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RELEASE NOTES

# RobotStudio 2026.2

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# Release Notes for RobotStudio 2026.2

## General

The release name is RobotStudio 2026.2 and the build number is 26.2.11700.0. The build date is May 27, 2026.

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### New license system

Starting with version 2026.1, RobotStudio uses a new user-based license system that requires a Robotics One user account (not applicable for node locked licenses).

Users with an existing subscription need to activate RobotStudio 2026 using the same activation key (called "ticket" in RobotStudio 2026) that was used for the previous RobotStudio version. The activation key can be found in Help > Manage Licenses > View Licenses in the old RobotStudio version.

New users only need to log in using their Robotics One user account to access their license.

For more information, see the user documentation.

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### .NET 10 information

Starting with version 2026.1, RobotStudio is built on .NET 10.

.NET (formerly .NET Core) is the modern, cross-platform, open-source development platform from Microsoft. It is actively developed with regular releases and improvements in features and performance.

Earlier versions of RobotStudio used *.NET Framework* which is no longer in active development and only receives security updates. Binaries built for .NET Framework can generally not be loaded in a .NET application.

#### Note

RobotStudio add-ins that have not yet been migrated to .NET 10 cannot be loaded in this version.

Smart Components with code-behind *may* be compatible depending on which APIs they use.

Only PowerPacs with a version 2026.1 or greater will be possible to load in the .NET 10 version of RobotStudio. Some PowerPacs have not yet been updated at the time of this release.

The RobotStudio SDK documentation contains a developer guide for migrating add-ins to .NET 10.

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## User documentation

Documentation for RobotStudio, RobotWare and add-ins can be accessed from the Help page.

### RobotStudio

The RobotStudio Operating Manual is available in all languages supported by RobotStudio except Czech, i.e. English, German, French, Italian, Chinese, Japanese, Spanish.

### RobotWare

RobotWare manuals for IRC5 and OmniCore are included in the RobotWare distributions that can be installed from the Add-Ins Gallery.

Release notes for RobotWare can be accessed from the Help page or the Add-Ins Gallery.

## Tutorials

Tutorials are available at the RobotStudio product pages at <https://new.abb.com/products/robotics/robotstudio>.

## System Requirements

### Required Software

Microsoft Windows 11 or later is required.

The Windows App Installer is a pre-requisite for the virtual OmniCore FlexPendant software, see <https://www.microsoft.com/en-us/p/App-Installer/9NBLGGH4NNS1>. The App Installer is a default built-in app in Windows, but may have been removed on some PCs.

Sideloading of apps must be enabled on Windows to install the virtual OmniCore FlexPendant.

To enable sideloading follow these steps:

1. Open **Settings**.
2. Click **System > For developers**.
3. Ensure **Developer Mode** is set to **On**.

### Recommended Hardware

| ITEM                       | REQUIREMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                        | 2.0 GHz or faster processor, multiple cores recommended                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Memory                     | 8 GB minimum<br>16 GB or more if working with large CAD models                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Disk                       | 10+ GB free space, solid state drive (SSD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Graphics Card <sup>1</sup> | High-performance, DirectX 11 compatible, gaming graphics card from any of the leading vendors. For the Advanced lightning mode Direct3D feature level 10_1 or higher is required.                                                                                                                                                                                                                                                                                                                                   |
| Screen Resolution          | 1920 x 1080 pixels or higher is recommended                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Mouse                      | Three-button mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3D Mouse                   | Any 3D mouse from 3DConnexion, see <a href="http://www.3dconnexion.com">http://www.3dconnexion.com</a> .                                                                                                                                                                                                                                                                                                                                                                                                            |
| Virtual Reality Headset    | Meta Quest, HTC Vive or any Windows Mixed Reality Headset. Note that special PC hardware requirements apply when using RobotStudio with VR, see <a href="https://www.oculus.com/oculus-ready-pcs/">https://www.oculus.com/oculus-ready-pcs/</a> , <a href="https://www.vive.com/us/vive-ready/">https://www.vive.com/us/vive-ready/</a> , or, <a href="https://www.microsoft.com/en-us/mixed-reality/windows-mixed-reality">https://www.microsoft.com/en-us/mixed-reality/windows-mixed-reality</a> , respectively. |

<sup>1</sup> RobotStudio will not benefit from the additional features of so-called 'Professional' or 'Workstation' graphics cards. The price level of these are at a much higher range than gaming graphics cards with comparable performance. High-end gaming PCs are very suitable for offline programming with RobotStudio. Such a PC will provide good performance for a limited budget.

## Information

### Added documentation for licensing requirements

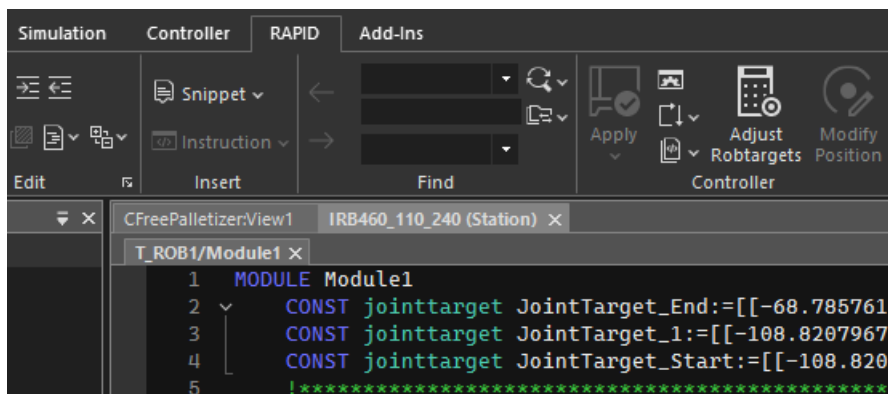
The RobotStudio Operating Manual has been updated to include the ports and URLs that must be whitelisted to ensure the licensing system functions correctly.

