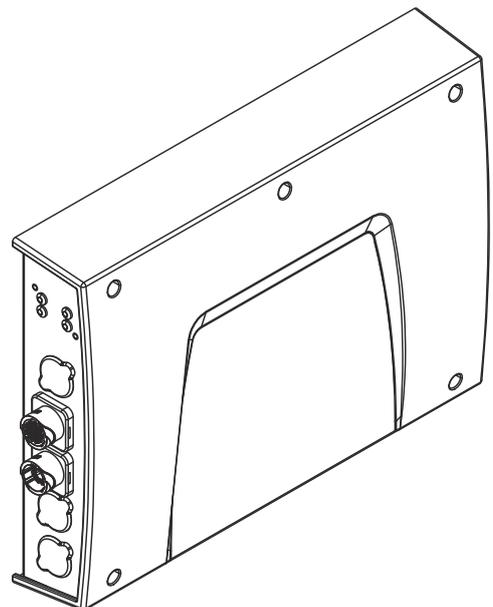


Operating Instructions

RI FB PRO/i



EN | Operating Instructions



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General

Safety

⚠ WARNING!

Danger from incorrect operation and work that is not carried out properly.

This can result in serious personal injury and damage to property.

- ▶ All the work and functions described in this document must only be carried out by technically trained and qualified personnel.
- ▶ Read and understand this document in full.
- ▶ Read and understand all safety rules and user documentation for this device and all system components.

⚠ WARNING!

Danger from electric current.

This can result in serious personal injury and damage to property.

- ▶ Before starting work, switch off all the devices and components involved and disconnect them from the grid.
- ▶ Secure all the devices and components involved to prevent unintentional re-starting.

⚠ WARNING!

Danger from unplanned signal transmission.

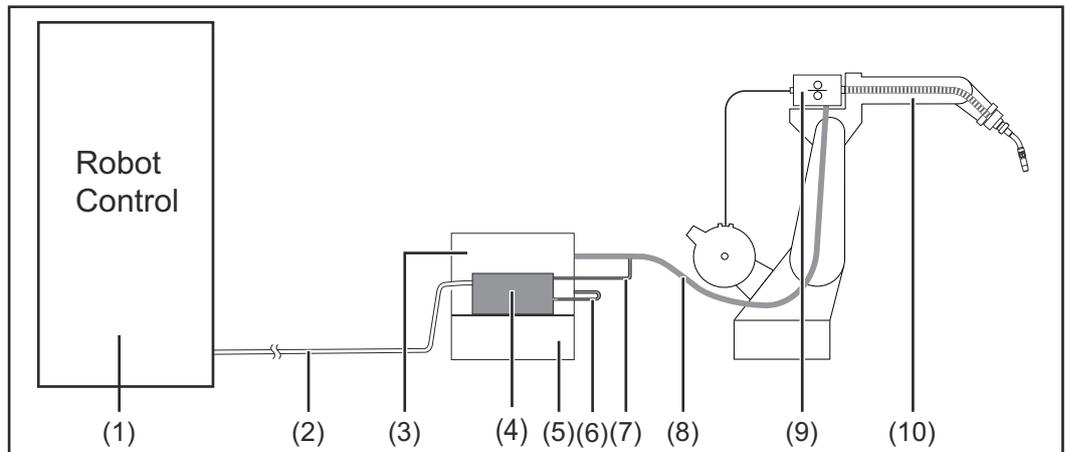
This can result in serious personal injury and damage to property.

- ▶ Do not transfer safety signals via the interface.

Device concept

The RI FB PRO/i robot interface serves as the interface between the power source and standardised bus modules for a wide range of communication protocols (e.g. Profibus, ProfiNet IO, DeviceNet, CANopen, etc.).

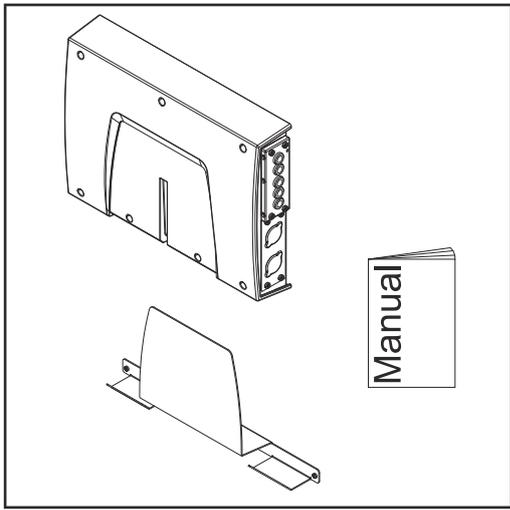
The robot interface can either be fitted to the power source at the factory by Fronius or at a later time by suitably trained technicians.



