

RAFIX FS+ switching element universal PCB, gold, light guide, for SMT LED, 2 NO, with light guide



Description

SMT LED recommendation (single color):

- Nichia NFSW157JT (3014 package)
- Cree CLM1 series
- LEXTAR PC30H08 (3014 package)

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

The PCB switching elements are placed on a common printed circuit board with other components. These can be attached behind the front panel with the actuating components and light indicators. Behind the front panel, the switching elements "float" directly under the actuating components on the PCB, leaving plenty of space for other components.

› Mounting depths PCB:

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

Either short or long light conductors for the use of SMT LEDs (RGB or single color) are integrated in the middle channel of the switching elements. Alternatively, 3 mm THT LEDs can be installed for lighting without light conductors. When using 3 mm THT LEDs without tabs, an additional spacer (5.30.156.101/0100) is required for this purpose.

› Assembly recommendation:

- The orientation of the switching element must be based on the +/- marking on the upper part of the housing.
- Alternatively, the orientation of the switching elements can be determined by the arrangement and/or color coding of the plungers.

The NC contacts of these switching elements are forcibly separated according to IEC 60947-5-1.

- › 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

| | |
|--|--|
| Feature | with light guide |
| 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 | SMT LED |
| Soldering | Manual / wave |
| Solder heat resistance according to standard | DIN EN 60068-2-20 |
| Packaging unit | 30 pcs. |
| Net weight | 1.9 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 IEC 60068-2-30 IEC 60068-2-33 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 |
| Protection class | II |
| Minimum order quantity (MOQ) | 30 pcs. |
| Pollution degree acc. to DIN EN 61010-1 | Pollution degree 3 |
| RoHS compliant | Yes |
| REACH compliant | Yes |
| Country of origin | DE |

> mounting diameters

| | |
|---------------------------|----------|
| Outside dimension, length | 16.73 mm |
| Outside dimension, width | 16.73 mm |
| Outside dimension, height | 16.85 mm |
| Mounting depth | 9.2 mm |

> mechanical data

| | |
|-----------------------|----------------|
| Terminal on the rear | THT |
| Fixing | Soldering |
| Operating force, max. | 100 N |
| Contact function | 2 NO |
| Contact system | Bridge contact |
| Contact material | Gold |

direct links

> [RAFI eCatalog](#)

| | |
|---|---|
| Solderability | Yes |
| > electrical data | |
| Rated insulation voltage | 250 V |
| Rated surge voltage | 500 V |
| Rated voltage, min. | 0.02 V |
| 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 DC-13 |
| Kind of short circuit protective device | max. 0.5 A, min. 250 V AC / 400 V DC, min. 1.5 kA, IEC 60127-1, IEC 60127-2 |
| Conditional short circuit current | 1,000 A |
| > Specifications according to IEC 60947-5-1 | |
| Rated surge voltage | 500 V |
| > Specifications according to UL 60947 | |
| Operating temperature, max. to UL/TÜV | 70 °C |
| Operating temperature, min. to UL/TÜV | -20 °C |

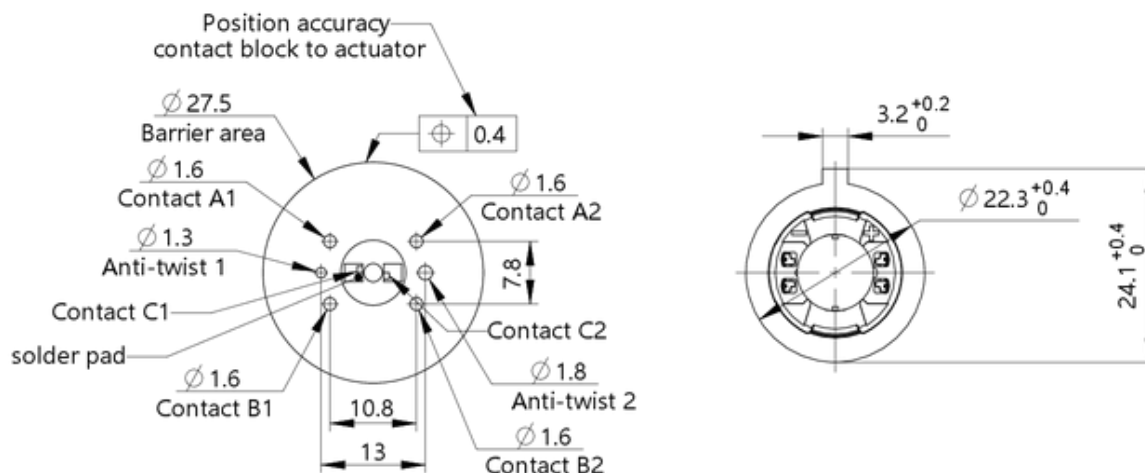
Use according to UL:

RAFIX control devices are defined at RAFI as modular elements, consisting of an actuating element, if necessary a coupling and an individual contact or lighting unit.

Actuating elements (such as pushbuttons, emergency stop actuators, etc.) have the intended tactility, reset and function only when assembled with the appropriate switching elements.

drawings

PCB drawing



Connection drawing

| Variant | 1NO | 1NC | 2NO | 2NC | 1NO + 1NC | Plus 1 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Contact A1/A2 Connection designation | 1NO 13 - 14 | - | 1NO 13 - 14 | 1NC 11 - 12 | 1NO 13 - 14 | 1NC 11 - 12 |
| Contact B1/B2 Connection designation | - | 1NC 21 - 22 | 1NO 23 - 24 | 1NC 21 - 22 | 1NC 21 - 22 | 1NC 21 - 22 |
| Contact C1/C2 Connection designation | LED* X1 - X2 | LED* X1 - X2 | LED* X1 - X2 | LED* X1 - X2 | LED* X1 - X2 | LED* X1 - X2 |
| Wiring diagram | | | | | | |
| Contact D1/D2 Connection designation | - | - | - | - | - | 1NO 33 - 34 |

* Only if required