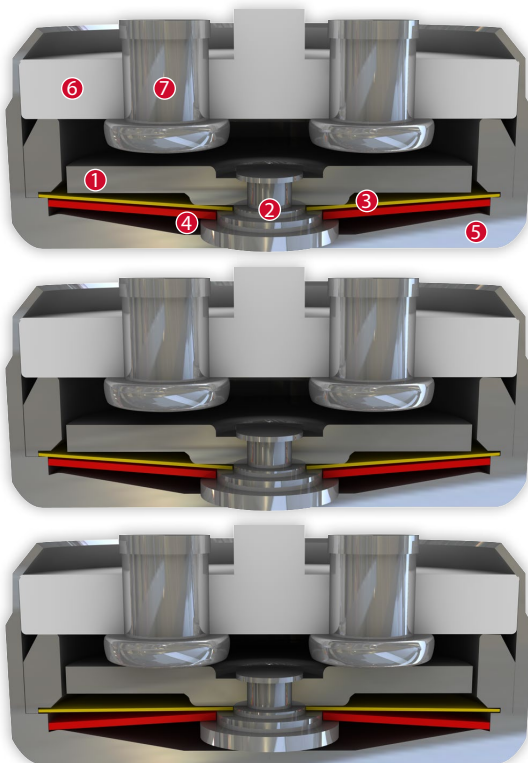


DATASHEET

Thermal Protector S08

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.

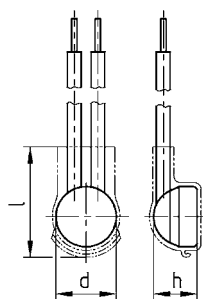


Features:

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

S08

Type: Normally open; resets automatically; with connector cables; with epoxy; insulation: Mylar®-Nomex®



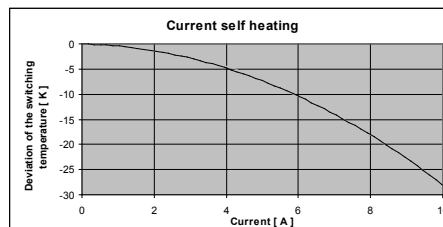
Diameter d	9,4 mm
Installation height h	from 6,7 mm
Length of the insulation cap l	16,0 mm

Nominal switching temperature (NST) in 5 °C increments	70 °C - 200 °C
Tolerance (standard)	±5 K
Reverse Switch Temperature (defined RST is possible at the customer's request)	UL $\geq 35^{\circ}\text{C}$ ($\leq 95^{\circ}\text{C}$ NST) $-50\text{ K} \pm 15\text{ K}$ ($\geq 100^{\circ}\text{C} \leq 180^{\circ}\text{C}$ NST) $-65\text{ K} \pm 15\text{ K}$ ($\geq 185^{\circ}\text{C} \leq 200^{\circ}\text{C}$ NST) VDE $\geq 35^{\circ}\text{C}$
Installation height	from 6,7 mm
Diameter	9,4 mm
Length of the insulation cap	16,0 mm
Resistance to impregnation *	suitable
Suitable for installation in protection class	I + II
Pressure resistance to the switch housing *	600 N
Standard connection	Lead wire 0,75 mm ² / AWG18
Available approvals (please state)	IEC; ENEC; VDE; UL; CSA; CQC
Operating voltage range AC	up until 500 V AC
Rated voltage AC	250 V (VDE) 277 V (UL)
Rated current AC cos $\varphi = 1.0$ /cycles	10,0 A / 10.000
Rated current AC cos $\varphi = 0.6$ /cycles	6,3 A / 10.000
High voltage resistance	2,0 kV
Total bounce time	< 1 ms
Contact resistance (according to MIL-STD. R5757)	$\leq 50\text{ m}\Omega$
Vibration resistance at 10 ... 60 Hz	100 m/s ²

Current sensitivity characteristic at I_{nom} :

dependent of:

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



Ordering example:

S08 - 125.05 0100/ 0100
 Type / version _____
 NST [°C] _____
 Tolerance [K] _____
 Lead lengths [mm] _____ L₁ L₂

Marking example:


 Trade mark _____ **thermik**
 Type / version _____ **S08**
 NST [°C] . Tolerance [K] — **125.05**

More varieties of the type series 08:

- C08 – with connector cables; with epoxy; without insulation
- L08 – with connector cables; with epoxy; fully insulated in a screw on housing
- P08 – with connection pins; with epoxy; fully insulated in the attachment housing
- H08 – with connector cables; with epoxy; fully insulated in the attachment housing
- V08 – with connector cables and double-insulated in the attachment housing

www.thermik.de/data/C08
www.thermik.de/data/L08
www.thermik.de/data/P08
www.thermik.de/data/H08
www.thermik.de/data/V08