(1) Robot control	(6) SpeedNet connection cable
(2) Robot control data cable	(7) SpeedNet cable from interconnecting hosepack

(3) Power source	(8) Interconnecting hosepack
(4) RI FB PRO/i robot interface	(9) Wirefeeder
(5) Cooling unit	(10) Robot

Scope of supply



Environmental conditions

⚠ CAUTION!

Danger due to unacceptable environmental conditions.

This can result in severe damage to the device.

- ▶ The device must only be stored and operated in the following environmental conditions.

- Ambient air temperature range:
- During operation: -10 °C to +40 °C (14 °F to 104 °F)
 - During transport and storage: -20 °C to +55 °C (-4 °F to 131 °F)

- Relative humidity:
- Up to 50% at 40 °C (104 °F)
 - Up to 90% at 20 °C (68 °F)

Keep ambient air free from dust, acids, corrosive gases and substances, etc.

Can be used at altitudes of up to 2000 m (6500 ft).

Technical data

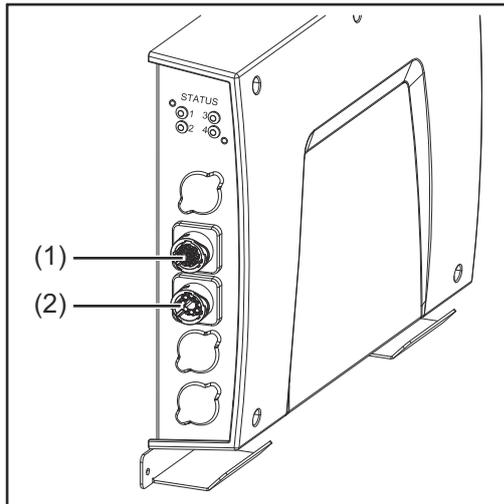
Power supply	internal (24 V)
Protection class	IP 20

Connection sockets and indicators on the robot interface

General

As a result of customer-specific requirements, you may find that your device has certain connection sockets that are not described in these Operating Instructions, or vice versa. However, this does not affect the basic functions of the device.

Connections for the power source and system components

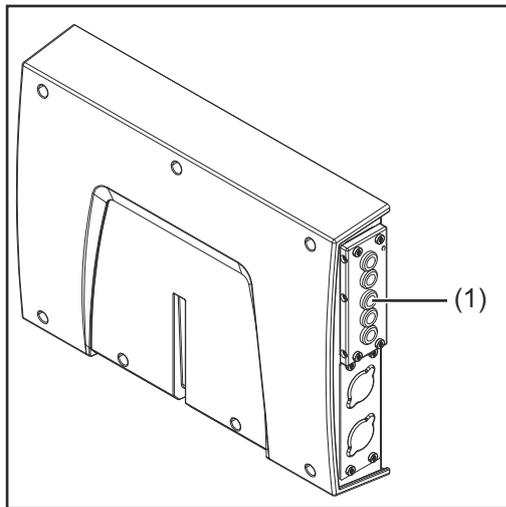


-
- (1) SpeedNet connection**
For connecting the SpeedNet connection cable - to connect the power source to the robot interface
-
- (2) SpeedNet connection**
For connecting the SpeedNet cable from the interconnecting hosepack - to connect to other system components, e.g. the wirefeeder
-

Connection sockets for the robot control

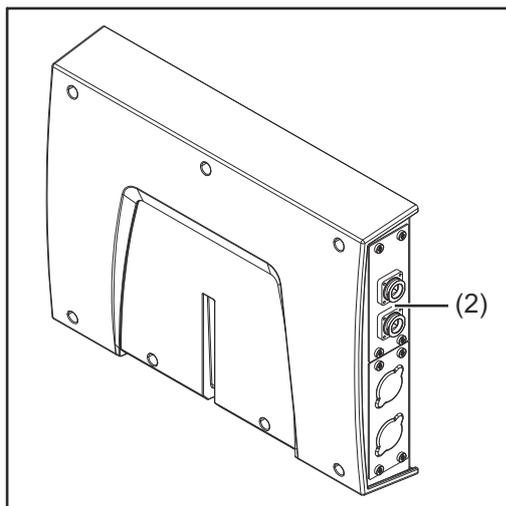
The robot interface is supplied with one of the following connection configurations depending on the requirement.

