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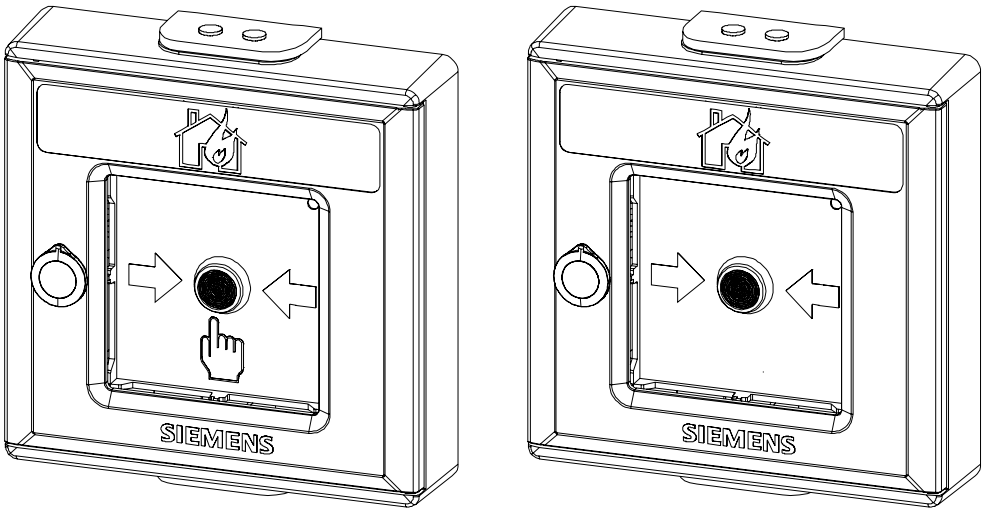

FDM233, FDM234

Manual call point

Technical Manual

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2019-01-18

Building Technologies

Control Products and Systems

Imprint

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Table of contents

1 About this document

Goal and purpose

This document contains all information on the manual call points

- FDM233
- FDM234

Following the instructions consistently will ensure that the product can be used safely and without any problems.

Target groups

The information in this document is intended for the following target groups:

Target group	Activity	Qualification
Product Manager	• Is responsible for information passing between the manufacturer and regional company. • Coordinates the flow of information between the individual groups of people involved in a project.	• Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Product Managers.
Project Manager	• Coordinates the deployment of all persons and resources involved in the project according to schedule. • Provides the information required to run the project.	• Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Project Managers.
Project engineer	• Sets parameters for product depending on specific national and/or customer requirements. • Checks operability and approves the product for commissioning at the place of installation. • Is responsible for troubleshooting.	• Has obtained suitable specialist training for the function and for the products. • Has attended the training courses for Product Engineer.
Installation personnel	• Assembles and installs the product components at the place of installation. • Carries out a function check following installation.	• Has received specialist training in the area of building installation technology or electrical installations.
Maintenance personnel	• Carries out all maintenance work. • Checks that the products are in perfect working order. • Searches for and corrects malfunctions.	• Has obtained suitable specialist training for the function and for the products.

Document identification

The document ID is structured as follows:

ID code	Examples
ID_ModificationIndex_Language_COUNTRY -- = multilingual or international	A6V10215123_a_de_DE A6V10215123_a_en_-- A6V10315123_a_--_--

Date format

The date format in the document corresponds to the recommendation of international standard ISO 8601 (format YYYY-MM-DD).

Conventions for text marking

Markups

Special markups are shown in this document as follows:

▷	Requirement for a behavior instruction
1. 2.	Behavior instruction with at least two operation sequences
–	Version, option, or detailed information for a behavior instruction
⇨	Intermediate result of a behavior instruction
⇨	End result of a behavior instruction
•	Numbered lists and behavior instructions with an operation sequence
[➞ X]	Reference to a page number
'Text'	Quotation, reproduced identically
<Key>	Identification of keys
>	Relation sign and for identification between steps in a sequence, e.g., 'Menu bar' > 'Help' > 'Help topics'
↑ Text	Identification of a glossary entry

Supplementary information and tips

The 'i' symbol identifies supplementary information and tips for an easier way of working.

1.1 Applicable documents

Document ID	Title
008250	Technical Manual Line tester FDUL221
008331	List of compatibility (for 'Sinteso™' product line)
008838	Operation Manual Fire control panel / Fire terminal FC20xx / FT2040
009052	FS20 Fire detection system - Commissioning, Maintenance, Troubleshooting
A6V10210416	FS720 Fire detection system - Commissioning, Maintenance, Troubleshooting
A6V10229261	List of compatibility (for 'Cerberus™ PRO' product line)
A6V10356826	Data sheet Manual call points FDM233, FDM234
A6V10374019	Installation Housing FDMH294-R, Call point unit FDME233, FDME234

1.2 Technical terms

Term	Explanation
FDnet/C-NET	Addressed detector line
LED	Light-emitting diode

1.3 History of changes

The reference document's version applies to all languages into which the reference document is translated.

The first edition of a language version or a country variant may, for example, be version 'd' instead of 'a' if the reference document is already this version.

The table below shows this document's revision history:

Version	Edition date	Brief description
d	2019-01-18	Compatibility: SIGMASYS marked for FDnet and C-NET
c	2018-04-03	New address added
b	2017-01-26	Characteristic data changed to 1.5 A, 2 A, and 0.4 Ω in 'Line separator' section in 'Technical data' chapter
a	2014-07-01	First edition

2 Safety

2.1 Safety instructions

The safety notices must be observed in order to protect people and property.

The safety notices in this document contain the following elements:

- Symbol for danger
- Signal word
- Nature and origin of the danger
- Consequences if the danger occurs
- Measures or prohibitions for danger avoidance

Symbol for danger

	This is the symbol for danger. It warns of **risks of injury**. Follow all measures identified by this symbol to avoid injury or death.

Additional danger symbols

These symbols indicate general dangers, the type of danger or possible consequences, measures and prohibitions, examples of which are shown in the following table:

 General danger

 Explosive atmosphere

 Voltage/electric shock

 Laser light

 Battery

 Heat

Signal word

The signal word classifies the danger as defined in the following table:

Signal word	Danger level
DANGER	'DANGER' identifies a dangerous situation, which **will result directly in death or serious injury** if you do not avoid this situation.
WARNING	'WARNING' identifies a dangerous situation, which **may result in death or serious injury** if you do not avoid this situation.
CAUTION	'CAUTION' identifies a dangerous situation, which could result in **slight to moderately serious injury** if you do not avoid this situation.
NOTICE	'*NOTICE*' identifies a possibly harmful situation or possible damage to property that may result from non-observance. '*NOTICE*' does not relate to possible bodily injury.

How risk of injury is presented

Information about the risk of injury is shown as follows:

	⚠ WARNING
	Nature and origin of the danger Consequences if the danger occurs • Measures / prohibitions for danger avoidance

How possible damage to property is presented

Information about possible damage to property is shown as follows:

!	*NOTICE*
	Nature and origin of the danger Consequences if the danger occurs • Measures / prohibitions for danger avoidance

2.2 Safety regulations for the method of operation

National standards, regulations and legislation

Siemens products are developed and produced in compliance with the relevant European and international safety standards. Should additional national or local safety standards or legislation concerning the planning, mounting, installation, operation or disposal of the product apply at the place of operation, then these must also be taken into account together with the safety regulations in the product documentation.

Electrical installations

⚠ WARNING

Electrical voltage

Electric shock

- Work on electrical installations may only be carried out by qualified electricians or by instructed persons working under the guidance and supervision of a qualified electrician, in accordance with the electrotechnical regulations.

- Wherever possible disconnect products from the power supply when carrying out commissioning, maintenance or repair work on them.
- Lock volt-free areas to prevent them being switched back on again by mistake.
- Label the connection terminals with external voltage using a 'DANGER External voltage' sign.
- Route mains connections to products separately and fuse them with their own, clearly marked fuse.
- Fit an easily accessible disconnecting device in accordance with IEC 60950-1 outside the installation.
- Produce earthing as stated in local safety regulations.

⚠ CAUTION

Noncompliance with the following safety regulations

Risk of injury to persons and damage to property

- Compliance with the following regulations is required.

