I/O modules IP65/ IP67/ IP69k

- Configurable I/O module for up to 16 digital input signals
- For use in environments requiring a high degree of protection
- Integrated diagnostic possibilities such as wire break, short circuit detection
- M12 L-Power port for the additional power supply (up to 32 A) for devices close to the process
- Up to 8 inputs can be used as multifunctional inputs

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

Type ME63
Industrial Ethernet gateway, IP65/ IP67/ IP69k

Type 8653
AirLINE Field – the valve island – optimised for process automation

Type 8691
Control head for decentralised automation of ELEMENT process valves

Type 8012
Flowmeter with paddle wheel for continuous flow measurement

Type 8032
Flowmeter/threshold detector with paddle wheel

Type description

Bürkert I/O modules Type ME64 for extending the Industrial Ethernet gateway Type ME63 are designed to capture the switching signals of various sensors. The further processing of these input signals, e.g. by Ethernet protocol to a higher field level, is configured via the gateway. The 16DI module (16 digital inputs) can be used for the feedback from switches (limit switches, position switches, etc.). The captured signals are connected and transmitted to the gateway via a CANopen-based bus. Together with valve island components, such as Type 8653 AirLINE Field (pneumatic control of process valves) or process valve controls such as Type 8691, ME64 can be used to capture and evaluate feedback locally within waterproof environments. Via the central configuration management of the gateway, Type ME64, as the client, can be simply replaced with a new module, if required. Electronic modules Type ME63 and Type ME64 are part of the Bürkert EDIP (Efficient Device Integration Platform) concept. They facilitate the integration of field level devices (e.g. valves or sensors) in the higher control level. The modules complement Bürkert EDIP systems.

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

Table of contents

1. General technical data 3

1.1. I/O nodule ... 3
1.2. 16DI module: digital input (DI) ... 3

2. Approvals and conformities 4

2.1. General notes ... 4
2.2. Conformity ... 4
2.3. Standards ... 4

3. Dimensions 5

3.1. 16DI module Type ME64 ... 5

4. Device/Process connections 6

4.1. 16DI module Type ME64 ... 6
Connection details ... 6
Pin assignment ... 7

5. Product design and assembly 8

5.1. Product features ... 8
I/O module ME64 ... 8

6. Product accessories 9

6.1. EDIP – Efficient Device Integration Platform ... 9
6.2. Bürkert Communicator Software ... 9

7. Networking and combination with other Bürkert products 10

7.1. Example of combination with Type ME63 ... 10

8. Ordering information 11

8.1. Bürkert eShop ... 11
8.2. Bürkert product filter ... 11
8.3. Ordering chart ... 12
8.4. Ordering chart accessories ... 12

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

1. General technical data

1.1. I/O nodule

Product properties	
Dimensions	Further information can be found in chapter "3. Dimensions" on page 5.
Weight	400 g
Material	
Body	PC (polycarbonate)
Status display	RGB LED according to NAMUR NE107, one status LED per channel
Approvals and conformities	
Further information can be found in chapter"2. Approvals and conformities" on page 4.	
Environment and installation	
Ambient temperature	- 20 °C...+ 60 °C
Storage temperature	- 30 °C...+ 80 °C
Degree of protection	IP65, IP67 and IP69k according to EN 60529 / IEC 60529 (with cables connected and with protective caps on unused connections)
Height above sea level	Maximum 2000 m

1.) Available for variant 1, in preparation for variant 2

1.2. 16DI module: digital input (DI)

