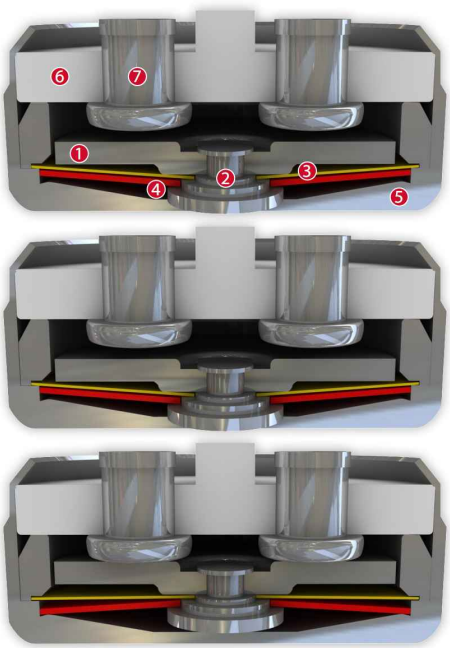
thermik®

DATASHEET

Thermal Protector V08

Type series 08



Construction and function

Switchgear consisting of a mobile and circular 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 a non-conductive floor of a housing (5) and an insulating ceramic bearing (6) with two integrated stationary contacts (7) as electrodes. At the same time, the switchgear is initially held open by the spring snap-in disc (3) with the contact bridge (1) acting as a transfer element for electric current after the switching process) which is fastened 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 distance between the contact surfaces (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 (7) are abruptly closed. The temperature will now fall. The bimetallic disc (4) will only snap back upon reaching a defined spring back temperature and the contacts will be abruptly opened again. As a result of the dimensioning of the contact bearing pin (2), an easy, circular rotation of the circle-shaped contact bridge (1) is enabled with every switch so that transfer resistances remain constantly below the minimum limit after many switch cycles and the long term stability is sustained even under high levels of stress.

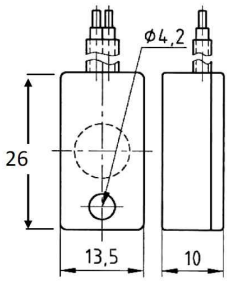
Features:

Contact opening	with constant distance of the contacts in the whole range between switching temperature and reset-temperature
Ceramic plate	designed to carry the contacts
Very short bounce time	< 1 ms
Instantaneous switching	always with the same contact pressure up to reset point; resulting in low contact stress
Excellent long term performance	due to fine-silver contacts. Reproducible switching temperature values and due to electrically as well as mechanically unstressed bimetallic disc.
Dielectric strength	3.750 V

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

V08

Type: Normally open; resets automatically; with connector cables and double-insulated in the attachment housing



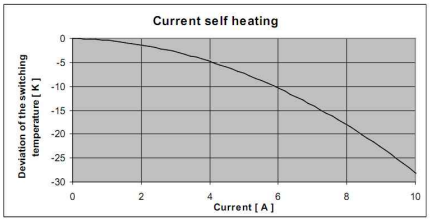
Nominal switching temperature (NST) in 5 °C increments		70 °C - 160 °C
Tolerance (standard)		±5 K
Reverse Switch Temperature (defined RST is possible at the customer's request)	UL	≥ 35° C (≤ 95° C NST) -50 K ± 15 K (≥ 100° C ≤ 180° C NST)
	VDE	≥ 35 °C
Installation height		from 10,0 mm
Housing size (length/width)		26,0 mm / 13,5 mm
Fixing/Max. torque		2,5 Nm
Resistance to impregnation *		suitable
Suitable for installation in protection class		II
Pressure resistance to the switch housing *		600 N
Standard connection		Lead wire 0,5 mm^2 / AWG20
Available approvals (please state)		IEC; ENEC; VDE; CQC
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		10,0 A / 10.000
Rated current AC cos φ = 0.6/cycles		6,3 A / 10.000
High voltage resistance		3,75 kV
Total bounce time		< 1 ms
Contact resistance (according to MIL-STD. R5757)		≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz		100 m/s^2

Installation height h	from 10,0 mm
Housing size (length/ width)	26,0 mm / 13,5 mm
Fixing/Max. torque	2,5 Nm

Current sensitivity characteristic at I_{nom}:

dependent of:

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



Ordering example:

V08 - 125. 05 0100/ 0100

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

Marking example:

- Trade mark — **thermik**
- Type / version — **V08**
- NST [°C] . Tolerance [K] — **125.05**

More varieties of the type series 08:

• *C08 – with connector cables; with epoxy; without insulation*	*www.thermik.de/data/C08*
• *S08 – with connector cables; with epoxy; insulation: Mylar®-Nomex®*	*www.thermik.de/data/S08*
• *L08 – with connector cables; with epoxy; fully insulated in a screw on housing*	*www.thermik.de/data/L08*
• *P08 – with connection pins; with epoxy; fully insulated in the attachment housing*	*www.thermik.de/data/P08*
• *H08 – with connector cables; with epoxy; fully insulated in the attachment housing*	*www.thermik.de/data/H08*

In accordance with the Thermik regs. • 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.

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brings temperatures under control