

# RAFIX FS switching element universal PCB, gold, for THT LED, 1 NC + 1 NO

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## fields of application

- > Measurement-control-regulation
- > Electrical engineering
- > Mechanical and system engineering
- > Signalling systems
- > Vehicle construction
- > Agricultural and forestry machinery
- > Construction machinery
- > Handheld terminals
- > Industrial robots



## description

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These switching elements have external plungers and therefore can only be combined with pushbuttons, selector switches and keylock switches.

The PCB switching elements are positioned on a PCB shared with other components. These can subsequently be mounted behind the front panel together with the actuators and signal indicators. The switching elements "float" directly underneath the actuators on the PCB behind the front panel and leave plenty of space for other components.

In the center channel of the switching element, there are either light conductors for the use of SMT-LEDs, or 3 mm THT LEDs can be installed for illumination.

### PCB mounting depths

- 9.2 mm for RAFIX 22 FS+ and RAFIX 22 FSR
- 15.7 mm for RAFIX 30 FS+:

- > PCB contact block for RAFIX 22 FS+, RAFIX FSR and RAFIX 30 FS
- > Only suitable for pushbuttons, selector and key switches, not for mushroom pushbutton and emergency stop
- > Gold contacts (= grey housing)
- > Mounting: Soldering on printed circuit board
- > Version with light guide for SMT LED, without light guide for THT LED
- > marking:
  - normally closed contacts = red plungers
  - normally open contacts = green plungers

## technical data

### > general

|  |  |
|--|--|
| Disassembly possible                                     | no   |
| Color  | dark gray  |
| Operating temperature, min.                              | -40 °C   |
| Operating temperature, max.                              | 85 °C  |
| Storage temperature, min.                                | -40 °C   |
| Storage temperature, max.                                | 85 °C  |
| illuminated  | Yes  |
| Luminous elements  | LED  |
| Lamp socket  | THT LED  |
| Soldering  | Manual / wave  |
| Solder heat resistance according to standard             | DIN EN 60068-2-20  |
| Packaging unit   | 30 pcs.  |
| net weight   | 2.2 g  |
| Operating life electrical                                | 1.000.000 (10mA / 24V DC) cycles                                     |
| B10 electrical   | 1.300.000 (10mA / 24V DC) cycles                                     |
| Environment resistance                                   | IEC 60068-2-14<br>IEC 60068-2-30<br>IEC 60068-2-33<br>IEC 60068-2-78 |
| Shock resistance according to standard IEC 60068-2-27    | 15 g at 11 ms amplitude semi-sinusoidal                              |
| Vibration resistance according to standard IEC 60068-2-6 | 5 g at 10 - 500 Hz   |
| MOQ order  | 30 pcs.  |
| RoHS compliant   | Yes  |
| REACH compliant  | Yes  |

### > mounting diameters

|                           |         |
|---------------------------|---------|
| Outside dimension, length | 17.3 mm |
| Outside dimension, width  | 17.3 mm |
| Outside dimension, height | 16.9 mm |
| Mounting depth            | 9.2 mm  |

### > mechanical data

|                       |                |
|-----------------------|----------------|
| Operating force, max. | 100 N          |
| Contact function      | 1 NC + 1 NO    |
| Contact system        | Bridge contact |
| Contact material      | Gold           |
| Fixing                | Soldering      |
| Solderability         | Yes            |
| Terminal on the rear  | THT            |

### > electrical data

|                          |        |
|--------------------------|--------|
| Rated insulation voltage | 50 V   |
| Rated surge voltage      | 500 V  |
| Rated voltage, min.      | 0.02 V |

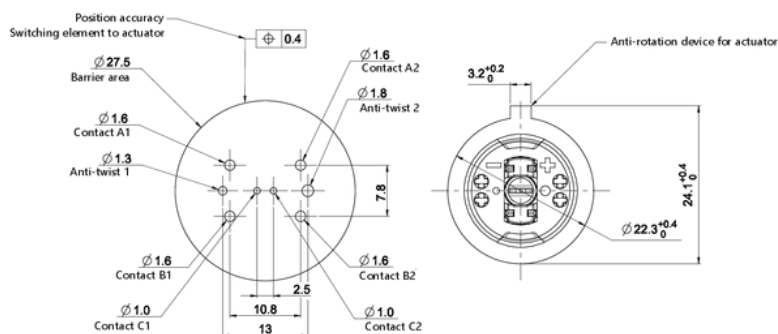
### direct links

> [RAFI eCatalog](#)

|                                   |                |
|-----------------------------------|----------------|
| Rated voltage, max.               | 35 V           |
| Rated current, min.               | 0.001 A        |
| Rated current, max.               | 0.1 A          |
| Rated power, max.                 | 0.25 W         |
| Categories of use                 | AC-15<br>DC-13 |
| Conditional short circuit current | 1,000 A        |

drawings

System drawing



Assembly side PCB THT

| Variant                                    | 1NO            | 1NC           | 2NO            | 2NC           | 1NO+1NC        | Plus 1       |
|--|----------------|---------------|----------------|---------------|----------------|--------------|
| Contact A1/A2<br>Connection designation 1x | 1NO<br>13 - 14 | -             | 1NO<br>13 - 14 | 1NC<br>11-12  | 1NO<br>13 - 14 | 1NC<br>11-12 |
| Contact B1/B2<br>Connection designation 2x | -              | 1NC<br>21-22  | 1NO<br>23-24   | 1NC<br>21-22  | 1NC<br>21-22   | 1NC<br>21-22 |
| Contact C1/C2<br>Connection designation 1x | LED*<br>X1-X2  | LED*<br>X1-X2 | LED*<br>X1-X2  | LED*<br>X1-X2 | LED*<br>X1-X2  | 1NO<br>33-34 |
| * Only if required                         |                |               |                |               |                |              |

Actuator with 3 switching positions



Actuator with 2 switching positions

