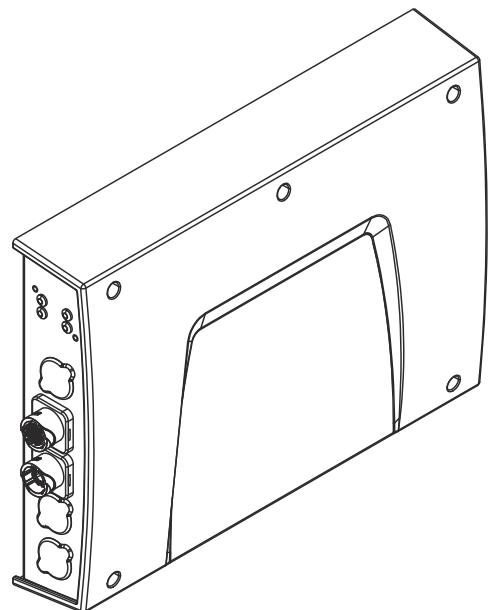


Operating Instructions

RI FB PRO/i TWIN Controller



EN-US | 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 equipment and all system components.
-

WARNING!

Danger from electrical 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 devices and components involved so they cannot be switched back on.
-

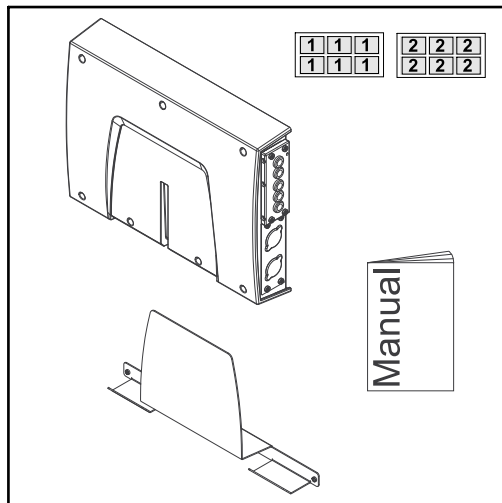
WARNING!

Danger from unplanned signal transmission.

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

- ▶ Do not transfer safety signals via the interface.
-

Scope of Supply



Environmental Conditions

CAUTION!

A risk is posed by prohibited environmental conditions.

This can result in severe damage to equipment.

- ▶ Only store and operate the device under the following environmental conditions.

Temperature range of ambient air:

- 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)

Ambient air: free of dust, acids, corrosive gases or substances, etc.

Altitude above sea level: up to 2000 m (6500 ft).

Technical Data

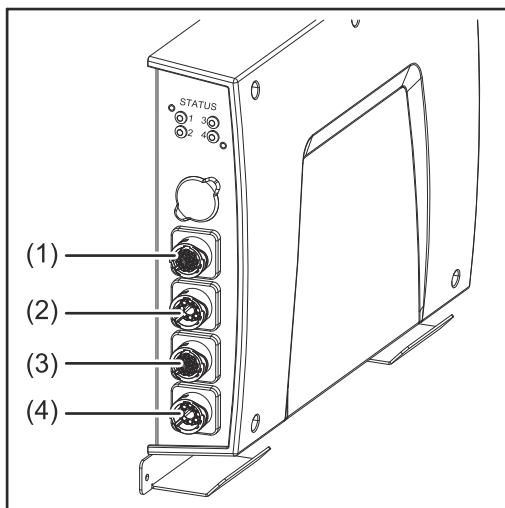
Power supply	internally (24 V)
Protection class	IP 20

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.

Connection Sockets for the Power Source and System Components



(1) SpeedNet connection socket

To connect to the first power source.
Connection using SpeedNet connection cable.

(2) SpeedNet connection socket

To connect to other system components, such as the first wirefeeder.
Connection using SpeedNet cable from interconnecting hosepack.

(3) SpeedNet connection socket

To connect to the second power source.
Connection using SpeedNet connection cable.

