

71002, Unit type undefined

Description
The I/O configuration for I/O unit <arg> is invalid.

Consequences
This unit type has been rejected, and no functions depending on this unit type will work.

Probable causes
The unit type <arg> is unknown. All I/O units must refer to an existing, defined unit type.
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**Recommended actions**
1. Make sure the unit type is defined.
2. Make sure the unit type is correctly spelt.

---

**71003, I/O unit undefined**

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.

**Consequences**
This I/O signal has been rejected, and no functions depending on it will work.

**Probable causes**
The I/O unit `<arg>` is unknown. All I/O signals must refer to an existing/defined I/O unit.

**Recommended actions**
1. Make sure the I/O unit is defined.
2. Make sure the I/O unit name is correctly spelt.

---

**71005, Invalid filter time**

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
The passive filter time should either be 0 ms or in the range `[arg, arg]` ms.
This I/O signal has been rejected.

**Recommended actions**
Correct the passive filter time for the I/O signal.

---

**71006, Invalid filter time**

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
The active filter time should either be 0 ms or in the range `[arg, arg]` ms.
This I/O signal has been rejected.

**Recommended actions**
Correct the active filter time for the I/O signal.

---

**71007, Logical values out of range**

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
The logical minimum value must be less than the logical maximum value.
This I/O signal has been rejected.

**Recommended actions**
Correct the logical values for the I/O signal so that the minimum value becomes less than the maximum value.

---

**71008, Physical values out of range**

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
The physical minimum value must be less than the physical maximum value.
This I/O signal has been rejected.

**Recommended actions**
Correct the physical values for the I/O signal so that the minimum value becomes less than the maximum value.

---

**71017, Cross connection without actor I/O signal**

**Description**
The I/O configuration is invalid.
The parameter `<Actor arg>` of one of the cross connections have been omitted.

**Rules:**
1. All cross connections must specify at least one actor signal, i.e. parameter `<Actor I/O signal 1>` must always be specified.
2. For each operator specified an actor I/O signal must follow, e.g. if parameter `<Operator 2>` is specified then parameter `<Actor 3>` must also be specified.

This cross connection has been rejected.

**Recommended actions**
Correct the cross connection so the required actor I/O signals are specified.

---

**71019, I/O signal undefined**

**Description**
The I/O configuration of a cross connection is invalid.

**Consequences**
The cross connection has been rejected, and no functions depending on it will work.

**Probable causes**
The parameter `<Actor arg>` of one of the cross connections contains a reference to an undefined I/O signal `<arg>`.

**Recommended actions**
1. Make sure the I/O signal is defined.
2. Make sure the I/O signal name is correctly spelt.

---

**71020, Cross connection without resultant I/O signal**

**Description**
The I/O configuration is invalid.

The parameter `<Resultant I/O signal>` of one of the cross connections have been omitted.

All cross connections must specify a resultant I/O signal.
This cross connection has been rejected.

**Recommended actions**
Correct the cross connection so that there are one resultant I/O signal per cross connection.

**71021, Duplicated cross connection resultants**

**Description**
The I/O configuration is invalid.
Multiple cross connections have the same resultant I/O signal '<arg>'.
Having more than one cross connection that result in the setting of the same signal may cause unpredictable behaviours, as you cannot control their order of evaluation.
The complete cross connection configuration has been rejected.

**Recommended actions**
Make sure that the I/O signal is not specified as the resultant of several cross connections.

**71037, Closed chain in cross connection**

**Description**
The I/O configuration is invalid.
The I/O signal '<arg>' is part of a cross connection chain that is closed (i.e. forms a circular dependence that cannot be evaluated).
The complete cross connection configuration has been rejected.

**Recommended actions**
Correct the configuration for the cross connections where the I/O signal above is part.

**71038, Cross connection max depth exceeded**

**Description**
The I/O configuration is invalid.
The I/O signal '<arg>' is part of a cross connection chain that is too deep.
The maximum depth of a cross connection chain is '<arg>'.
The complete cross connection configuration has been rejected.

**Recommended actions**
Make the cross connection less deep.

**71045, Invalid filter specification**

**Description**
The I/O configuration for I/O signal '<arg>' is invalid.
No filter times can be specified for this type of I/O signal.
This I/O signal has been rejected.

**Recommended actions**
Set filter time to 0 or remove the statement.

**71049, Analog I/O signal inverted**

**Description**
The I/O configuration for I/O signal '<arg>' is invalid.
Analog I/O signals must not be inverted.
Only digital and group I/O signals can be inverted.
This I/O signal has been rejected.

**Recommended actions**
Remove the invert for the I/O signal (or change the signal type).

**71050, Cross connection with non-digital actor I/O signal**

**Description**
The I/O configuration is invalid.
The parameter '<Actor arg>' of one of the cross connections refer to a I/O signal '<arg>', that is not digital.
Only digital I/O signals can be cross connected.
This cross connection has been rejected.

**Recommended actions**
Remove the non-digital I/O signal from the cross connection.

**71052, Max number of cross connections exceeded**

**Description**
The I/O configuration is invalid.
The maximum number of cross connections, '<arg>' ,in the I/O system has been exceeded.
Not all the cross connections have been accepted.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of cross connections) so that the maximum limit is not exceeded.

**71054, Invalid signal type**

**Description**
The I/O configuration for I/O signal '<arg>' is invalid.
The specified signal type '<arg>' is invalid/unknown.
Valid signal types are:
- DI (Digital input)
- DO (Digital output)
- AI (Analog input)
- AO (Analog output)
- GI (Group input)
- GO (Group output)
This I/O signal has been rejected.

**Recommended actions**
Correct the signal type of the I/O signal.
71058, Lost communication with I/O unit

Description
The previously working communication with I/O unit <arg> on I/O bus <arg> has been lost.

Consequences
It is not possible to access the I/O unit itself or I/O signals on the I/O unit since it is currently not communicating with the controller. The system will go to state SYS FAIL, if the I/O unit has been assigned Unit Trustlevel Required (0) in the configuration.

Probable causes
The I/O unit may have been disconnected from the system.

Recommended actions
1. Make sure the I/O unit has been correctly installed.
2. Make sure the cabling to the I/O unit is correctly connected.

71061, Communication failure on I/O bus

Description
A communication failure on I/O bus <arg> has been detected.

Recommended actions
1. Check other messages for fieldbus specific error.
2. If no I/O units are configured to I/O bus, configure I/O units or remove bus configuration.

71072, Cannot read stored signal value

Description
Cannot read the stored signal value for I/O signal <arg> as it is not stored.

Recommended actions
Change the configuration of the I/O signal by setting the store attribute.

71076, Communication error from rtp1

Description
No response from the serial line.

Recommended actions
Check the device or connection.

71077, Communication error from rtp1

Description
Not possible to deliver the received message.

Recommended actions
Check the communication flow.

71078, Communication error from rtp1

Description
The response from the device has an invalid frame sequence.

Recommended actions
Check for noise on the serial line.

71080, Max number of unit types exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of unit types in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of unit types) so that the maximum limit is not exceeded.

71081, Max number of physical I/O signals exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of physical I/O signals (bit-mappings) in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of physical I/O signals) so that the maximum limit is not exceeded.

71082, Max number of user I/O signals exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of user I/O signals in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of I/O signals) so that the maximum limit is not exceeded.

71083, Max number of symbols exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of symbols in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of I/O signals) so that the maximum limit is not exceeded.

The number of symbols is the sum of all named configuration instances:
- I/O Buses
- Unit types
- I/O Units
- I/O Signals
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- Command types
- Commands
- I/O Access levels
- CIP Routes

Recommended actions
Modify the configuration of the I/O system (by reducing the number of symbols) so that the maximum limit is not exceeded.

71084, Max number of subscribed I/O signals exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of subscribed I/O signals in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of subscriptions) so that the maximum limit is not exceeded.

71085, Max number of I/O units exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of I/O units in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of I/O units) so that the maximum limit is not exceeded.

71097, Input I/O signal stored

Description
The I/O configuration for I/O signal <arg> is invalid.
Input I/O signals must not be stored.
Only output I/O signals can be stored.
This I/O signal has been rejected.

Recommended actions
Remove the store for the I/O signal (or change the signal type).

71098, NFS server lost

Description
The contact with the NFS server <arg> is lost.

Recommended actions
1. The NFS server.
2. The network connection.
3. The controller configuration.

71099, Trusted NFS server lost

Description
The contact with the trusted NFS server <arg> is lost.

Recommended actions
1. The NFS server.
2. The network connection.
3. The controller configuration.

71100, Max number of I/O buses exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of I/O buses in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of I/O buses) so that the maximum limit is not exceeded.

71101, I/O bus undefined

Description
The I/O configuration for I/O unit <arg> is invalid.
The I/O bus <arg> cannot be found in the system. An I/O unit must refer to a defined I/O bus.
Installed I/O buses are: arg arg arg

Consequences
This I/O unit has been rejected, and no functions depending on it will work.

Recommended actions
1. Make sure the I/O bus is defined.
2. Make sure the I/O bus name is correctly spelt.

71108, Interbus I/O unit failure

Description
I/O unit <arg> at address <arg> reported peripheral fault. Interbus specific error code: arg.

Consequences
The I/O unit cannot be contacted by the control system. Parts of the Interbus network will not be accessible, depending on the network topology and the nature of the fault.

Probable causes
A number of errors may cause this. Further information may be found in the standard Interbus documentation.

Recommended actions
1. Make sure the I/O unit at the above address is functioning correctly.
2. Check the Interbus specific error code as specified in the Interbus Manuals: Firmware Service and Error Messages.
71109, Interbus bus failure

Description
The control system has lost communication with the Interbus network. There is no error message from any Interbus board.

Consequences
Parts of the Interbus network will not be accessible, depending on the network topology and the nature of the fault.

Probable causes
A number of errors may cause this. Further information may be found in the standard Interbus documentation.

Recommended actions
1. Make sure the Customer Power Supply unit, supplying the Interbus network with power, is working correctly. Replace any faulty I/O unit.
2. Make sure any fuses are correctly connected.
3. Make sure all communication cables and connectors are working correctly and of the recommended type.
4. Check network topology and cable length.
5. Restart the system.

71110, Interbus bus failure

Description
The control system has lost communication with the I/O unit at address <arg>. Interbus specific error code: arg.

Consequences
Parts of the Interbus network will not be accessible, depending on the network topology and the nature of the fault.

Probable causes
A number of errors may cause this. Further information may be found in the standard Interbus documentation.

Recommended actions
1. Make sure the I/O unit at the above address is functioning correctly. Check the Interbus specific error code as specified in the Interbus Manuals: Firmware Service and Error Messages.
2. Replace the I/O unit with another using the correct ID code in the Interbus configuration as specified in the supplier's documentation.
3. Specify a generic unit type in the system parameters: ibsGeneric and ibsSlave.

71114, Invalid IP address

Description
The IP address <arg> is not valid.

Recommended actions
Check the communication configuration.

71115, Invalid subnet mask

Description
The subnet mask <arg> is not valid.

Recommended actions
Check the communication configuration.

71116, Deactivated I/O unit with Unit Trustlevel <Required (0)>

Description
The I/O configuration of I/O unit <arg> is invalid. I/O units with Unit Trustlevel Required (0) are not allowed to be Deactivated.

Consequences
This I/O unit has been rejected, and no functions depending on it will work.

Recommended actions
Correct the configuration of the I/O unit by either Activating it or changing the Unit Trustlevel.

71122, Incorrect IP address

Description
The address <arg> in protocol <arg> is not a correct IP address.

Recommended actions
Correct the address.

71123, No transmission protocol

Description
The transmission protocol <arg> given for application protocol <arg> could not be found.

Recommended actions
Change the transmission protocol.
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71125, Mount Permission denied
Description
Permission was denied to mount the directory <arg> on the server <arg>.

Recommended actions
Change the User or Group ID.

71126, Directory not exported
Description
Mounting directory <arg> as <arg> failed since it is not exported on the server computer <arg>.
Protocol: <arg>.

Recommended actions
Export the directory on the server computer.

71128, Ethernet not installed
Description
The Ethernet Services option has to be installed when using remote mounted disk.

Recommended actions
Reboot and install the Ethernet Services option.

71129, Too many remote disks
Description
The maximum number of remote mounted disks have been exceeded.
The maximum number is arg.

Recommended actions
Reduce the number of remote mounted disks.

71130, Too many remote servers
Description
The maximum number of servers for remote mounted disks have been exceeded.
The maximum number is arg.

Recommended actions
1. Reduce the number of servers.

71131, Could not mount directory
Description
Mounting directory <arg> on the computer <arg> failed.
Protocol: <arg>.

Recommended actions
Check the server setup.

71139, Access error from I/O system
Description
Cannot read or write I/O signal <arg> due to communication down.

Recommended actions
Check 'No contact with I/O unit' report for more detailed information.

71141, Default value for I/O signal out of range
Description
The I/O configuration for I/O signal <arg> is invalid.
The default value is out of range.
This I/O signal has been rejected.

Recommended actions
Change the default value for the I/O signal.

71145, Interbus bus has been deactivated
Description
The Interbus bus has switched to a none running mode.

Recommended actions
Restart the system.
2. Check that correct Interbus boot project is selected.

71147, No response from the Interbus network
Description
Access to the Interbus network is denied.

Recommended actions
1. Check the Interbus board.
2. Check the internal Interbus configuration.
3. Reduce the cycle time on the slave I/O unit.

71148, No access to the Interbus network
Description
Access to the Interbus service interface is denied during arg, error code is 0xarg.

Recommended actions
1. Check the internal Interbus configuration.
2. The Interbus may be faulty. Replace any faulty I/O unit if required.

71156, IPC queue full
Description
The interprocess communication (IPC) queue <arg> was full, when sending to trap routine.

Recommended actions
Restart the system.
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**71158, Address out of range**

**Description**
The I/O configuration is invalid.
The address of I/O unit `<arg>` is invalid (out of range).
This I/O unit has been rejected.

**Recommended actions**
1. Change the address.
2. Check the address syntax.

**71163, I/O signal on internal I/O unit**

**Description**
The I/O configuration is invalid.
The user-defined I/O signal `<arg>` must not be connected to the internal I/O unit `<arg>`.
User defined I/O signals are not allowed to be connected to internal I/O units.
This I/O signal has been rejected.

**Recommended actions**
Connect the I/O signal to another I/O unit.

**71164, Internal I/O signal in cross connection**

**Description**
The I/O configuration contains an invalid cross connection.
The `<Actor arg>` is a user-defined I/O signal whereas the resultant I/O signal `<arg>` is an internal I/O signal.
It is not allowed to define cross connections where user-defined I/O signals affect internal I/O signals.

**Recommended actions**
correct the cross connection so that there are no internal I/O signals in the resultant expression.

**71165, FTP server went down**

**Description**
The connection to a non-trusted FTP server has been lost.
IP address: `<arg>`.

**Recommended actions**
Check cable and FTP server settings.

**71166, FTP server went down**

**Description**
The connection to a trusted FTP server has been lost.
IP address: `<arg>`.

**Recommended actions**
Check cable and FTP server settings.

**71167, Wrong transmission protocol**

**Description**
No matching transmission protocol was found in the configuration.

**Recommended actions**
Change the transmission protocol.

**71169, Ethernet not installed**

**Description**
The option Ethernet Services with FTP is not installed on this system.

**Recommended actions**
Reboot and install the Ethernet Services with FTP option.

**71182, I/O signal undefined**

**Description**
The I/O configuration is invalid.
The parameter `<Resultant I/O signal>` of one of the cross connections contains a reference to an undefined I/O signal `<arg>`.
This cross connection has been rejected.

**Recommended actions**
Correct the cross connection so that the resultant I/O signal refers to an existing I/O signal.

**71183, Cross connection with invalid operator**

**Description**
The I/O configuration is invalid.
The parameter `<Operator arg>` of one of the cross connections contains a valid/unknown operator `<arg>`.
Valid values for the logical operator are:
- AND
- OR
This cross connection has been rejected.

**Recommended actions**
Correct the operator.

**71185, Duplicated name**

**Description**
The I/O configuration is invalid.
The identifier `<arg>` has already been used as the name of another configuration instance.
The following configuration instances must have unique names:
- I/O Buses
- Unit types
- I/O Units
- I/O Signals
- Command types
- Commands
- I/O Access levels
- CIP Routes

This configuration instance has been rejected.

Recommended actions
1. Rename one of the configuration instances in system parameters.
2. Restart the system.

71193, Invalid physical I/O mapping

Description
I/O mapping error on I/O unit <arg>.

Recommended actions
Check configuration for physical signal mapping.

71196, Invalid encoding type

Description
The I/O configuration for I/O signal <arg> is invalid.
The encoding type <arg> is not valid for signal type <arg>.
Valid encoding types are:
- UNSIGNED
- TWO_COMP

This I/O signal has been rejected.

Recommended actions
Correct the encoding type for the I/O signal.

71201, Unknown I/O bus

Description
The I/O configuration is invalid.
The I/O bus <arg> cannot be found in the system.
Installed I/O buses are: argargargarg

Consequences
This I/O bus has been rejected, and no functions depending on it will work.

Recommended actions
1. Make sure the system has been configured with the desired I/O bus.
2. Make sure the I/O bus option at hand is installed.
3. Check the configuration for I/O bus.

71205, Could not mount directory

Description
Mounting directory <arg> on the computer <arg> failed.
Protocol: <arg>.

Recommended actions
1. Check the FTP server setup.
2. Check the FTP client configuration.
3. Check communication hardware, cabling.

71220, No Profibus option has been installed

Description
A Profibus-DP master/slave board has been fitted, but no Profibus option has been installed.

Consequences
No communication on the Profibus is possible. There may be consequential errors from configuring Profibus when no such option has been installed.

Probable causes
An attempt may have been made to add the Profibus functionality, without installing the option correctly.

Recommended actions
1. If the Profibus option is required: configure a new system with this option, and install the system.
2. If the Profibus option is not required: configure a new system without this option, and install the system.

71221, Profibus firmware file not found

Description
The Profibus <arg> firmware file not found or not readable.
The board firmware may be out of date.

Recommended actions
Reinstall the system.

71222, Profibus configuration file not found

Description
The binary Profibus configuration file was not found.
- File: <arg>
- Path: <arg>.

Recommended actions
1. Make sure the file exists.
2. Change the path in the I/O configuration.

71223, Profibus file parse error

Description
The binary Profibus configuration file is corrupt. (Internal error: arg)
- File: <arg>
- Path: <arg>.

Recommended actions
Recreate and download the binary configuration file using the external Profibus configuration tool.

71224, Profibus channel has been reflashed

Description
The <arg> channel firmware of the Profibus board has been updated from <arg> to <arg>. 
**71225, Profibus configuration error**

**Description**
The local slave channel has more DI/DO than the configuration in its master.

**Recommended actions**
Make the number of DI/DO of the external Profibus master more or equal than the local slave.

---

**71226, Profibus configuration ok**

**Description**
The number of DI/DO of the external Profibus master is now more or equal than for the I/O unit of DP_SLAVE type.

**Recommended actions**

---

**71227, Initialization of Profibus slave failed**

**Description**
The slave channel on the Profibus-DP master/slave board did not start up correctly.

**Consequences**
No communication on the Profibus slave channel is possible.

**Probable causes**
The board hardware may be malfunctioning.

**Recommended actions**
1. Restart the system.
2. Replace the Profibus slave board if faulty.

---

**71228, Profibus binary configuration fault**

**Description**
The configuration data in the binary file is not accepted by the slave at address `<arg>`.

**Recommended actions**
Make the configuration data in the binary file match the configuration for the slave and reboot the system.

---

**71229, Profibus binary parameter fault**

**Description**
The parameter data in the binary file is not accepted by the slave at address `<arg>`.

**Recommended actions**
Make the parameter data in the binary file match the parameters for the slave and reboot the system.

---

**71230, I/O unit configuration error**

**Description**
I/O unit `<arg>` is configured in system parameters but is missing or incorrect in Profibus binary file.

**Recommended actions**
1. Check/change system parameters.
2. Check/change Profibus binary file.

---

**71231, Wrong Profibus I/O unit is connected**

**Description**
Profibus I/O unit `<arg>` at address `<arg>` has the wrong identity number. Reported identity number is `<arg>`. Expected identity number is `<arg>`.

**Consequences**
The system will not be able to Activate the I/O unit and no communication on the Profibus will be possible.

**Probable causes**
- The I/O unit at address `<arg>` may be the wrong type of I/O unit.
- The configuration may be incorrect, i.e. an incorrect binary configuration file and in some cases incorrect system parameters.

**Recommended actions**
1. Make sure the system parameters are correct.
2. Make sure the Profibus binary file is correct.
3. Replace the I/O unit.

---

**71232, Too many internal Profibus slaves**

**Description**
There are too many internal Profibus slaves defined in the system.

**Consequences**
Profibus I/O unit `<arg>` will not be configured. No communication with this unit will be possible.

**Probable causes**
Profibus I/O unit `<arg>` is defined as an internal slave while another internal slave has already been configured.
The maximum number of internal slaves is 1.

**Recommended actions**
1. Make sure the system parameters are correct.
2. Make sure the Profibus binary file is correct.

---

**71241, Too many I/O units on I/O bus**

**Description**
The I/O configuration for I/O unit `<arg>` is invalid.
The number of I/O units on I/O bus `<arg>` must not exceed `<arg>`. This I/O unit has been rejected.
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Recommended actions
Reduce the number of defined I/O units and reboot the system.

71244, Incorrect Interbus unit type
Description
I/O unit <arg> at address <arg> has a unit type not supported by the system.

Consequences
The I/O unit has not been configured, and cannot be used by the system.

Probable causes
One or more of the units connected to the network is of a hardware version not supported by the system.

Recommended actions
1. Replace the unsupported I/O unit with one of the correct version.
2. Make sure the system parameters are correct.
3. Reconfigure the Interbus network.

71245, I/O unit not defined in Interbus configuration
Description
I/O unit <arg> is not assigned to any address in the Interbus configuration.

Consequences
The I/O unit has not been configured, and cannot be used by the system.

Probable causes
Data for defining the I/O unit is missing in the Interbus configuration.

Recommended actions
Change the Interbus configuration using the CMD tool under the Process Data menu. Add an address for the I/O unit. The CMD tool is available from your local ABB representative.

71246, No access to Interbus data
Description
Access to the Interbus board data interface is denied. arg not performed, error code arg.

Recommended actions
1. The Interbus board may be faulty. Replace any faulty boards if required.
2. Check the Interbus internal configuration.

71248, Interbus I/O unit configuration mismatch
Description
The Interbus I/O unit with address <arg> is configured in the system parameters, but not in the Interbus configuration.

Consequences
The I/O unit has not been configured, and cannot be used by the system.

Probable causes
The Interbus unit address in the Interbus configuration differs from that in the system parameters, or the I/O unit may not have been configured at all in the Interbus configuration.

Recommended actions
1. Make sure system parameters are correct.
2. Reconfigure the Interbus network.

71249, Interbus I/O unit configuration mismatch
Description
The Interbus I/O unit with address <arg> is configured in the Interbus configuration, but not in the system parameters.

Consequences
The I/O unit has not been configured, and cannot be used by the system.

Probable causes
The Interbus unit address in the Interbus configuration differs from that in the system parameters, or the I/O unit may not have been configured at all in the system parameters.

Recommended actions
1. Make sure system parameters are correct.
2. Reconfigure the Interbus network.

71250, Cannot configure Interbus board
Description
An error has occurred when downloading Interbus configuration file to the Interbus board. Interbus specific error code: arg.

Consequences
The I/O bus has not been configured, and cannot be used by the system.

Probable causes
The path specifying the Interbus configuration files points out the wrong files or that configuration file is incorrect.

Recommended actions
1. Use RobotStudio to check the path to the configuration files.
2. Make sure the configuration files are correct.
3. Check the Interbus specific error code as specified in the Interbus Manuals: Firmware Service and Error Messages.

71258, Interbus configuration file not found
Description
The Interbus configuration file <arg>, configured in the system parameters, was not found.
Consequences
The I/O bus has not been configured, and cannot be used by the system.

Probable causes
The Interbus configuration file does not exist or the path specified in the system parameters was incorrect.

Recommended actions
1. Make sure the Interbus configuration files are correctly located.
2. Use RobotStudio to check the path to the configuration files.

71259, Cannot read the Interbus configuration file

Description
An error occurred when attempting to read the Interbus board configuration file <arg>.

Consequences
The I/O bus has not been configured, and cannot be used by the system.

Recommended actions
1. Reload the Interbus configuration file to the robot controller.
2. Restart the system.

71260, Interbus bus failure

Description
The control system has lost communication with the Interbus network. Interbus specific error code: <arg>.

Consequences
Parts of the Interbus network will not be accessible, depending on the network topology and the nature of the fault.

Probable causes
A number of errors may cause this. Further information may be found in the standard Interbus documentation.

Recommended actions
1. Make sure all communication cables and connectors are working correctly and of the recommended type
2. Check the Interbus specific error code as specified in the Interbus Manuals: Firmware Service and Error Messages.

71261, Transport layer failure

Description
The physical channel for transport layer <arg> is invalid.

Recommended actions
Verify that the physical channel is valid, see manual.

71273, I/O unit configuration mismatch

Description
I/O unit <arg> is configured in the system parameters, but it cannot be found in the I/O bus specific configuration.

Probable causes
1. The address of the I/O unit in the system parameters are not the same as in the I/O bus specific configuration.
2. The I/O unit has not been configured at all in the I/O bus specific configuration.

Recommended actions
1. Check I/O unit configuration in system parameters
2. Check I/O bus specific configuration

71274, Interbus bus failure

Description
The control system was unable to determine the bus operating mode of the Interbus board.

Recommended actions
Restart the system.

71276, Communication established with I/O unit

Description
Communication established with I/O unit <arg>.

71278, Mount permission denied

Description
Permission was denied to mount the directory <arg> on the server <arg>.

Recommended actions
Check the username and password.

71288, Mount path is too large

Description
Mount path is too large. Mount path consists of FTP server mount point and server path.
- Max length: <arg>
- Protocol used: <arg>

Recommended actions
Change FTP server mount point or server path.

71289, Memory partition is too big

Description
The memory partition for communication purposes cannot be allocated. The requested partition <arg> kB. System partition will be used.
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**Recommended actions**
Decrease commPartSize.

---

**71290, Could not add FTP device**

**Description**
Adding the FTP device <arg> to the operating system failed.
Application protocol <arg>.

**Recommended actions**
Change the local path of the configuration of the FTP device.

---

**71291, Invalid local path**

**Description**
Local path of the FTP device <arg> is invalid.

**Recommended actions**
Local path must end with :

---

**71293, Invalid input size**

**Description**
On DeviceNet I/O unit <arg> the connection 1 input size does not match the I/O unit.

**Recommended actions**
1. Change size in configuration.
2. Check module.
3. Use DN_GENERIC unit type.

---

**71294, Invalid output size**

**Description**
On DeviceNet I/O unit <arg> the connection 1 output size does not match the I/O unit.

**Recommended actions**
1. Change size in configuration.
2. Check module.
3. Use DN_GENERIC unit type.

---

**71295, Invalid input size**

**Description**
On DeviceNet I/O unit <arg> the connection 2 input size does not match the I/O unit.

**Recommended actions**
1. Change size in configuration.
2. Check module.

---

**71296, Invalid output size**

**Description**
On DeviceNet I/O unit <arg> the connection 2 output size does not match the I/O unit.

**Recommended actions**
1. Change size in configuration.
2. Check module.

---

**71297, Invalid connection type**

**Description**
The DeviceNet I/O unit <arg> does not support arg connection.

**Recommended actions**
1. Change connection 1 type and/or connection 2 type in configuration.
2. Use DN_GENERIC unit type.

---

**71298, Duplicated address**

**Description**
The address <arg> for the DeviceNet master on I/O bus <arg> is occupied by another I/O unit on the network.

**Recommended actions**
1. Change master address in configuration.
2. Disconnect I/O unit occupying the address from the network.
3. Restart the system.

---

**71299, No power on DeviceNet bus**

**Description**
The 24 V power supply from the DeviceNet power supply is missing.

**Consequences**
No communication on the DeviceNet bus <arg> is possible.

**Probable causes**
The power supply unit, cabling, input voltage to the power supply or the output load may cause the power loss. See the Trouble Shooting Manual and Circuit Diagram!

**Recommended actions**
1. Check all cabling to the power supply unit.
2. Measure the output and input voltage levels.
3. Replace the faulty I/O unit if required.

---

**71300, DeviceNet bus communication warning**

**Description**
A minor number of communication errors occurred on DeviceNet bus <arg>.

**Consequences**
Normal operation will be maintained, even on the DeviceNet.
Probable causes
The fault may be caused by interference, power supply units and
cables, or communication cables.

Recommended actions
1. Make sure any terminating resistors are correctly connected.
2. Make sure all communication cables and connectors are working
correctly and of the recommended type.
3. Check network topology and cable length.
4. Make sure the DeviceNet Power Supply unit is working correctly.
   Replace any faulty unit.

71301, Bus off, DeviceNet bus communication failure

Description
A major number of communication errors occurred on DeviceNet bus <arg>.

Consequences
All communication on the DeviceNet Bus has stopped.

Probable causes
The fault may be caused by interference, power supply units and
cables, or communication cables.

Recommended actions
1. Make sure the DeviceNet Power Supply unit is working correctly.
   Replace any faulty I/O unit.
2. Make sure any terminating resistors are correctly connected.
3. Make sure all communication cables and connectors are working
correctly and of the recommended type.
4. Check network topology and cable length.
5. Restart the system.

71302, No DeviceNet option has been installed

Description
A DeviceNet master/slave board has been fitted, but no DeviceNet
option has been installed.

Consequences
No communication on the DeviceNet is possible. There may be
consequential errors from configuring DeviceNet when no such option
has been installed.

Probable causes
An attempt may have been made to add the DeviceNet functionality,
without installing the option correctly.

Recommended actions
1. If the DeviceNet option is required: configure a new system with this
   option, and install the system.
2. If the DeviceNet option is not required: configure a new system
   without this option, and install the system.

71303, Invalid DeviceNet vendor id

Description
The vendor id read from DeviceNet I/O unit <arg> doesn't match value
in unit type configuration.
- Configuration: <arg>
- Actual: <arg>

Recommended actions
1. Change vendor id in configuration.
2. Check that the type of I/O unit is correct.

71304, Invalid DeviceNet device type

Description
The device type read from DeviceNet I/O unit <arg> doesn't match
value in unit type configuration.
- Configuration: <arg>
- Actual: <arg>

Recommended actions
1. Change device type in configuration.
2. Check that the type of I/O unit is correct.

71305, Invalid DeviceNet product code

Description
The product code read from DeviceNet I/O unit <arg> doesn't match
value in unit type configuration.
- Configuration: <arg>
- Actual: <arg>

Recommended actions
1. Change product code in configuration.
2. Check that the type of I/O unit is correct.

71306, DeviceNet unknown error

Description
An unknown error is reported from I/O unit <arg> error code arg.

Recommended actions
1. Restart the system.
2. Report problem to ABB.

71307, DeviceNet generic connection 1

Description
On DeviceNet I/O unit <arg> connection 1 configuration are generic.
Real values:
- Connection 1 type: <arg>
- Connection 1 input size: <arg>
- Connection 1 output size: <arg>
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Recommended actions
1. Create a new unit type with correct values.
2. Update your current unit type configuration.

71308, DeviceNet generic connection 2
Description
On DeviceNet I/O unit <arg> connection 2 configuration are generic.
Real values:
- Connection 2 type: <arg>
- Connection 2 input size: <arg>
- Connection 2 output size: <arg>

Recommended actions
1. Create a new unit type with correct values.
2. Update your current unit type configuration.

71309, DeviceNet generic unit identification
Description
On DeviceNet I/O unit <arg> identity configuration are generic.
Real values:
- Vendor Id: <arg>
- Product code: <arg>
- Device type: <arg>

Recommended actions
1. Create a new unit type with correct values.
2. Update your current unit type configuration.

71310, DeviceNet I/O unit connection error
Description
DeviceNet I/O unit <arg> is occupied by another master.

Recommended actions
1. Check configuration.
2. Cycle power on I/O unit.

71311, Unable to established communication on DeviceNet bus
Description
Unable to established communication on DeviceNet bus <arg> because no I/O units are physically connected.

Recommended actions
1. Check cables and connectors.
2. Connect I/O units to I/O bus.
3. Restart the system.
4. Remove I/O units on the I/O bus <arg> from the configuration.

71312, DeviceNet I/O unit explicit connection not enabled
Description
DeviceNet I/O unit <arg> does not have the explicit message connection enabled.

Recommended actions
Change configuration.

71313, Fieldbus command type order number not unique.
Description
The I/O configuration is invalid.
Fieldbus command <arg> and <arg> are connected to the same unit type <arg> and have the same order number <arg>.
The order number of commands connected to the same I/O unit must be unique.
This command has been rejected.

Recommended actions
Correct the configuration.

71314, Invalid fieldbus command type
Description
The I/O configuration is invalid.
One of the fieldbus commands has a reference to an invalid/unknown command type <arg>.
All fieldbus commands must refer to an existing command type.
This fieldbus command has been rejected.

Recommended actions
Correct the fieldbus command type for the command.

71315, Max number of fieldbus commands exceeded
Description
The I/O configuration is invalid.
The maximum number, arg, of fieldbus commands in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of fieldbus commands) so that the maximum limit is not exceeded.

71316, Max number of fieldbus command types exceeded
Description
The I/O configuration is invalid.
The maximum number arg, of fieldbus command types in the I/O system has been exceeded.
**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of fieldbus command types) so that the maximum limit is not exceeded.

**71317, DeviceNet I/O unit reset**

**Description**
DeviceNet I/O unit <arg> have been restarted through fieldbus command arg,
to make sure fieldbus command values are activated.
This will cause the I/O unit to loose contact while the I/O unit is restarted and then automatically be reconnected.

**Recommended actions**
1. Do nothing.
2. If restart not necessary remove fieldbus command configuration on unit type.

**71318, Failed to send fieldbus command**

**Description**
Fieldbus command <arg> to I/O unit <arg> was not successfully sent.

**Recommended actions**
Check fieldbus command configuration.

**71320, Max number of I/O access levels exceeded**

**Description**
The I/O configuration is invalid.
The maximum number, arg, of I/O access levels in the I/O system has been exceeded.

**Recommended actions**
Modify the configuration of the I/O system (by reducing the number of I/O access levels) so that the maximum limit is not exceeded.

**71321, Invalid I/O access level**

**Description**
The I/O configuration is invalid.
The I/O signal <arg> has a reference to an invalid/undefined I/O access level <arg>.
All I/O signals must either omit the access level or refer to an existing access level.
This I/O signal has been rejected.

**Recommended actions**
Change I/O access level to one that exist or define a new I/O access level.

**71323, Invalid bit values**

**Description**
The I/O configuration for I/O signal <arg> is invalid.
The minimum bit value <arg> must not be less than <arg>.
The maximum bit value <arg> must not exceed <arg>.
The minimum bit value must be less than the maximum bit value.
This I/O signal has been rejected.

**Recommended actions**
1. Check that the I/O signal is configured with the correct encoding type.
2. Check that the min and max bit values are correct.

**71324, Physical limitation values out of range**

**Description**
The I/O configuration for I/O signal <arg> is invalid.
The physical limitation minimum value must be less than the physical limitation maximum value.
This I/O signal has been rejected.

**Recommended actions**
Correct the physical limitation values for the I/O signal so that the minimum value becomes less than the maximum value.

**71325, Invalid I/O bus configuration**

**Description**
The I/O configuration for I/O bus <arg> is invalid.
User-defined (externally loaded) I/O buses must no be specified as local.
This I/O bus has been rejected.

**Recommended actions**
Change the bus type of the I/O bus.

**71326, Invalid unit type configuration**

**Description**
The I/O configuration for unit type <arg> is invalid.
User-defined (externally loaded) unit types must no be specified as local.
This I/O bus has been rejected.

**Recommended actions**
Change the bus type of the I/O unit type.

**71328, Invalid name**

**Description**
The I/O configuration is invalid.
The configuration instance <arg> does not comply with the rules of RAPID identifiers.
This configuration instance has been rejected.

**Recommended actions**
Correct the name of the configuration instance so that it complies with the following rules:
Rules of RAPID identifiers:
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1. The length must not exceed 16 characters.
2. The first character must be a letter (a-z or A-Z).
3. Subsequent characters must be letters (a-z or A-Z), digits (0-9) or underscores (_).

### 71329, Invalid Connector ID

**Description**
The I/O configuration for I/O bus `<arg>` is invalid.
No or invalid connector ID is selected for the `<arg>` bus type.
This I/O bus has been rejected.

**Recommended actions**
Select a valid connector ID for the I/O bus.

### 71330, Conflicting bus types

**Description**
The I/O configuration for I/O bus `<arg>` is invalid.
There are duplicated `<arg>` I/O buses with same connector ID `<arg>`.
I/O buses of the same type must have unique connector ID:s.
This I/O bus has been rejected.

