

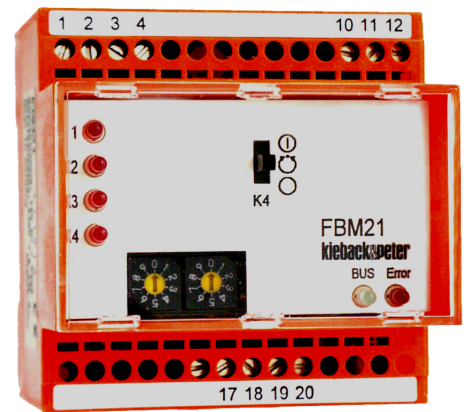
FBM21 Fieldbus Input/Output Module

Application

The FBM21 fieldbus input/output module with three digital inputs and one binary output for recording and controlling remote devices in the DDC3000 and DDC4000 automation systems

Emergency operating levels On/Auto/Off for the binary output.
LEDs are used for communication monitoring.

Data is transferred between the controller and the input/output module via the fieldbus.



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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 "FBM21". 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

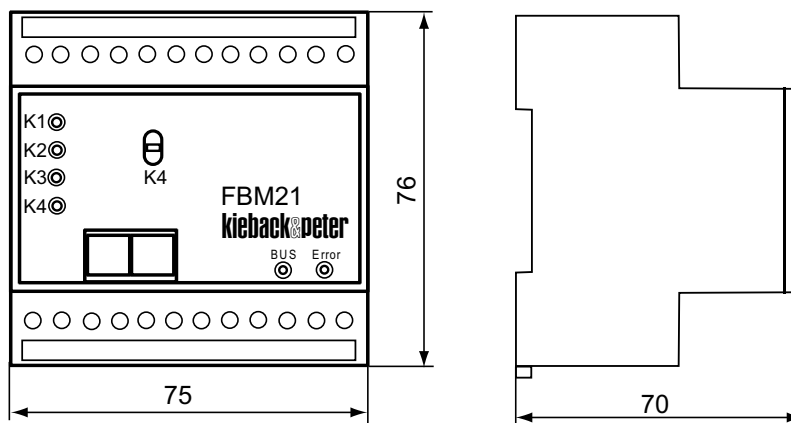
For disposal, the product is considered waste from electrical and electronic equipment (electronic waste) and must not be disposed of as household waste. Special treatment for specific components may be legally binding or ecologically sensible. The local and currently applicable legislation must be observed.

Product Description**FBM21****Item**

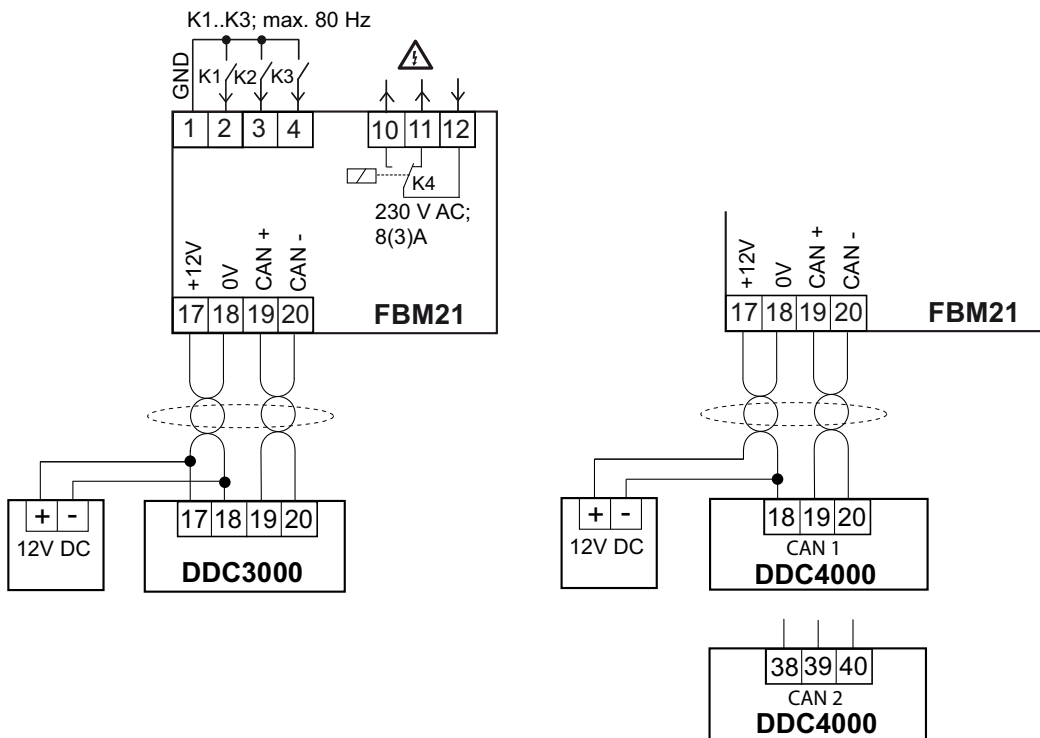
FBM21	Fieldbus input/output module with three digital inputs and one digital output (changeover switch)
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Technical Data

