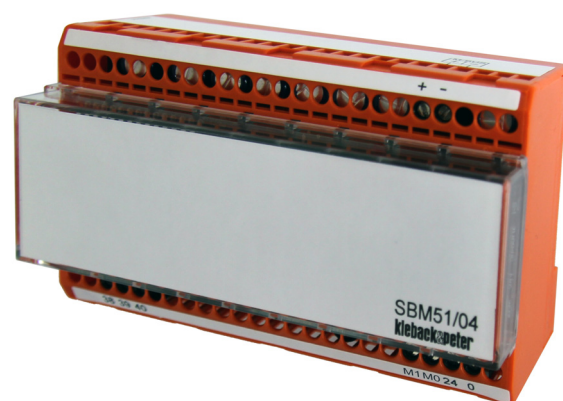


Product Description**SBM51/04****SBM51/04 Switch cabinet bus module**

with M-Bus input for 32 counters

Application

The SBM51/04 switch cabinet bus module is used to connect a maximum of 32 counters for external equipment to the DDC3000 or DDC4000 system via M-Bus in accordance with DIN EN 1434-3.

**NOTE**

Hinweis: Note the special features of firmware updates provided by EPROM-Tausch (see page 4).

Content	Page
Important Information Regarding Product Safety	2
Item	3
Technical Data	3
Dimensions	3
History of the Firmware Versions	4
Connection	5
Mounting	7
Removal	7
Commissioning	8
Displays and Controls	8
Setting the switch cabinet bus address	9
Switching on the Power	10

Änderungen vorbehalten - Contents subject to change - Sous réserve de modifications - Reservado el derecho a modificación - Wijzigingen voorbehouden - Con riserva di modifiche - 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 "SBM51/04". 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

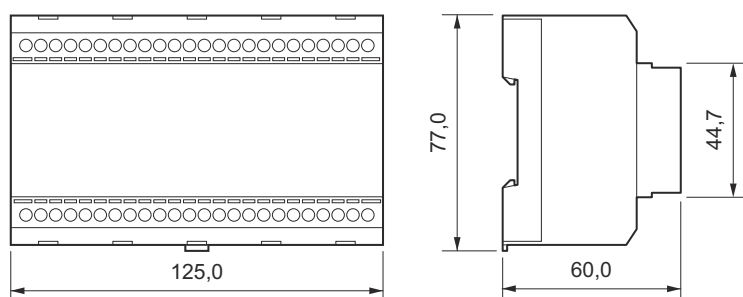
For disposal, the product is considered waste from electrical and electronic equipment (electronic waste) and must not be disposed of as household waste. Special treatment for specific components may be legally binding or ecologically sensible. The local and currently applicable legislation must be observed.

Product Description**SBM51/04****Item**

SBM51/04	Switch cabinet bus module with M-Bus input in accordance with DIN EN 1434 3 for a maximum of 32 counters
----------	--

Technical Data

Nominal voltage	■ For device: AC 24 V $\pm$ 10 % / 230 mA; 5.4 VA ■ For M-Bus: AC 24 V $\pm$ 10 % / 100 mA; 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 the note on page 5.
Fuse	Electronic fuse protection for AC 24 V power
Display elements and controls	■ Four LEDs in housing ■ Address switch in housing
Interfaces	■ Switch cabinet bus to the DDC system, max. 200 m ■ M-Bus in accordance with DIN EN 1434-3
Overvoltage category	III
Rated impulse voltage	800 V
Level of contamination	2
Method of operation	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 W x H x D mm	125 x 77 x 60

Dimensions

History of the Firmware Versions



CAUTION

Note the changed parameter functions due to firmware updates. You have to reparameterize these functions when updating an older version to the current firmware version.

Updating the firmware version of an SBM51/04 by replacing the EPROM

Devices up to V 5.4 and from V 5.5 Note the firmware version of the existing SBM51/04 when performing an update by replacing the EPROM. The firmware version of the SBM51/04 can be found on the version label on the EPROM inside the SBM51/04 device.

- Updating an older SBM51/04 to a firmware version up to and including 5.4:
Use the *EPROM/SBM51/04* item to perform the update through replacement of the EPROM.
- Updating an older SBM51/04 to a firmware version of 5.5 and higher:
Simply replacing the EPROM is not sufficient; the SBM51/04 itself must be replaced.
- Updating an SBM51/04 with firmware version ≥ 5.5 to a higher firmware version:
Use the *EPROM/SBM51/04-01* item to perform the update through replacement of the EPROM.

