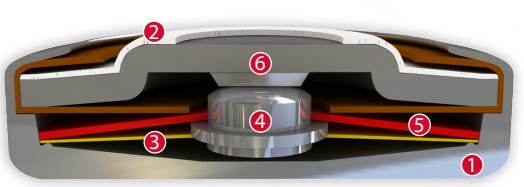
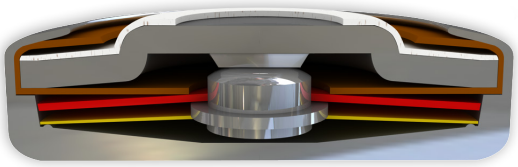
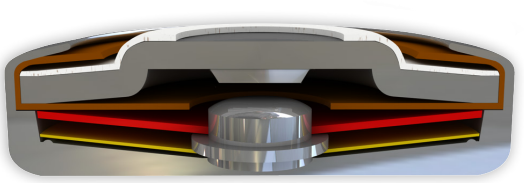
DATASHEET

Thermal Protector S01

Type series 01







Construction and function

The switchgear of type series 01 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. At the same time, the spring snap-in disc (3) which forms the current transfer element bears the movable contact (4) and discharges the flow of current and self-heating from the bimetallic disc (5) by exercising consistent, steady contact pressure. The bimetallic disc (5) is held on the one movable contact (4) which sticks out through this without having to be welded or fixed. As such, it can continually work (exposed) and only reacts to the ambient temperature in the device to be protected. When the rated switching temperature is reached, the bimetallic disc (5) snaps into its inverted position and pushes the spring snap-in disc (3) downwards. The contact is abruptly opened and the temperature rise of the device to be protected is disrupted. If the ambient temperature now falls, the bimetallic disc (5) snaps back into its start position when reaching the defined reset temperature and the contact is closed again.

Features:

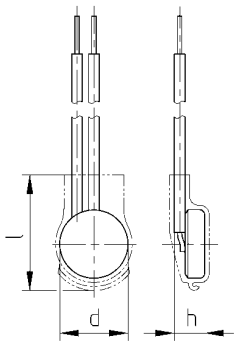
Specially flat design	to fit closely built-up circuits
Quick response sensitivity	Featured by small protector mass and the metal-housing
Excellent long term performance	due to instantaneous switching, fine silver contacts, constant contact resistance and to electrically as well as mechanically unstressed bimetallic disc, reproducible switching temperature values
Instantaneous switching	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 S01

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

S01

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



Diameter d	9,4 mm
Installation height h	from 4,7 mm
Length of the insulation cap l	15,0 mm

Nominal switching temperature (NST) in 5 °C increments		60 °C - 200 °C
Tolerance (standard)		±2,5 K / ±5 K
Reverse switch temperature (RST) below NST (defined RST is possible at the customer's request)	UL VDE	-35 K ±15 K ≥ 35 °C
Installation height		from 4,7 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
Operational voltage range AC/DC		up until 500 V AC / 14 V DC
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		6,3 A / 3.000 7,5 A / 300
Rated current AC cos φ = 0.4/cycles		1,8 A / 10.000
Max. switching current AC cos φ = 0.4/cycles		7,2 A / 1.000
Rated voltage DC		12 V
Max. switching current DC/cycles		40,0 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:

S01 - 125. 05 0100/ 0100

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

Marking example:

Trade mark — **thermik**
Type / version — **01**
NST [°C] . Tolerance [K] — **125.05**

More varieties of the type series 01:

• *01– without cables; without insulation; for clip contact; minimum batch sizes*	*www.thermik.de/data/01*
• *L01– with connector cables; with epoxy; fully insulated in a screw on housing*	*www.thermik.de/data/L01*
• *F01– with connector cables; with epoxy; fully insulated in a Nomex® cap*	*www.thermik.de/data/F01*
• *N01– with a connection wire; partially insulated in a plastic cap*	*www.thermik.de/data/N01*
• *C01– with connector cables; with or without epoxy; without insulation*	*www.thermik.de/data/C01*
• *C01 Pin – with pins; with epoxy; without insulation*	*www.thermik.de/data/C01-Pin*
• *B01– with connector cables; with epoxy; fully insulated in a Ryton® cap*	*www.thermik.de/data/B01*
• *S01HT – high temperature model; with connector cables; insulation: PTFE*	*www.thermik.de/data/S01HT*
• *C01HT – high temperature model; without insulation*	*www.thermik.de/data/C01HT*

*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.