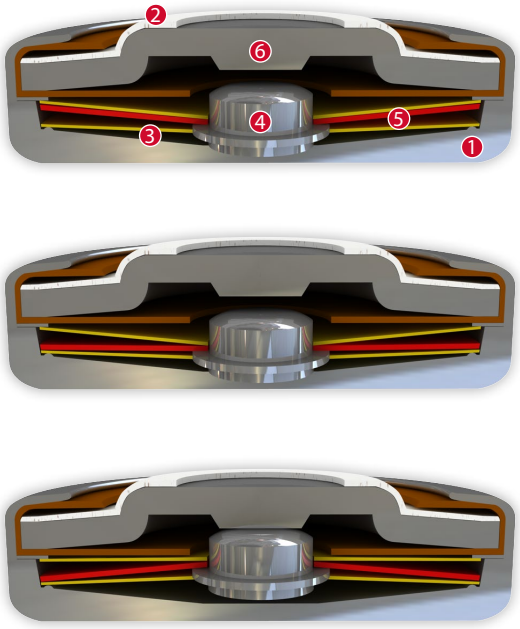
thermik®

DATASHEET

Thermal Protector S02

Type series 02



Construction and function

The switchgear of type series 02 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, plus an integrated stationary silver contact (6) 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:

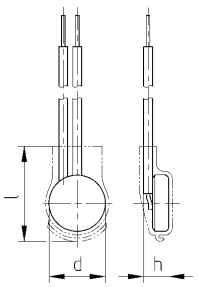
Specially flat design	to fit closely built-up circuits
Quick response sensitivity	Featured by small protector mass and the metal-housing
Excellent long term performance	due to instantaneous switching, fine silver contacts, constant contact resistance and to electrically as well as mechanically unstressed 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

Technical Data Type S02

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

S02

Type: Normally open; resets automatically; with connector cables; with or without epoxy; insulation: Mylar®-Nomex®



Installation height h	from 4,3mm
Diameter d	9,4 mm
Length of the insulation cap l	15,0 mm

Nominal switching temperature (NST) in 5 °C increments		60 °C - 200 °C
Tolerance (standard)		±5 K
Reverse Switch Temperature (defined RST is possible at the customer's request)	UL	≥ 35° C (≤ 80° C NST) -35 K ± 15 K (≥ 85°C ≤ 180° C NST) -65 K ± 15 K (≥ 185° C ≤ 200° C NST)
	VDE	≥ 35 °C
Installation height		from 4,3 mm
Diameter		9,4 mm
Length of the insulation cap		15,0 mm
Resistance to impregnation *		suitable
Suitable for installation in protection class		I + II
Pressure resistance to the switch housing *		450 N
Standard connection		Lead wire 0,25 mm² / AWG22
Available approvals (please state)		IEC; ENEC; VDE; UL; CSA; CQC; CMJ
Operating 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
High voltage resistance		2,0 kV
Total bounce time		< 1 ms
Contact resistance (according to MIL-STD. R5757)		≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz		100 m/s²

Ordering example:

S02 - 125. 05 0100 / 0100

- Type / version
- NST [°C]
- Tolerance [K]
- Lead lengths [mm] — L_1 L_2

Marking example:

- Trade mark — **thermik**
- Type / version — **02**
- NST [°C] . Tolerance [K] — **125.05**

*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 testing the suitability of Thermik products for such applications falls upon the user. • Slight deviations are possible in terms of dimensions/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.

More varieties of the type series 02:

- *C02 – with connector cables; with or without epoxy; without insulation* — *www.thermik.de/data/C02*
- *L02 – with connector cables; with epoxy; fully insulated in a screw on housing* — *www.thermik.de/data/L02*
- *N02 – with a connection wire; partially insulated in a plastic cap* — *www.thermik.de/data/N02*
- *C02 Pin – with pins; with epoxy; without insulation* — *www.thermik.de/data/C02-Pin*

thermik®
brings temperatures under control

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