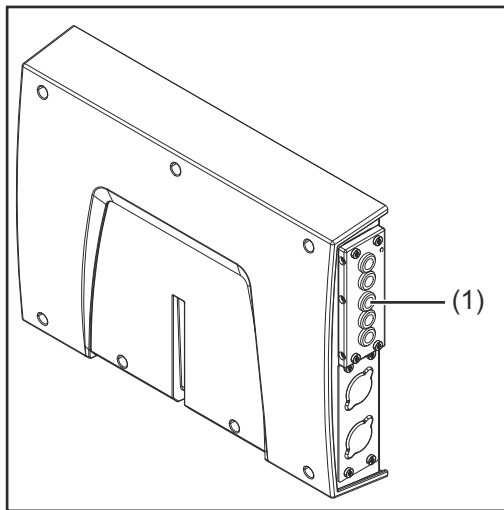
(4) SpeedNet connection socket

To connect to other system components, such as the second wirefeeder.
Connection using SpeedNet cable from interconnecting hosepack.

Connection sockets for the robot control

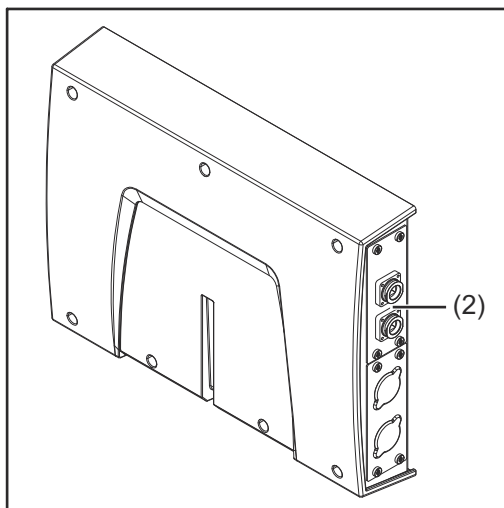
The robot interface is supplied with one of the following connection configurations depending on the requirement.

Basic configuration example:



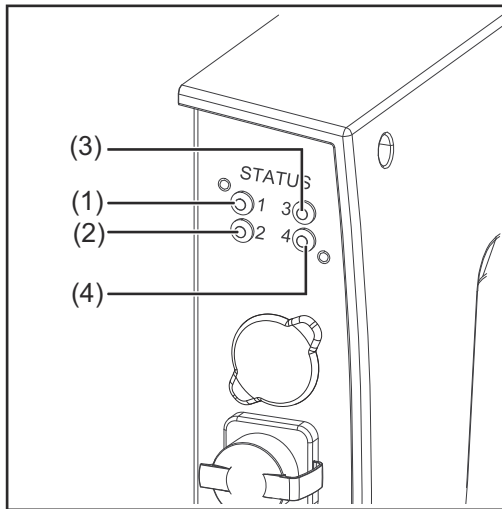
- (1) **Strain-relief device**
The robot control cable harness must be guided through the strain-relief device inside the robot interface and connected directly to the bus module.

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



- (2) **Connection sockets for the relevant bus module**
The connection sockets 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
Robot Interface**