Electrical data	
Operating voltage	24 V DC + 20 %/- 15 %
Power consumption of the module	4.12 W
Digital input	
Electric variant	2-wire sensor, 3-wire sensor, mechanical limit switches
Diagnostics	Open circuit detection with 2-wire sensors, short-circuit detection with 3-wire sensors
Electrical connection	8 x M12, A-coded, socket, 5-pin (X1-X8)
Switching threshold	V_{OFF} = 0...5 V V_{ON} = 10...30 V
Input current for V_{ON}, typically 24 V DC	Maximum 5.7 mA per channel
Input type	Type1 and Type3 according to IEC 61132 - 2
Number of frequency inputs	Up to 4 (variant 1) or 8 (variant 2)
Frequency input	Maximum up to 2.5 kHz
Input impedance	> 4 kΩ
Sampling time/Sampling frequency	1 ms...4 s / 0.25 Hz...1 kHz
Maximum sensor power supply	16 × 125 mA

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

2. Approvals and conformities

2.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available versions can be supplied with the below mentioned approvals or conformities.

2.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

2.3. Standards

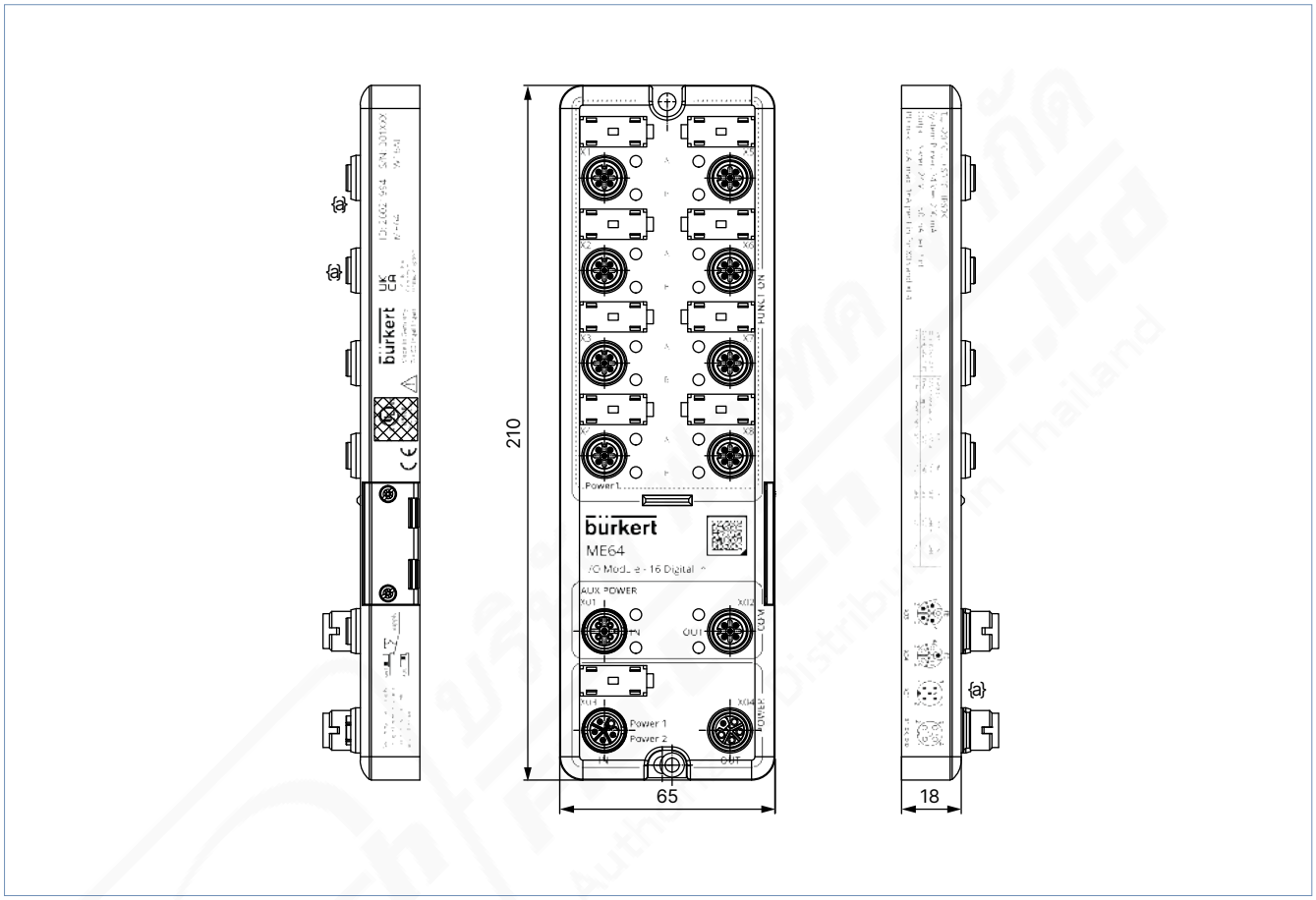
The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