- Specialist electrical engineering knowledge is required for installation.
- Only an expert is permitted to carry out installation work.

Incorrect installation can take safety devices out of operation unbeknown to a layperson.

Mounting, installation, commissioning and maintenance

- If you require tools such as a ladder, these must be safe and must be intended for the work in hand.
- When starting the fire control panel ensure that unstable conditions cannot arise.
- Ensure that all points listed in the 'Testing the product operability' section below are observed.
- You may only set controls to normal function when the product operability has been completely tested and the system has been handed over to the customer.

Testing the product operability

- Prevent the remote transmission from triggering erroneously.
- If testing building installations or activating devices from third-party companies, you must collaborate with the people appointed.
- The activation of fire control installations for test purposes must not cause injury to anyone or damage to the building installations. The following instructions must be observed:
  - Use the correct potential for activation; this is generally the potential of the building installation.
  - Only check controls up to the interface (relay with blocking option).
  - Make sure that only the controls to be tested are activated.
- Inform people before testing the alarm devices and allow for possible panic responses.
- Inform people about any noise or mist which may be produced.
- Before testing the remote transmission, inform the corresponding alarm and fault signal receiving stations.

Modifications to the system design and the products

Modifications to the system and to individual products may lead to faults, malfunctioning and safety risks. Written confirmation must be obtained from Siemens and the corresponding safety bodies for modifications or additions.

Modules and spare parts

- Components and spare parts must comply with the technical specifications defined by Siemens. Only use products specified or recommended by Siemens.
- Only use fuses with the specified fuse characteristics.
- Wrong battery types and improper battery changing lead to a risk of explosion. Only use the same battery type or an equivalent battery type recommended by Siemens.
- Batteries must be disposed of in an environmentally friendly manner. Observe national guidelines and regulations.

Disregard of the safety regulations

Before they are delivered, Siemens products are tested to ensure they function correctly when used properly. Siemens disclaims all liability for damage or injuries caused by the incorrect application of the instructions or the disregard of danger warnings contained in the documentation. This applies in particular to the following damage:

- Personal injuries or damage to property caused by improper use and incorrect application
- Personal injuries or damage to property caused by disregarding safety instructions in the documentation or on the product
- Personal injury or damage to property caused by poor maintenance or lack of maintenance

2.3 Standards and directives complied with

A list of the standards and directives complied with is available from your Siemens contact.

2.4 Release Notes

Limitations to the configuration or use of devices in a fire detection installation with a particular firmware version are possible.

	**⚠ WARNING**
	Limited or non-existent fire detection Personal injury and damage to property in the event of a fire. • Read the 'Release Notes' before you plan and/or configure a fire detection installation. • Read the 'Release Notes' before you carry out a firmware update to a fire detection installation.

	NOTICE
	Incorrect planning and/or configuration Important standards and specifications are not satisfied. Fire detection installation is not accepted for commissioning. Additional expense resulting from necessary new planning and/or configuration. • Read the 'Release Notes' before you plan and/or configure a fire detection installation. • Read the 'Release Notes' before you carry out a firmware update to a fire detection installation.

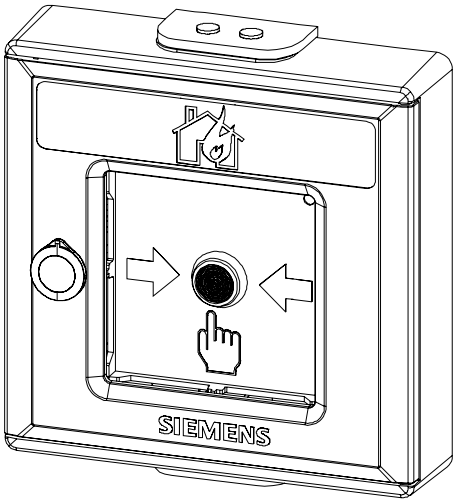
3 Structure and function

3.1 Overview

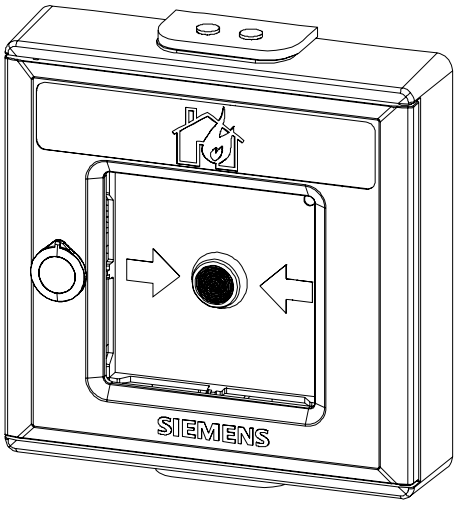
The manual call points are intended for use in places where a fire can be detected by people who can manually trigger an alarm.

The manual call points consist of a housing and a switching unit. They have the following features:

- Manual call point FDM233 for indirect activation
- Manual call point FDM234 for indirect activation
- Door contact
- Two-wire installation for all cable types
- Individual detector addressing
- Indication of the condition (Alarm, localization or test) by means of a dichromatic LED
- Integrated line separation function
- Communication via FDnet/C-NET



Manual call point FDM223



Manual call point FDM234

3.1.1 Details for ordering

Design and component combinations:

Manual call point		Type	Order number	Designation Scope of delivery
FDM233	FDM234			
Complete device				
x	-	FDM233 (complete)	S54311-F9-A1	Red housing with glass insert, key, switching unit (FDME233), self-adhesive 'House on fire symbol' and 'Out of order' sign
Switching units				
x	-	FDME233	S54311-B5-A1	Switching unit for indirect activation
-	x	FDME234	S54311-B4-A1	Switching unit for direct activation
Housing				
x	x	FDMH294-R	S54311-B3-A1	Red housing with glass insert and key

See also

Accessories [→ 22]

3.1.2 Product version ES

The product version ES provides the technical status of a device in terms of software and hardware. The product version is provided as a two-digit number.

You will find the details of your device's product version:

- On the packaging label
- On the product label or the type plate

Product version on the packaging label

Details of the product version can be found directly on the packaging label in the barcode:

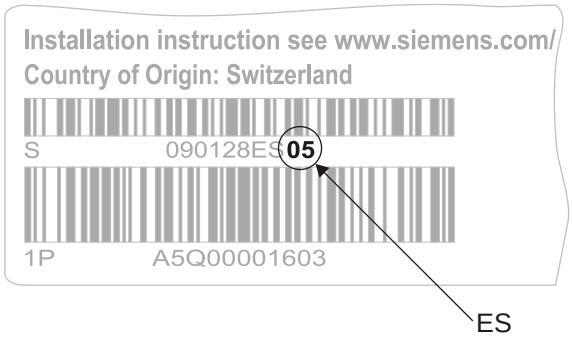


Figure 1: Example of a packaging label with details of the product version

Product version on the product label and the type plate

Details of the product version can be found after the device order number:

Figure 2: Example of a product label with details of the product version

Depending on the product and various approvals, the product labels may differ in terms of the information type and layout.

Look for your device's order number on the product label.

You will find the product version after the order number.

3.2 Setup

3.2.1 Manual call point FDM233

The manual call point FDM233 triggers an alarm when the glass insert is pushed in and the alarm button is pressed (indirect activation). The alarm is immediately transmitted to the control panel.

To reset the manual call point after an alarm, a new glass insert must be inserted and the door must be closed.