(1) Heartbeat LED

Off:
Offline; no supply voltage

Flashes green:
The PC board operating system
is working properly

(2) Synchronisation LED

Lights up green:
Power sources are synchronized

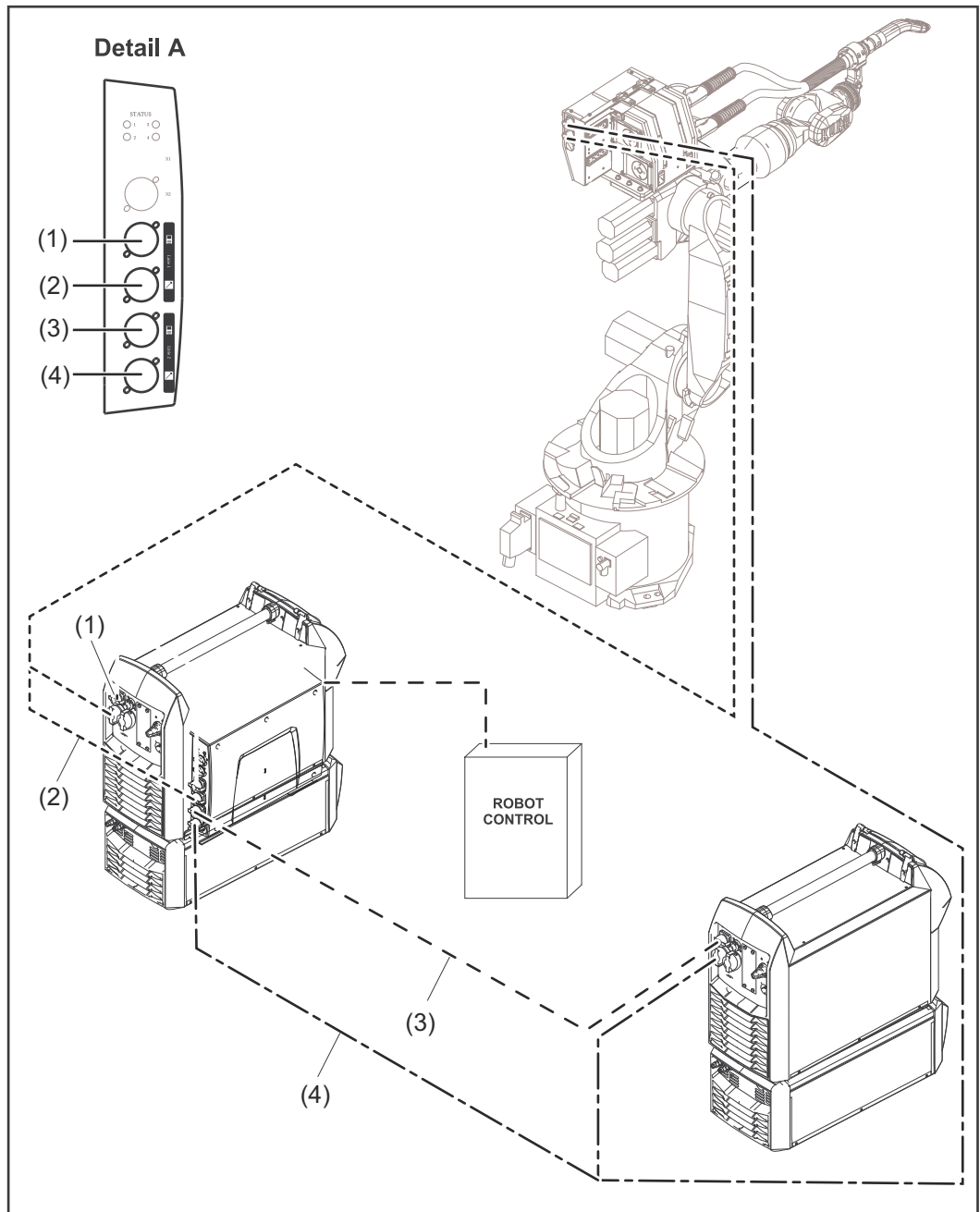
Lights up red:
Power sources are not syn-
chronized

(3) see description of the respective bus module

(4) see description of the respective bus module

System Overview

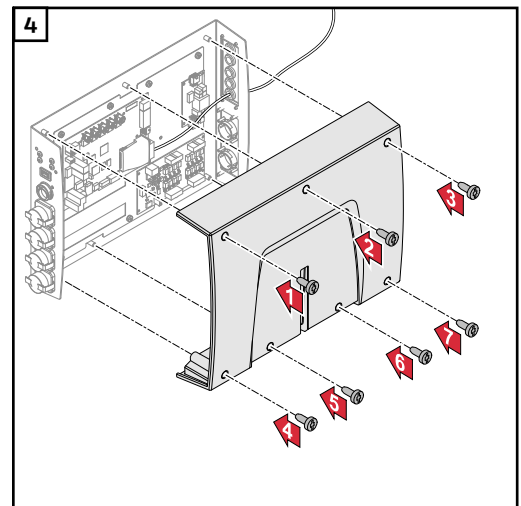
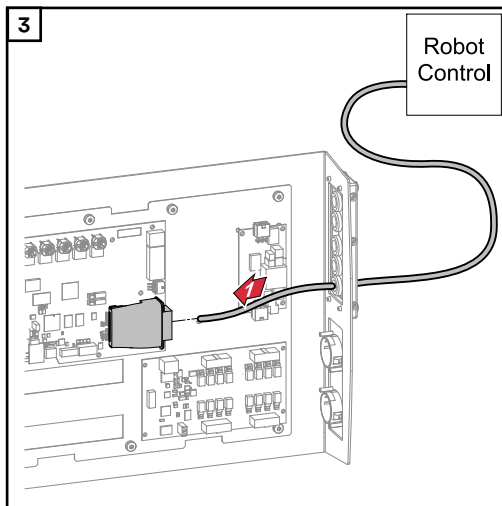
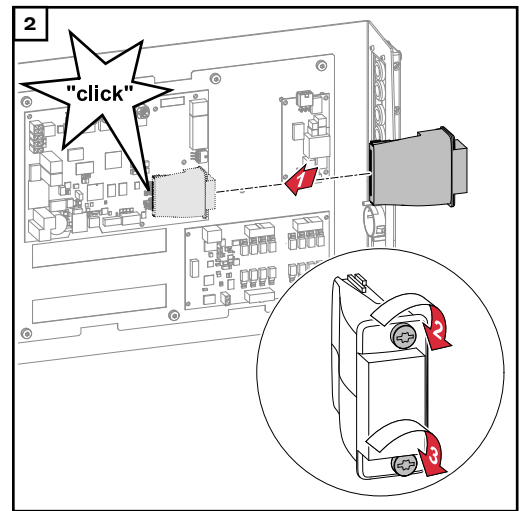
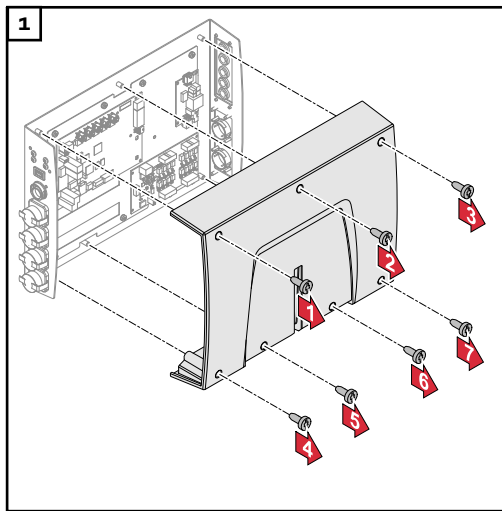
System Overview