3. Dimensions

3.1. 16DI module Type ME64

Note:
Dimensions in mm

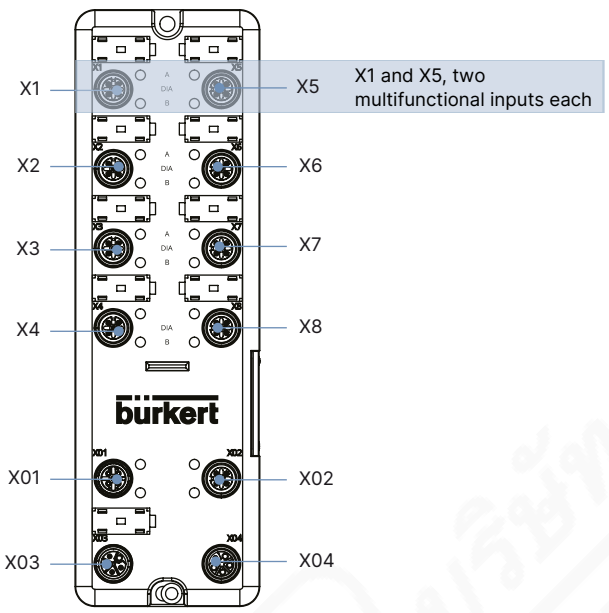
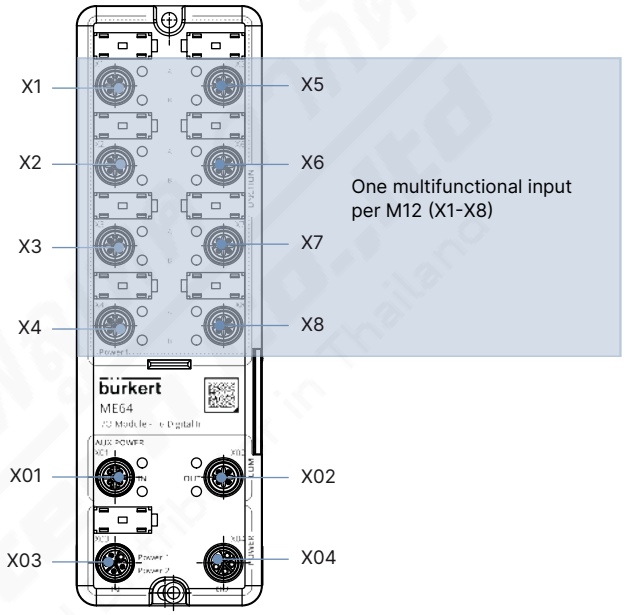


4. Device/Process connections

4.1. 16DI module Type ME64

Connection details

Note:
Switch the power supply from X03 to X01 via the switch located on the side under the blue cover.