## New Functionality

- [Dark Theme \(preview\)](#)
- [Improved RAPID editor tooltips](#)
- [Improved RAPID syntax highlighting](#)
- [License information log included in support tool](#)
- [Linear jog robots without a Virtual Controller](#)
- [USD Export](#)

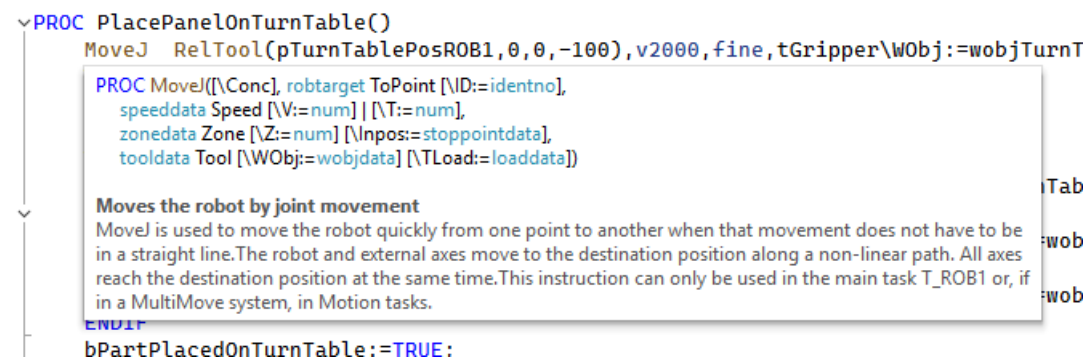
### Dark Theme (preview)

A dark theme is now available in RobotStudio as a preview feature. Since some parts of the application have not yet been fully updated to support the new theme, a confirmation dialog appears the first time you enable it.



### Improved RAPID editor tooltips

Quick info and completion tooltips in the RAPID editor now displays more detailed help for built-in routines and types.



### Improved RAPID syntax highlighting

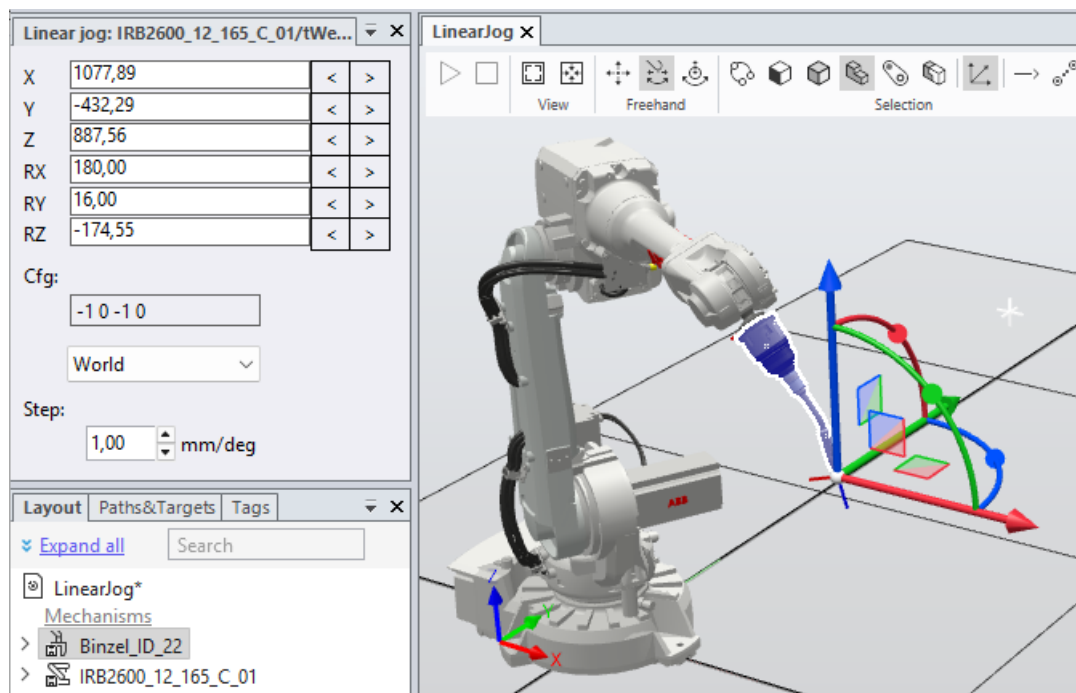
Installed routines, data and types now have different colors in the editor. Additional settings are also available in the Options dialog under "Text Editor".

### License information log included in support tool

A log file (CmDust) for the new licensing system will now be included as part of the support tool log package.

### Linear jog robots without a Virtual Controller

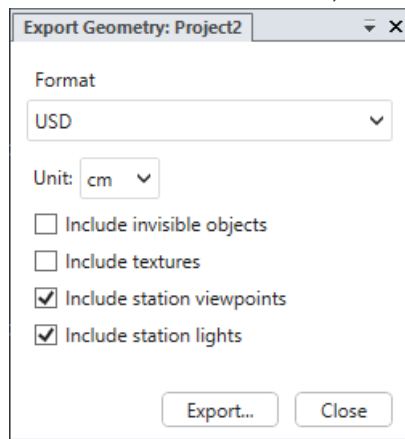
It is now possible to perform linear or reorient jogging of any robot even if it is not connected to a running Virtual Controller. This applies to the Jog TCP freehand mode and the Linear Jog tool.



## USD Export

Export Geometry now supports the USD (Universal Scene Description) 3D file format. A license for "CAD Converter USD Export" is required.