Basic configuration example:



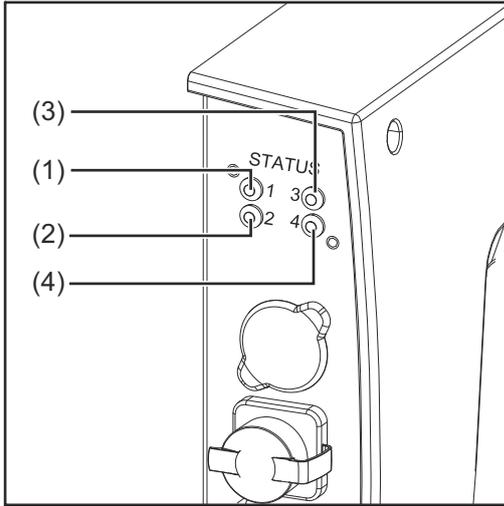
- (1) **Strain-relief device**
The robot control cable harness must be guided through the strain-relief device inside the robot interface and connected directly to the bus module.

ProfiNet IO, Ethernet/IP 2P, etc. configuration example:



- (2) **Connection sockets for the relevant bus module**
The connections for the bus module are routed to the outside of the robot interface at the factory. The robot control cable harness can be connected directly to the outside of the robot interface.

Indicators on the interface



(1)	Heartbeat LED	
	Heartbeat status LED	Heartbeat meaning LED
	Off	Offline; no supply voltage
	Flashing green	The PC board operating system is working properly
(2)	No function	-
(3) + (4)	see description of the respective bus module	-

Installation variant 1: installing the bus module, installing the robot interface

Safety

WARNING!

Danger from electric current.

This can result in serious injury or death.

- ▶ Before starting work, switch off all the devices and components involved and disconnect them from the grid.
- ▶ Secure all the devices and components involved to prevent unintentional re-starting.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

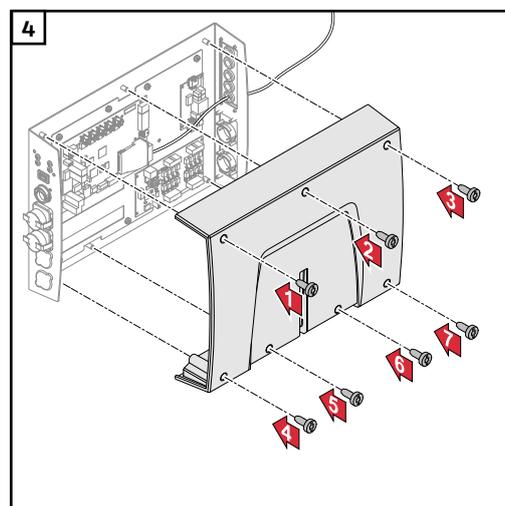
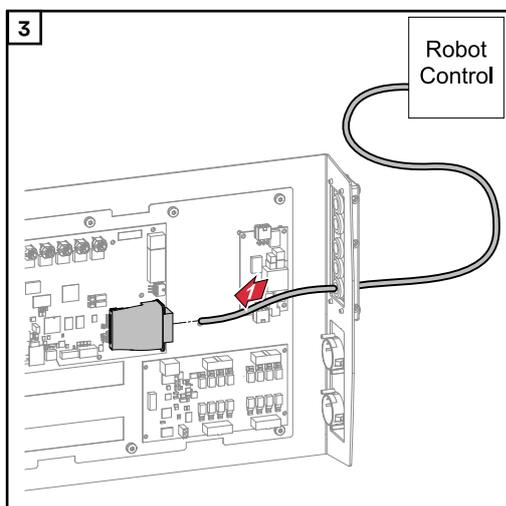
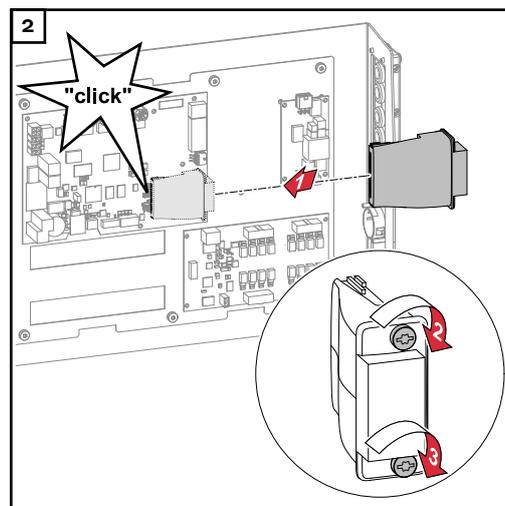
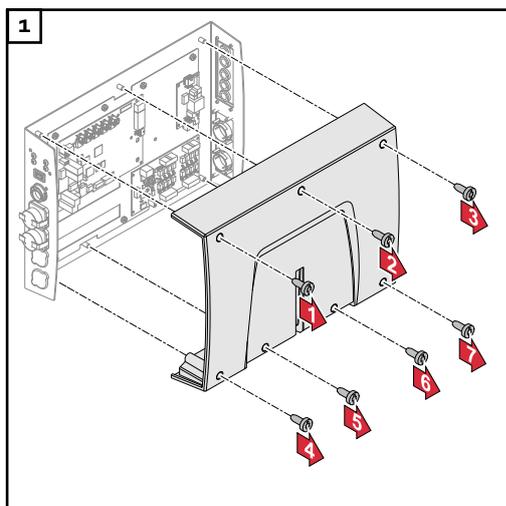
WARNING!

