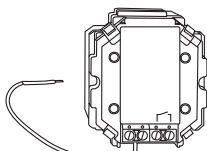


**System relay FM for ARGUS Smoke Detectors**

Operating instructions



Art. no. MTN5493-3190

**For your safety**

**⚠ DANGER**  
**Risk of serious damage to property and personal injury, e.g. from fire or electric shock, due to incorrect electrical installation.**

Safe electrical installation can only be ensured if the person in question can prove basic knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables

These skills and experience are normally only possessed by skilled professionals who are trained in the field of electrical installation technology. If these minimum requirements are not met or are disregarded in any way, you will be solely liable for any damage to property or personal injury.

**System relay introduction**

The System relay FM for ARGUS Smoke Detectors (referred to below as **relay**) is used to expand a network of ARGUS smoke detectors. You can connect external alarm devices to the relay. These devices are activated as well when smoke is detected.

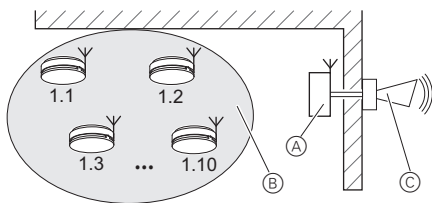
External alarm devices could include: Horns, warning lights, vibration cushions for the deaf or binary inputs for connecting smoke detector networks to a KNX installation. These devices must have their own power supply. You can connect the following smoke detectors to the relay by radio or wire:

Type	Art. no.	Connection
ARGUS radio smoke detector	MTN5480-11.. MTN5489-1119	By radio
ARGUS 230 V smoke detector	MTN5475.. MTN5485..	By wire using a separate wire in the 230 V power system

The relay is mounted in an installation box. The relay is powered with mains voltage and has a floating make contact for the external alarm device.

**i** The relay can only pass received alarm signals on to the external alarm device.

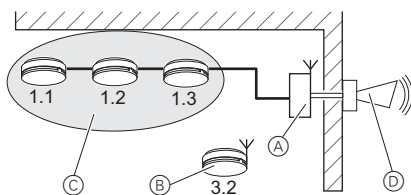
**1. Radio networking**



The relay (A) and the smoke detectors in a radio group (B) are networked with one another via radio (e.g. radio group ID = 1).

- A smoke detector detects smoke and triggers the alarm.
- The triggering smoke detector forwards the alarm signal by radio to all the networked devices in the radio group and to the relay.
- These also sound the alarm; the relay activates the horn (C).

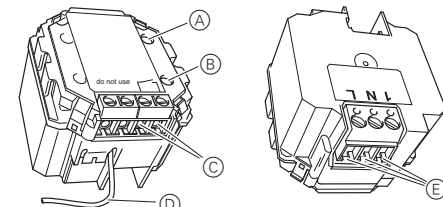
**2. Radio networking and wired networking**



The relay (A) and the smoke detectors in a radio group (B) are networked with one another via radio (e.g. radio group ID = 3). In addition, the 230 V smoke detectors in a line (e.g. 1.1 to 1.3) (C) are connected by wire in a network to a relay.

- Smoke detector 1.1 detects smoke and triggers the alarm.
  - The triggering smoke detector forwards the signal by wire to all the networked devices in Line 1 and to the relay.
  - These also sound the alarm; the relay activates the horn (D).
- or
- Smoke detector 3.2 detects smoke and triggers the alarm.
  - It forwards the alarm signal by radio to the relay; the relay activates the horn (D).

**Connections, displays and operating elements**



- (A) Programming button
- (B) Programming LED
- (C) Terminals for external alarm device
- (D) Radio antenna
- (E) Terminals for mains connection ("L", "N") and alarm input ("1")

**Selecting the installation site**

Important information about the installation location for radio networking:

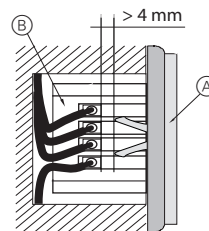
- Metal surfaces in the immediate vicinity of the relay can affect reception. Therefore, do not install the relay in a metal installation box.
- Make sure that the maximum range of the smoke detectors is not exceeded and that there are no large metal surfaces such as metal cabinets or similar in the radio transmission path.

**i** Perform a function test **before** final installation of the relay to test the networking.

**Mounting the relay**

**⚠ DANGER**  
**Risk of death from electric shock. The device may become damaged.**  
 Safety clearance must be guaranteed as per DIN EN 60664-1. A distance of at least 4 mm must be maintained between individual cores of the 230 V cable and the bus line.

**⚠ DANGER**  
**Risk of death from electric shock.**  
 When a cover (A) is installed, the distance from the fixing brackets or screws to the connections of the device (B) must be at least 4 mm once installed.