- (1) Power source 1 connection / socket
- (2) Wirefeeder 1 connection / socket
- (3) Power source 2 connection / socket
- (4) Wirefeeder 2 connection / socket

Inserting the Bus Module in the Interface and Connecting it to the Robot Control

Inserting the Bus Module into the Robot Interface and Connecting it to the Robot Control



Fitting the Robot Interface and Connecting it to the System Components

Safety

⚠ WARNING!

Electrical current hazard.

This can result in serious injuries 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.

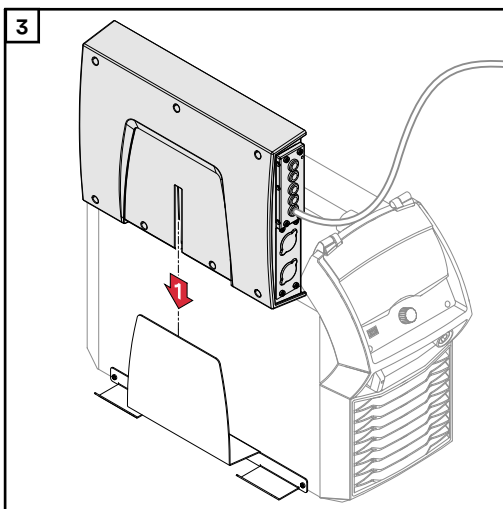
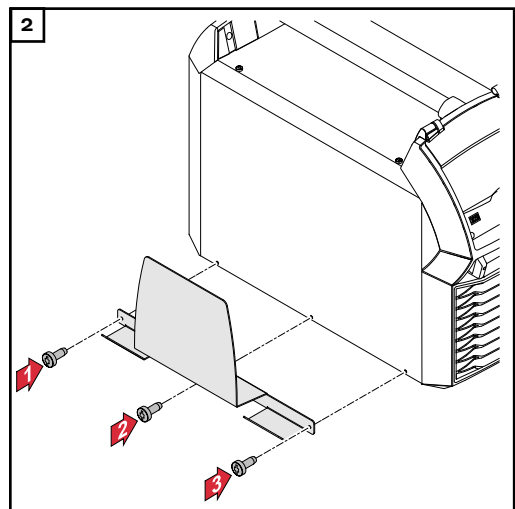
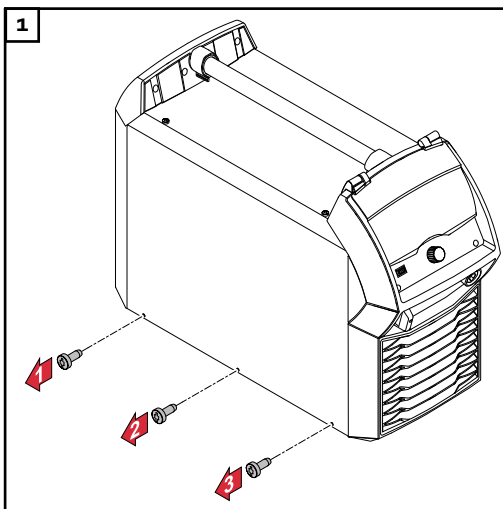
⚠ WARNING!