Electrical current hazard caused by an inadequate ground conductor connection.

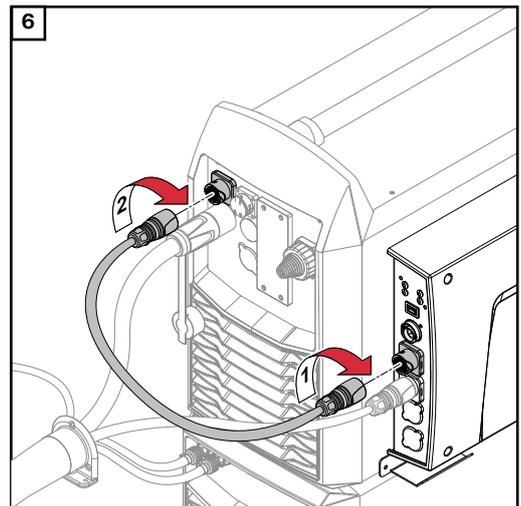
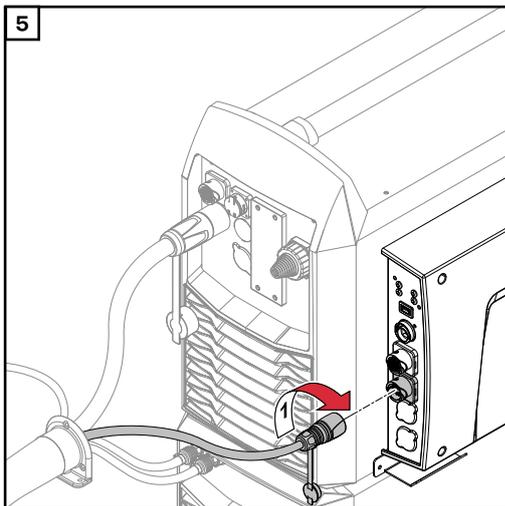
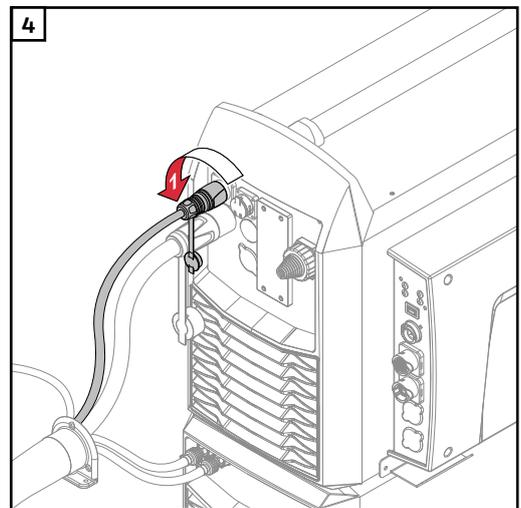
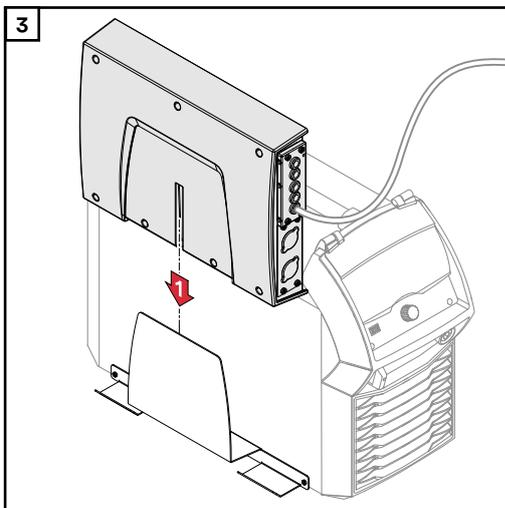
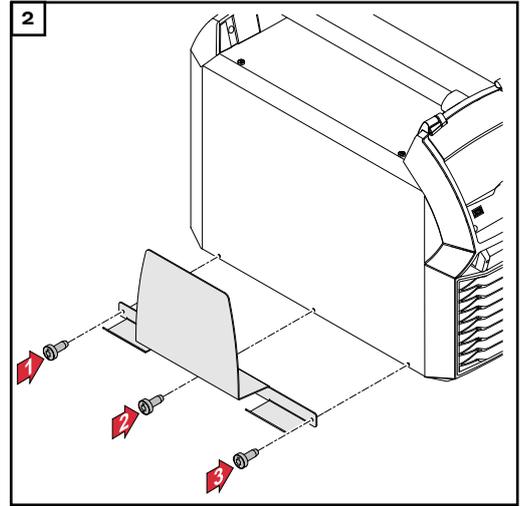
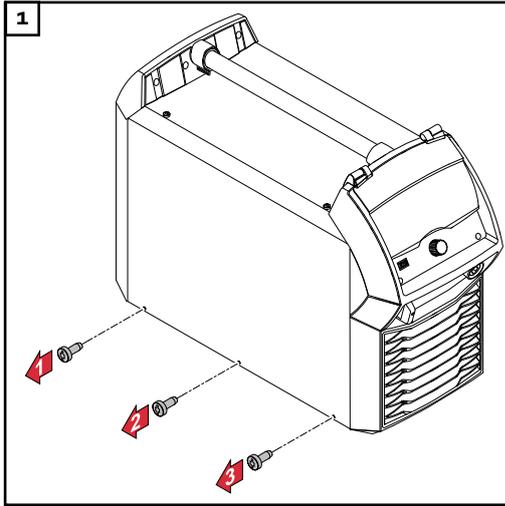
This can result in serious injury and damage to property.

