Control Cabinet

No Arc Welding Equipment

ABB Flexible Automation AB
Welding Systems
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Welding Systems

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1 Process equipment

1.1 General

Software
Connection of process equipment for arc welding requires a control cabinet ordered with one of the software options 551/552, ARCWARE/ARCWAREplus.

Welding equipment
For robots IRB140/1400/2400 there is fully prepared welding equipment available adapted for connection to the system:
Some welding equipment with the wire-feed unit mounted on the robot’s upper arm utilise the internal cable harness in the robot for connection of signals. In these cases the robot must be ordered with option 042 “Integrated wire-feed unit cables”.

Accessories
The system is prepared for the easy connection of different accessories to the process equipment such as:
Mechanical gun cleaner
Calibration equipment
Joint location equipment
Joint tracking equipment

1.2 System design

Free-standing welding power supply
There is a process control card for communication with the robot's control system for control and supervision of the welding power source, wire-feed system and connected accessories. This is mounted on a module together with other components for control of the process equipment in the control cabinet.
A process control card with integrated motor regulator is used for welding equipment from the standard range.
Communication between the process control card and the control system takes place via a CAN-bus.
This system also makes it possible to control some welding power sources from other OEM-brands.
Connection of an OEM-welding power source demands full conversance with the operation of the power source, how signal exchange should be managed and how the welding power source in question should be configured in the control system.
Welding power source integrated with the control cabinet

Communication with the control system takes place directly via the CAN-bus for this type of welding power source. The welding power source is available in two designs, integrated with the control cabinet or free-standing.

A process control card is used for communication with the robot’s control system for control and supervision of the wire-feed system and connected accessories.

1.3 Connection

The cable harness to external equipment is connected to the output on the left-hand side of the cabinet or to jackable terminals mounted internal by the separable cable gland.
4. Wire feed unit motor  
5. Wire feed unit signal  
6. Power source  
7. Wire feed unit ALU 40kg  
8. TCP-tool / Water cooling unit  
9. Mechanical cleaner  
20. Spare / Power source LRC  
21. Wire feed unit ALU 40kg
1.3.1 Strapping unit NO AW

The welding equipment’s interface is replaced by an assembly plate on installations without welding equipment. This includes requisite strapping, etc. for internal wiring inside the cabinet.

The assembly plate is fitted on inside of the cabinet’s right-hand side panel and can be used as extra space for other customer specific equipment.

1. Power supply. A202-X3
2. Strapping unit emergency stop. A202-X3

Power supply
The following voltages are available on the jackable terminal A202-X3:
   • 24V DC (24V I/O)
   • 115V AC
   • 230V AC

Control

Interlocks
The following run chain signals are available on the jackable terminal A202-X2:
   • Auto stop
   • General stop
- External motors on
- External motors on contactor control

The following emergency stop signals are available on the jackable terminal A202-X1:
- External push button
- Emergency stop out
- External limit switches

**CAN-bus**

The terminated CAN-bus channel A202-TB2 can be used, e.g. for the connection of an extra I/O card.
2 Reservdelsförteckning/Spare Parts List

Reservdelar beställs genom ABB Flexible Automation AB. Vid beställning var vänlig uppgör typ och tillverkningsnummer samt benämningar och beställningsnummer enligt reservdelsförteckningen.

Rätt till ändring av specifikationer utan aviseringsförbehålles.

Spare parts are to be ordered from ABB Flexible Automation AB. Kindly indicate type of unit, serial number, denominations and ordering number according to the spare parts list.

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