

Smoke detector module relay

5TC1 291

Product and Applications Description



The DELTA reflex smoke detector battery can in addition be fitted with a relay module. The smoke detector module relay 5TC1 291 enables the connection of alarm devices such as horns, sirens, warning lights etc.. The alarm device is activated when an alarm is detected locally or somewhere in the network. The alarm device is deactivated when the alarm has gone or is acknowledged directly at the smoke detector which triggered the alarm. Closed-circuit protection (alarm looping with normally closed contacts) is also possible with the changeover contact (normally closed and normally open contact). The contacts of the relay are implemented via a 3-fold plug-in terminal and are suitable for rigid cables with a diameter of 0.4mm – 0.8mm.

NOTE:

- The exact functionality of the DELTA reflex smoke detector can be taken from the corresponding operating and mounting instructions.
- The power supply of the relay module is carried out via the interface of the smoke detector.
- The battery service life remains unchanged by the monitoring state of the relay module.
- If the relay module is installed in a networked smoke detector having received an alarm but not having detected smoke locally and the alarm acknowledgement button of this smoke detector is pressed, the alarming device is not deactivated. Solely the local horn of this smoke detector is switched off.

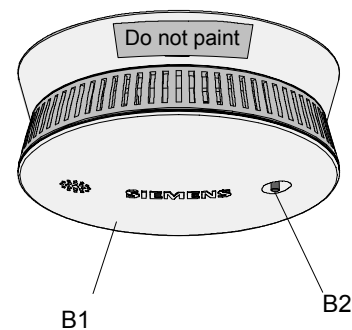
CAUTION:

- The relay module may only be used in DELTA reflex smoke detectors (5TC1 290, 5TC1 293, 5TC1 294).
- The signalling devices must be supplied externally with voltage.

Product and Functional Characteristics

- Connection of alarm devices (e.g. buzzers, hooters, warning lights, etc.).
- The interface connection of the relay module to the smoke detector is carried out via an 8-pole plug connector (interface).
- The relay module has a potential-free changeover contact (normally closed and normally open contact).

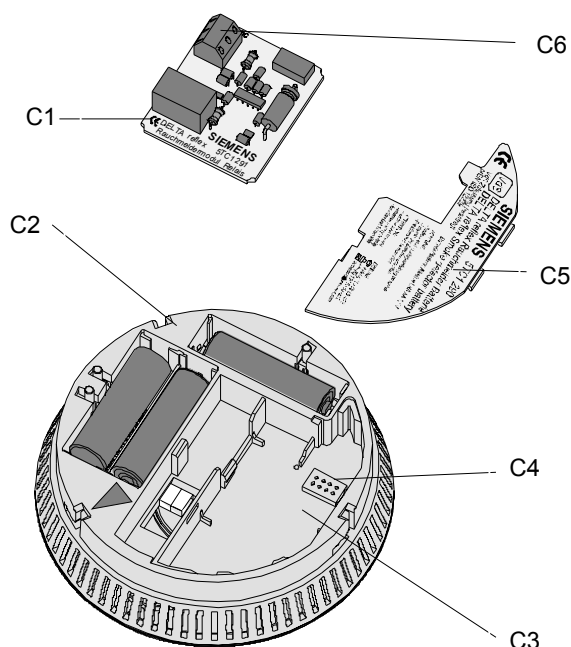
Operation



The operation of the smoke detector with relay module is carried out solely via the alarm/acknowledgement button (B2). This is either used for the functional check of the smoke detector (B1) including the photoelectric measuring element (e.g. for gradual pollution (dust deposit) or is required for acknowledging the smoke alarm.

The relay module closes or opens the contacts in the event of a smoke alarm with a maximum delay of 8 seconds (until the next measuring cycle) and thus triggers an additional alarm. Once the alarm has ended or been acknowledged, the contacts are reset to their original position.

Structure of the smoke detector with relay module



- C1 Relay module
- C2 Smoke detector
- C3 Space for relay module
- C4 8-pole interface
- C5 Module cover
- C6 Supply terminal for relay module

Technical Data

Electrical data

- Operating voltage: 3V to 5V (via smoke detector)
- Switching voltage of relay: max. 30V DC / 42V AC
- Switching current of relay: max. 1A DC / 0.5A AC
- Relay contact: changeover contact (normally closed and normally open contact)

Connections

- Three-pole plug-in terminal
- For rigid cables with a diameter of 0.4mm to 0.8mm

Mechanical data

- Dimensions (L x W): 43 x 38mm
- Weight: 11g

EMC requirements

Complies with EN 61000-6-1, EN 61000-6-3 and EN 50 130-4

Environmental conditions

- Ambient temperature: 0°C to +50°C
- Storage temperature: - 25°C to +70°C
- Rel. humidity (not condensing): 5% to 93%
- Atmosphere in acc. with 50090 2-2