- ▶ Always use the original housing screws in the original quantity.

Inserting the bus module in the robot interface and connecting it to the robot control



Fitting the robot interface and connecting it to the power source



Installation variant 2: installing the robot interface with integrated bus module

Safety

WARNING!

Danger from electric current.

This can result in serious injury or death.

- ▶ Before starting work, switch off all the devices and components involved and disconnect them from the grid.
- ▶ Secure all the devices and components involved to prevent unintentional re-starting.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

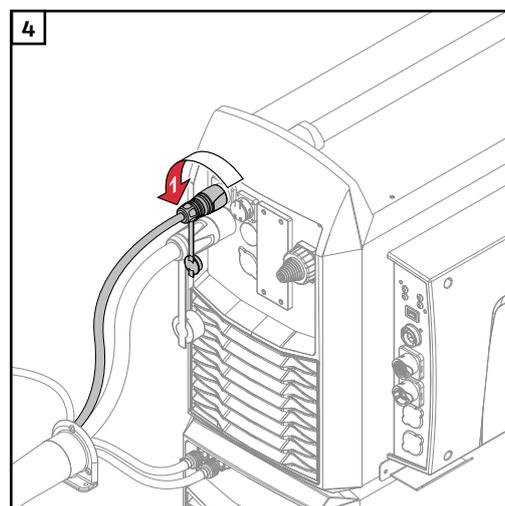
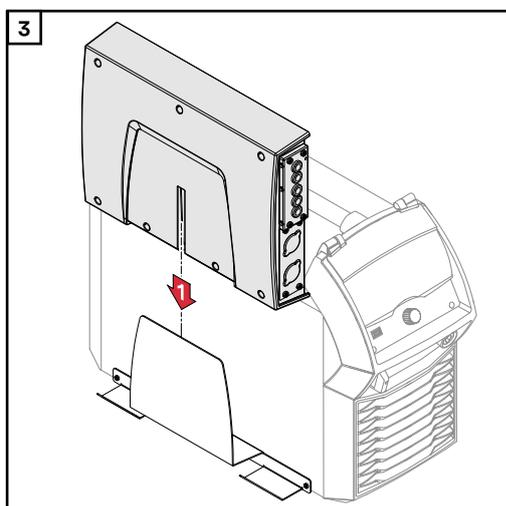
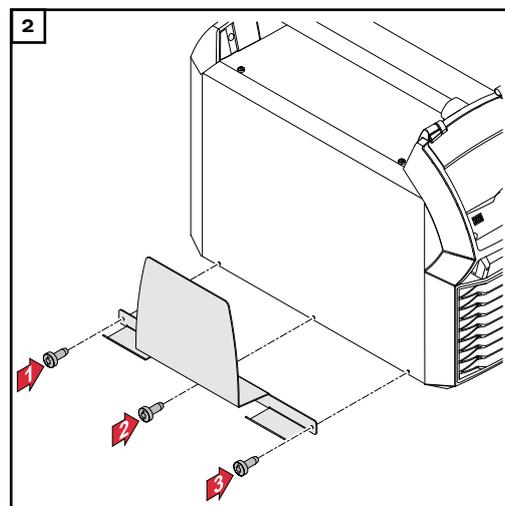
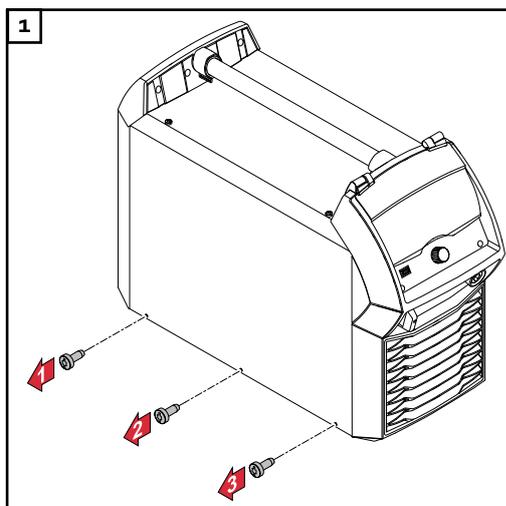
WARNING!