The file can be in either .usdc, .usda or .usdz format. When textures are included only .usdz is supported.



## Improvements

### License container management improvement

Pressing on "Create License Request File" button during manual activation of node locked license no longer creates an empty license container for each button press. Instead one empty container is created.

## Corrections

### Client disconnection when starting Move Along Path in meetings

Fixed an issue where starting "Move Along Path" while connected to a meeting unexpectedly disconnected the client.

### Meeting object visibility not updated and disconnect on target recreation

- Fixed an issue where changes to object visibility made by the Meeting host were not reflected on the client side.
- Also fixed an issue where recreating a target with the same name while connected to a meeting would unexpectedly disconnect the client.

### Graphic view exception

Fixed an issue that could cause errors when snapping to edges on a geometry generated with tolerant modeling.

### Missing question when loading existing RAPID module

Formatting has been improved so the question is always shown.

### Start Free Trial button remains enabled when trial active

The button is now disabled when a trial has already been granted.

### Tooltips overflow screen and become hidden at screen edges

Tooltips are now adjusted horizontally for the ribbon and horizontally and vertically for the toolbars above.

### Blank dropdown for Frames under Rotate Path

The second dropdown is now populated with frames from the active station.

### Exported Path Planning Data incomplete

Fixed a couple of issues with incomplete data when exporting Path Planning Data from a RobotStudio station:

- Kinematics information needed for palletizer robots was missing (the "additional\_params" field).
- The name of exported tools was missing.
- The list of self collision pairs was empty for the robot links (the "self\_collisions" field).

### Crash when performing Undo after Show Work Envelope

Fixed a crash that could occur if Undo was clicked after importing a robot and using the Work Envelope tool.

### Exception when adding I/O Connection

Fixed an error that could occur when adding an I/O connection in Signals and Connections.

### Not possible to start Virtual Controller with Swedish characters in path

Fixed an issue that prevented the creation or start of Virtual Controllers having Swedish characters in the path.

### Target/Path names not visible in 3D view

Fixed an issue that made texts in the 3D view unreadable when the background was set to a dark color.

**Cannot save RAPID module without write access**

Fixed an issue in Save Module As that caused an error if controller write access was not available. The reason was that write access was acquired in order to update persistent data in the module before saving. The persistent data will now only be updated if write access is available; otherwise a message will be written to Output and the module will be saved as is.

**Jobs: Unable to delete controllers from Device List**

The delete button (trash can icon) in the Jobs Device List editor had no effect. It now works as intended.

**Dynamic joint limits not updated**

Fixed a regression in the Joint Jog window where the joint limits were not automatically updated for robots with dynamic limits (for example palletizers).

**License proxy settings not used when logging in**

The proxy settings in the License tab of the RobotStudio Support Tool was only used by the CodeMeter Runtime. Changing the proxy setting now also affects RobotStudio's communication when logging in and retrieving licenses.

## Known Limitations

### I/O Engineering

#### Incompatibility with I/O Configurator 6

Using I/O Engineering (for OmniCore) and I/O Configurator 6 (for IRC5) in the same RobotStudio session may result in errors.

**Workaround:** Start a new RobotStudio session when configuring I/O for a different controller generation.

### I/O Configurator 6

#### Safety configuration problem with PROFIsafe Controller or CIP-Safety scanner

Changing safety settings in Visual SafeMove or I/O Configurator 6 does not always work in conjunction with the "PROFIsafe controller" or "CIP-Safety Scanner" option. Connection with robot controller can be lost during any IO-configuration, sometimes resulting in that the Flex Pendant reboots. Again this is only applicable when the PROFIsafe controller or CIP-Safety scanner option is present in the system. Problem is dependent on how many devices are configured on respective industrial network. I.e. EtherNet/IP or ProfiNet.

### Online

#### Signal Analyzer Online recordings not saved

When recording signals from a real controller with RobotWare 6.13.03 and later, or RobotWare 7.6.1 and later, there is a sporadic issue which causes the signal changes to not be recorded.

#### Routine variables can't be displayed in RAPID Watch with RobotWare 6.12

A limitation in RobotWare 6.12 prevents variables declared in a routine from being displayed in the RAPID Watch window.

#### Port speed cannot be set at the same time as 'Obtain IP address automatically'

In the Public Network settings dialog the Port speed drop down menu is disabled when 'Obtain IP address automatically' is selected.

#### Workaround:

1. Select 'Use the following IP address' and specify any valid IP address.
2. Select the desired port speed and press OK.
3. Select 'Obtain IP address automatically' and press OK.

#### Individual RAPID tasks cannot be stopped for RobotWare 5.60 and later

When running multitasking systems, it is not possible to start and stop individual tasks with the dropdown menu of the task node in the Controller browser. This is due a restriction introduced with RobotWare 5.60 and later. However, from RobotWare 6.03 onwards, then RAPID tasks to execute or to stop can be selected from RobotStudio RAPID tab.

#### FlexPendant Viewer running with automatic reloading

When having FlexPendant Viewer running with automatic reloading of the screens and at the same time jogging the robot with the joystick the robot jogging might halt when the FlexPendant Viewer reloads.

#### Cable harness not visible in Online Monitor

Physics-based dynamic cables that are part of a robot model are not visible in Online Monitor.

### Online – Paint

## **Backup for Paint systems does not create backup of the PIB for IRC5P with RobotWare 5.xx**

The Backup function of RobotStudio does not create a backup of the PIB board of the IRC5P system when running RobotWare 5.xx. Workaround: Create the backup of the PIB board with the FlexPaint Pendant using an USB-stick.

## **Go Offline does not work for Paint systems**

The Go offline function will not create a working Virtual controller system for Paint system unless the Paint package I/O option is set to Simulated.

