

LSN - Non-Automatic Fire Detector Series 210

FMC-210-DM-G-R / FMC-210-DM-H-R

FMC-210-DM-G-B / FMC-210-DM-H-B / FMC-210-DM-G-Y

FMC-210-EST-G-B

FMC-210-SM-G-B / FMC-210-SM-G-R



Table of contents

1.	Product description	4
2.	Features	4
3.	Planning notes	5
3.1.	Maximum number of detectors that may be connected	5
3.2.	Norms, guidelines and planning recommendations	5
3.3.	Use in explosive areas	6
3.4.	Labelling variants	6
4.	Order contents	7
4.1.	Basic model	7
4.2.	Labelling foils	7
4.3.	Accessories / Spare parts	7
5.	Device structure	8
6.	Functional description	9
6.1.	Manual call point	9
6.2.	Single action call point	9
6.3.	Functional test	9
7.	Installation	9
7.1.	Installation dimensions (view: housing rear wall interior)	10
7.2.	Cable duct	10
7.3.	Installation variants for fire hose cabinets	11
7.4.	Connection	12
7.5.	Addressing	13
8.	Notes on maintenance and service	13
8.1.	Repair	13
8.2.	Disposal	13
8.3.	Additional documentation	14
9.	Technical specifications	14
10.	Table of abbreviations	15
11.	Notes	16

1. Product description

The series 210 non-automatic fire detector is used for manual alarm triggering in the local security network (LSN).

The Form H detectors are designed for exterior areas, the Form G detectors for interior areas.

Overview of non-automatic fire detectors, series 210

Manual call points

- FMC-210-DM-G-R Manual call point for interior areas (Form G), red
- FMC-210-DM-H-R Manual call point for exterior areas (Form H), red

Manual call points

- FMC-210-DM-G-B Manual call point for interior areas (Form G), blue
- FMC-210-DM-H-B Manual call point for exterior areas (Form H), blue
- FMC-210-DM-G-Y Manual call point for interior areas (Form G), yellow

Stop device

- FMC-210-EST-G-B Stop device for interior areas (Form G), blue

Single action call points

- FMC-210-SM-G-B Single action call point for interior areas (Form G), blue
- FMC-210-SM-G-R Single action call point for interior areas (Form G), red

2. Features

- Manual call point and stop device: Trigger alarm by pushing the button. After alarm triggering, the push button is adjusted.
- Single action call point: Trigger alarm by breaking the glass pane.
- Automatic or manual addressing is possible via the rotary switch.
- Detector query routines with evaluation and multiple transmission.
- Individual detector identification with display of the detector address, for fast pinpointing of the triggered detector.
- Display (LED) for triggered alarms or inspection evaluation.
- Same design for interior use (Form G) and exterior use (Form H).
- Available in different colour variants; see order overview.
- For the red colour variants, a “burning house” is applied to the detector housing in the factory.
- Variable labelling is possible with foil sets for the blue and yellow colour variants.
- For exterior use in extreme environmental conditions, the detector is equipped with an especially resistant PC board (parylene layering) and with a seal in the detector door.

Additional LSN features

The LSN non-automatic fire detector series 210 offers all the features of the “improved” LSN technology:

- Flexible network structures including “T-taping” without additional elements.
- Up to 254 LSN improved elements per loop or stub line.
- Automatic or manual detector addressing can be selected via the rotary switch, in each case with or without auto detection.
- Power supply of up to 300 mA for the connected elements via LSN.
- If using the LSN “improved version” elements in conjunction with FPA-5000, unshielded cable can be used. Otherwise, shielded cables must be used.
- Cable length up to 1000 m.
- Downwards compatibility to existing LSN systems and control panels in CL operating mode CL00.

