

Type ME43

Fieldbus gateway bÜS to Industrial Ethernet, PROFIBUS DPV1, CC-Link

Quickstart



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1 THE QUICKSTART

The quickstart contains the most important information and notes regarding the use of the device. Keep these quickstart ready to hand at the operation site.

Important safety information.

- ▶ Carefully read these quickstart. Observe in particular the safety instructions, authorized use and operating conditions.
- ▶ Persons, who work on the device, must read and understand these instructions.



The operating instructions can be found on the Internet at: www.burkert.com

1.1 Symbols

- ▶ indicates an instruction to prevent risks.
- Designates a procedure which you must carry out.

MENUE Representation of software interface text.

Warning of injuries:



WARNING!

Possible danger! Serious or fatal injuries.



CAUTION!

Danger! Moderate or minor injuries.

NOTE! Warning of damage.

2 INTENDED USE

The fieldbus gateway type ME43 is used as a field bus converter between bÜS and Industrial Ethernet, PROFIBUS DPV1, CC-Link.

- ▶ When using the device, observe the permitted data, operating conditions and application conditions. This information can be found in the contractual documents, the operating instructions and on the type label.
- ▶ In areas at risk of explosion, only use devices approved for use in those areas. These devices are labeled with a separate Ex type label. In use, note the information provided on the separate Ex type label and the additional explosion-related information or separate explosion-related operating instructions.

The device

- ▶ Do not use the device outside.
- ▶ Do not open the device.
- ▶ Use the device only in conjunction with third-party devices and components recommended and authorized by Bürkert.
- ▶ Only operate the device when in perfect condition and always ensure proper storage, transportation, installation and operation.
- ▶ Use only as intended.

3 BASIC SAFETY INSTRUCTIONS

These safety instructions do not consider any contingencies or incidents which occur during installation, operation and maintenance. The operator is responsible for observing the location-specific safety regulations, also with reference to the personnel.



General hazardous situations.

To prevent injury, ensure the following:

- ▶ Operate the device only in perfect condition and in accordance with the operating instructions.
- ▶ Do not make any changes to the device and do not subject it to mechanical stress.
- ▶ Secure device or system to prevent unintentional activation.
- ▶ Only trained technicians may perform installation and maintenance work.
- ▶ Install the device according to the regulations applicable in the country.
- ▶ After an interruption in the power supply, ensure that the process is restarted in a controlled manner.
- ▶ Observe the general rules of technology.

NOTE!

Electrostatic sensitive components and modules.

The device contains electronic components which react sensitively to electrostatic discharge (ESD). Contact with electrostatically charged persons or objects are hazardous to these components. In the worst case scenario, these components will be destroyed immediately or will fail after starting up.

- To minimize or eliminate the risk of damage resulting from sudden electrostatic discharges, ensure compliance with the requirements of EN 61340-5-1.
- Do not touch electronic components while the supply voltage is switched on!

3.1 Definition of the term “device”

In these instructions the term “device” denotes the following device types: ME43

- **Ex area:** stands for explosion-risk area
- **Ex approval:** stands for approval in the potentially explosive area

4 TECHNICAL DATA

4.1 Conformity

The device conforms to the EU Directives as per the EU Declaration of Conformity (if applicable).

4.2 Standards

The applied standards, which are used to demonstrate conformity with the EU Directives, are listed in the EU type examination certificate and/or the EU Declaration of Conformity (if applicable).

4.3 Operating conditions



WARNING!

Risk of injury due to malfunction if device used outdoors.

- ▶ Do not use the device outdoors and avoid heat sources which may cause the permitted temperature range to be exceeded.

Permitted ambient temperature range: -20 °C to +60 °C

Operating altitude: up to 2000 m above sea level

4.4 Mechanical data

Housing material: Polycarbonate

4.5 Electrical data

Supply voltage:	24 V \pm 10 % - residual ripple 10%
Power consumption	< 2 W
Degree of protection:	IP 20 according to EN 60529 / IEC 60529 (only if cables, plugs and sockets have been connected correctly) verified by Bürkert, not evaluated by UL
Protection class:	3 according DIN EN 61140 (VDE 0140)
Interfaces	1 spring-type terminal 5-pin for supply voltage and büS connection
PROFIBUS version:	1 plug-in connector D-Sub, 9-pin
CC-LINK version:	1 plug-in connector D-Sub, 9-pin
Industrial Ethernet version:	2 sockets for RJ45 plug-in connector
UL Devices:	Limited Energy Circuit (LEC) according to UL/ IEC 61010-1 Limited Power Source (LPS) according to UL/ IEC 60950

SELV/ PELV with UL Recognized Over-
current Protection dimensioned according
to UL/ IEC 61010-1 Table 18

