

# FLM BK ETH M12 DI 8 M12-2TX - Bus coupler



2736916

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The Ethernet bus coupler opens a local bus for up to 16 devices. Additional functions: 10 Mbps and 100 Mbps, auto negotiation, auto crossover, 8 digital inputs, channel-specific diagnostics, short-circuit and overload protection, M12 fast connection technology.

## Product description

The Fieldline Modular FLM BK ETH M12 DI8 M12 bus coupler with 8 digital inputs couples a Fieldline Modular local bus station to an Ethernet network and is also used for measuring digital signals. The bus coupler consists of two Ethernet connections that are designed as D-coded M12 sockets. Additional Ethernet devices can be connected due to the integrated, manageable 3-port switch to implement a line structure. The transmission speeds are 10 Mbps and 100 Mbps and are automatically selected by the device (auto negotiation). The interfaces can automatically interchange the receive and transmit cables (autocrossover). Following network protocols are supported by the FLM BK ETH M12 DI8 M12 bus coupler:

- Modbus/TCP
- Modbus/UDP
- DDI (Device Driver Interface)

The Ethernet bus coupler provides a powerful local bus as lower-level bus. The total length of the local bus is 20 m and it can connect up to 16 I/O units. Selectable transmission speeds in the range 500 kBaud to 2 Mbaud allow for flexible adaptation to the application and also permit savings on warehousing costs. The local bus connection is provided by 5-pos. B-coded M12 connectors. The four double-occupied sensor slots can be assigned through 5-pos. A-coded M12 connectors with sensors in 2, 3 or 4 conductor technology respectively.

The sensor supply is short-circuit and overload-protected and thus guarantees a high plant availability. The diagnosis and status indicators for voltage supply, network and local bus operation with the corresponding monitoring functions reduce bus downtime and provide support if service becomes necessary.

The high-performance SPEEDCON technology used allows connection times to be reduced by up to 90 %. The classic M12 connections can continued to be used with full compatibility.

## Your advantages

- Modbus/TCP
- 8 inputs, 24 V DC
- M12 connection technology with SPEEDCON fast locking system

## Commercial data

Item number	2736916
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR03
Product key	DRI41B
GTIN	4046356094283
Weight per piece (including packing)	343.2 g
Weight per piece (excluding packing)	280 g
Customs tariff number	85176200

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Country of origin	DE
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# FLM BK ETH M12 DI 8 M12-2TX - Bus coupler

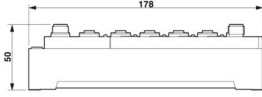


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## Technical data

### Dimensions

Dimensional drawing	
Width	70 mm
Height	178 mm
Depth	50 mm
Drill hole spacing	178 mm

### Material specifications

Color	anthracite
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### Interfaces

#### Ethernet (Modbus TCP)

Connection method	M12 connector, D-coded
Designation connection point	Copper cable
Number of positions	4
Transmission speed	10/100 Mbps (auto negotiation)

#### Fieldbus: Local bus gateway

Designation	Local bus gateway
Connection method	M12 connector, B-coded
Transmission speed	500 kbaud/2 Mbaud, can be selected
Max. length of local bus	20 m
Max. number of local bus devices	16

### System properties

#### System limits

Number of local bus devices that can be connected	max. 16
Number of devices with parameter channel	max. 16

#### Programming data

Process data channel	8 bit
Input address area	8 bit
Output address area	0 bit
Parameter channel (PCP)	0 bit
Register length (bus)	8 bit
Register length (master)	512 Byte

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## Input data

Digital:

Input name	Digital inputs
Description of the input	IEC 61131-2 type 1
Number of inputs	8 (IEC 61131-2 type 1)
Connection method	M12 connector
Connection technology	2-, 3-, 4-conductor
Input voltage	24 V DC
Input voltage range "0" signal	-30 V DC ... 5 V DC
Input voltage range "1" signal	13 V DC ... 30 V DC
Nominal input voltage $U_{IN}$	24 V DC
Filter time	3 ms
Protective circuit	Short-circuit protection, overload protection of the sensor supply; Reverse polarity protection

## Product properties

Product type	I/O component
Product family	Fieldline
Type	modular
No. of channels	8