3. Planning notes

- Non-automatic fire detectors must be mounted visibly along escape and rescue routes (e.g. exits, passageways, stairwells) and be easily accessible.
- An installation height of 1400 mm (± 200 mm), measured from the middle of the push button to the floor, must be maintained.
- Non-automatic fire detectors must be sufficiently lit with sunlight or another light source (including emergency lighting if present).
- The distance between non-automatic fire detectors should not exceed 100 m according to DIN 14 675 or 80 m according to VdS.
- In high risk areas, non-automatic fire detectors should be installed at intervals of max. 40 m (VDE 0833 Part 2, Point 7.2.6).

3.1. Maximum number of detectors that may be connected

The maximum number of LSN elements (LSN interfaces and LSN call points) that may be connected depends on their current consumption from the LSN data line. The limit values should be taken from the product information supplied with the fire panel used.

3.2. Norms, guidelines and planning recommendations

Additional norms, guidelines, and planning recommendations with respect to installation location etc. must be taken into account (see fire detector manual).

The regulations of the local fire services must be observed.

3.3. Use in explosive areas



All non-automatic detectors of types DM 210 LSN and SM 210 LSN conform to device category 3G, gas group IIB and temperature class T6 as per the European guideline 94/9/EG (ATEX). Thus the detectors may be used in Zone 2 areas where there is danger of explosion!

Limiting values:

- Detectors may only be operated with central units whose line output is energy-limited according to EN 50021.
 - ☞ This applies to all Bosch fire panels.
- The line voltage (U_{\max}) must not exceed 33 V!
- The maximum current (I_{\max}) must be limited to 130 mA!

Fire detector cable:

- Only fire detector cables that conform to DIN VDE 0814 may be used.
- The total cable capacity (C_{\max}) must not exceed 1 mF!
- The total cable inductivity (L_{\max}) must not exceed 0.01 H!
 - ☞ The cable type J-Y(ST)Y08, in accordance with DIN VDE 0815 (table 10), has a capacity of 120 nF at a length of 1000 m.

3.4. Labelling variants

The detectors have basic labelling and can be individually adapted to the location/application with optional labelling variants. This excludes detector variants FMC-210-DM-G-R and FMC-210-DM-H-R, to which the “burning house” symbol has already been applied.

The self-adhesive labelling foils are stuck on the front panel of the detector.

4. Order contents

4.1. Basic model

Product ID	DU*	Designation
F01U011956	Pc	FMC-210-DM-G-R, Manual call point for interior areas (Form G), red
F01U011958	Pc	FMC-210-DM-H-R, Manual call point for exterior areas (Form H), red
F01U011959	Pc	FMC-210-DM-G-B, Manual call point for interior areas (Form G), blue
F01U011960	Pc	FMC-210-DM-H-B, Manual call point for exterior areas (Form H), blue
F01U011961	Pc	FMC-210-DM-G-Y, Manual call point for interior areas (Form G), yellow
F01U012764	Pc	FMC-210-EST-G-B, Stop device for interior areas (Form G), blue
F01U027317	Pc	FMC-210-SM-G-B, Single action call point for interior areas (Form G), blue
F01U011962	Pc	FMC-210-SM-G-R, Single action call point for interior areas (Form G), red

