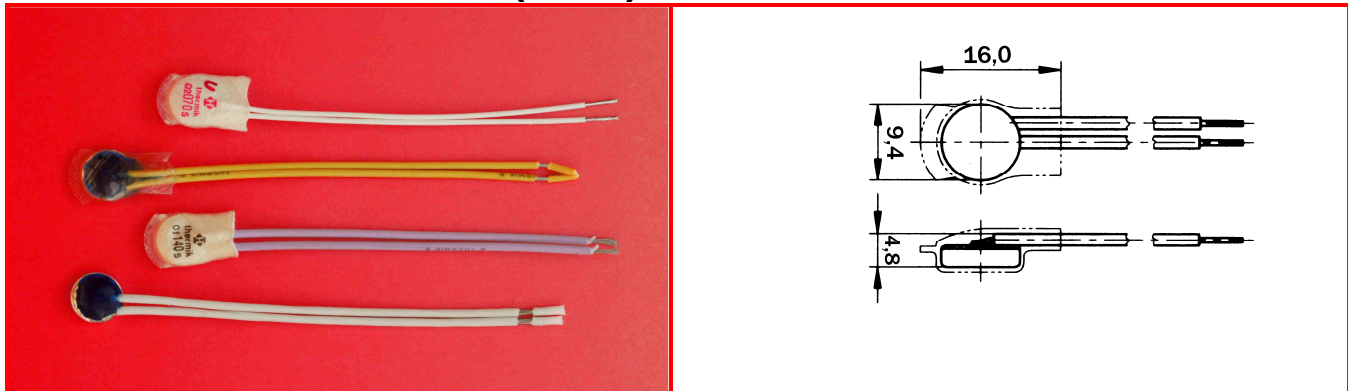


TECHNICAL DATA THERMAL PROTECTORS FOR LOW CURRENT (2,5A) WITH INSULATION SK1/S01/S02



	Automatic resetting, with connection leads	
Thermal-Protectors	S01 / SK1	S02
Contact type, normally closed / normally open	NC	NO
With insulation cap	yes	
Nominal switching temperature (NST) in steps of 5°C	60 °C – 200 °C	
Standard tolerance	± 5K	
Reset temperature range below NST	VDE: ≥35°C UL: -35K ± 15K	
Operating voltage ...AC / DC	up to 500 VAC / 14 VDC (S01)	
Rated voltage U_{AC}	250 V (VDE) 277 V (UL)	
Rated current AC $\cos \varphi = 1,0$ (ohmic load) / switching cycles	2,5 A / 10.000	
	6,3 A / 3.000 (S01) <small>(Attention! Please attend the cross section of the lead wire!)</small>	
	7,5 A / 300 (S01) <small>(Attention! Please attend the cross section of the lead wire!)</small>	
Rated current AC $\cos \varphi = 0,6$ acc. to IEC 60730-2-9 / switching cycles	1,6 A / 10.000	
Rated current AC $\cos \varphi = 0,4 - 0,5$ acc. to IEC 60730-2-3 / switching cycles	1,8 A / 10.000 (S01)	
Max. switching current at 250 VAC und $\cos \varphi = 0,4 - 0,5$ / switching cycles	7,2 A / 1.000 (S01) <small>(Attention! Please attend the cross section of the lead wire!)</small>	
Contact bounce time	< 1 ms	
Contact resistance (acc. to MIL-Std. R 5757)	< 50 mΩ	
Impregnation resistance	with resin suitable <small>(corresponding to the internal test configuration)</small>	without resin unsuitable <small>(corresponding to the internal test configuration)</small>
Vibration proof at 10...60 Hz	100 m/s ²	
Pressure stability of housing	450 N <small>(corresponding to the internal test configuration)</small>	
High voltage insulation	2 kV	
Protection class	suitable for protection class I <small>(Protection class II possible)</small>	
Standard wiring connection	lead wire 0,25 mm ² / AWG22	
Diameter d (mm)	9,4 mm	
Height h (mm)	4,7 mm	
Length of insulation cap	15,0 mm	
Approvals available (according to design)	IEC; VDE; UL; CSA; <small>standard approval: VDE; other approval please mention in your order</small>	

THERMAL PROTECTORS FOR LOW CURRENT (2,5A)

Benefits & Advantages

The outstanding quality level of our Temperature Controls satisfies highest demands for safety and reliability. They are provided with a patented, fully developed and reliable switching device system.