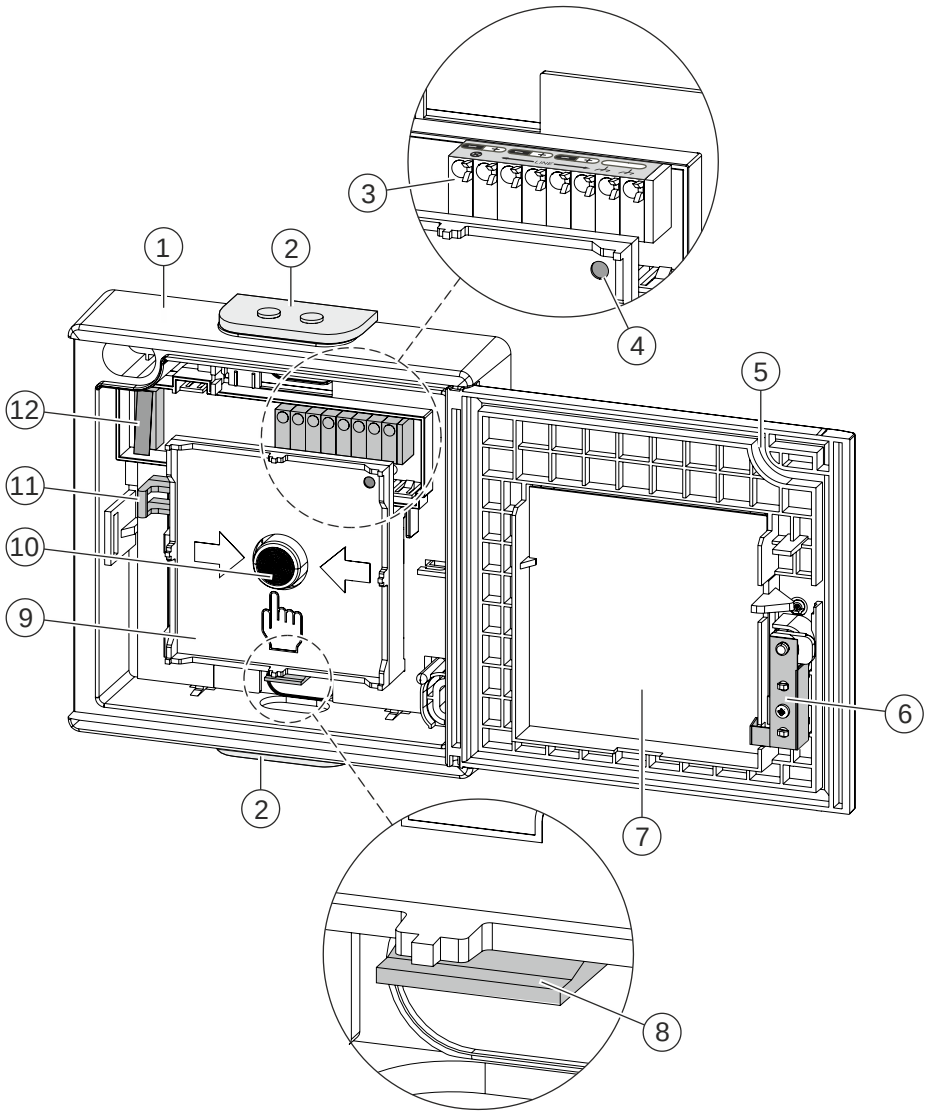


Figure 3: Manual call point FDM233 with open door

1	Housing	7	Glass insert
2	Cable entries	8	Latch for switching unit
3	Spring clips	9	Switching unit
4	Internal alarm indicator	10	Alarm button
5	Door	11	Reset lever
6	Retainer for glass insert	12	Door contact

3.2.2 Manual call point FDM234

The manual call point FDM234 triggers an alarm when the glass insert is pushed in. The glass insert pre-stresses the alarm button. If the glass insert breaks, the pre-stressed alarm button pops out and the manual call point triggers an alarm (direct activation). The alarm is immediately transmitted to the control panel.

To reset the manual call point after an alarm, a new glass insert must be inserted and the door must be closed.

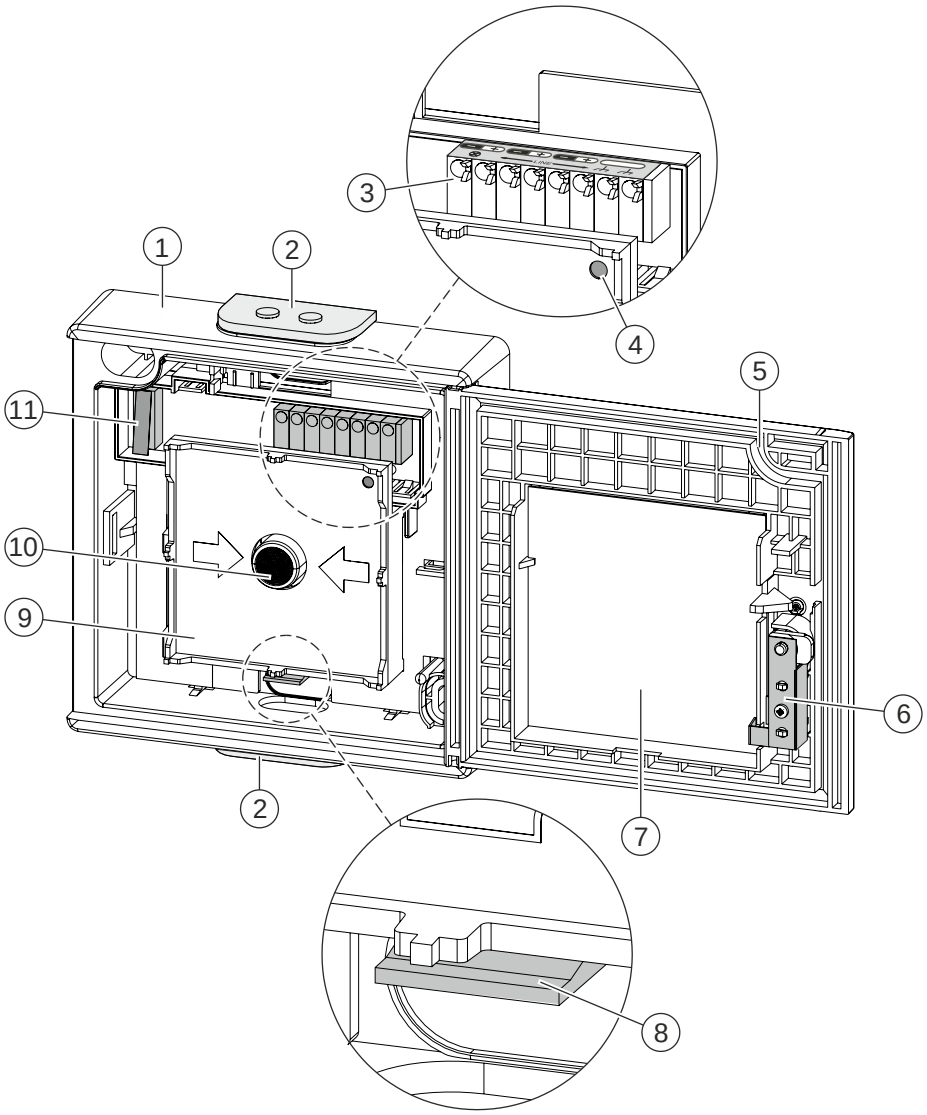


Figure 4: Manual call point FDM234 with open door

1	Housing	7	Glass insert
2	Cable entries	8	Latch for switching unit
3	Spring clips	9	Switching unit
4	Internal alarm indicator	10	Alarm button
5	Door	11	Door contact
6	Retainer for glass insert		

3.2.3 Connections

The manual call points have eight spring clips on the rear of the switching unit; these are for the detector line and for connecting external alarm indicators.

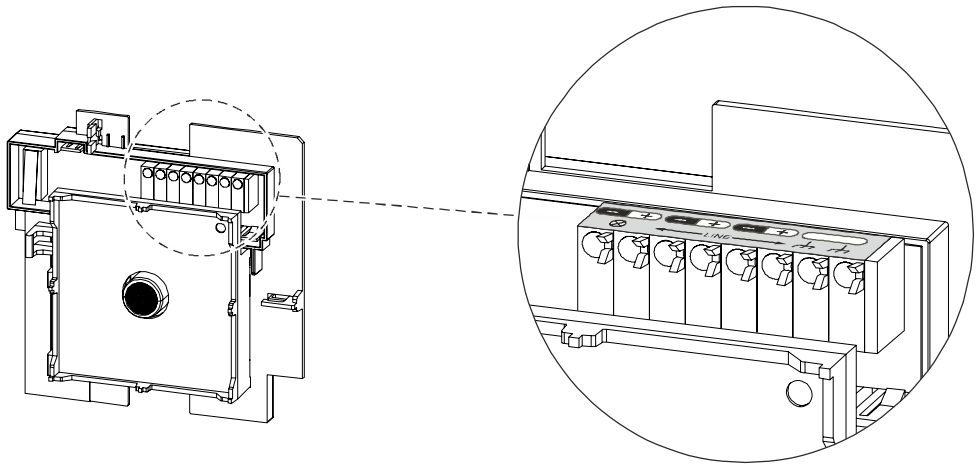


Figure 5: Switching unit with spring clips

3.2.4 Indication elements

A dichromatic LED is built into the switching unit as an internal alarm indicator.