4.2. Labelling foils

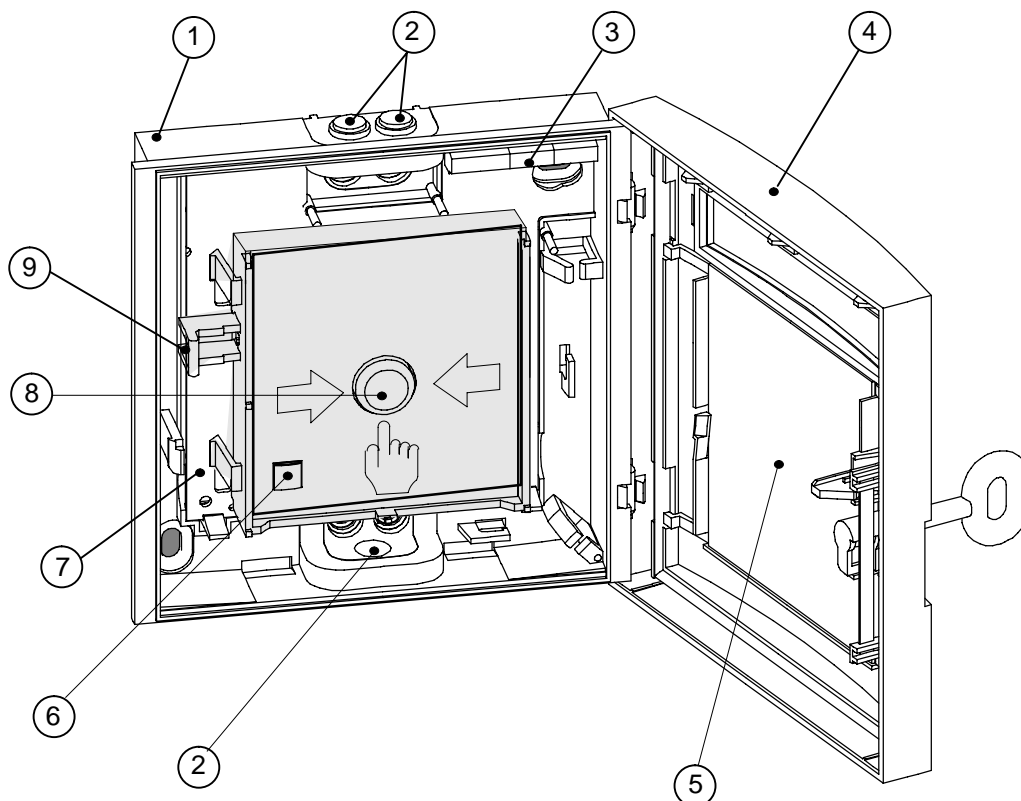
Product ID	DU*	Designation
F.01U.012.951	PAK	FMC-FST-DE, Pre-cut and labelled foil sets for the top labelling field (1 PACK = 5 sheets with 12 labelling variants)
F.01U.033.169	PAK	FMX-FSO-LSN, Pre-cut foil sets for the top labelling field (1 PAK = 10 sheets with 6 labelling variants). Appropriate for printing at standard laser printers. The required print file is available on the WinPara disk.

4.3. Accessories / Spare parts

Product ID	DU*	Designation
3.790.170.005	Pc	“Out of order” - Metal stop sign
3.756.630.007	Pc	Red plastic key (ASA) for detector door
F.01U.025.845	PAK	FMC-SPGL-DEIL, Replacement glass pane, dimensions 80 x 80 x 0.9 mm (1 PACK = 5 pieces)

5. Device structure

The non-automatic fire detector is available in several variants and essentially consists of the following elements.



Pos.	Designation
1	Plastic housing
2	Cable ducts (interchangeable), for cable inlet and outlet. The cable can also be ducted through openings in the rear wall of the housing.
3	Connection terminal strip
4	Detector door with replaceable glass pane, hidden lock (and seal, for Form H)
5	Glass pane
6	Display (LED)
7	PC board (with protective coating for Form H) The PC board is clipped onto the floor of the housing.
8	Trigger mechanism (clipped onto the PC board), consisting of plastic frame and push button with spring.
9	Reset lever (locking mechanism only for manual call points)