**Recommended actions**
Correct the connector ID for the I/O bus.

### 71331, Invalid bus type

**Description**
The I/O configuration for I/O bus `<arg>` is invalid.
The bus type `<arg>` is invalid or unknown

**Consequences**
This I/O bus has been rejected, and no functions depending on it will work.

**Recommended actions**
Correct the bus type for the I/O bus.

### 71332, Invalid recovery time

**Description**
The I/O configuration for I/O bus `<arg>` is invalid.
The value of the recovery time parameter `<arg>` is incorrect.
The recovery time (how often to try regaining contact with lost I/O units) must not be less than 5 seconds.
This I/O bus has been rejected.

**Recommended actions**
Correct the recovery time for the I/O bus.

### 71333, Invalid DeviceNet baud rate

**Description**
The I/O configuration for I/O bus `<arg>` is invalid.
The value of the DeviceNet baud rate parameter `<arg>` is incorrect.
Valid DeviceNet baud rates are:
- 125
- 250
- 500

This I/O bus has been rejected.

**Recommended actions**
Correct the DeviceNet baud rate for the I/O bus.

### 71334, Command type without reference to unit type

**Description**
The I/O configuration is invalid.
No reference to a unit type is defined for the command type `<arg>`.
All command types must have a reference to an existing unit type.
This command type has been rejected.

**Recommended actions**
Define a unit type reference for the command type.

### 71335, Invalid unit type

**Description**
The I/O configuration for command type `<arg>` is invalid.
The unit type `<arg>` is invalid/unknown.

All command types must refer to an existing/defined unit type.
This command type has been rejected.

**Recommended actions**
Correct the unit type for the command type.

### 71336, Command type without DeviceNet path

**Description**
The I/O configuration is invalid.
No DeviceNet path is defined for the command type `<arg>`.
This command type has been rejected.

**Recommended actions**
Define a DeviceNet path `<arg>` for the command type.

### 71337, Command type without DeviceNet service identifier

**Description**
The I/O configuration is invalid.
No DeviceNet service identifier is defined for the command type `<arg>`.
This command type has been rejected.

**Recommended actions**
Define a DeviceNet service identifier `<arg>` for the command type.

### 71338, Invalid DeviceNet service identifier

**Description**
The I/O configuration is invalid.
DeviceNet service identifier `<arg>` is not valid for command type `<arg>`.
Valid DeviceNet service identifiers are:
`<arg>`
`<arg>`
`<arg>`
This command type has been rejected.

**Recommended actions**
Correct the DeviceNet service identifier for the command type.

### 71339, Fieldbus command without reference to I/O unit

**Description**
The I/O configuration is invalid.
One of the fieldbus commands has no reference to a I/O unit.
All fieldbus commands must have a reference to an existing I/O unit.
This fieldbus command has been rejected.

**Recommended actions**
Define a I/O unit reference for the fieldbus command.

### 71340, Invalid I/O unit

**Description**
The I/O configuration is invalid.
One of the fieldbus commands has a reference to an invalid/unknown I/O unit `<arg>`.
All fieldbus commands must have a reference to an existing I/O unit.
This fieldbus command has been rejected.

**Recommended actions**
Correct the I/O unit for the fieldbus command.

### 71341, Fieldbus command, no reference to command type

**Description**
The I/O configuration is invalid.
One of the fieldbus commands has no reference to a command type.
All fieldbus commands must have a reference to an existing command type.
This fieldbus command has been rejected.

**Recommended actions**
Define a command type reference for the fieldbus command.

### 71342, Unit type mismatch

**Description**
The I/O configuration is invalid.
One of the fieldbus commands refers to a I/O unit `<arg>` and a command type `<arg>` that refer to different unit types.
The I/O unit and command type referred to by a fieldbus command must refer to the same unit type.
This fieldbus command has been rejected.

**Recommended actions**
Correct the configuration.

### 71344, Unit map undefined

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
Unit map is undefined or empty.
A unit map must be specified for all physical I/O signals (i.e. signals connected to an unit).
This I/O signal has been rejected.

**Recommended actions**
Define a unit map for the I/O signal.

### 71346, Unit map out of range

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
The unit map `<arg>` is invalid since bit `<arg>` is out of range.
All bits in the unit map must be in the range `[0, arg]`.
This I/O signal has been rejected.

**Recommended actions**
correct the unit map.

### 71347, Unit map with overlapping segments

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
The unit map `<arg>` contains segments (e.g. bit <arg>) that overlap each other.
This I/O signal has been rejected.

**Recommended actions**
Correct the unit map.

### 71348, Unit map with unexpected character

**Description**
The I/O configuration for I/O signal `<arg>` is invalid.
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Found unexpected end or character at position <arg> in the unit map: <arg>.
This I/O signal has been rejected.

**Recommended actions**
Correct the unit map so that it comply with the following syntax:
- {bit} = ([0-9]+)
- {range} = ([0-9]+-)[0-9]+)
- {segment} = ({bit} | {range})
- {unit map} = ({segment}[,])*{segment}
Examples of valid unit maps:
- "1"
- "0-7, 15-8"
- "1,4-3,7"

**71349, Invalid signal size**

**Description**
The I/O configuration for I/O signal <arg> is invalid.
There is a mismatch between the signal type and the size of the signal.
The signal size <arg> is given by the unit map: <arg>.
This I/O signal has been rejected.

**Recommended actions**
Correct either the signal type or the unit map so that the following rules
are fulfilled:
- The size of digital I/O signals must be exactly one bit.
- The size of analog and group I/O signals must be between 2 and 32
bits.

**71350, Invalid bus type**

**Description**
The I/O configuration is invalid.
The unit type <arg> has an invalid/unknown bus type <arg>.
Installed valid bus types are: arg arg arg

**Consequences**
This unit type has been rejected, and no functions depending on it will
work.

**Recommended actions**
correct the bus type for the unit type.

**71351, Invalid connection 1 type**

**Description**
The I/O configuration is invalid.
The unit type <arg> has an invalid/unknown type for connection 1
<arg>.
The type for connection 1 must be one of the following:
- POLLED
- STROBE
- COS
- CYCLIC
- COS_ACKSUP
- CYCLIC_ACKSUP
This unit type has been rejected.

**Recommended actions**
correct the connection 1 type of the unit type.

**71352, Invalid connection 2 type**

**Description**
The I/O configuration is invalid.
The unit type <arg> has an invalid/unknown type for connection 2
<arg>.
The type for connection 2 must either be omitted or one of the
following:
- POLLED
- STROBE
- COS
- CYCLIC
- COS_ACKSUP
- CYCLIC_ACKSUP
This unit type has been rejected.

**Recommended actions**
correct the connection 2 type of the unit type.

**71353, Unit without reference to unit type**

**Description**
The I/O configuration is invalid.
No reference to a unit type is defined for the I/O unit <arg>.
This I/O signal has been rejected.

**Recommended actions**
define a unit type reference for the I/O unit.

**71354, I/O unit without reference to I/O bus**

**Description**
The I/O configuration is invalid.
No reference to a I/O bus is defined for the I/O unit <arg>.
This I/O unit has been rejected.

**Recommended actions**
define a I/O bus reference for the I/O unit.

**71355, Invalid trustlevel**

**Description**
The I/O configuration is invalid.
Unit type <arg> has an invalid/unknown trustlevel <arg>.
Valid trustlevel values are:
- 0 (Required)
- 1 (Error when lost)
- 2 (Loss accepted)
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- 3 (Stop when lost)
  This command type has been rejected.

Recommended actions
Correct the trustlevel for the unit type.

71356, Bus type mismatch
Description
The I/O configuration is invalid.
Unit <arg> refers to a I/O bus and a unit type with different bus types.
This I/O unit has been rejected.

Recommended actions
1. Check that the I/O unit is connected to the correct I/O bus and that
the bus type of that I/O bus is correct.
2. Check that the I/O unit refers to the correct unit type and that the bus
of that unit type is correct.

71357, Duplicated I/O units on I/O bus <Local>
Description
The I/O configuration for I/O unit <arg> is invalid.
There is already another user-defined I/O unit connected to the I/O bus
<Local>.
Only one user-defined I/O unit may be connected to the I/O bus
<Local>.
This I/O unit has been rejected.

Recommended actions
Correct the I/O configuration.

71358, Power fail restore full
Description
I/O unit <arg> could not be setup for power failure restore.
The table for power fail is full.

Recommended actions
Remove some other I/O units from the restore list.

71359, Option Multiple Serial Ports is not installed
Description
The system has attempted to address the serial port <arg>, and failed.

Consequences
The connector and the physical channel using the connector will not be
available for use.

Probable causes
The option, Multiple Serial Ports, has not been installed in the system.

Recommended actions
1. If the option is required: configure a new system WITH this option,
and install the system.
2. If the option is NOT required: remove the unsupported
communication channels from the configuration.

71361, Cross connection with non digital resultant signal
Description
The I/O configuration is invalid.
The parameter <Resultant I/O signal> of one of the cross connections
refer to a I/O signal <arg>, that is not digital.
Only digital I/O signals can be cross connected.
This cross connection has been rejected.

Recommended actions
Remove the non-digital I/O signal from the cross connection.

71362, I/O signal mapped outside the I/O unit data area
Description
Cannot change physical state of I/O signal <arg> to VALID.
The reason is that the I/O signal is mapped to bit(s) that lies outside the
data area of the I/O unit it is assigned to.
I/O signal assigned to I/O unit <arg>
I/O signal mapped to bit(s): <arg>
Output data area size for the I/O unit is arg bits
Input data area size for the I/O unit is arg bits

Consequences
The physical state of this I/O signal remains NOT VALID.

Recommended actions
1. Check that the unit mapping of the I/O signal is correct.
2. Check that the I/O signal is assigned to the correct I/O unit.
3. Check the system parameters Connection Input/Output size on the
unit type, it is possible to increase those parameters on some unit types.

71363, Slave configuration invalid
Description
The I/O unit <arg> configured on the master address is not valid as an
internal slave.

Recommended actions
1. Change the address on the I/O unit.
2. Change the unit type on the unit to DN_SLAVE.

71364, I/O queue overload
Description
The I/O queue handling input and output I/O signals to and from the
system has been overloaded.

Consequences
The system will go to status SYS STOP.
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Probable causes
This is caused by too frequent signal changes or too large bursts of signal changes, generated by input I/O signals or cross connections between I/O signals.

Recommended actions
Check the cross connections. How to check the configuration file is detailed in the Trouble Shooting Manual.
2. Check the frequency of input I/O signals from any external equipment connected to the system. Make sure it is not abnormal, and change if required.
3. If an extremely heavy I/O load is normal and required, investigate whether programming delays in the RAPID application may solve the problem.

71365, Safety I/O queue overload

Description
The safety I/O queue handling safety input and output I/O signals has been overloaded.

Consequences
The system will go to status SYS HALT.

Probable causes
This is caused by too frequent signal changes of safety I/O signals. Sometimes this may be due to erratic ground connection in I/O signals from external equipment.

Recommended actions
1. Repeated safety input I/O signals will cause the system to halt. See the error log for other faults that may cause the condition.
2. Check the grounding of each signal from any external equipment affecting the safety I/O signals.
3. Check the frequency of input I/O signals from any external equipment connected to the system. Make sure it is not abnormal, and change is required.

71366, Cross connection I/O queue overload

Description
The cross connection I/O queue handling input and output I/O signals to and from the system has been overloaded.

Consequences
The system will go to status SYS STOP.

Probable causes
This is caused by too frequent signal changes or too large bursts of signal changes, generated by input or output I/O signals being actors in cross connections.

Recommended actions
Check the cross connections. How to check the configuration file is detailed in the Trouble Shooting Manual.
2. Check the frequency of input and output I/O signals being actors in cross connections.
3. If an extremely heavy I/O load is normal and required, investigate whether programming delays in the RAPID application may solve the problem.

71367, No communication with I/O unit

Description
During start-up, no communication was established with I/O unit <arg> on the I/O bus <arg>.

Consequences
It is not possible to access the I/O unit or I/O signals on it, since it is currently not communicating with the controller. The system will go to state SYS FAIL, if the I/O unit has been assigned Unit Trustlevel <Required (0)> in the configuration.

Probable causes
The I/O unit is either not connected to the system, or it is connected, but has been assigned the wrong address.

Recommended actions
1. Make sure all I/O unit addresses match the configuration.
2. Make sure all addresses are unique, and not used by more than one I/O unit.
3. Change the address and/or connect the missing I/O unit.
4. If you changed the address, the power supply to the I/O unit must be cycled (switched OFF and then back ON), to make sure the address has been changed.

71368, No Interbus option has been installed

Description
A Interbus master/slave board has been fitted, but no Interbus option has been installed.

Consequences
No communication on the Interbus is possible. There may be consequential errors from configuring Interbus when no such option has been installed.

Probable causes
An attempt may have been made to add the Interbus functionality, without installing the option correctly.

Recommended actions
1. If the Interbus option is required: configure a new system WITH this option, and install the system.
2. If the Interbus option is NOT required: configure a new system WITHOUT this option, and install the system.

71377, Dengensha board failure

Description
No contact with Dengensha PCI board.

Consequences
Dengensha Spot Welding will not be available for use.
Probable causes
- Dengensha board not present in PCI contact.

Recommended actions
1. Install the PCI card into one of the main computers PCI slots.
2. Make sure the PCI card is working.

71378, Failed to access the Dengensha PCI board.

Description
The Dengensha PCI board has stopped responding.

Consequences
Dengensha Spot Welding will not be available for use.

Probable causes
- The board may have internal software or hardware problems.

Recommended actions
Power off and try again

71379, Unknown communication physical channel connector

Description
The connector <arg> defined for the physical channel <arg> is unknown.

Consequences
The physical channel will not be available for use.

Probable causes
- The connector defined in the physical channel configuration may be misspelt or refers to a connector not available for use.
- Connector configuration is missing.

Recommended actions
1. Make sure the connector defined in the physical channel configuration is referring to an available connector.
2. Make sure the option Multiple Serial Ports is installed if required by the used configuration.
3. Reinstall the system to make sure the system configuration files are OK.

71380, Communication connector driver is already in use

Description
The connector <arg> cannot use the driver <arg>. The driver is already in use by connector <arg>.

Consequences
The connector and the physical channel using the connector will not be available for use.

Probable causes
- The configuration files may have been faulty.
- A configuration file with improperly configured Physical Channels may have been loaded.

Recommended actions
1. Make sure physical connector configuration is valid.
2. Reinstall the system to make sure the system configuration files are OK.

71381, Communication connector is already in use

Description
The physical channel <arg> cannot use connector <arg>. The connector is already in use by physical channel <arg>.

Consequences
The connector and the physical channel using the connector will not be available for use.

Probable causes
Several physical channels may have been assigned to the same connector in the configuration.

Recommended actions
Make sure each connector is used by one physical channel only.

71382, DeviceNet watchdog time has expired

Description
The system has not received any reply from the DeviceNet unit, and the watchdog timer has timed out.

Consequences
The DeviceNet bus is NOT running, and no communication on the DeviceNet bus <Local> will be possible. The system goes to status SYS FAIL. The full meaning of this status is described in the Trouble Shooting Manual, IRC5.

Probable causes
The I/O load on the DeviceNet bus may be too high, for instance if a RAPID program is trying to set I/O signals at a rate that exceeds the bandwidth available on the DeviceNet bus.

Recommended actions
Reduce the I/O load on the DeviceNet bus.

71383, User defined I/O units can't be connected to the I/O bus <Local>

Description
The I/O configuration for I/O unit <arg> is invalid.
No user-defined unit may be connected to the I/O bus <Local>. This I/O unit has been rejected.

Recommended actions
Correct the I/O configuration.
71385, Request message resource exhausted

Description
Unable to handle more concurrent I/O requests.
Out of concurrent I/O request using delay, pulse, or timeout argument.

Consequences
I/O request cannot be fulfilled.

Probable causes
To many I/O instructions with pulse or delay argument.
To many process instructions with pulse, delay or timeout.

Recommended actions
1. Reduce the number of concurrent I/O instructions with pulse or delay argument.
2. Reduce the number of concurrent process instructions that use pulse, delay or timeout argument.

71386, DeviceNet Quick Connect not supported

Description
The unit type <arg> may not be connected to the DeviceNet bus as a Quick Connect I/O unit.

Consequences
This unit type has been rejected, and no functions depending on this unit type will work.

Probable causes
The unit connected may be of a too early version.

Recommended actions
1. Disable the Quick Connect configuration parameter.
2. Replace the DeviceNet master/slave board with a later version.

71389, Configuration file error

Description
Errors occurred during loading of configuration data.
All configuration errors are placed in the cfg Event Log.

Consequences
The configuration in file will not be installed.

Recommended actions
View the errors in the cfg Event log.

71390, The DeviceNet bus have recovered from bus off

Description
The DeviceNet bus <arg> have recovered from bus off state.

71391, System Signal configuration

Description
There was an error during the configuration of a System Input/Output Signal.
System I/O name: <arg>

Consequences
The system will go to state SYS FAIL.

Probable causes
All errors during configuration of System Input/Output Signals are considered fatal and the system will go to state SYS FAIL.

Recommended actions
1. Check the connection of the Unit to which the System Signal is connected.
2. Check the configuration of the I/O unit.

71392, Invalid output size

Description
On DeviceNet I/O unit <arg> the connection 1 output size <arg> does not match the I/O unit. When using strobe connection the only valid output size are 1 or -1.

Probable causes
The DeviceNet I/O unit <arg> cannot be configured with unit type DN_GENERIC or with a generic <arg> size (-1).

Recommended actions
1. Change size in configuration.
2. Check module.
3. Use DN_GENERIC unit type.

71393, Error when allocating generic size

Description
Failed to allocate generic <arg> size (-1) on DeviceNet I/O unit <arg>.

Probable causes
The DeviceNet I/O unit <arg> cannot be configured with unit type DN_GENERIC or with a generic <arg> size (-1).

Recommended actions
1. Update your current unit type configuration with new <arg> size.
2. Do not use DN_GENERIC unit type.

71394, Invalid physical communication channel

Description
The communication channel <arg> is out of range.

Consequences
The communication channel <arg> is unavailable.

Probable causes
Option not installed or the communication channel <arg> is out of range.

Recommended actions
1. Check the allowed minimum and maximum of connectors.
2. Check options required.

### 71395, No transport protocol

**Description**
The transport protocol `<arg>` for channel `<arg>` is missing.

**Consequences**
The transport instance `<arg>` is unavailable.

**Probable causes**
The option holding the transport protocol `<arg>` is not installed or the protocol name is faulty.

**Recommended actions**
1. Install missing option.
2. Change the transport protocol name.

### 71396, No transmission protocol

**Description**
The transport protocol `<arg>` is missing or the name of the transport protocol is faulty for `<arg>`.

**Consequences**
The application protocol instance `<arg>` is unavailable.

**Probable causes**
The option holding the transport is not installed or the application name is faulty.

**Recommended actions**
1. Install the option.
2. Change the name of the transport in the configuration.

### 71397, No application protocol

**Description**
The application protocol `<arg>` is missing or the name is faulty.

**Consequences**
The application instance `<arg>` is unavailable.

**Probable causes**
The option holding the application protocol is not installed or the protocol name is faulty.

**Recommended actions**
1. Install the option.
2. Change the name of the application protocol.

### 71398, Communication error from bosv24

**Description**
No response from the serial line.

**Recommended actions**
Check the device or connection.

### 71399, Communication error from bosv24

**Description**
Not possible to deliver the received message.

**Recommended actions**
Check the communication flow.

### 71400, Communication error from bosv24

**Description**
The response from the device has an invalid frame sequence.

**Recommended actions**
Check for noise on the serial line.

### 71401, No option exist for the `<arg>` Fieldbus Adapter

**Description**
A `<arg>` Fieldbus Adapter has been found, but no option has been installed.

**Consequences**
No communication on `<arg>` Fieldbus Adapter is possible. There may be consequential errors from configuring when no such option has been installed.

**Probable causes**
An attempt may have been made to add the `<arg>` Fieldbus Adapter functionality, without installing the option correctly.

**Recommended actions**
If the `<arg>` Fieldbus Adapter option is required: configure a new system with this option, and install the system.

### 71402, Duplicated address on the `<arg>` I/O bus

**Description**
The `<arg>` I/O bus address is duplicated on the network. Conflicting address `<arg>`.

**Consequences**
No communication on the `<arg>` I/O bus is possible.

**Recommended actions**
1. Change the address on the conflicting I/O unit (or physically disconnect the I/O unit) or change the address for the `<arg>` I/O bus.
2. Restart the system.

### 71403, The interval time is invalid

**Description**
For the DeviceNet unit type `<arg>` the connection `<arg>` interval time is invalid.
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Probable causes
The interval time have a lower value than the production inhibit time.

Recommended actions
Change the connection arg interval time to be higher than the production inhibit time for the unit type <arg> in the I/O configuration.

71404, Invalid input/output size

Description
The I/O unit <arg> have a invalid value (zero) for the input or output size.

Recommended actions
Change the input/output size to a value greater value then zero.

71405, Duplicate I/O unit mapping

Description
The I/O signal <arg> has the same unit mapping as I/O signal <arg>.

Consequences
Mapping more than one I/O signal against the same bit(s) in the I/O unit map can cause unpredictable values for these I/O signals since their order of evaluation cannot be controlled. E.g. if an inverted group output I/O signal is mapped to the same bits as some digital output I/O signals, the status of these bits are depending on the order the I/O signals are set.

Recommended actions
It is highly recommended that mapping of several I/O signals to the same bit(s) is avoided.

71406, Communication established on DeviceNet bus

Description
The DeviceNet bus <arg> has established communication.

71407, Route interface not found

Description
The route interface <arg> for I/O bus <arg> is not found in the system.

Consequences
The route is not available. Messages to devices connected to <arg> will not be forwarded.

Probable causes
The I/O bus <arg> not defined or spelled wrong.

Recommended actions
Change the I/O bus identifier.

71408, Route port number out of range

Description
The given port number arg of route <arg> is outside its range.

Consequences
The route is not available. Messages to devices connected to <arg> will not be forwarded.

Probable causes
The number arg is outside its range.

Recommended actions
Change port number.

71409, Not able to add a port to arg

Description
Not able to define port arg of route <arg> due to lack of resources.

Consequences
The route is not available. Messages to devices connected to port arg are not forwarded.

Probable causes
The <arg> doesn't support this many ports.

Recommended actions
When possible reduce the number of ports or report the problem to ABB.

71410, CIP route option not installed

Description
The CIP route option is not enabled since it was not selected at system creation.

Consequences
Any CIP route definitions will be omitted.

Probable causes
The CIP route option is not installed in the system.

Recommended actions
Create and install a system with the CIP route option.

71411, Out of route resources

Description
Not able to add anymore routes due to no more route resources in the system.

Consequences
Route <arg> will not be added to the system.

Probable causes
Too many routes have been defined. The system only allows arg routes.
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**Recommended actions**
Reduce the number of routes.

**71412, The DeviceNet bus has regained the bus power**

**Description**
The DeviceNet bus `<arg>` has regained the 24 V bus power.

**71413, Dengensha option not installed**

**Description**
The Dengensha option has not been correctly installed in the system.

**Recommended actions**
Reinstall the system using a proper key containing the Dengensha option.

**71414, Concurrent changes of signal value**

**Description**
Concurrent changes of I/O signal `<arg>` value have been detected.

**Consequences**
A signal value change of I/O signal `<arg>` is aborted due to another value change of the same I/O signal.

**Probable causes**
The concurrent value change is due to an undesired signal change sequence in a program. Multiple changes of I/O signal arg might appear when a I/O signal is pulsed, e.g.

```
SetDO arg, 0;
PulseDO /High /PLength = 0.01, arg;
WaitTime 0.01;
SetDO arg, 1;  
```

The I/O signal arg will be 1 at the end, but at rare occasions there will not be any visible pulse. This type of sequence should be avoided.

**Recommended actions**
Verify that concurrent value changes are desired of I/O signal `<arg>`, otherwise modify the signal change sequence.

**71415, No bus power**

**Description**
The 24 V power to the DeviceNet Lean bus is missing.

**Consequences**
No communication on the DeviceNet Lean bus is possible.

**Probable causes**
The power supply unit, cabling, input voltage to the power supply or the output load may cause the power loss. See the trouble shooting section in the manual.

**Recommended actions**
1. Make sure that the DeviceNet Lean bus contact is connected.
2. Check all cabling to the power supply unit.
3. Measure the output and input voltage levels.
4. Replace the faulty unit if required.

**71416, Bus power restored**

**Description**
The 24 V power to the DeviceNet Lean bus is restored.

**71417, DeviceNet Lean hardware missing**

**Description**
The DSQC 572 hardware adapter with the DeviceNet Lean bus contact is missing.

**Consequences**
No communication on the DeviceNet Lean bus is possible.

**Probable causes**
DSQC 572 is missing or the cabling between the main computer unit and DSQC 572 is not inserted.

**Recommended actions**
1. Check all cabling.
2. Replace the faulty DSQC 572 hardware adapter if required.

**71418, Not allowed vendor**

**Description**
The I/O unit `<arg>` connected to the DeviceNet Lean bus is not supported. Reported vendor ID was `<arg>`, expected `<arg>`.

**Consequences**
No communication to the I/O unit is possible.

**Recommended actions**
1. Remove the I/O unit from the configuration.
2. Replace the I/O unit with a supported type.

**71419, Not allowed unit type**

**Description**
The I/O unit `<arg>` connected to the DeviceNet Lean bus is not a supported DeviceNet Lean module type.

**Consequences**
No communication to the I/O unit is possible.

**Recommended actions**
1. Remove the I/O unit from the configuration.
2. Replace the I/O unit with a supported I/O unit type.

**71420, Wrong unit type**

**Description**
The I/O unit `<arg>` connected to the DeviceNet Lean bus is not of the same type as configured.
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Reported product code was arg, expected was arg.

Consequences
No communication to the I/O unit is possible.

Recommended actions
Change the I/O unit configuration.

71421, Duplicated address on the DeviceNet Lean bus

Description
The reserved address arg for the DeviceNet Lean master is occupied by an another I/O unit on the network.

Recommended actions
1. Change the address on the conflicting I/O unit.
2. Disconnect the I/O unit occupying the masters address from the network.

71422, High load on the DeviceNet Lean bus

Description
The amount of traffic on the DeviceNet Lean bus is too high, or the system is too busy to handle all messages on the DeviceNet Lean bus.

Consequences
I/O data might be lost or delayed.

Recommended actions
1. Change the production inhibit parameter on all configured I/O units.
2. Reduce system load.

71423, Minor error on the DeviceNet Lean bus

Description
A minor amount of communication errors have occurred on the DeviceNet Lean bus.

Consequences
I/O data might be lost or delayed.

Recommended actions
Check all cabling

71424, DeviceNet Lean bus off

Description
A major amount of errors has occurred on the DeviceNet Lean bus. The bus will try to recover when possible.

Consequences
No data exchange with configured I/O units will be possible.

Recommended actions
Check all cabling

71425, DeviceNet Lean too many I/O units

Description
There are too many I/O units configured on the DeviceNet Lean bus. The maximum allowed number is arg. The I/O unit <arg> is rejected.

Consequences
No data exchange with I/O unit <arg> will be possible.

Recommended actions
Remove the I/O unit from I/O configuration.

71426, DeviceNet Lean bus regained

Description
The operating mode of the DeviceNet Lean bus has changed to state running.

Consequences
Data exchange with configured I/O units will be possible.

71427, DeviceNet Lean option key missing

Description
The option key needed to run DeviceNet Lean on the IRC5 controller was not detected.

Consequences
No communication on I/O bus DeviceNet Lean is possible.

Probable causes
An attempt may have been made to add the DeviceNet Lean functionality, without installing the option correctly.

Recommended actions
1. Configure a new system with the DeviceNet Lean option, and install the system.
2. If DeviceNet Lean is not required: configure a new system without this option, and install that system.

71428, DeviceNet Lean I/O unit configured

Description
A new I/O unit has been found and configured on the DeviceNet Lean bus.

Unit name: arg
Unit address: arg
Input bytes / Output bytes: arg
Vendor ID: arg
Product code: arg

Recommended actions
1. Restart the IRC5 controller to activate the I/O unit configuration.
2. Edit or delete the configuration.
71429, No configuration in the Profinet PCI board

Description
There is no bus configuration in the Profinet PCI board.

Recommended actions
Download a configuration to the board using an external software tool.

71430, Incompatible firmware in Profinet board

Description
The current firmware in the Profinet PCI board, version <arg>, is incompatible with this RobotWare release.

Consequences
No communication on Profinet is possible.

Recommended actions
Download firmware of version <arg> to the Profinet PCI board using the Firmware Loader in Siemens Step7. Contact ABB support for more information about how to do that.

71431, Configuration update in progress

Description
No configuration found in the Profinet PCI board or an external software tool has stopped the Profinet bus.

Consequences
No connection to I/O units will be possible.

Recommended actions
Use an external software tool to download a configuration and to start the Profinet bus.

71432, Profinet hardware exception

Description
The Profinet PCI board has reported an internal software exception in its firmware. The exception occurred before this restart. Follow the actions steps below to recover from this error state.

Consequences
No connection to I/O units will be possible.

Recommended actions
1. Clear all configuration data in the Profinet PCI board using an external software tool.
2. Reconfigure the Profinet PCI board using an external software tool.
3. Warmstart the IRC5 controller.

71433, No contact with Profinet PCI board

Description
The Profinet PCI board could not be contacted. Error code returned arg.

Consequences
No connection to I/O units will be possible.

71434, Profinet bus stopped

Description
A new Profinet configuration has been downloaded using an external software configuration tool. Since the new configuration has major changes, the IRC5 controller could not reuse the I/O configuration in the IRC5 controller. A restart is needed.

Consequences
No connection to I/O units will be possible.

Recommended actions
Restart the IRC5 controller.

71435, Profinet I/O unit not configured

Description
A Profinet I/O unit at address <arg> has generated an alarm. The I/O unit is configured in the Profinet PCI board, but not in the IRC5 controller.

The I/O unit needs to be configured in the IRC5 controller for the alarm to be handled.

Consequences
No connection to the I/O unit will be possible.

Recommended actions
1. Add the I/O unit to the IRC5 controller I/O configuration.
2. Remove the configuration in the Profinet PCI board.

71436, Profinet configuration missing

Description
The I/O unit <arg> is configured in the IRC5 controller, but is not found in the Profinet PCI board configuration.

Consequences
No connection to the I/O unit will be possible.
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Recommended actions
1. Add the configuration for the I/O unit in the Profinet PCI board using an external configuration tool.
2. Remove the I/O unit configuration from the IRC5 controller configuration.

71437, Profinet internal slave config warning
Description
The Profinet internal slave is configured in the IRC5 controller with the following modules:
argin
The connecting Profinet master have an different module configuration.
Mismatch detected in slot arg.

Consequences
The connection attempt is rejected.

Recommended actions
1. Reconfigure the connecting Profinet master.
2. Reconfigure the Profinet internal slave in the IRC5 controller.

71438, Profinet internal slave configuration warning
Description
The Profinet internal slave is configured in the IRC5 controller as a arg byte input module in slot arg and a arg byte output module in slot arg, but the connecting Profinet master have a module configure in slot arg.

Consequences
The connection attempt is rejected.

Recommended actions
Reconfigure the connecting Profinet master.

71439, Profinet diagnostics received
Description
The I/O unit <arg> has reported diagnostic data in slot arg. Use I/O unit specific documentation for more explanation on the diagnostics data.
Data received:
arg

71440, Profinet configuration mismatch
Description
Profinet-IO routing has been configured using an external Profinet configuration tool. To be able to use Profinet-IO routing on the IRC5 controller, the Profinet internal slave needs to be configured in the IRC5 controller.

Consequences
No Profinet-IO routing will be possible.

71441, Profinet-IO routing warning
Description
Since Profinet-IO routing is configured on I/O unit <arg>, some data bits might be dependent on the PLC connection status and operating mode.
If the I/O unit <arg> has I/O signals mapped on digital output bits controlled by the PLC, these I/O signals can be set by the IRC5 controller, but will not affect the I/O units output values.

Consequences
Some I/O signals might not be handled by the IRC5 controller.

Recommended actions
1. Configure write protection on digital outputs I/O signals mapped by the IRC5 controller, but controlled by the PLC.
2. Name I/O signals to reflect the fact that they are controlled by the PLC.

71442, Profinet option key missing
Description
The option needed to run Profinet on the IRC5 controller was not detected.

Consequences
No communication on Profinet bus is possible.

Probable causes
An attempt may have been made to add the Profinet functionality, without installing the option correctly.

Recommended actions
1. Configure a new system with the Profinet option, and install the system.
2. If Profinet is not required, configure a new system without this option, and install that system.

71443, Too many Profinet internal slaves
Description
There are too many Profinet internal slaves defined in the IRC5 controller.

Consequences
Profinet I/O unit <arg> will not be configured. No communication with this I/O unit will be possible.

Probable causes
Profinet I/O unit <arg> is defined as an Profinet internal slave while another Profinet internal slave has already been configured.

Recommended actions
Remove I/O unit <arg> from the configuration.
**71444, Profinet diagnostics received**

**Description**
The I/O unit <arg> has reported diagnostic data in slot arg. arg

**71445, Profinet PCI board error**

**Description**
The Profinet PCI board could not be found.

**Consequences**
No connection to I/O units will be possible.

**Probable causes**
The Profinet PCI board is not installed or a 'reset to factory settings' command has been performed. The 'reset to factory settings' command demands another restart of the IRC5 controller in order to be completed.

**Recommended actions**
1. Install the Profinet PCI board in the IRC5 controller.
2. Restart the IRC5 controller to perform the 'reset to factory settings' command.

**71446, Profinet configuration mismatch**

**Description**
Configuration mismatch between the Fieldbus Adapter and the connecting Profinet master in slot arg.

**Consequences**
The Fieldbus Adapter will indicate a diagnostic error and no communication will be established between the Fieldbus Adapter and the connecting Profinet master.

**Probable causes**
Mismatch of the data type/size in slot arg for the Profinet master configuration. The expected data type/size is arg arg bytes.

**Recommended actions**
Correct the data type/size in slot arg in the external configuration tool or change the data size in the IRC5 controller configuration.

NOTE: In the Profinet master configuration input data shall be in slot 1 and output data in slot 2.

**71447, Profinet internal slave error**

**Description**
The I/O unit <arg> is configured as an internal slave. The unit address must then be 0, but is configured to arg.

**Consequences**
The I/O unit <arg> will not be configured.

**Recommended actions**
Change the unit address to 0.

**71448, I/O bus recovered from communication failure**

**Description**
The I/O bus <arg> has recover from the previous communication failure.

**71449, Too many fieldbus adapters configured**

**Description**
Too many fieldbus adapters configured. It is only allowed to have one fieldbus adapter configured.

**Consequences**
The fieldbus adapter <arg> has been rejected, and no functions depending on it will work.

**Recommended actions**
1. Remove a fieldbus adapter in the configuration.
2. Restart the system.

**71450, EtherNet/IP Master/Slave option not installed**

**Description**
A EtherNet/IP I/O bus is configured, but the EtherNet/IP Master/Slave option has not been installed.

**Consequences**
No communication on the EtherNet/IP is possible. There may be consequential errors from configuring EtherNet/IP when no such option has been installed.

**Probable causes**
An attempt may have been made to add the EtherNet/IP functionality, without installing the option correctly.

**Recommended actions**
1. If the EtherNet/IP option is required: configure a new system with this option, and install the system.
2. If the EtherNet/IP option is not required: configure a new system without this option, and install the system.

**71451, Ethernet extra port option not installed**

**Description**
A EtherNet/IP I/O bus is configured to use the extra Ethernet port, but the Ethernet extra port option has not been installed.

**Consequences**
No communication on the EtherNet/IP bus is possible.

**Probable causes**
An attempt may have been made to add the EtherNet/IP functionality, without installing the correct option.
Recommended actions
1. If the Ethernet extra port option is required: configure a new system with this option, and install the system.
2. If the Ethernet extra port option is not required: change the configuration and restart the system.

71452, Too many EtherNet/IP buses are configured
Description
Too many EtherNet/IP I/O buses are configured. There is only possibly to have one I/O bus for EtherNet/IP Master/Slave.

Recommended actions
1. Remove one the EtherNet/IP buses from the configuration.
2. Restart the system.

71453, Wrong identity for a EtherNet/IP I/O unit
Description
Wrong identity for the I/O unit <arg>. The correct identity is:
Vendor ID <arg>
Device Type <arg>
Product Code <arg>

Consequences
No contact will be established with this I/O unit.

Recommended actions
1. Correct the configuration for the I/O unit type <arg> with the identity information above.
2. Restart the system.

71454, The arg address is missing
Description
No IP address is specified for the arg I/O bus.

Consequences
No communication on the arg I/O bus is possible.

Recommended actions
1. Specify a valid IP address in the I/O bus configuration.
2. Restart the system.

71455, EtherNet/IP connection type unknown
Description
The I/O configuration is invalid. The unit type <arg> has an invalid/unknown connection type <arg>. The connection type must be one of the following:
- MULTICAST
- POINT2POINT

Consequences
This unit type has been rejected.

Recommended actions
1. Correct the connection type of the unit type.
2. Restart the system.

71456, EtherNet/IP hardware is missing
Description
The DSQC 612 hardware needed for running EtherNet/IP is missing.

Consequences
No communication on the EtherNet/IP bus is possible.

Probable causes
An attempt may have been made to add EtherNet/IP functionality on the first Ethernet port, without installing the correct hardware.
Note: If you are running MultiMove two DSQC 612 boards are required, otherwise one board.

