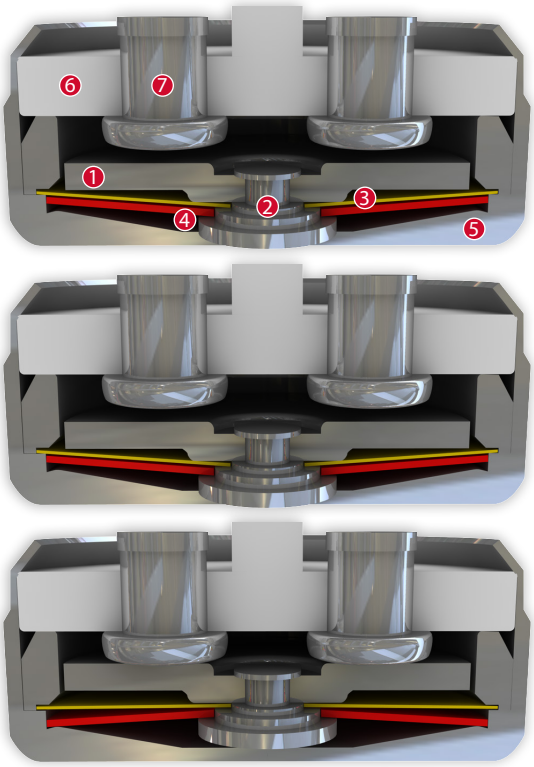
Rev. 1.0 10/2014

DATASHEET

Thermal Protector C08

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.

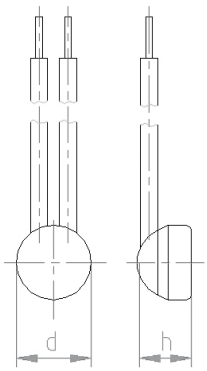
Features:

Strong power density	Strong currents in small types of construction
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 unstrained bimetallic disc, reproducible switching temperature values
Very short bouncing times	< 1 ms
Instantaneous switching	Always with the same contact pressure up to reset 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.

C08

Type: Normally open; resets automatically; with connector cables; with epoxy; without insulation



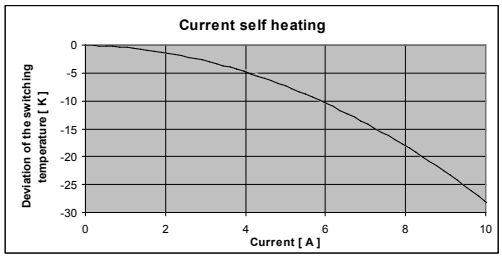
Diameter d	9,0 mm
Installation height h	from 6,3 mm

Nominal switching temperature (NST) in 5 °C increments		70 °C - 200 °C
Tolerance (standard)		±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 6,3 mm
Diameter		9,0 mm
Resistance to impregnation *		suitable
Suitable for installation in protection class		I
Pressure resistance to the switch housing *		600 N
Standard connection		Lead wire 0,75 mm² / AWG18
Available approvals (please state)		IEC; ENEC; VDE; UL; CSA; CQC
Operating voltage range AC		up until 500 V
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
Total bounce time		< 1 ms
Contact resistance (according to MIL-STD. R5757)		≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz		100 m/s²

Current sensitivity characteristic at I_{nom}:

dependent of:

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



Ordering example:

C08 - 125. 05 0100/ 0100

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

Marking example:

Trade mark — **thermik**
Type / version — **08**
NST [°C] . Tolerance [K] — **125.05**

More varieties of the type series 08:

- *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*
- *V08 – with connector cables and double-insulated in the attachment housing* — *www.thermik.de/data/V08*