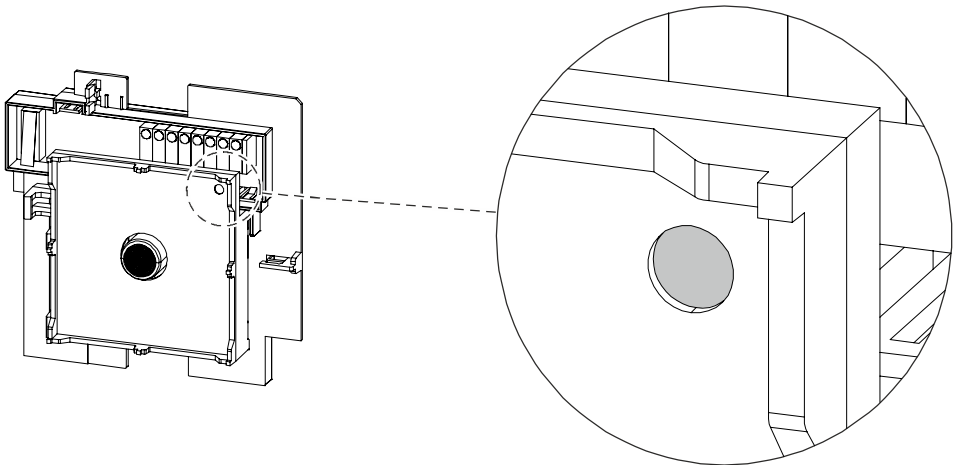


Figure 6: Position of the internal alarm indicator

3.3 Function

3.3.1 Danger levels

The manual call point can transmit the following danger levels to the control panel:

Danger level	Meaning
0	Normal state, no danger
3	Alarm

Door status

Danger level	Meaning
0	Door closed
2	Door open

The evaluation of the danger level and the resulting measures (e.g. activation of remote transmission) are configured on the control panel.

3.3.2 Internal alarm indicator

The LED indicator of the alarm indicator has the following meanings:

LED indication	Meaning
Off	• Normal condition
Green Flashes once per second	• Test mode is active
Red Flashes once per second	• Localization is active o r • Alarm is triggered
Red and green alternating Flashes twice per second	• Alarm is triggered/localization is active a n d • Test mode is active

3.3.3 Line separator

All FDnet/C-NET devices are equipped with a line separator.

The FDnet/C-NET device is equipped with electronic switches which isolate the defective part in case of a short-circuit on the FDnet/C-NET detector line. The rest of the detector line remains serviceable. On a loop line, all FDnet/C-NET devices remain fully functional after a single short-circuit.

3.3.4 Test mode from the fire control panel

If the test mode is activated from the fire control panel, this remains active until switched to inactive. In test mode, the internal alarm indicator flashes green. See the chapter 'Checking function'.

Please observe the documentation for your fire control panel.

See also

- Checking function [→ 32]

3.3.5 Test mode from manual call point

You can activate test mode in the fire control panel by opening the door, and deactivate it by closing the door again. Test mode is only active for a short time. Therefore, you should work quickly to complete the steps between opening the door and closing it again. In test mode, the internal alarm indicator flashes green. Make sure you do not unintentionally activate an alarm. See the chapter 'Checking function [→ 32]'.

Please observe the documentation for your fire control panel.

Not every fire control panel allows test mode to be activated automatically. For some fire control panels, this function must be set explicitly. This setting may be automatically deactivated under certain circumstances. So that test mode can also be used from the manual call point with an FC20xx/FC72x fire control panel, MC link communication, for example, must be active.

Enabling on FC20xx fire control panels

You will find more information for FC20xx fire control panels in 'Enabling detector exchanger and tester communication' in document number 008838.

Enabling on FC72x fire control panels

1. In the main menu, select the 'Functions' menu item.
   ⇨ The 'Functions' window is open.
2. Select 'Maintenance' and confirm with <ok>.
   ⇨ A list of all element categories on which a command of the 'Maintenance' command group can be executed is indicated.
3. Select the 'Element category' 'Station'.
   ⇨ The 'Enter address' window is open.
4. Enter the number of the 'Station' on which you want to enable communication with the detector exchanger and tester and confirm with <ok>.
   ⇨ The 'Select command' window is open.
5. Select the 'Enable MC link' command and confirm with <ok>.

⇨ Communication is now enabled.

Automatic deactivation of test mode

- Once a specified time has elapsed, deactivation occurs after 60 seconds.
- Deactivation occurs immediately when a customer text, for example, is downloaded.
- Deactivation occurs immediately when the double CPU is changed over.

3.3.6 Diagnosis levels

The manual call point monitors its operation largely autonomously.

The following diagnosis levels are derived from the different control measurements:

- Normal, no fault is present
- Replacement necessary
- Fault present

When an error occurs which impairs the correct functionality of the device, a fault message is reported to the control panel.

3.3.7 Behavior in degraded mode

Applicable for the FDnet/C-NET:

When the main processor of the fire control panel fails, the control panel works in degraded mode operation. Depending on the control panel type, the fire control panel can continue to perform the most important alarming and signaling functions in degraded mode operation.

Behavior of control panels that support degraded mode operation:

- Alarming is still ensured in degraded mode operation. However, in degraded mode only collective alarming is possible. This means that in the event of an alarm, it is possible to identify the FDnet/C-NET detector line but not the exact location of the detector triggering the alarm.

Degraded mode operation on the FDnet/C-NET is not supported in the same way by all control panels. The information in the 'List of compatibility' and in the corresponding control panel documentation must be taken into account during project planning.

See also

Applicable documents [→ 7]

3.3.8 Line tester

The line tester FDUL221 is able to recognize and localize the following errors on the FDnet/C-NET:

- Wiring error
- Open line
- Short-circuit
- Ground fault

In addition, the line tester recognizes the devices connected to the FDnet/C-NET detector line.

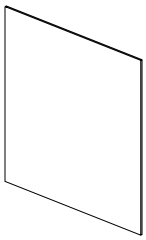
You will find more information in document 008250.

See also

Applicable documents [→ 7]

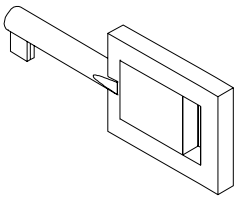
3.4 Accessories

3.4.1 Glass insert



- For alarm activation and protection against soiling
- Compatible with:
  - Manual call point FDM233
  - Manual call point FDM234
- Order number: S24217-G41-A1

3.4.2 Key FDMK294



- Plastic key
- For opening doors on manual call points
- To help with resetting the alarm button
- Compatible with:
  - Manual call point FDM233
  - Manual call point FDM234
  - Manual call point FDM243H
- Order number: S24217-G34-A1

4 Planning

4.1 Compatibility

Compatible with control panels that support the FDnet/C-NET detector line.

Detector line	Control panel			
	FC20xx	FC72x	SIGMASYS	AlgoRex
FDnet	X	–	X	–
C-NET	–	X	X	–

X = compatible

– = not compatible

You will find detailed information in the 'List of compatibility'.

See also

Applicable documents [→ 7]

4.2 Fields of application

The manual call points are intended for use in places where a fire can be detected by people who can manually trigger an alarm.

4.3 Mounting site

The manual call points must be installed in easily accessible places at a height of 0.9...1.6 m on an even surface.

Observe the country-specific regulations for the exact mounting height!

4.4 Environmental influences

If the devices are used in industrial applications, consultation with the project manager is required, since plastics do not withstand certain environmental conditions.

The following factors must be taken into consideration:

- Chemicals
- Temperature
- Moisture

5 Mounting/Installation

The manual call point is mounted and installed in three steps:

1. Preparation (see the chapter 'Preparing the housing [→ 24]').
2. Installation (see the chapter 'Installation [→ 26]').
3. Electrical connection (see the chapter 'Installation [→ 27]').