Recommended actions
1. Install a DSQC 612 board in the IRC5 controller.
2. Restart the system.

71457, The EtherNet/IP gateway address is invalid
Description
It is not possible to have the gateway address same as the IP address. Or the gateway address can not be same as the default destination <0.0.0.0>.

Consequences
The default IRC5 controller gateway address <arg> will be used and not the specified gateway address <arg>.

Recommended actions
1. If no physical gateway is used, do not specify any gateway address in the configuration.
2. Restart the system.

71458, Could not change the default gateway address
Description
If no destination address is specified in the Ethernet/IP configuration, the default IRC5 controller gateway address will be changed. The destination address was not given and the specified gateway address <arg> was not valid and could not be used.

Consequences
No communication on the EtherNet/IP bus is possible.

Recommended actions
1. Correct the gateway in the EtherNet/IP I/O bus configuration.
2. Restart the system.
**71459, Illegal address for EtherNet/IP**

**Description**
The address `<arg>` for the EtherNet/IP bus is illegal.

**Consequences**
No communication on the EtherNet/IP bus is possible.

**Recommended actions**
1. Correct the address in the EtherNet/IP bus configuration.
2. Restart the system.

---

**71460, Not able to connect to EtherNet/IP I/O unit**

**Description**
The configured I/O unit `<arg>` with address `<arg>` does not physically exist on the EtherNet/IP bus.

**Consequences**
It is not possible to access the I/O unit or I/O signals on it, since it is currently not communicating with the controller. The system will go to state SYS FAIL, if the I/O unit has been assigned Unit Trust level Required (0) in the configuration.

**Probable causes**
The I/O unit does not exist physically.
The I/O unit address is wrong.
The I/O unit is malfunctioning.

**Recommended actions**
1. Check if the I/O unit physically exist on the EtherNet/IP bus or if the address is correct.
2. If the address has been changed, restart the system.

---

**71461, Duplicated address on the EtherNet/IP I/O bus**

**Description**
The I/O unit `<arg>` and the EtherNet/IP master have been configured with the same address in the controller.

**Consequences**
It is not possible to access the I/O unit or I/O signals on it, since it is currently not communicating with the controller.

**Probable causes**
1. The gateway address or the destination address are invalid.
2. No destination address have been specified.

**Recommended actions**
1. Correct the gateway address or the destination address in the EtherNet/IP bus configuration.
2. Restart the system.

---

**71462, Illegal subnet mask for EtherNet/IP**

**Description**
The subnet mask `<arg>` for the EtherNet/IP bus is illegal.

**Consequences**
No communication on the EtherNet/IP bus is possible.

**Recommended actions**
1. Correct the subnet mask in the EtherNet/IP bus configuration.
2. Restart the system.

---

**71463, Illegal address for EtherNet/IP bus**

**Description**
The EtherNet/IP address `<arg>` is reserved.

**Consequences**
No communication on the EtherNet/IP bus is possible.

---

**71464, Could not add a new gateway for EtherNet/IP**

**Description**
Could not add the gateway address `<arg>` with the destination address `<arg>` for EtherNet/IP.

**Consequences**
No communication on the EtherNet/IP bus is possible.

**Probable causes**
1. The gateway address or the destination address are invalid.
2. No destination address have been specified.

**Recommended actions**
1. Correct the gateway address or the destination address in the EtherNet/IP bus configuration.
2. Restart the system.

---

**71465, DeviceNet Lean error response**

**Description**
The I/O unit `<arg>` has reported an error response.

General Error Code `<arg>`.
Additional Code `<arg>`.
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Recommended actions
1. Read about the General Error Code in the DeviceNet specification Appendix H.
2. The I/O unit might be occupied by another master.
3. Cycle the power of the I/O unit.

71466, Profinet configuration failed

Description
The configuration file <arg> was not accepted by the DSQC 678. Error code returned arg.

Consequences
No new configuration will be stored in the DSQC 678.

Recommended actions
Make sure that the correct filetype is used.

71467, Profinet configuration file missing

Description
The configuration file <arg> was not found.

Consequences
No new configuration will be stored in the DSQC 678.

Recommended actions
1. Make sure the file exists.
2. Make sure that the configuration file is placed in the HOME directory of your current system.

71468, Profinet board DSQC 678 upgraded

Description
The Profinet board DSQC 678 have been upgraded to a new firmware with version <arg>.

Consequences
The new firmware might affect some of the configuration parameters or other communication behaviour.

Recommended actions
1. Make sure that no configuration changes are needed for connecting controllers.
2. Make sure that current Step 7 configuration in the DSQC 678 is compatible with the new firmware.

71469, Max number of internal I/O signals exceeded

Description
The I/O configuration is invalid.
The maximum number, arg, of internal I/O signals in the I/O system has been exceeded.

Recommended actions
Modify the configuration of the I/O system (by reducing the number of I/O signals specified in the additional option configuration) so that the maximum limit is not exceeded.

71470, Wrong unit type

Description
The I/O unit <arg> connected to the DeviceNet Lean bus is not of the same type as configured.
Reported vendor ID was arg, expected was arg.

Consequences
No communication to the I/O unit is possible.

Recommended actions
Change the I/O unit configuration.

71471, Duplicated address on DeviceNet Lean bus

Description
The I/O unit <arg> and the DeviceNet Lean master is configured with the same address.

Consequences
The I/O unit <arg> has been rejected.

Recommended actions
1. Change address for I/O unit <arg> or the DeviceNet Lean master.

71472, Fieldbus command error

Description
Could not send fieldbus command to I/O unit <arg> because there is a syntax error in the command path string.
Fieldbus command type name <arg>.
Additional info:
arg

Consequences
The fieldbus command was not sent.

Recommended actions
1. Correct the fieldbus command path string.

71473, DeviceNet Lean bus scan result

Description
Address: Product: Vendor ID: Product code: arg

80001, arg

Description
arg
Recommended actions

**80002, arg**

Description

Recommended actions

**80003, arg**

Description

Recommended actions

**9,**

Description

**10,**

Description

**110001, Process Supervision Phase PRE**

Description

Recommended actions

**110002, Process Supervision Phase PRE_START**

Description

Recommended actions

**110003, Process Supervision Phase START**

Description

Recommended actions

**110004, Process Supervision Phase MAIN**

Description

Recommended actions

**110005, Process Supervision Phase END_MAIN**

Description

Recommended actions
110006, Process Supervision Phase POST1

Description
Task: arg
Supervision failed for process phase POST1.

Recommended actions
Check the signal(s) that failed:

Recovery:
You might want to handle errno arg in your error handler

110007, Process Supervision Phase END_POST1

Description
Task: arg
Supervision failed for process phase END_POST1.

Recommended actions
Check the signal(s) that failed:

Recovery:
You might want to handle errno arg in your error handler

110008, Process Supervision Phase POST2

Description
Task: arg
Supervision failed for process phase POST2.

Recommended actions
Check the signal(s) that failed:

Recovery:
You might want to handle errno arg in your error handler

110009, Process Supervision Phase END_POST2

Description
Task: arg
Supervision failed for process phase END_POST2.

Recommended actions
Check the signal(s) that failed:

110012, Movement start timeout

Description
Task: arg
Time (arg second(s)) between start of process and Robot movement is too long.

Recommended actions
Check your process equipment.

110013, Application process interrupted

Description
Task: arg
The application process was not terminated properly.

Consequences
Eventual post-motion phases were not executed.

Probable causes
1. Logical RAPID instructions in a sequence of application movement instructions consuming too much execution time.
2. The last instruction in the sequence of application movement instructions, that does not indicate the sequence end.
3. A process error occurred too close to the endpoint of the process: a process restart is not performed.

Recommended actions
Remove the logical instructions, that cause the delay, or check, that the last application movement instruction indicates, that it is the last one.

110014, Option 'Optical Tracking' or 'Weldguide' is missing

Description
Task: arg
The optional argument '/Track' may not be used without the option 'Optical Tracking' or 'Weldguide'.

Recommended actions
Remove the optional argument '/Track' or Order a RobotWare key that, depending on your equipment, contains the option 'Optical Tracking' or 'Weldguide'.
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110015, Option Path Offset is missing
Description
Task: arg
The switch 'Corr' may not be used without the option Path Offset.
arg

Recommended actions
Remove the switch 'Corr'
or
Order a RobotWare key, that contains the option 'Path Offset'.

110016, Unsafe flying end
Description
Program execution has proceeded to the next RAPID instruction before the application process finished.

Consequences
If a process error occurs, the application process will be stopped on the fly, but the robot movement will not be stopped.

Probable causes
The zone size and the fly_end distance of the flying end instruction do not fit together.

Recommended actions
Increase fly_end distance or decrease the zone size of the instruction with flying end.

110020, Supervision limit
Description
Task: arg
The maximum number of signals to be supervised (max. 32) has been exceeded in one of the supervision phases.
arg

Recommended actions
Remove signals from supervision for phase arg in order to meet the limit of 32.

110021, Unknown supervision list
Description
Task: arg
The Supervision list type arg is unknown.
arg

Consequences
Supervision is not set up or removed.

Recommended actions
Change the supervision list type.

110025, No active CAP process
Description
Task: arg
There is no active CAP process for this instruction.
arg

Recommended actions
Verify that arg is used according to documentation.

110030, Invalid ICap Event
Description
Task: arg
arg is invalid as event for the instruction ICap.
arg

Recommended actions
Use one of the valid ICap events described in the reference manual for CAP.

110032, No TRAP routine for CAP_STOP
Description
Task: arg
CAP requires a RAPID TRAP routine to be defined for the event CAP_STOP.
This is necessary as to stop external equipment when RAPID execution stops.
arg

Recommended actions
Add a TRAP routine for CAP_STOP in your RAPID code.

110034, Skip without process finished
Description
The robot has reached the end of the distance it was requested to move without active application process.

Recommended actions
Recovery:
You might want to handle errno arg in your error handler

110040, Process Supervision Phase END_PRE
Description
Task: arg
Supervision failed for process phase END_PRE.
arg

Recommended actions
Check the signal(s) that failed:
arg
arg
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Recovery:
You might want to handle errno arg in your error handler

110041, Process Supervision Phase
START_POST1
Description
Task: arg
Supervision failed for process phase START_POST1.
arg
Recommended actions
Check the signal(s) that failed:
arg
arg
Recovery:
You might want to handle errno arg in your error handler

110042, Process Supervision Phase
START_POST2
Description
Task: arg
Supervision failed for process phase START_POST2.
arg
Recommended actions
Check the signal(s) that failed:
arg
arg
Recovery:
You might want to handle errno arg in your error handler

110100, Fatal process error
Description
Task: arg
A fatal process error has been reported. Check previous error messages for more information about the reason of the error.
Recommended actions
A restart of the system or move of program pointer is highly recommended.

110101, Invalid weave shape
Description
Task: arg
The weave shape used is invalid:
[No shape = 0, Zig-zag shape = 1, V-shape = 2, Triangular shape = 3]
Recommended actions
Correct the shape component.

110102, Invalid weave length
Description
Task: arg
The weave length used is invalid:
(0 - 1) [m]
Recommended actions
Correct the component length.

110103, Invalid weave cycle time
Description
Task: arg
The weave cycle time used is invalid:
(0 - 100) [s]
Recommended actions
Correct the component cycle_time.

110104, Invalid weave width
Description
Task: arg
The weave width used is invalid:
(0 - 1) [m]
Recommended actions
Correct the component width.

110105, Invalid weave height
Description
Task: arg
The weave height used is invalid:
(0 - 1) [m]
Recommended actions
Correct the component height

110106, Invalid weave dwell left
Description
Task: arg
The weave dwell_left used is invalid:
(0 - 1) [m]
Recommended actions
Correct the component dwell_left

110107, Invalid weave dwell center
Description
Task: arg
The weave dwell_center used is invalid:
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110108, Invalid weave dwell right
Description
Task: arg
The weave dwell_right used is invalid:
(0 - 1) [m]
Recommended actions
Correct the component dwell_right

110109, Invalid weave bias
Description
Task: arg
The weave bias used is invalid:
(-1 - 1) [m]
Recommended actions
Correct the component bias

110110, Invalid weave direction angle
Description
Task: arg
The weave direction angle used is invalid:
(-\pi/2 - \pi/2) [rad]
Recommended actions
Correct the component dir

110111, Invalid weave tilt angle
Description
Task: arg
The weave tilt angle used is invalid:
(-\pi/2 - \pi/2) [rad]
Recommended actions
Correct the component tilt

110112, Invalid weave rotation angle
Description
Task: arg
The weave rotation angle used is invalid:
(-\pi/2 - \pi/2) [rad]
Recommended actions
Correct the component rot

110113, Invalid horizontal weave offset
Description
Task: arg
The horizontal weave offset is invalid:

110114, Invalid vertical weave offset
Description
Task: arg
The vertical weave offset is invalid:

110115, Invalid weave sync left
Description
Task: arg
The weave sync left value is invalid:
(0 - 100) [%]
Recommended actions
Correct the component ptrn_sync_left in capweavedata.

110116, Invalid weave sync right
Description
Task: arg
The weave sync right value is invalid:
(0 - 100) [%]
Recommended actions
Correct the component ptrn_sync_right in capweavedata.

110117, Weave bias not allowed
Description
Task: arg
It is not allowed to use bias for shapes other than Zig-zag (=1).
Recommended actions
Correct the components 'bias' and/or 'shape' in capweavedata.

110118, Weave bias too big
Description
Task: arg
It is not allowed to use a bias that is bigger than half the width.
Recommended actions
Correct the components 'bias' and/or 'width' in capweavedata.

110119, Weave dwell too big
Description
Task: arg
It is not allowed to use a dwell that is bigger than the length.
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The ramp slope (amplitude/length) is limited.

**Recommended actions**
Correct the components 'dwell_right/center/left' and/or 'length' in capweavedata.

### 110120, Weave bias change too big

**Description**
Task: arg
The weave bias change is bigger than allowed.
Max arg [m]

**Recommended actions**
Adjust weave tuning increment for bias, and/or check that the change of the bias is less than the maximum.

### 110121, Weave width tuning error

**Description**
Task: arg
The weave width change is bigger than allowed.
Max arg [m]

**Recommended actions**
Adjust weave tuning increment for width, and/or check that the change of the width is less than the maximum.

### 110122, Weave height tuning error

**Description**
Task: arg
The weave height change is bigger than allowed.
Max arg [m]

**Recommended actions**
Adjust weave height tuning increment, and/or check that the change of the height is less than the maximum.

### 110130, Signal not defined

**Description**
Task: arg
The signal arg is not defined.

**Recommended actions**
Define the signal arg in cio.cfg

### 110131, No Signal specified

**Description**
Task: arg
No signal specified!

**Recommended actions**
Specify a DI signal

### 110132, An internal error occurred

**Description**
Task: arg

**Recommended actions**
Check the 'Internal' Log.

### 110160, Track error

**Description**
Task: arg
Track error.

**Recommended actions**
Adjust weave tuning increment for width, and/or check that the change of the width is less than the maximum.

### 110161, Track start error

**Description**
Task: arg
Track start error.

**Recommended actions**
Check joint definition in captrackdata.
Recovery: arg

### 110162, Track max path corr error

**Description**
Task: arg
Track max path corr error.

**Recommended actions**
Check joint definition and max_corr in captrackdata.
Recovery: arg

### 110163, Track communication error

**Description**
Task: arg
No communication between sensor and controller.

**Recommended actions**
Check the hardware
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<th>Consequences</th>
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<td></td>
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</tr>
<tr>
<td>110170</td>
<td>Illegal variable or block number in sensor</td>
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</tr>
<tr>
<td>110171</td>
<td>External alarm from sensor</td>
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<td>110172</td>
<td>Camera alarm from sensor</td>
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<td>110173</td>
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<td>110174</td>
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<td>110175</td>
<td>Camera check failed</td>
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<td>110176</td>
<td>Sensor communication time out</td>
<td></td>
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<tr>
<td>110177</td>
<td>Tracker calibration error</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6 Trouble shooting by Event log

Probable causes
The average calibration precisions obtained in the x-, y-, z- directions of the sensor tool are: \( \text{arg} \). The desired ones are: \( \text{arg} \).

Recommended actions
Verify that the calibration plate has not been moved. Check the sensor settings. Start LTC to run a manual calibration setup followed by a new calibration.

110178, Tracker verification error

Description
Task: \( \text{arg} \)
Sensor: \( \text{arg} \)
It was not possible to perform a valid tracker calibration verification.

Consequences
The sensor \( \text{arg} \) does not meet the calibration precision and will therefore be unreliable for tracking.

Probable causes
The average verification precisions obtained in the x-, y-, z- directions of the sensor tool are: \( \text{arg} \). The desired ones are: \( \text{arg} \).

Recommended actions
Start LTC to run a manual verification with a different number of measurements. If problems persist, run a new manual calibration from LTC.

110179, Left lap joint definition not correct

Description
Task: \( \text{arg} \)
Sensor: \( \text{arg} \)
The definition of the left joint (number \( \text{arg} \)) is not correct.

Consequences
It will not be possible to perform a sensor calibration.

Probable causes
The measure obtained in the y-direction of the sensor tool on the left lap-joint is: \( \text{arg} \) mm. The value should be positive.

Recommended actions
Check the left-lap joint definition (\( \text{arg} \)) in the sensor’s (\( \text{arg} \))PC interface. Possibly switch between the right and left lap-joint definitions.

110180, Sensor Calibration Data updated

Description
The sensor calibration data for \( \text{arg} \) (\( \text{arg} \) and \( \text{arg} \)) are updated.
Task: \( \text{arg} \)

Recommended actions
If you use CAP without RW Arc, you have to rerun the RAPID instruction
CapLATRSetup \( \text{arg} \),\( \text{arg} \),SensorFreq:=\( \text{xxx} \); to make CAP use the updated sensor calibration data.

110203, Application error

Description
Task: \( \text{arg} \)
The maximum program number, 'DA_PROG_MAX' is above the num data type limit.
Current value: \( \text{arg} \)

Consequences
The maximum configured program number will not be set.

Probable causes
The specified program number \( \text{arg} \) is above the maximum integer value for the num data type, max value 8388608.

Recommended actions
Check the program.

110204, Application error

Description
Task: \( \text{arg} \)
Any return code other than DAOK is rejected from \( \text{arg} \)

Recommended actions

110205, Application error

Description
Task: \( \text{arg} \)
Forward sequence jumping is not allowed.

Recommended actions
Check the program sequence.

110206, Application error

Description
Task: \( \text{arg} \)
Missing I/O-signal \( \text{arg} \).

Recommended actions
Check the I/O configuration.

110207, Application error

Description
Task: \( \text{arg} \)
Process number \( \text{arg} \) of application \( \text{arg} \) was already installed.
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Recommended actions

110208, Application error

Description
Task: arg
Number arg is not a valid start number.

Recommended actions

110209, Application error

Description
Task: arg
The user hook arg is not a valid sequence entry.

Recommended actions
Check the program sequence.

110210, Application error

Description
Task: arg
The program number arg is above the num data type limit.
Consequences
The program number will not be set.
Probable causes
The specified program number arg is above the maximum integer value for the num data type, max value 8388608.

Recommended actions
Check the program.

110211, Application error

Description
Task: arg
arg tried to use a non existent application descriptor.

Recommended actions

110212, Application error

Description
Task: arg
arg tried to use a non existent process descriptor.
A fatal error in damastr class.

Recommended actions
Check if XXShPowerOn was done.

110213, Application error

Description
Task: arg
The user data variable choice does not exist.

Recommended actions

110214, Application error

Description
Task: arg
arg tried to use a non existent application descriptor.

Recommended actions
Check if XXShPowerOn was done.
If using only DAP you should save a sys.cfg, and add a new DA_PROCX task in that file. Check what files are loaded for DA_PROC1 task and add them to your new task.

110215, Application error

Description
Task: arg
The internal process data type lacks daintdata as first element.

Recommended actions
Check the program.

110216, Application error

Description
Task: arg
The user data variable has incorrect type.

Recommended actions

110217, Application error

Description
Task: arg
The internal process data type lacks daintdata as first element.

Recommended actions
Check the program.

110218, Application error

Description
Task: arg
The internal process data type lacks daintdata as first element.

Recommended actions
Check the program.

110219, Application error

Description
Task: arg
The internal process data type lacks daintdata as first element.

Recommended actions
Check the program.

110220, Application error

Description
Task: arg
The user data variable choice does not exist.

Recommended actions

110221, Application error

Description
Task: arg
The user data variable has incorrect type.

Recommended actions

110222, Application error

Description
Task: arg
The internal process data type lacks daintdata as first element.

Recommended actions
Check the program.
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110223, Application error
Description
Task: arg
The user data type definitions exceed the maximum data storage size.
arg
arg
Recommended actions
Check the program.

110224, Application error
Description
Task: arg
The user data type definitions does not correspond to what was defined.
arg
arg

110226, Application error
Description
Task: arg
An error occurred while attempting to reload the Power Failure area.
An automatic restart of the processes will not be possible.
arg
arg

110229, Application error
Description
Task arg:
Error from arg. The data type definitions exceed the maximum data storage size.
arg
Recommended actions
Check the data size.

110230, Application error
Description
Task: arg
The specified signal arg in the instruction arg has no reference.
arg
Recommended actions
Check the EIO configuration.

110303, Parameter error
Description
Task: arg
The optional signals ‘arg’ and ‘arg’ must be used together.
See specification in arg.
arg
Recommended actions
Check the program.

110304, Parameter error
Description
Task: arg
The parameter arg of the instruction arg is not an array.
arg
Recommended actions
Check the data definition.

110305, Parameter error
Description
Task: arg
The dimension of the data array arg is to big.
See specification in arg.
arg
Recommended actions
Check the data declaration.

110306, Parameter error
Description
Task: arg
The array arg of the instruction arg is not right defined.
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**110307, Parameter error**

**Description**
Task: arg
The event time array element arg.arg is less than 0.
See specification in arg.

**Recommended actions**
Check the time event data.

**110308, Parameter error**

**Description**
Task: arg
The data selector arg in the instruction arg is not valid.

**Recommended actions**
Check the selector against the specification.

**110309, Parameter error**

**Description**
Task: arg
The selector arg in the instruction arg is not valid.

**Recommended actions**
Check the selector against the specification.

**110310, Parameter error**

**Description**
Task: arg
The selector arg in the instruction arg is not valid.

**Recommended actions**
Check the selector against the specification.

**110311, No Spot task**

**Description**
Task: arg
No motion task is configured for Spot.

**Recommended actions**
Check the configuration

**110312, Wrong number of DAPROC tasks**

**Description**
Task: arg
Error from arg. arg DA_PROC task(s) are configured in the system.
Number of dapros must be in the interval 1 - arg.

**Recommended actions**
Check the configuration.

**110313, Not possible to activate/deactivate**

**Description**
Task: arg
Error in arg. This daproc is not possible to activate/deactivate.

**Recommended actions**
Check index in the daproc descriptor.

**110401, Gas supervision**

**Description**
Task: arg
Gas supervision signal not set at start of welding.

**Recommended actions**
Check the gas equipment.
Recovery: You might want to handle errno arg in your error handler.

**110402, Water supervision**

**Description**
Task: arg
Water supervision signal not set at start of welding.

**Recommended actions**
Check the water cooling equipment.
Recovery: You might want to handle errno arg in your error handler.

**110403, Arc supervision**

**Description**
Task: arg
Arc ignition supervision signal not set at start of welding.

**Recommended actions**
Check the power source.
Recovery: You might want to handle errno arg in your error handler.
<table>
<thead>
<tr>
<th>Event Number</th>
<th>Event Description</th>
</tr>
</thead>
</table>
| **110404**, Voltage supervision | Description
| Task: arg
| arg
| Voltage supervision signal not set at start of welding.
| **Recommended actions**
| Check the power source.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110409**, Schedule strobe undefined | Description
| Task: arg
| arg
| Schedule strobe undefined.
| **Recommended actions**
| Define a weld schedule strobe input.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110405**, Current supervision | Description
| Task: arg
| arg
| Current supervision signal not set at start of welding.
| **Recommended actions**
| Check the power source.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110410**, Schedule transfer error | Description
| Task: arg
| arg
| It was not possible to transfer the schedule.
| **Probable causes**
| The schedule port was busy with previous transfer.
| **Recommended actions**
| Recovery: You might want to handle errno *arg* in your error handler.

| **110406**, Wirefeed supervision | Description
| Task: arg
| arg
| Wirefeed supervision signal not set at start of welding.
| **Recommended actions**
| Check the wirefeed unit.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110411**, Process stopped | Description
| Task: arg
| arg
| Process was stopped by the digital input 'stop process'.
| **Recommended actions**
| Check the digital input 'stop process'.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110407**, Wirestick supervision | Description
| Task: arg
| arg
| Wirestick supervision signal set at start of welding.
| **Recommended actions**
| Check, if the wire got stuck at the object.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110412**, Arc fill ignition failed | Description
| Task: arg
| arg
| Arc fill ignition failed.
| **Recommended actions**
| Check the welding equipment.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110408**, Arc ignition failed | Description
| Task: arg
| arg
| Arc ignition failed at start of welding.
| **Recommended actions**
| Check the welding equipment.
| Recovery: You might want to handle errno *arg* in your error handler.

| **110413**, Torch supervision | Description
| Task: arg
| arg
| Torch supervision signal went low during welding.
| **Recommended actions**
| Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.

### 110414, Weld supervision

**Description**

Task: arg
arg
Weld ignition supervision signal not set at start of welding.

**Recommended actions**

Check the power source.

Recovery: You might want to handle errno arg in your error handler.

### 110415, Weld Off Supervision timeout

**Description**

Task: arg
arg
The ArcEst signal was not reset at the end of the weld within the specified time. (arg seconds)

**Recommended actions**

Check the welding equipment and/or adjust the Weld Off timeout value, found in Arc Equipment Properties.

### 110416, Weld Off Supervision timeout

**Description**

Task: arg
arg
The WeldOK signal was not reset at the end of the weld within the specified time. (arg seconds)

**Recommended actions**

Check the welding equipment and/or adjust the Weld Off timeout value, found in Arc Equipment Properties.

### 110421, Gas supervision

**Description**

Task: arg
arg
Gas supervision signal went low during welding.
Seam name: arg.
Time from weld start: arg min.

**Recommended actions**

Check the gas equipment.

Recovery: You might want to handle errno arg in your error handler.

### 110422, Water supervision

**Description**

Task: arg
arg
Water supervision signal went low during welding.
Seam name: arg.
Time from weld start: arg.

**Recommended actions**

Check the cooling water equipment.

Recovery: You might want to handle errno arg in your error handler.

### 110423, Arc supervision

**Description**

Task: arg
arg
Arc supervision signal went low during welding.
Seam name: arg.
Time from weld start: arg.

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno arg in your error handler.

### 110424, Voltage supervision

**Description**

Task: arg
arg
Voltage supervision signal went low during welding.
Seam name: arg.
Time from weld start: arg.

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno arg in your error handler.

### 110425, Current supervision

**Description**

Task: arg
arg
Current supervision signal went low during welding.
Seam name: arg.
Time from weld start: arg.

**Recommended actions**

Check the welding equipment.

Recovery: You might want to handle errno arg in your error handler.
6 Trouble shooting by Event log

110426, Wirefeed supervision
Description
Task: arg
arg
Wirefeed supervision signal went low during welding.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the wirefeed unit.
Recovery: You might want to handle errno arg in your error handler.

110427, Process stopped
Description
Task: arg
arg
Process was stopped during welding by the digital input 'stop process'.
Seam name: arg
Time from weld start: arg

Recommended actions
Recovery: You might want to handle errno arg in your error handler.

110428, Torch supervision
Description
Task: arg
arg
Torch supervision signal went low during welding.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.

110429, Arc ignition failed
Description
Task: arg
arg
Arc ignition failed during crater fill.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.

110430, Arc fill ignition failed
Description
Task: arg
arg
Arc ignition failed with signal WeldOK during crater fill.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.

110431, Weld supervision
Description
Task: arg
arg
Weld supervision signal went low during welding.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.

110432, Arc ignition failed
Description
Task: arg
arg
Arc ignition failed with signal WeldOK.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.

110433, Arc fill ignition failed
Description
Task: arg
arg
Arc fill ignition failed with signal WeldOK.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.

110435, User defined signal supervision
Description
Task: arg
arg
User defined signal defined by USERIO1 went low during welding.
Seam name: arg
Time from weld start: arg

Recommended actions
Check the welding equipment.
Recovery: You might want to handle errno arg in your error handler.
<table>
<thead>
<tr>
<th>Event Number</th>
<th>Description</th>
<th>Task</th>
<th>User Defined Signal</th>
<th>Seam Name</th>
<th>Time from Weld Start</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>110441</td>
<td>User defined signal supervision</td>
<td>Task: arg</td>
<td>User defined signal defined by USERIO2 went low during welding.</td>
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<tr>
<td>110442</td>
<td>User defined signal supervision</td>
<td>Task: arg</td>
<td>User defined signal defined by USERIO3 went low during welding.</td>
<td></td>
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</tr>
<tr>
<td>110443</td>
<td>User defined signal supervision</td>
<td>Task: arg</td>
<td>User defined signal defined by USERIO4 went low during welding.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>110444</td>
<td>User defined signal supervision</td>
<td>Task: arg</td>
<td>User defined signal defined by USERIO5 went low during welding.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110447</td>
<td>Arc supervision</td>
<td>Task: arg arg</td>
<td>Arc supervision signal went low during welding.</td>
<td>Seam name: arg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Time from weld start: arg.

110448, Voltage supervision
Description
Task: arg
Voltage supervision signal went low during welding.
Seam name: arg
Time from weld start: arg.

110449, Current supervision
Description
Task: arg
Current supervision signal went low during welding.
Seam name: arg
Time from weld start: arg.

110450, Wirefeed supervision
Description
Task: arg
Wirefeed supervision signal went low during welding.
Seam name: arg
Time from weld start: arg.

110451, Torch supervision
Description
Task: arg
Torch supervision signal went low during welding.
Seam name: arg
Time from weld start: arg.

110460, Weld Error Recovery
Description
PROC Parameters was loaded by arg
Configuration of Weld Error Recovery is Complete.

110462, Weld Error Recovery
Description
Robot arg moved from error location.
Robot will attempt to move back to the error location.

110463, Weld Error Recovery Failed
Description
Incorrect Weld Error Recovery Usage.
A user-defined service routine must return the robot to within 50mm of breakpoint.
Recommended actions
Re-program your service routine.

110464, EquipmentClass Error
Description
Task: arg
The Specified EquipmentClass arg could not be unloaded.

110465, EquipmentClass Error
Description
Task: arg
The Specified EquipmentClass arg could not be found at path: arg

110466, RW Arc Installation
Description
Weld System arg (of arg installed) started in task arg
Active EquipmentClass arg
Status OK

110467, RW Arc Installation
Description
Deactivation and Unload of EquipmentClass arg failed.

110468, RW Arc Installation
Description
Weld System arg deactivated in task arg
Status OK

110469, RW Arc Installation
Description
Load and Init of EquipmentClass arg failed.
Trouble shooting by Event log

110470, Configuration Parameter Error
Description
Task: arg
PROC Configuration Parameter arg arg
could not be found in cfg database.
Recommended actions
Check the installation of PROC domain parameters.

110471, Undefined Signal Error
Description
arg
Failing signal during weld phase arg could not be determined.

110472, Configuration Parameter Error
Description
Task: arg
PROC Configuration Parameter arg arg
is a required parameter.
Recommended actions
Check the installation of PROC domain parameters.

110473, Weld Equipment Error
Description
Task: arg
arg
Error: arg
(format: ErrorCode ErrorText)
Recommended actions
Check the Power Source.

110474, RW Arc EIO signal error
Description
There is no communication with signal arg on unit arg.
Consequences
Welding will not be possible without communication with this EIO unit.
Recommended actions
Check the communication link with the EIO unit.

110475, Calibration variable missing
Description
Task: arg
No Calibration variable is specified in Arc Sensor Properties.
Default calibration data is used. arg = arg

Consequences
Calibration data is needed for optimal sensor performance.

110476, Calibration variable error
Description
Task: arg
The specified Calibration variable arg in in Arc Sensor Properties
could not be found in any loaded RAPID modules.
Default calibration data is used. arg = arg
Consequences
Calibration data is needed for optimal sensor performance.
Recommended actions
Check variable name in Arc Sensor Properties and make sure that the
Sensor Calibration program is loaded.

110477, Device name mismatch
Description
Task: arg
Device name arg in in Arc Sensor Properties and Communication
settings does not match.
Consequences
The same device name must be specified in both Arc Sensor Properties
and Communication settings for the sensor to work properly.

110478, Process stop due to WDM Stability error
Description
Task: arg
arg
Consequences
RW Arc has stopped the welding process due to a Weld Data Monitor
stability infraction.
Recommended actions
See Weld Data Monitor elog for more information.

110479, Process stop due to WDM Signature error
Description
Task: arg
arg
Consequences
RW Arc has stopped the welding process due to a Weld Data Monitor
signature infraction.
Recommended actions
See Weld Data Monitor elog for more information.
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110480, Arc Welding Task Busy
Description
Task: arg
arg
Serious File System problem encountered.
Recommended actions
The Controller must be warmstarted to solve the problem.

110481, System Retry limit
Description
Task: arg
arg
Max number of retries has been reached on system level.
System Misc, NoOfRetry=arg
Recommended actions
Increase parameter value to avoid reaching the limit.

110482, Sensor calibration data updated
Description
Sensor calibration data updated in task: arg
Active calibration data: arg=arg

110490, Weld Error Recovery IO Error
Description
Task: arg
arg
The breakout input was left on. The external device must reset the signal.
The Weld Error Recovery IO interface is disabled. Respond to FlexPendant.

110491, Weld Error Recovery IO Error
Description
Task: arg
arg
Invalid response arg supplied on signal agiWER_Response. Valid range: (arg)
Request has been changed to: arg

110492, Weld Error Recovery IO Error
Description
Task: arg
arg
Escape option is not available. Request has been changed to MoveOut.

110493, Weld Error Recovery IO Error
Description
Task: arg
arg
System is waiting for the diWERAck input to go low.

110494, Weld Error Recovery IO Error
Description
Task: arg
arg
Supplied value on giWER_Response (arg) is not within range: (arg)
Request has been changed to: arg

110495, Weld Error Recovery IO Interface
Description
Task: arg
The Weld Error Recovery IO Interface is successfully configured for arg and is ready for use.

110500, Track error
Description
Task: arg
arg
The robot controller has been asking 'blindcount'(trackdata) times for correction data from the sensor, but did not get any.
Recommended actions
Check sensor setup and trackdata. Recovery: You might want to handle errno arg in your error handler.

110501, Track start error
Description
Task: arg
arg
Not any valid correction data from the sensor while executing the current ArcX instruction.
Recommended actions
Check sensor setup and trackdata. Recovery: You might want to handle errno arg in your error handler.

110502, Track correction error
Description
Task: arg
arg
The correction is too big.
Recommended actions
1. Check that the seam definitions in the program reflect the actual seams.
2. Increase 'max_corr' in 'trackdata'.

Recovery: You might want to handle errno in your error handler.

110503, Illegal arcflydata specified
Description
Task: arg
arg
The value of parameter arg in arcflydata is arg

Consequences
Flying arg will not work correctly with this value.

Recommended actions
Increase the value of arg in arcflydata to a value greater than zero.

110504, Illegal flydata combination
Description
Task: arg
arg
Flying arg is not possible with finepoint.

Consequences
There will be no flying arg

Recommended actions
Change to zonepoint in ArcXarg instruction.

110505, Illegal zonepoint specified
Description
Task: arg
arg
A zonepoint is used in the weld arg instruction without any optional arcflydata in the instruction.

Consequences
The zonepoint will be converted to a finepoint.

Recommended actions
Add the optional argument arcflydata to the ArcXarg instruction if flying arg is wanted.

110506, Illegal arcflydata combination
Description
Task: arg
arg
The arcflydata parameter arg has a value which is greater than the value of parameter arg.

Consequences
The value of arg will be reduced to the value of arg.

Recommended actions
Reduce the value of parameter arg so that the value is lower than or equal to the value of parameter arg.

110507, RW Arc EIO signal error
Description
Task: arg
arg
The value of arg for signal arg is below its minimum logical value (arg)

Consequences
The value of signal arg will be set to the minimum value arg.

Recommended actions
Check the values of arg components in seamdata and welddata.
Change the value or change the min logical parameter for signal arg to avoid this message.

110508, Wirestick supervision
Description
Task: arg
arg
Wirestick supervision signal set at end of welding.

Recommended actions
Check, if the wire got stuck at the object.
Recovery: You might want to handle errno arg in your errorhandler.

110601, Spot application invalid data error
Description
Task: arg
arg
The number of configured guns in 'SW_NOF_GUNS' are less than one(1).
Current value is arg.

Consequences
It will not be possible to run any spot instructions.

Probable causes
1. The setup data 'SW_NOF_GUNS' has been assigned a value less than 1.
2. The user module swdefusr.sys has not been loaded correctly.

Recommended actions
1. Check the value of the data 'SW_NOF_GUNS' in the swdefusr.sys module.
2. Check that the user module swdefusr.sys has been loaded.

110602, Spot application invalid data error
Description
Task: arg
The number of configured guns in 'SW_NOF_GUNS' are more than 10.
Current value is \textit{arg}.

