thermik ®

DATASHEET
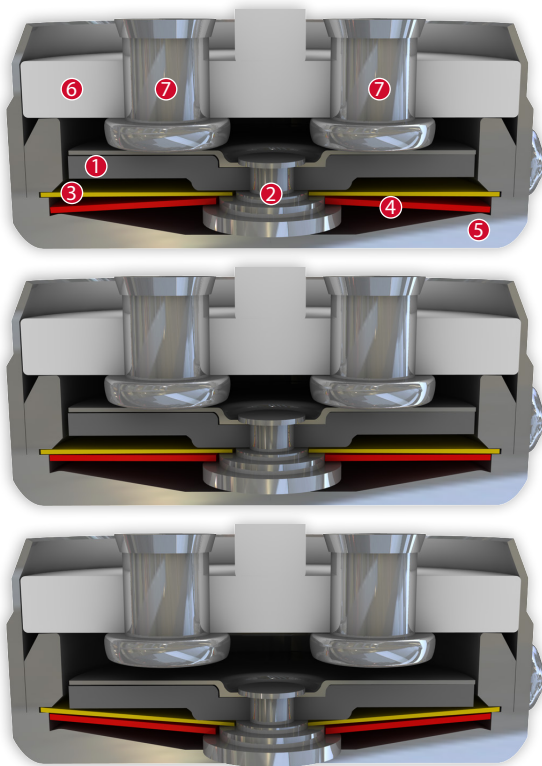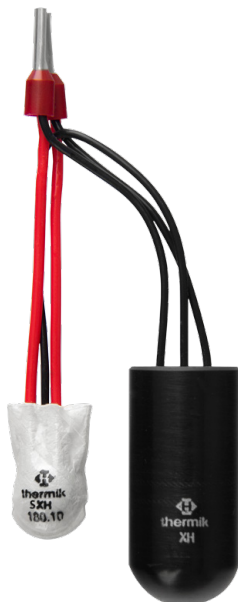## Thermal Protector SXH

Type series XH

Construction and function

Switchgear consisting of a mobile and circumferential contact bridge (1), a contact bearing pin (2), a spring snap-in disc (3) and a bimetallic disc (4) which is riveted into one another, undetachable and fixed in a positive lock and self-aligning between the floor of a conductive housing (5) and an insulating ceramic bearing (6) with two integrated stationary contacts (7). At the same time, the switchgear is supported by the spring snap-in disc (3) with the contact bridge (1) acting as a transfer element for electric current which is held between a supporting collar and a circumferential ring. As such, the bimetallic disc (4) underlying it, that is also stuck out from the contact bearing pin (2), 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 contacts are abruptly opened. The temperature will now fall. The bimetallic disc (4) will only snap back upon reaching a defined reset temperature and the contacts will be abruptly closed again. As a result of the parallel connection of the three pin switch using a controllable semiconducter valve (Triac), the arc sparks that usually occur in a millisecond range during processes are extinguished. Ideal, zero-crossing switching is created through which enormous power ratings are generated, even in the smallest of assemblies.

Features:	
High switching performance	Maximum switching current 75 A
Quick response sensitivity	Featured by small protector mass and the brass-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 bounce times	< 10 µs
Instantaneous switching	Almost arc free circuit
Temperature resistance	Due to the using 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.

SXH

Type: Normally closed; resets automatically; with connector cables; hybrid; insulation: Mylar®-Nomex®

1:1

33,0 mm

15,0 mm

17,0 mm

9,4 mm

thermik XH

thermik SXH 130.10
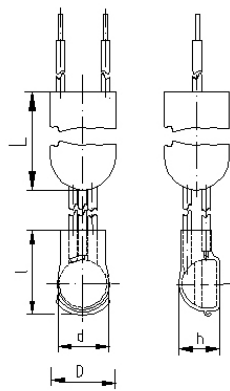
Nominal switching temperature (NST) in 5 °C increments		70 °C - 180 °C
Tolerance (standard)		±10 K
Reverse switch temperature (RST) below NST (defined RST is possible at the customer's request)	UL	-35 K ±15 K
	VDE	≥ 35 °C
Construction, two parts		SH6 standard
Litz wire length, customer specific		Epoxy cylinder 15x33 mm
Resistance to impregnation *		suitable
Suitable for installation in protection class		I + II
Available approvals (please state)		IEC; ENEC; VDE
Operating voltage range AC		up until 250 V
Rated voltage AC		250 V
Rated current AC cos φ = 1.0/cycles		13,5 A / 10.000
Max. switching current AC cos φ = 1.0/cycles		75 A / 10.000
High voltage resistance		2,0 kV
Total bounce time		< 10 µs
Contact resistance (according to MIL-STD. R5757)		≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz		100 m/s²

d · D

h

Litz wire length, customer specific

Epoxy cylinder 15x33 mm

Current sensitivity characteristic at I$_{nom}$:

dependent of…

- Thermal coupling
- Application area
- Built-in conditions
- Outer influences
- Wiring length / wiring diameter

Current self heating series XH

Deviation of the switching temperature [K]

Current [A]
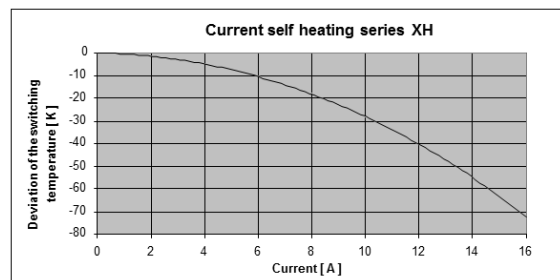
Ordering example:

SXH - 130. 10 0100 / 0100

Type / version
NST [°C]
Tolerance [K]
Lead lengths [mm]   L₁   L₂

Marking example:

Trade mark	**thermik**
Type / version	**SXH**
NST [°C] . Tolerance [K]	**130.10**

More varieties of the type series XH:
• *CXH – with connector cables; hybrid; without insulation*

www.thermik.de/data/CXH

thermik®
brings temperatures under control