

Device description

FSM20, FSM22 Front Switching Module

Application

The Front Switching Module FSM20 or FSM22 is employed in the Automatic/Manual operation as well as for feedback of the inputs of the field bus modules FBM26 or FBM26U.

With the FSM20/FSM22, the relay outputs of the Field Bus Modules FBM26(U) can be switched into the stand-alone manual operation. The relay outputs as well as the digital inputs of the Field Bus Modules FBM26(U) can be displayed at the assigned LEDs.

Only one FSM can be connected to the Field Bus Module FBM26(U) at a time. The Front Switching Modules FSM20/FSM22 forms a functional unit with the FBM26(U).

Types

- FSM20** Front Switching Modules for 2-level aggregates with two Manual/Auto switches Auto/Off/ level 1/ level 2 for the relay outputs K1..K4 as well as with eight LEDs for the display of the relay outputs and the digital inputs IN1..IN4 of the FBM26(U)
- FSM22** Front Switching Modules for the 3-point drive with two Manual/Auto switches Auto/↑/Halt/↓ for the relay outputs K1..K4 as well as with eight LEDs for the display of the relay outputs and the digital inputs IN1..IN4 of the FBM26(U)



Notice

The current flow "Yes/No" on the relay outputs K1..K4 are displayed on the LED for a connected FBM26. The switch state "On/Off" of the relay outputs K1..K4 are displayed on the LED for a connected FBM26U.

Technical data

- Operation** Only in connection with dem Field Bus Module FBM26(U)
- Operating voltage** 12 V DC +20%/−10%, 30 mA, 0.4 VA
Voltage supply obtained from the the QBS interface
- Connection** Terminal connection an QBS bus, max. 30 m
- Operating elements** 2 Manual/Auto switches for the settings Auto/Off/ level 1/ level 2 of the relay outputs of the FBM26(U) switch 1 switches the relay outputs K1 and K2, switch 2 switches the relay outputs K3 and K4.
- Displays** 4 green LEDs for the display of the relay outputs K1..K4 of the FBM26(U) (FBM26: display of the current flow / FBM26U: display of the switch state)
4 red LEDs for the display of the digital inputs IN1..IN4 of the FBM26(U)
- Degree of enclosure protection** IP20
- environmental conditions** Temperature 0..45°C
Humidity 20..80 % rF, not condensing
- Weight** 80 g
- Accessories** WAS01 Wall Mounting Set for assembly