\textbf{Consequences}
It will not be possible to run any spot instructions.

\textbf{Probable causes}
The setup data 'SW_NOF_GUNS' has been assigned a value larger than 10.

\textbf{Recommended actions}
Check the value of the data 'SW_NOF_GUNS' in the swdefusr.sys module.

\begin{enumerate}
\item \textbf{110603, Spot application optional argument error}
\textbf{Description}
Task: \textit{arg}
No optional argument has been selected.
At least one optional argument is required.

\textbf{Consequences}
The instruction will not work correctly.

\textbf{Recommended actions}
Select an optional argument for this instruction.

\item \textbf{110604, Gun error}
\textbf{Description}
Task: \textit{arg}
\textit{arg}
Can not close a closed gun, the gun is not open!

\item \textbf{110605, Spot application pre position error}
\textbf{Description}
Task: \textit{arg}
The optional argument PrePos are less than zero(0).

\textbf{Consequences}
It will not be possible to run this instruction until the argument are changed.

\textbf{Recommended actions}
Change the value to a higher value than zero(0).

\item \textbf{110606, Spot application gun activation error}
\textbf{Description}
Task: \textit{arg}
The servo gun \textit{arg} is not activated.

\textbf{Consequences}
It will not be possible to run any spot instructions until the servo gun is activated.

\textbf{Probable causes}
The servo gun has not been activated before trying to run this instruction.

\textbf{Recommended actions}
Activate the servo gun \textit{arg}.
Use the instruction 'ActUnit' to activate the servo gun, or set the 'Activate at Start Up' motion parameter to yes.

\textbf{110607, Spot application gun initialization error}
\textbf{Description}
Task: \textit{arg}
The gun position is not initialized for the servo gun \textit{arg}.
A service calibration to find the gun contact position is required before continuing the program execution.

\textbf{Consequences}
It will not be possible to run any spot instructions until a service calibration is done.

\textbf{Probable causes}
The servo gun has probably been fine calibrated and a service calibration has not been done.

\textbf{Recommended actions}
1. Run the service routine 'ManServiceCalib' to find the contact position of the gun, use option 2 - Initialize the servo gun position.
   This needs to be done after the gun has been fine calibrated.
2. If tuning a gun it is possible to turn off the gun synchronization check, set the motion parameter 'Sync check off' to Yes.
   Location: Configuration/Motion/SG_PROCESS.

\item \textbf{110608, Spot application gun synchronization error}
\textbf{Description}
Task: \textit{arg}
The gun position is not synchronized for the servo gun \textit{arg}.
A service calibration to find the gun contact position is required before continuing the program execution.

\textbf{Consequences}
It will not be possible to run any spot instructions until a service calibration is done.

\textbf{Probable causes}
The revolution counters for the servo gun has probably been updated and a service calibration has not been done.

\textbf{Recommended actions}
1. Run the service routine 'ManServiceCalib' to find the contact position of the gun, use option 1 - Synchronize the servo gun position.
This needs to be done after the revolution counters has been lost or updated.

2. If tuning a gun it is possible to turn off the gun synchronization check, set the motion parameter 'Sync check off' to Yes.

Location: Configuration/Motion/SG_PROCESS.

**110609, Spot application no guns defined error**

**Description**
Task: arg
No guns has been defined, the setup data 'SW_NOF_GUNS' can not be read.

The setup data 'SW_NOF_GUNS' should be in the range of: 1 to maximum arg.

**Consequences**
It will not be possible to run any spot instructions until this data has been defined.

**Probable causes**
The setup data 'SW_NOF_GUNS' has been deleted or the user module has not been loaded correctly.

**Recommended actions**
1. Check that the setup data is defined in the user modules and that the modules are loaded.
2. Check that no syntax error are present in the user modules.

**110610, Spot application gun name error**

**Description**
Task: arg
The servo gun arg specified in curr_gundata [arg], does not exist in the motion parameters.

**Consequences**
It will not be possible to run any spot instruction until the correct servo gun name is specified in curr_gundata.

**Probable causes**
The gun name in curr_gundata does not match any mechanical unit in the system or no configuration for a servo gun has been loaded.

**Recommended actions**
1. Run the service routine 'ManAddGunName' to search the system for servo guns and to update the gun name parameter in curr_gundata,
2. Load motion configuration for the servo gun.

**110611, Spot application invalid data error**

**Description**
Task: arg
Invalid value of data arg. Allowed values are: 0, 1 or 2.

Current value is arg

**Consequences**
It will not be possible to run any spot instruction until this data is changed.

**Probable causes**
A invalid value has been defined.

**Recommended actions**
Change the value of arg.

**110612, Spot application invalid robot error**

**Description**
Task: arg
Invalid robot number, robot number arg.

**Recommended actions**
Check that arg was done.

**110613, Spot application invalid error id**

**Description**
Task: arg
Invalid error number Id
Invalid use of arg.

Current Error Id: arg

**Probable causes**
The error number id was larger than arg.

**Recommended actions**
Don't use arg. This routine is for the Spot application use only.

**110614, Gun error**

**Description**
Task: arg
Gun error (arg).

Force calibration failed. Check the values and try again. Do not restart system until a valid force calibration is made.

**Recommended actions**
Check values and do a force calibration again.

**110615, Spot application gun control error**

**Description**
Task: arg
It is not possible to close or open the servo gun arg in motors off or emergency stop state.

**Consequences**
The gun has not opened or closed.

**Probable causes**
The system was set to motors off state during process for some reason.
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Recommended actions
Go to motors on state again and restart the instruction.

110616, Spot application weld position aborted

Description
Task: arg
The weld position was aborted, current rob target arg.
Current gun: arg

Consequences
This weld position was not welded.
The strength of the welded object has been reduced.

Probable causes
The spot instruction was aborted for some reason, the PP was moved
or the instruction was skipped.

Recommended actions
Change the value of 'pre_equ_time' in curr_gundata{arg}.

Invalid value of data 'pre_equ_time' in curr_gundata{arg}.
Allowed interval: 0 to max arg seconds.
Current value: arg seconds.
Current gun: arg

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of 'pre_equ_time' in curr_gundata{arg}.

110620, Spot application invalid data error

Description
Task: arg
Invalid value of 'weld_timeout' in curr_gundata{arg}.
Allowed interval: arg to arg seconds.
Current value: arg seconds.
Current gun: arg

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of 'weld_timeout' in curr_gundata{arg}.

110621, Spot application invalid data error

Description
Task: arg
Invalid value of the 'tip_force' parameter in spotdata.
Allowed values are: 0 to max arg.
Current value: arg.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'tip_force' parameter in spotdata.

110622, Spot application invalid data error

Description
Task: arg
Invalid value of the 'plate_thickness' in spotdata.
Allowed values are: 0 to max arg mm.
Current value: arg mm.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'plate_thickness' parameter in spotdata.
110623, Spot application invalid data error

Description
Task: arg
Invalid value of the 'plate_tolerance' parameter in spotdata.
Allowed values are: 0 to max arg mm.
Current value: arg mm.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'plate_tolerance' parameter in spotdata.

110624, Spot application invalid data error

Description
Task: arg
Invalid value of the 'prog_no' parameter in spotdata.
Allowed values are: 0 to max arg.
Current value: arg.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'prog_no' parameter in spotdata.

110625, Spot application invalid data error

Description
Task: arg
Invalid value of the 'sim_type' parameter in simdata.
Allowed values are: 0 to arg.
Current value: arg.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'sim_type' parameter in simdata.

110626, Spot application invalid data error

Description
Task: arg
Invalid value of the 'tip_force' parameter in forcedata.
Allowed values are: 0 to max arg mm.
Current value: arg mm.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'tip_force' parameter in forcedata.

110627, Spot application invalid data error

Description
Task: arg
Invalid value of the 'plate_thickness' parameter in forcedata.
Allowed values are: 0 to max arg mm.
Current value: arg mm.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'plate_thickness' parameter in forcedata.

110628, Spot application invalid data error

Description
Task: arg
Invalid value of the 'plate_tolerance' parameter in forcedata.
Allowed values are: 0 to arg mm.
Current value: arg mm.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'plate_tolerance' parameter in forcedata.

110629, Spot application invalid data error

Description
Task: arg
Invalid value of the 'force_time' parameter in forcedata.
Allowed values are: arg to arg s.
Current value: arg s.

Consequences
It will not be possible to run any spot instructions until this value is changed.

Recommended actions
Change the value of the 'force_time' parameter in forcedata.

110630, Spot application weld complete timeout

Description
Task: arg
Current robtarget: arg
Current gun: arg
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Consequences
The weld was not completed.

Probable causes
The weld controller did not reply with weld complete within the configured time.

Recommended actions
1. Try to reweld the position.
2. Check the weld controller for any errors.
3. Increase the weld_timeout parameter in curr_gundata[arg].

110631, Spot application weld error reported

Description
Task: arg
arg
Current robtarget: arg
Current gun: arg

Consequences
The weld was not completed.

Probable causes
The weld controller reported an error and stopped the current ongoing weld.

Recommended actions
1. Try to reweld the position.
2. Check the weld controller for any errors.

110632, Current error ignored

Description
Task: arg
arg
arg

110633, Spot application no mechanical unit error

Description
Task: arg
arg
The servo gun does not exist in the motion parameters, no servo gun parameters has been loaded.
Current gun name: arg.

Consequences
It will not be possible to run any spot instructions until configurations for a servo gun is added.

Probable causes
No configuration for servo gun parameters has been loaded.

Recommended actions
Load configurations for servo gun.

110634, Spot application cfg data limit error

Description
Task: arg
The data value is outside the limit.

Recommended actions
Change the value.

110635, Spot application tip position error

Description
Task: arg
Tip position error.
arg
Current gun: arg

Probable causes
1. The geometry of the plates are wrong or the tips are damaged.
2. The value of the plate_thickness parameter in arg is not the same as the actual thickness of the plates.

Recommended actions
1. Check that the thickness of the plates are correct and corresponds to the value in the plate_thickness parameter in arg.
2. Check that the tips are OK.

110636, Spot application process error

Description
Task: arg
Process error.
arg
arg
Current gun: arg

Consequences
The position was not welded.

Probable causes
An error occurred during the weld process.

Recommended actions
Check the welding equipment.

110637, Spot application text index too high error

Description
Task: arg
Text index out of bounds in SwTextGet.
Current index number: arg

Probable causes
The index number is too high
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**Recommended actions**
Change the index number.

**110638, Gun error**

**Description**
Task: arg
arg
arg

**Consequences**
The instruction will not work until this value is changed.

**Probable causes**
The speed was probably lowered by the operator.

**Recommended actions**
Set the speed to arg %.

**110639, Gun error**

**Description**
Task: arg
arg
A ManServiceCalib is required before continuing the program execution.

**Consequences**
All the robots in the system are stopped.

**Probable causes**
The same gun is used from more than one motion task.

**Recommended actions**
Change the gun number or wait for the other robot to finish. You have to deactivate the used gun before another robot can use it. This is done with the instruction "DeactProc".

**110640, Spot application missing signal error**

**Description**
Task: arg
The signal arg is missing in the EIO configuration.

**Consequences**
It will not be possible to use some internal functionality.

**Probable causes**
The signal arg was removed from the EIO configuration.

**Recommended actions**
Add the missing signal arg.

**110641, Spot application invalid data error**

**Description**
Task: arg
Invalid value of the sim_time parameter in simdata.
Allowed values are: 0 to arg s.
Current value: arg s.

**Consequences**
It will not be possible to run any spot instructions until this value is changed.

**Recommended actions**
Change the value of the sim_time parameter in simdata

**110642, Spot application invalid speed error**

**Description**
Task: arg
It is not possible to run with reduced speed for SW Equalizing.
Allowed value (in percent): arg %.

**110643, Spot application gun conflict error**

**Description**
Task: arg
More than one robot try to use the same gun at the same time.
arg

**Consequences**
The instruction will not work until this value is changed.

**Probable causes**
The speed was probably lowered by the operator.

**Recommended actions**
Set the speed to arg %.

**110644, Could not save the module**

**Description**
Task: arg
Could not save the module arg
The disk is full or the file is write protected.

**110645, Spot application invalid data**

**Description**
Task: arg
Software equalizing error.
The instructions SpotML and SpotMJ can not be used with Software Equalizing activated.

**Consequences**
The instruction will be stopped.

**Probable causes**
Software Equalizing is activated in curr_gundata.

**Recommended actions**
1. Do not use the instructions SpotML and SpotMJ together with Software Equalizing.
2. Reset the 'softw_eq' variable in curr_gundata and run the instruction without Software Equalizing.
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110646, Spot application invalid data
Description
Task: arg
Invalid value of release_dist in curr_gundata{arg}.
Allowed interval: 0 to max arg mm.
Current value: arg mm.
Current gun: arg
Consequences
It will not be possible to run any spot instructions until this value is changed.
Recommended actions
Change the value of ‘release_dist’ in curr_gundata{arg}

110647, Spot application invalid data
Description
Task: arg
The calculated deflection distance for this gun is invalid.
Allowed interval: -arg to max arg mm.
Current value: arg mm.
Current gun: arg
deflection = spotdata.tip_force * curr_gundata{arg}.deflection_dist /
curr_gundata{arg}.deflection_force
Consequences
The instruction will not work until this value is changed.
Probable causes
A too big gun deflection has been entered in curr_gundata{arg} or the deflection force in curr_gundata is set too low.
Recommended actions
1. Check the deflection distance in curr_gundata{arg}.
2. Check the deflection force in curr_gundata{arg}.
3. Check and increase the maximum limit in the setup data 'MAX_DEFLECTION' if needed.

110648, Spot application invalid data
Description
Task: arg
The value of ‘deflection_time’ in curr_gundata{arg} is invalid.
Allowed values are: 0 to max arg s.
Current value: arg s.
Current gun: arg
Consequences
The instruction will not work until this value is changed.
Probable causes
A too high gun deflection time has been entered in curr_gundata{arg}.
Recommended actions
Check the deflection time in curr_gundata{arg}.

110649, Spot application IO error
Description
Task: arg
It is not possible to set the signal, the I/O unit is lost.
Consequences
The signal will not be set.
Probable causes
The power to the I/O unit is lost or the cable is damaged.
Recommended actions
1. Check the power to IO units.
2. Check that the cabling is OK.

110650, Spot application search error
Description
Task: arg
Touch up error, no surface was found during the search sequence in MeasureWearL
Current gun: arg
Consequences
The tool will not be updated.
Probable causes
Check for missing or wrong tips and the the reference plate is located in the correct position.
Recommended actions
1. Check that the correct tips are mounted on the gun.
2. Check that the reference plate is in the correct position.
3. Increase the setup data arg is needed.

110651, Spot application tip range error
Description
Task: arg
New tips with unexpected size, the size of the tips exceeds the configured tip change supervision value.
Difference between new and old (worn) tips): arg mm.
Tip change tolerance: arg to arg mm.
Current gun: arg
Probable causes
Tips with unexpected size was mounted on the gun or the size exceeds the maximum allowed value defined in the tip change tolerance setup data tipchg_superv{arg}.
Recommended actions
1. Check that the correct tips are mounted on the gun.
2. Check that the maximum allowed supervision value in tipchg_superv{arg} is enough.
110652, Spot application touch up error

Description
Task: arg
The calculated touch up force is too high!
Overload at least of axis arg.

Probable causes
The touch up contact force is probably too high.

Recommended actions
Lower the setup data touch up contact force, 'm_touch_force'.

110653, Spot application tip range error

Description
Task: arg
New moveable tip with unexpected size, the size of the tips exceeds the configured tip change supervision value.
Difference between new and old (worn) tips: arg mm.
Tip change tolerance: arg to arg mm.
Current gun: arg

Probable causes
Tips with unexpected size was mounted on the gun or the size exceeds the maximum allowed value defined in the tip change tolerance setup data tipchg_superv{arg}.

Recommended actions
1. Check that the correct tips are mounted on the gun.
2. Check that the maximum allowed supervision value in tipwear_superv{arg} is enough.

110654, Spot application tip change range error

Description
Task: arg
New fixed tip with unexpected size, the size of the tips exceeds the tip change supervision value.
Difference between actual tip and reference tip: arg mm.
Tip change tolerance: arg to arg mm.
Current gun: arg

Probable causes
Tips with unexpected size was mounted on the gun or the size exceeds the maximum allowed value defined in the tip change tolerance setup data tipchg_superv{arg}.

Recommended actions
1. Check that the correct tips are mounted on the gun.
2. Check that the maximum allowed supervision value in tipwear_superv{arg} is enough.

110655, Spot application tip wear range error

Description
Task: arg
Tip wear out of range, the tip wear exceeds the configured tip wear tolerance!
Actual tip wear (moveable tip): arg mm.
Tip wear tolerance: arg to arg mm.
Current gun: arg

Probable causes
The tips has probably been worn out, and the current tip wear exceeds the maximum allowed value defined in the tip wear tolerance setup data tipwear_superv{arg}.

Recommended actions
Check that the maximum allowed supervision value in tipwear_superv{arg} is enough.

110656, Spot application tip wear range error

Description
Task: arg
Tip wear out of range, the tip wear exceeds the configured tip wear tolerance!
Actual tip wear (fixed tip): arg mm.
Tip wear tolerance: arg to arg mm.
Current gun: arg

Probable causes
The tips has probably been worn out, and the current tip wear exceeds the maximum allowed value defined in the tip wear tolerance setup data tipwear_superv{arg}.

Recommended actions
Check that the maximum allowed supervision value in tipwear_superv{arg} is enough.

110657, Spot application independent mode error

Description
Task: arg
It is not possible to use independent mode in Spot instructions when software equalizing is activated.
Current gun: arg

Consequences
It will not be possible to run any spot instruction until the independent mode is deactivated.

Probable causes
The independent mode is activated.

Recommended actions
Reset the independent mode with the instruction 'IndGunMoveReset'.

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110658, Spot application error singularity error
Description
Task: arg
The robot is close to singularity. The performance of the Software Equalizing will be poor.

Consequences
The performance of the Software Equalizing will be poor.

Probable causes
The robot is close to singularity.

Recommended actions
Reorient the robot or move the point.

110659, Spot application robot limit error
Description
Task: arg
The robot is outside it's working area.

Consequences
The position is not possible to reach.

Probable causes
The robot is outside it's working area or the robot is very close to it when the gun arm deflection compensation is working.

Recommended actions
Reorient the robot or move the point.

110660, Spot application user module version warning
Description
Task: arg
The version number of the user module(s) are different than the current spot application version.
Current version of the spot application is arg.
Currently loaded user module and version number, arg, arg.

Consequences
The spot application might not work correctly, there is a possibility that the customizable user modules has changed since previous RobotWare releases.
There is a risk that improvements and/or corrections added since previous RobotWare releases are unavailable.

Probable causes
The user modules probably originates from an backup taken from an older system.

Recommended actions
1. Check that the user modules are up to date, compare them to the versions in this RobotWare release.
2. Load the correct module(s) and make a P-start of the system.
3. This warning can be ignored if the improvements and/or corrections in the user modules are not critical to the customer application.

110661, Spot application error signal label error
Description
Task: arg
The 'SignalLabel' name arg is not defined in the EIO configuration.

Probable causes
The 'SignalLabel' name is not defined in the EIO configuration.

Recommended actions
1. Check that the 'SignalLabel' is defined in the EIO configuration.
2. Add the missing 'SignalLabel'.

110662, Spot application missing routine error
Description
Task: arg
A Spot user routine is missing, routine arg.
This software option will not work correctly without this routine.

Consequences
This software option will not work correctly without this routine.

Probable causes
The module with the routine is not loaded or the routine has been removed from the module.

Recommended actions
1. Check that the module with the routine is loaded.
2. Load or add the missing module or routine.

110663, Spot application user data missing error
Description
Task: arg
A Spot user data is missing, data arg.
This software option may not work correctly without this data.

Consequences
This software option may not work correctly without this data.

Probable causes
The module with the data is not loaded or the data has been removed.

Recommended actions
1. Check that the module with the data is loaded.
2. Load or add the missing module or data.
3. Ignore this warning if the data has been intentionally removed.
110664, Spot application sw equalizing active error

**Description**
Task: arg
It is not possible to run synchronized Spot instructions when the software equalizing mode is activated.
It is only possible to run spot instructions with software equalizing activated in semi coordinated mode.

**Consequences**
It will not be possible to run any spot instructions with software equalizing activated until the synchronized mode is disabled.

**Probable causes**
Synchronized mode is selected in the spot instruction.

**Recommended actions**
Turn off software equalizing to be able to run in synchronized mode or change the spot instructions to semi coordinated movements instead.

110666, Spot application servo gun close error

**Description**
Task: arg
Can not close a closed servo gun, the servo gun arg is not open!

**Probable causes**
The gun is already closed.

**Recommended actions**
Open the gun before trying to close it.

110667, Spot application force calib error

**Description**
Task: arg
Force calibration failed for servo gun arg.
Check the force calibration values and try again. Do not restart system until a valid force calibration is made.

**Consequences**
The force calibration data will not be saved to the motion parameters.

**Recommended actions**
Check the values and try to do a force calibration again.

110668, Spot application thickness error ignored

**Description**
Task: arg
arg
The current thickness error was ignored.
Current gun: arg
arg

**Probable causes**
The operator probably ignored the thickness error.

**Recommended actions**
Check that it was OK to ignore the thickness error.

110669, Spot application gun number error

**Description**
Task: arg
The gun number arg is not a valid gun number, the gun index is out of range.
Allowed values are: arg to max arg.

**Consequences**
It will not be possible run this instruction until this value is changed.

**Probable causes**
A gun index number that was out of range was programmed in the instruction.
Current configured size of 'curr_gundata' is arg

**Recommended actions**
1. Change the gun index number in the instruction.
2. Increase the setup data 'SW_NOF_GUNS' and the spot application data types if needed.

110670, Spot application user module changed

**Description**
Task: arg
The routine arg has a newer syntax, the user module has changed since previous RobotWare releases.
Current module: arg
Current version: arg

**Consequences**
This instruction might not work correctly, some data(s) may not be updated correctly.
There is a risk that improvements and/or corrections added since previous RobotWare releases are unavailable.

**Probable causes**
The user modules probably originates from an backup taken from an older system.
Recommended actions

Compare and upgrade the user modules to the latest version supplied in this RobotWare release.

110671, Spot application error module not saved

Description

Task: arg
Could not save the module arg.

Consequences

The module arg was not saved. Data needed for the process was not saved and can if e.g. an p-start is done be lost.

Probable causes

The module does not exist, or the disk is full or the file is write protected.

Recommended actions

1. Check that the module exists in the specified location on the disk.
2. Try to save the module manually from the FlexPendant.

110672, Spot application configuration error

Description

Task: arg
The weld program number is out of limits for the defined weld program group output (GO).

Current value: arg.

Consequences

It will not be possible to run any spot instructions until this value is changed.

Probable causes

The weld program signal group size is smaller than the specified weld program.

Recommended actions

1. Increase the size of the weld program output group.
2. Decrease the weld program number.

110673, Spot application tool load definition error

Description

Task: arg
The current used tool seems to have undefined load data.

The load of the tool is less or equal to 0 and/or the load center of gravity is 0.

Current tool: arg.

Consequences

It will not be possible run this instruction until a correctly defined tool is used.

Probable causes

The current tool is not correctly defined.

Recommended actions

Check that the load data for the tool is correctly defined before running this routine.

110674, Spot application gun type error

Description

Task: arg
This routine can not be used with this type of gun.

Current gun type: arg.

Consequences

It will not be possible run this instruction with this gun type is used.

Probable causes

The ‘gun_type’ parameter in the used ‘gundata’ is not correctly defined.

Recommended actions

Check that the ‘gun_type’ parameter in the used ‘gundata’ is correctly defined before running this routine.

110675, Spot application process task error

Description

Task: arg
The number of guns exceeds the number of activated process tasks.

Current gun: arg.

Consequences

It will not be possible to weld with more guns than the number of activated process tasks.

Recommended actions

Configure more process tasks.

110676, Spot application power on error

Description

Task: arg
The power on sequence has not been done.

Consequences

The spot application will not work correctly.

Probable causes

An error occurred during the startup sequence.

Recommended actions

1. Check the event log for other errors occurring at the same time.
2. Correct the error and perform a p-start of the system.
110677, Spot application instruction aborted

Description
Task: arg
The instruction was aborted.
Instruction: arg

Consequences
Some data may not have been correctly updated.

Probable causes
The instruction was aborted by the operator and/or the PP was moved.

Recommended actions
Check that it was OK to abort this instruction.

110678, Spot application reference not done

error

Description
Task: arg
A reference measurement must be done before a tip wear or tip change measurement can be done.
Instruction: arg

Probable causes
This instruction was run for the first time without the reference switch selected.

Recommended actions
Run this instruction with the reference switch selected first.

110700, No weld internal.

Description
Task: arg
arg
Weld signal switched off at programming terminal.

Recommended actions
Check programming unit setting Operating mode for Weld on/off, int.(S)/Weld/No weld (T).

110701, No weld external.

Description
Task: arg
arg
External weld signal was deactivated.

Recommended actions
Check signal at weld external input.

110702, The weld sequence is inhibited, weld schedule stopped.

Description
Task: arg
arg
The started program was inhibited for the sequence/schedule

Recommended actions
Enable program at the programming terminal at Operation - Modify - Programming - Sequence Setup Inhibit Sequence (S)/Start- Inhibit (T) for all programs or Inhibit Sequence (P)/Start-Inhibit (P) for one program - check program selection, select proper program.

110703, No valid weld program, no schedule programmed.

Description
Task: arg
arg
wrong program selected - invalid spot selection - invalid parameters in started program

Recommended actions
Check program selection - check spot selection - check value range of the following parameters: power unit number, electrode/stepper number, program number.

110704, The battery backup is low.

Description
Task: arg
arg
The buffer battery voltage has dropped

Recommended actions
Replace the backup battery in the weldtimer.

110705, Memory has been deleted.

Description
Task: arg
arg
All data of this weld timer has been deleted: - new timer firmware was copied to system - battery is low or defective.

Recommended actions
Copy data (Operation - Services - Restore/Download) if the error occurs repeatedly, replace timer.

110706, There is a hardware fault.

Description
Task: arg
arg
Defective module. When booting, a module is detected which does not match the firmware: - a firmware was introduced into the weld timer which is not permitted for the existing hardware.

**Recommended actions**
Replace module or timer - replace module - load proper firmware to the timer.

### 110707, External temperature too high.

**Description**
Task: arg
arg
Message of an external temperature input: - cable between thermostatic switch and timer interrupted - insufficient cooling - excessive welding heat/$\%$/ duty cycle

**Recommended actions**
check cable/connector - check cooling circuit - reduce welding heat.

### 110708, Stop circuit open, no +24V.

**Description**
Task: arg
arg
+24V supply at stop circuit input missing.

**Recommended actions**
Close stop contact - check +24V supply at the inputs of the stop circuit.

### 110709, Circuit breaker tripped, weld without command.

**Description**
Task: arg
arg
The timer module has activated the main switch relay: the related main switch/circuit breaker is tripped.

**Recommended actions**
-

### 110710, Current feedback open.

**Description**
Task: arg
arg
Broken sensor cable - detached plug connections - incorrect connector assignment - defective sensor.

**Recommended actions**
Replace cable - check plug-in connections - check connector assignment - replace sensor.

### 110711, Current feedback short circuit.

**Description**
Task: arg
arg
Squeezed sensor cable - incorrect connector assignment - defective sensor.

**Recommended actions**
Replace cable - check connector assignment - replace sensor.

### 110712, No primary voltage on first half wave.

**Description**
Task: arg
arg
No primary voltage was measured in KUR mode.

**Recommended actions**
Check connectors and cables.

### 110713, No current, weld 1 to 3.

**Description**
Task: arg
arg
Electrodes not closed - no electrical contact at the point to be welded - contamination of sheets - use of sealant.

**Recommended actions**
Check closing mechanisms (robot, machine) - check position and pressure of electrodes - clean sheets - check conductivity.

### 110714, Current is too low, weld 1 to 3.

**Description**
Task: arg
arg
Current measured is below tolerance band: - tolerance band too narrow - programmed value too high, e.g., because of stepping - contamination of electrodes - contamination of sheets - bad electrode positioning - welding transformer too small.

**Recommended actions**
Check tolerance band - check programmed value, stepper values - repeat weld, clean electrodes - repeat weld, clean sheets - improve positioning - change over or replace welding transformer.

### 110715, Current is too high, weld 1 to 3.

**Description**
Task: arg
arg
Current measured exceeds tolerance band: - programmed value jump to lower current values - handling of different sheet thicknesses or sheet layers - variant electrode pressure conditions - variant resistances (impedance) in secondary circuit, e.g. shunt resistor - mains voltage fluctuations.

**Recommended actions**
Increase tolerance band, reduce programmed value jumps - use several programs with different parameters - check electrode force system - check secondary circuit - increase tolerance band, ensure constant conditions.

### 110716, Current is low in consecutive welds, weld 1 to 3.

**Description**
Task: arg

Current measured is below the limited tolerance band after n repetitions: - programmed value jump to higher current values - handling of different sheet thicknesses or sheet layers - variant electrode pressure conditions - variant resistance conditions in secondary circuit - mains voltage fluctuations.

**Recommended actions**
Value jumps - use several programs with different parameters - check electrode force system - ensure constant conditions - increase tolerance band, ensure constant conditions.

### 110717, Weld time is too short, weld 1 to 3.

**Description**
Task: arg

The permitted time tolerance is not reached - external termination of weld signal.

**Recommended actions**
Check setting at Operation - Modify - Programming - Welding parameters - Time monitoring - check signal.

### 110718, Weld time is too long, weld 1 to 3.

**Description**
Task: arg

The permitted time tolerance is exceeded.

**Recommended actions**
Check setting at Operation - Modify - Programming - Welding parameters - Time monitoring.

### 110719, Faulty configuration

**Description**
Number of configured weld timers are arg.

The configuration file(s) for Bosch weld timer interface does not contain all expected data.

**Consequences**
The Bosch weld timer interface will not be able to connect to any weld timer.

**Probable causes**
Wrong version or corrupt configuration file(s).

**Recommended actions**
1. Re-install correct Bosch weld timer interface configuration files.
2. Check internal elog messages.

### 110720, Data value outside limits.

**Description**
Task: arg

Program Ref. arg

The value of 'TimerNo' is outside limits, current value: arg. Allowed values are: 1 to arg.

**Consequences**
The instruction will not work until a valid value is entered.

**Probable causes**
An invalid value was entered.

**Recommended actions**
Change the value.

**Recovery:** arg

### 110721, Timer not connected

**Description**
Weld timer not connected, timer arg.

**Consequences**
It will not be possible to access the timer.

**Probable causes**
Faulty configuration or disconnected hardware.

**Recommended actions**
1. Check configuration and cables.
2. Check internal elog messages.

### 110722, Unknown fault in weld timer.

**Description**
Task: arg

There is a unknown fault in the weld timer, code arg.

**Recommended actions**
Connect the BOS5000/6000 application and check the reason for the fault.
110723, Power unit not ready.
Description
Task: arg
arg
The power unit temperature is too high.
Recommended actions
1. Check cooling.
2. Check duty cycle, load.
3. Check cables, connectors.

110724, 27-V Synchronisation, power fault.
Description
Task: arg
arg
Welding network has been switched off, or is outside the range of 50 to 60 Hz ± 5%.
Recommended actions
1. Switch on and check weldin network.
2. Reset error, check all line phases.
3. Check synchronisation voltage.
4. Check fuses in power unit or replace power unit.

110725, 24V off or too low.
Description
Task: arg
arg
The 24V supply for the internal logic is too low(approx. 19V).
Recommended actions
1. Check 24V supply.
2. Check the connectors.

110726, Transformer temperature too high.
Description
Task: arg
arg
The temperature of the welding transformer is too high.
Recommended actions
1. Check cables and connectors.
2. Check cooling circuit of the welding transformer.
3. Reduce welding heat.

110727, Cooling temperature too high.
Description
Task: arg
arg
The heat sink is too hot(above 70°C) or the ambient temperature is too high(above 70°C).
Recommended actions
1. Check cooling.
2. Check duty cycle, load.
3. Check temperature inside the process cabinet or check process cabinet cooling.

110728, IO bus fault.
Description
Task: arg
arg
The serial IO module has signalled a bus fault to the timer module.
Recommended actions
Replace IO module or timer.

110729, Electrode life has expired, end of stepper.
Description
Task: arg
arg
The specified electrode has reached the Electrode life Expired, End of stepper condition.
Recommended actions
The electrode must be replaced.

110730, Tip dress request.
Description
Task: arg
arg
The specified electrode has reached the Tip dress request, Tip dress inq. condition.
Recommended actions
The electrode tip must be dressed.

110760, Tool Change Error
Description
Task: arg
arg
arg
Recommended actions
arg
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110790, Medar WT: No contact with Medar.
Description
No communication with Medar weld timer arg, or the Medar unit does not respond.
No contact on address arg.
Recommended actions
1. Check the address.
2. Check the serial cable.
3. Check the Medar unit.

110801, Dispense Error
Description
Task: arg
arg
Not possible to start without On argument.
arg
Recommended actions
Add On switch to first instruction.

110802, Dispense Error
Description
Task: arg
arg
Value for DPUSER data dp_fl1_corr is out of limits.
arg

110803, Dispense Error
Description
Task: arg
arg
Value for DPUSER data dp_fl2_corr is out of limits.
arg

110804, Dispense Error
Description
Task: arg
arg
Value for flow1_type in beaddata is out of limits.
arg

110805, Dispense Error
Description
Task: arg
arg
Value for flow2_type in beaddata is out of limits.
arg

110806, Dispense Error
Description
Task: arg
arg
Not possible to use two On instructions in sequence.
arg
Recommended actions
Remove one instruction with On switch.

110807, Dispense Error
Description
Task: arg
arg
Value for fl1_delay in equipdata is out of limits.
arg

110808, Dispense Error
Description
Task: arg
arg
Value for fl2_delay in equipdata is out of limits.
arg

110809, Dispense Error
Description
Task: arg
arg
Value for ref_speed in equipdata is out of limits.
arg

110810, Dispense Error
Description
Task: arg
arg
Value for equip_no in beaddata is out of limits.
arg

110811, Dispense Error
Description
Task: arg
arg
Unexpected Stop. Stopped while dispensing was active.
arg
arg
### 6 Trouble shooting by Event log

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<th>Description</th>
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<tr>
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<tr>
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<tr>
<td>110818, Dispense Error</td>
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<tr>
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<td>Value for acc_max or decel_max in equipdata is too low.</td>
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<td>fl1_delay or fl2_delay in equipdata is out of limits.</td>
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<td>111000, Itemsource exists</td>
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<td>111001, Not a valid itemsource name</td>
<td>Name arg is not a valid itemsource name.</td>
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<td>111002, Buffer size exceeded</td>
<td>Fatal internal error for itemsource arg.</td>
</tr>
</tbody>
</table>
### 111003, Itemsource not defined

**Description**  
The itemsource object has not been defined.

**Recommended actions**  
Check itemsource at:

```arg
```

**Recovery:**

```arg
```

---

### 111004, Itmsrc Internal error

**Description**  
Internal error for itemsource `arg`.

**Error type:**

```arg
```

**Recommended actions**  
Instruction: `arg`

**Recovery:**

```arg
```

---

### 111005, Flush itemsource first

**Description**  
Itemsource `arg` must be flushed before it is used.

```arg
```

**Recommended actions**  
Instruction: `arg`

**Recovery:**

```arg
```

---

### 111006, Ack item target first

**Description**  
Item target must be acknowledged before executing the GetItmTgt(s) instruction again.

Itemsource: `arg`.

```arg
```

**Recommended actions**  
Instruction: `arg`

**Recovery:**

```arg
```

---

### 111007, Item target buffer full

**Description**  
Item target buffer full for itemsource `arg`.

**Recommended actions**  
Instruction: `arg`

**Recovery:**

```arg
```
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111013, Cnv data defined late
Description
Error for itemsource arg, conveyor arg. The ItmSrcCnvDat instruction must be called before the ItmSrcFlush instruction.

Recommended actions
Instruction: arg
Recovery: arg

111014, Timeout
Description
Instruction reached timeout

Recommended actions
Instruction: arg
Recovery: arg

111015, Sortdata overridden
Description
Use of selection data will override the sortdata.

Recommended actions
Instruction: arg
Recovery: arg

111016, Orientation error
Description
The orientation in selection data is not correct defined.
Itemsource: arg

Recommended actions
All used orientations must be normalized i.e. the sum of the quaternion elements squares must equal 1.
Instruction: arg
Recovery: arg

111017, Uplink message failed
Description
The system failed to send a rapid uplink message

Consequences
Program execution may run as expected.
Statistics may not be updated.

Recommended actions
Check network connection.
Check state of remote system.
Check robot program for infinite loops.

111000, Work object buffer full
Description
Too many conveyor strobes stored in buffer for itemsource arg
In queue index: arg
Out queue index: arg

11101, Item target buffer full
Description
Item target buffer full for itemsource arg.
Item tag: arg
Scene number arg

11102, Too many item targets
Description
Too many item targets pushed to itemsource arg.
Number of items: arg.
Scene number arg

11103, Push without any strobe
Description
Push received without any corresponding strobe signal is received for itemsource arg.
Push scene number arg
Latest received strobe arg

Recommended actions
Check hardware connections

11104, Push received too late
Description
Push of items was received too late in itemsource arg.
Corresponding wobj already overwritten.
Push scene number arg
Latest received strobe arg

Recommended actions
Check the position generation frequency.