NEC Class 2 power source

4.6 Type label, device labeling

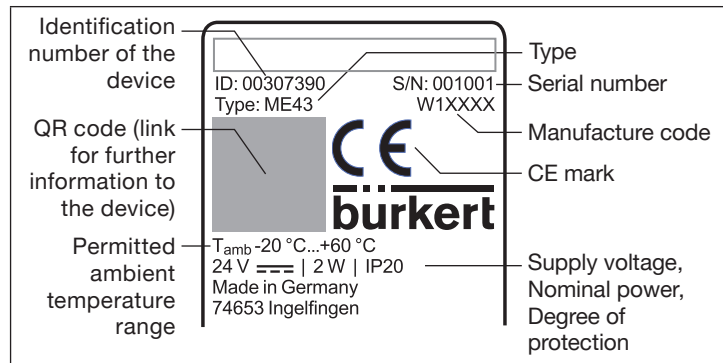


Fig. 1: Description of type label and device labeling

5 INSTALLATION

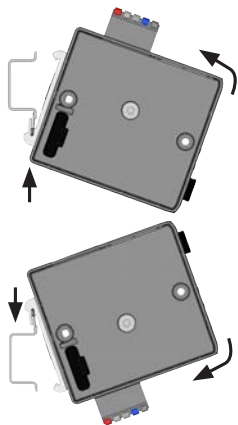


WARNING!

Risk of injury from improper installation.

- ▶ Installation may be carried out by authorized technicians only and with the appropriate tools.

5.1 Mounting on top hat rail



Electrical connection upwards:

- Mount device in the lower guide of the top hat rail.
- Push device upwards while also swiveling it to the left; lock it into the upper guide of the top hat rail.

Electrical connection downwards:

- Mount device in the upper guide of the top hat rail.
- Push device downwards while also swiveling it to the left; lock it into the lower guide of the top hat rail.

5.2 Electrical connection

→ Connect 5-pin spring-type terminal in accordance with configuration.

Color of terminal	Description
Red	Supply voltage 24 V \equiv
White	CAN H (b \ddot{u} S connection)
Green	Shielding
Blue	CAN L (b \ddot{u} S connection)
Black	GND

Tab. 1: Configuration of 5-pin spring-type terminal

5.3 Establishing connection to fieldbus

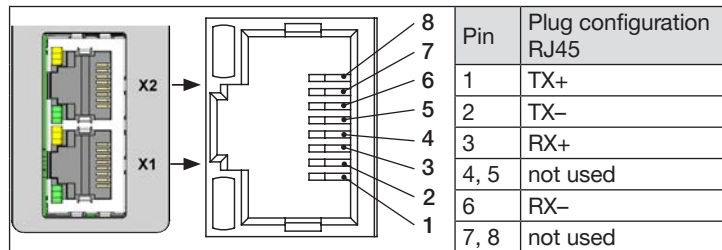


Fig. 2: Configuration of X1 and X2 interfaces; connection to fieldbus

→ Insert the Ethernet cable into the sockets of the X1 and X2 interfaces.
The X1 and X2 interfaces for RJ45 plug-in connectors are equivalent.

NOTE!

To ensure electromagnetic compatibility (EMC)

- ▶ Only use shielded Ethernet cables.
- ▶ Connect the Ethernet cables of all devices to the top hat rail to ground the cable shielding.

5.3.1 CC-Link version

Configuration of plug-in connector D-Sub, 9-pin

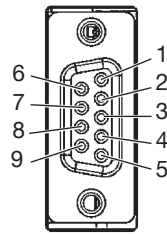
D-Sub, 9-pin	Pin	Signal	Function	Connection
	1 and 2	not used		
	3	DA	Data line minus (A conductor)	Mandatory
	4	DG	Data ground	Mandatory
	5, 6 and 7	not used		
	8	DB	Data line plus (B conductor)	Mandatory
	9	not used		

Fig. 3: CC-Link, Belegung Steckverbinder D-Sub 9-polig

5.3.2 PROFIBUS version

Configuration of plug-in connector D-Sub, 9-pin

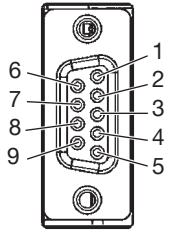
D-Sub, 9-pin	Pin	Signal	Funkcion	Connection
	1 and 2	not used		
	3	RxD/TxD-P	Data line minus (A conductor)	Mandatory
	4	CNTR-P	Repeater directional control	Optional
	5	DGND	Ground for bus terminating resistor	Optional
	6	VP	+5 V supply for bus terminating resistor	Optional
	7 and 9	not used		
	8	RxD/TxD-N	Data line plus (B conductor)	Mandatory

Fig. 4: PROFIBUS, Configuration of plug-in connector D-Sub, 9-pin

6 START-UP



WARNING!