6. Functional description

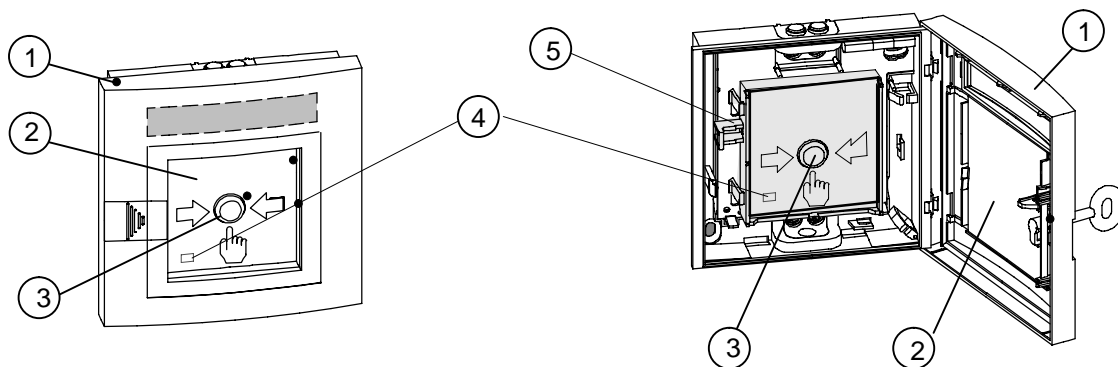
6.1. Manual call point

Manual call point and stop device: In the event of an alarm, the glass pane (2) is broken first, then the manual call point (3) is pressed hard.

This activates the microswitch for alarm triggering and the indicator LED (4) flashes.

A locking mechanism holds the pressed push button down.

The pressed push button is reset by manually activating the reset lever (5) or by opening the detector door (1) ⇒ The alarm is reset and the display LED goes out (4).



6.2. Single action call point

With single action call points, the alarm is triggered when the glass pane (2) is broken and the button (3) springs up.

This activates the microswitch for alarm triggering and the display LED (4) flashes.

After a new glass pane (2) has been inserted, the call point (3) is reset by opening the detector doors (1).

6.3. Functional test

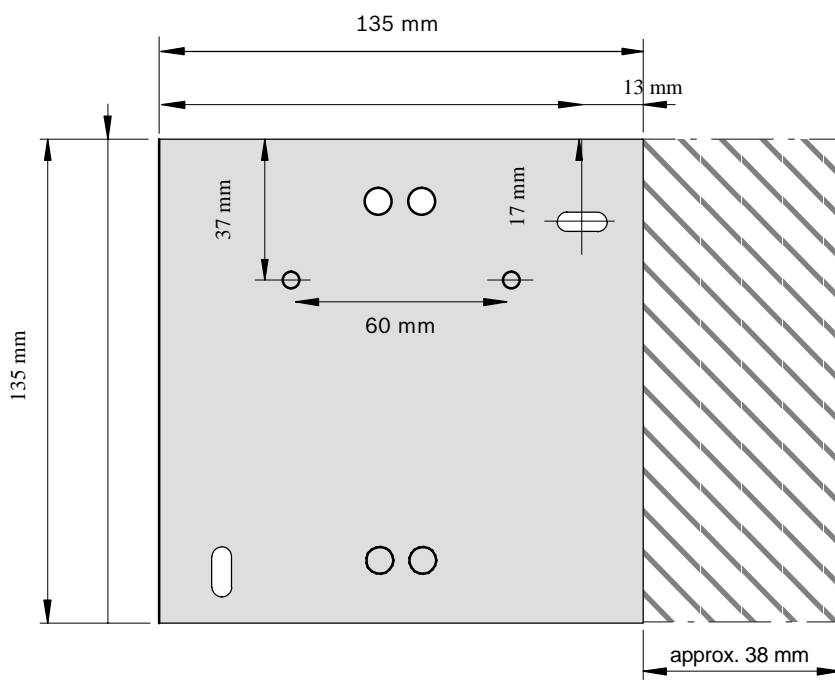
Manual call point and stop device: To trigger the alarm, press the manual call point (3) hard. The display LED (4) flashes. Use the reset lever (5) to return the manual call point to the starting status.

Single action call point: To trigger the alarm, open the detector door (1). The display LED (4) flashes. To reset the single action call point to its starting status, close the detector door (1).

