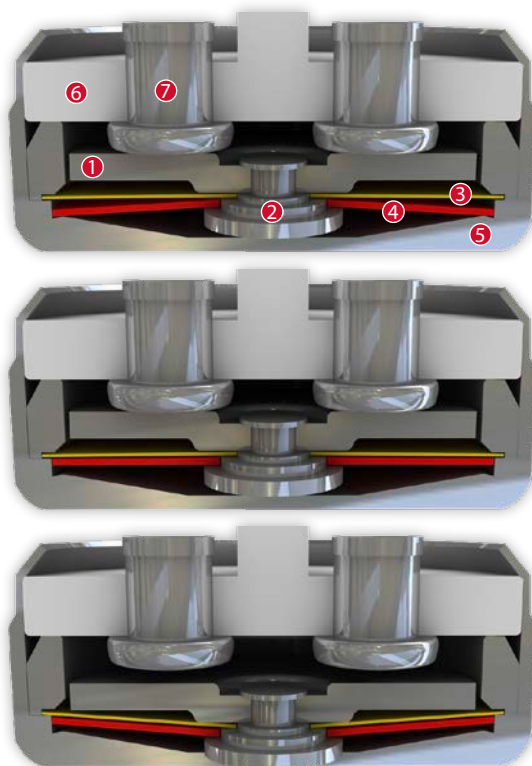


# DATASHEET

## Thermal Protector S06

Type series 06



### 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 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 closed again. As the contact bearing pin (2) is appropriately dimensioned, 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.

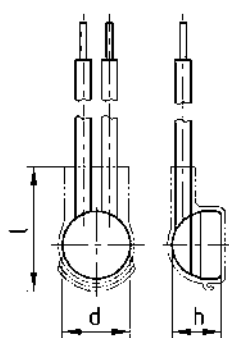


### Features:

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	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

## S06

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

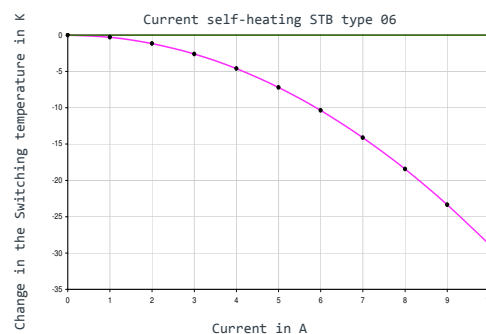


Diameter d	10,5 mm
Installation height h	from 7,0 mm
Length of the insulation cap l	17,5 mm

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 7,0 mm
Diameter	10,5 mm
Length of the insulation cap	17,5 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 <sup>2</sup> / AWG18
Available approvals (please state)	IEC; ENEC; VDE; UL; CSA; CQC
Operational voltage range AC/DC	up until 500 V AC / 28 V DC
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
Max. switching current AC cos $\varphi = 1.0$ /cycles	25,0 A / 100
Rated voltage DC	24 V
Max. switching current DC/cycles	40,0 A / 3.000
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 <sup>2</sup>

### Current sensitivity characteristic at $I_{\text{nom}}$ :

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



### Ordering example:

S06 - 125.05 0100/ 0100

Type / version	_____
NST [ °C ]	_____
Tolerance [ K ]	_____
Lead lengths [ mm ]	_____ L <sub>1</sub> L <sub>2</sub>

### Marking example:

Trade mark  **thermik**  
 Type / version **S06**  
 NST [ °C ] . Tolerance [ K ] — **125.05**

More varieties of the type series 06:  
[www.thermik.de/en/products/baureihen-en/06/](http://www.thermik.de/en/products/baureihen-en/06/)

# Tanpoquier Electrical Equipment

Authorized Distributor

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More products :

PCA1.2003.1EG 10	S01.085.05.0050.0050	ZCY15
PCA1.2005.1EG	S01.105.05.0100.0100	XCRZ03
PCA1.1505.1EG 10	S01.140.05.0050.0050	ZCE01
PCA1.2003.10EG 10	S01.160.05.0050.0050	ZCKY11C
PCA1.2005.1S	CP1.140.05.0100.0100	ZCKY31
PCA1.2003.1EG 10	L01.085.05.0050.0050	ZCKY422460
PCS1.1503.1	S02.150.05.0050.0050	ZCY22
PCS1.1302.1M	S06.150.05.0100.0100	ZCE10
PCA1.2004.1EG 10	CK1.060.05.0050.0050	ZCY46
PCS1.1302.5M	S05.175.05.0100.0100	ZCKD31
PCS1.1302.10M	C01.240.05.0239.0114	ZCKE09
PCA1.2005.10S	S01.115.05.0115.0115	ZCMD21L2
PCA1.2005.10M	S01.165.05.0050.0050	.....