## **Offline**

## **Point cloud data in JT files can't be imported**

Point cloud data in JT files is not imported by RobotStudio.

## **Issue with collision avoidance for palletizer robots**

When configuring collision avoidance for a palletizer robot using RobotWare 6.11, attaching an object to a mechanism link can result in an error and the configuration will not be loaded.

## **The YuMi library revision 1 cannot be successfully updated to YuMi revision 2**

When opening a Pack&Go file with a station that has a reference to `IRB14000_0.5_0.5__01.rslib` you get the option to update it to the newer `IRB14000_0.5_0.5__02.rslib`.

The following issues occurs if you select 'Yes' and update the model:

- The attached parts, for example Smart Grippers, are detached.
- The new YuMi robot is not connected to the virtual Controller.
- The old YuMi mechanism is converted to a component.

Answer 'No' to this question to keep the original revision 1 model and avoid the problems mentioned above.

## **RobotStudio needs to be restarted to update a modified library instance**

When editing a library file (.rslib) that is used in a currently open station, then RobotStudio needs to be restarted to update the library. Simply re-opening the station is not enough to update the content of the station. Unless RobotStudio is restarted, the old library instance will remain in memory and be loaded even though the underlying file has been updated. This is a known limitation and is expensive to fix. There is a workaround to the problem, which is to restart RobotStudio.

## **The robot IRB 1600ID 1.55 m / 6kg replaced by IRB 1660ID1.55 m / 6 kg in RobotWare 6.04**

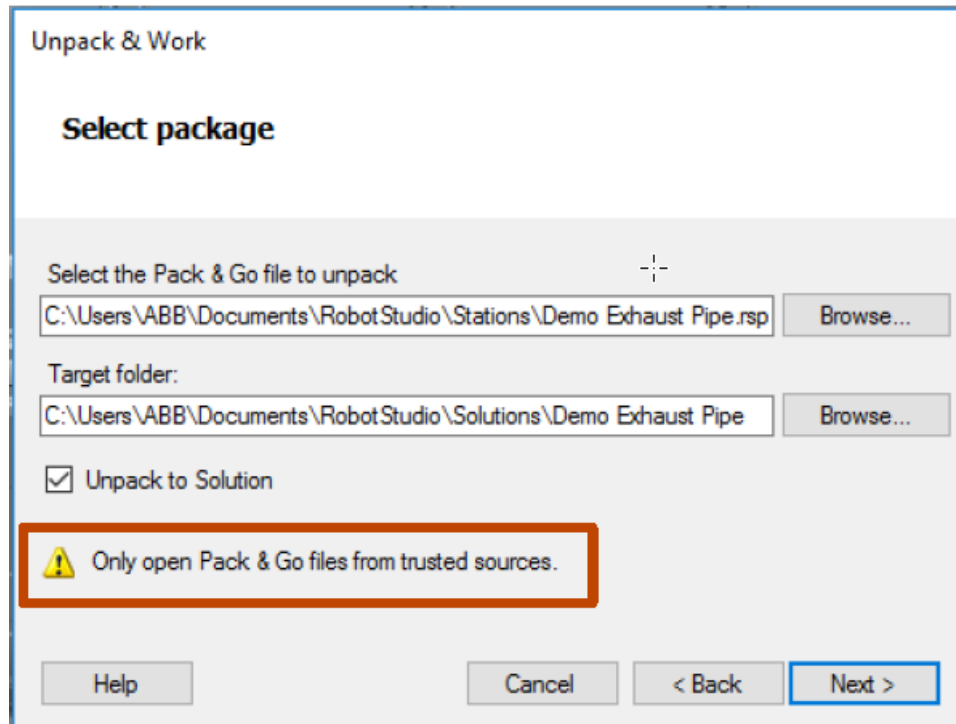
The robot IRB 1600ID 1.55 m / 6 kg is not available in RobotWare 6.04 and later. It has been renamed to IRB 1660ID 1.55 m / 6 kg. Virtual controller systems for IRB 1600ID 1.55 m / 6 kg based on RobotWare 6.03 cannot be upgraded to RobotWare 6.04 and later. This means that Pack&Go files for this robot based on RobotWare 6.03 cannot be upgraded to RobotWare 6.04 automatically

**Workaround:** Re-build or modify the virtual controller system to use IRB 1660ID 1.55 m / 6 kg instead when using RobotWare 6.04 or later.

## **FlexPendant and RAPID applications run with logged in user rights**

A FlexPendant or RAPID application running on the virtual controller runs with the rights of the logged-in Windows user. RAPID applications running in a background task will start to execute when the Pack&Go file is opened and FlexPendant applications will start to execute when the user starts the Virtual FlexPendant. A warning message has been added to the Unpack&Work wizard to make the user aware that only Pack&Go files (.rspag) from

trusted sources shall be opened.



### Compatibility of RobotStudio Library and Stations with older RobotStudio versions

RobotStudio is generally not forwards compatible in regards to project files. Opening a station in an earlier version of RobotStudio than was used to create it may lead to errors or loss of data. However, RobotStudio is backwards compatible, which means stations and libraries created in an earlier version can be opened in a later version.

### TrueMove path visualization fails for customized zone data

The TrueMove path visualization function only supports predefined zonedata. It will not work for user defined zonedata.

### Backup fails for RobotStudio solutions with SafeMove or Electronic Position Switches

Backups are automatically created for virtual controller systems that are part of a RobotStudio solution when saving the station. For virtual controller systems with the RobotWare options SafeMove or Electronic Positioning Switches the backup will fail since these systems contain files that are read-only. As a result, an error message is presented in the output window: `<System name>: Backup failed`. The station will be successfully saved but there will be no backup created. Workaround: Ignore the error message `<System name>: Backup failed` and create a manual backup whenever needed. The RobotStudio Option "Enable automatic backup of controllers in solution" that is available in "RobotStudio Options -> Robotics -> Virtual Controller" can be de-selected to disable the backup function.

