

## INSTALLATION AND COMMISSIONING INSTRUCTION

### Sensor-Module SM

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**Part.-No.: 680150-9**

**Application:** Factory fitted module installed into an EMB 8000 and fully wired, for the connecting of automatic smoke detectors and breakglass units.

**Part.-No.: 680150**

**Application:** Module for the self installation on customer side into an EMB 8000 control unit for the connecting of automatic smoke detectors and breakglass units.

Operating voltage: 24 V DC  
 Detector line voltage: 24 V DC  
 Internal consumption: 12,6 mA

Housing (WxHxD): 100 x 120 x 22,5 mm, ABS, black

Module units: 1 ME

Inputs: 3 detector lines (max. 10 detectors/line)  
 Vent. push button line (max. 10 pcs.)

Outputs: 1 feedback contact (change-over switch, 42 V / 0,5 A)

Display: Power, fault, alarm

Control elements: Front push button: Reset

Connections: Plug-in terminals 1 mm<sup>2</sup> (rigid wire),  
 socket and plug with cable for internal BUS

Feature / Equipment: Detector line monitoring, fixing on 35-mm mounting rail,  
 configuration of the functional and performance features which deviates  
 from the standard systems via configuration software EMB 8000

#### Sensor-Module SM

Setting of functions requires the software of the control unit's manufacturer.

#### Functions:

- Monitors three fire signalling lines for triggering and faults.
- Processes signals from ventilation buttons.
- Has connections for external relaying of signals from operation, faults and alarm.
- Can only be employed, if a control module **CM** is already present.

#### Take the module into operation:

- Integrated module into the internal **BUS**.
- Position behind Power-Module **PM** / Power-Modul-Extension **PME** / Control-Module **CM** freely selectable.
- Fixing on 35-mm mounting rail.



Warranty claims require proper and professional assembly, installation and maintenance in accordance with national regulations and manufacturer's instructions as to SHEV Control Unit. Always disconnect the system from power supply and back-up battery voltage prior to any installation or modification work on the control unit.

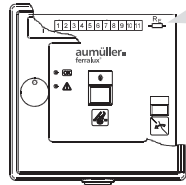


Strictly observe the information given in the SHEV Control Unit **EMB 8000** description when mounting the Sensor-Module **SM**. Setting of functions requires the software of the control unit's manufacturer. Keep this instruction over the lifetime of the control unit.

CONNECTION: SENSOR-MODULE SM

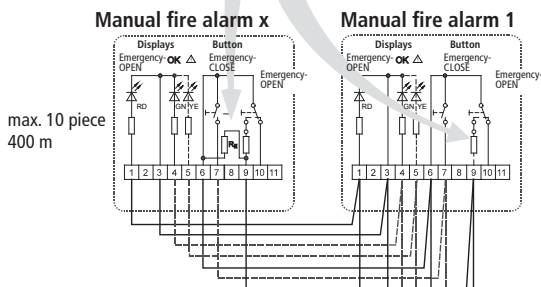
Connection: Sensor-Module SM (VdS-tested)

Signalling line 1  
Breakglass units (manual fire alarm)



Resistance  $R_E$  must remain in the last or only detector. Remove  $R_E$  in last breakglass unit switched before it!

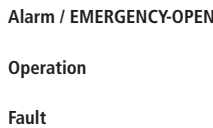
Displays of breakglass unit button:  
RD = red (Alarm)  
GN = green (Operation / OK)  
YE = yellow (Fault)



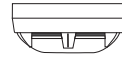
Terminals module: 16 15 19 14 13

= not for secondary control device

Signalling  
max. 0,1 A, 24 V DC  
max. 400 m



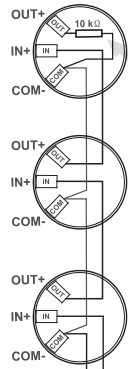
Signalling line 2  
Automatic smoke detector or triggering of external fire alarm unit



Cable length:  
max. 400 m  
0,5 mm<sup>2</sup>

Connect a max. of 10 smoke detectors to SM!