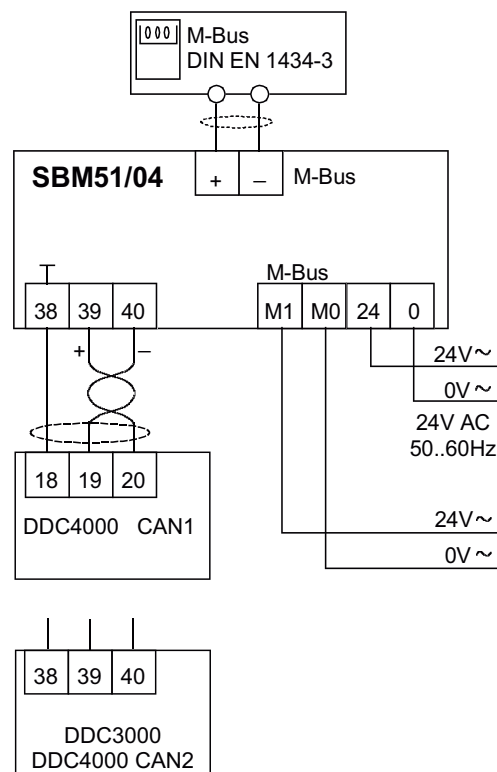
Product Description**SBM51/04****Connection****WARNING**

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.

**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.

**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.

**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.

**NOTE**

The bus systems of the switch cabinet bus (DDC3000) and the CAN bus (DDC4000) are identical. Accordingly, the technical information for the switch cabinet bus also applies to the CAN bus.

Switch cabinet bus

When connecting the switch cabinet bus, use a cable of at least type JY(St)Y 2x2x0.8 Lg: two x two leads stranded into a pair, plastic insulation and an electrostatic shield with a lead diameter of at least 0.8 mm. Use a stranded pair of leads for the data lines (+ and -) and another free lead for the ground (0).

At the end of the switch cabinet bus (farthest 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 switch cabinet bus is 200 m.

**NOTE**

The DDC3000 / DDC4000 system already includes terminating resistors.

M-Bus

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

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

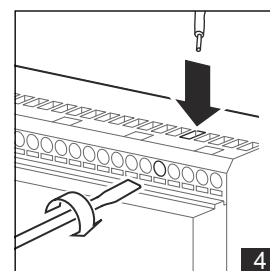
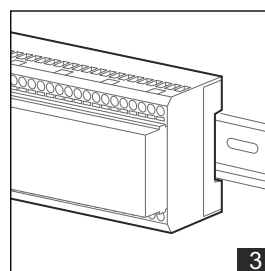
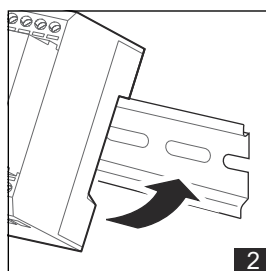
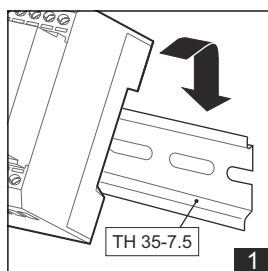
Contact with live parts of electrical domestic installation can cause death due to electric shock. Mounting/removal may only be carried out when power is switched off.



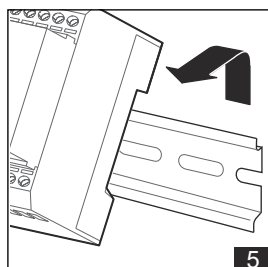
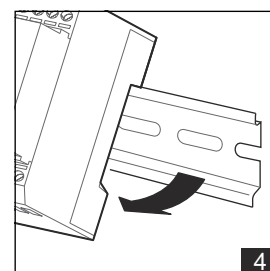
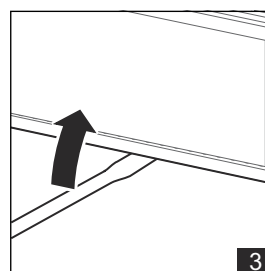
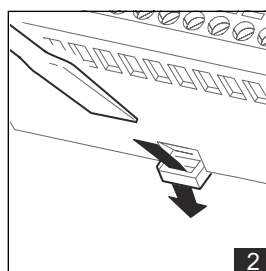
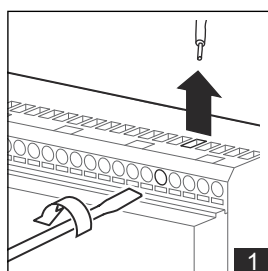
CAUTION

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.