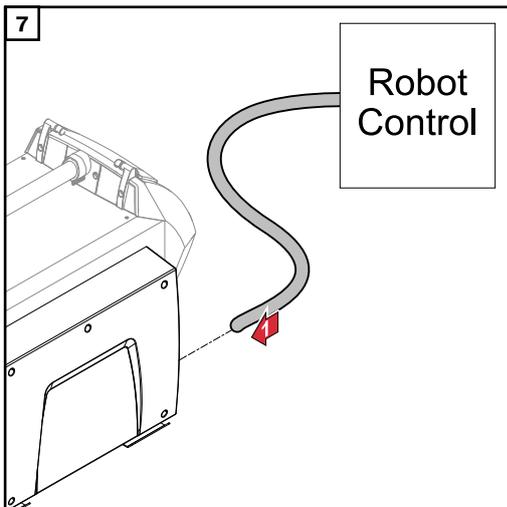
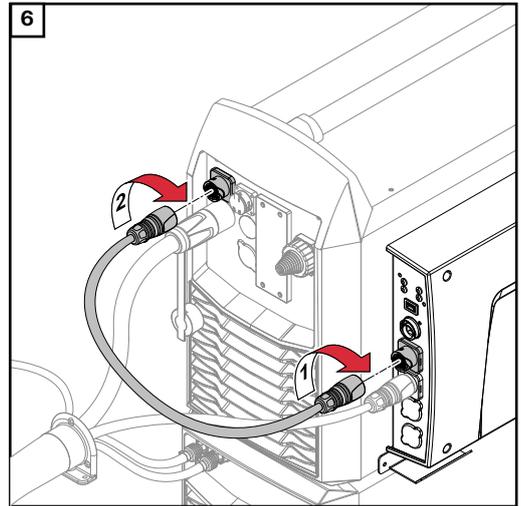
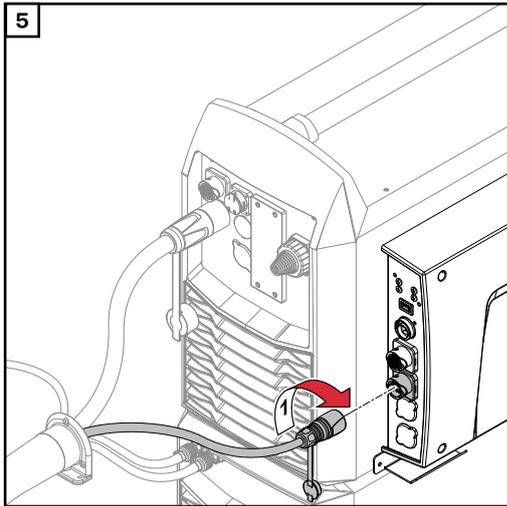
Electrical current hazard caused by an inadequate ground conductor connection.

This can result in serious injury and damage to property.

- ▶ Always use the original housing screws in the original quantity.

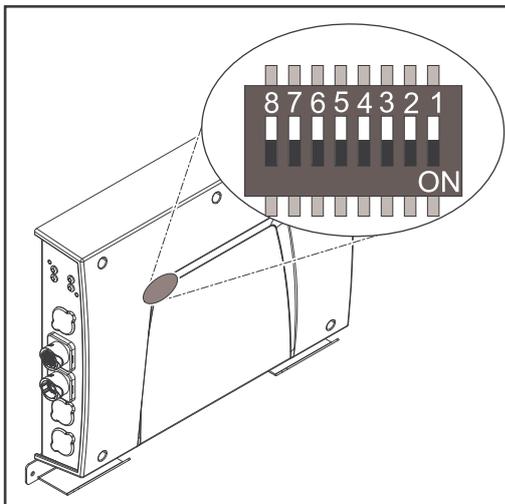
Installing the robot interface





DIP switch

General remarks



Depending on the bus module being used, the DIP switch inside the robot interface can be used to set the node address/IP address.