11105, Conveyor limits error
Description
Error in itemsource arg
Conveyor arg
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The limits are incorrect specified.

**Recommended actions**

Required: Enter < Exit
or: Enter < Start < Stop < Exit
Given: arg

---

**111111, Failed to open signal**

**Description**
An error occurred when opening Strobe signal: arg for itemsource: arg.

**Status** arg.

**Recommended actions**
Check the Strobe signal name.

---

**111112, Failed to open signal**

**Description**
An error occurred when opening Robot Execution signal: arg for itemsource: arg.

**Status** arg.

**Recommended actions**
Check the Robot Execution signal name.

---

**111113, Failed to open signal**

**Description**
An error occurred when opening Queue Idle signal: arg for itemsource: arg.

**Status** arg.

**Recommended actions**
Check the Queue Idle signal name.

---

**111114, Failed to open signal**

**Description**

**Status** arg.

**Recommended actions**
Check the Position Available signal name.

---

**111115, Failed to open signal**

**Description**
An error occurred when opening Conveyor Control signal: arg for itemsource: arg.

**Status** arg

**Recommended actions**
Check the Conveyor Control signal name.

---

**111116, Prepared for PickMaster option not installed.**

**Description**
The Prepared for PickMaster option has not been correctly installed in the system.
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**Recommended actions**
Reinstall the system using a proper key containing the Prepared for PickMaster option.

**111117, Uplink message failed**

**Description**
The system failed to send a process uplink message.

**Consequences**
Item targets may not be picked.
The system may not run as expected.

**Probable causes**
Network interrupt.
CPU overload in controller system.
CPU overload in remote system.
Remote system may not run as expected.

**Recommended actions**
Check network connection.
Check state of remote system.
Check robot program for infinite loops.

**111400, GAP IO Error**

**Description**
Task: arg
Context: arg

**111402, GAP Execution Error**

**Description**
Task: arg
Context: arg
Failed to access routine, arg

**111403, Failed to advance to station**

**Description**
Task: arg, failed to advance to station arg

**111404, GAP Error**

**Description**
Task: arg,
GAP Error posted from PartCrossCheckOK routine.
PartCrossCheckOK not ok.

**111405, GAP Execution Error**

**Description**
BeforePart or AfterPart Sync Timeout in arg.

**111406, Event execution error**

**Description**
Event procedure: arg in task arg does not exist

**Recommended actions**
Create the procedure arg or change the procedure in the ee_event data arg to an existing procedure.

**111407, GAP Execution Error**

**Description**
Error in GAPExecCycle: arg

**111408, GAP Execution Error**

**Description**
WaitSyncPart Timeout: arg in arg.

**111409, GAP Execution Error**

**Description**
Error in GapExecPart: arg.

**111410, No part selected for station**

**Description**
No part selected for station arg in task arg.

**111411, GAP Execution Error**

**Description**
Part station number is invalid: arg
Valid station: arg
Next station: arg

**111412, Not matching tasklists in tasks**

**Description**
Tasklist in partdata arg in task arg does not match tasklist in partdata arg in task arg.

**Recommended actions**
Check and change the tasklists so they match.

**111413, Invalid task name**

**Description**
Taskname arg in partdata is invalid

**111414, GAP Execution Error**

**Description**
The tasklist must include 'this' task: arg
### 111415, GAP Execution Error
**Description**
- Task: arg
- Tasks could not be cross-checked. Station: arg

### 111416, GAP Execution Error
**Description**
GapEE_Stopped failed in task: arg

### 111417, GAP Access IO Error
**Description**
GAP Access IO Error in task: arg

### 111419, GAP cfg data error
**Description**
Cfg data not found in InstancePath: arg
- Attribute: arg

### 111420, GAP IO Error
**Description**
GAP IO Error in shared module.

### 111421, GAP Task Error
**Description**
Maximum of GAP tasks defined (arg).

### 111422, GAP event error
**Description**
- arg GAP_EE_EVT
- Unknown event id: arg

### 111423, GAP proc error
**Description**
- GAP_EE_EVT Unknown proc arg

### 111424, Partdata not found for PLC code
**Description**
- No matching partdata found in task arg for PLC code arg
**Recommended actions**
Create partdata with matching plc code.

### 111425, Menudata not found for PLC code
**Description**
- No matching menudata found in task arg for PLC code arg
**Recommended actions**
Create menudata with matching plc code.

### 111426, Not valid task state for menudata
**Description**
The state of task arg should be at safe or at service when running selected menudata.

### 111427, Not valid station for menudata
**Description**
Current station (arg) in task arg does not match valid station arg in menudata

### 111428, Not valid user level for menudata
**Description**
Not valid menudata. Current user level arg does not match minimum user level arg defined in menudata

### 111429, Part execution error
**Description**
Part procedure: arg in task arg does not exist
**Recommended actions**
Create the procedure arg or change the procedure in the partdata to an existing procedure.

### 111430, Menu execution error
**Description**
Menu procedure: arg in task arg does not exist
**Recommended actions**
Create the procedure arg or change the procedure in the menu to an existing procedure.

### 111431, Timeout during handshaking
**Description**
Timeout during handshaking in task arg.
**Probable causes**
The configured signal run_part_signal_in or run_menu_signal_in wasn't set to 0 within configured timeout (arg seconds) after the configured signal run_ack_out was set to 1.
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Recommended actions
Make sure to reset configured signal run_part_signal_in or run_menu_signal_in after configured signal run_ack_out is set to 1.

111432, Not valid plc code in task
Description
Not valid plc code in task arg.
Probable causes
The configured group signal plc_cmd_group_in has a not valid value arg.
Values in the range of 1-99 is reserved for error codes.
Recommended actions
Make sure requests are higher than 99.

111433, Next station configuration error
Description
PROC configuration for next_stn_arg_signal_in not configured.
Consequences
Order for station arg may not be executed.
Recommended actions
Configure next_stn_arg_signal_in to ensure that orders for station arg will be executed.

111434, At station configuration error
Description
PROC configuration for at_stn_arg_signal_in not configured.
Consequences
Order for station arg may not be executed.
Recommended actions
Configure at_stn_arg_signal_in to ensure that orders for station arg will be executed.

111501, BullsEye Text Error
Description
BullsEye could not access text.
Index given: arg
Text Table: arg
Consequences
BullsEye will be unable to generate proper message dialogs.
Recommended actions
Please report this error to your ABB support representative.

111502, BullsEye Obsolete Message
Description
BullsEye Obsolete Message

111503, BullsEye Error
Description
Range-of-motion test failed.

111504, BullsEye Error
Description
RangeCheck feature does not support coordinated work objects.

111505, BullsEye Error
Description
RangeCheck feature does not support uframe transforms.

111506, BullsEye Data Loaded
Description
Stored reference data was loaded successfully.

111507, BullsEye Error
Description
No reference data file was found.
Probable causes
No previous data was stored.

111508, BullsEye Error
Description
The reference data file is already loaded.

111509, BullsEye Error
Description
An error occurred while unloading the reference data module.
Recommended actions
Reset program by moving the program pointer to the main routine and restart program execution.

111510, BullsEye Error
Description
An error occurred while reading data from the stored reference data module.
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111511, BullsEye Data Saved
Description
The reference data has been saved successfully.

111512, BullsEye Error
Description
An error occurred while saving the reference data.

111513, BullsEye Tool Initialized
Description
The tool, arg, has been initialized in the BullsEye data collection.
Task: arg

111514, BullsEye Tool Added
Description
The tool, arg, has been added to the BullsEye data collection.
Task: arg

111515, BullsEye Tool Removed
Description
The tool, arg, has been removed from the BullsEye data collection.
Task: arg
Consequences
BullsEye will no longer be able to evaluate this tool.
Recommended actions
Execute the BESetupToolJ setup instruction to add and initialize the tool.

111516, BullsEye IO Error
Description
Invalid input name: arg
Tool: arg
Task: arg
Consequences
No connection to the digital input could be established. Initialization has failed.
Recommended actions
Check that the specified input exists in the system.

111517, BullsEye Error
Description
The tool, arg, is not included in the BullsEye data collection.
Task: arg
Consequences
BullsEye will not be able to evaluate this tool.
Recommended actions
Execute the BESetupToolJ setup instruction to add and initialize the tool.

111518, BullsEye IO Error
Description
BullsEye attempted to reconnect a previously connected IO signal.
Input Name: arg
Tool: arg
Task: arg
Consequences
No connection to the digital input could be established. Initialization has failed.
Recommended actions
If problem persists, run the BESetupToolJ instruction to reinitialize the tool.

111519, BullsEye RangeCheck Failed
Description
Joint Limit Check failed for a Twist of arg and a Tilt of arg
Task: arg
Consequences
BullsEye will not be able to evaluate this tool.
Recommended actions
Try a different start position or relocate the BullsEye device. If no acceptable position can be found, try reducing the requested Tilt and Twist in the be_scan data. However, be aware that reducing these values may reduce the accuracy.

111520, BullsEye RangeCheck Failed
Description
Singularity Check failed for a Twist of arg and a Tilt of arg
Task: arg
Consequences
BullsEye will not be able to evaluate this tool.
Recommended actions
Try a different start position or relocate the BullsEye device.

111521, BullsEye RangeCheck Failed
Description
No solution could be found within acceptable Joint Limits and Singularity checks.
A Twist of arg and a Tilt of arg was specified.
Task: arg
Consequences
BullsEye will not be able to evaluate this tool.
Recommended actions
Try a different start position or relocate the BullsEye device.
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**Recommended actions**
Try a different start position or relocate the BullsEye device. If no acceptable position can be found, try reducing the requested Tilt and Twist in the be_scan data. However, be aware that reducing these values may reduce the accuracy.

**111522, BullsEye RangeCheck Failed**

**Description**
No solution could be found within acceptable Joint Limits and Singularity checks with adequate face-plate clearance.
A Twist of \( \text{arg} \) and a Tilt of \( \text{arg} \) was specified.
Task: \( \text{arg} \)

**Consequences**
BullsEye will not be able to evaluate this tool.

**Recommended actions**
Try a different start position or relocate the BullsEye device. If no acceptable position can be found, try reducing the requested Tilt and Twist in the be_scan data. However, be aware that reducing these values may reduce the accuracy.

**111523, BullsEye BaseFrame Read Error**

**Description**
BullsEye was unable to read the BaseFrame definition for the robot.
Task: \( \text{arg} \)

**Consequences**
BullsEye will not be able to evaluate this tool.

**Recommended actions**
The Motion Configuration Database (MOC) may have excessive protections implemented. Please ensure that the baseframe definition is accessible.

**111524, BullsEye TCP Extended**

**Description**
The instruction, BETcpExtend, was used to shift the TCP of \( \text{arg} \).
Task: \( \text{arg} \)
New Extension: \( \text{arg} \)
Change: \( \text{arg} \)

**111525, BullsEye Setup Complete**

**Description**
Setup complete for:
Tool: \( \text{arg} \)
Task: \( \text{arg} \)
New work object: \( \text{arg} \)
New TCP: \( \text{arg} \)
Max, Mean Deviation: \( \text{arg} \)

**111526, BullsEye Setup Failed**

**Description**
The setup for Tool, \( \text{arg} \), failed.
Task: \( \text{arg} \)

**Consequences**
BullsEye will not be able to evaluate this tool.

**Recommended actions**
1. Check error log for additional messages.
2. Check setup parameters, sensor device, and start positions before attempting the setup again.

**111527, BullsEye Error**

**Description**
The start position for Tool, \( \text{arg} \), is not defined.
Task: \( \text{arg} \)

**Consequences**
BullsEye will not be able to evaluate this tool.

**Recommended actions**
Execute the BESetupToolJ setup instruction to define the position.

**111528, BullsEye Beam Moved**

**Description**
Beam has moved or calibration changed.
Tool: \( \text{arg} \)
Task: \( \text{arg} \)

**Consequences**
BullsEye will not be able to evaluate this tool.

**Recommended actions**
Execute the BESetupToolJ setup instruction to define the beam position.

**111529, BullsEye Updated TCP**

**Description**
The TCP for Tool, \( \text{arg} \), has been updated by BEUpdateTool.
Task: \( \text{arg} \)
New TCP: \( \text{arg} \)
Change: \( \text{arg} \)
Elapsed Time: \( \text{arg} \)

**111530, BullsEye Error**

**Description**
Beam location could not be determined.
Tool: \( \text{arg} \)
Task: \( \text{arg} \)
Consequences
BullsEye will not be able to evaluate this tool.

Recommended actions
1. Check that the sensor device is working properly.
2. Execute the BESetupToolJ setup instruction to define the beam position.

111531, BullsEye Error
Description
The start position was changed.
Tool: arg
Task: arg

Consequences
BullsEye will not be able to evaluate this tool.

Recommended actions
Execute the BESetupToolJ setup instruction to redefine the new start position.

111532, BullsEye Error
Description
The tool, arg, is not set up.
Task: arg

Consequences
BullsEye will not be able to evaluate this tool.

Recommended actions
Execute the BESetupToolJ setup instruction to add and initialize the tool.

111533, BullsEye Error
Description
A full TCP measurement failed.
Tool: arg
Task: arg

Consequences
BullsEye will not be able to evaluate this tool.

Recommended actions
If problem persists, execute the BESetupToolJ setup instruction to add and initialize the tool.

111534, BullsEye Day1 TCP Updated
Description
The Day1 TCP has been updated due to a change in the beam location.
Tool: arg
Task: arg

111535, BullsEye Day1 TCP Updated
Description
The operator has permitted the Day1 TCP to be updated.
Tool: arg
Task: arg

Consequences
New TCP: arg
Change: arg

111536, BullsEye New TCP Rejected
Description
The operator rejected the TCP measurement.
Tool: arg
Task: arg

Consequences
TCP will remain unchanged.
Original TCP: arg
Measured TCP: arg

111537, BullsEye Updated TCP
Description
The TCP for Tool, arg, has been updated by BECheckTcp.
Task: arg
New TCP: arg
Change: arg
Elapsed Time: arg

111538, BullsEye Debug On
Description
Debug mode has been turned on.
Task: arg

111539, BullsEye Debug Off
Description
Debug mode has been turned off.
Task: arg

111540, BullsEye Error
Description
An error has occurred. The cause has not been identified.
Task: arg
6 Trouble shooting by Event log

**Recommended actions**

If problems persists, try:
1. Execute the BESetupToolJ setup instruction to reinitialize the tool.
2. Please contact your ABB support representative if problem cannot be corrected.

**111541, BullsEye TCP OK**

**Description**
The TCP for Tool, arg, has not been updated by BECheckTcp, because it is within tolerance.

**Task:** arg
**Measured TCP:** arg
**Current TCP:** arg
**Elapsed Time:** arg

**111551, SmarTac Configuration Error**

**Description**
Signal names supplied in PROC cannot be found in EIO.

**Recommended actions**
Please check the PROC config and EIO config.

**111552, SmarTac Configuration Error**

**Description**
An error occurred while attempting to establish connections to I/O.

**Recommended actions**
Please check the PROC config and EIO config.

**111553, SmarTac Configuration Error**

**Description**
SmarTac was unable to find:
arg
in PROC configuration.

**Probable causes**
A PROC configuration file was loaded with errors.

**111554, SmarTac Configuration Error**

**Description**
SmarTac tried to access an illegal type:
arg
in PROC configuration.

**Probable causes**
A PROC configuration file was loaded with errors.
<table>
<thead>
<tr>
<th>Event Number</th>
<th>Description</th>
</tr>
</thead>
</table>
| 111562, SmarTac Result | Location Result: arg  
Width Result: arg  
Search Type: Groove  
Search Name: arg |
| 111563, SmarTac Search Override | Default search result was selected after a failed Groove Search.  
Manual override selected.  
Search Type: Groove  
Search Name: arg |
| 111564, SmarTac Text Error | SmarTac could not access text.  
Index given: arg  
Text Table: arg |
| 111601, DB Table Creation Failed | Failed to create WebWare table: tblBullsEye |
| 111602, DB Table Created | The table, tblBullsEye, was successfully added to the WebWare database. |
| 111603, Production Monitor Error | Configuration Error.  
Production Monitor was unable to find: arg |
| 111604, Production Monitor Error | Configuration Error.  
Production Monitor tried to access an illegal type: arg |
| 111605, Production Monitor Error | Configuration Error. |
| 111606, Production Monitor Error | Text Resource Error.  
Production Monitor could not access text.  
Index: arg  
File: arg |
| 111607, Production Monitor DB | Creating the tblCycRes table in the WebWare database... |
| 111608, DB Table Creation Failed | Failed to create WebWare table: tblCycRes |

Recommended actions:
- Check the PROC configuration file for errors.
- Report to ABB.
6 Trouble shooting by Event log

111609, DB Table Created
Description
The table, tblCycRes, was successfully added to the WebWare database.

111610, Production Monitor DB
Description
Creating the tblSeamRes table in the WebWare database...

111611, DB Table Creation Failed
Description
Failed to create WebWare table: tblSeamRes
Consequences
Production Monitor will be unable to log data to the database.
Recommended actions
Check the WebWare server.

111612, DB Table Created
Description
The table, tblSeamRes, was successfully added to the WebWare database.

111613, Production Monitor DB
Description
Creating the tblSeamEv table in the WebWare database...

111614, DB Table Creation Failed
Description
Failed to create WebWare table: tblSeamEv
Consequences
Production Monitor will be unable to log data to the database.
Recommended actions
Check the WebWare server.

111615, DB Table Created
Description
The table, tblSeamEv, was successfully added to the WebWare database.

111616, DB Table Creation Failed
Description
Failed to create WebWare table: tblCycleEv
Consequences
Production Monitor will be unable to log data to the database.
Recommended actions
Check the WebWare server.

111617, DB Table Created
Description
The table, tblCycleEv, was successfully added to the WebWare database.

111618, DB Table Creation Failed
Description
Failed to create WebWare table: tblGapEv
Consequences
Production Monitor will be unable to log data to the database.
Recommended actions
Check the WebWare server.

111619, DB Table Created
Description
The table, tblGapEv, was successfully added to the WebWare database.

111620, Production Monitor Mismatch
Description
The part information for, arg, has changed in task, arg.
Consequences
The reference data stored for this part can no longer be linked to the part program.
Recommended actions
Please delete the reference file to store new data.

111621, Production Monitor Error
Description
The reference data module for part, arg, is already loaded. An attempt will be made to unload the module and then reload.
Task Name: arg

111622, Production Monitor Error
Description
The reference data module for part, arg, is already loaded. An attempt to unload the module failed.
Task Name: arg
6 Trouble shooting by Event log

Consequences
This is an abnormal condition that will prevent Production Monitor from working properly until the problem is resolved.

Recommended actions
Delete the reference module from this task and restart program execution from the main.

111623, Production Monitor Error
Description
The reference data module for part, arg, could not be unloaded.
Task Name: arg

Recommended actions
Restart the program execution from the main.

111624, Production Monitor Error
Description
The reference data for part, arg, could not be read from the stored data file.
Task Name: arg

Probable causes
The data file may contain syntax errors.

Recommended actions
Please delete the reference data file to allow new data to be stored.

111625, Monitor Data Saved
Description
Nominal data was saved successfully for, arg.
Task Name: arg

111626, Production Monitor Error
Description
An error occurred while saving reference data file for part, arg.
Task Name: arg

Consequences
Production Monitor will not be able to perform monitoring activities.

Recommended actions
Report to ABB.

111627, Production Monitor Timer Reset
Description
The cycle timer has been reset to prevent a possible overflow.
Task Name: arg

111628, Production Monitor Timer Reset
Description
The arc timer has been reset to prevent a possible overflow.
Task Name: arg

111629, DB Table Creation Failed
Description
Failed to create WebWare table: tblSmtc1D

Consequences
Production Monitor will be unable to log data to the database.

Recommended actions
Check the WebWare server.

111630, DB Table Created
Description
The table, tblSmtc1D, was successfully added to the WebWare database.

111631, DB Table Creation Failed
Description
Failed to create WebWare table: tblSmtcPart

Consequences
Production Monitor will be unable to log data to the database.

Recommended actions
Check the WebWare server.

111632, DB Table Created
Description
The table, tblSmtcPart, was successfully added to the WebWare database.

111633, DB Table Creation Failed
Description
Failed to create WebWare table: tblSmtcGroove

Consequences
Production Monitor will be unable to log data to the database.

Recommended actions
Check the WebWare server.

111634, DB Table Created
Description
The table, tblSmtcGroove, was successfully added to the WebWare database.
6 Trouble shooting by Event log

<table>
<thead>
<tr>
<th>Event ID</th>
<th>Description</th>
<th>Consequences</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>111635, DB Table Creation Failed</td>
<td>Failed to create WebWare table: tblTchClean</td>
<td>Production Monitor will be unable to log data to the database.</td>
<td>Check the WebWare server.</td>
</tr>
<tr>
<td>111636, DB Table Created</td>
<td>The table, tblTchClean, was successfully added to the WebWare database.</td>
<td></td>
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</tr>
<tr>
<td>111637, DB Table Creation Failed</td>
<td>Failed to create WebWare table: tblNavigSrchSp.</td>
<td>Production Monitor will be unable to log data to the database.</td>
<td>Check the WebWare server.</td>
</tr>
<tr>
<td>111638, DB Table Created</td>
<td>The table, tblNavigSrchSp, was successfully added to the WebWare database.</td>
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<td></td>
</tr>
<tr>
<td>111639, DB Table Creation Failed</td>
<td>Failed to create WebWare table: tblNavigMeas1D.</td>
<td>Production Monitor will be unable to log data to the database.</td>
<td>Check the WebWare server.</td>
</tr>
<tr>
<td>111640, DB Table Created</td>
<td>The table, tblNavigMeas1D, was successfully added to the WebWare database.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>111641, DB Table Creation Failed</td>
<td>WebWare database tables must be created in Automatic Mode.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event ID</th>
<th>Description</th>
<th>Consequences</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>111701, Torch Services Error</td>
<td>Torch services MechClean configuration error. IO arg NOT found.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>111702, Torch Services Error</td>
<td>Torch services MechClean configuration error. Check PROC cfg domain.</td>
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<tr>
<td>111703, Torch Services Error</td>
<td>Torch services MechClean configuration error. Torch Services was unable to find: arg/arg in PROC configuration.</td>
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<tr>
<td>111704, Torch Services Error</td>
<td>Torch services MechClean configuration error. Torch Services tried to access an illegal type: arg/arg in PROC configuration.</td>
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<tr>
<td>111705, Torch Services Error</td>
<td>Torch services MechClean configuration error. Torch Services experienced an unknown error trying to access: arg/arg in PROC configuration.</td>
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</tr>
<tr>
<td>111706, Torch Services Error</td>
<td>Torch services Wirecut configuration error. Torch Services was unable to find: arg/arg in PROC configuration.</td>
<td></td>
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</tr>
<tr>
<td>111707, Torch Services Error</td>
<td>Torch services Wirecut configuration error. Torch Services tried to access an illegal type: arg/arg in PROC configuration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>111708, Torch Services Error</td>
<td>Torch services Wirecut configuration error. Torch Services experienced an unknown error trying to access: arg/arg in PROC configuration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event ID</td>
<td>Type</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------------</td>
<td>------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>111709</td>
<td>Torch Services Error</td>
<td>Torch services Wirecut configuration error. IO arg NOT found.</td>
<td></td>
</tr>
<tr>
<td>111710</td>
<td>Torch Services Error</td>
<td>Torch services MechClean configuration error. Check PROC cfg domain.</td>
<td></td>
</tr>
<tr>
<td>111711</td>
<td>Torch Services Error</td>
<td>Torch services Spray configuration error. Check PROC cfg domain.</td>
<td></td>
</tr>
<tr>
<td>111712</td>
<td>Torch Services Error</td>
<td>Torch services Spray configuration error. Torch Services was unable to find: arg/arg in PROC configuration.</td>
<td></td>
</tr>
<tr>
<td>111713</td>
<td>Torch Services Error</td>
<td>Torch services Spray configuration error. Torch Services tried to access an illegal type: arg/arg in PROC configuration.</td>
<td></td>
</tr>
<tr>
<td>111714</td>
<td>Torch Services Error</td>
<td>Torch services Spray configuration error. Torch Services experienced an unknown error trying to access: arg/arg in PROC configuration.</td>
<td></td>
</tr>
<tr>
<td>111715</td>
<td>Torch Services Warning</td>
<td>Torch services Spray has unconfigured IO.</td>
<td></td>
</tr>
<tr>
<td>111716</td>
<td>Torch Services Warning</td>
<td>Torch services Wirecut has unconfigured IO.</td>
<td></td>
</tr>
<tr>
<td>111717</td>
<td>Torch Services Warning</td>
<td>Torch services MechClean has unconfigured IO.</td>
<td></td>
</tr>
<tr>
<td>111752</td>
<td>Navigator Configuration Error</td>
<td>Navigator configuration error. Navigator was unable to find: arg/arg in PROC configuration.</td>
<td></td>
</tr>
<tr>
<td>111753</td>
<td>Navigator Configuration Error</td>
<td>Navigator configuration error. Navigator tried to access an illegal type: arg/arg in PROC configuration.</td>
<td></td>
</tr>
<tr>
<td>111754</td>
<td>Navigator Configuration Error</td>
<td>Navigator configuration error. Navigator experienced an unknown error trying to access: arg/arg in PROC configuration.</td>
<td></td>
</tr>
<tr>
<td>111755</td>
<td>Navigator error</td>
<td>Sphere with name arg could not be localized.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Probable causes</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nominal point doesn't have sufficient accuracy.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Search radius is too small.</td>
<td></td>
</tr>
<tr>
<td>111756</td>
<td>Navigator Configuration Warning</td>
<td>Navigator has unconfigured IO.</td>
<td></td>
</tr>
<tr>
<td>111800</td>
<td>Illegal tuning parameter</td>
<td>Task: arg&lt;br&gt; Context: arg&lt;br&gt; arg is not a valid tuning parameter. Arcitune only allows parameters 20 to 29 and 31 to 41.</td>
<td></td>
</tr>
<tr>
<td>111801</td>
<td>Illegal Schedule Number</td>
<td>Task: arg&lt;br&gt; Context: arg&lt;br&gt; arg is not a valid schedule number. Arcitune only allows schedules 1 to 99.</td>
<td></td>
</tr>
<tr>
<td>111802</td>
<td>Unsupported SID-file version</td>
<td>Task: arg&lt;br&gt; Context: arg&lt;br&gt; The SID-file version is not supported.</td>
<td></td>
</tr>
</tbody>
</table>
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111803, Default I/O Unit is Not Specified
Description
Task: arg
No default io unit specified
InstancePath: /PROC/ARCI_USER_PROP/arg
Attribute: use_default_io

111804, Configuration Data is Not Found
Description
Task: arg
InstancePath: arg
Attribute: arg

111805, EPROM Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111806, RAM Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111807, External RAM Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111808, Power Supply Voltage 5V Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111809, High DC Voltage Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111810, High Temperature Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111811, High Primary Current Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111812, DC Voltage Error
Description
WDU: 3 V (battery)
PS: +15 VC
I/O unit: arg
Error code: arg
Internal unit: arg

111813, DC Voltage Error
Description
PS: -15 VC
I/O unit: arg
Error code: arg
Internal unit: arg

111814, DC Voltage Error
Description
PS: +15 VB
I/O unit: arg
Error code: arg
Internal unit: arg

111815, Current-servo / Wire speed-servo Error
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111816, Communication Error
Description
Internal bus warning.
I/O unit: arg
Error code: arg
Internal unit: arg
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>I/O unit</th>
<th>Error code</th>
<th>Internal unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>111818</td>
<td>Communication Error</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>111819</td>
<td>Message Lost</td>
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<td></td>
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</tr>
<tr>
<td>111821</td>
<td>Lost Contact with MEK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111822</td>
<td>Lost Contact with LUD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111823</td>
<td>Battery Driven Memory Error</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>111824</td>
<td>Unaccepted Settings</td>
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<td></td>
</tr>
<tr>
<td>111825</td>
<td>Incompatible Settings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111826</td>
<td>Overflow in Transmit Buffer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111827</td>
<td>Overflow in Receive Buffer</td>
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<tr>
<td>111829</td>
<td>Incompatible Weld Data Format</td>
<td></td>
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<tr>
<td>111830</td>
<td>Watchdog Error</td>
<td></td>
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</tr>
<tr>
<td>111832</td>
<td>Stack Overflow</td>
<td></td>
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<tr>
<td>111833</td>
<td>No Water Flow</td>
<td></td>
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<tr>
<td>111834</td>
<td>Lost Contact with TIG Card</td>
<td></td>
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<tr>
<td>111850</td>
<td>Invalid Tuning Parameter</td>
<td></td>
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<tr>
<td>111851</td>
<td>Incompatible Settings</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Context: \textit{arg} \linebreak \textit{arg} is not valid as a tuning parameter. \linebreak MigRobTune allows parameters 20 to 29 and 31 to 41.

**111851, Invalid Schedule Number**

**Description**
Task: \textit{arg} \linebreak Context: \textit{arg} \linebreak \textit{arg} is not a valid schedule number. \linebreak MigRobTune only allows schedules 1 to 99.

**Recommended actions**
Restart the machine. If the fault persists, send for a service technician.

**111852, Unsupported SID File**

**Description**
Task: \textit{arg} \linebreak Context: \textit{arg} \linebreak The SID file version is not supported.

**Recommended actions**
Restart the machine. If the fault persists, send for a service technician.

**111853, Default I/O Unit is Not Specified**

**Description**
Task: \textit{arg} \linebreak Default I/O unit is not specified. \linebreak InstancePath: /PROC/MIGROB_USER_PROP/\textit{arg} \linebreak Attribute: use\_default\_io

**Recommended actions**
Restart the machine. If the fault persists, send for a service technician.

**111854, Configuration Data is Not Found**

**Description**
Task: \textit{arg} \linebreak InstancePath: \textit{arg} \linebreak Attribute: \textit{arg}

**Recommended actions**
Restart the machine. If the fault persists, send for a service technician.

**111855, Schedule does not exist**

**Description**
The schedule \textit{arg} does not exist in the power source \textit{arg}, in \textit{arg}.

**Consequences**
The welding results will not be as expected.

**Recommended actions**
Make sure that the schedule has been created before using it in a weld instruction.

**111856, Program memory error (EPROM)**

**Description**
The program memory is damaged in unit \textit{arg}. \linebreak Fault code: \textit{arg} \linebreak Internal unit: \textit{arg}

**Recommended actions**
Restart the machine. If the fault persists, send for a service technician.

**111857, Microprocessor RAM error**

**Description**
The microprocessor is unable to print/read to the internal memory in unit \textit{arg}.

**Recommended actions**
Restart the machine. If the fault persists, send for a service technician.

**111858, External RAM error**

**Description**
The microprocessor is unable to print/read to the external memory in unit \textit{arg}.

**Recommended actions**
Restart the machine. If the fault persists, send for a service technician.

**111859, 5V power supply low**

**Description**
The supply voltage is too low in unit \textit{arg}.

**Recommended actions**
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

**111860, Intermediate DC voltage outside limits**

**Description**
The voltage is too high or too low in unit \textit{arg}.

**Recommended actions**
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.
111861, High temperature

Description
The thermal overload-cut has tripped in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The current welding process is stopped and cannot be restarted until the cut-out has reset.

Recommended actions
Check that the cooling air inlets or outlets are not blocked or clogged with dirt. Check the duty cycle being used, to make sure that the equipment is not being overloaded.

111862, High primary current

Description
The power unit arg takes too much current from the DC voltage that supplies it.
Fault code: arg
Internal unit: arg

Consequences
The power unit is stopped and cannot be started.

Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

111863, Low battery voltage or power supply

Description
Unit: arg
See description corresponding to the internal unit: arg
WDU: Low battery voltage +3 V
Battery voltage too low in unit arg. If the battery is not replaced, all stored data will be lost.
PS: +15 V power supply
The power supply is too high or too low in unit arg.
Fault code: arg

Recommended actions
Send for a service technician.

111864, -15 V power supply

Description
The power supply is too high or too low in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Send for a service technician.

111865, +24 V power supply

Description
The power supply is too high or too low in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Send for a service technician.

111866, Current-servo / wire speed-servo error

Description
I/O unit: arg
Error code: arg
Internal unit: arg

111867, Communication error (warning)

Description
The load on the system's CAN-bus is temporarily too high in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The power unit/wire feed unit has lost contact with the welding data unit.

Recommended actions
Check that all the equipment is correctly connected. If the fault persists, send for a service technician.

111869, Communication error

Description
The system's CAN-bus has temporarily stopped working due to the load being too high.
Fault code: arg
Internal unit: arg

Consequences
The current welding process stops.

Recommended actions
Check that all the equipment is correctly connected. Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

111870, Messages lost

Description
The microprocessor is unable to process incoming messages sufficiently quickly and information has been lost in unit arg.
Fault code: arg
Internal unit: arg
6 Trouble shooting by Event log

Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

111872, Lost contact with MEK
Description
Unit: arg
Fault code: arg
Internal unit: arg

111873, Lost contact
Description
The welding data unit(WDU) has lost contact with the power unit(PS) in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The current welding process stops.

Recommended actions
Check the cables. If the fault persists, send for a service technician.

111874, Memory error in battery-supplied data memory RAM
Description
The battery has lost voltage in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Turn off the mains power supply to reset the unit. The welding data unit is reset.

111875, Non-permitted set values stored in RAM
Description
Non-permitted values have been discovered at start-up in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Delete all data contained in the welding data unit. Turn off the mains power supply to reset the unit. The welding unit is reset.

111876, Incompatible set values stored in RAM
Description
Non-permitted welding data combinations have been specified in unit arg.

Fault code: arg
Internal unit: arg

Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

111877, Transmit buffer overflow
Description
The welding data unit does not manage to transmit information to the other units sufficiently quickly in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Turn off the mains power supply to reset the unit.

111878, Receiver buffer overflow
Description
The welding data unit does not manage to process information from the other units sufficiently quickly.
Fault code: arg
Internal unit: arg

Recommended actions
Turn off the mains power supply to reset the unit.

111880, Incompatible weld data format
Description
I/O unit: arg
Error code: arg
Internal unit: arg

111881, Program error
Description
Something has prevented the processor from performing its normal duties in the program in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The program restarts automatically. The current welding process will be stopped.

Recommended actions
Review the handling of welding programs during welding. If the fault is repeated, send for a service technician.

111883, Lost program data
Description
Program execution does not work in unit arg.
6 Trouble shooting by Event log

Fault code: arg
Internal unit: arg

**Recommended actions**
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

---

**111884, No water flow**

**Description**
I/O unit: arg
Error code: arg
Internal unit: arg

**111885, Lost contact with TIG card**

**Description**
I/O unit: arg
Error code: arg
Internal unit: arg

**111900, Item target buffer full**

**Description**
Target buffer full for Work Area arg.
Target number: arg.
Scene number arg.

**111901, Push without any strobe**

**Description**
Push received without any corresponding strobe signal is received for Work Area arg.
Push scene number arg
Latest received strobe arg

**Recommended actions**
Check hardware connections

**111902, Push received too late**

**Description**
Push of items was received too late to Work Area arg.
Corresponding Work Object already overwritten.
Push scene number arg
Latest received strobe arg

**Recommended actions**
Check the position generation frequency.

**111903, Conveyor limits error**

**Description**
Error in Work Area arg

---

Conveyor arg
The limits are incorrect specified.

**Recommended actions**
Required: Enter < Exit
or: Enter < Start < Stop < Exit
Given: arg

---

**111904, Trig distance warning**

**Description**
Trig distance is too long for conveyor arg.
Trig distance is set to maximum.
Max: arg
Given: arg.

---

**111905, Trig distance warning**

**Description**
Trig distance is too short for conveyor arg.
Trig distance is set to minimum.
Min: arg
Given: arg.

---

**111913, Prepared for PickMaster option not installed.**

**Description**
The Prepared for PickMaster option has not been correctly installed in the system.

**Recommended actions**
Reinstall the system using a proper key containing the Prepared for PickMaster option.

---

**111914, Uplink message failed**

**Description**
The system failed to send an uplink message.

**Recommended actions**
Check network connection.
Check state of remote system.

---

**111915, Failed to open Work Object**

**Description**
An error occurred when opening Work Object: arg for Work Area: arg.
Status arg.

**Consequences**
The program execution is immediately halted.
Probable causes
No Work Object \textit{arg} exist in loaded RAPID modules.

Recommended actions
Check that the Work Object data name exists.

\textbf{111916, Tool name is missing for target}

Description
There was no tool for target in Work Area: \textit{arg}.
Status \textit{arg}.

Recommended actions
Check the tool name for target.

\textbf{111917, Action list name missing}

Description
There was no action list name for target in Work Area: \textit{arg}.
Status \textit{arg}.

Recommended actions
Check the tool name for target.

\textbf{111918, Work Object name is missing for Work Area}

Description
There was no Work Object for Work Area: \textit{arg}.
Status \textit{arg}.

Recommended actions
Check the Work Object name for Work Area.

\textbf{111920, Missing toodata for generated operation set}

Description
Toodata not found for generated operation set on work area \textit{arg}.

Consequences
The project can not be run.