7. Installation

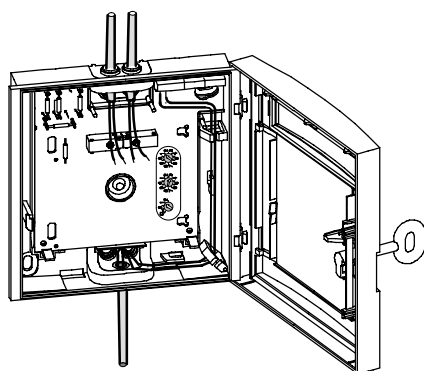
- The non-automatic fire detector is designed for wall mounting.
- The installation height, according to VdS regulations, is 1400 mm (\pm 200 mm) from the floor to the centre of the push button.
- The connection cables can be surface or flush-mounted.
- The cable ducting should be carried out using the intended openings in the housing (see 7.2 Cable duct).
- The installation location is to be selected so that approximately 38 mm space remains free on the right-hand side for opening the door.

7.1. Installation dimensions (view: housing rear wall interior)

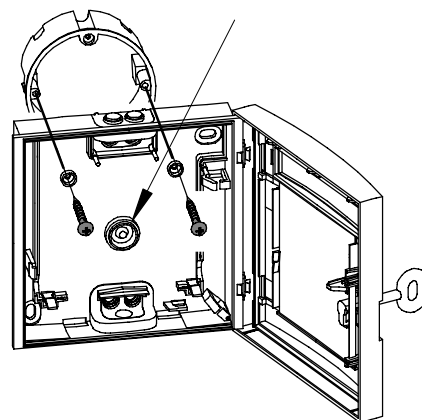


7.2. Cable duct

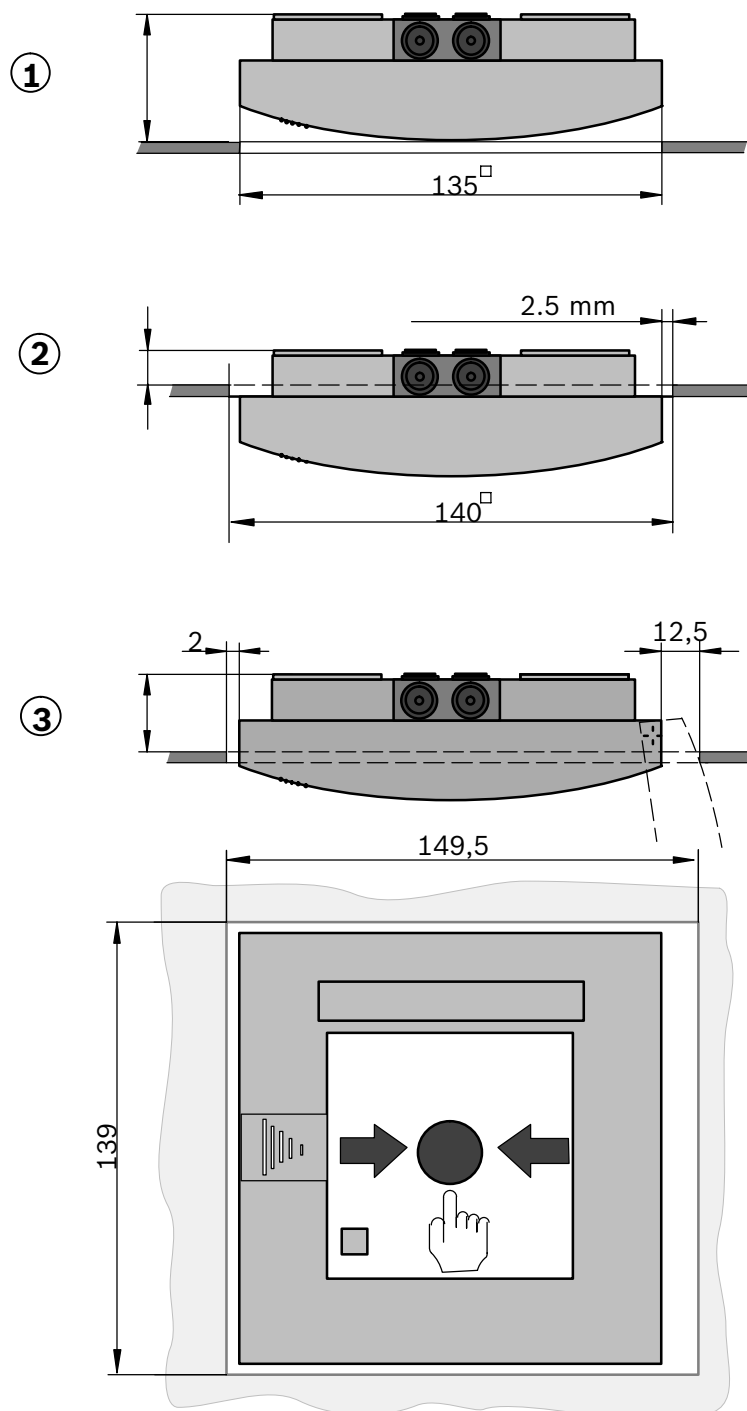
Surface-mounted cable duct



Flush-mounted cable duct via concealed box

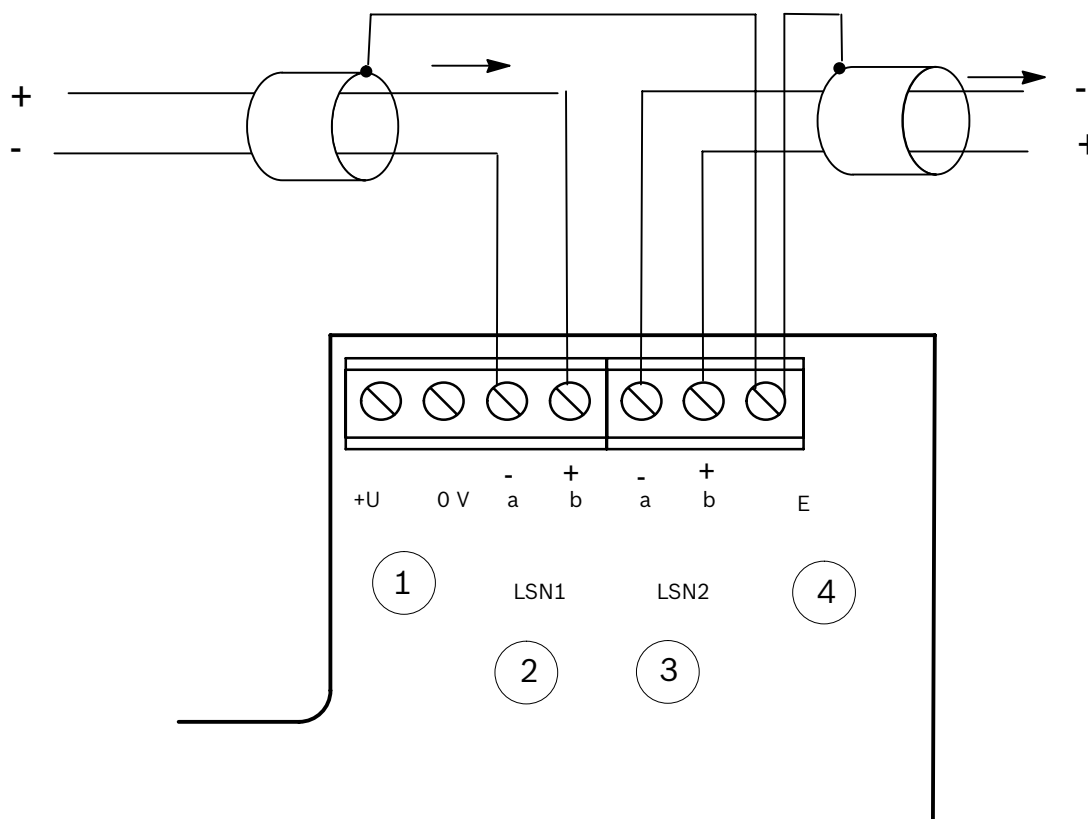


7.3. Installation variants for fire hose cabinets



Pos.	Description
1	Installation depth version 1: min. 39 mm
2	Installation depth version 2: 14 mm
3	Installation depth version 3: approx. 30 mm With this version, it is not necessary to open the door of the hose box e.g. for maintenance.