Electrical current hazard caused by an inadequate ground conductor connection.

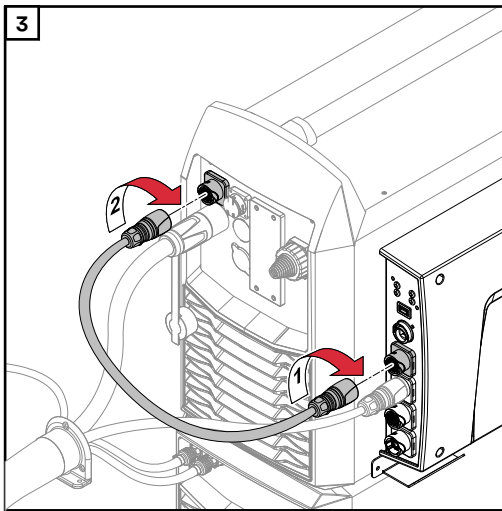
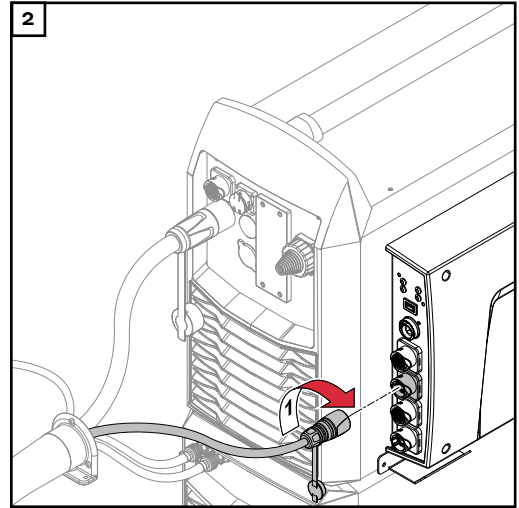
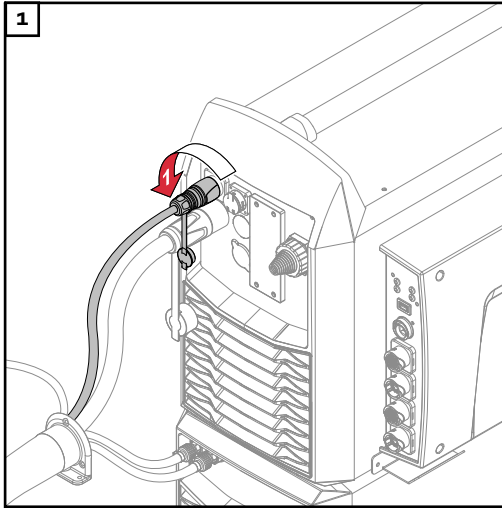
This can result in severe personal injury and damage to property.

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

Fitting the Robot Interface

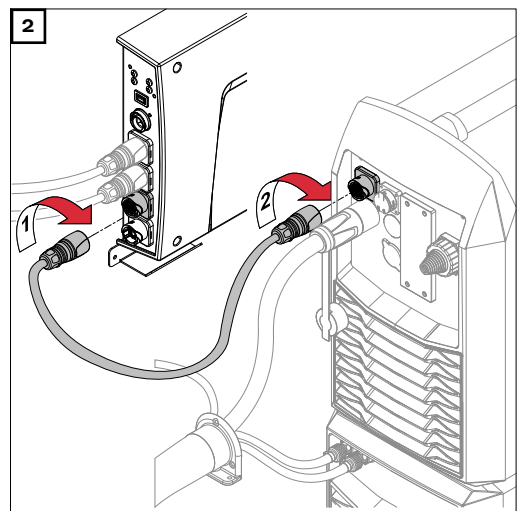
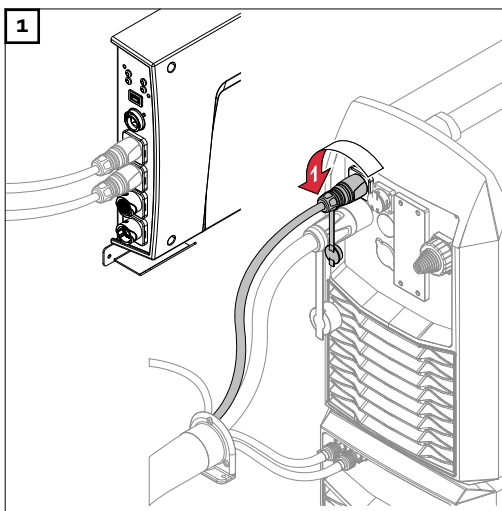