5.1 Preparing the housing

Depending on the cabling (surface-mounted cable entry or recess-mounted cable entry), the housing must be prepared for cable entry.

⚠ WARNING

Inoperative manual call point

Alarming does not take place.

- Do not open the switching unit. Assembling the switching unit incorrectly renders it inoperative.

1. Push the keyhole cover to the side.
2. Open the door with the key supplied (1).
3. If there is a switching unit inserted (3), remove the switching unit from the housing (2).
   - Push the catch (5) down (see arrow).
   - Lift the switching unit out of the housing.
4. Determine the cable entry opening(s) in the housing.
   - For recess-mounted cable entry, break out the lower or upper cable entry opening (4).
   - For surface-mounted cable entry, use the upper or lower cable entry and cut out the cable opening (6).

⇨ The manual call point FDM223/FDM224 is now prepared for installation.

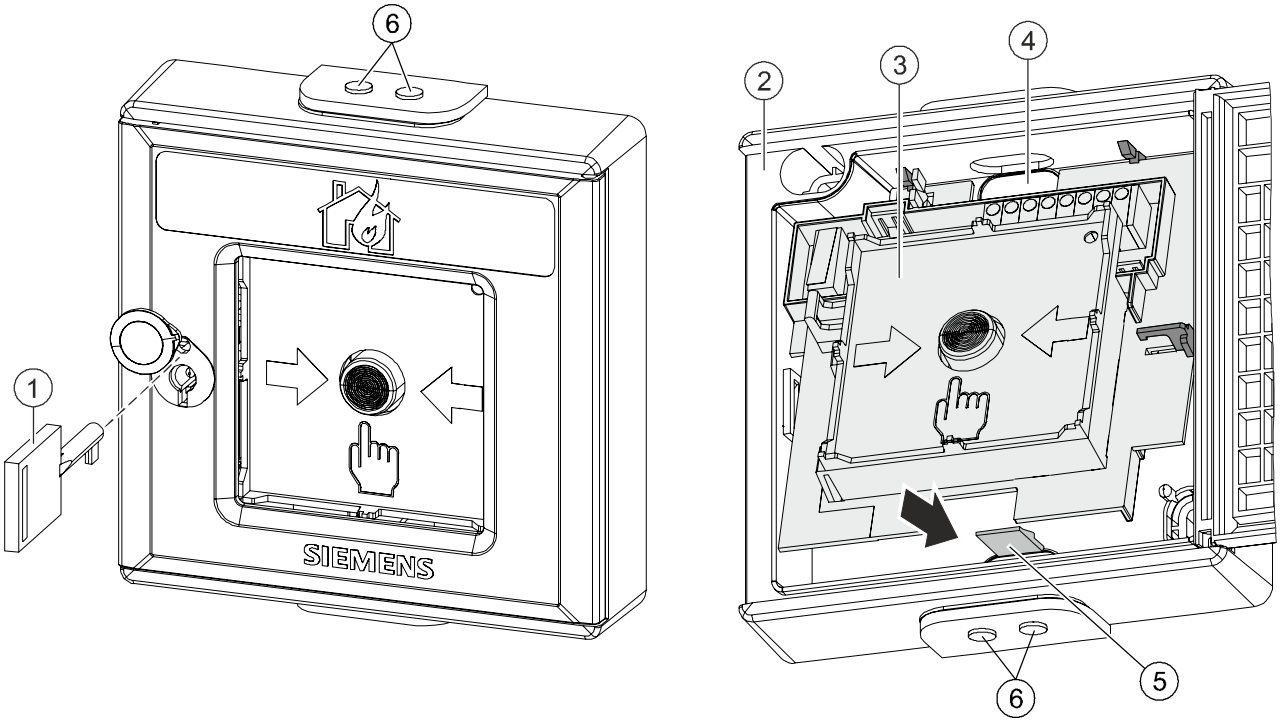


Figure 7: Opening the door and removing the switching unit

1	Key	4	Upper cable entry opening
2	Housing	5	Catch for switching unit
3	Switching unit	6	Cable opening

5.2 Installation

Observe the country-specific regulations for the exact installation height!

▷ The housing is ready for installation. See the chapter 'Preparing the housing [→ 24]'.

1. Secure the housing at a height of 0.9…1.6 m on an even surface.

– Only use the screw holes marked with arrows (see diagram below).

2. Pull the cables through the entry opening(s) into the housing.

⇨ The manual call point is now prepared for electrical connection.

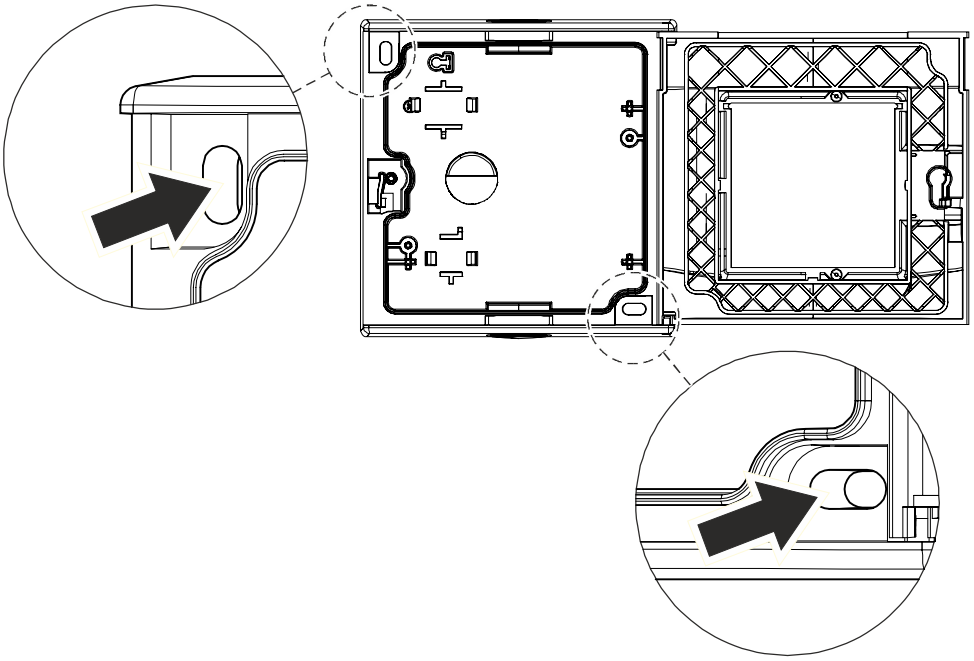


Figure 8: Screw holes for manual call points FDM233 and FDM234

See also

Master gauge for recesses [→ 41]

5.3 Installation

Notes on work on electrical installations

	⚠ CAUTION
	Electrical voltage on lines Risk of injury due to electric shock • During mounting and installation work, electrical voltage must not be applied to the lines.

	⚠ WARNING
	Inoperative manual call point Alarming does not take place. • Do not open the switching unit. Assembling the switching unit incorrectly renders it inoperative.

	⚠ WARNING
	Deactivating the manual call points prevents alarms from being forwarded. Alarming does not take place. • Mark deactivated or non-functional manual call points with 'Not in use'!

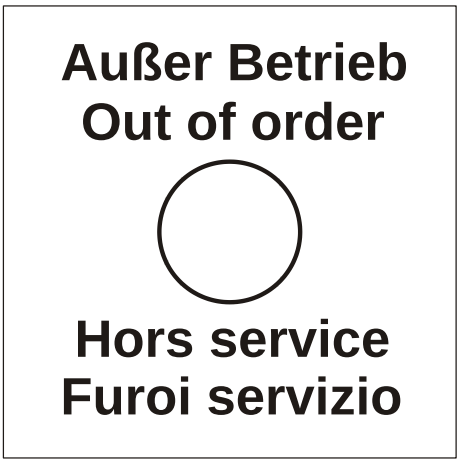
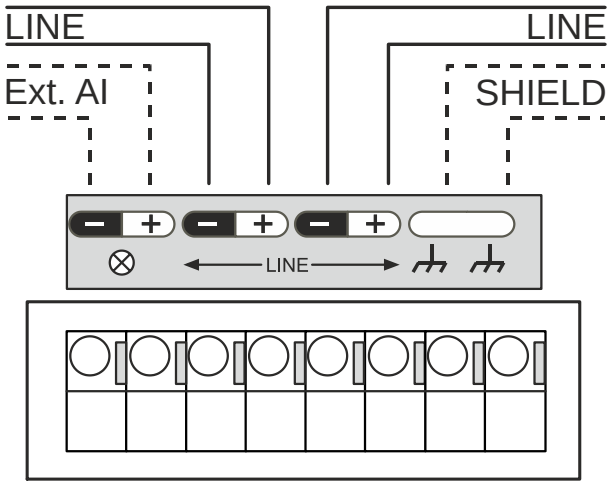


Figure 9: 'Not in use' label

	Note the positive and negative poles. Only connect one wire per terminal. This is the only way to ensure the connection is failure-free for the entire service life of the device.