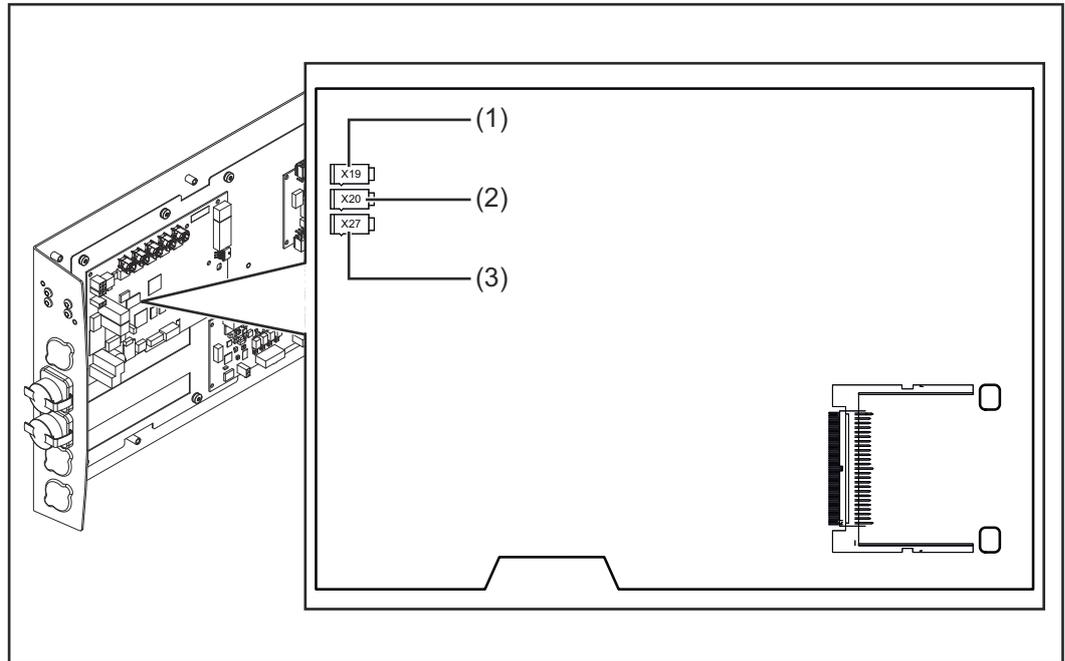
Example: setting the node address/IP address

DIP switch								Node address
8	7	6	5	4	3	2	1	
-	-	OFF	OFF	OFF	OFF	OFF	ON	1
-	-	OFF	OFF	OFF	OFF	ON	OFF	2
-	-	OFF	OFF	OFF	OFF	ON	ON	3
-	-	ON	ON	ON	ON	ON	OFF	62
-	-	ON	ON	ON	ON	ON	ON	63

The node address/IP address is set using DIP switch positions 1 to 6. The setting is in binary format. This provides a setting range from 1 to 63 in decimal format.

Notes on the robot interface power supply

Notes on the interface power supply



- By default the interface is supplied with +24 V DC via connector X19 (1)
- If the interface has connection sockets for an external power supply, these sockets must be connected to connector X20 (2) or X27 (3), through which the interface is supplied with +24 V DC
- The interface can be supplied with power through connectors X19, X20 and X27 in parallel. If this is the case, the interface will continue to function even if one of the power supply lines is disconnected
- If the interface is to be switched on and off via an external power supply, the connection between the interface and connector X19 must be broken

Fault diagnosis

Safety

⚠ WARNING!

Danger from electric current.

This can result in serious injuries and death.

- ▶ Before starting work, switch off all the devices and components involved and disconnect them from the grid.
- ▶ Secure all the devices and components involved to prevent unintentional re-starting.
- ▶ After opening the device, use a suitable measuring instrument to check that electrically charged components (such as capacitors) have been discharged.