### IRB 14000 cannot be combined with any other robot

The function system from layout fails if trying to create a MultiMove system where one robot is an IRB 14000. The reason is that the IRB 14000 cannot be combined with any other robot.

**Workaround:** Create a separate system for the IRB 14000.

### The Work Envelope function does not support IRB 14000/14050

The function is disabled for the IRB 14000/14050 and cannot be activated.

### The 2D work envelope fails for certain robot models

As a result, the generated work envelop may appear distorted.

### Update of current selection in the 3D graphics window may be delayed

A problem related to the graphics driver has been observed on certain PCs. The problem is that the update of the current selection in the 3D graphics is delayed until the next redraw.

**Workaround:** Add or uncomment the following line in the file RobotStudio.dll.config

```
<add key="DoublePresentWorkaround" value="true" />
```

### Failure to open Pack&Go file to same folder the second time

RobotStudio will prevent Pack&Go files to be opened to the same folder a second time if the station contains VC systems with the EPS or SafeMove option. This is by design to prevent the safety controller configuration file to be accidentally overwritten.

**Workaround:** Remove the write protection manually using Windows Explorer.

### Updates of instruction template and code snippets

RobotStudio will not automatically update the user files for instruction templates and code snippets files in the folders:

...*My Documents\RobotStudio\Instruction Templates*

...*My Documents\RobotStudio\Code snippets*

**Workaround:** The user has to manually copy the latest files from

*C:\Program Files (x86)\ABB\RobotStudio 202x\Instruction Templates*

and

*C:\Program Files (x86)\ABB\RobotStudio 202x\Code Snippets*

to the data folder.

### I/O signals configured with access level 'DEFAULT'

When IO signals are configured with access level 'DEFAULT', only input signals are possible to set/reset from the I/O Simulator and I/O Window. To be able to affect also output signals, set the access level to 'ALL' for them in the Configuration Editor.

### VC does not start with RRI option and GSI folder structure missing

The VC will hang when started with a system containing the RobotWare option RRI (Robot Reference Interface) if the GSI folder structure is missing.

**Workaround:** Create GSI Folder before starting the VC inside the *HOME* directory of the system. See the Application Manual for Robot Reference interface for more information.

### System in Guard Stop state in Automatic mode after run-time error

Certain run-time errors may cause the controller system to enter Guard Stop state in Automatic mode. This is the same behavior as in a physical robot controller system. This typically happens when a run-time error related to Conveyor Tracking occurs. A simulation cannot be started when the controller is in this state.

**Workaround:** To reset the controller state, open the Control Panel window and first switch to Manual mode, and then back to Automatic mode.

## Path handling of instructions with multiple joint targets

The path functions Rotate, Translate, and Mirror do not work as expected with instructions containing via points as jointtargets. The functions will leave the jointtargets as is. Interpolate Path gives an Unknown Error and Tool Compensation reports an error message.

## Event Manager: Simulation cannot be triggered by analog system signals

The event manager only supports analog station signals, not analog system signals.

## Record Movie requirements

Movie recording requires the optional Windows component 'Media Features' which is not included by default in Windows N versions. It can be installed from Settings > Apps > Optional features.

## Conveyor Tracking

### \*Conveyor objects must be re-added for stations created prior to RS 6.05

When opening stations with conveyor tracking created prior to RobotStudio 6.05, conveyor objects must be re-added.

### Incorrect default values for c1Position and c1Speed for RobotWare 5 with the PaintWare option

The default values for the parameters c1Position and c1Speed may become incorrect for a virtual controller system. The symptom is that its attribute values are all zero, see snapshot below.

**Workaround:** Save the following lines to a CFG file named 'TEMP.CFG' or similar and load in the virtual controller followed by a restart.

```
EIO:CFG_1.0:5:0::  
#  
EIO_SIGNAL:  
-Name "c1Position" -SignalType "AI" -Unit "CnvIf"\  
-SignalLabel "ctPosition" -UnitMap "0-31" -Access "ALL"\  
-MaxLog 21474.8 -MaxPhys 1 -MaxPhysLimit 1\  
-MaxBitVal 2147483647 -MinLog -21474.8 -MinPhys -1 -MinPhysLimit -1\  
-MinBitVal -2147483647  
-Name "c1Speed" -SignalType "AI" -Unit "CnvIf" -SignalLabel "ctSpeed"\  
-UnitMap "32-63" -Access "ALL"\  
-MaxLog 21474.8 -MaxPhys 1 -MaxPhysLimit 1\  
-MaxBitVal 2147483647 -MinLog -21474.8 -MinPhys -1 -MinPhysLimit -1\  
-MinBitVal -2147483647
```

## MultiMove

### MultiMove error: 'Object reference not set to an instance of an object'

When the Test Play button is pressed in the MultiMove tool, the following error message may be displayed: 'Object reference not set to an instance of an object', but the robot moves and the Status 'Calculation OK' is displayed. In addition, when 'Create Paths' is pressed the following message is displayed: 'Can't create paths : Value cannot be null', and no paths are created. In the 'Create Paths Settings', is the WP TCP drop down empty.

**Reason:** Workobject is not set for the current task.

## External Axis

### Error 50091: 'Restart not possible' after warm start of a system with external axis

When restarting a system with activated mechanical units the activation state is lost. Then the program can no longer be started from the Virtual FlexPendant, the RAPID Editor or the RAPID Tasks window.

**Workaround:** Reset the program pointer ('Program Pointer to Main') before starting the program from the Virtual FlexPendant, the RAPID Editor or the RAPID Tasks window, or, start the program from the Simulation Play button.