Risk of injury from improper operation!

- ▶ Only trained and qualified personnel may start up the device or system.

The following base settings can be made on the display of the device:

- Set IP address
Fieldbus versions: set PROFIBUS address or CC-Link address
- Select protocol (not with PROFIBUS version and CC-Link address)



The description for configuration and parameterization of the Typ ME43 can be found in the operating instructions.

The “Bürkert Communicator” PC software and the bÜS stick, which is available as an accessory, are required for configuration.

The “Bürkert Communicator” software and a general description of it are available on the Bürkert homepage.

7 OPERATION AND FUNCTION



WARNING!

- ▶ Only adequately trained personnel may operate the system or device.

Operation using the display is achieved by means of the two arrow keys and the round menu key.

Opening the main menu:




- Press the menu key  twice.

First the start screen appears, then the main menus with the detailed views **Parameter**, **Diagnostics** and **Maintenance**.

Returning from a menu:

-   Using the arrow keys, select **Exit** or **Abort** or **Save** and confirm using the menu key .

7.3.1 Description of the keys

Element	Description
  Arrow keys	Page down through menu
	Decrease numerical values
 Menu key	Open main menu
	Confirm selection, confirm input.

Tab. 2: Description of the keys

7.1 Settings of the fieldbus gateway ME43

The following functions can be adjusted or read on the display and also with the PC software “Bürkert Communicator”.



Further functions for the setting and configuration of the device are offered by the PC software Bürkert-Communicator.

Function	Setting on display	Setting with Bürkert Communicator
Set IP address. Field bus versions: set PROFIBUS address or CC-Link address. See operating instructions “Start-Up”.	Parameter	Industrial communication → Parameter
Select protocol. See operating instructions “Setting up the bÜS network”		
Setting display	brightness	General settings → Parameter
	contrast	
	installation position	

Function	Setting on display	Setting with Bürkert Communicator	
Restart device	Maintenance	General settings → Maintenance	
Information about the device			Ident.-number
			Serial number
			Software version
			Hardware version
	bÜS version		
ICom version	Maintenance	Industrial communication → Maintenance	

Tab. 3: Settings of the fieldbus gateway ME43

7.2 Operation of type ME 43 with the software Bürkert Communicator

The device can be configured on the PC using the “Bürkert Communicator” software. A detailed description of the operation and configuration of the PC software “Bürkert Communicator” can be found on the website www.burkert.com → Type 8920.

7.3 Micro SD card

The Micro SD card can be used to save and transfer device-specific values and user settings to a different device.

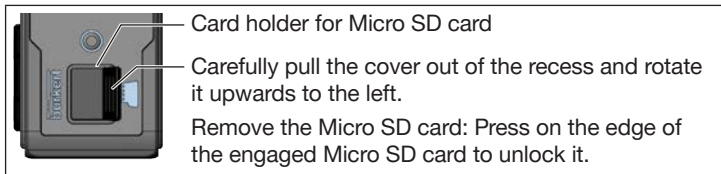


Fig. 5: Micro SD card; fieldbus gateway ME43



The Micro SD card is not suitable for backups. If the Micro SD card of the device is re-inserted at a later date, the most recently saved data is not restored.

Do not use conventional retail Micro SD cards for the device. The Micro SD card is available as an accessory.

8 DISASSEMBLY

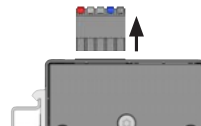


WARNING!

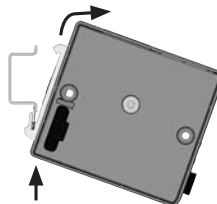
Risk of injury from improper disassembly.

► Disassembly may be carried out by authorized technicians only.

1. Switch off supply voltage
2. Remove 5-pin spring-type terminal.



3. Remove Ethernet cable from the X2 and X2 interfaces.
For the PROFIBUS version and CC-Link version: Remove plug-in connector D-Sub, 9-pin.
4. Remove the device from the top hat rail
→ Push the device upwards and detach it from the upper guide of the top hat rail



9 PACKAGING, TRANSPORT DISPOSAL

NOTE!

Damage in transit due to inadequately protected devices.

- Protect the device against moisture and dirt in shock-resistant packaging during transportation.
- Observe permitted storage temperature.

Incorrect storage may damage the device.

- Store the device in a dry and dust-free location.
- Storage temperature: -30 °C to +80 °C.

Damage to the environment caused by device components contaminated with media.

- Dispose of the device and packaging in an environmentally friendly manner.
- Observe applicable disposal and environmental regulations.

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