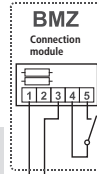
Insert resistance  $R_E$  in last detector of line!



Insert resistance  $R_E$  in unused signalling line!

or or

Signalling line 3



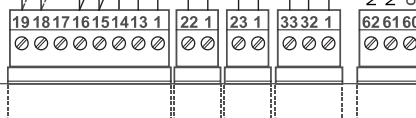
Cable length:  
max. 400 m  
0,5 mm<sup>2</sup>

Ventilation control

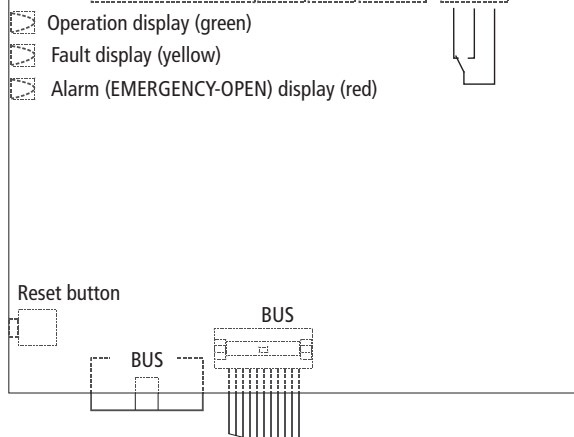


Cable length:  
max. 400 m  
0,5 mm<sup>2</sup>

Superordinated opening and closing for subsequent Drive-Module DM to the next Sensor-Module SM (Standard)





Signalling contact collective fault (standard)  
Volt free  
max. 42 V, 0,5 A










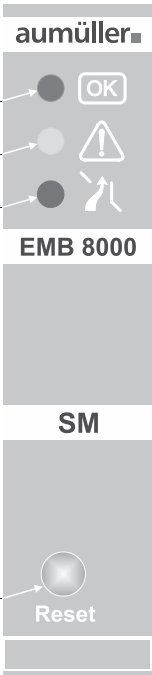

BK	=	black
BN	=	brown
BU	=	blue
OG	=	orange
RD	=	red

## INDICATOR AND CONTROL ELEMENTS

Display the operating state	
Icon	Importance
	<b>Display green:</b> ermanently lit: Correct conditions Blinks: Back-up battery operation (power failure) No signal: Back-up battery operation (power failure)

















Displays of status: Fault	
Icon	Importance
	<b>Display yellow:</b> Fault

Displays: Triggering of Alarm / EMERGENCY-OPEN	
Icon	Importance
	<b>Display red:</b> Automatic or manual triggering of EMERGENCY-OPEN

Display: Sensor-Module SM	
<b>Display</b> Operation (green) →   Fault (yellow) →   Alarm (red) →  	
<b>Button:</b> Resetting of module → 	

## TROUBLESHOOTING AND REPAIR

All functions and system components that are important for the SHEVS operation are constantly monitored for faults. A fault indication signals the type of fault and, respectively, possible errors when connecting system components during commissioning of the Control Unit.

Fault: Sensor-Module SM		
Triggering of alarm (EMERGENCY-OPEN)		Cause / possible solution
 red 		EMERGENCY-OPEN has triggered
<small>Displays also valid for external LEDs (breakglass unit)</small>		
 red 		Smoke detector still active after EMERGENCY-CLOSE
<small>Displays also valid for external LEDs (breakglass unit)</small>		
 red 		Manual alarm still on after EMERGENCY-CLOSE
<small>Displays also valid for external LEDs (breakglass unit)</small>		
Fault	Cause / possible solution	
 yellow no signal	and	
 yellow 	Fault signalling line 1 (automatic detector or ext. fire alarm)	
 yellow 	Fault signalling line 2 (automatic detector or ext. fire alarm)	
 yellow 	Fault signalling line 3 (automatic detector or ext. fire alarm)	
 yellow 	System in back-up battery operation	
 green	No correct <b>BUS</b> connection ( → check ribbon cable) or Fault at control module <b>CM</b> ( → check power supply)	



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