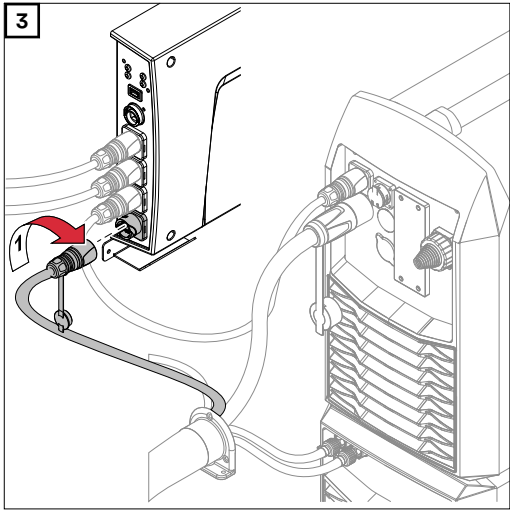
Connecting Process Line 1 to the Interface



4 Mark the process line 1 system components with the stickers supplied

Connecting Process Line 2 to the Interface

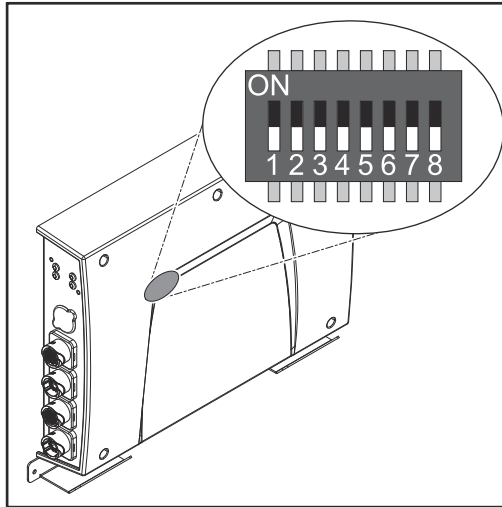




4 Mark the process line 2 system components with the stickers supplied

Dip Switch

General



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

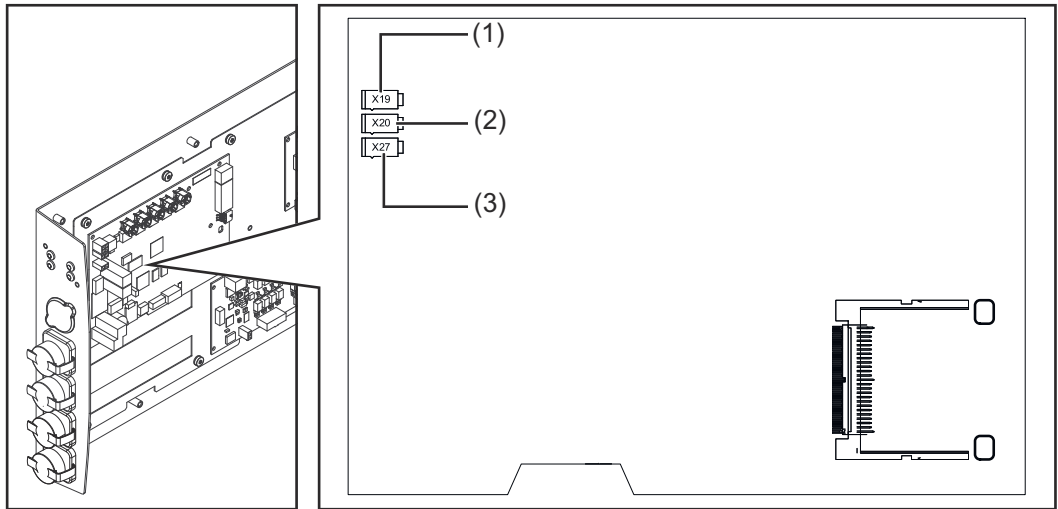
Example: Setting the node address/IP address

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 results in a configuration range of 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

Troubleshooting

Safety

WARNING!