Measurements

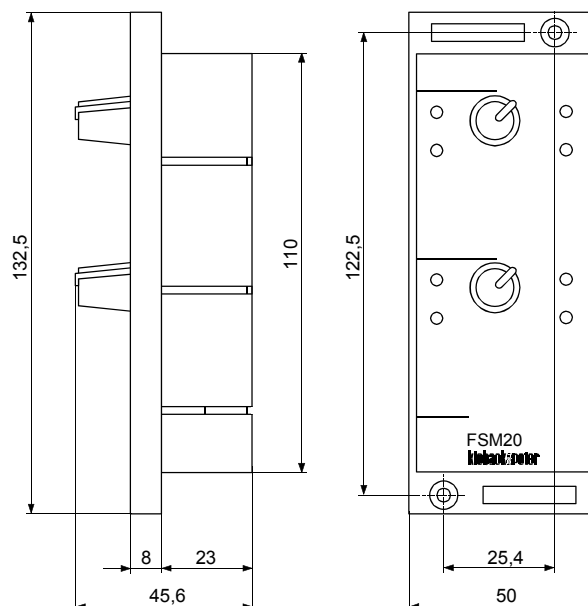


Figure shows FSM20.
same measurements for
FSM22

Date 08.05.2002

Mounting

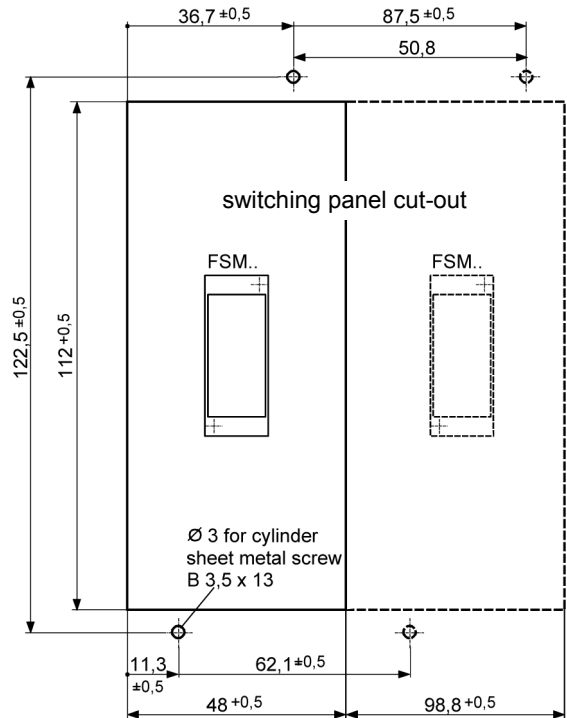
The Front Switching Modules FSM20/FSM22 can be installed in the switching panel door or in a 19" cassette frame KA.

Two screws for mounting in a 19" cassette frame KA are provided.

If it is desired, the Wall Mounting Set WAS01 is available as an accessory



Mounting in the switching panel or in a 19" cassette frame may only be carried out by qualified and trained personnel on a switching cabinet which is current-free!!



Installation



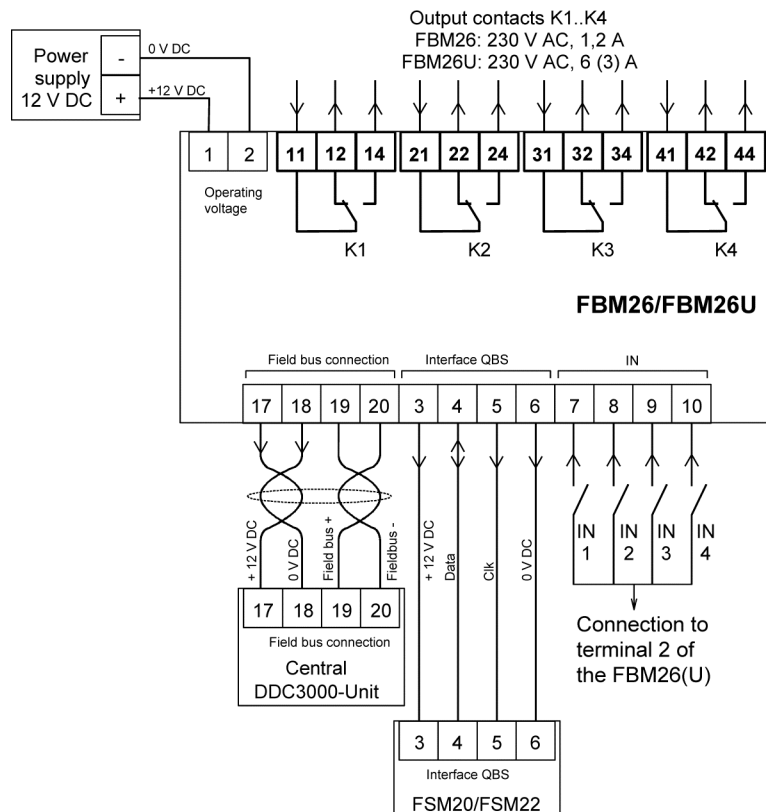
The electrical installation of the device connections in the switching panel may only be carried out by qualified and trained personnel, e.g. performed by a trained electrician!

The VDE legal provisions and the local regulations must be kept.

The Front Switching Modules FSM20/FSM22 are connected to the QBS interface of the Field Bus Modules FBM26(U) connected.

The 4-wire control line QBS can have a max. length of 30 m.

Connection



Two connection examples can be found on page 4

Function /operating

The Front Switching Modules FSM20/FSM22 possess two channels for driving Field Bus Modules FBM26(U).