## Electrical properties

Potentials

Voltage supply $U_L$	24 V DC
Power supply at $U_L$	max. 4 A
Current consumption from $U_L$	max. 118 mA (At 2 Mbaud)
	typ. 118 mA (At 2 Mbaud)
	max. 60 mA (At 500 kBaud)
	typ. 60 mA (At 500 kBaud)
Voltage supply $U_S$	24 V DC
Power supply at $U_S$	max. 4 A
Current consumption from $U_S$	typ. 5 mA (plus power supply for sensors)
	max. 600 mA

Supply: Module electronics

Connection method	M12 connector
Designation	$U_L$
Supply voltage	24 V DC
Supply voltage range	18 V DC ... 30 V DC (including ripple)
Supply current	< 100 mA

Electrical isolation/isolation of the voltage ranges

Test voltage: To I/O	500 V DC
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## Connection data

Connection method	M12 connector
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## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP65/IP67
Air pressure (operation)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (storage/transport)	95 %

## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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## Mounting

Mounting type	Panel mounting, optionally on mounting panel
	Panel mounting

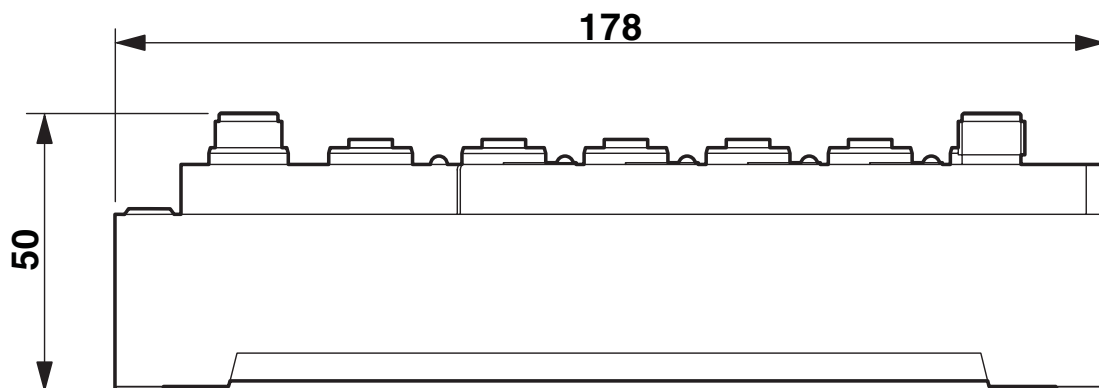
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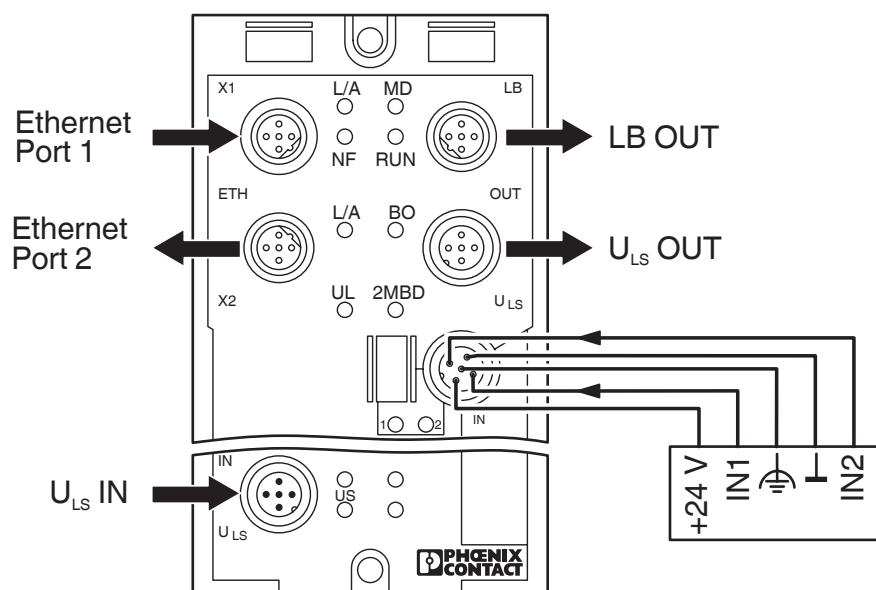
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## Drawings

Dimensional drawing



Connection diagram



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## Classifications

### UNSPSC

UNSPSC 21.0	32151600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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