7.4. Connection



Pos.	Description	Connector
1	+U / 0 V	For execution of the external power supply
2	a b LSN1	LSN in
3	a b LSN2	LSN out
4	E	Earth connection for the cable shielding

7.5. Addressing

The detector address is set via three rotary switches in the detector housing. To set the address, turn the rotary switch to the desired position using a pan head slotted screwdriver. Permissible address range: 001 to 254. Settings between 255 and 299 trigger an error message on the fire panel.

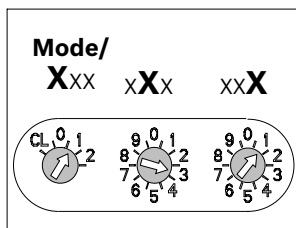
Manual addressing: All detectors in a loop or stub line receive an address between 1 and 254.

Automatic addressing: All detectors receive the address '000'. The address is allocated automatically by the fire panel.

Addressing for BZ 500 LSN, UEZ 2000 LSN, UGM 2020: For connection to these fire panels, all detectors receive the address 'CL00'.

i It is not permissible to use different addressing modes at the same time.

Address	Mode
0 0 0	Loop/stub in LSN improved mode with automatic addressing (T branches not possible)
001...254	Loop/stub/T branches in LSN improved mode with manual addressing
CL 0 0	Loop/stub in "Classic" LSN mode



	FPA-5000	BZ 500LSN UEZ 2000 LSN UGM 2020
CL 00	✓	✓
000	✓	-
001...254	✓	-
255...299	-	-

i If LSN "improved version" elements are used in conjunction with the FPA-5000, unshielded cables can be used. Otherwise, shielded cables must be used.

8. Notes on maintenance and service

For maintenance and inspection work on security systems, the regulations of DIN VDE 0833 apply in Germany; these regulations refer to the maintenance intervals as per the manufacturer's instructions.

- Bosch ST recommends a functional and visual inspection at least once a year.
- Maintenance and inspection work should be carried out regularly and by trained personnel.

8.1. Repair

In the event of a defect, the entire unit is exchanged.

8.2. Disposal

Unusable units should be disposed of in accordance with regulations.

8.3. Additional documentation



For those with the appropriate access authorisation,
see Bosch ST ExtraNet at

www.boschbest.de

for the updated product information and the installation manual as a downloadable PDF file.

9. Technical specifications

Technische Daten / Technical specifications / Technische gegevens	
Operating voltage	24 V DC (15 V DC to 33 V DC)
Current consumption	0.4 mA
Protection category as per EN 60529 - Form H (exterior) - Form G (interior)	IP 54 IP 52
Permissible ambient temperature - Form H (exterior) - Form G (interior)	-25°C to +70°C / -13°F to 158°F -10°C to +55°C / 14°F to 131°F
Standard (except FMC-210-DM-G-Y)	EN 54-11
Standard for FMC-210-DM-G-Y	EN 12094-3
Colours	RAL 5005 signal blue RAL 1003 signal yellow RAL 3001 signal red
Housing material	Plastic, ASA (Acrylonitrile-Styrene-Acrylate Terpolymer)
Dimensions (W x H x D)	135 x 135 x 40 mm / 5.31 x 5.31 x 1.5 inches
Weight	235 g



10. Table of abbreviations

AHB	=	Wiring diagram manual
BMZ	=	Fire panel
BM	=	Fire detector
DIN	=	German Institute for Standardization
DM	=	Manual call point
EMZ	=	Intrusion control panel
EN	=	European standard
GMZ	=	Danger detection system
KI	=	Customer service information
LED	=	Light Emitting Diode
LSN	=	Local Security Network
SM	=	Single action call point
UGM	=	Universal danger detection system
VDE	=	Association of German Electrical Engineers
VdS	=	VdS Schadenverhütung GmbH

11. Notes



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