• **Manual/Auto switch**

The FBM26(U) is controlled by both the Manual/Auto switches of the FSM20 or FSM22.

The Manual/Auto switch 1 (channel 1) is assigned to the relay outputs K1 and K2 of the Field Bus Modules FBM26(U).

The Manual/Auto switch 2 (channel 2) is assigned to the relay outputs K3 and K4 of the Field Bus Modules FBM26(U).

• **LED Function display**

Two green LEDs are located next to every Manual/Auto switch.

They display the FBM relay outputs K1/K2 and K3/K4.

For FBM26: The respective LED lights up when current flows across the switched relay output (current recognition).

For a switched relay output without current flow, e.g. for voltage interruption at the relay contacts does not light up the LED.

For the FBM26U: The respective LED lights up as soon as the relay output switches (independent of current flow).

FSM20	LED1	Switch 1	Display of the relay outputs K1 (level 1)	} Channel 1
LED2	} Switch 2	Switch 2	Display of the relay outputs K2 (level 2)	
LED1			Display of the relay outputs K3 (level 1)	} Channel 2
LED2	Display of the relay outputs K4 (level 2)			
FSM22	LED⇕	Switch 1	Display of the relay outputs K1	} Channel 1
LED⇕	} Switch 2	Switch 2	Display of the relay outputs K2	
LED⇓			Display of the relay outputs K3	} Channel 2
LED⇕	Display of the relay outputs K4			

• **LED IN1..IN4**

The two red LEDs for the display of the digital FBM inputs IN1..IN4 are located next to the Manual/Auto switch.

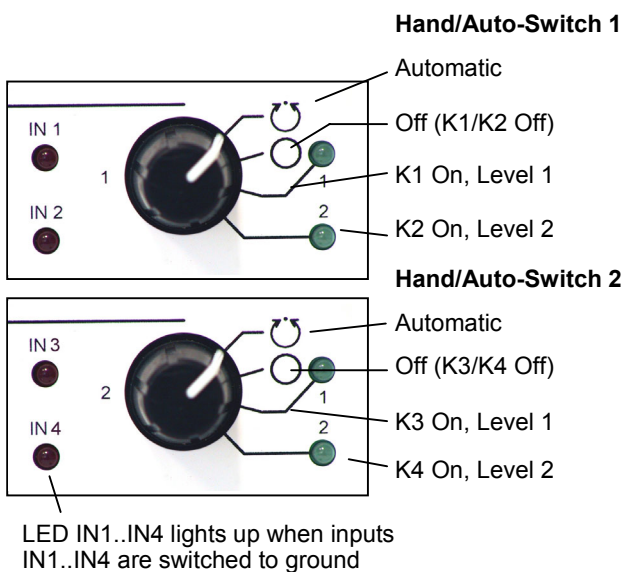
LED IN1 = On, when the digital input IN1 of the Field Bus Modules FBM26(U) is switched to ground

LED IN2 = On, when the digital input IN2 of the Field Bus Modules FBM26(U) is switched to ground

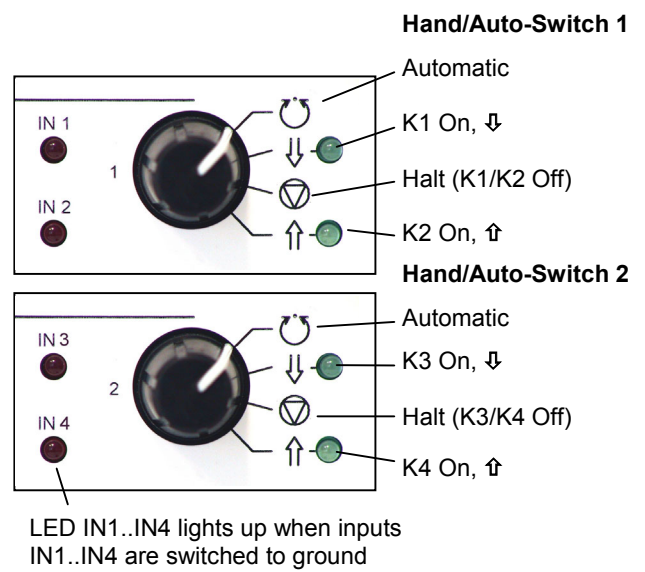
LED IN3 = On, when the digital input IN3 of the Field Bus Modules FBM26(U) is switched to ground

