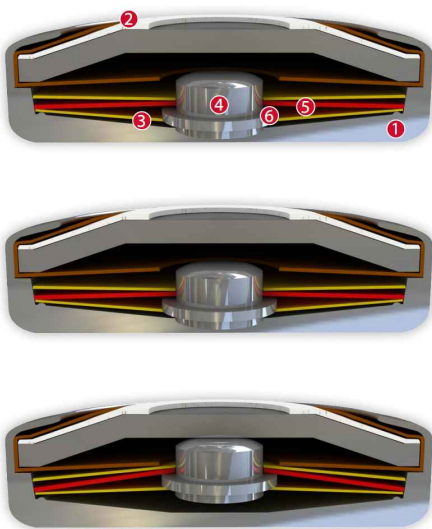


# DATASHEET

## Thermal Protector CF2

### Type series F2



#### Construction and function

The switchgear of type series F2 is fixed in a positive lock and is self-aligning between the floor of a conductive housing (1) and a contact cap which is made of steel (2) and insulated from it, and which closes the housing like a button cell. By means of a throw force a bimetallic disc (5) pushes the movable contact (4) that sticks out in the middle of it onto its circumferential collar (6) against the spring snap-in disc (3) that is also surrounding the contact (4). Due to the higher throw force of the bimetallic disc (5) the switch contact remains open against the mechanical resistance of the spring snap-in disc (3) before reaching the rated switching temperature. As such, the contact also remains open as long as the bimetallic disc – only reacting to the ambient temperature – continually works and its shape changes. The bimetallic disc (5) only snaps into its inverted position when the rated switching temperature is reached and the contact is closed by the abruptly released pressure of the spring snap-in disc (3). The spring snap-in disc (3) is now a transfer element for electric current and as such, it enables the bimetallic disc (5) to continue to work on a continuous basis. When the reset temperature is reached, the bimetallic disc snaps back into its start position and the contact is opened again.

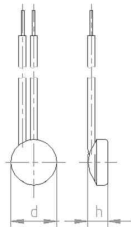
#### Features:

|                                 |   |
|---------------------------------|---|
| Specially flat design           | to fit closely built-up circuits  |
| Quick response sensitivity      | Featured by small protector mass and the metal-housing  |
| Excellent long term performance | due to instantaneous switching, fine silver contacts, constant contact resistance and to electrically as well as mechanically unstressed bimetallic disc, reproducible switching temperature values |
| Instantaneous switching         | always with the same contact pressure up to reset point; resulting in low contact stress  |
| Very short bounce times         | < 1 ms  |
| Temperature resistance          | by use of high temperature resistant materials and components   |



CF2

Type: Normally open; resets automatically; with connector cables; with or without epoxy; without insulation



Installation height h from 3,4 mm  
Diameter d 9,0 mm

|  |     |  |
|--|-----|--|
| Nominal switching temperature (NST) in 5 °C increments                         |     | 70 °C - 180 °C                         |
| Tolerance (standard)   |     | ±2,5 K / ±5 K                          |
| Reverse Switch Temperature (defined RST is possible at the customer's request) | UL  | ≥ 35 °C (≤ 80 °C NST)                  |
|  | VDE | -35 K ± 15 K (≥ 85 °C ≤ 180 °C NST)    |
|  |     | ≥ 35 °C                                |
| Installation height  |     | from 3,4 mm                            |
| Diameter   |     | 9,0 mm                                 |
| Resistance to impregnation *   |     | suitable                               |
| Suitable for installation in protection class                                  |     | I                                      |
| Pressure resistance to the switch housing *                                    |     | 150 N                                  |
| Standard connection  |     | Lead wire 0,25 mm <sup>2</sup> / AWG22 |
| Available approvals (please state)   |     | IEC; ENEC; VDE                         |
| Operating voltage range AC   |     | up until 250 V AC                      |
| Rated voltage AC   |     | 250 V (VDE) 277 V (UL)                 |
| Rated current AC cos φ = 1.0/cycles  |     | 2,5 A / 10.000                         |
| Rated current AC cos φ = 0.6/cycles  |     | 1,6 A / 10.000                         |
| Total bounce time  |     | < 1 ms                                 |
| Contact resistance (according to MIL-STD. R5757)                               |     | ≤ 50 mΩ                                |
| Vibration resistance at 10 ... 60 Hz   |     | 100 m/s <sup>2</sup>                   |

\*In accordance with the Thermik test - Specific cases relating to your application (on the part of the buyer) which deviate from our standards, we can check for their capacity to support an application and/or conformity with standards. The responsibility for using the suitability of Thermik products for such applications falls upon the user. - Slight deviations are possible in terms of dimensional values, depending on the embodiment of the product. - We reserve the right to make technical changes in the course of further development. - Details concerning certain data, measurement methods, applications, approvals, etc., can be supplied upon request.

Ordering example:

CF2 - 125.05 0100 / 0100

Type / version \_\_\_\_\_  
 Nennschalttemp. [°C] \_\_\_\_\_  
 Tolerance [K] \_\_\_\_\_  
 Lead lengths [mm] \_\_\_\_\_ L<sub>1</sub> L<sub>2</sub>

Marking example:

 thermik

Trade mark \_\_\_\_\_  
 Type / version \_\_\_\_\_ **F2**  
 NST [°C] . Tolerance [K] — **125.05**

More varieties of the type series F2:

• SF2- with or without epoxy; insulation: Mylar®-Nomex®

[www.thermik.de/data/SF2](http://www.thermik.de/data/SF2)