Type ME64 1st Generation	Type ME64
	

Connection	Modul	Channel	Description
X1	ME64 1st Generation	1 and 2	M12-A, socket, 2DI and 24 V DC, maximum 4 A, 2 multifunctional inputs [1.]
X5	ME64 1st Generation	9 and 10	M12-A, socket, 2DI and 24 V DC, maximum 4 A, 2 multifunctional inputs [1.]
X2-X4	ME64 1st Generation	3 to 8	M12-A, socket, 2DI and 24 V DC, maximum 4 A, 2 digital inputs
X6-X7	ME64 1st Generation	11 to 16	M12-A, socket, 2DI and 24 V DC, maximum 4 A, 2 digital inputs
X1-X8	ME64	1 to 16	M12-A, socket, 2DI and 24 V DC, maximum 4 A, 2 multifunctional inputs [1.]
X01(I_N)	A pplies to both variants	–	M12-D, plug, büS/CANopen I_N, for connection of büS/ CANopen network, input power aux (power supply up to 4 A)
X02(Out)		–	M12-D, plug, büS/CANopen I_N, for connection of büS/ CANopen network, input power aux (power supply up to 4 A)
X03(I_N)		–	M12-L, plug, power I_N, maximum 32 A, for the power supply (Power 1 and Power 2) The module is supplied via Power 1.
X04(Out)		–	M12-L, socket, power OUT, maximum 32 A, for the supply of further devices

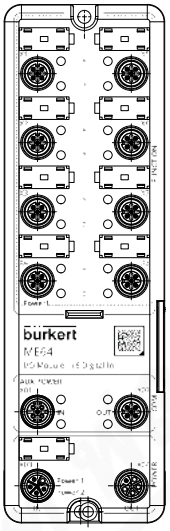
1.) Variants of a multifunction input: digital input, pulse counter, frequency input, flow rate input, flow rate totalizer input

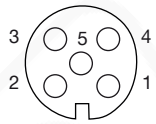
DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

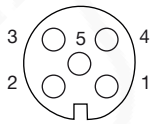
Pin assignment

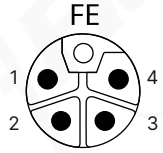
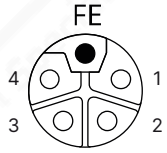
Note:

- The L-coded M12 connection (X03, X04) is designed for connecting 2 power supplies (Power 1, Power 2), each up to maximum 16 A.
- Both supplies are routed separately on the module. Power 1 supplies the connections X1-X8 (as well as the internal electronics of the module).

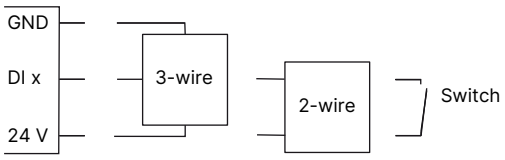


X1 to X8	Pin	Pin assignment	Function
	**1**	24 V	Power supply
	2	I_N B	Multifunction input (ME64 module)
	3	GND	Power supply mass
	4	I_N A	Digital input channel A
	5	FE	Shielding

X01 (I_N), X02 (OUT)		Pin	Pin assignment	Function
X01	**X02**	**1**	CAN_GND	büS/CANopen shielding
		**2**	24 V	Power supply
		3	GND	Power supply GND
		4	CAN_H	büS/CANopen communication
		5	CAN_L	büS/CANopen communication

X03 (I_N), X04 (OUT)		Pin	Pin assignment	Function
X03	**X04**	**1**	24 V	Power supply Power 1
		**2**	GND	Power supply Power 1, ground
		3	GND	Power supply Power 2, ground
		4	24 V	Power supply Power 2
		5	FE	Functional earth

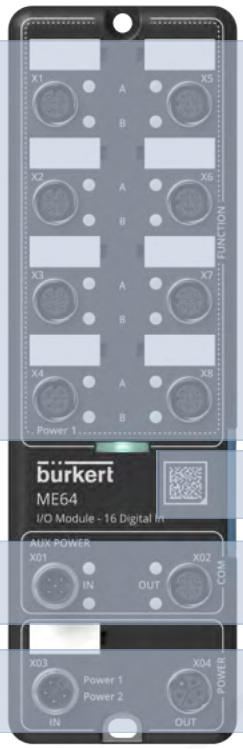
Circuit diagram



5. Product design and assembly

5.1. Product features

I/O module ME64



Function
Connection of digital input signals, 2 DI and operating voltage on each M12, A-coded

Switch
Switching from X03 to X01 for the power supply

Communication
Integration in network, büS/CANopen and operating voltage via M12, A-coded

Power supply
M12, L-coded

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

6. Product accessories

6.1. EDIP – Efficient Device Integration Platform

EDIP is a Bürkert device platform that standardises the operation, communication and interfaces of many process devices (e.g. sensors, mass flow controllers). Thanks to EDIP, devices can be intelligently networked and operated with the standardized software, the Bürkert Communicator. The backbone and connecting link of EDIP is a digital interface that complies with the CANopen standard and can always be used in a manner compatible with it.