Connection diagram



Connection diagram for manual call point

Connecting the manual call points

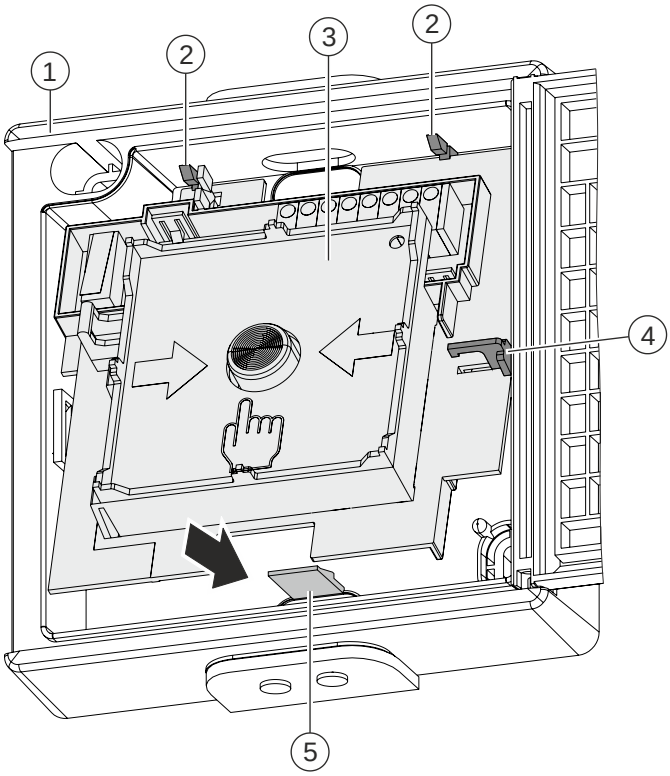


Figure 10: Installing the switching unit

1	Housing	4	Cable holder
2	Upper holder	5	Catch for switching unit
3	Switching unit		

▷ The manual call point is prepared for electrical connection. See the chapters 'Preparing the housing [➝ 24]' and 'Installation [➝ 26]'.

1. Connect the feed line to the terminals in the switching unit in accordance with the connection diagram.
2. If using shielded cables:
   - **NOTICE! The shielding must not touch any external potentials.**
   - Connect the shieldings of the detector line (LINE) with the terminals (SHIELD)
   - Connect the shielding of the external alarm indicator cable with the positive pole of the external alarm indicator connection.
3. **NOTICE! Pay attention to the cable entry when inserting the switching unit and avoid crushing the cables.**
4. Place the switching unit (3) under both the upper holders (2) and press it down until it clicks in place (5).
5. Stow any spare wires or cores in the housing at the right-hand side, under the cable holder (4).
6. Close the door with the key.

⇨ The manual call point is now electrically connected.

5.4 Installing the self-adhesive sticker

Observe local regulations for using the self-adhesive sticker! Only use the self-adhesive sticker supplied if local regulations require the manual call point to be labeled in this way.

▷ The manual call point must be labeled with 'Fire detector' or 'Fire brigade'.

1. Clean the adhesive surface on the door.

2. Stick a self-adhesive sticker to the door of the manual call point as shown in the diagram below.

⇨ The manual call point has a new label.

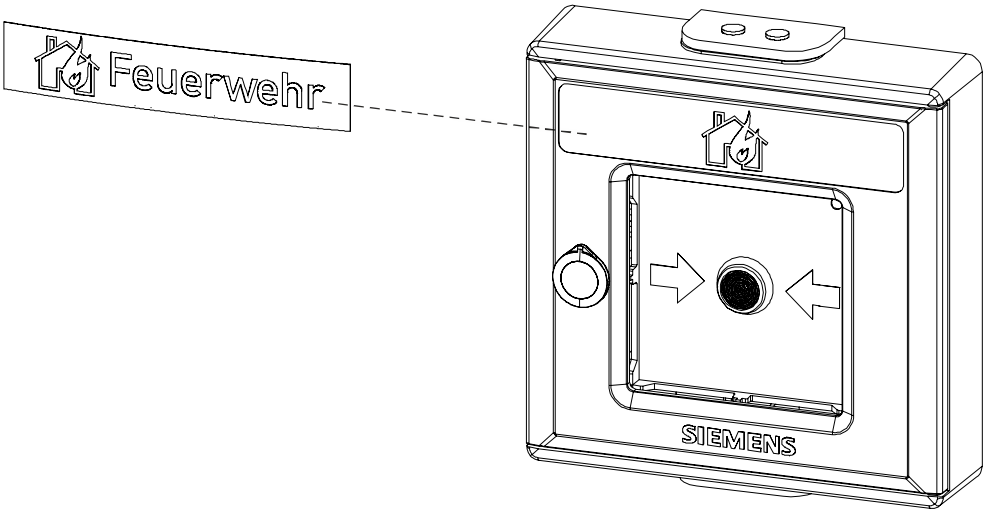


Figure 11: Attaching the self-adhesive sticker to a manual call point FDM23x

6 Commissioning

The devices are commissioned via the control panel. The exact procedure is described in the control panel documentation.

Conduct a performance check once commissioning is complete.

6.1 Localization and device testing

The manual call points have an internal alarm indicator. This internal alarm indicator may also be activated from the control panel for localization and device testing.

The LED indicator of the alarm indicator has the following meanings:

LED indication	Meaning
Off	• Normal condition
Green Flashes once per second	• Test mode is active
Red Flashes once per second	• Localization is active o r • Alarm is triggered
Red and green alternating Flashes twice per second	• Alarm is triggered/localization is active a n d • Test mode is active

6.2 Checking function

Checking is usually performed from the fire control panel, but it may also be performed from the manual call point.

See also

Installation [→ 27]

6.2.1 Checking the function of FDM233

Checking from the fire control panel

▷ The manual call point is installed and electrically connected. See the chapter 'Installation [→ 27]'.

1. Set the detector line to 'Test' on the fire control panel.
   ⇨ The LED flashes green; this means the detector is in test mode.
2. Push the keyhole cover to the side.
3. Open the door with the key.
4. Press the alarm button.
   ⇨ The test alarm is transmitted. The LED also flashes red by way of confirmation.
5. Close the door with the key.
   ⇨ The alarm button pops out audibly by approx. 3 mm.
6. Remove the key and push the keyhole cover over the keyhole.
   ⇨ The manual call point is ready for operation again.
7. Check whether an alarm is displayed on the fire control panel.
8. Set the detector line to 'Normal operation' on the fire control panel.

⇨ The detector line is ready for operation again.

Checking from the manual call point

You can activate test mode in the fire control panel by opening the door, and deactivate it by closing the door again. Test mode is only active for a short time. Therefore, you should work quickly to complete the steps between opening the door and closing it again. In test mode, the internal alarm indicator flashes green. Make sure you do not unintentionally activate an alarm.

Please observe the documentation for your fire control panel.

Not every fire control panel allows test mode to be activated automatically. For some fire control panels, this function must be set explicitly. This setting may be automatically deactivated under certain circumstances. So that test mode can also be used from the manual call point with an FC20xx/FC72x fire control panel, MC link communication, for example, must be active.

Enabling on FC20xx fire control panels

You will find more information for FC20xx fire control panels in 'Enabling detector exchanger and tester communication' in document number 008838.

