PROTHERM Wärmeschutz GmbH

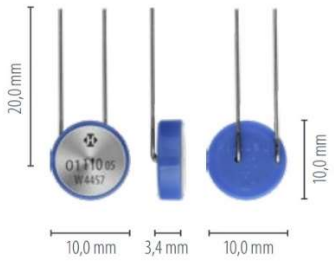
Technical Information for Thermal Protectors Model Series 01/02

C01
without insulation

S01
with Insulation cap

L01
screw-joint housing

N01
for PCB mounting



Designation	01/02 for switching loads up to 2,5A (230VAC)
Contact type	normally closed (01) or normally open (02) automatically resetting. No final cutoff!
Nominal switching temperature (NST) in steps of 5°C	60°C – 200°C
Standard tolerance	±5K
Reset temperature range below NST	VDE reset temperature: ≥35°C UL reset temperature: ≥35°C (up to operation temperature ≤95°C) or 50K±15K up to 65K±15K below operation temperature (depending on effective operation temperature)
Rated voltage U_{AC}	250 VAC (VDE) 277 VAC (UL)
Rated current AC cos φ = 1,0 (ohmic load) / switching cycles	2,5 A to10.000 switching cycles
Contact resistance	≤ 50mΩ
Impregnation resistance	resinized versions suitable for type S (according to internal test setup, may vary from your application Please inform us with your order)
Pressure stability of housing	up to 450 N (according to internal test setup)
High voltage resistance	type S and L up to 2 kV / second type C and N without insulation
Protection class	type S and L suitable for protection class I type C and N without any protection class
Standard wiring connection	Lead wire 0,25 mm² or AWG 22
Approvals available (according to design)	Standard approval: VDE; CSA; IEC; UL when required Please note required approbations on your order.

The indicated pictures, drawings and dates are exemplary. Depending on the switch configuration it may differ. Thermostats are safety components! For the use in a specific application technical guidelines, requirements or approvals must be considered and the thermostats must be tested in real environmental conditions. Please also consider the electrical power in relation with the voltage supply of your application. The approvals also differ depending on the various nominal voltage. We will be glad to help you, please ask.

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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 below its factory-adjusted resetting temperature, the switching device suddenly snaps back into its initial position.

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 with the practical threaded stud
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.

Typical current sensitivity characteristics

Typical current sensitivity characteristic is dependant from:

- thermal coupling
- application area
- built-in conditions
- outer influence
- wiring length and diameter

Versions

C01/C02 basically without insulation, for a fast reaction time. Attention to beware of electric breakdown or electric shock because of missing insulation.

S01/S02 Basic version including insulation.
- Ideally for using to detect a temperature in motor coils

L01/ L02 Basic version with skrew type mounting
- Ideally to mount outside a motor or cooling device

N01/ N02 Special version for direct mounting at PCB
- Ideally for detecting air temperature at cooling devices

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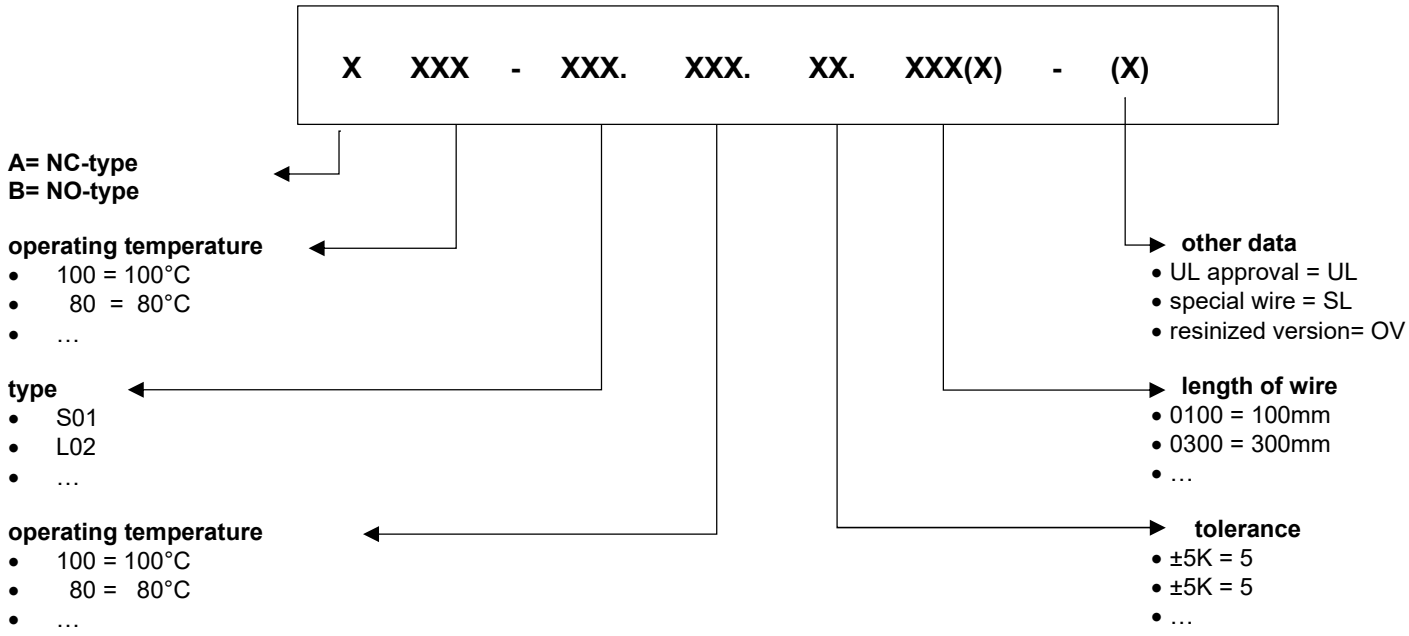
Configuration with our article number

sample 1 is for a S01 NC (normally close type) at 100°C ±5K in UL-style with 100mm UL-style wire
sample 2 is for a L02 NO (normally open type) at 80°C ±5K as standard with 300mm standard wire



Important Information

A Thermal Protector Type is not developed for final shut off because of no permanent end switch. 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. Please note that outside influences like moisture, gas formation, ultraviolet radiation, magnetic fields, or vibrations can affect the function of the thermostat. Especially any influence of silicon must be avoided.

The manufacturing and production of our Thermostats are DIN ISO 9001 certified by maintaining the current RoHS-conformity.

You can use the Thermal Protectors to have a solid and highly quality switching device to check and limit a thermal overflow in your applications, machines, or systems. We can offer a wide spectrum of different solutions to protect your applications.

Our friendly team would give you 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.

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