EDIP offers the user the following advantages:

- Interoperability - guaranteed by the uniform interface
- Comfortable operation and display concept
- Faster and simplified commissioning
- Modularity - allows the devices to be adapted to individual customer requirements
- Easy transfer and fusion of device settings

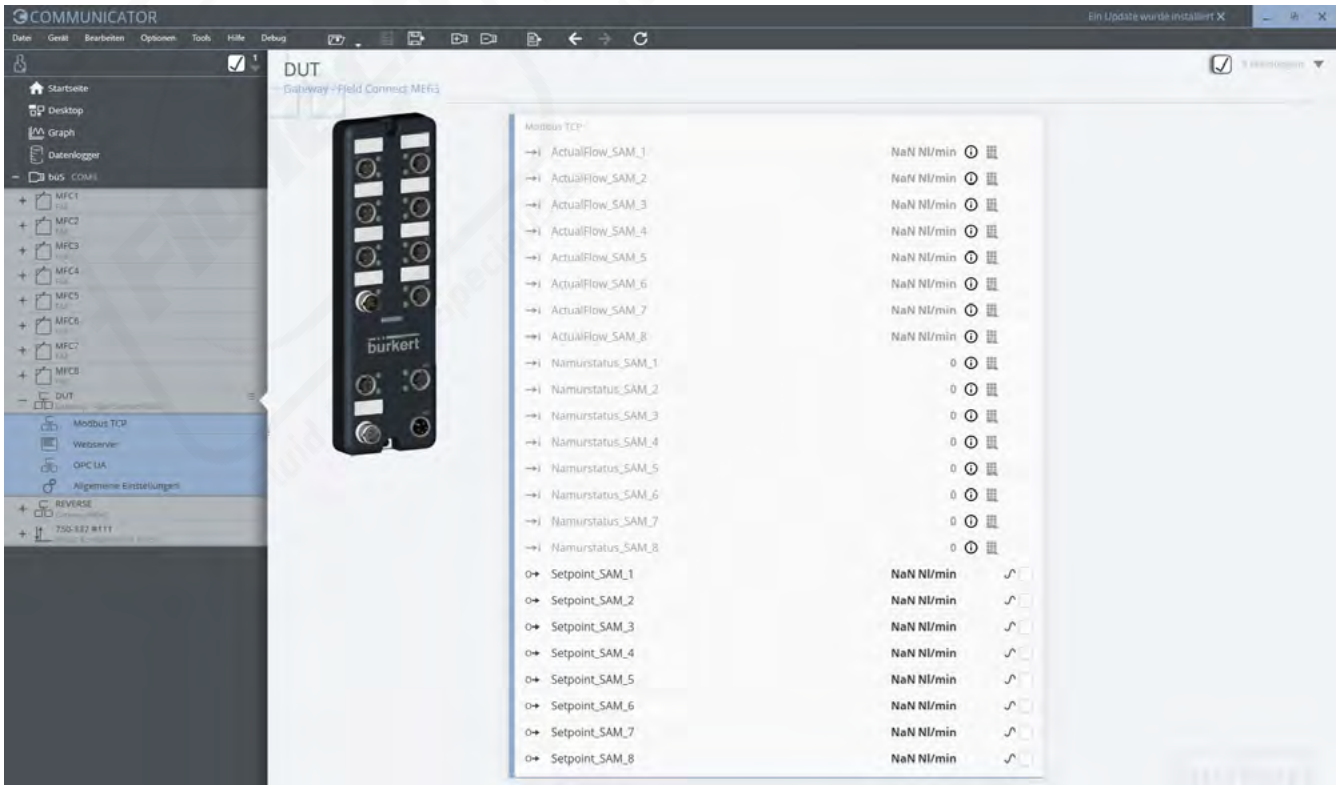
6.2. Bürkert Communicator Software

Note:
The associated communication software can be downloaded under **Type 8920** ▶.