Probable causes
Toodata not properly configured for the robot in the PickMaster line configuration.

Recommended actions
Check used tooldatas in the PickMaster line configuration.

\textbf{111921, Target reset after move of Program Pointer}

Description
The current target in work area "\textit{arg}" with \textit{arg} products are reset to its origin and will be executed again.

\textbf{111922, Targets lost after move of Program Pointer}

Description
\textit{arg} targets with \textit{arg} products in work area "\textit{arg}" are lost because the operation was interrupted.

Consequences
The current target and operation \textit{arg} from layer \textit{arg} will be lost.

Probable causes
The PP was moved without any target was finished.
Since the program context cannot be secured, the whole operation will be executed from beginning.

Recommended actions
Make sure the tool is empty and cleared, since the whole cycle will be executed from beginning.
Restart in reduced speed to avoid unexpected behavior.

\textbf{111923, Targets lost after LOST acknowledge}

Description
\textit{arg} targets with \textit{arg} products in Work Area "\textit{arg}" are lost because the operation was interrupted.

Consequences
The current target and operation \textit{arg} from layer \textit{arg} will be lost.

Probable causes
The last target acknowledge was set to LOST after at least one target in the operation was finished.
Since the operation cannot be finished, next operation will be executed.

Recommended actions
Make sure the tool is empty and cleared, since the whole cycle will be executed from beginning. An unfinished operation may be finished manually.
Restart in reduced speed to avoid unexpected behavior.
111924, Operation handler not in use

Description
Task: arg
Function arg failed. The current targets in this operation are lost.
Program Ref: arg

Consequences
It is not possible to finish this operation. The execution will stop if no action is taken in an ERROR handler.

Probable causes
This might be caused by a pulse on the Robot Execution signal after the operation descriptor has been fetched. It is more likely to occur if the operation is a multidrop.

Recommended actions
1. Move PP to main and restart the execution.
2. Use an ERROR handler and run i.e. ExitCycle.
Recovery: arg

111925, Failed to open PM work area signal

Description
An error occurred when opening signal arg configured in PickMaster for work area: arg. (Internal status arg.)

Consequences
The current PickMaster project will not execute.

Probable causes
The work area signal is missing in the I/O configuration of the robot controller.
The I/O unit is not running.

Recommended actions
1. Check the signal name in the Work Area configuration of PickMaster.
2. Check the signal name in the I/O configuration of the robot controller.
3. Check if the I/O unit is running.

111926, Triggering too frequently

Description
A new pulse on signal arg is to be requested before the previous pulse has finished. The signal is still high. The configured pulse length is arg ms.

Consequences
The operation fails to complete its task.

Probable causes
The pulse length is too long or the pick and place operation is very short.

Recommended actions
Decrease the configured pulse length.

111927, PM group signal too short for work area

Description
PickMaster group signal arg configured for work area arg has too few bits. Required number of bits is arg.

Consequences
The current project can not execute.

Probable causes
The signal has to few bits defined in the I/O configuration of the controller.

Recommended actions
Check the controller I/O configuration of the signal.

111950, No PickMaster Flow to Retrieve

Description
Task: arg
Instruction arg failed.
Program Ref: arg

Probable causes
There is no flow ready when executing instruction. No arg or a low value is used on arg in this instruction.

Recommended actions
Use an error handler and do a RETRY on instruction. If a arg is used, and this error occur often, increase the arg.
Recovery: arg

111951, Value Error

Description
Task: arg
Illegal value in argument arg.
Program Ref: arg

Consequences
The program execution is immediately halted.

Probable causes
Error in the RAPID program.

Recommended actions
Check the value. arg must be a positive integer.

111952, Execution Error

Description
Task: arg
The task is not allowed to execute the instruction arg.
Program Ref: arg
6 Trouble shooting by Event log

Probable causes
The task is not configured to control mechanical units

Recommended actions
Change the configuration or remove the instruction.

111953, Can not retrieve operation

Description
Task: arg
Instruction arg failed.
Program Ref. arg

Probable causes
There is no operation to retrieve when executing instruction. No arg or a low value is used on arg in this instruction.

Recommended actions
Use an error handler and do a RETRY on instruction. If a arg is used, an this error occur often, increase the arg.

Recovery: arg

111954, Can not retrieve targets

Description
Task: arg
Instruction arg failed.
Program Ref. arg

Probable causes
There is no target ready when executing instruction. No arg or a low value is used on arg in this instruction.

Recommended actions
Use an error handler and do a RETRY on instruction. If a arg is used, an this error occur often, increase the arg.

Recovery: arg

111956, Wrong value on in parameter arg

Description
Task: arg
Parameter arg has value arg. The only values that can be used for arg are the predefined values for:

arg

Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
Wrong value on in parameter arg.

Recommended actions
Change value on in parameter arg.

111957, No active project

Description
Task: arg
Instruction/function arg has detected that the project has been stopped. The RAPID can not continue its execution without an active project.

Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
1) Project has been stopped.
2) A power fail has occurred, and the RAPID program has been started without starting the project again.
3) A warm start has been done, and the RAPID program has been started without starting the project again.

Recommended actions
Start a project.
In some cases PP must be moved to main.

111958, No active project

Description
Task: arg
Instruction arg failed.
Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
There is no project running when executing instruction. No arg or a low value is used on arg in this instruction.

Recommended actions
Use an error handler and do a RETRY on instruction.

Recovery: arg

111959, Not valid work object data

Description
Task: arg
Instruction arg failed.
No Work Area has reference to work object data named arg.

Program Ref. arg

Consequences
The program execution is immediately halted.

Probable causes
Wrong value on in parameter arg.

Recommended actions
Use an error handler and do a RETRY on instruction with another work object data as parameter.

Recovery: arg
111960, Invalid descriptor used

**Description**
Task: arg
Instruction arg failed.
The Work Area descriptor that is used refers to an object that does not exist.
Program Ref. arg

**Consequences**
The program execution is immediately halted.

**Probable causes**
An instruction/function is executed without a valid descriptor.
The Work Area descriptor has not been fetched correctly, or it is a restart after power fail.

**Recommended actions**
Check manual about how to get valid descriptors for Work Areas.

111961, No PickMaster Flow to Retrieve

**Description**
Task: arg
Instruction arg failed.
The flow has been deleted when the instruction arg returned the flow.

**Consequences**
The program execution is immediately halted.

**Probable causes**
The flow has been removed.

**Recommended actions**
Restart project.

111962, Invalid target handle

**Description**
Task: arg
Instruction arg failed.
The target handle that is used refer to an object that does not exist or is not initialized.
Program Ref. arg

**Consequences**
The program execution is immediately halted.

**Probable causes**
An instruction/function is executed without a valid descriptor.
The target handle has not been fetched correctly, or it is a restart after power fail.

**Recommended actions**
Restart the project or rewrite the RAPID program.

111963, Invalid action handle

**Description**
Task: arg
Instruction arg failed.
The action handle that is used refer to an object that does not exist or is not initialized.
Program Ref. arg

**Consequences**
The program execution is immediately halted.

**Probable causes**
An instruction/function is executed without a valid handle.
The action handle has not been fetched correctly, or it is a restart after power fail.

**Recommended actions**
Restart the project or rewrite the RAPID program.

111964, Error event trigged

**Description**
Task: arg
Instruction arg failed.
The Work Area arg is set in error state after an error event.
Program Ref. arg

**Consequences**
It is not possible to execute the program until the error is solved.

**Probable causes**
1. The error source signal has set the Work Area in error state.
2. Stop immediately has been used from FlexPendant.
3. An internal process error has occurred.

**Recommended actions**
Solve the cause of the error situation and use one of the restart options from FlexPendant

112000, Failed to open signal

**Description**
An error occurred when opening signal arg for arg.
The signal should be of type arg.
Status arg.

**Consequences**
The execution is stopped immediately.

**Probable causes**
Wrong signal type or signal name.

**Recommended actions**
Check the signal name and type.
6 Trouble shooting by Event log

112001, PickMaster Flow Error

Description
The flow with name arg is in an internal error state.

Consequences
The flow is stopped and will not be used until the project is stopped and restarted again.

Probable causes
An internal error has occurred.

Recommended actions
Save the system diagnostics under Control Panel - Diagnostics and send to Robotics Product Support.

112002, Failed to Retrieve PickMaster Format

Description
The flow arg failed to request a format with index arg.
The reply came from Work Area arg.

Consequences
The flow is stopped immediately.

Probable causes
The setup file is corrupted or incomplete.
Wrong response from IO signals.

Recommended actions
Verify the project setup using PickMaster PC application.
Look for internal errors.

112003, Uplink message failed

Description
The system failed to send an uplink message.
Status: arg

Recommended actions
Check network connection.
Check state of remote system.

112050, Project arg starting

Description
Project arg is starting.

112051, Project arg started

Description
Project arg is now started.

112052, Project arg stopped

Description
Project arg stopped

112053, Failed to start project arg

Description
Failed to start project arg.
Check event logs for more information why the project could not be started.
Check for internal errors too.

Consequences
The project is not started, it is set in stop state.

Probable causes
The XML file is corrupted, or some internal error occurred.

Recommended actions
Check XML file, and check event logs for more information why the project could not be started.

112054, Project arg already started

Description
Project arg is already started.
Stop the project, and start it again if the project has been changed.

Consequences
The execution will continue.

Probable causes
Multiple use of RAPID instruction PmStartProj with the same project name arg.

Recommended actions
Stop project if the setup has been changed, and start it again.

112055, A project is already started

Description
A project arg is already started. Another project can not be started until the already started project is stopped.

Consequences
The project arg is not started.
The program execution is immediately halted if the start order was from RAPID.

Probable causes
Multiple start orders using different project names.

Recommended actions
Check the projects that are started. Remove one of the starts.
112056, Data List Full
Description
Internal data list was full when trying to store the variable arg.

Consequences
Targets depending on this variable will not be executed.

Probable causes
The project is probably too large.

Recommended actions
Reconfigure the project.

112057, Project name is an empty string
Description
The name of the project to start is not valid.

Consequences
Project not started. The program execution is immediately halted.

Probable causes
The project name has not been initiated.

Recommended actions
Check the project name used when starting project.

112058, Stop of project ordered during start
Description
A stop order has been received during startup of project arg.

Consequences
Project arg is not started.

Probable causes
Stop during start of project. The stop can be from another client or another RAPID task.

Recommended actions
Do not stop project until it has been started correctly.

112059, Ongoing start of project
Description
A start of the project arg is executed right now.

Consequences
If the start order comes from RAPID, the RAPID execution is immediately stopped.

Probable causes
Start orders from multiple clients or RAPID tasks at the same time.

Recommended actions
Start project only one time.

112060, Stop of project ordered during start
Description
RAPID execution stopped during start of project. The project arg is not started.

Consequences
RAPID execution is immediately stopped. Project arg is not started.

Probable causes
A project stop order from PickMaster, FlexPendant or RAPID when a start of a project is executed.

Recommended actions
Try to start project again.

112100, PickMaster project file is too old
Description
The arg file is not supported by this RobotWare.

Consequences
The required project file is too old and the project is therefore stopped.

Probable causes
The PickMaster version used to configure this project is too old for this RobotWare.

Required version by RobotWare: arg
PickMaster version used to create file: arg

Recommended actions
Update the project using at least version arg of PickMaster.

112101, Required PickMaster file could not be opened
Description
The file below could not be opened.

Status: arg

Consequences
The project can not be loaded or can not continue execution.

Probable causes
The file is missing or has been tampered.

Recommended actions
Re-transfer the project from the PickMaster PC.

112102, Missing attribute in node
Description
The node is missing attribute "arg".
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Consequences
The requested information could not be found. The execution of the project is stopped.

Probable causes
The PickMaster project file has been tampered.

Recommended actions
Re-transfer the project from the PickMaster PC.

112150, Failed to request new target set

Description
The target pump process "arg" failed to request new target set from project.

Consequences
Last trigged operation set can not be pushed into the Work Area queue.

Probable causes
The triggered operation set (arg) is not configured in the project.
The triggered combination of product I/O value (arg) and format I/O value (arg) is not configured in the project.

Recommended actions
Review the project setup.
Check the product and format selection groups signal values.

112151, Incorrect target set

Description
The target set sent to the pump process "arg" is not the requested one.

Consequences
Last trigged operation set can not be pushed into the Work Area queue.

Probable causes
The triggered operation set is not correct (arg) or the triggered I/O values are not correct (arg)

Recommended actions
Review the project setup.
Check the selection group signal values.

112152, Response error for work area

Description
Response error occurred for slave work area arg.
Targets generated (product = arg, format = arg) does not match positions requested (product = arg, format = arg).

Consequences
The work area has entered a response error state.
The robot will not access the work area until the correct targets are generated.

Any flow using the work area may become blocked from execution.

Probable causes
The product selection I/O values for position request and target generation is not the same.
The format selection I/O values for position request and target generation is not the same.

Recommended actions
Verify sequence logic and I/O values of external equipment setting the product and/or format I/O signals (i.e. a PLC).
To recover from the response error:
1) Verify that the requested targets are available on the work area.
2) Trigger a new target generation with correct I/O selection values.

112200, Failed to Open Signal

Description
An error occurred when opening the Trigger Event Signal.

Signal name: arg

Consequences
It will not be possible to use any PickMaster error recovery functionalities that can be generated from I/O signals.

Probable causes
The signal name is not configured in the IO configuration.

Recommended actions
Verify the Trigger Event Signal name using the PickMaster PC application.

112201, Failed to Open Signal

Description
An error occurred when opening the Error Source Signal.

Signal name: arg

Consequences
It will not be possible to set any PickMaster source in an error state.

Probable causes
The signal name is not configured in the IO configuration.

Recommended actions
Verify the Error Source name using the PickMaster PC application.

112202, Failed to Open Signal

Description
An error occurred when opening the Event Message Signal.

Signal name: arg

Consequences
It will not be possible to use the PickMaster message functionality.

Probable causes
The signal name is not configured in the IO configuration.
### 6 Trouble shooting by Event log

**Recommended actions**
Verify the Event Message name using the PickMaster PC application.

---

**112203, Wrong PickMaster Error Source Value**

**Description**
The value that was read, `arg`, after an event was trigged does not match one or several configured bits in the IO signal `arg`.

**Consequences**
The system goes to SYS STOP state.

**Recommended actions**
Verify the configuration using the PickMaster PC application.
Verify external equipment generating the signal value.

---

**112204, Wrong PickMaster Message value**

**Description**
The value that was read, `arg`, after an event was trigged does not match any configured values in the IO signal `arg`.

**Recommended actions**
Verify the configuration using the PickMaster PC application.
Verify external equipment generating signal value.

---

**112250, PickMaster project size limitation**

**Description**
Not enough memory for PickMaster project.

**Consequences**
Not possible to run the selected PickMaster project.

**Probable causes**
The selected project contains too much data to be handled by the robot controller.

**Recommended actions**
Reduce number of objects in the PickMaster project, e.g. reduce number of work areas, operation sets, flows, formats and products.
Reduce object complexity in the PickMaster project, e.g. reduce number of layers in used pallet patterns.

---

**112350, Target configuration outside reach**

**Description**
Task: `arg`  
A valid robot configuration within reach was not found for target.  
Program Ref: `arg`

**Consequences**
The robot is not able to move to the target position.

**Probable causes**
The target position is outside reach.  
A robot configuration was not found within reach for the target.

---

**112351, Failed to calculate axis limit**

**Description**
Task: `arg`  
Calculating the axis limit failed.  
Program Ref: `arg`

**Consequences**
The axis angle can not be calculated due to the angel limitations.

**Probable causes**
Too narrow angel limits.

**Recommended actions**
Review the limits for the instructions.
Use an error handler and do a RETRY on instruction.
Recovery: `arg`

---

**112352, Wrong limitation value**

**Description**
Task: `arg`  
The coordinate limits are not valid.  
Program Ref: `arg`

**Consequences**
The coordinate is not possible to calculate.

**Probable causes**
Wrong limit values.

**Recommended actions**
Review the limits for the instructions.
Use an error handler and do a RETRY on instruction.
Recovery: `arg`

---

**112353, Wrong intermediate part value**

**Description**
Task: `arg`  
The intermediate part value is not valid. The InterMidPart argument must be between 0 and 1.  
Program Ref: `arg`

**Consequences**
The intermediate position is not possible to calculate.

**Probable causes**
Wrong InterMidPart value.
6 Trouble shooting by Event log

Recommended actions
Review the InterMidPart for the instruction.

112354, Unknown event signal name

Description
Task: arg
The event signal name arg is unknown.
Program Ref: arg

Consequences
The event can not be defined.

Probable causes
Wrong signal name in the PickMaster project or line configuration.

Recommended actions
Review the signal name in the PickMaster project or line configuration.

112355, Too many events

Description
Task: arg
There are too many trig events defined for one move. Maximum 6 are allowed but in this case there are arg defined.
Program Ref: arg

Consequences
All events can't be set.

Probable causes
Error in the PickMaster configuration.

Recommended actions
Review the PickMaster configuration.

112356, Unknown event type

Description
Task: arg
The event type arg is unknown.
Program Ref: arg

Consequences
The event can't be set.

Probable causes
Error in the RAPID code.
Error in the PickMaster configuration.

Recommended actions
Check if the event type number is defined among the built-in variables of type pm_eventtype.
Review the PickMaster configuration.

112357, Unknown target action type

Description
Task: arg
The target action type arg is unknown.
Program Ref: arg

Consequences
The action can't be performed.

Probable causes
Error in the RAPID code.
Error in the PickMaster configuration.

Recommended actions
Check if the action type number is defined among the built-in variables of type pm_actiontype.
Review the PickMaster configuration.

112358, Unknown move type

Description
Task: arg
The move type arg is unknown.
Program Ref: arg

Consequences
The move can't be performed.

Probable causes
Error in the RAPID code.
Error in the PickMaster configuration.

Recommended actions
Check if the move type number is defined among the built-in variables of type pm_movetype.
Review the PickMaster configuration.

112359, Stack search detected empty stack

Description
Stack search detected empty stack.
Task: arg
Instruction arg failed.
Program Ref: arg

Consequences
Not possible to finish current operation unless an error handler is implemented.

Probable causes
1) Stack is empty or:
2) Tool center point for Search Tool data, Tool configuration, is not correctly defined.
3) The expected location of the stack is not correct.
4) The search stop signal was not triggered correctly.
Recommended actions
If the stack not is empty:
Check definition of tool center point for Search Tool data.
Check definition of work object, tune frame, work area frame and displacement frame.
Check that the search stop signal is triggered correctly.
If the stack is empty:
This error can be recovered using the error handlers of the Operate() and OperateSequence() routines.
Recovery: arg
1) Set the Redo Search signal after adjusting the stack.
2) Use RETRY to rerun Operate.

112360, Stack search adjusted stack layers
Description
Stack search adjusted the number of available layers in stack.
Task: arg
Instruction: arg.
Program Ref: arg
Probable causes
Actual stack height was lower than configured in PickMaster.
Recommended actions
No actions are required.
The default error handlers of the Operate() and OperateSequence() routines will recover the error.
Recovery: arg

112361, Unknown search type
Description
Task: arg
Search type arg is unknown.
Program Ref: arg
Consequences
Stack search can not be completed.
Probable causes
Errors in rapid code.

112362, Unknown search stop type
Description
Task: arg
Search stop type arg is unknown.
Program Ref: arg
Consequences
Stack search can not be completed.

112363, Stack search stop height mismatch
Description
Task: arg
The configured stop height = arg mm, was reached during stack search movement without detecting the stack height. The bottom layer of the stack is expected below the stop height.
Program Ref: arg
Consequences
The stack height could not be properly adjusted after stack search.
Probable causes
Errors in rapid code.

112364, PickMaster Tool Event Timeout
Description
Task: arg
A timeout has occurred while waiting for signal arg to get its correct value(arg).
Program Ref: arg
Consequences
The robot movement is halted until the signal condition is met.
A new wait period is requested and the timeout is set to arg s.

112365, Not Valid Signal
Description
Task: arg
The signal arg is not correct used for current instruction.
Program Ref: arg
Consequences
The RAPID execution will stop immediately and it is not possible to recover from this error until the faulty signal is corrected.
Probable causes
1. The signal is unknown in the system. If the signal is defined in the RAPID program, it must be connected to the configured signal with instruction AliasIO.
2. Signal argument is outside allowed limits.
3. There is no contact with the IO unit. The unit may have been disabled (IODisable "UNIT1", 1.). No power to the unit.
Recommended actions

All signals (except AliasIO signals) must be defined in the system parameters and cannot be defined in the RAPID program.

Used group digital signal cannot set required value according to configuration in system parameters.

112367, The Requested Project Could Not Be Found

Description
Task: arg
The requested project arg could not be found in the PickMaster project folder. The project can be identified both with its name and its selection value.
Program Ref: arg

Consequences
It is not possible to get any information about the project.

Probable causes
1. The requested project is not transferred from PickMaster PC.
2. The mapping between project and signal is wrong or missing.

Recommended actions
Recovery: arg

112368, The Requested Flow Could Not Be Found

Description
Task: arg
The requested flow arg could not be found in the loaded project. The flow can be identified both with its name and its selection value.
Program Ref: arg

Consequences
It is not possible to get any information about the flow.

Probable causes
1. The requested flow is not configured in the project.
2. The mapping between flow and signal is wrong or missing.

Recommended actions
Recovery: arg

112369, The Requested Flow Could Not Be Found

Description
Task: arg
The requested flow arg could not be found in the loaded project.
Program Ref: arg

Consequences
The RAPID program will immediately be halted.

Probable causes
The requested flow is not configured in the project.

Recommended actions
Check that the flow name is a member of the project.

112370, Not a Valid Stop Option

Description
Task: arg
The supplied stop option's value is arg. The supported value must be in the range arg.
Program Ref: arg

Consequences
It is not possible to stop the flow arg.

Recommended actions
Recovery: PM_ERR_INVALID_FLOW_STOP_OPTION

112371, No Running Project

Description
Task: arg
There is no running project and the flow arg can for that reason not be accessed.
Program Ref: arg

Probable causes
The project has been stopped or is not yet started.

Recommended actions
Recovery: arg

112372, Missing PickMaster signals

Description
Task: arg
One or more of the IO signals that is used for managing projects and flows are missing.
Program Ref: arg

Consequences
It is not possible to start or stop flows from the IO interface. Project status signal might also be incorrect.

Probable causes
The signals are not and/or wrong configured in the IO configuration. One reason can be that an old backup is used.

Recommended actions
This message can be ignored if the IO interface is not used.
112373, The Requested Work Area Could Not Be Found

Description
Task: arg
The requested Work Area with selection number or variable name arg could not be found in the loaded project. The Work Area can be identified both with its descriptor and its selection value.
Program Ref: arg

Consequences
It is not possible to get any information about the Work Area.

Probable causes
1. The requested Work Area is a RAPID variable that is not initialized.
2. The mapping between Work Area and signal value is wrong or missing.

Recommended actions
Recover: arg

112374, Intermediate position outside reach

Description
An intermediate position cannot be reached by arg when moving from work area arg to work area arg. Part of intermediate movement = arg %.
Program reference: arg

Consequences
The robot cannot perform the movement.

Probable causes
Restrictions on x, y or z of the intermediate position.

Recommended actions
Reduce restrictions on x, y, or z of the intermediate position in the RAPID program, i.e. increase MaxZ or decrease MinZ.

112375, Intermediate axis position outside reach

Description
An intermediate axis position cannot be reached by arg when moving from work area arg to work area arg. Part of intermediate movement = arg %.
Program reference: arg

Consequences
The robot cannot perform the movement.

Probable causes
Restrictions on axis angles of the intermediate position.

Recommended actions
Reduce restrictions on axes angles of the intermediate position in the RAPID program, e.g. increase MaxAngle, decrease MinAngle.

112376, Required WorkArea is not valid

Description
Task: arg
PmSetRecoverAction with selected recover action requires a valid WorkArea descriptor.
Program Ref: arg

Probable causes
1. Recover action PM_RECOVER_REDO_LAYER and PM_RECOVER_NEXT_PALLET requires the optional argument WorkArea to be set.
2. The WorkArea descriptor is not initialized.
3. The WorkArea is not a part of the flow arg.

Recommended actions
Recover: arg

112377, Faulty Recover Action

Description
Task: arg
arg is not one of the supported recover actions.
Program Ref: arg

Consequences
It will not be possible to start the Flow arg if it is set in error state.

Probable causes
The recover action is not one of PM_RECOVER_CONTINUE_OPERATION, PM_RECOVER_REDO_LAYER, PM_RECOVER_NEXT_PALLET or PM_RECOVER_REDO_LAST_PICK.

Recommended actions
Recover: arg

112378, Flow is already starting up

Description
Task: arg
The flow arg is already starting up. Only one call to PmFlowStart is allowed at each time.
Program Ref: arg

Consequences
The RAPID program is immediately halted.

Recommended actions
Check the RAPID program for multiple use of PmFlowStart to same flow.

112379, Wrong flow state

Description
Task: arg
It is not possible to start flow arg in current state.
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Program Ref: arg

Consequences
The RAPID program is immediately halted.

Probable causes
The flow is probably set in a sever error state that can not be recover from.

Recommended actions
Recover: arg

112380, Failed to recover from an error state

Description
Task: arg
The start of flow arg from an error state failed.

Program Ref: arg

Consequences
The RAPID program is immediately halted.

Probable causes
The flow can only recover from an error with PM_RECOVER_REDO_LAST_PICK if the first item is picked and no items are placed.

Recommended actions
Recover: arg

112381, Redo last pick is not allowed in current position

Description
Task: arg
The flow arg can not recover from the error situation with recover action PM_RECOVER_REDO_LAST_PICK.

Program Ref: arg

Consequences
The flow can not be started until a valid recover action has been set.

Probable causes
The project has been stopped or is not yet started.

Recommended actions
Recovery: arg

112382, Project info contains no valid data for current task

Description
Task: arg
Failed to read project info data.

Program Ref: arg

Consequences
It is not possible to get any information about project settings, i.e. the names on modules that should be loaded.

Probable causes
The project is already started when a start order from the IO interface is received.

Recommended actions
Stop project and start it again via the IO interface.

112383, No Running Project

Description
Task: arg
There is no running project and the work area with selection number or variable name arg can for that reason not be accessed.

Program Ref: arg

Probable causes
The project has been stopped or is not yet started.

Recommended actions
Recovery: arg

112384, Invalid default height

Description
Task: arg
The I/O value of signal arg does not correspond to a valid default height.

Program Ref: arg

Consequences
It was not possible to set the default height.

Probable causes
The I/O value of arg does not correspond to a valid default height selection.

Recommended actions
Make sure that arg is set to a proper value before arg is pulsed.

112385, Flow recover with redo last pick

Description
The Flow arg will redo last unfinished operation at next flow start.

Recommended actions
Verify that:
- The tool is empty
- Products from last operation are restored on arg
- The reason for the stop is solved.

112394, Flow recover with continue pick-place

Description
The Flow arg will restart from where it was stopped at next flow start.

Verify that the fault causing the stop has been handled.

Recommended actions
Verify expected number of products:
Tool: arg
WorkArea name/Number of products/Layer number
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112395, Flow recover with restart layer

Description
The Flow arg will restart from beginning of layer arg on WorkArea arg at next flow start.

Recommended actions
Verify that:
- The reason for the stop is solved
- The tool is empty
- Following WorkAreas are empty:
  arg

112396, Flow recover with next pallet

Description
The Flow arg will restart from beginning of next pallet on WorkArea arg at next flow start.

Recommended actions
Verify that:
- The reason for the stop is solved.
- The tool is empty
- Following WorkAreas are empty:
  arg

112397, Flow recover with redo last pick

Description
The Flow arg will redo last unfinished operation at next flow start.

Recommended actions
Verify that:
- The tool is empty
- New products can be supplied on arg
- The reason for the stop is solved.

112398, arg

Description
arg

112399, PickMaster Flow Stopped Immediately

Description
The stop option Stop Immediately has been used from the PickMaster application on FlexPendant.

Consequences
The Flow arg is stopped immediately and a restart of the flow has to be performed from one of the error restart options. The RAPID program is stopped if the flow is active in any palletizing operation.

112400, Invalid tuning parameter

Description
Task: arg
Context: arg
arg is not a valid tuning parameter.

112401, Schedule number out of range

Description
Task: arg
Context: arg
arg is not a valid schedule number.
Valid schedules numbers are in the range: arg to arg.

112402, SID file is not compatible

Description
Task: arg
Context: arg
The SID file version is not compatible.

Consequences
The SID file has not been loaded into power source memory.

Probable causes
The SID file was saved from a different power source type or the SID file has become corrupted.

Recommended actions
If the file has been transferred with FTP program. Are you sure that the FTP program uses binary transfer mode for this SID file?
If possible, try to recreate the SID file from the origin.

112403, Default I/O unit not defined

Description
Task: arg
The default I/O unit is not defined in configuration.
InstancePath: /PROC/ARISTOMIG_INT_USER_PROP/arg
Attribute: use_default_io

112404, Configuration data not found

Description
Task: arg
InstancePath: arg
Attribute: arg
112405, SID file corrupt

Description
Task: arg
Context: arg
The SID file is not in the correct format or the file size is incorrect.

Consequences
All the data was not recovered from the file.

Recommended actions
Verify the schedules in the power source. All data might not be recovered.

112406, Invalid tuning parameter

Description
Task: arg
Context: arg
arg is not a valid tuning parameter in instance arg.

112407, Schedule does not exist

Description
The schedule arg does not exist in the power source arg, in arg.

Consequences
The welding results will not be as expected.

Recommended actions
Make sure that the schedule has been created before using it in a weld instruction.

112410, Program memory error (EPROM)

Description
The program memory is damaged in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Restart the machine. If the fault persists, send for a service technician.

112412, External RAM error

Description
The microprocessor is unable to print/read to the external memory in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Restart the machine. If the fault persists, send for a service technician.

112413, 5V power supply low

Description
The power supply voltage is too low in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The current welding process is stopped and starting is prevented.

Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

112414, Intermediate DC voltage outside limits

Description
The voltage is too high or too low in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The power unit is stopped and cannot be started.

Probable causes
Too high a voltage can be due to severe transients on the mains power supply or to a weak power supply (high inductance of the supply or a phase missing).

Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

112415, High temperature

Description
The thermal overload-cut has tripped in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The current welding process is stopped and cannot be restarted until the cut-out has reset.
Recommended actions
Check that the cooling air inlets or outlets are not blocked or clogged with dirt. Check the duty cycle being used, to make sure that the equipment is not being overloaded.

112416, High primary current

Description
The power unit arg takes too much current from the DC voltage that supplies it.
Fault code: arg
Internal unit: arg

Consequences
The power unit is stopped and cannot be started.

Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

112417, Low battery voltage or power supply

Description
Unit: arg
See description corresponding to the internal unit: arg
WDU: Low battery voltage +3 V
Battery voltage too low in unit arg. If the battery is not replaced, all stored data will be lost.
PS: +15 V power supply
The power supply is too high or too low in unit arg.
Fault code: arg

Recommended actions
Send for a service technician.

112418, -15 V power supply

Description
The power supply is too high or too low in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Send for a service technician.

112419, +24 V power supply

Description
The power supply is too high or too low in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Send for a service technician.

112420, Current-servo / wire speed-servo error

Description
I/O unit: arg
Error code: arg
Internal unit: arg

112421, Communication error (warning)

Description
The load on the system's CAN-bus is temporarily too high in unit arg.
Fault code: arg
Internal unit: arg

Consequences
The power unit/wire feed unit has lost contact with the welding data unit.

Recommended actions
Check that all the equipment is correctly connected. If the fault persists, send for a service technician.

112422, Communication error

Description
The system's CAN-bus has temporarily stopped working due to the load being too high.
Fault code: arg
Internal unit: arg

Consequences
The current welding process stops.

Recommended actions
Check that all the equipment is correctly connected. Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

112423, Communication error

Description
The microprocessor is unable to process incoming messages sufficiently quickly and information has been lost in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

112424, Messages lost

Description
The microprocessor is unable to process incoming messages sufficiently quickly and information has been lost in unit arg.
Fault code: arg
Internal unit: arg

Recommended actions
Send for a service technician.

112426, Lost contact with MEK

Description
Unit: arg
Fault code: arg
Internal unit: arg
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112427, Lost contact
Description
The welding data unit (WDU) has lost contact with the power unit (PS) in unit arg.
Fault code: arg
Internal unit: arg
Consequences
The current welding process stops.
Recommended actions
Check the cables. If the fault persists, send for a service technician.

112428, Memory error in battery-supplied data memory RAM
Description
The battery has lost voltage in unit arg.
Fault code: arg
Internal unit: arg
Recommended actions
Turn off the mains power supply to reset the unit. The welding data unit is reset.

112429, Non-permitted set values stored in RAM
Description
Non-permitted values have been discovered at start-up in unit arg.
Fault code: arg
Internal unit: arg
Recommended actions
Delete all data contained in the welding data unit. Turn off the mains power supply to reset the unit. The welding unit is reset.

112430, Incompatible set values stored in RAM
Description
Non-permitted welding data combinations have been specified in unit arg.
Fault code: arg
Internal unit: arg
Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

112431, Transmit buffer overflow
Description
The welding data unit does not manage to transmit information to the other units sufficiently quickly in unit arg.
Fault code: arg
Internal unit: arg
Recommended actions
Turn off the mains power supply to reset the unit.

112432, Receiver buffer overflow
Description
The welding data unit does not manage to process information from the other units sufficiently quickly.
Fault code: arg
Internal unit: arg
Recommended actions
Turn off the mains power supply to reset the unit.

112434, Incompatible weld data format
Description
I/O unit: arg
Error code: arg
Internal unit: arg

112435, Program error
Description
Something has prevented the processor from performing its normal duties in the program in unit arg.
Fault code: arg
Internal unit: arg
Consequences
The program restarts automatically. The current welding process will be stopped.
Recommended actions
Review the handling of welding programs during welding. If the fault is repeated, send for a service technician.

112436, No wire
Description
I/O unit: arg
Error code: arg
Internal unit: arg

112437, Lost program data
Description
Program execution does not work in unit arg.
Fault code: arg
Internal unit: arg
Recommended actions
Turn off the mains power supply to reset the unit. If the fault persists, send for a service technician.

112438, No water flow
Description
I/O unit: arg
Error code: arg
Internal unit: arg

112439, Lost contact with TIG card
Description
I/O unit: arg
Error code: arg
Internal unit: arg

112441, No gas flow
Description
I/O unit: arg
Error code: arg
Internal unit: arg

112500, Weld Data Monitor
Description
The configuration is complete for arg

112501, WDM Configuration Error
Description
The configuration failed for arg
Consequences
Weld Data Monitor will be inoperable.
Recommended actions
Please review PROC settings to correct.

112502, WDM Alias IO Error
Description
The signals defined in the PROC are invalid.
Task: arg
Consequences
Weld Data Monitor will be inoperable.
Recommended actions
Please review PROC settings to correct.

112503, WDM Failed to Read WDM_SETTINGS
Description
The 'chart' setting in the WDM_SETTINGS section of the PROC could not be read.
Task: arg
Consequences
Weld Data Monitor not save charting files.
Recommended actions
Please review PROC settings to correct.

112504, WDM Failed to Read WDM_SETTINGS
Description
The IO signal setting in the WDM_SETTINGS section of the PROC could not be read.
Task: arg
Consequences
Weld Data Monitor will be inoperable.
Recommended actions
Please review PROC settings to correct.

112505, WDM Failed to Read WDM_STABILITY
Description
The WDM_STABILITY section of the PROC could not be found.
Default values have been applied.
Task: arg
Consequences
Weld Data Monitor may be inoperable.
Recommended actions
Please review PROC settings to correct.

112506, WDM Failed to Read WDM_STABILITY
Description
The WDM_STABILITY section of the PROC could not be read.
Task: arg
Consequences
Weld Data Monitor may be inoperable.
Recommended actions
Please review PROC settings to correct.

112507, WDM Failed to Read WDM_SIGNATURE
Description
The WDM_SIGNATURE or WDM_SIGNATURE_DATA section of the PROC could not be found.
Default values have been applied.
Task: arg
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**112508, WDM Failed to Read WDM_SIGNATURE**

**Description**
The WDM_SIGNATURE or WDM_SIGNATURE_DATA section of the PROC could not be read.

**Task:** arg

**Consequences**
Weld Data Monitor may be inoperable.

**Recommended actions**
Please review PROC settings to correct.

**112509, WDM Failed to Read WDM_TOLERANCE**

**Description**
The WDM_TOLERANCE section of the PROC could not be read.

**Task:** arg

**Consequences**
Weld Data Monitor may be inoperable.

**Recommended actions**
Please review PROC settings to correct.

**112510, WDM Learning Results Stored**

**Description**
A learning cycle has finished for arg in task arg of arg learning cycles completed.

**Sample size:** arg

**112511, WDM Learning Complete**

**Description**
Learning is complete for arg in task arg of arg learning cycles completed.

**Sample size:** arg

**Consequences**
Monitoring will be active the next time this seam is welded.

**112512, WDM Signature File Inaccessible**

**Description**
The stored signature could not be written to.

**Seam Name:** arg
**Task:** arg

The file may have been left open by another application.

**Consequences**
Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**
Warm starting the controller and starting from the main may resolve the problem for the next learning cycle.

