SIEMENS

Radio fire detection system

FDOOT271-O, FDM273-O, FDM275-O

Radio fire detection system

- Multihop mesh technology
- High transmission reliability thanks to the use of independent communication paths – transmission takes place via at least two communication paths
- Long range thanks to radio transmission via up to two intermediate stations
- Low power consumption

Typical application areas

Rooms of a high historical value, e.g.:

- Museums
- Churches
- Libraries

Rooms that only permit brief interruptions in operation while the fire detection installation is being installed, e.g.:

- Hotel rooms
- Executive offices
- Conference facilities

Extension of existing sites with minimum wiring work; e.g.:

- Industrial premises undergoing a change in use
- Offices whose layout is being changed

Goal and purpose

In functional buildings, fire detection installations are optimized, planned, and set up in a way that suits the needs of the first group of users. As experience has shown, however, even this group's requirements can become outdated in just a short time due to growth in the company as well as changes in the building's use and structures – resulting in the need for structural adaptations.

Type Overview

Radio fire detector FDOOT271-O and detector base FDB271

Type	Designation	Order number	Weight [kg]
FDOOT271-O	Radio fire detector	S54323-F312-A1	0.132
FDB271	Detector base	S54319-F12-A1	0.038
BAT3.6-10	Li-SOCl2 Batt.Pack 3.6 V, 10 Ah	S54370-Z11-A1	0.093

Accessories for base FDB271

Type	Designation	Order number	Weight [kg]
FDBZ293	Detector locking device	A5Q00005035	0.001
FDBZ291	Designation plate	A5Q00002621	0.002
FDZ291	Detector dust cap	A5Q00004814	0.003

Radio manual call point FDM273-O

Type	Designation	Order number	Weight [kg]
FDME273-O	Switching unit for FDM273-O	S54323-B311-A1	0.098
FDMH273-R	Red housing, with glass insert DMZ1196-AC and key DMZ1195	S54323-B109-A1	0.279
BAT3.6-10	Li-SOCl2 Batt.Pack 3.6 V, 10 Ah	S54370-Z11-A1	0.093

Accessories and spare parts for radio manual call points FDM273-O

Type	Designation	Order number	Weight [kg]
DMZ1197-AC	Protective cover	BPZ:5223550001	0.012
DMZ1196-AC	Glass insert	BPZ:4942050001	0.011
DMZ1195	Key	BPZ:4851910001	0.001

Radio manual call point FDM275-O

Type	Designation	Order number	Weight [kg]
FDM275-O	Radio manual call point	S54323-F310-A1	0.216
BAT3.6-10	Li-SOCl2 Batt.Pack 3.6 V, 10 Ah	S54370-Z11-A1	0.093

Accessories and spare parts for radio manual call points FDM275-O

Type	Designation	Order number	Weight [kg]
FDMC295	Protective cover	A5Q00013440	0.036
FDMG295	Glass insert 'Neutral'	A5Q00013442	0.012
FDMP295	Plastic insert 'Neutral'	A5Q00013445	0.008
FDMK295	Key	A5Q00013448	0.001

Other accessories

Type	Designation	Order number	Weight [kg]
FDUZ227	MCL-USB adapter (radio)	S54323-F106-A1	0.188
FDCH271	Housing base for radio gateway	S54370-N45-A1	0.054
FDCH272	Housing cover for radio gateway	S54370-N46-A1	0.042

OEM components

Type	Designation	Order number	Weight [kg]
FDRA272-O	Antenna (pre-assembled)	S54323-N113-A1	0.018
FDRF272-O	Radio module	S54323-B114-A1	0.004

Description of the devices

Radio fire detector FDOOT271-O	
	• Consistent response to a wide range of different fires • Dynamic analysis of the sensor signal in the detector itself • Built-in diagnosis algorithms with automatic selftest • High degree of immunity to false alarms and environmental influences • High-quality opto-electronic sensor system • Automatic compensation for soiling • Radio fire detector can be mounted anywhere in a radio cell • Detector can be inserted and removed using the detector exchanger tool up to a height of 8 meters

	Functions:
	• **Several danger levels:**
	  – Enable activation of differentiated measures and an early warning in the case of incorrect application.
	• **Selftest:**
	  – The detector performs a comprehensive selftest periodically or on command.
	• **Signal processing:**
	  – Several parameter sets enable optimum signal processing for different fields of application. This ensures excellent interference immunity and operational reliability.
	• **Measurement compensation:**
	  – Ensures the detector demonstrates a virtually identical level of sensitivity throughout the operating period.
	• The integrated alarm indicator shows the alarm on site.

	Supply: • The fire detector FDOOT271-O is supplied with power by a battery pack (AA lithium batteries). The batteries must not be inserted until the time of commissioning.

Detector base FDB271	
	• Base for radio fire detector FDOOT271-O. • Once the battery has been connected, the detector must not be inserted into the base until the time of commissioning.