Removal



Commissioning

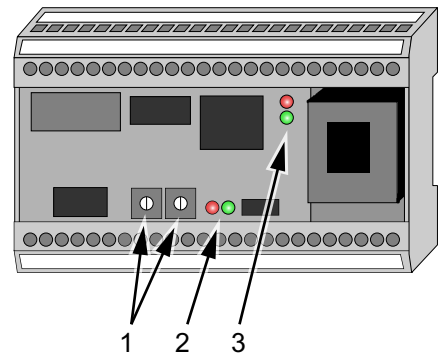


CAUTION

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.

Displays and Controls

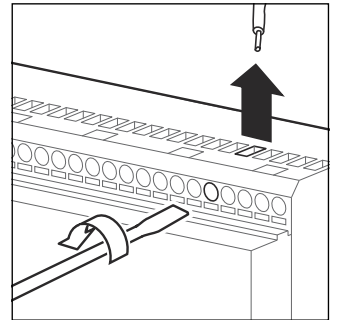


- 1 Rotary switch for setting the switch cabinet bus address
- 2 Switch cabinet bus LED
- 3 M-Bus LED

LED	Signal	Meaning
Switch cabinet bus LED	Flashing green	Data transmission
Switch cabinet bus LED	Red	Bus error or duplicate address
Switch cabinet bus LED	Flashing red	Incorrect or duplicate address
M-Bus LED	Flashing green	Data transmission
M-Bus LED	Red	M-Bus Off
M-Bus LED	Flashing red	Bus error

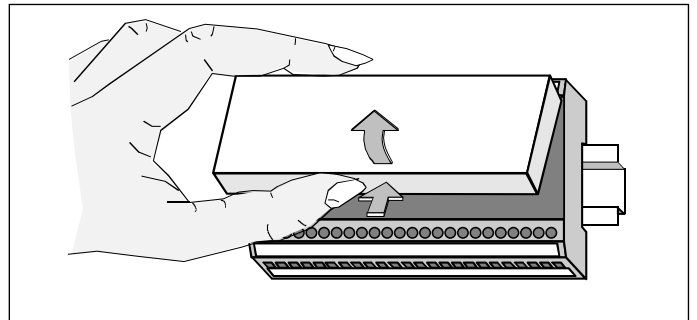
Setting the switch cabinet bus address

- ▶ Disconnect the power supply of the SBM51/04.



- ▶ Press the lower edge of the front cover and remove the cover.

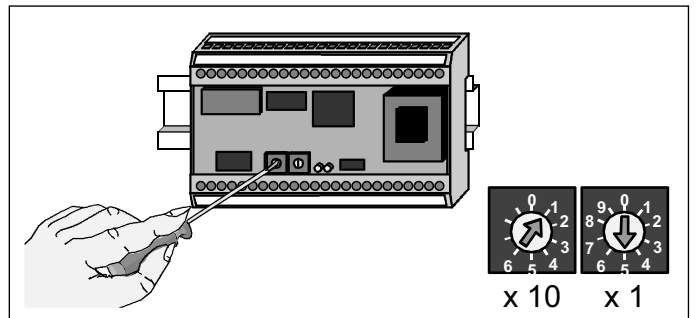
The rotary switches for setting the switch cabinet bus address are located inside the SBM51/04.



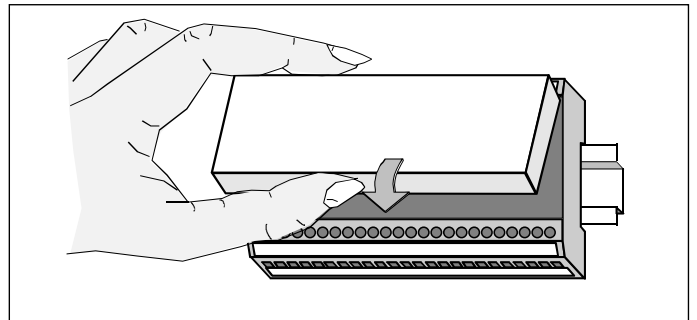
- ▶ Set the first rotary switch to the first digit of the switch cabinet bus address, and the second rotary switch to the second digit.

The example shows the address "15".

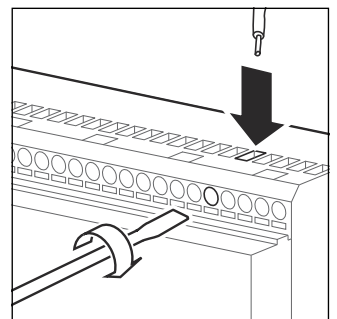
Permitted range for the switch cabinet bus address: 01 to 16



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



- ▶ Reconnect the power supply of the SBM51/04.



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 SBM51/04.