Compact and pressure stable	✓ Ideal for installation in limited spaces ✓ Very suitable for mounting into and onto windings
Save, reliable, and durable	✓ Constant contact pressure over the whole temperature range ✓ More than 70 tests conducted over the production process ensures reliability ✓ Very fast switching; therefore short arcing influence on the contacts
Temperature sensitive	✓ Reproducible switching temperature induced by mechanically unstressed and electrical unloaded bimetallic disc
Fast	✓ Excellent thermal coupling induced by small-scaled, low-weight switching device
Flexible	✓ Wide band mains supply range ✓ Large assortment of lead wires and solid wires for connection.

Version

C01, CK1 and C02 are the basics for following variations. Standard version is without base insulation:

- Optimal thermal coupling of switching device
- Live contact of housing – therefore, when fitting, base insulation has to be provided

S01, SK1 and S02 are provided with an insulation cap for base insulation

- Various types with different insulations material and protection classes are available
- Suitable for mounting into and onto windings of electro motors, transformers or ballasts

L01, LK1 and L02 are provided with an Aluminium screw-joint housing.

- Wide application range for use in control boxes motor housings, radiators or heat sinks
- Insulated housing

N01, NK1 and N02 are designed for direct mounting on PCB's.

- Wide field of applications for protecting power of device components, radiators and heat sinks.
- Standard PCB basic grid PIN to PIN distance
- Partly insulated, plastic insulation cap via PCB connection

K1=01 for lower temperatures

SP1 are provided with an electrical self-holding-system

- Function is for controller with no automatic reset

Functions & Types

Bimetal switch

After reaching its factory-adjusted NominalSwitchingTemperature (NST) the bimetal disc suddenly turns over from its stable initial position into a stable end position and thereby activates the switching device.

Normally closed (NC)

Contacts open and switch off the supply ⇒ direct disconnection

Normally open (NO)

Contacts close and activate the supply (switching on of signal units)

Resetting

After cooling down to below it is factory-adjusted resetting temperature, the switching device suddenly snaps back into its initial position.

Technical Data

The listed specifications and information are based on tests and test series. They are of a standard nature and therefore deviations may occur in connection with specific applications. The suitability for a specific application must be individually tested by the user. Please contact us for advice and support.

Typical current sensitivity characteristics

A special feature of the series 01/02 is that the switch is a temperature sensitive switch. In normal operation and loads up to the nominal current, self heating of the switch is extremely low. Therefore the lowering of the switching temperature caused by self-heating will be within the nominal switching temperature tolerance.

Configuration with our article number

sample 1 is for a S01 NC (normally closed type) at 100°C ±5K in UL-style with 300mm UL-style wire, with resin

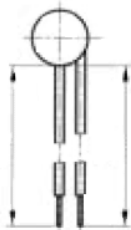
sample 2 is for a S02 NO (normally open type) at 80°C ±5K as standard with 300mm standard wire, with resin

sample 3 is for a S01 NC (normally closed type) TRIPLEX at 80°C ±5K with 300/100/100/300 mm standard wire, with resin

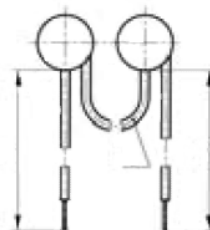
sample 4 is for a S01 NC (normally closed type) at 120° ±5K with 100mm standard wire

1. count	2.-4. count	5. count	6.-8. count	9.-11. count	12.-13. count	further counts
A=NC-type B=NO-type	temperature		version	tempera- ture	tolerance	Wire length/ Special approvals
A	100	-	S01	100	05	0300-UL-OV
B	080	-	S02	080	05	0300-OV
A	080	-	S01	080	05	DS.300/100/100/300-OV
A	120	-	S01	120	05	0100

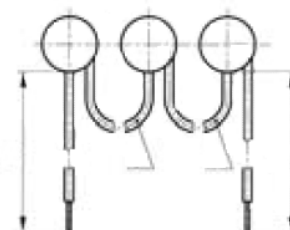
SINGLE SWITCH



DUPLEX CONFIGURATION



TRIPLEX CONFIGURATION



The manufacturing and production of our Thermostats is DIN ISO 9001 certified.
By maintaining the current RoHS-conformity the products correspond also to the WEEE 2012/19/EU.

You can use the Thermal Protectors to have a solid and high quality switching device to check and limit a thermal overflow in your applications, machines or systems. We would like to offer you a wide spectrum of different solutions to protect your applications. Of course, we would also like to offer you special solutions with duplex, triplex or personality configurations with long wires and additional insulations, also like special cables with thermostats or fuses.

Our friendly team would give you specialist advice and detailed information for all the products. Of course, we want to help you, to find the best solution for your application. Please call us for further information. You are welcome.

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