## Network Drives and UNC Paths

### RobotStudio on computers with roaming user profiles

RobotStudio may fail on PC configurations with roaming user profiles, i.e. when the users' documents folder resides on a server and not on the local disk.

**Workaround:** Redefine the 'User Project Folder' to a folder on the local disk (File → Options → General → Files&Folders → User Project Folder).

### Virtual Controller does not support UNC paths

UNC paths cannot be used to locate Virtual Controller systems. Using UNC paths for VC systems will cause the log message 'Failed to initialize FW upgrade framework' to appear when the system starts. Subsequent attempts to work with the VC such as synchronizing RAPID data will fail.

### Creating and starting systems located on a network drive

When using a network drive to store RobotStudio data such as RobotWare systems or the RobotWare mediapool, the following problems may occur:

- Virtual controller does not start
- Not possible to open Virtual FlexPendant

**Cause:** By default, the .NET Framework does not allow execution of code from a remote file system. This means the application may behave unexpectedly if the media used by the system or the system itself resides on a network share.

**Workaround:** To resolve this, the user must explicitly grant the required permissions:

1. Open the file *Virtual FlexPendant.exe.config* located in *C:\Program Files (x86)\ABB\RobotStudio 202x\Bin-net48*
2. Add the following lines:

```
<?xml version="1.0"?>
<configuration>
  <startup useLegacyV2RuntimeActivationPolicy="true">
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.0"/>
  </startup>
  <runtime> <!-- THIS IS ONE OF THE NEW LINES!!! -->
    <loadFromRemoteSources enabled="true"/> <!-- THIS IS ONE OF THE NEW LINES!!! -->
  </runtime> <!-- THIS IS ONE OF THE NEW LINES!!! -->
</configuration>
```

The Virtual FlexPendant must be restarted for the changes to take effect. For further information, see [http://msdn.microsoft.com/en-us/library/dd409252\(v=vs.100\).aspx](http://msdn.microsoft.com/en-us/library/dd409252(v=vs.100).aspx)

## RAPID

### Robtargets that are LOCAL to a PROCEDURE cannot be synchronized with RobotStudio

The RobotStudio synchronization engine that translates 3D data of the station to RAPID code and vice versa does not support robtargets that are declared locally to a procedure.

**Workaround:** Declare the robtargets as global or local to a module instead.

### **Robtarget names must be unique in RAPID even if they are LOCAL**

RobotStudio requires that robtarget names are unique for the RAPID synchronization to work properly, i.e. you cannot have a global robtarget named pMyTarget1 in module A and a local robtarget with the same name in Module B.

### **Global robtargets cannot be made local through Synchronization to VC**

Global robtargets cannot be changed to local through Synchronization to VC, the option is disabled (PDD 3140).

**Workaround:** Change the robtargets to module local in the RAPID Editor and Synchronize to station.

### **Error Message: Sync. to Station completed with errors**

Error Message: Sync to Station completed with errors: New data *name type* has same name as existing object in same block *routine*.

When this error message appears, there is a storage type mix-up between data already stored in RS and in the VC. Because of this, and per design, the data is not considered the same data.

### **Workaround:**

1. Ensure all data declarations have the same definition in RS as in RAPID (there is no user interface for this).
2. Sync to station should now work.
3. Sync back to controller, and remember to change the data declarations back to what you want.

## **Paint**

### **The new conveyor tracking module DSQC2000 is not supported for paint robots.**

The new conveyor tracking module DSQC2000 is not supported for paint robots.

### **Lack of Virtual Controller support for the Paint systems**

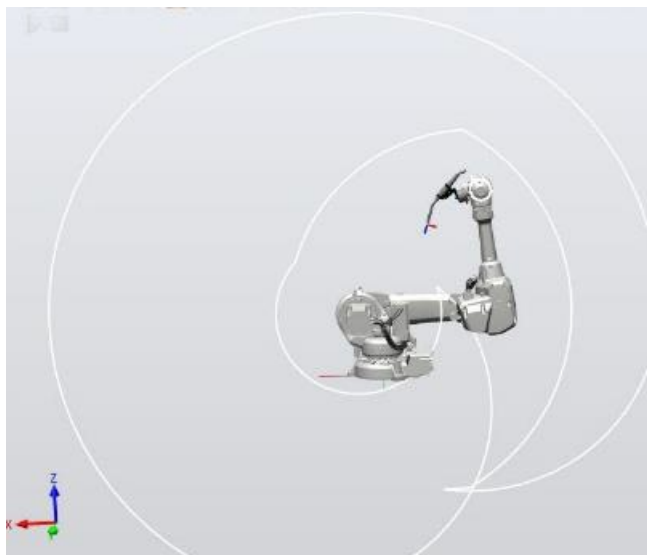
Paint systems that are configured using the Paint package I/O option Discrete, Compact or Fieldbus, will result in a SysFail state.

**Workaround:** Re-create the system with the simulated I/O option.

## **Graphics and Geometry**

### **\*Display of working range optimized for furthest reach**

The current algorithm uses a fixed value for joint five which gives the furthest reach for a given tool. The sweep is not optimized to get the shortest reach on the "inside" of the working area.



## Enforce selected graphics device for PCs with multiple graphics cards

For best performance when running RobotStudio on a PC with multiple graphics cards, RobotStudio can be configured to use a specified device. By this option you can ensure maximum performance. This is useful for e.g. Lenovo W540 that has both an integrated Intel graphics device and a discrete NVIDIA card.

Open the file *RobotStudio.dll.config* that is located in the folder

*C:\Program Files (x86)\ABB\RobotStudio 202x\Bin*

and uncomment the line:

```
<add key="GraphicsDeviceType" value="Discrete"/>
```

Valid values are 'Discrete', 'Integrated' and 'Warp' (software renderer).