Radio manual call point FDM273-O

- Radio manual call point can be mounted anywhere in a radio cell
- The radio manual call point consists of a housing and a switching unit including radio electronics and dual-band antenna
- Indirect alarm activation by smashing the glass insert and pressing the alarm button
- A protective cover (accessories) protects the manual call point against the glass being broken accidentally

Supply:
- The radio manual call point FDM273-O is supplied with power by a battery pack (AA lithium batteries). The batteries must not be inserted into the switching unit until the time of commissioning.

Radio manual call point FDM275-O

- Radio manual call point FDM275-O can be mounted anywhere in a radio cell.
- The radio manual call point consists of a housing and a switching unit including radio electronics and dual-band antenna
- The alarm is activated directly by pressing the plastic insert.
- A key is used to reset the radio manual call point and restore readiness for operation.
- A protective cover (accessories) protects the manual call point against accidental activation.

Supply:
- The radio manual call point FDM275-O is supplied with power by a battery pack (AA lithium batteries). The batteries must not be inserted into the switching unit until the time of commissioning.

Description of consumables

Battery pack BAT3.6-10

- For supplying radio devices with power
- Lithium batteries BAT3.6-10 LI-SOCI2 battery pack 3.6 V, 10 Ah.
- Batteries with cable and connector with protection against polarity reversal
- Inscription field for commissioning date
- Service life of at least three years in normal operation
- Battery monitoring to ensure remaining life of at least six months by connecting a backup battery.
- Compatible with components which include the following:
  – Radio fire detector FDOOT271-O
  – Radio manual call point FDM273-O
  – Radio manual call point FDM275-O

Document ID	Name
A6V10425624	Technical Manual Radio fire detector FDOOT271-O
A6V10425645	Technical Manual Radio manual call point FDM273-O
A6V10425652	Technical Manual Radio manual call point FDM275-O
A6V10347735	Installation MCL-USB adapter (radio) FDUZ227
A6V10960086	Data sheet Housing base for radio gateway FDCH271, Housing cover for radio gateway FDCH272, Antenna (pre-assembled) FDRA272-O
A6V10933611	Data sheet Radio module FDRF272-O

i	You will find more information in the manufacturer's fire detection installation technical manual.

Notes

Operation

Use
- Consider the range between radio gateway and radio devices.
- The building structure can have a significant effect on the radio range (materials such as steel, concrete, lime sand brick, wood, etc.). Mesh technology provides a means of bypassing difficult points with up to two intermediate stations.

Limitations
The range can be restricted in rooms with a high level of transmission field damping, such as those with a framework of metal bars used as a partition or with metallic storage racks.

Power supply
The radio fire detector FDOOT271-O and the radio manual call points FDM273-O and FDM275-O are supplied with power by the battery pack BAT3.6-10. The same type of battery can be used for each device.

The batteries have a service life of at least three years in normal operation. Thanks to battery monitoring, a backup battery can be connected to achieve a remaining life of at least six years.

EU Directive 2011/65/EU (RoHS)
The device does not contain any substances in concentrations and applications that are prohibited by the Directive 2011/65/EU (RoHS Directive).

Disposal

	The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU 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. • Dispose of empty batteries in designated collection points.

Device

General (irrespective of the device)	
Sending/receiving aerials	Dual band aerial
Radio frequencies	• 433.05…434.79 MHz band 44b and 45b [1] • 868…870 MHz band 48, 49, 50, 54b, and 56 [1]
Number of channels	• 868…870 MHz band: 27 • 433.05…434.79 MHz band: 20
Channel grid	50 kHz
Transmitting power	• ≤10 mW ERP in band 44b, 45b, and 49 [1] • Typ. 10 (max. ≤25) mW ERP in band 48, 50, 54b, and 56b [1]
Range	• Indoors: Max. 180 m • Outdoors: Max. 1000 m
Supply	Battery pack BAT3.6-10 (to be ordered separately)

[1] 2013/752/EU: according Official Journal of the European Union, COMMISSION IMPLEMENTING DECISION of 11 December 2013 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices and repealing Decision 2005/928/EC (notified under document C(2013) 8776) (Text with EEA relevance)