Enabling on FC72x fire control panels

1. In the main menu, select the 'Functions' menu item.
   ⇨ The 'Functions' window is open.
2. Select 'Maintenance' and confirm with <ok>.
   ⇨ A list of all element categories on which a command of the 'Maintenance' command group can be executed is indicated.
3. Select the 'Element category' 'Station'.
   ⇨ The 'Enter address' window is open.
4. Enter the number of the 'Station' on which you want to enable communication with the detector exchanger and tester and confirm with <ok>.
   ⇨ The 'Select command' window is open.
5. Select the 'Enable MC link' command and confirm with <ok>.

⇨ Communication is now enabled.

Automatic deactivation of test mode, e.g. for FC20xx/FC72x:

- Once a specified time has elapsed, deactivation occurs after 60 seconds.
- Deactivation occurs immediately when a customer text, for example, is downloaded.
- Deactivation occurs immediately when the double CPU is changed over.

▷ The manual call point is installed and electrically connected. See the chapter 'Installation [➞ 27]'.

1. Push the keyhole cover to the side.
2. Open the door with the key.
   ⇨ Test mode is activated.
   ⇨ The LED flashes green; this means the detector is in test mode. It is possible for the flashing to begin after a delay of up to five seconds.
3. Check whether test mode is activated and whether the LED is flashing green.
4. If the LED is not flashing green, close the door and start again with step 1.
   – **NOTICE! If the alarm button is pressed when the LED is not flashing green, a genuine alarm will be activated.**
5. If the LED is flashing green, press the alarm button.
   ⇨ The test alarm is transmitted. The LED also flashes red by way of confirmation.
6. Close the door with the key immediately.
   ⇨ The alarm button pops out audibly by approx. 3 mm.
7. Remove the key and push the keyhole cover over the keyhole.
8. Check whether an alarm is displayed on the fire control panel.

⇨ The manual call point is ready for operation again.

6.2.2 Checking the function of FDM234

Checking from the fire control panel

▷ The manual call point is installed and electrically connected. See the chapter 'Installation [→ 27]'.

1. Set the detector line to 'Test' on the fire control panel.
   ⇨ The LED flashes green; this means the detector is in test mode.
2. Push the keyhole cover to the side.
3. Open the door with the key.
   ⇨ The alarm button pops out audibly by approx. 3 mm.
   ⇨ The test alarm is transmitted. The LED also flashes red by way of confirmation.
4. Close the door with the key.
   ⇨ When the door is closed the alarm button is pushed in audibly by the glass insert.
5. Remove the key and push the keyhole cover over the keyhole.
   ⇨ The manual call point is ready for operation again.
6. Check whether an alarm is displayed on the fire control panel.
7. Set the detector line to 'Normal operation' on the fire control panel.

⇨ The detector line is ready for operation again.

Checking from the manual call point

You can activate test mode in the fire control panel by opening the door, and deactivate it by closing the door again. Test mode is only active for a short time. Therefore, you should work quickly to complete the steps between opening the door and closing it again. In test mode, the internal alarm indicator flashes green. Make sure you do not unintentionally activate an alarm.

Please observe the documentation for your fire control panel.

Not every fire control panel allows test mode to be activated automatically. For some fire control panels, this function must be set explicitly. This setting may be automatically deactivated under certain circumstances. So that test mode can also be used from the manual call point with an FC20xx/FC72x fire control panel, MC link communication, for example, must be active.

Enabling on FC20xx fire control panels

You will find more information for FC20xx fire control panels in 'Enabling detector exchanger and tester communication' in document number 008838.

Enabling on FC72x fire control panels

1. In the main menu, select the 'Functions' menu item.
   ⇨ The 'Functions' window is open.
2. Select 'Maintenance' and confirm with <ok>.
   ⇨ A list of all element categories on which a command of the 'Maintenance' command group can be executed is indicated.
3. Select the 'Element category' 'Station'.
   ⇨ The 'Enter address' window is open.
4. Enter the number of the 'Station' on which you want to enable communication with the detector exchanger and tester and confirm with <ok>.
   ⇨ The 'Select command' window is open.
5. Select the 'Enable MC link' command and confirm with <ok>.

⇨ Communication is now enabled.

Automatic deactivation of test mode, e.g. for FC20xx/FC72x:

- Once a specified time has elapsed, deactivation occurs after 60 seconds.
- Deactivation occurs immediately when a customer text, for example, is downloaded.
- Deactivation occurs immediately when the double CPU is changed over.

▷ The manual call point is installed and electrically connected. See the chapter 'Installation [➞ 27]'.

1. Push the keyhole cover to the side.
2. Open the door with the key.
   ⇨ The alarm button pops out audibly by approx. 3 mm.
   ⇨ Test mode is started.
3. Check whether test mode is activated and whether the LED is flashing green.
   – **NOTICE! If the LED does not flash green five seconds after the door is opened at the latest, a real alarm is triggered eight seconds after the door is opened.**
4. If the LED is not flashing green, close the door with the key immediately and start again with step 1.
5. If the LED is also flashing red, the fire control panel has confirmed the test alarm.
6. Close the door with the key immediately.
   ⇨ When the door is closed the alarm button is pushed in audibly by the glass insert.
   ⇨ Test mode is deactivated.
7. Remove the key and push the keyhole cover over the keyhole.
8. Check whether an alarm is displayed on the fire control panel.

⇨ The manual call point is ready for operation again.

7 Maintenance / Repair

7.1 Resetting after an alarm

After an alarm is activated, the manual call point must be reset to a state in which it is ready for operation.

Reset the detector to a state of operational readiness as follows:

FDM233

▷ The glass insert has been shattered and the alarm button is pressed.

1. Open the door of the manual call point. See the chapter 'Preparing the housing [➝ 24]'.
2. **⚠ CAUTION! Sharp remains of glass. Risk of cutting injuries when removing the remains of the glass insert. Remove the remains of the glass carefully.**
3. Remove all the remains of the old glass insert.
4. Insert a new glass insert. See the chapter 'Replacing the glass insert [➝ 38]'.
5. Close the door of the manual call point with the key.
   ⇨ The alarm button pops out audibly by approx. 3 mm.
   ⇨ The manual call point is ready for operation again.
6. Carry out a performance check. See the chapter 'Checking function [➝ 32]'.

⇨ The manual call point is ready for operation again.

FDM234

▷ The glass insert has been shattered and the alarm button is unstressed.

1. Open the door of the manual call point. See the chapter 'Preparing the housing [➝ 24]'.
2. **⚠ CAUTION! Sharp remains of glass. Risk of cutting injuries when removing the remains of the glass insert. Remove the remains of the glass carefully.**
3. Remove all the remains of the old glass insert.
4. Insert a new glass insert. See the chapter 'Replacing the glass insert [➝ 38]'.
5. Close the door of the manual call point with the key.
   ⇨ Closing the door pre-stresses the alarm button in the switching unit.
6. Carry out a performance check. See the chapter 'Checking function [➝ 32]'.

⇨ The manual call point is ready for operation again.

7.2 Status query

Status query on the control panel

Depending on the authorization level of the user and the control panel type, different actions can be performed from the control panel.

Observe the notices in the control panel documentation.

Document 009052 applies to fire control panels FC20xx.

Document A6V10333448 applies to fire control panels FC72x.

7.3 Performance check

The devices are automatically subjected to a performance check during the self-test. Nevertheless, it is necessary to check the devices on site at regular intervals.

Recommendation:

- Check the devices every year.
- Replace heavily soiled or damaged devices.

No other special maintenance work is necessary.

You will find more detailed information in the fire detection system documentation.

7.4 Replacing the glass insert

The glass insert is square-shaped and can be inserted in any direction.

Replace the glass insert as follows:

▷ The door of the manual call point is open. See the chapter 'Preparing the housing [➝ 24]'.

1. Remove all the remains of the old glass insert.
2. Insert the new glass insert under the guide (1) and push it into the frame.
   ⇨ The retainer (2) holds the glass insert in place.
3. Check the function of the manual call point.
4. Close the door.

⇨ The glass insert has been replaced.