**112513, WDM Signature File Inaccessible**

**Description**
The stored signature could not be written to.

**Seam Name:** arg
**Task:** arg

The file may have been left open by another application.

**Consequences**
Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**
Warm starting the controller and starting from the main may resolve the problem for the next learning cycle.

**112514, WDM Results File Inaccessible**

**Description**
The measured results could not be read.

**Seam Name:** arg
**Task:** arg

The file may have been left open by another application.

**Consequences**
Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**
Warm starting the controller and starting from the main may resolve the problem for the next learning cycle.

**112515, WDM Data Reading Timeout**

**Description**
Data could not be read from the binary file within a reasonable time.

**Seam Name:** arg
**Task:** arg

**Timeout:** arg seconds

**Consequences**
Weld Data Monitor is unable to evaluate this weld seam.

**Recommended actions**
Delete the stored WDM files and relearn.

**112516, WDM Data Checksum Error**

**Description**
Data read from the binary file did not match the expected size.

**Seam Name:** arg
**Task:** arg
Consequences
Weld Data Monitor is unable to evaluate this weld seam.

Recommended actions
Delete the stored WDM files and relearn.

112517, WDM Unknown Error
Description
An unexpected error occurred in WriteSigData.
Seam Name: arg
Task: arg

Consequences
Weld Data Monitor is unable to evaluate this weld seam.

Recommended actions
Please report to your ABB representative.

112518, WDM Unknown Error
Description
An unexpected error occurred in EvalSigData.
Seam Name: arg
Task: arg

Consequences
Weld Data Monitor is unable to evaluate this weld seam.

Recommended actions
Please report to your ABB representative.

112519, WDM Signature File Too Short
Description
The end of the signature file was reached before welding stopped.
Seam Name: arg
Task: arg
Current number of samples: arg

Consequences
Weld Data Monitor is unable to evaluate this weld seam.

112520, WDM File Access Error
Description
Could not open the binary data file described below.
File: arg
Task: arg
The file may have been left open by another application.

Consequences
Weld Data Monitor will be inoperable.

112521, WDM File Access Error
Description
Could not close a binary data file.
Task: arg

Consequences
Weld Data Monitor may be inoperable.

Recommended actions
Warm starting the controller and starting from the main may resolve the problem for the next learning cycle. Deleting the file may also resolve the problem.

112522, WDM File Access Error
Description
Could not seal the binary data file described below.
File: arg
Task: arg

Consequences
Weld Data Monitor will be inoperable.

Recommended actions
Warm starting the controller and starting from the main may resolve the problem for the next learning cycle. Deleting the file may also resolve the problem.

112523, WDM Sample Size Error
Description
The number of points stored in the last weld seam does not match the number stored in the existing signature file.
Seam Name: arg
Task: arg
Measured samples: arg
Signature samples: arg

Consequences
Weld Data Monitor will be unable to evaluate the data from this seam.

112524, WDM Weld End Error
Description
An unspecified error occurred at the end of the seam.
Task: arg

Consequences
Weld Data Monitor may be inoperable.
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Recommended actions
Please contact your ABB representative.

**112525, WDM Weld Start Error**

Description
An unspecified error occurred at the start of the seam.
Task: arg

Consequences
Weld Data Monitor may be inoperable.

**Recommended actions**
Please contact your ABB representative.

**112526, WDM Learning Started**

Description
No previously stored signature exists for arg in task arg. Learning will begin now.
Learning cycles required: arg

**112527, WDM Text Resource Error**

Description
Text Resource Error. Weld Data Monitor could not access text.
Index: arg
File: arg
Task: arg

**Recommended actions**
Please contact your ABB representative.

**112528, WDM Minor Infraction**

Description
A minor arg infraction has occurred in seam arg.
Measured value: arg
Maximum limit: arg
Minimum limit: arg

**112529, WDM Major Infraction**

Description
A major arg infraction has occurred in seam arg.
Measured value: arg
Maximum limit: arg
Minimum limit: arg

**112530, WDM Error**

Description
An unspecified error has occurred in the Weld Data Monitor for task arg

**Recommended actions**
Please contact your ABB representative.

**112531, WDM Trigger Ready**

Description
Weld Data Monitor is ready to sample data for task arg

**112532, WDM Trigger Subscriptions Failed**

Description
Weld Data Monitor trigger subscriptions failed for task arg

**Consequences**
Weld Data Monitor will be inoperable.

**112533, WDM Trigger IO Setup Failed**

Description
Weld Data Monitor trigger IO connections failed for task arg

**Consequences**
Weld Data Monitor will be inoperable.

**112534, WDM Weave Frequency Error**

Description
Weave frequency is too fast for arg in task arg.

**Consequences**
WDM will reduce sampling rate to a fraction of the weave frequency.

**112535, WDM Weave Frequency Error**

Description
Weave frequency is too fast for arg in task arg.

**Consequences**
No monitoring will occur.

**Recommended actions**
Please reduce weave frequency to enable Weld Data Monitoring.

**112536, WDM Weave Change Error**

Description
The weave parameters have changed since learning of seam arg in task arg.

**Consequences**
No monitoring will occur.
### 6 Trouble shooting by Event log

<table>
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<th>Event ID</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
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<td>112537, WDM Speed Change Error</td>
<td>The weld travel speed has changed since learning of seam arg in task arg.</td>
<td>Please remove the stored signature and relearn with new parameters. Or, reinstate old parameters.</td>
</tr>
<tr>
<td>112538, WDM Seam Length Changed</td>
<td>The weld seam length has changed since learning of seam arg in task arg.</td>
<td>If the targets defining the seam were intentionally modified, please remove the stored signature and relearn with the new targets.</td>
</tr>
<tr>
<td>112539, WDM Sample Frequency Error</td>
<td>Sampling frequency is too fast for arg in task arg.</td>
<td></td>
</tr>
<tr>
<td>112540, WDM Sample Frequency Error</td>
<td>Sampling frequency is too fast for arg in task arg.</td>
<td></td>
</tr>
<tr>
<td>112542, WDM Synchronizing Samples</td>
<td>The segment number of the stored data is lagging the actual sample. This is normal behavior associated with execution stops.</td>
<td>Please remove the stored signature and relearn with new parameters. Or, reinstate old parameters.</td>
</tr>
<tr>
<td>112543, WDM Synchronizing Samples</td>
<td>The segment number of the actual sample is lagging the stored data. This is normal behavior associated with execution stops.</td>
<td></td>
</tr>
<tr>
<td>112544, WDM Sample Distance Changed</td>
<td>The weave parameters, or no-weave sample distance, have changed since learning was finished for seam arg in task arg.</td>
<td></td>
</tr>
<tr>
<td>112600, Init of communication interface failed</td>
<td>Communication interface could not be initialized.</td>
<td></td>
</tr>
</tbody>
</table>

Recovery: arg
6 Trouble shooting by Event log

112601, Incorrect data received.
Description
The data received from remote system is incorrect. It is either a data error of the remote system, or a wrong message was received.
Recommended actions
Check data and program logic.

112602, Communication interface error.
Description
There is an error detected in the communication with the external system.
Recommended actions
Check remote system and connection. Restart communication.

112603, Failed to access the config files
Description
The configuration and settings files for the communication interface is not found in the HOME/GSI folder.
Recommended actions
Check that the HOME/GSI folder exists and that the configuration and settings files can be found there. Restart communication.

118800, Integrated PLC not connected
Description
The connection to the integrated PLC was not established or has been lost.
Consequences
No interaction with the integrated PLC can take place.
Recommended actions
Check the DeviceNet connection between the integrated PLC and the main computer.

118801, Integrated PLC not application master
Description
The requested command \textit{arg} can only be executed if the integrated PLC is operating as the application master.
Consequences
Certain commands can only be executed when the PLC is operating as the application master.
Recommended actions
Check that the correct application role is defined in FlexPendant interface for the integrated PLC.

118802, Integrated PLC not application slave
Description
The requested command \textit{arg} can only be executed if the integrated PLC is operating as the application slave.

118803, PLC program number invalid
Description
The program number that was specified to be executed on the integrated PLC is invalid or not available.
Consequences
This program number can not be executed on the integrated PLC.
Recommended actions
Check that the specified program is handled on the integrated PLC.

118804, PLC program execution running
Description
There is still a program executing on the integrated PLC. A new program number can first be ordered when the execution has finished.

118805, PLC program number mismatch
Description
The specified program number does not match the number requested from the integrated PLC.
Recommended actions
Verify the program that the requested program number is handed back to the acknowledge methods.

118806, Maximum execution time exceeded
Description
The maximum time specified for a synchronous program execution has been exceeded.
Recommended actions
Verify the maximum execution time defined in the program and increase it if needed.
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118807, Internal execution error
Description
This error indicates a bug of the implementation on robot controller or integrated PLC side.
Recommended actions
Please inform your responsible ABB contact person about the error.

118810, Fatal error on integrated PLC
Description
A fatal error occurred on the integrated PLC.
Component: arg
Device: arg
Module: arg
Channel: arg
Error: arg
Consequences
A safe operation of the integrated PLC is no longer guaranteed.
Recommended actions
Look up the error code in the AC500 documentation and follow the instructions to remove the error.

118811, Severe error on integrated PLC
Description
A severe error occurred on the integrated PLC.
Component: arg
Device: arg
Module: arg
Channel: arg
Error: arg
Consequences
The integrated PLC is functioning without problems, but the error-free processing of the user program is no longer guaranteed.
Recommended actions
Look up the error code in the AC500 documentation and follow the instructions to remove the error.

118812, Light error on integrated PLC
Description
A severe error occurred on the integrated PLC.
Component: arg
Device: arg
Module: arg
Channel: arg
Error: arg
Consequences
It depends on the application if the user program should be stopped by integrated PLC.
Recommended actions
Look up the error code in the AC500 documentation and follow the instructions to remove the error.

118813, Warning on integrated PLC
Description
A warning occurred on the integrated PLC.
Component: arg
Device: arg
Module: arg
Channel: arg
Error: arg
Consequences
It depends on the application if the user program should be stopped by integrated PLC.
Recommended actions
Look up the error code in the AC500 documentation and follow the instructions to remove the error.

120001, Out of memory in cfg
Description
There is not enough memory in the cfg database for this operation.
Consequences
The configuration file will not be installed.
Recommended actions
1) Try to use the option: delete existing parameters before loading when loading the configuration file. This will delete all previous configuration settings for the domain.
2) Increase the size of the configuration database.

120002, Instance can not be saved
Description
Not allowed to overwrite instance in line arg of file arg.
Consequences
The instance may be write protected and the configuration in file will not be installed.
Probable causes
- 
Recommended actions
You are not allowed to change the instance.
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120003, Wrong domain version or incorrect file

Description
The cfg domain version of file arg is wrong. The software is made for version arg.

Consequences
The configuration in file will not be installed.

Probable causes
-

Recommended actions
1) Re-edit the configuration file, and change the version of the cfg domain.

120004, Line too long

Description
Line arg in file arg contains arg characters, which is more than the allowed arg.

Consequences
The configuration in file will not be installed.

Probable causes
-

Recommended actions
1) Re-edit the configuration file and reduce the number of characters, e.g. by splitting the instance into several lines. End each line, except the last one, with a trailing backslash "\" to achieve this.

120005, Attribute value out of allowed range

Description
Attribute arg on line arg in file arg is out of the allowed range. The allowed range is < arg > - < arg >.

Consequences
The configuration in file will not be installed.

Probable causes
-

Recommended actions
1) Re-edit the configuration file and change the value on the attribute to fit inside the allowed range.

120006, Instance name occupied

Description
Instance in line arg in file arg is already occupied.

Consequences
The configuration in file will not be installed.

Probable causes
-

Recommended actions
1) Re-edit the configuration file.

120007, Unknown type or attribute in cfg file

Description
Type/attribute in position arg on line arg of file arg is not recognized.

Consequences
The configuration in file will not be installed.

Probable causes
The configuration type may not be installed, illegal/mistyped attribute, or the name is too long.

Recommended actions
1) Re-edit the configuration file.

120008, Mandatory attribute is missing in cfg file

Description
Missing mandatory attribute arg on line arg in file arg.

Consequences
The configuration in file will not be installed.

Probable causes
Missing/mistyped mandatory attribute.

Recommended actions
1) Re-edit the configuration file.

120009, Missing instance name in cfg file

Description
Missing instance name on line arg in file arg.

Consequences
The configuration in file will not be installed.

Probable causes
-

Recommended actions
1) Re-edit the configuration file.

120010, Configuration attribute value out of the allowed range

Description
Configuration attribute arg on line arg in file arg is out of the allowed range. The max. allowed length is arg characters.
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Consequences
The configuration in file will not be installed.

Probable causes

Recommended actions
1) Re-edit the configuration file and change the value on the attribute to fit inside the allowed range.

120011, Illegal version string

Description
The version string in configuration file arg has illegal format.

Consequences
The configuration in file will not be installed.

Probable causes
The configuration file is made for a different system version/revision.
The version string in the configuration file is mistyped/missing.
The configuration file is corrupted.

Recommended actions
1) Re-edit the configuration file and change the version string according to this layout:
   "domain":"cfg domain version":"version":"revision:".

120012, Illegal domain name

Description
The domain name arg in configuration file arg is illegal.

Consequences
The configuration in file will not be installed.

Probable causes
The domain name may be mistyped or the domain is not installed in the system.

Recommended actions
1) Re-edit the configuration file and change the domain name.

130001, Equipment error

Description
Paint process and motion stopped.

Recommended actions
Check the paint equipment.

130002, Equipment error

Description
Paint process stopped.

Recommended actions
Check the paint equipment.

130003, Trig plane error

Description
In PaintL arg: One trig plane, arg, are defined outside the programmed path.

Recommended actions
Change eventdata or reprogram path.

130004, Trig plane error

Description
In PaintL arg: Two trig planes, arg and arg, are defined outside the programmed path.

Recommended actions
Change eventdata or reprogram path.

130005, Trig plane error

Description
In PaintL arg: Three trig planes, arg, arg, and arg, are defined outside the programmed path.

Recommended actions
Change eventdata or reprogram path.

130006, Trig plane error

Description
In PaintL arg: Four trig planes, arg, arg, arg, and arg, are defined outside the programmed path.

Recommended actions
Change eventdata or reprogram path.

130007, Trig plane error

Description
In PaintL arg: Four trig planes, arg, arg, arg, and arg and more are defined outside the programmed path.

Recommended actions
Change eventdata or reprogram path.

130008, Trig plane error

Description
In 'SetBrush n': One trig plane, arg, is defined outside
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the programmed path.

**Recommended actions**
Change eventdata or reprogram path.

---

**130009, Trig plane error**

**Description**
More than four 'SetBrush' trig plane events are defined outside the programmed path.

**Recommended actions**
Change eventdata or reprogram path.

---

**130010, Conv pos out of reach**

**Description**
Programmed position for conveyor axis has passed out of reach

Programmed conv pos: arg
Actual conv pos: arg

Note: Only first occasion is reported.

**Recommended actions**
Reduce conveyor speed or modify programmed robtarget(s).

---

**130011, Trig counter error**

**Description**
Can't allocate trig counters or there is no free counter
Trig error supervision disabled.

**Recommended actions**
Reload program to enable trig error supervision.

---

**130012, ConveyorSync Off**

**Description**
ConveyorSync was turned off because conveyor speed exceeded lower limit
arg per cent
of nominal speed arg

**Recommended actions**
Check minimum sync speed in PaintWare parameter.
Check conveyor speed setting.

---

**130013, ConveyorSync On**

**Description**
ConveyorSync was turned on because conveyor regained nominal speed
arg per cent
of nominal speed arg

**Recommended actions**
No action needed
The conveyor speed is Ok.

---

**130014, 'Process ready' Timeout**

**Description**
'process ready input' not OK.

**Recommended actions**
Check equipment connected TO 'process ready input'
Increase 'Proc Ready timeout'

---

**130015, Conveyor running**

**Description**
Signal 'c1NullSpeed' not OK

**Recommended actions**
Stop conveyor before proceeding with program execution.

---

**131000, Argument error.**

**Description**
The argument is not an integer.

**Recommended actions**
Change the argument to an integer.

---

**131001, Argument error.**

**Description**
The argument is not an array.

**Recommended actions**
Change the argument to an array.

---

**131002, Argument error.**

**Description**
The argument is not a persistent variable.

**Recommended actions**
Change the argument to a persistent.
**131003, Argument error.**

*Description*

The array argument has too many dimensions.

*Recommended actions*

Change the array to one dimension.

---

**131004, Brush table error.**

*Description*

Only brush table `arg` is allowed.

*Recommended actions*

Change to allowed brush table.

---

**131005, Brush number error.**

*Description*

Only brush numbers less than or equal to `arg` is allowed.

*Recommended actions*

Change to allowed brush number.

---

**131006, Argument value error**

*Description*

Negative value for argument no. `arg`.

*Recommended actions*

Change argument value to a positive number.

---

**131007, Signal 'arg' does not exist**

*Description*

Signal: `arg`
Task: `arg`
Context: `arg`

*Recommended actions*

Check signal definitions. Define signal or find an existing signal.

---

**131008, Applicator number error**

*Description*

Applicator number is greater than number of applicators installed.

*Recommended actions*

`App' argument (if present) must be in range from 1 to 'Number of apps'.
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Recommended actions
Check installed options:
Gun control: Factor no range = <1>
3 ch. system: Factor no range = <1-3>
4 ch. system: Factor no range = <1-4>

131015, Too many trig events
Description
The maximum number of trig events (10) between two PaintL instructions is exceeded.
Task: arg
Instruction: arg
Context: arg

Recommended actions
Reduce the number of trig events.

131016, Illegal value for signal arg
Description
An attempt was made to set an illegal value arg for signal arg.

Consequences
Signal will not be set.

Recommended actions
Check that signal is within defined limits.

132000, Brush number error.
Description
The brush number is outside the limits for the activated brush table.

Recommended actions
Change argument within limits.

132001, Brush table error.
Description
There is no brush table activated.

Recommended actions
Activate a brush table.

132002, Brush not activated.
Description
Brush outputs blocked because IpsEnable for Applicator arg was not active.

Recommended actions
Activate IpsEnable output for this Applicator.

132003, Equipment Enable rejected
Description
Equipment could not be enabled due to the following active stop signals:
arg

Recommended actions
Check Emby stop buttons, General mode stop input and Cabin Interlock input.
Press Emby stop reset

132500, Unable to open symbol.
Description
Output for symbol arg not found.
NOTE: No paint-related outputs available due to this error.

Recommended actions
1. Output for symbol not defined.
2. Output for symbol has wrong name.
3. Internal problem (memory etc.)
Try a restart.

132501, Paint System not inst.
Description
Paint System not available or not installed.

Recommended actions
PaintWare process not activated, due to incomplete Paint System configuration.
1. Use IPS option diskette to install.
2. Custom-configure Paint System using the Teach Pendant.

132601, PIB contact lost
Description
Controller has lost connection to the PIB board.

Consequences
Controller has entered system failure state.

Probable causes
1. Broken cable
2. High network load.

Recommended actions
Check MainComputer <-> PIB Ethernet cable.
Restart controller
132602, Invalid signal path for signal arg

Description
The path arg is invalid for signal arg

Consequences
This signal will be disabled

Recommended actions
Check that the named device exist on PIB.

132999, Process error context

arg, arg, arg, arg, arg

133000, IPS Cfg Error

Description
Cfg Error: arg
Error accessing IPS config file arg. This config file is stored on one of the installed IPS nodes.

Recommended actions
1. Check IPS config file for errors.
2. Check if config file is stored on the correct IPS node.

133001, IPS Cfg Error

Description
Cfg Error: arg
Error in IPS config file arg in line arg. This IPS config file is located on one of the IPS nodes.

Recommended actions
1. Check in IPS config file for error in given line.

133002, IPS Cfg Error

Description
Syntax Error: arg.
Faulty value for argument arg, in IPS config file arg in line arg. This IPS config file is located on one of the IPS nodes.

Recommended actions
1. Check in IPS config file for error in given line.

133003, IPS Cfg Error

Description
Assertion error: arg.
Error in IPS config file arg in line arg. This IPS config file is located on one of the IPS nodes.

Recommended actions
1. Check in IPS config file for error in given line.

133004, IPS Cfg Token Error

Description
Cfg Token Error: arg.
Error in token arg, in IPS config file arg in line arg and character position arg. This IPS config file is located on one of the IPS nodes.

Recommended actions
1. Check in IPS config file for error in given line.

133005, IPS License Error

Description
License server is not found.
Could not obtain option: arg
Reference: arg

Recommended actions
1. Check that the system has a license server.
2. Check status on license server.
3. Check communication towards license server.

133006, IPS License Error

Description
ID chip is not found.
Could not obtain option: arg
Reference: arg

Recommended actions
1. Check that ID chip is mounted on ACCB.

133007, IPS License Error

Description
Wrong serial number.
Could not obtain option: arg
Reference: arg

Recommended actions
1. Check serial number in license file.
2. Check that correct ID chip is mounted.

133008, IPS License Error

Description
License file is not found. File name must be 'option.lic'.
Could not obtain option: arg
Reference: arg

Recommended actions
1. Check that license file exist on license server.
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133009, IPS License Error
Description
License code in license file is not correct.
Could not obtain option: arg
Reference: arg
Recommended actions
1. Check that the license file on license server is identical to the original license file.

133010, IPS License Error
Description
Syntax error in license file.
Could not obtain option: arg
Reference: arg
Recommended actions
1. Make sure the original license file is used.
2. Order new license file.

133011, IPS License Error
Description
Option does not exist in license file.
Could not obtain option: arg
Reference: arg
Recommended actions
1. Check if option exist in license file.
2. Check if correct license file loaded.
3. Check in IPS config file for errors.

133012, IPS License Error
Description
Counting option has no free licenses.
Could not obtain option: arg
Reference: arg
Recommended actions
1. Check number of uses vs. license file.
2. Check if correct license file loaded.
3. Check in IPS config file for errors.

133013, IPS License Error
Description
Protocol error in communication towards license server.
Could not obtain option: arg
Reference: arg
Recommended actions
1. Contact customer support.

133014, IPS License Error
Description
Communication fault. License server has been found, but communication is lost.
Could not obtain option: arg
Reference: arg
Recommended actions
1. Check communication towards license server.

133200, arg: Trig error
Description
IPS has discovered an impossible trig time error.
This situation may occur if trig-events are programmed too close each other in e.g. a cleaning sequence.
Recommended actions
1. Check if events for named device are programmed too close each other.
2. Check compensation delays for named device.

133201, arg: Locked
Description
The named device is locked by IPS.
Can't set a value to this device when locked, and there is no direct access to it.
Recommended actions
1. Check if system tries to run named device, when it is already locked (connected) to another device.

133202, arg: Disabled
Description
Impossible to set a command value to named device when it is disabled.
When a device is disabled, it is not possible to operate it.
Recommended actions
1. Enable named device and set a new command to it.
2. Check if IPS config is set up to
disable the named device.

133203, arg: Disconn.

Description
The resource(s) for named device is disconnected and named device is not operational. The connect signal for the device is set to 0.

Recommended actions
1. Set the connect signal for the named device to 1.
2. Check if the system sets the connect signal to 0 in some special cases.

133204, arg: Not ready

Description
Can't set value: Named device is not ready and is halted by some supervision functions or it have a general problem.

Recommended actions
1. Check if IPS is set up with any supervision functions for named device.
2. Check if named device have any problem, fix the problem and retry.

133205, arg: Sprv. alarm

Description
Can't set value: An alarm that is supervising named device is active. One of the installed alarms prevents the named device from being operational.

Recommended actions
1. Check for supervision alarms that sets named device in a not ready state.
2. Fix the actual alarm state.

133206, Lock arg failed

Description
Locking of a resource for named device failed. The same resource may have been allocated by another device.

Recommended actions
1. Check in IPS config if several IPS devices are using the same resource.

133207, arg: Val hi

Description
Value for named sensor or device has exceeded maximum limit. IPS has discovered an alarm state for named sensor or device.

Recommended actions
1. Check if value for named sensor or device is too high.
2. Check for IPS configured LIMIT-alarms and verify that limits are OK.

133208, arg: Val lo

Description
Value for named sensor or device has exceeded minimum limit. IPS has discovered an alarm state for named sensor or device.

Recommended actions
1. Check if value for named sensor or device is too low.
2. Check for IPS configured LIMIT-alarms and verify that limits are OK.

133209, arg: Act. val hi

Description
Actual value for named device has exceeded maximum limit. IPS has discovered too high actual value compared to the setpoint value.

Recommended actions
1. Check for IPS configured DEVIATION-alarms and verify that parameter limits are OK.
2. Check if the sensor, used by named device, is noisy.

133210, arg: Act. val lo

Description
Actual value for named device has exceeded minimum limit. IPS has discovered too low actual value compared to the setpoint value.

Recommended actions
1. Check for IPS configured DEVIATION-alarms and verify that parameter limits
### 6 Trouble shooting by Event log

1. Check if the sensor, used by named device, is noisy or sending values.

#### 133211, arg: Comp. hi

**Description**
Regulator for named device has compensated too much compared to the calibrated curve and its compensations parameter limits.

**Recommended actions**
1. Check in IPS config if compensation limits for named device are too tight.
2. Check supply pressures, hoses, sensor and transducer used by named device.

#### 133212, arg: Comp. lo

**Description**
Regulator for named device has compensated too much compared to the calibrated curve and its compensations parameter limits.

**Recommended actions**
1. Check in IPS config if compensation limits for named device are too tight.
2. Check supply pressures, hoses, sensor and transducer used by named device.

#### 133213, arg: Potlife

**Description**
The potlife time for named device has expired and the fluid will start to cure! Paint equipment may be destroyed!
Start to flush system at once!

**Recommended actions**
1. Check if flushing of system is performed.
2. Check if potlife time is correct.

#### 133214, arg: Setp. hi

**Description**
Setpoint value for named device is too high. The setpoint value is set to the maximum configured value for named device.

**Recommended actions**
1. Check if setpoint to named device is set too high.
2. Change the maximum value in the IPS config file if needed.

#### 133215, arg: Setp. lo

**Description**
Setpoint value for named device is too low. The setpoint value is set to the minimum configured value for named device.

**Recommended actions**
1. Check if setpoint to named device is set too low.
2. Change the minimum value in the IPS config file if needed.

#### 133216, arg: Seq. error

**Description**
IPS has discovered a trig sequence error. The Dynamic Delay Compensation function for named device measured an 'on'-transition while expecting an 'off'-transition. (Or opposite)

**Recommended actions**
1. Check if the sensor signal has the correct level.
2. Check if the sensor signal is noisy.

#### 133217, arg: Unexp. trans.

**Description**
IPS has discovered an unexpected transition. The Dynamic Delay Compensation function for named device measured a transition at a time when none was expected.

**Recommended actions**
1. Check relay and electrical connections for the sensor.
2. Check if the sensor signal is noisy.

#### 133218, arg: Timeout On

**Description**
IPS has discovered a trig timeout.
for an 'on'-transition. The Dynamic
Delay Compensation function has timed
out for an 'on'-transition.

Recommended actions
1. Check sensor for named device.
2. Check wiring or relay for sensor.

133219, arg:Timeout Off
Description
IPS has discovered a trig timeout
for an 'off'-transition. The Dynamic
Delay Compensation function has timed
out for an 'off'-transition.

Recommended actions
1. Check sensor for named device.
2. Check wiring or relay for sensor.

133220, arg:No signal
Description
IPS is reading a zero value from the
sensor used by the named device. Wiring
or supply to this sensor can be
the reason.

Recommended actions
1. Check if used sensor is broken.
2. Check wiring of used sensor.
3. Check process supply for used sensor.

133221, arg:Max output
Description
The closed loop regulator for named
device has reached the maximum output.

Recommended actions
1. Check if the commanded value to the
regulator is higher than possible for
the application equipment.
2. Increase setpoint to operate
regulator within controllable range.

133222, arg:Min output
Description
The closed loop regulator for named
device has reached the minimum output.

Recommended actions
1. Check if the commanded value to the
regulator is lower than possible for
the application equipment.
2. Increase setpoint to operate
regulator within controllable range.

133223, arg:Interlock
Description
IPS has discovered an interlock
conflict error. An attempt was made to
operate more than one valve or device
in an interlocked group.

Recommended actions
1. Set active valve or device to zero
before activating a new one.

133224, Acknowledge needed
Description
arg is currently halted by
an alarm supervision and an acknowledge
of named device is needed.

Recommended actions
1. Check the alarms that is halting
the named device.
2. Recover the alarm situation.
3. Acknowledge the alarm for named
device and retry.

133225, DMC error
Description
Following Digital Motor Controller (DMC) error message was sent to
IPS:
arg.
IPS has lost communication or discovered an error sent from the
named DMC driver.

Recommended actions
1. Check cables to the DMC.
2. Check power supply to the DMC.
3. For more info, see the Unit Description, Paint manual.

133226, arg.
Description
Setpoint error.
IPS has discovered an error
to set a signal on the named device.

Recommended actions
1. Check if signal is available for
named device.
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133250, arg:Comm. err
Description
IPS has discovered an internal CAN-communication error. Communication on CAN-bus between IPS nodes is lost. System will try to reconnect if possible.

Recommended actions
1. Check CAN-bus cables for IPS nodes.
2. Check IPS nodes for correct MacID.
3. Check CAN-bus termination resistors.

133251, arg:New curve
Description
IPS has created a new dynamic or calibrated curve, number arg, for named device.

Recommended actions

133252, arg:Calc. curve
Description
IPS has recalculated a dynamic or calibrated curve, number arg, for named device. The range of curve is modified due to modified range of regulator.

Recommended actions

133253, arg:Resizing
Description
IPS has resized a dynamic or calibrated curve, number arg, for named device. Due to change in curvesize parameter, the existing curves are transformed to the new curvepoint size.

Recommended actions

133254, arg:DMC error
Description
IPS has lost communication or discovered an error sent from named DMC-driver. DMC error code is: arg.

Recommended actions
1. Check DMC-driver status LEDs.
2. Check power supply on the DMC-driver.
3. Turn off and on the DMC-driver power.

133255, Apmb error
Description
IPS has discovered an Apmb-driver (Berger-Lahr driver) error. Apmb-driver, number: arg, has issued an error.

Recommended actions
1. Check the fault LEDs codes on the Berger-Lahr Drive unit.
2. Check stepper motor.
3. Check wiring for Berger-Lahr driver.

133256, arg:Curve err
Description
IPS has discovered a number format on named dynamic/calibrated curve that is not correct.

Recommended actions
1. Check if an already saved curve on the IPS node has an incompatible number format than expected.
2. Delete the saved curve on the IPS board.

133257, SDI error
Description
SDI board have issued following error: arg, with error code: arg.

Recommended actions
1. Check SDI board for errors.

133258, VCD error,MacID:arg
Description
IPS has discovered an error on a VCD board with following details: arg.

Recommended actions
1. Check VCD board for the error reason given.
2. Replace the VCD board.
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133259, File Access Error
Description
IPS has discovered a File Access Error on following file: arg.

Recommended actions
1. Check if named file exists.
2. Check if file is currently in use.

133260, File Defaulted
Description
IPS has created a default file of type: 'arg' with following file name: arg.

Recommended actions

133261, File Parse Error
Description
IPS failed to load the following file arg in line arg.
Detailed error text: arg.

Recommended actions
1. Check that named file has the correct format for its use.

133262, New index entry in file
Description
IPS has created in file: arg
a new index entry with value: arg

Recommended actions

133263, PPRU CAN Error
Description
PPRU unit: arg,
register 'arg' = arg

133264, PPRU Error
Description
PPRU unit: arg,
message = 'arg'

133265, SPI down: arg
Description
IPS on node arg has discovered an SPI-communication error.
arg
System will try to reconnect.

Recommended actions
1. Check serial cable to SPI board.
2. Check power cable to SPI board.
3. Check/replace SPI board.

133266, SPI up: arg
Description
SPI reconnected on node arg.

133280, Servo create error
Description
SDI board has discovered an error while loading configuration.

Recommended actions
1. Check SDI configuration.
2. Check/replace SDI board.
3. Contact customer support.

133281, Servo meas. system error
Description
SDI board has discovered an error on the serial line for the measurement system.

Recommended actions
1. Check cables and connectors.
2. Check measurement board.
3. Contact customer support.

133282, Servo drive system error
Description
SDI board has discovered an error on the serial line for the drive system.

Recommended actions
1. Check cables and connectors.
2. Check serial line, maybe a loop-link is required.
3. Check drive units.
4. Contact customer support.

133283, Servo calibration done
Description
SDI board has performed calibration.
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**Recommended actions**

<table>
<thead>
<tr>
<th>Event ID</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>133284, Servo calibration error</td>
<td>SDI board has discovered an error while doing calibration.</td>
<td>1. Retry calibration. 2. Contact customer support.</td>
</tr>
<tr>
<td>133285, Servo calibration timeout</td>
<td>SDI board has discovered that the calibration job has timed out.</td>
<td>1. Retry calibration. 2. Contact customer support.</td>
</tr>
<tr>
<td>133286, Servo config. timeout</td>
<td>SDI board has discovered an error while loading configuration.</td>
<td>1. Check SDI configuration. 2. Check/replace SDI board. 3. Contact customer support.</td>
</tr>
<tr>
<td>133287, Servo coeff. set error</td>
<td>SDI board has discovered a problem to assign a specified set of coefficients.</td>
<td>1. Check FILTERASSIGN section in SDI configuration file for errors. 2. Check/replace SDI board. 3. Contact customer support.</td>
</tr>
<tr>
<td>133288, Servo illegal hardware</td>
<td>SDI board has discovered an error while loading configuration.</td>
<td>1. Check SDI hardware version. 2. Check/replace SDI board. 3. Contact customer support.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Event ID</th>
<th>Description</th>
<th>Recommended actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>133300, Drive units power up</td>
<td>After power up or reset of Drive units the 'POWER_UP'-error bit is set. This is to indicate that the Drive units needs to be initialized by downloaded parameters.</td>
<td>1. This is info only, the software on the SDI board should automatically download parameters to the drives.</td>
</tr>
<tr>
<td>133301, SDI Servo WatchDog</td>
<td>SDI board has discovered a watchdog reset from the Drive unit used by: arg.</td>
<td>1. Restart robot controller. 2. Replace Drive unit.</td>
</tr>
<tr>
<td>133302, SDI logic +/-15V error</td>
<td>The SDI supply voltage for +/-15V is out of range, received from the Drive unit used by: arg.</td>
<td>1. Check cabling on SDI board. 2. Check supply voltage of +/-15V from SDI board. 3. Replace Drive unit.</td>
</tr>
<tr>
<td>133303, SDI Comm. error</td>
<td>SDI board has discovered too many consecutive communication errors reported by the Drive unit used by: arg.</td>
<td>1. Check cabling. 2. Replace Drive unit. 3. Replace SDI board.</td>
</tr>
</tbody>
</table>
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**133304, Int. Drive unit error**

**Description**
SDI board has discovered an internal error in the Drive unit used by: arg.

**Recommended actions**
1. Ignore if any other Drive unit errors are present.
2. Replace Drive unit.

**133305, Drive glitch warning**

**Description**
SDI board has discovered a glitch in the short circuit detector for the Drive unit used by: arg.

**Recommended actions**
1. Check for short circuit in cabling.
2. Check for short circuit in servo motor.
3. Replace Drive unit.

**133306, Servo short circuit**

**Description**
SDI board has discovered an short circuit in the Drive unit used by: arg.

**Recommended actions**
1. Check for short circuit in cabling.
2. Check for short circuit in servo motor.
3. Replace Drive unit.

**133307, Servo temp. warning**

**Description**
SDI board has discovered a high temperature warning in the Drive unit used by: arg.

**Recommended actions**
1. Check cooling fans and filters for the Drive unit.
2. Too high ambient temperature.
3. Check power consumption of the Drive.
4. Replace Drive unit.

**133308, Servo Temp. alarm**

**Description**
SDI board has discovered a high temperature alarm in the Drive unit used by: arg.

**Recommended actions**
1. Check cooling fans and filters for the Drive unit.
2. Too high ambient temperature.
3. Check power consumption of the Drive.
4. Replace Drive unit.

**133309, Servo over temperature**

**Description**
SDI board has discovered an over temperature error in the Drive unit used by: arg.

**Recommended actions**
1. Check cooling fans and filters for the Drive unit.
2. Too high ambient temperature.
3. Check power consumption of the Drive.
4. Replace Drive unit.

**133310, Servo Drive overload**

**Description**
SDI board has discovered high temperature in transistors on the Drive unit used by: arg.
This problem is caused by overload for the actual Drive.

**Recommended actions**
1. Too much torque for the Drive unit.
2. Check system for overload in torque.
3. Check if robot or pump is jammed.
4. Replace Drive unit.

**133311, Servo high voltage**

**Description**
SDI board has discovered a DC-bus voltage higher than allowed.
This is detected in the Drive unit used by: arg.
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Recommended actions
1. Check incoming mains.
2. Check/replace bleeder resistors
   and cabling.
3. Check/replace DC-link.
4. Replace Drive Unit.

133312, Servo over voltage
Description
SDI board has discovered a critical over voltage on DC-bus detected in the Drive unit used by: arg.

Recommended actions
1. Check incoming mains.
2. Check/replace bleeder resistors.
3. Check/replace DC-link.

133313, Servo DC low voltage
Description
SDI board has discovered a low voltage on DC-bus detected in the Drive unit used by: arg.