Nominal voltage	DC 12 V \pm 20% / 80 mA; 0.96 W
Inputs	3 BI pulse inputs K1–K3 (voltage-free), max. 80 Hz
Outputs	1 BO (changeover switch), AC 230 V; 8 (3) A
Interface	CAN; fieldbus 2000 m, 20 kBd
Address switch	Addressing 01 to 63 by means of 2 rotary switches
Manual switch	Auto/On/Off for the K4 binary output.
Indicator	3 LEDs Display of inputs K1–K3 1 LEDs Display of output K4 2 LEDs Green BUS LED: Flashing = fieldbus data transmission Red Error LED: Fieldbus error
Overvoltage category	III
Rated impulse voltage	4000 V
Level of contamination	2
Automatic action	Type 1
Degree of protection	IP20
Housing	Plastic housing
Ambient temperature	0°C to 45 °C
Ambient humidity	20% to 80% r.h., non-condensing
Installation	on standard rail DIN EN 50022 – 35 x 7.5 This device is intended for installation in a wall-mounted enclosure/switch cabinet installation having protection class II
Dimensions	WxHxD mm 75x76x70
Weight	0.1 kg

Dimensions

Connection



Installation



CAUTION

This product description describes specific settings and functions of the FBM21. In addition to these instructions, observe the product descriptions of other system components, such as DDC controller DDC4000 or DDC3000.



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.

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.

Mounting



WARNING

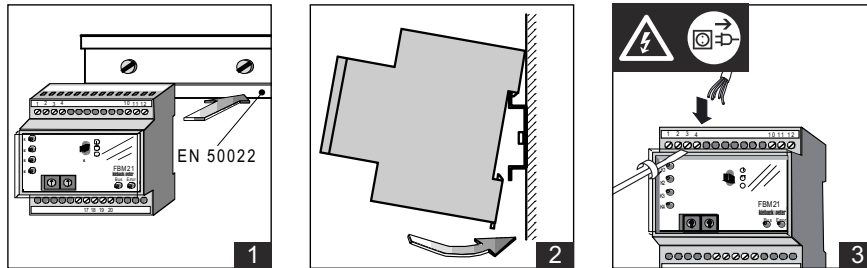
Warning: Mains voltage AC 230 V.

Electrical installation and unit connection may only be carried out by qualified technicians.

The mains supply may only be connected after the electrical installation.

Be sure to comply with VDE guidelines and local wiring regulations.

The device is connected according to the obligatory wiring diagram.



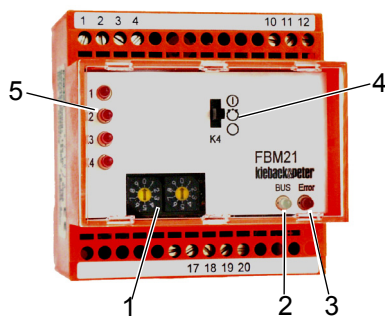
Commissioning



CAUTION

Commissioning by switching on the supply voltage may occur only after the commissioning technician/engineer has finished configuring the DDC and has set the fieldbus address.

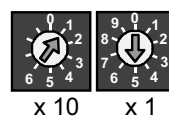
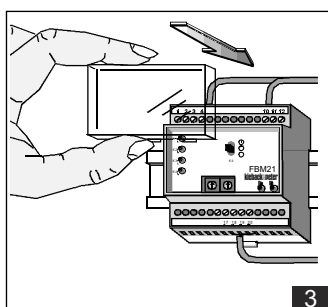
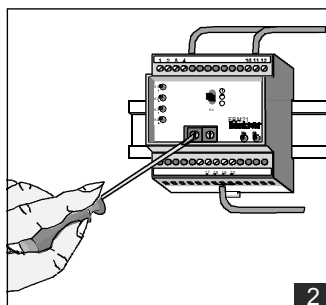
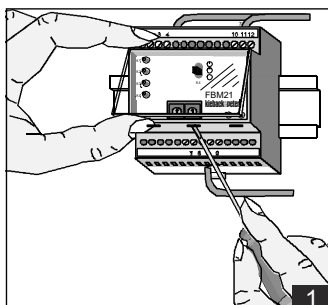
- Configuration is described in the DDC controller project planning documentation.
- Before switching on the supply voltage, check the electric installation and the device connections.
- After configuring the device and switching on the supply voltage, check the functions of the module and the connected inputs and outputs.



- (1) Address switch
- (2) Bus LED display
- (3) Error LED display
- (4) On/Auto/Off switch for K4
- (5) LED display K1–K4

Setting the address

Address setting: From 01 to 63



Example: 15

LED Display for Bus/Error

Green LED (2)	Red LED (3)	Meaning	Cause
Off	Off	Module not in operation	<ul style="list-style-type: none"> No operating voltage or operating voltage too low
On	On	Module in operation, but there is a bus error	<ul style="list-style-type: none"> Bus line short circuit (with respect to ground or each other) Bus lines mixed up Bus line(s) interrupted Module not registered
Flickers	Flashes	Address error	<ul style="list-style-type: none"> Outside of address range (01–63) Address assigned multiple times
Flickers	On	Module logging on	
Flickers	Off	Module OK, bus activity	