The Bürkert Communicator is the most important software tool of the device platform EDIP (Efficient Device Integration Platform). The extensive features of this universal tool facilitate the configuration and parameterisation of all devices equipped with the digital CANopen-based interface. The Bürkert Communicator provides the user with a complete overview of all cyclic process values and acyclic diagnostic data. The integrated graphical programming environment enables the creation of control functions for decentralised sub-systems. The connection to the PC can be established via a USB-büS interface set. This is available as an accessory, see **"8.4. Ordering chart accessories" on page 12**.

The Bürkert Communicator enables:

- Configuration, parameterisation and diagnosis of EDIP devices/networks
- Easy and convenient assignment (mapping) of cyclical values
- Graphical display of process values
- Firmware update of the connected EDIP devices
- Saving and restoring device configurations

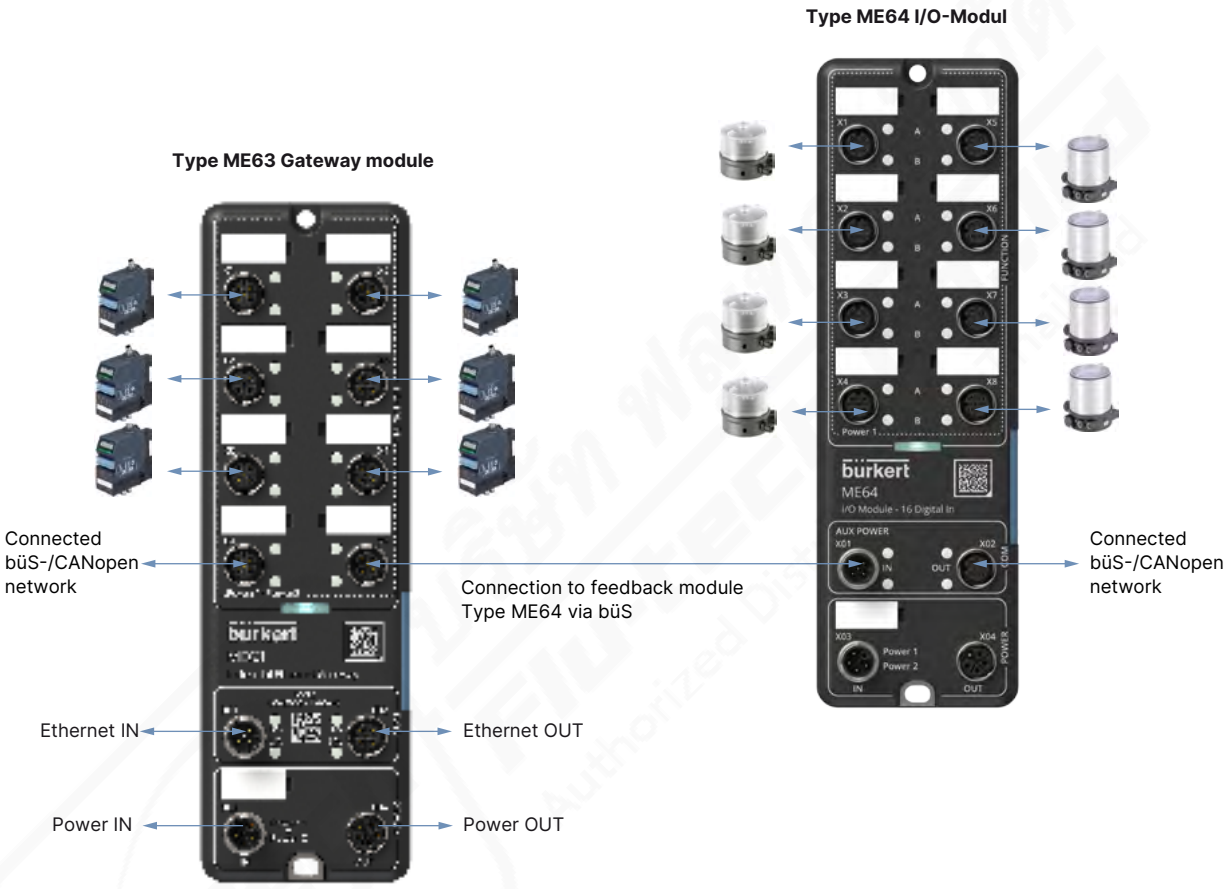


7. Networking and combination with other Bürkert products

7.1. Example of combination with Type ME63

Note:

- Drop lines must not be longer than 5 m.
- Signal integrity measurement is recommended for star cabling of more extensive networks.
- See also **cabling guide** ▶



Short description of the illustrated example

- Connection of 8 feedback signals (maximum 16) via drop line to X1-X8 on Type ME64
- Integration in büS-/CANopen network via X01 and X02
- By connecting the büS-/CANopen network to a gateway Type ME63, all signals are accessible via an Ethernet connection.

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

8. Ordering information

8.1. Bürkert eShop

Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

Order online now

8.2. Bürkert product filter

Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements?
Use the Bürkert product filter and find suitable articles for your application quickly and easily.

Try out our product filter

