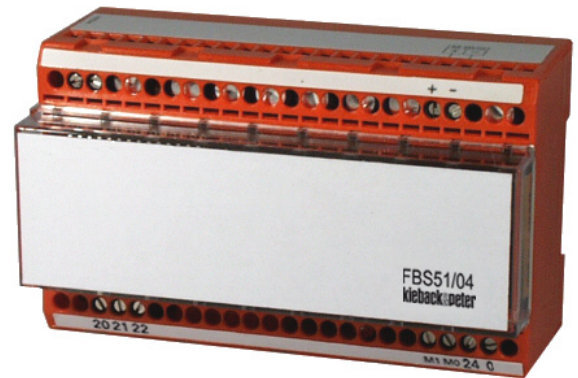


Product Description**FBS51/04****FBS51/04 Gateway-Module**

For M-Bus with 6 counters

Application

The FBS51/04 Gateway Module is used to connect a maximum of 6 meters of external equipment to the BMR or DDC420 via the m-bus in accordance with DIN EN 1434-3.



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Änderungen vorbehalten - Contents subject to change - Sous réserve de modifications - Reservado el derecho a modificación - Wijzigingen voorbehouden - Con riserva di modifichie - Innehåll som skall ändras - Změny vyhrazeny - Zmiany zastrzeżone - Возможны изменения - A változtatások jogát fenntartjuk - 保留未经通知而改动的权力

Important Information Regarding Product Safety

Safety Instructions

This data sheet contains information on installing and commissioning the product "FBS51/04". Each person who carries out work on this product must have read and understood this data sheet. If you have any questions that are not resolved by this data sheet, you can obtain further information from the supplier or manufacturer.

If the product is not used in accordance with this data sheet, the protection provided will be impaired.

Applicable regulations must be observed when installing and using the device. Within the EU, these include regulations regarding occupational safety and accident prevention as well as those from the VDE (Association for Electrical, Electronic & Information Technologies). If the device is used in other countries, it is the responsibility of the system installer or operator to comply with local regulations.

Mounting, installation and commissioning work on the devices may only be carried out by qualified technicians. Qualified technicians are persons who are familiar with the described product and who can assess given tasks and recognize possible dangers due to technical training, knowledge and experience as well as knowledge of the appropriate regulations.

Legend



WARNING

Indicates a hazard of medium risk which can result in death or severe bodily injury if it is not avoided.



CAUTION

Indicates a hazard of low risk which can result in minor or medium bodily injury if it is not avoided.



CAUTION

Indicates a hazard of medium risk which can result in material damage or malfunctions if it is not avoided.



NOTE

Indicates additional information that can simplify the work with the product for you.

Notes on Disposal

For disposal, the product is considered waste from electrical and electronic equipment (electronic waste) and must not be disposed of as household waste. Special treatment for specific components may be legally binding or ecologically sensible. The local and currently applicable legislation must be observed.