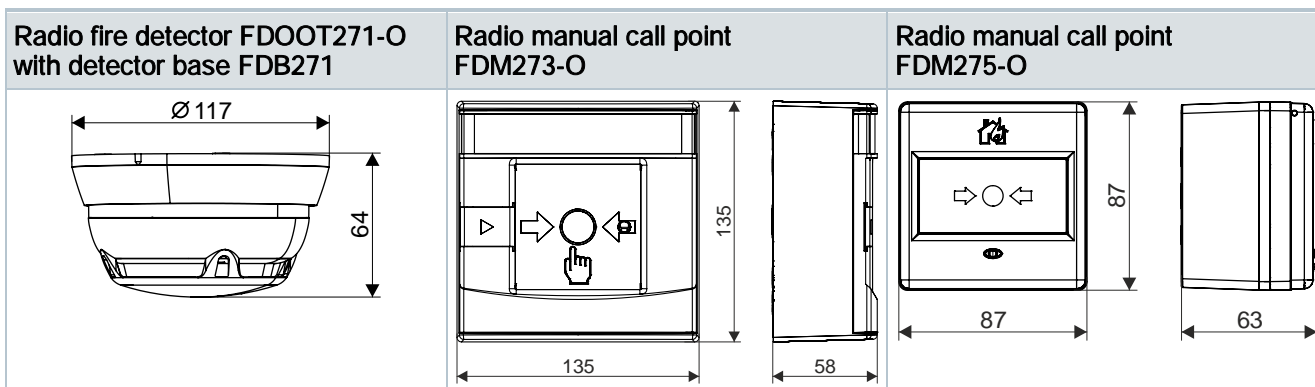|	FDOOT271-O	FDM273-O	FDM275-O
Electromagnetic compatibility	100 kHz…2.5 GHz: 30 V/m	• 10 kHz…100 kHz: 160 V/m • 100 kHz…2.5 GHz: 30 V/m	• 10 kHz…100 kHz: 160 V/m • 100 kHz…2.5 GHz: 30 V/m
Permissible wind speed	Max. 5 m/s	–	–
Battery service life	> 3 years	> 3 years	> 3 years
Operating temperature	-10…+55 °C	-10…+55 °C	-10…+55 °C
Storage temperature	-30…+75 °C	-30…+75 °C	-30…+75 °C
Air humidity (no moisture condensation)	≤ 95 % rel.	≤ 95 % rel.	≤ 95 % rel.
Protection category (IEC 60529)	IP44	IP44	IP24D
Color	~RAL 9010 pure white	~RAL 3000 flame red	~RAL 3000 flame red
Dimensions	Ø 117 x 64 with FDB271	135 x 135 x 58	87 x 87 x 63
Standards [1]	EN 54-5, EN 54-7, EN 54-25	EN 54-11 (type B indoors) EN 54-25	EN 54-11 (type A indoors) EN 54-25
Approvals	VdS: G216094	VdS: G216095	VdS: G216096

[1] You will find more information about standards in the information about CE marking below

16 ⟨CE⟩ 0786	**FDM273-O**	Siemens Switzerland Ltd; Gubelstrasse 22 CH-6301 Zug Technical data: see doc. **A6V10425645**
FDM273-O - Manual callpoint using radio link for use in fire detection and fire alarm systems installed in buildings.		
305/2011/EU (CPR): EN 54-11 / EN 54-25 ; 2014/53/EU (RED): EN 300 220-2 / EN 301 489-3 / EN 60950-1 ; 2011/65/EU (RoHS): EN 50581		
The declared performance and conformity can be seen in the Declaration of Performance (DoP) and the EU Declaration of Conformity (DoC), which is obtainable via the Customer Support Center: Tel. +49 89 9221-8000 or http://siemens.com/bt/download		
DoP No.: 0786-CPR-21528; DoC No.: CED-FDM273-O		

16 ⟨CE⟩ 0786	**FDM275-O**	Siemens Switzerland Ltd; Gubelstrasse 22 CH-6301 Zug Technical data: see doc. **A6V10425652**
FDM275-O - Manual callpoint using radio link for use in fire detection and fire alarm systems installed in buildings.		
305/2011/EU (CPR): EN 54-11 / EN 54-25 ; 2014/53/EU (RED): EN 300 220-2 / EN 301 489-3 / EN 60950-1 ; 2011/65/EU (RoHS): EN 50581		
The declared performance and conformity can be seen in the Declaration of Performance (DoP) and the EU Declaration of Conformity (DoC), which is obtainable via the Customer Support Center: Tel. +49 89 9221-8000 or http://siemens.com/bt/download		
DoP No.: 0786-CPR-21529; DoC No.: CED-FDM275-O		

16 ⟨CE⟩ 0786	**FDOOT271-O**	Siemens Switzerland Ltd; Gubelstrasse 22 CH-6301 Zug Technical data: see doc. **A6V10425624**
FDOOT271-O - Smoke/heat detector using radio link for use in fire detection and fire alarm systems installed in buildings.		
305/2011/EU (CPR): EN 54-5 / EN 54-7 / EN 54-25 ; 2011/65/EU (RoHS): EN 50581 ; 2014/53/EU(RED): EN 300 220-2 / EN 301 489-3 / EN 60950-1		
The declared performance and conformity can be seen in the Declaration of Performance (DoP) and the EU Declaration of Conformity (DoC), which is obtainable via the Customer Support Center: Tel. +49 89 9221-8000 or http://siemens.com/bt/download		
DoP No.: 0786-CPR-21527; DoC No.: CED-FDOOT271-O		

Dimensional drawings

Radio fire detector FDOOT271-O with detector base FDB271	Radio manual call point FDM273-O	Radio manual call point FDM275-O

All dimensions in [mm]