## Problems when undoing Boolean operations on Geometry

Undoing a Boolean operation might not succeed. To recover from these problems, you need to delete the items that caused the problem.

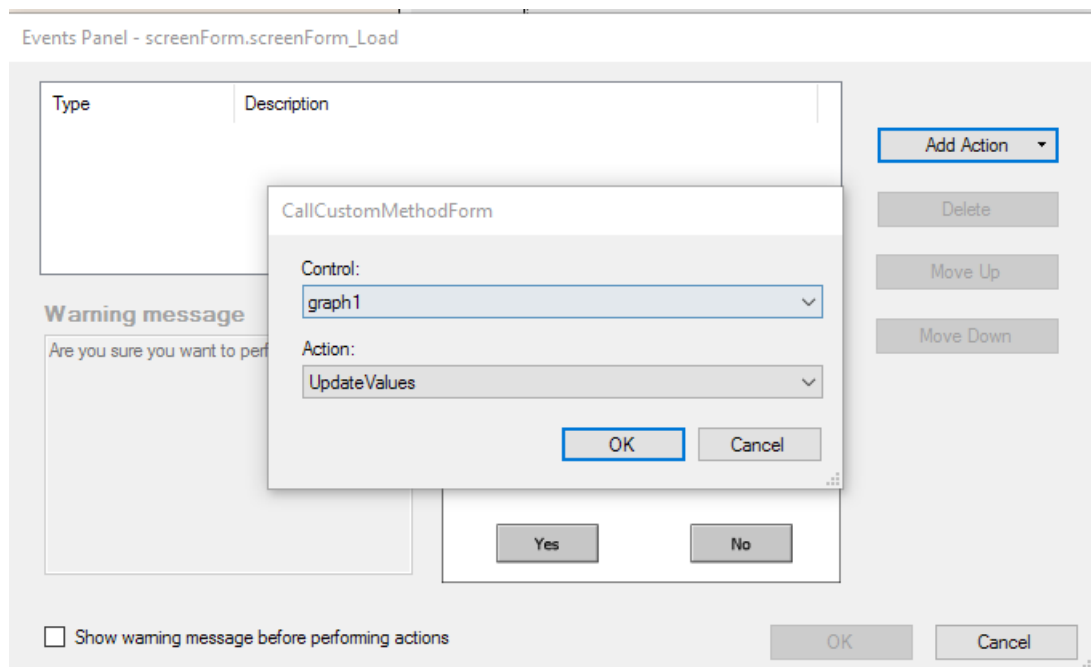
## ScreenMaker

### Numeric controls and decimal separators

To use numeric controls in ScreenMaker on the PC set the decimal symbol to a single period ('.'). Other decimal symbols are not supported and binding values will not work in the Virtual FlexPendant. The behavior on the real FlexPendant is not affected by this PC setting.

### Graphs on secondary screens

To use a Graph on a secondary screen (not the main screen) a custom action is needed. Otherwise, the Graph will not be updated properly. In the ScreenForm that contains the Graph add a Load event. In this event add an action using Add Action->Advanced->Call Custom Action. Select the Graph control and the UpdateValues action.



### Binding to the Enabled property

Connecting the *Enabled* property of any control to a BOOL variable or IO signal may not work as expected. The variable or signal may be inadvertently changed leading to unexpected behavior. Instead, bind to a digital output where the *Access Level* is set to *ReadOnly*

### A ScreenMaker cannot be deployed a controller with disabled Default User

**Workaround:** Enable the Default User.

### NumEditor in ScreenMaker disables the controls in a group box or panel

If you are using the NumEditor control in a group box or a panel, and that box or panel is enabled by an input signal, then all other controls of that group or panel will become disabled if the editor is opened and closed.

### Button with multiple states in ScreenMaker app do not update the images if button is disabled

For an app which uses Buttons with multiple states connected to images that change depending on the value of a RAPID variable, then if the button is disabled, the button shows the greyed image of the state which was active when the disabled state was shown the first time.

### ScreenMaker fails for RobotWare 5.12

ScreenMaker fails to build applications for RobotWare 5.12.

**Workaround:** Update to a later RobotWare version.

### A ScreenMaker application may fail to build if the DPI setting is not set to 100%

Certain UI controls in ScreenMaker may fail to build correctly if the DPI setting is not set to 'Smaller – 100%'.

**Symptom:** The error message caused by this problem will read 'System.Drawing.Font' does not contain a constructor that takes 2 arguments.

**Workaround:** Set DPI to 100% on your PC.

### File changes to FlexPendant applications does not load the changes until a FlexPendant reset

With RobotWare 6.0x the controller's restart will no longer reset the FlexPendant memory. This was part of an effort to improve the restart time of the controller. This means that after placing a new FlexPendant application file(s) on the FlexPendant unit, you need to manually reset the FlexPendant for it to reload its assets.

To manually reset the FlexPendant you need to use the reset button on the FlexPendant's backside. (See Operating Manual – IRC5 with FlexPendant, 3HAC16590)

### **Running Routine with Movement**

RunRoutine Button control does not always work correct when a routine with movements is called. As a workaround use instructions like StopMove, StorePath, RestorePath and StartMove to control the movements of the robot. A Trap routine could be called with a normal button control and in the Trap the above instructions can be used to control the movements of the robot.

# RobotWare Compatibility

## Supported RobotWare versions

RobotStudio works with RobotWare 5.07 and later. Please check details below. The latest supported RobotWare version for IRC5 and OmniCore controllers is stated under Help/About in RobotStudio. RobotWare packages can be added to RobotStudio from the Add-Ins Gallery window.