Item

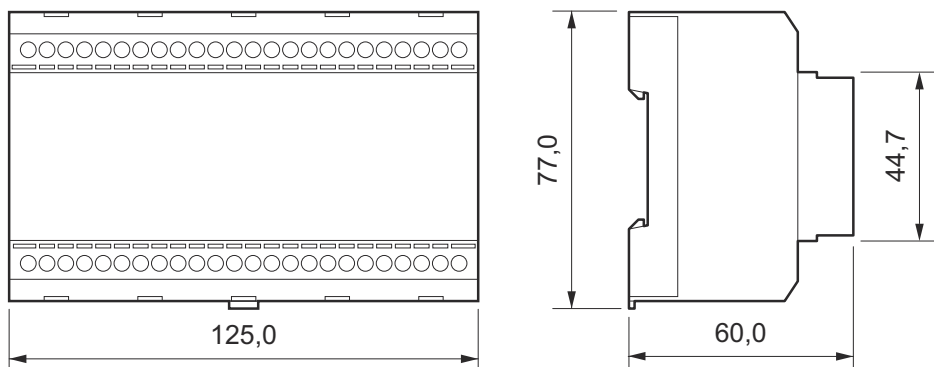
FBS51/04

Gateway module for m-bus with a maximum of 6 meters

Technical data

Nominal voltage	<ul style="list-style-type: none"> ■ For device: AC 24 V \pm10 %; max. 5.4 VA ■ For M-Bus: AC 24 V \pm 10 %, 2.4 VA ■ If all connected M-Bus counters require a total power supply of more than 8 standard loads, an additional, electrically isolated power supply is required for the M-Bus. For the definition of a standard load, see page 4.
Fuse	Electronic fuse protection for AC 24 V power
Display and operating elements	<ul style="list-style-type: none"> ■ Four LEDs in housing ■ Address switch in housing (See chapter "Display and operating elements", page 7.)
Interfaces	<ul style="list-style-type: none"> ■ Fieldbus, maximum 2000 m ■ M-Bus in accordance with DIN EN 1434-3, maximum 1000 m
Overvoltage category	III
Rated impulse voltage	800 V
Level of contamination	2
Automatic action	Type 1
Degree of protection	IP20
Ambient temperature	0..45 °C
Ambient humidity	20..80 % r. h.; non-condensing
Installation	Switch cabinet installation on TH 35-7.5 top hat rail
Dimensions	125 x 77 x 60
W x H x D (mm)	

Dimensions

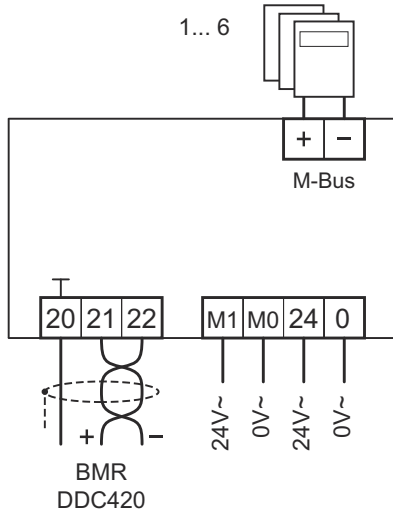


Connection



WARNING

Contact with live parts of electrical domestic installation can cause death due to electric shock. Only connect the device and switch on the power supply if you are qualified to do so. Be sure to comply with VDE guidelines and local wiring regulations.



NOTE

Definition of M-Bus standard load:

An M-Bus standard load is 1.5 mA. For exact data about the load on the bus (standard loads per counter), please see the data sheets for the counters.

To ensure fault-free functioning of the M-Bus, do not exceed the maximum number of 8 M-Bus standard loads. Otherwise, you must connect an additional power supply.

Power supply

Terminals [0], [24]: power supply for the FBS51/04 module.

Terminals [M1], [M0]: additional power supply for the M-Bus.



CAUTION

If more than 8 M-Bus standard loads are connected, an additional power supply connection is required: AC 24 V; 50..60 Hz. This separate power supply must be connected to terminals M1, M0.

Fieldbus

When connecting the fieldbus, use a cable of at least type JY(St)Y 2x2x0.8 Lg: two x two wires, twisted to a pair with plastic insulation and an electrostatic shield with a wire diameter of at least 0.8 mm. Use a stranded pair of wires for the data lines (+ and -) and another free wire for the ground connection (0).

At the end of the fieldbus (furthest point from the DDC controller), install a terminating resistor of about 180 ohms between both data lines (+ and -). The terminating resistor is included with the DDC controller.

The maximum cable length for the Fieldbus is 2000 m.

M-Bus

The m-bus is specified in DIN EN 1434-3.

Product Description**FBS51/04**

When connecting the m-bus, use a cable of at least type JY(St)Y 1x2x0.8 Lg: two wires, twisted to a pair with plastic insulation and an electrostatic shield with a wire diameter of at least 0.8 mm. Use a stranded pair of wires for the data lines (+ and -). Both wires can be interchanged.

The maximum cable length for the M-Bus is 1000 m.

**NOTE**

The list of supported counters can be found under "SBM51/04, FBS51/04 M-Bus connections - Parameter description".