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

8.3. Ordering chart

Article	Article no.
16x digital inputs, 16DI module (ME64) (variant 1, with 4 frequency inputs)	346856
16x digital inputs, 16DI module (ME64) (variant 2, with 8 frequency inputs)	20021994

8.4. Ordering chart accessories

Article	Article no.
Type ME63 Industrial Ethernet gateway	346845
Passive distributor Type ME66 (variant 2, with separate power supply via X03)	20028654
büS cable extension, M12, cable length: 0.1 m	772492
büS cable extension, M12, cable length: 0.2 m	772402
büS cable extension, M12, cable length: 0.5 m	772403
büS cable extension, M12, cable length: 1 m	772404
büS cable extension, M12, cable length: 3 m	772405
büS socket, M12, straight, A-coded [1.)]	772416
büS plug, M12, straight, A-coded [1.)]	772417
büS socket, M12, angled, A-coded [1.)]	772418
büS plug, M12, angled, A-coded [1.)]	772419
büS Y plug	772420
büS Y plug for linking 2 separately supplied segments of a büS network	772421
büS plug, M12, terminating resistor 120 Ω	772424
büS socket, M12, terminating resistor 120 Ω	772425
Protective cap for connector housing M12	917155
Power supply unit Phoenix Class2 (Type 1573), 85...240 V AC/24 V DC, 1.25 A, NEC Class 2 (UL 1310)	772438
Power supply unit for standard rail (Type 1573), 100...240 V AC/24 V DC, 1 A, NEC Class 2 (UL 1310)	772361
Power supply unit for standard rail (Type 1573), 100...240 V AC/24 V DC, 2 A, NEC Class 2 (UL 1310)	772362
Power supply unit for standard rail (Type 1573), 100...240 V AC/24 V DC, 4 A	772363
büS-Stick Set 1 (incl. cable (M12), stick with integrated terminating resistor, power supply and software)	772426
büS-Stick Set 2 (incl. cable (M12)), stick with integrated terminating resistor	772551
Software Bürkert Communicator	**Typ 8920** ▶

1.) For space reasons, M12 individual push-in connectors may not be suitable for simultaneous use on the same side as a Y distributor. Use a commercially available covered cable in this case.

DTS 1000438650 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024