LED IN4 = On, when the digital input IN4 of the Field Bus Modules FBM26(U) is switched to ground

Operating fields FSM20



Operating fields FSM22



FSM20, FSM22 Front Switching Module

Device description

Connection example 1 (2-level drive)

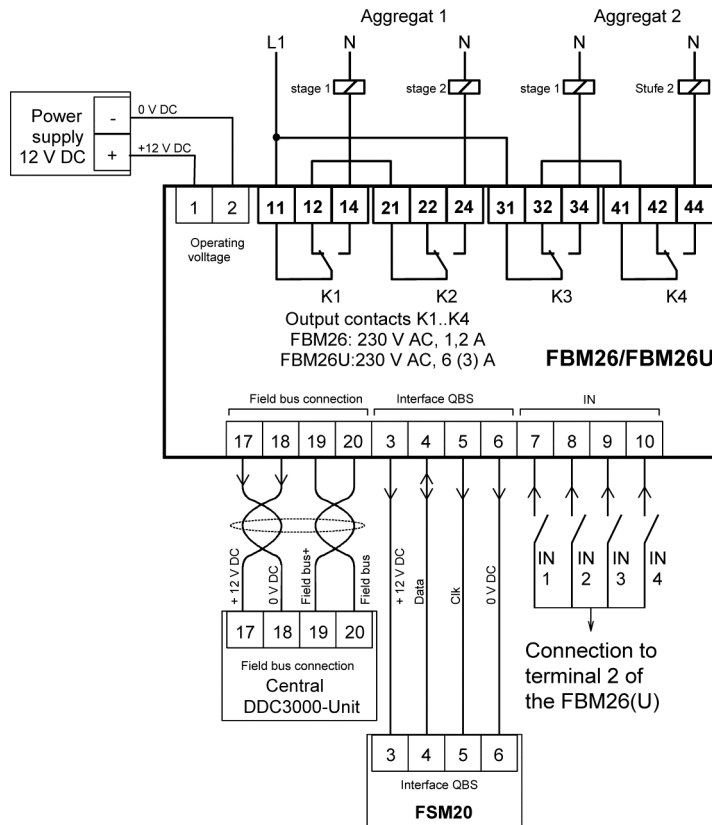
Both 2-level aggregates 1 and 2 are activated by the field bus from the the DDC3000 Central Control Unit.

- Drive aggregate 1:
level 1 by K1, level 2 by K2
- Drive aggregate 2:
level 1 by K3, level 2 by K4

Feedback :
Voltage-free contacts are connected to the digital inputs IN1..IN4.

- Setting FBM26(U):**
- Address switch to current field bus address of setting FSM20
 - Double switch FSM (both switches on upper pos.) type of operation remote
 - Switch K (upper pos.)

Attention!
For time-critical switching, e.g. ventilators, cooling aggregates etc., time controls for the delayed high and return switching of the 2-level manual controls are included by the customer on the terminals K1..K4.



Connection example 2 (3-point drive)

Both servo devices 1 and 2 are activated by the FBM inputs IN1..IN4 directly by the DDC3000 Central Control Unit.

In the example by the outputs 61/62 and 63/64 of a DDC3200.

The zero-potential of the voltage supply 24 V DC of the DDC3000 Central Control Unit and the FBM operating voltage 12 V DC are connected to each other.

- Drive Control device 1: IN1 switches K1 (↓)
IN2 switches K2 (↑)
- Drive Control device 2: IN3 switches K3 (↓)
IN4 switches K4 (↑)

- Setting FBM26(U):**
- Address switch to current field bus address to setting FSM22
 - Doppel switch FSM (left switch lower pos. right switch upper pos.) type of operation local
 - Switch K (lower pos.)