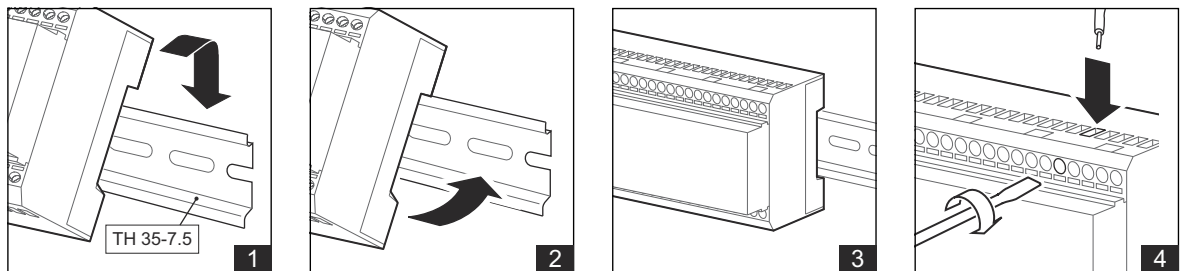
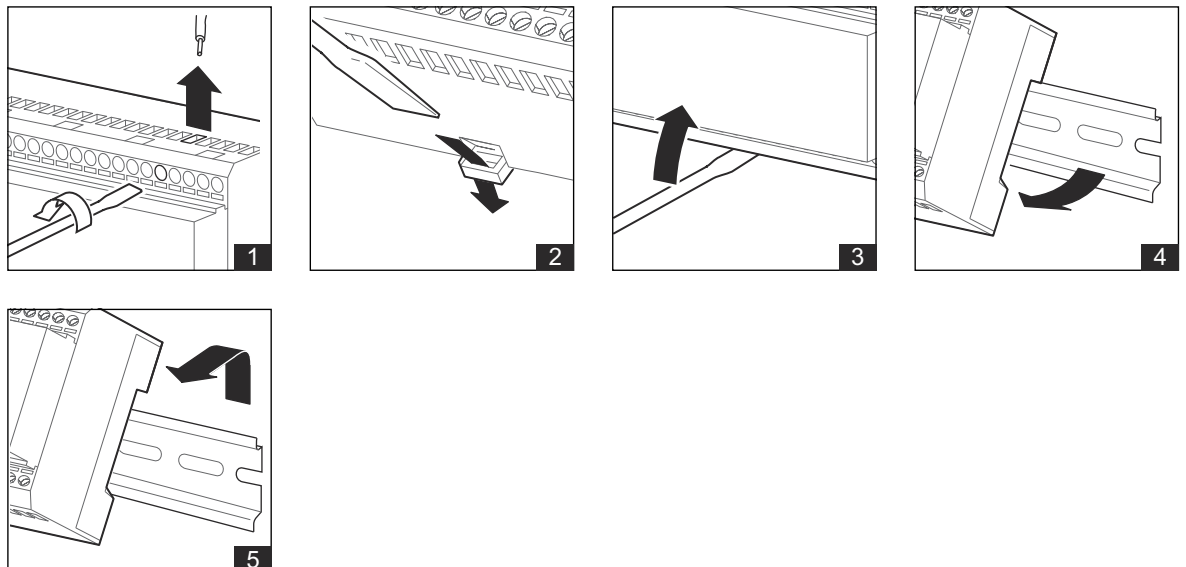
Mounting**WARNING**

Contact with live parts of electrical domestic installation can cause death due to electric shock. Mounting/removal may only be carried out when power is switched off.

**CAUTION**

Switching on the power supply of unparameterized products can lead to unforeseen consequences such as malfunctions or material damage.

Switch on the power only after the device has been configured by the commissioning technician.

**Dismounting**

Commissioning

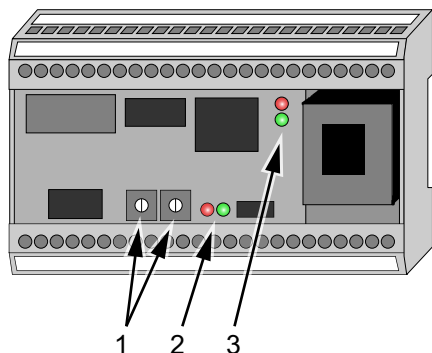


CAUTION

Power may only be switched on after the DDC controller and device have been configured by the commissioning technician.

Configuration of the DDC controller is described in the respective project planning documentation.

