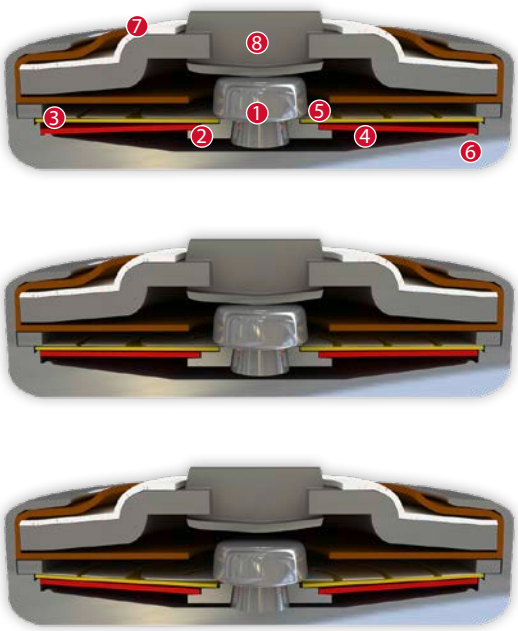
DATASHEET

Thermal Protector SH5

Type series H5



Construction and function

Switchgear consisting of a movable silver contact (1), a contact bearing pin (2), a spring snap-in disc (3), a bimetallic disc (4) and a contact tongue (5) which is riveted into one another, undetachable and fixed in a positive lock and self-aligning between a conductive, heat transferring housing (6) and a contact cap (7) made of steel that is insulated from it, plus a stationary countercontact (8). At the same time, the switchgear is supported by the contact tongue (5) acting as a transfer element for electric current which is held between a supporting collar and a circumferential ring. As such, the switchgear underlying it, that is also stuck out from the movable contact (1), can continuously work (exposed) by mechanical loads without the contact pressure defined by the spring snap-in disc (3) diminishing. As soon as the bimetallic disc (4) reaches its rated switching temperature, it effectively springs against the throw force of the spring snap-in disc (3) into its inverted position. The contact is abruptly opened. The temperature will now fall. The bimetallic disc (4) will only snap back upon reaching a defined spring back temperature and the contact is abruptly closed again.

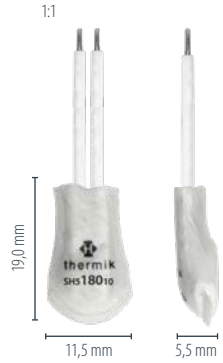
Features:

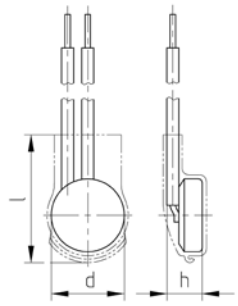
Small dimensions	suitable for mounting into and onto windings
Small dimensions	featured by small protector mass and the metal-housing
Excellent long term performance	due to instantaneous switching, fine-silver contacts, constant contact resistance and to electrically as well as mechanically unstressed bimetallic disc, reproducible switching temperature values
Very short bouncing times	< 1 ms
Instantaneous switching	with always constant contact pressure up to the nominal switching point, resulting in low contact stress
Temperature resistance	by use of high temperature resistant materials and components

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

SH5

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





Installation height h	from 5,5 mm
Diameter d	from 11,5 mm
Length of the insulation cap l	from 19,0 mm

Nominal switching temperature (NST) in 5 °C increments		80 °C - 180 °C
Tolerance (standard)		±10 K
Reverse switch temperature (RST) below NST (defined RST is possible at the customer's request)	UL VDE	≥ 35 °C ≥ 35 °C
Installation height		from 5,5 mm
Diameter		from 11,5 mm
Length of the insulation cap		from 19,0 mm
Suitable for installation in protection class		I + II
Pressure resistance to the switch housing *		300 N
Standard connection		1,0 mm² / AWG18
Available approvals (please state)		IEC; VDE; UL; CQC
Operational voltage range AC/DC		up until 500 V AC / 14 V DC
Rated voltage AC		250 V
Rated current AC cos φ = 1.0/cycles		30 A / 10.000
Rated current AC cos φ = 1.0/cycles		50 A / 3.000
Rated voltage DC		12 V
Max. switching current DC/cycles		60,0 A / 10.000
High voltage resistance		2,0 kV
Total bounce time		< 1 ms
Contact resistance (according to MIL-STD. R5757)		< 25 mΩ
Vibration resistance at 10 ... 60 Hz		100 m/s²

Ordering example:

SH5 - 125. 10 0100 / 0100

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

Marking example:

Trade mark — **thermik**
Type / version — **SH5**
NST [°C] . Tolerance [K] — **125.10**

*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 H5:
• *CH5 – with connector cables; without epoxy; without insulation* *www.thermik.de/en/data/CH5*

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brings temperatures under control

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