Recommended actions
1. Check incoming mains.
2. Check/replace bleeder resistors and cabling.
3. Check/replace DC-link.
4. Replace Drive Unit.

133314, Servo torque command err.
Description
SDI board has discovered a servo torque command error with too big difference in 3 consecutive torque references. This error is received from the Drive unit used by: arg.

Recommended actions
1. Check resolver cabling and external noise in resolver cabling.
2. Check resolver ground connections.
3. Check SDI configuration if gain is too high.

133315, Servo resolver pos. err.
Description
SDI board has discovered a resolver position error with too big difference in 3 consecutive rotor positions. This error is received from the Drive unit used by: arg.

Recommended actions
1. Check resolver cabling and external noise in resolver cabling.
2. Check resolver ground connections.

133316, Saturated current contr.
Description
SDI board has discovered that the Drive unit is unable to supply ordered current due to low DC-voltage or broken motor connections, received from the Drive unit used by: arg.

Recommended actions
1. Check DC-bus voltage.
2. Check servomotor/cables.
3. Check SDI configuration.
4. Replace Drive Unit.

133317, Servo cable error
Description
SDI board has discovered a servo cable error between Drive unit and servomotor. This error is received from the Drive unit used by: arg.

Recommended actions
1. Check servomotor/cables.
2. Replace Drive unit.
3. Replace SDI board.

133318, Servo under current error
Description
SDI board has discovered a torque that is producing a current lower than ordered, received from the Drive unit used by: arg.

Recommended actions
1. Check SDI configuration.
2. Check DC-bus voltage.
3. Check servomotor/cables.

133319, Servo over current error
Description
SDI board has discovered a torque
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that is producing a current higher than
ordered, received from the Drive unit
used by: arg.

Recommended actions
1. Check SDI configuration.
2. Check DC-bus voltage.
3. Check servomotor/cables.

133320, Drive unit regulator err.

Description
SDI board has discovered an error in
the Drive unit regulator (d-part)
used by: arg.

Recommended actions
1. Check SDI configuration.
2. Check servomotor/cables.
3. Check resolver and resolver cabling.
4. Replace SDI board.

133321, Servo max. current error

Description
SDI board has discovered a maximum
current error, received from the Drive
unit used by: arg.

Recommended actions
1. Check SDI configuration.
2. Check servomotor/cables.
3. Check resolver and resolver cabling.
4. Replace SDI board.

133322, Servo unknown error code

Description
SDI board has discovered an unknown
extended servo error code. This is an
internal error, received from Drive unit
used by: arg.

Recommended actions
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

133323, Servo overrun error

Description
SDI board has discovered a receiver
overrun. This is an internal error,
received from Drive unit
used by: arg

Recommended actions
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

133324, Servo illegal node

Description
SDI board has discovered a servo
illegal node address error. This is an
internal error, received from Drive unit
used by: arg

Recommended actions
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

133325, Servo illegal key

Description
SDI board has discovered a servo illegal
key value when connecting to an Drive
unit. This is an internal error,
received from Drive unit
used by: arg

Recommended actions
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

133326, Servo no parameter

Description
SDI board has discovered that no
parameter is used. This is an internal
error, received from the Drive unit
used by: arg

Recommended actions
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

133327, Servo read only par.

Description
SDI board has discovered an attempt to
write parameter values to read only
parameters on a Drive unit. This is an internal error, received from the Drive unit used by: \textit{arg}

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133328, Servo locked parameter

**Description**
SDI board has discovered an attempt to write parameter values to locked parameters on a Drive unit. This is an internal error, received from the Drive unit used by: \textit{arg}.

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133329, Servo diagnosis no par.

**Description**
SDI board has asked for a non existing parameter from the Drive unit used by: \textit{arg}.

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133330, Servo current meas. error

**Description**
SDI board has discovered a servo current measurement error, caused by an error in the current measurement bridge. This is an internal error, received from the Drive unit used by: \textit{arg}.

**Recommended actions**
1. Check/replace Drive unit.
2. Check/replace SDI board.
3. Contact customer support.

### 133331, Servo syncslot occupied

**Description**
SDI board has discovered a syncslot occupy error received from the Drive unit used by: \textit{arg}.

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133332, Servo sync insert error

**Description**
SDI board has discovered a sync insert error received from the Drive unit used by: \textit{arg}.

**Recommended actions**
1. Check how motor and resolver are configured on the SDI board.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133333, Servo sync no load par.

**Description**
SDI board has discovered a sync with no parameters, received from the Drive unit used by: \textit{arg}.

**Recommended actions**
1. Check SDI configuration.
2. Check/replace Drive unit.
3. Check/replace SDI board.
4. Contact customer support.

### 133334, Servo position reg. error

**Description**
SDI board has discovered a servo position regulator error, for: \textit{arg}. This error is typical if the resolver feedback is noisy.

**Recommended actions**
1. Check resolver cabling.
2. Contact customer support.
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133335, Servo speed reg. overflow

**Description**
SDI board has discovered a servo speed regulator overflow error, for: arg. This error is typical if the resolver feedback is noisy.

**Recommended actions**
1. Check resolver cabling.
2. Contact customer support.

133336, Servo speed flt overflow

**Description**
SDI board has discovered a servo speed filter overflow error, for: arg.

**Recommended actions**
1. Change SDI board.
2. Contact customer support.

133337, Servo res. angle overflow

**Description**
SDI board has discovered a resolver angle calculation overflow error, for: arg.

**Recommended actions**
1. Check resolver and resolver cabling.
2. Contact customer support.

133338, Servo resolver error

**Description**
SDI board has discovered a failure in resolver angle square root calculation, for: arg. The squared result for x- and y-signal on resolver exceeded a limit.

**Recommended actions**
1. Check resolver and resolver cabling.
2. Replace serial measurement boards.

133339, Servo torque limit error

**Description**
SDI board has discovered a servo torque limit error, for: arg.

**Recommended actions**
1. Check motorcables or servomotor.
2. Check torque limits in configuration.
3. Check if servomotor/gearbox is stuck.
4. Check if configuration is correct for used setup.

133340, Drive unit comm. lost

**Description**
SDI board has lost communication with the Drive unit used by: arg.

**Recommended actions**
1. Check cable between SDI board and Drive unit.
2. Replace SDI board.
3. Replace Drive unit.

133341, Sms board comm. lost

**Description**
SDI board has lost contact with the serial measurement board, used by: arg.

**Recommended actions**
1. Check cable between SDI board and measurement board.
2. Replace SDI board.
3. Replace serial measurement board.

133342, Sms board comm. lost

**Description**
SDI board has lost contact with the serial measurement board, used by: arg.

**Recommended actions**
1. Check cable between SDI board and measurement board.
2. Replace SDI board.
3. Replace serial measurement board.

133343, Sms board comm. lost

**Description**
SDI board has lost contact with the serial measurement board, used by: arg.

**Recommended actions**
1. Check cable between SDI board and
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133344, Position step error
Description
SDI board has discovered an ordered position step length larger than the maximum specified step length, configured for: arg.
Recommended actions
1. Check the 'MaxStepSize' parameter in the configuration for named servo.
2. Check acc./speed for superior interpolator.
3. Check resolver and resolver cabling.

133345, Speed error
Description
SDI board has discovered a speed error for: arg.
Recommended actions
1. Check acc./speed for superior interpolator.
2. Check gain parameters for named servo.
3. Check resolver and resolver cabling.

133428,
Description
Recommended actions

133429,
Description
Recommended actions

133430, Servo DC-link overtemp.
Description
SDI board has discovered an over-temperature in DC-link: arg.
Recommended actions
1. Check cooling fans and filters for the DC-link.
2. Too high ambient temperature.
3. Check main supply for DC-link.
4. Replace DC-link unit.

133431, Servo bleeder overload
Description
SDI board has discovered a bleeder overload for DC-link: arg.
Recommended actions
1. Check bleeder connections.
2. Too much deceleration.
3. Check AC voltage to DC-link.
4. Replace DC-link unit.

133432,
Description
Recommended actions

133433, Servo mains error
Description
SDI board has discovered an error on the main supply for the DC-link unit: arg.
Recommended actions
1. Check power supply to the DC-link.
2. Replace DC-link unit.

133434, Low DC voltage
Description
SDI board has discovered low DC voltage on the DC-link unit: arg.
Recommended actions
1. Check power supply to the DC-link.
2. Replace DC-link unit.

133435, DC-link +/-15V error
Description
The DC-link supply voltage for +/-15 volt is out of range, detected by the DC-link unit: arg.
Recommended actions
1. Check cabling.
2. Check +/-15V from power supply.
3. Replace DC-link unit.
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133436, Open circuit in bleeder resistor circuit

Description
The bleeder resistor connected to the rectifier is an open circuit, detected by: arg.

Recommended actions
1. Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2. Make sure the cable and resistor is working correctly by measuring their resistance respectively. Disconnect before measuring.
3. Replace any faulty component.

133437, Short circuit in bleeder resistor circuit

Description
The bleeder resistor connected to the rectifier is a short circuit, detected by: arg.

Recommended actions
1. Make sure the bleeder resistor cable is correctly connected to the rectifier unit.
2. Perform a shutdown and then restart the system.
3. If the problem persists, isolate the faulty rectifier unit and replace it.

133501, Handler is not calibrated

Description
Could not enable the handler, because the handler was not calibrated.

Recommended actions
Calibrate the handler.

133502, Belt on the handler is not calibrated

Description
Could not enable the handler, because the belt on the handler is not calibrated.

Recommended actions
1. Be sure to calibrate the handler in two positions.
2. Update SDI-configuration to one point calibration.

133503, Belt calibration error

Description
The result of the belt-calibration was too inaccurate.

Recommended actions
1. Check SDI-configuration for position of calibration points.
2. Make sure that you calibrate in the correct order and that the handler is positioned accurately.

133504, Move not allowed

Description
A new move command was given to the interpolator on the SDI board when it was already interpolating two paths.

Recommended actions
1. Check in program if several moves is performed, without waiting for the interpolator to be ready for next move.

133505, No servo response on SDI

Description
SDI board has discovered that a servo did not request for a new step from the interpolator.

Recommended actions
1. Check in error log for the servo errors given.
2. Fix the actual servo problem and retry the system.

133507, Invalid interpolator step

Description
SDI board has discovered an invalid interpolator step in the system. The interpolator on the SDI board has tried to set an illegal step length, or too high speed is set in the move program.

Recommended actions
1. Check program for too high speed.
2. Check for configuration error (gear ratio, etc.).
3. Interpolator error.
4. Contact customer support.

133508, Servo read error

Description
SDI board has discovered a servo read error. The interpolator on the SDI board has failed to read from a servo.

Recommended actions
1. Check in error log for the servo errors given.
2. Replace SDI board.
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133509, Handler not in position
Description
SDI board has discovered that the handler has not reached the correct position, after a specified time.
Recommended actions
1. Check for servo errors.
2. Check for interpolator errors.
3. Replace SDI board.

133512, Command toggle error.
Description
A command toggle was sent to the SDI board while the acknowledge signal was high.
Recommended actions
1. Assure that the command toggle signal is low before toggling a new command.

133550, Joint speed error
Description
The speed of joint $arg$ deviates too much relative to the ordered speed.
Recommended actions
1. Check the parameters.
2. Check for external forces.
3. Reduce programmed speed and acceleration.

133551, Move not allowed
Description
The handler is ordered to move to an illegal position: $arg = \textit{arg}$
Recommended actions
1. Check position limits.
2. Check position data.
3. Check signal CPYLimOverride.

134001, Fatal queue error
Description
It was not possible to pop the job queue, due to an unexpected error.

134002, Queue overflow
Description
The last job in the queue was removed because the queue is full.
Consequences
The last job will not be executed.
Recommended actions
Wait for queue size to decrease before inserting more jobs.

134003, Invalid token
Description
Token $arg$ is out of bounds.
Recommended actions
Check client parameters.

134004, Invalid client
Description
Client $arg$ is out of bounds.
Recommended actions
Check client parameters.

134005, $arg$ can only get master in Auto mode
Description
It is only allowed to get master in Auto mode.
Recommended actions
Switch the controller to Auto mode and execute the command again.

134006, $arg$ failed to get master
Description
$arg$ could not get master, because master is already taken by $\arg$.

134007, $arg$ failed to release master
Description
$arg$ could not release master, because $arg$ has master.

134008, Too many subscribers
Description
The routine $arg$ could not be subscribed to the $arg$ event due to too many subscribers.

134009, Subscriber file error
Description
The system failed to create the file $arg$. 
134010, Subscriber reference error
Description
arg did not contain the procedure arg.

134011, Subscriber unknown error
Description
Unknown error during init. of subscribers.

134017, Buffer full
Description
Buffer1: arg
Buffer2: arg

134018, Log semaphore timeout
Description
Log: arg
Message: arg

134019, Master required
Description
arg must be master to execute the command (arg).

134020, File not found
Description
arg could not be found.
Recommended actions
Make sure that the file exists.

134021, Syntax Error
Description
The file "arg" contains syntax errors or reference errors.
Consequences
The file was not loaded.
Recommended actions
Check error and rapid logs for the cause and fix the file.

134022, Duplicate attempt to load program
Description
Duplicate attempt to load program index: arg.
Recommended actions
Wait for the current directly loaded program to finish executing.

134023, Duplicate attempt to load program
Description
Duplicate attempt to load module name: arg.

134025, Material Change Suspended
Description
Material change was suspended because of an error or stop.
Recommended actions
Fix the problem, reset error and restart.

134026, Material Change Cancelled
Description
Material change was cancelled.

134027, Illegal Material Change Event
Description
Start of material change was issued while material change was already running.

134028, Illegal Material Change Event
Description
Proceed of material change was issued unexpectedly.

134030, Material Change Skipped
Description
Material supply is turned off.
Consequences
Material change will be skipped for this job.

134032, Protocol Error
Description
A material change command was sent to the robot before the previous was done.

134033, Enable Material Supply Error
Description
Could not enable the material supply.

134034, Material Change Time Out
Description
Material change decision timed out.
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Consequences
Material change decision may not be reliable.

Recommended actions
Procedures subscribed to the decide event should be checked for delays.

134039, Toggle lowered before command was finished

Description
The command toggle was lowered before the command was finished.

Consequences
The external controls system will not receive command result.

Probable causes
External controls system not compliant to protocol

134040, Previous command not finished

Description
A command (arg) was sent before the previous (arg) was done.

Probable causes
External controls system not compliant to protocol

134041, Missing Signal Definition

Description
The signal arg could not be found.

134042, Volume not recorded

Description
Total consumed volume for the job is outside accepted tolerance. Volume: arg

Consequences
Accuvol table will not be updated.

134050, Applicator Timeout

Description
A timeout occurred while waiting for the applicator to get ready.

Recommended actions
Check other process messages for additional information.

134051, External Start when no program

Description
An External Start command (arg) was received when no program was loaded

Probable causes
External controls system not compliant to protocol

134052, Overpush

Description
The system has pushed to much material

Consequences
The current paint job might be contaminated

Recommended actions
Disable paint push and then check push parameters

134053, Applicator configuration mismatch

Description
There is a mismatch between the number of applicator enable signals and the number of brush signals.

Consequences
Robotware paint will not work properly

Recommended actions
Check the process configuration

134054, Command failed in e-stop state

Description
Command arg not allowed when the controller is in e-stop state.

Recommended actions
Remove emergency stop conditions and reset emergency stop state.

134055, Configuration error

Description
Could not add arg.xml into the configuration settings. There are too many configuration files.

Consequences
The option "arg" will be set to zero.

Recommended actions
Merge the configuration into another file, or increase the buffer size.

134056, Configuration error

Description
Could not find the file: arg.xml

Consequences
The option "arg" will be set to zero.

Recommended actions
Make sure the file exists.
134057, Configuration error
Description
Could not parse the file: \texttt{arg.xml}
Consequences
The option "\texttt{arg}" will be set to zero.
Recommended actions
Fix the markup in the XML file.

134058, Configuration error
Description
Did not find the option in the file: \texttt{arg.xml}
Consequences
The option "\texttt{arg}" will be set to zero.
Recommended actions
Add the option into the XML file.

134059, XML-parser error
Description
First dimension passed to XML-parser was to big.
Recommended actions
Contact customer service.

134060, XML-parser error
Description
Third dimension passed to XML-parser was not big enough.
Recommended actions
Contact customer service.

134061, XML-parser overflow
Description
There were too many options in the file: \texttt{arg}
Consequences
Only \texttt{arg} options were parsed.
Recommended actions
Remove some options or increase the buffer size.

134062, XML-parser error
Description
Could not open the file: \texttt{arg} for reading.
Recommended actions
Make sure the file exists, and is accessible.

134063, XML-parser error
Description
Did not find a specified set of symbols.
Recommended actions
Fix the markup in the XML file.

134064, CSV-parser error
Description
Row out of range in the file: \texttt{arg}
Consequences
The rows out of range in the file will be skipped.
Recommended actions
Remove the offending rows, or increase the buffer size.

134065, CSV-parser error
Description
Encountered a row number that was not a positive integer in the file: \texttt{arg}
Consequences
The row/line in the file will be skipped.
Recommended actions
Change the row number to a positive integer.

134066, CSV-parser error
Description
There were too many columns on a row in the file: \texttt{arg}
Consequences
The remaining columns on the row/line in the file will be skipped.
Recommended actions
Reduce the amount of columns, or increase the buffer size.

134067, CSV-parser error
Description
Could not open the file: \texttt{arg} for reading.
Recommended actions
Make sure the file exists, and is accessible.

134100, CBS servo not enabled.
Description
CBS servo was not enabled when deciding to do material change.
Consequences
The material change or maintenance operation will be skipped.
Recommended actions
Enable the CBS servo.

134101, CBS restarted while performing operations.
Description
CBS was restarted in state: arg
Consequences
The CBS is in an unreliable state.
Recommended actions
The integrity of the system must be restored manually by moving cartridges back to their home stations.

134102, Unrecoverable CBS error.
Description
An unrecoverable error has occurred.
Consequences
The CBS is in an unreliable state.
Recommended actions
The integrity of the system must be restored manually by moving cartridges back to their home stations.

134103, No solution for material index.
Description
No cartridge and IFS combination found for selected material index.
Consequences
The material change will be skipped.
Recommended actions
Reconfigure the system by adding the material index.

134104, No station for material index.
Description
No IFS station can supply the selected material index.

134105, No cartridge for material index.
Description
No cartridge is available for the selected station and material index.

134106, Not able to empty auxiliary station.
Description
Not able to empty auxiliary station due to a unrecoverable CBS error.
Recommended actions
The integrity of the system must be restored manually by moving cartridges back to their home stations.

134107, Storage station is not an IFS.
Description
The returned cartridge was not stored in an IFS.
Consequences
The post processing of the cartridge will be skipped.

134108, Possible CBS collision.
Description
Robot execution has been stopped in order to avoid a collision with the CBS handler.arg
Recommended actions
Manually move CBS handler away from robot and resume execution.

134110, Safe Move to address failed.
Description
Not allowed to move to address: arg, with gripper: arg
Recommended actions
Reconfigure gripper access.

134111, Safe Move to address failed.
Description
CBS servo is not enabled.
Recommended actions
Enable the CBS servo.

134112, Safe Move to address failed.
Description
Arm could not be moved up.

134113, Safe Move to address failed.
Description
CBS servo could not be controlled.

134114, Move to address failed.
Description
Invalid angle configured for address: arg

134115, Move to address failed.
Description
Invalid distance configured for address: arg
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</thead>
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<td>134116</td>
<td>Move to address failed.</td>
<td>Description: Timeout while waiting for servo controller to complete previous command. Recommended actions: Check that servo controller and communication interface is ok.</td>
</tr>
<tr>
<td>13417</td>
<td>Move to address failed.</td>
<td>Description: Timeout while waiting for acknowledge from servo controller. Recommended actions: Check that servo controller and communication interface is ok.</td>
</tr>
<tr>
<td>13418</td>
<td>Servo on failed.</td>
<td>Description: Timeout while waiting for servo controller feedback. Recommended actions: Check that servo controller and communication interface is ok.</td>
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<td>13419</td>
<td>Servo off failed.</td>
<td>Description: Timeout while waiting for servo controller feedback. Recommended actions: Check that servo controller and communication interface is ok.</td>
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<tr>
<td>13420</td>
<td>Calibrate servo failed.</td>
<td>Description: Timeout while waiting for servo controller to complete previous command. Recommended actions: Check that servo controller and communication interface is ok.</td>
</tr>
<tr>
<td>13421</td>
<td>Calibrate servo failed.</td>
<td>Description: Timeout while waiting for acknowledge from servo controller. Recommended actions: Check that servo controller and communication interface is ok.</td>
</tr>
<tr>
<td>13422</td>
<td>Set servo acceleration failed.</td>
<td>Description: Specified setting is out of range.</td>
</tr>
<tr>
<td>13423</td>
<td>Set servo acceleration failed.</td>
<td>Description: Timeout while waiting for servo controller to complete previous command. Recommended actions: Check that servo controller and communication interface is ok.</td>
</tr>
<tr>
<td>13424</td>
<td>Set servo acceleration failed.</td>
<td>Description: Timeout while waiting for acknowledge from servo controller. Recommended actions: Check that servo controller and communication interface is ok.</td>
</tr>
<tr>
<td>13425</td>
<td>Set servo speed failed.</td>
<td>Description: Specified setting is out of range.</td>
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<td>134130</td>
<td>Move arm up failed.</td>
<td>Description: Timeout while waiting for sensor feedback. Recommended actions: Check that sensor controller and communication interface is ok.</td>
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<td>134131</td>
<td>Move arm down failed.</td>
<td>Description: Timeout while waiting for sensor feedback. Recommended actions: Check that sensor controller and communication interface is ok.</td>
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<td>134132</td>
<td>Gripper open failed.</td>
<td>Description: Opening gripper attempted while arm was not down. Recommended actions: Make sure handler arm is down.</td>
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<td>134133</td>
<td>Gripper open failed.</td>
<td>Description: Unknown gripper specified: arg</td>
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<td>134134</td>
<td>Gripper open failed.</td>
<td>Description: Timeout while waiting for sensor feedback.</td>
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Recommended actions
Check that gripper sensors are working.

**134135, Gripper close failed.**

Description
Unknown gripper specified: *arg*

Recommended actions
Check that gripper sensors are working.

**134136, Gripper close failed.**

Description
Timeout while waiting for sensor feedback.

Recommended actions
Check that gripper sensors are working.

**134137, Unexpected cartridge presence.**

Description
An unknown cartridge is blocking gripper: *arg*

Recommended actions
Remove the offending cartridge and verify the integrity of the system.

**134138, No cartridge present.**

Description
Expected a cartridge in gripper: *arg*

Recommended actions
Locate missing cartridge and verify the integrity of the system.

**134139, Gripper sense failed.**

Description
Unknown gripper specified: *arg*

**134140, Gripper access check failed.**

Description
Unknown gripper specified: *arg*

**134145, Vacuum check error.**

Description
Timeout while waiting for sensor feedback.

**134150, Unlock station failed.**

Description
Unable to unlock station at address: *arg*

Recommended actions
Verify that locking signal for station is ok.

**134151, Lock station failed.**

Description
Unable to lock station at address: *arg*

Recommended actions
Verify that locking signal for station is ok.

**134152, Set primary IFS selector failed.**

Description
Unable to set primary IFS selector to address: *arg*

Recommended actions
Verify that primary IFS selector signal is ok.

**134153, Set primary CC selector failed.**

Description
Unable to set primary CC selector to address: *arg*

Recommended actions
Verify that primary CC selector signal is ok.

**134154, Set secondary IFS selector failed.**

Description
Unable to set secondary IFS selector to address: *arg*

Recommended actions
Verify that secondary IFS selector signal is ok.

**134155, Set secondary CC selector failed.**

Description
Unable to set secondary CC selector to address: *arg*

Recommended actions
Verify that secondary CC selector signal is ok.

**134160, Arm sensors bypassed.**

Description
Arm sensors bypassed.

Consequences
Speed of CBS handler may be reduced.

**134161, Right gripper sensor bypassed.**

Description
Right gripper sensor bypassed.

Consequences
Some integrity failures will not be detected, and cannot avoid damage to the system.
134162, Left gripper sensor bypassed.
Description
Left gripper sensor bypassed.

Consequences
Some integrity failures will not be detected, and cannot avoid damage to the system.

134163, Right cartridge sensor bypassed.
Description
Right cartridge sensor bypassed.

Consequences
Some integrity failures will not be detected, and cannot avoid damage to the system.

134164, Left cartridge sensor bypassed.
Description
Left cartridge sensor bypassed.

Consequences
Some integrity failures will not be detected, and cannot avoid damage to the system.

134165, Release sensor bypassed.
Description
Release sensor bypassed.

134166, Vacuum sensor bypassed.
Description
Vacuum sensor bypassed.

Consequences
Failure to produce vacuum will not be detected, and may cause cartridges to drop from applicator.

134167, Servo position feedback bypassed.
Description
Servo position feedback bypassed.

Consequences
Speed optimization features will not be used.

134168, Servo command acknowledge bypassed.
Description
Servo command acknowledge bypassed.

Consequences
Servo may not behave correctly.

134170, CBS configuration error.
Description
Delivery address is not specified.

Consequences
System will not work correctly.

134171, CBS configuration error.
Description
Home address is not specified.

Consequences
System will not work correctly.

134172, CBS configuration error.
Description
Home gripper is not specified.

Consequences
System will not work correctly.

134173, CBS configuration error.
Description
Default cartridge volume is not specified.

Consequences
System will not work correctly.

134174, CBS configuration error.
Description
No cartridges has been defined.

Consequences
System will not work correctly.

134175, CBS configuration error.
Description
No materials has been defined.

Consequences
System will not work correctly.

134176, CBS configuration error.
Description
No addresses has been defined.
Consequences
System will not work correctly.

134177, CBS configuration error.
Description
No home station specified for cartridge: arg
Consequences
Cartridge will be skipped.

134178, CBS configuration error.
Description
Too many IFS stations have been defined.
Consequences
Some IFS stations will be skipped.

134180, Could not set baseplate data.
Description
Address: arg Content: arg

134181, Could not get baseplate data.
Description
Content: arg

134182, Could not get baseplate data.
Description
Type: arg

134183, Could not get baseplate data.
Description
Access: arg

134184, Could not get baseplate data.
Description
Angle: arg

134185, Could not get baseplate data.
Description
Distance: arg

134186, Could not get cartridge access data.
Description
Cartridge: arg Address: arg

134187, Could not set cartridge data.
Description
Cartridge: arg Data: arg

134188, Could not get cartridge data.
Description
Cartridge: arg Data: arg

134189, Could not set IFS data.
Description
Index: arg Data: arg

134190, Could not get IFS data.
Description
Index: arg Data: arg

134191, IFS index from address resolution failed.
Description
Address: arg

134192, IFS address from index resolution failed.
Description
Index: arg

134193, Could not get station valve or material data.
Description
Station: arg Material: arg

134195, No auxiliray station found.
Description
No auxiliary station found after trying different options.
Recommended actions
Cancel the handler and reconfigure the system.

134196, No storage station found.
Description
No storage station found after trying different options.
Recommended actions
Cancel the handler and reconfigure the system.
<table>
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<th>Error Code</th>
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<td>134200, Move cartridge failed.</td>
<td>Move cartridge failed in state: arg</td>
<td>Cannot continue with the operation.</td>
<td>Fix the problem causing the failure and resume the operation.</td>
</tr>
<tr>
<td>134201, Cancel move cartridge failed.</td>
<td>Cancel move cartridge failed in state: arg</td>
<td>Cannot continue with the operation.</td>
<td>Fix the problem causing the failure and resume the operation.</td>
</tr>
<tr>
<td>134202, Exchange cartridge step one failed.</td>
<td>Exchange cartridge failed in state: arg</td>
<td>Cannot continue with the operation.</td>
<td>Fix the problem causing the failure and resume the operation.</td>
</tr>
<tr>
<td>134203, Exchange cartridge step two failed.</td>
<td>Exchange cartridge failed in state: arg</td>
<td>Cannot continue with the operation.</td>
<td>Fix the problem causing the failure and resume the operation.</td>
</tr>
<tr>
<td>134204, Exchange cartridge step three failed.</td>
<td>Exchange cartridge failed in state: arg</td>
<td>Cannot continue with the operation.</td>
<td>Fix the problem causing the failure and resume the operation.</td>
</tr>
<tr>
<td>134210, Move cartridge error.</td>
<td>There is already a cartridge at the 'To' address: arg</td>
<td>Cannot continue with the operation.</td>
<td></td>
</tr>
<tr>
<td>134212, Move cartridge error.</td>
<td>There is already a cartridge at the 'From' address: arg</td>
<td>Cannot continue with the operation.</td>
<td></td>
</tr>
<tr>
<td>134213, Move cartridge error.</td>
<td>An impossible to reach 'From' address was specified: arg</td>
<td>Cannot continue the operation.</td>
<td></td>
</tr>
<tr>
<td>134214, Move cartridge error.</td>
<td>An impossible to reach 'To' address was specified: arg</td>
<td>Cannot continue the operation.</td>
<td></td>
</tr>
<tr>
<td>134215, Exchange cartridge error.</td>
<td>There is no cartridge to get at delivery address.</td>
<td>Cannot continue with the operation.</td>
<td></td>
</tr>
<tr>
<td>134216, Exchange cartridge error.</td>
<td>There is no cartridge at the 'From' address: arg</td>
<td>Cannot continue with the operation.</td>
<td></td>
</tr>
<tr>
<td>134217, Exchange cartridge error.</td>
<td>There is no cartridge at the 'From' address: arg</td>
<td>Cannot continue with the operation.</td>
<td></td>
</tr>
</tbody>
</table>
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134218, Exchange cartridge error.
Description
An impossible to reach 'From' address was specified: \textit{arg}
Consequences
Cannot continue the operation.
Recommended actions
Reconfigure baseplate access.

134219, Unexpected cartridge in applicator.
Description
An unexpected cartridge was found while probing applicator.
Recommended actions
Remove the offending cartridge and resume the operation.

134220, Unexpected cartridge presence.
Description
An unexpected cartridge was found during start check.
Recommended actions
Remove the offending cartridge and verify the integrity of the system.

134221, No cartridge found while probing.
Description
Expected to find a cartridge in the station to process.
Consequences
Process operations on cartridge have been prevented.
Recommended actions
Manually verify the integrity of the system.

134230, Integrity check error.
Description
An unexpected cartridge was found during integrity check at address: \textit{arg}
Recommended actions
Manually verify the integrity of the system.

134231, Integrity check error.
Description
Did not find expected cartridge during integrity check at address: \textit{arg}
Recommended actions
Manually verify the integrity of the system.

134240, Maintenance operation error.
Description
Unknown maintenance operation specified: \textit{arg}

134241, Maintenance operation error.
Description
Unknown cartridge process operation specified: \textit{arg}

134242, Maintenance operation error.
Description
Not possible to move a cartridge from or to a hole.

134243, Maintenance operation error.
Description
Unknown cartridge specified: \textit{arg}

134244, Maintenance operation error.
Description
No IFS solution for the cartridge specified: \textit{arg}

134245, Maintenance operation failure.
Description
Integrity check failed.
Recommended actions
Fix the problem causing the failure and resume the operation.

134250, Cartridge PotLife timeout.
Description
System detected potlife timeout in cartridge: \textit{arg}
Consequences
The cartridge will be cleaned.

134251, Cartridge reached continuous use limit.
Description
System detected a maximum continuous use of cartridge: \textit{arg}
Consequences
The cartridge will be cleaned.

134260, Halt exchange timeout.
Description
A timeout occured while waiting for another task to resume the exchange process.
134270, DCL pressure release timeout.
Description
A timeout occurred while waiting pressure to drop in DCU. Current pressure: arg

134310, DSF cartridge 1 sensor bypassed.
Description
DSF cartridge 1 sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134311, DSF cartridge 2 sensor bypassed.
Description
DSF cartridge 2 sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134312, Cartridge 1 home sensor bypassed.
Description
Cartridge 1 home sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134313, Cartridge 2 home sensor bypassed.
Description
Cartridge 2 home sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134314, Cartridge 1 DSD sensor bypassed.
Description
Cartridge 1 DSD sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134315, Cartridge 2 DSD sensor bypassed.
Description
Cartridge 2 DSD sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134316, Cartridge 1 DSF sensor bypassed.
Description
Cartridge 1 DSF sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134317, Cartridge 2 DSF sensor bypassed.
Description
Cartridge 2 DSF sensor bypassed.
Consequences
System will run slower, and integrity failures will not be detected.

134320, Move DSF failed.
Description
Unknown position specified: arg

134321, Move DSF failed.
Description
Timeout while waiting for sensor feedback.
Recommended actions
Check that DSF sensors are working.

134325, Move Cartridge failed.
Description
Unknown cartridge position specified: arg

134326, Move Cartridge failed.
Description
Unknown cartridge specified: arg

134327, Move Cartridge failed.
Description
Timeout while waiting for sensor feedback. Cartridge: arg Position: arg
Recommended actions
Check that cartridge sensors are working.

134329, Get cartridge position failed.
Description
Unknown cartridge specified: arg
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<tr>
<td>134340, VB configuration error.</td>
<td>Maximum cartridge volume not specified.</td>
<td>System will not behave correctly. Cartridges may not be filled.</td>
<td>Add the missing value into the VB configuration file.</td>
</tr>
<tr>
<td>134341, VB configuration error.</td>
<td>Swap cartridge volume not specified.</td>
<td>System will not behave optimally. Cartridges will run completely empty before swapping occurs.</td>
<td>Add the missing value into the VB configuration file.</td>
</tr>
<tr>
<td>134342, VB configuration error.</td>
<td>Enough cartridge volume not specified.</td>
<td>System will not behave optimally. Filling will always occur, even if cartridges have enough volume.</td>
<td>Add the missing value into the VB configuration file.</td>
</tr>
<tr>
<td>134343, VB configuration error.</td>
<td>Split volume not specified.</td>
<td>System will not behave optimally. Last cartridge may delay material change.</td>
<td>Add the missing value into the VB configuration file.</td>
</tr>
<tr>
<td>134350, Move cartridge to home failed.</td>
<td>Operation failed in state: arg</td>
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<tr>
<td>134352, Move cartridge to DSF failed.</td>
<td>Operation failed in state: arg</td>
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<tr>
<td>134353, Move DSF to cartridge failed.</td>
<td>Operation failed in state: arg</td>
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<tr>
<td>134360, VB maintenance operation error.</td>
<td>Unknown maintenance operation specified: arg</td>
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<tr>
<td>134400, Out of paint.</td>
<td>Cartridge arg ran out of paint before cartridge arg was ready.</td>
<td>System will not behave optimally. Filling will always occur, even if cartridges have enough volume.</td>
<td>Add the missing value into the VB configuration file.</td>
</tr>
<tr>
<td>134401, Applicator fill problem.</td>
<td>Paint line and applicator was not filled properly. arg &gt; arg</td>
<td></td>
<td>Refill applicator or paint line and check other process messages.</td>
</tr>
<tr>
<td>134402, Cartridge fill problem.</td>
<td>Cartridge arg was not filled properly. arg &gt; arg.</td>
<td></td>
<td>Refill cartridge and check other process messages.</td>
</tr>
<tr>
<td>134405, Illegal VB state.</td>
<td>A statemachine entered an unknown state.</td>
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<tr>
<td>134406, DCL not ready.</td>
<td>The status of DCL system arg is not in ready state.</td>
<td></td>
<td>Run the maintenance operation to refill DCL for this system.</td>
</tr>
<tr>
<td>Event ID</td>
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<td>134410, Unknown sensor specified.</td>
<td>Unknown sensor ID: arg.</td>
<td>Check that paint command parameters are correct.</td>
<td></td>
</tr>
<tr>
<td>134411, Unknown cartridge specified.</td>
<td>Unknown cartridge ID: arg.</td>
<td>Check that paint command parameters are correct.</td>
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<td>134412, Unknown position specified.</td>
<td>Unknown position ID: arg.</td>
<td>Check that paint command parameters are correct.</td>
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<td>134420, Bypass cartridge error.</td>
<td>Not allowed to run system with two or more sensors disabled for cartridge arg.</td>
<td>Enable more sensors.</td>
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<td>134421, Bypass DSF error.</td>
<td>Not allowed to run system with both DSF sensors disabled.</td>
<td>Enable one of the sensors.</td>
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<tr>
<td>134425, Unknown DSF position.</td>
<td>The DSF is not in a known position.</td>
<td>Put it in a known position or verify its sensors.</td>
<td></td>
</tr>
<tr>
<td>134426, Unknown cartridge position.</td>
<td>Cartridge arg is not in a known position.</td>
<td>Put it in a known position or verify its sensors.</td>
<td></td>
</tr>
<tr>
<td>134430, DSF move error.</td>
<td>Could not move DSF to cartridge arg.</td>
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<tr>
<td>134431, Cartridge move error.</td>
<td>Could not move cartridge arg to home position.</td>
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<tr>
<td>134432, Cartridge move error.</td>
<td>Could not move cartridge arg to DSF position.</td>
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<tr>
<td>134433, Cartridge move error.</td>
<td>Could not move cartridge arg to DSD position.</td>
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<td>150330, RAPID error in module</td>
<td>Task:arg Module (line/column): arg There is an error with symbol: arg</td>
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