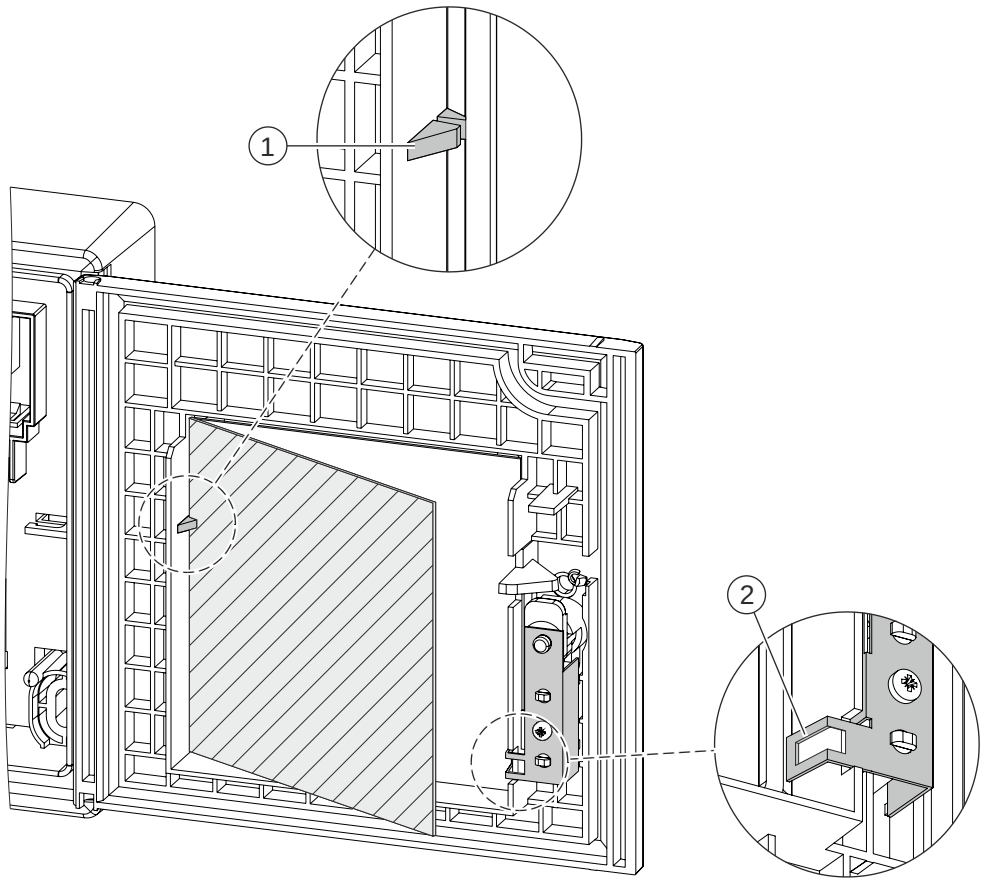


Figure 12: Replacing the glass insert

1	Guide	2	Retainer for glass insert

8 Specification

You will find information on CE marking and the relevant EU directives for your device in data sheet A6V10356826.

See also

Applicable documents [→ 7]

8.1 Technical data

You will find information on approvals, CE marking, and the relevant EU directives for this device (these devices) in the following document(s); see 'Applicable documents' chapter:

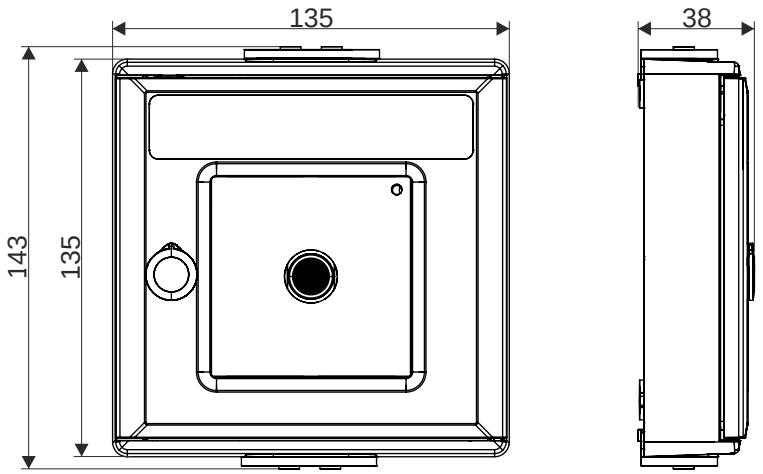
- Document A6V10356826

Detector line	Operating voltage	DC 12…33 V
	Operating current (quiescent)	200 µA
	Maximum current connection factor	1
	Quiescent current connection factor	1
	Address connection factor	1
	Separator connector factor	1
	Protocol	FDnet/C-NET
	System compatibility	See 'List of compatibility' [→ 7]
Line separator	Line voltage: • Nominal • Minimum • Maximum	 DC 32 V (= V_{nom}) DC 12 V (= V_{min}) DC 33 V (= V_{max})
	Voltage at which the line separator opens: • Minimum • Maximum	 DC 7,5 V (= $V_{SO\ min}$) DC 10.5 V (= $V_{SO\ max}$)
	Permanent current when switches are closed	Max. 1.5 A (= $I_{C\ max}$)
	Switching current (e.g., in the event of a short-circuit)	Max. 2 A (= $I_{S\ max}$)
	Leakage current when switches are open	Max. 1 mA (= $I_{L\ max}$)
	Serial impedance when switches are closed	Max. 0.4 Ω (= $Z_{C\ max}$)

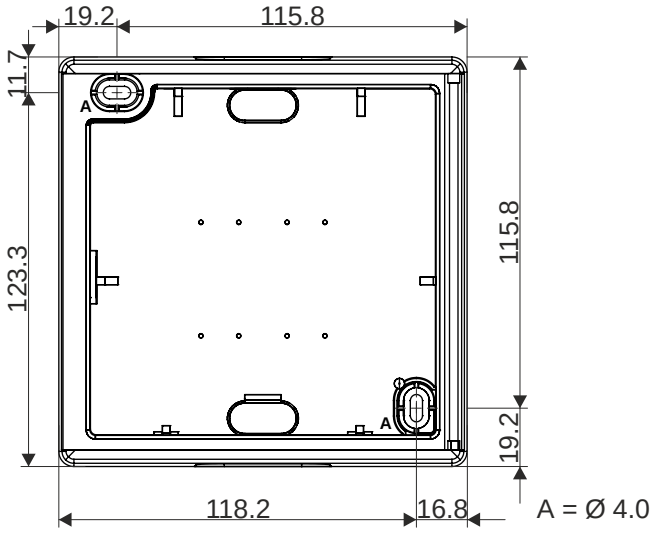
The line separator is closed via an actuation signal from the control panel. Required line voltage: DC 12…33 V (normal range)

External alarm indicators	Number of external alarm indicators that can be connected	2
	Voltage	DC 10…17 V
	Current	9…15 mA
	Length of line	• Max. 30 m with unshielded cables, or when the shielding is connected to the positive pole of the detector base • Max. 5 m, if the shielding is connected to earth
Connections	Detector line and external alarm indicators:	
	• Design	Spring clips
	• Conductor cross section	0.2…1.5 mm²
Ambient conditions	Operating temperature	-25…+70 °C
	Storage temperature	-30…+75 °C
	Air humidity	≤95 % rel.
	Protection categories according to EN 60529 / IEC 60529	IP44
	Environmental category according to EN 54-11	In buildings
	Electromagnetic compatibility:	
	• 10 KHz…2.7 GHz	50 V/m
Mechanical data	Design according to EN 54-11:	
	• FDM233	Type B (indirect activation)
	• FDM234	Type A (direct activation)
	Housing material	Polycarbonate (PC)
	Color	~RAL 3000 flame red
	Dimensions (L x W x H)	135 x 135 x 38 mm (without cable entry)
	Weight:	
	• Housing	203 g
	• Switching unit	82 g
	• Glass insert	8 g
Standards	European standards	• EN 54-11 • EN 54-17

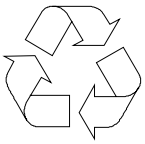
8.2 Dimensions



8.3 Master gauge for recesses



8.4 Environmental compatibility and disposal



This equipment is manufactured using materials and procedures which comply with current environmental protection standards as best as possible. More specifically, the following measures have been undertaken:

- Use of reusable materials
- Use of halogen-free plastics
- Electronic parts and synthetic materials can be separated

Larger plastic parts are labeled according to ISO 11469 and ISO 1043. The plastics can be separated and recycled on this basis.

The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

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