Electrical current hazard.

This can result in serious injuries 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.

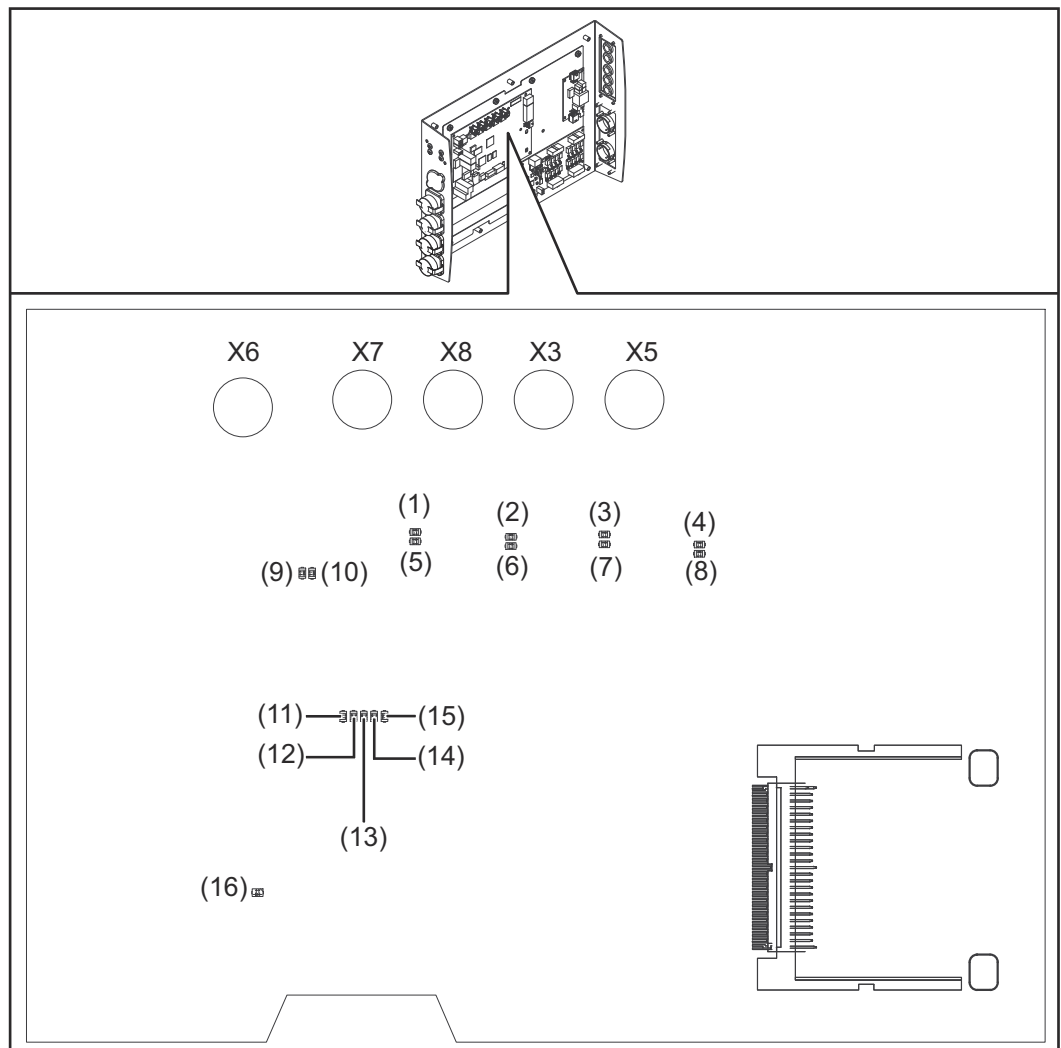
WARNING!

Electrical current hazard caused by an inadequate ground conductor connection.

This can result in severe personal 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:

(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

Flashes green:
The PC board operating system is working properly

LEDs for power supply diagnosis:

(16) LED +5V

Lights up green:
5 V operating voltage present

Off:
No operating voltage present



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