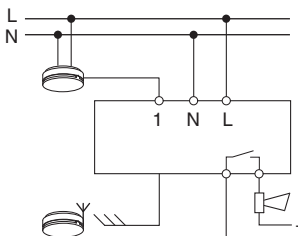
If the distance is less than 4 mm, a deeper installation box must be used.

Also, the fixing brackets or screws of the cover must not press against the housing.

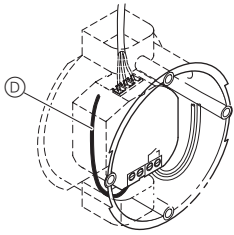
**⚠ CAUTION**  
**The relay could be damaged.**  
 The "1" identifies the alarm input on the device. Never connect 230 V to this input.

Mount the relay in an installation box with a diameter of 60 mm and a depth of at least 40 mm.

- 1 Connect smoke detectors (230 V devices) to alarm input "1" via a separate core in the 230 V power system.
- 2 Connect external alarm devices to the relay via a separate twin-core line (SELV).
- 3 Connect the relay to the mains voltage.



- ④ For optimum radio reception: Lay radio antenna ① around the relay.



## Radio networking

Radio groups with group IDs are set up on the devices to connect smoke detectors in a radio network. All smoke detectors in the radio group have the same group ID.

For smoke detectors in one or more radio groups to trigger the relay, they have to be taught it on the desired group IDs. The relay will then respond to all smoke detectors in these groups.

**i** You can teach-in up to 16 radio groups on the relay.

### Teach-in the relay to a radio group

#### **⚡ Risk of fatal injury from electric shock!**

Only insulated tools may be used for operation on the device, e.g. insulated phase testers!

**i** To ensure that the teach-in only applies to the radio group you want on the relay, you need to make sure that adjacent smoke detector radio systems are not transmitting.

- ① Press the programming button three times within 1.5 s.

The programming LED flashes.

- ② Within 30 s: Press the function key on a smoke detector in the radio group for at least 3 s.

The relay activates the external alarm device for 1 s, programming LED remains continuously lit. The relay is connected with the radio group.

Wait until the programming LED goes out (about 60 s). Now you can teach-in additional radio groups on the relay by repeating steps 1 and 2.

- ③ Conduct a test alarm (see the "Conducting a test alarm" chapter).

**i** If the teach-in procedure was not successful, the programming LED flashes for about 30 s and goes out. You can repeat the procedure immediately.

### Delete the relay from all radio groups

The following steps show how to delete the relay from **all** radio groups. It is not possible to delete only one radio group.

- ① Press programming button three times within 1.5 s. Programming LED flashes.
- ② Within 30 s, press and hold programming button until programming LED lights up.

**All** connections are deleted. Programming LED goes out.

## Conducting a test alarm

The test alarm is used for checking that the relay is connected with the radio group correctly.

- ① Press the function key on one smoke detector for at least 3 s.

The smoke detector emits an alarm tone for as long as the button is pressed. All smoke detectors in the network receive the test signal and also trigger an alarm. The relay is activated for 10 s.

**i** The test alarm can only be repeated after 1 minute.

## Conducting a functional test

The function test is used for checking that the relay is connected with the external alarm device correctly.



#### **Risk of fatal injury from electric shock!**

Only insulated tools may be used for operation on the device, e.g. insulated phase testers!

- ① Press and hold the programming button.

The relay is activated for 10 s and the programming LED lights up.

## What should I do if there is a problem?

The relay is not responding to an alarm transmitted by radio:

- Conduct a functional test to check whether the connection between the relay and the external alarm device is error-free.
- Remove any possible sources of interference from the radio transmission path.
- Make sure the maximal range of the smoke detector is not exceeded.
- If necessary, repeat the programming procedure.

## Technical data

Supply voltage:	AC 230 V, 50-60 Hz
Switch contact:	1 x floating make contact (SELV)
Switching current:	AC 230 V, $\mu$ 4 A / DC 24 V, $\mu$ 2 A
Operating elements:	Programming button
Display elements:	Programming LED, green
Connections	
Mains connection:	2 x screw terminals for max. 2,5 mm <sup>2</sup> (L, N)
Alarm input:	1 x screw terminal for max. 2,5 mm <sup>2</sup> ("1")
Switch output:	2 x screw terminals for max. 2,5 mm <sup>2</sup>
Radio interface:	868 MHz, half-duplex
EC guidelines:	Complies with Low-Voltage guideline 2006/95/EEC Complies with EMC guideline 2004/108/EEC
Dimensions:	44x50x34 (WxHxD)

## Schneider Electric Industries SAS

If you have technical questions, please contact the Customer Care Centre in your country.

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