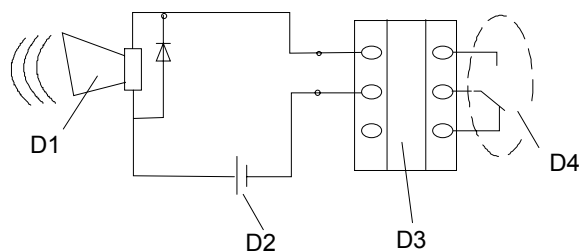
Approval

VdS approval in connection with smoke detector

CE mark

In accordance with EMV guideline (residential buildings)

Wiring Example with an External Signalling Device



- D1 Signalling horn
- D2 External power supply
- D3 Supply terminal
- D4 Changeover contact (normally closed / normally open contact)

Rauchmeldermodul Relais

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Installation Instructions

CAUTION:

- The relay module may only be used in DELTA reflex smoke detectors (5TC1 290, 5TC1 293, 5TC1 294).
- The signalling devices must be supplied externally with voltage.



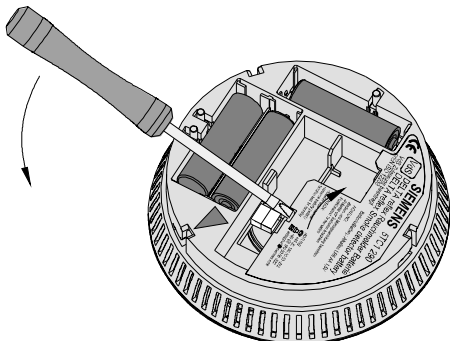
In order to avoid damages on electronic components due to electrostatic charge, make sure to ground yourself before starting to work with an grounded bracelet or while working by a repeated touch of grounded metal parts (heaters, water conduits or similar, however not the ground contact of an outlet!).

Don't ever grip the components on the leads or contact pins but always the casing.

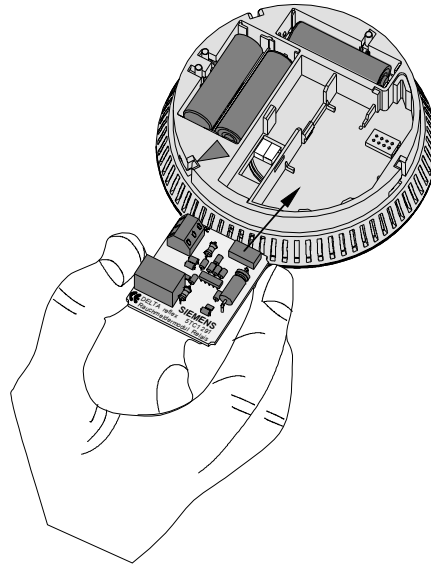
Installation and Wiring

Installation of the relay module:

1. Open the smoke detector in accordance with the operating and mounting instructions (smoke detector).



2. Remove the module cover: To do so, place screwdriver in the opening and loosen the module cover using a twist and swivel action. Remove the module cover.



3. Take the relay module between the thumb and index finger and insert it in the intended slot.

CAUTION:

When using the relay module, it should be ensured that the contact pins are inserted exactly in the contact strip so that the pins cannot be bent. Only use the relay module in DELTA reflex smoke detectors (5TC1 290, 5TC1 293, 5TC1 294).

4. Carefully press into the smoke detector until the edge of the printed board clicks into the retaining clips.
5. Put the module cover on again.

CAUTION:

The module cover must be mounted to avoid malfunctions (due to fluctuations in pressure or draughts).

6. Remove the supply terminals and connect the wires for external signalling devices.
7. Place the terminal on the relay module (note the contact position).
8. Close the smoke detector again in accordance with the operating and mounting instructions (smoke detector).

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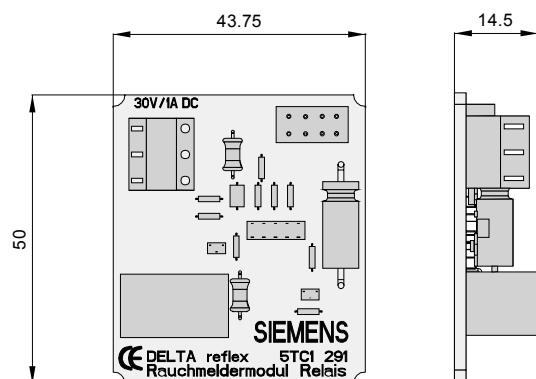
Functional test:

The exact procedure for a functional test of the smoke detector can be taken from the operating and mounting instructions (smoke detector).

Once the installation has been carried out, it is advisable to carry out a functional test of the external signalling devices. To do so, a smoke alarm can be triggered (e.g. with cigarettes, aerosol or special matches). The reset of the alarm is carried out either automatically if the smoke has fully dissipated from the measuring chamber or when the alarm / acknowledgement button has been pressed.

Dimensions Diagram

Dimensions in mm

**General Note**

- Any faulty devices should be returned to the local SIEMENS office.
- If you have additional queries regarding the product, please contact our Technical Support department:



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adsupport@siemens.com**Notes**