Display and operating elements

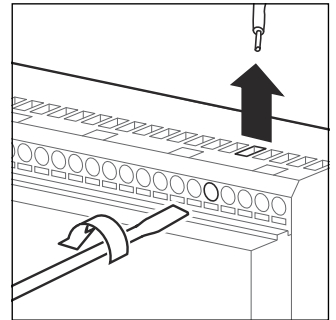


- 1 Rotary switch for setting the fieldbus address
- 2 Fieldbus LED
- 3 M-Bus LED

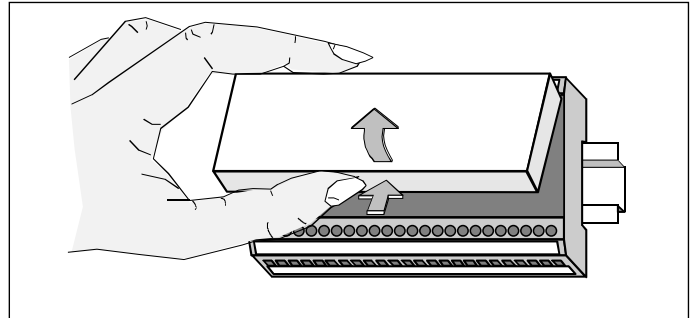
LED	Signal	Meaning
Fieldbus LED	Green	FBS51/04 in operation
Fieldbus LED	Flashing green	Data transmission Fieldbus
Fieldbus LED	Red	Fieldbus bus error or duplicate fieldbus address
Fieldbus LED	Flashing red	Incorrect or duplicate fieldbus address
M-Bus LED	Green	M-Bus Switched on
M-Bus LED	Flashing green	Data transmission M-Bus
M-Bus LED	Red	M-Bus Off
M-Bus LED	Flashing red	Bus error M-Bus

Setting the Fieldbus Address

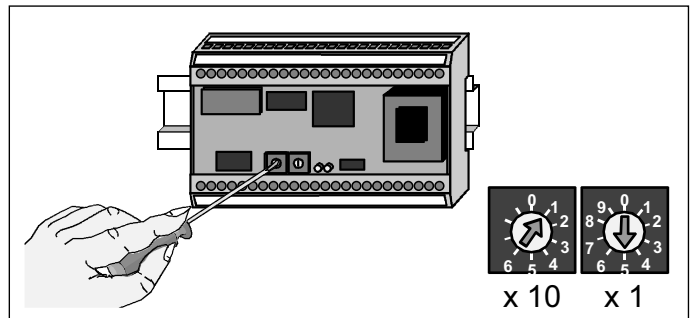
- ▶ Disconnect the power supply of the FBS51/04.



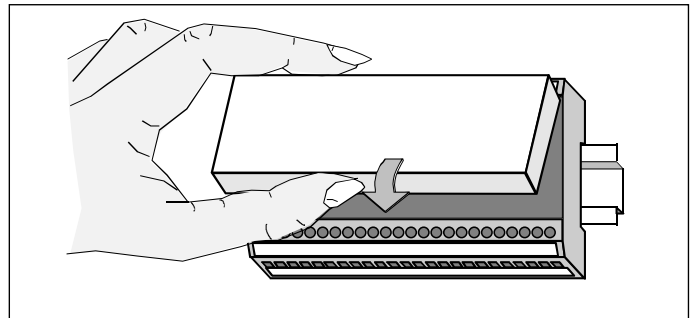
- ▶ Press the lower edge of the front cover and remove the cover.
The rotary switches for setting the fieldbus address are located inside the FBS51/04.



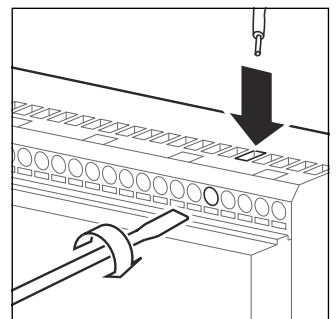
- ▶ Set the first rotary switch to the first digit of the fieldbus address, the second rotary switch to the second digit.
The example shows the address "15".
Permitted range for the fieldbus address: 01 to 16



- ▶ Insert the front cover along the top edge and lock it in with the bottom edge.



- ▶ Reconnect the power supply of the FBS51/04.



Switching on the Power

**WARNING**

Contact with live parts of electrical domestic installation can cause death due to electric shock. Only connect the device and switch on the power supply if you are qualified to do so. Be sure to comply with VDE guidelines and local wiring regulations.

Before switching on the power, ensure that the device has been mounted correctly and check the electrical connection.

After turning on the power, check the transmission function of the FBS51/04.