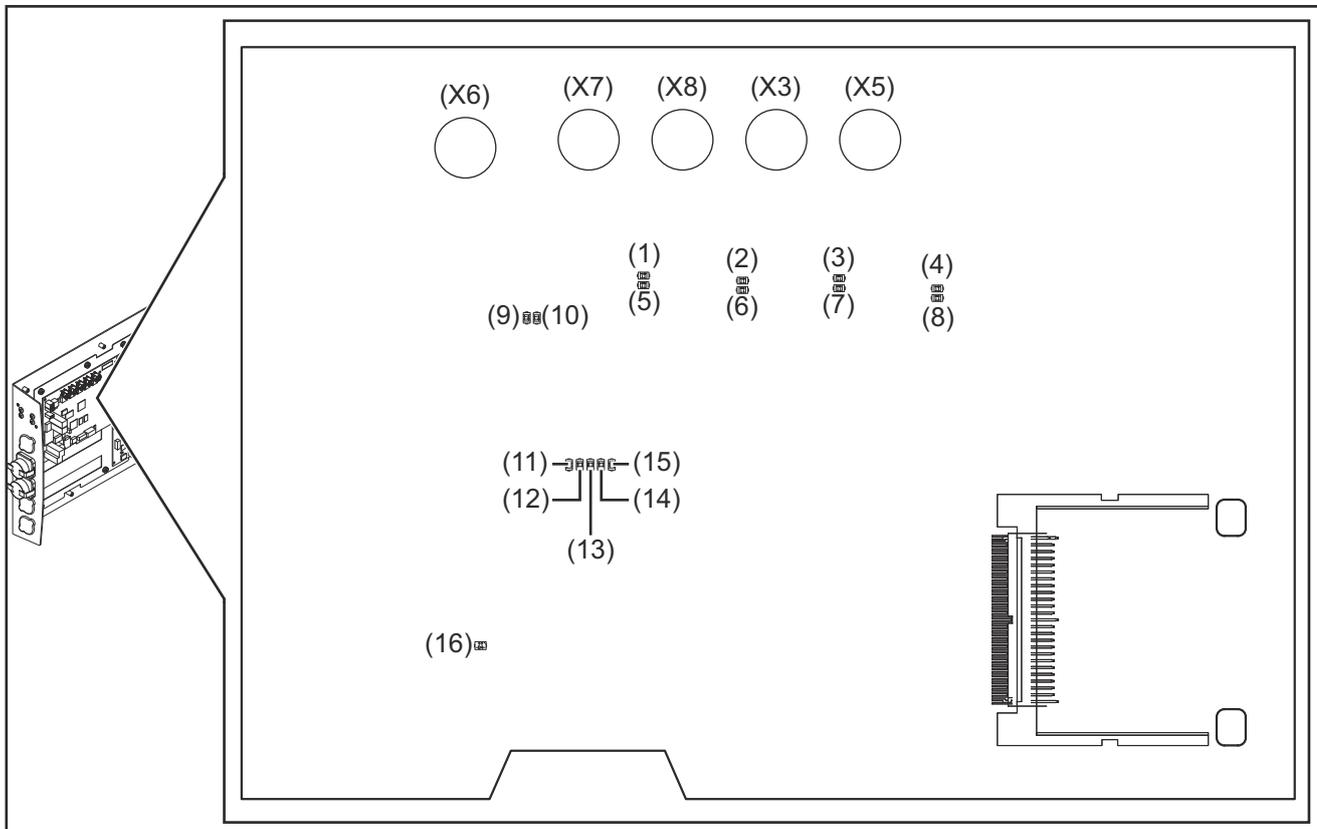
⚠ WARNING!

Danger from electrical current due to inadequate ground conductor connection.

This can result in serious injury and damage to property.

- ▶ Always use the original housing screws in the original quantity.

LEDs on the robot interface PC board



LEDs for network connection diagnosis:

LED	Display	Meaning	
(1)	LED LINK	Lights up orange	Transmission speed 100 Mbps
		Off	Transmission speed 10 Mbps
(2)	LED LINK	Lights up orange	Transmission speed 100 Mbps
		Off	Transmission speed 10 Mbps
(3)	LED LINK	Lights up orange	Transmission speed 100 Mbps
		Off	Transmission speed 10 Mbps
(4)	LED LINK	Lights up orange	Transmission speed 100 Mbps
		Off	Transmission speed 10 Mbps
(5)	LED ACTIVITY	Lights up orange	A cable is connected to the X7 connector
		Lights up/flashes green	Data transfer active
(6)	LED ACTIVITY	Lights up orange	A cable is connected to the X8 connector
		Lights up/flashes green	Data transfer active
(7)	LED ACTIVITY	Lights up orange	A cable is connected to the X3 connector
		Lights up/flashes green	Data transfer active
(8)	LED ACTIVITY	Lights up orange	A cable is connected to the X5 connector
		Lights up/flashes green	Data transfer active
(9)	LED ACTIVITY	Lights up/flashes green	Data transfer active
(10)	LED SPEED	Lights up green	A cable is connected to the X6 connector
(11)	LED LINK	Not assigned	-
(12)	LED LINK	Not assigned	-
(13)	LED LINK	Not assigned	-
(14)	LED USER3	Lights up/flashes green	For fault analysis
(15)	LED USER4	Flashing green	The PC board operating system is working properly

LEDs for power supply diagnosis:

LED	Display	Meaning	
(16)	LED +5V	Lights up green	5V operating voltage available
		Off	No working voltage available



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