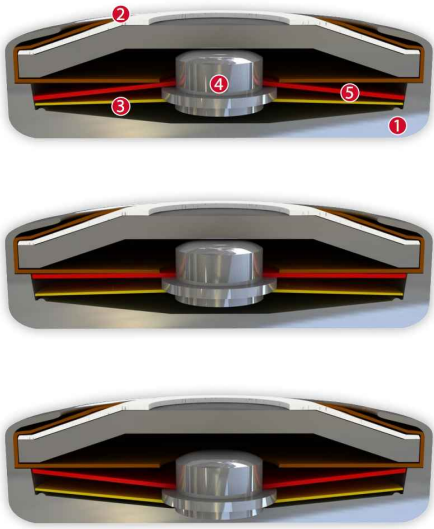


DATASHEET

Thermal Protector CF1

Type series F1



Construction and function

The switch mechanism of Type F1 is comprised of five primary parts: 1) a conductive housing, 2) a steel contact cover with stationary contact, 3) a snap-action spring disc, 4) a movable contact, and 5) a bimetallic disc. The conductive housing and steel contact cover form the enclosure, to lock the self-aligning switch mechanism in place. The cover is insulated from the housing, and closes it to appear like a button cell. The snap-action spring disc is the current transfer element and bears the movable contact. It conducts the current flow and self-heating from the bimetallic disc by exercising consistent, steady contact pressure. The bimetallic disc floats within the thermal protector and the movable contact extends through the center of the bimetallic disc without being welded or riveted. When the rated switching temperature is reached, the bimetallic disc snaps into its inverted position and pushes the spring disc downwards. The contact is abruptly opened and the temperature rise of the device being protected is disrupted. If the ambient temperature then falls, the bimetallic disc snaps back into its original position, and the contact is once again closed. The thermal protector may be covered with insulation, mounted into another housing, or left uninsulated. See specifications and ranges described below.



Features:

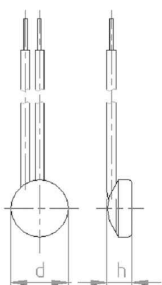
Specially flat design	to fit closely built-up circuits
Quick response sensitivity	Featured by small protector mass and the metal-housing
Excellent long term performance	due to instantaneous switching, fine silver contacts, constant contact resistance and to electrically as well as mechanically unstressed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

Technical Data Type CF1

The listed products are an extract from our standard range. Other versions and customised manufacturing are available upon request.

CF1

Type: Normally closed; 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 ² / AWG22
Available approvals (please state)	IEC; ENEC; VDE; UL; CSA; CQC
Operational voltage range AC	up until 500 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
Max. switching current AC cos φ = 1.0/cycles	6,0 A / 3.000
Total bounce time	< 1 ms
Contact resistance (according to MIL-STD. R5757)	≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz	100 m/s ²

Ordering example:

CF1 - 125.05 0100 / 0100
Type / version ————
NST [°C] ————
Tolerance [K] ————
Lead lengths [mm] ———— L₁ L₂

Marking example:

Trade mark ————  thermik
Type / version ———— **F1**
NST [°C] . Tolerance [K] — **125.05**

More varieties of the type series F1:

- SF1 – with or without epoxy; insulation: Mylar®-Nomex®
- UM1 – with crimped/soldered connections (incl. customer specific connections)
- PM1 – with plug connections (incl. customer specific connections)
- CM1 – with connector cables; without insulation
- SM1 – with connector cables; insulation: Mylar®-Nomex®

www.thermik.de/data/SF1
www.thermik.de/data/UM1
www.thermik.de/data/PM1
www.thermik.de/data/CM1
www.thermik.de/data/SM1

*In accordance with the Thermik test - Specifications relating to part applications (on the part of the buyer) which deviate from our standards are not checked for their capacity to support an application and/or conformity with standards. The responsibility for using the suitability of thermik products for such applications lies upon the user. - Slight deviations are provided in terms of dimensions and/or material properties. - Details concerning our products are subject to change without notice. - Details concerning our data, measurement methods, applications, approvals, etc. can be supplied upon request.