### RobotWare 5.05 and 5.06 Compatibility

RobotWare 5.05 and 5.06 including revisions thereof are not supported by RobotStudio 5.15 and later versions. Please use the corresponding version of RobotStudio for managing robot controllers with any of these RobotWare versions.

### RobotWare 5.07 Compatibility

#### General

The location of the program pointer is not updated in the RAPID Editor during program execution.

#### Offline

A limitation in the versions 5.07.02, 5.07.03, and, 5.07.04 of RobotWare may cause the Virtual Controller to System Failure state during I-start on certain computers. The problem is due to the ctrl.bin-file not being correctly created.

**Workaround:** Create an empty ctrl.bin file in the INTERNAL folder of the controller system, and then perform a warm start.

**Note:** The problem will reappear if the system is I-started. The virtual controller does not support RobotWare 5.07.08 and RobotWare 5.07.07.

#### Online

*FlexPendant Viewer* does not work RobotWare 5.07.

### RobotWare 5.08 Compatibility

RobotWare 5.08 and its revisions of are supported with the following limitations:

#### Offline

RobotWare 5.08 is not supported.

**Workaround:** Use RobotWare 5.08.01 or later.

### RobotWare 5.10 Compatibility

RobotWare 5.10 and its revisions of are supported with the following limitations:

#### Offline

Starting a controller will generate internal UAS error in controller error log.

### RobotWare 5.11 Compatibility

RobotWare 5.11 and its revisions of are supported with the following limitations:

#### Offline

Linear jogging of a robot across joint values that will cause a change of confdata may fail. For example, if the robot is jogged linearly when joint values is passing 90 degrees for axis 1 may cause the robot to stop or to change configuration.

## RobotWare 5.12 Compatibility

RobotWare 5.12 and its revisions of are supported with the following limitations:

### Paint

Paint backups from RobotWare 5.12.01 are not compatible with RobotWare 5.12.02 or later. Restoring a paint system backup from RobotWare 5.12.01 will cause SysFail for RobotWare 5.12.02 or later.

**Workaround:** Add the following parameters to the configuration files:

EIO.CFG

```
EIO_SIGNAL :
-Name "doMainInMC" -SignalType "DO" -Unit "SysComm" -UnitMap "44"
-Name "A1HVErrNo" -SignalType "GO" -Unit "SysComm" -UnitMap "150-151"\
-Access "ALL"
-Name "A1HVErr" -SignalType "DO" -Unit "SysComm" -UnitMap "155"\
-Access "ALL"

EIO_CROSS:
-Res "A1HVErr" -Act1 "HVErrEnabled"
```

SYS.CFG:

```
CAB_TASK_MODULES:
-File "INTERNAL:/pntrapid/T_ROB1/cycinfo.sys" -ModName "cycinfo"\
-Task "T_ROB1"
-File "INTERNAL:/pntrapid/csvlkup.sys" -ModName "csvlkup" -AllTask \
-Hidden
```

## RobotWare 5.13 Compatibility

RobotWare 5.13 and its revisions of are supported with the following limitations:

### Paint

Paint backups from RobotWare 5.12.02, 5.12.03 or RobotWare 5.13 or 5.13.01 not compatible with RobotWare 5.13.02 or RobotWare 5.13.03. There are several changes in the configuration database for I/O (EIO.CFG) and Controller (SYS.CFG) that will cause System Failure if an old backup is loaded. There are also changed in installed RAPID modules. To create a compatible configuration, proceed as follows:

1. Create and start a VC with a RobotWare 5.13.03 system containing the same options as your original backup, but do not load the backup.
2. Save the EIO.CFG and SYS.CFG to file.
3. Compare the saved files with the corresponding files of your backup. (You can use a text file comparison tool for simplification.)
4. Add your system-specific configuration to the general configuration files saved from the 5.13.01-system using a text editor.
5. Replace the files of the original backup with the corresponding modified configuration files.
6. Go through the RAPID modules of the backup and remove the default modules (i.e. those that are not changed by the user).
7. Load the backup and restart the system. You are done.

## RobotWare 5.15 Compatibility

### Signal Analyzer Online

The feature Signal Analyzer Online requires RobotWare 5.15.03 or later.

## RobotWare 6 Compatibility

### Overview

RobotWare 6.00 and 6.00.01 systems cannot be directly upgraded to RobotWare 6.01. To upgrade a system, you need to create backup and migrate it using the tool 'Migrate Backup or Folder', then recreate the system and finally, restore the backup. For this reason, the functions 'Unpack&Work', 'Go Offline' and 'New Solution with Station and Robot Controller – From backup' are blocked to prevent upgrade from RobotWare 6.00 or 6.00.01 to RobotWare 6.01. RobotStudio, however, is compatible with both RobotWare 6.00 / 6.00.01 and 6.01.

### General Compatibility Limitations

#### Safety Configuration

Safety configuration of a track motion IRC5 system equipped with a safety controller of type EPS or SafeMove can be done without the need to read track motion parameters manually when using RobotWare 5.11.01 or later. Encrypted parameters needed by the safety controller will be automatically read by EPS Wizard and SafeMove Configurator, respectively.

#### Configurations

The feature **Configurations** for selecting the robot arm configuration (confdata) may fail, or not present all solutions, in some specific circumstances even when the target is reachable if RobotWare 5.14 or earlier is used.

**Workaround:** Upgrade to RobotWare 5.14.01 or later

#### Microsoft Visual C++ 2010/2013 requirement

The redistributables for Microsoft Visual C++ 2010 and 2013 are no longer included in the RobotStudio installer. These are required when starting a Virtual Controller using RobotWare 5.x or RobotWare 6.00 - 6.06. If the requirement is not already installed on the PC, the user will be prompted to download and install it when such a Virtual Controller is started.