

Thermal Protector ST01 Series



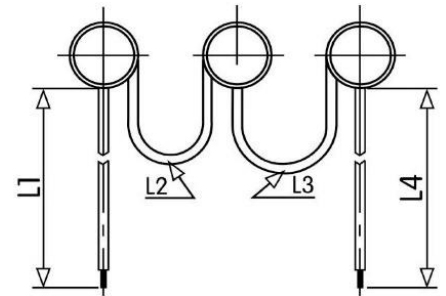
- **small, compact design**
- **not sensitive to current**
- **short response time**
- **high mechanical strength**
- **10 different basic designs**
- **Also available as triple protector**
- **customization**

Applications

Over temperature protection in small electrical appliances, as winding protection, in transformers, electric motors, electromagnetic coils, and thermal protection in small electrical appliances.

Function

The temperature switches of the ST01 series are not sensitive to current. The detection of the temperature carried out by means of a bimetal disc. The ST01 can be designed as normally closed (NC) or normally open (NO). After cooling down and reaching the switch-back temperature of the bimetal disc, the temperature switch automatically switches back to its original position. The ST01 series is suitable for common vacuum impregnation processes. The pressure resistance of the metallic housing is up to 50kg.


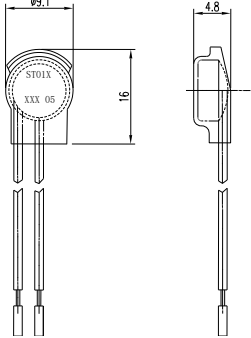
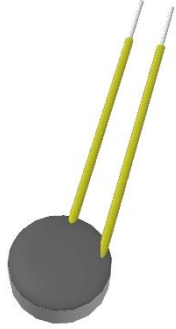
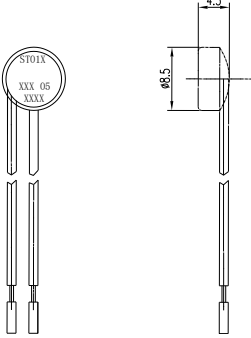

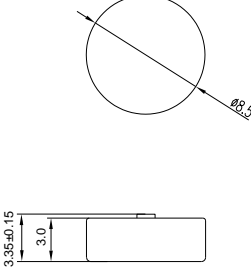

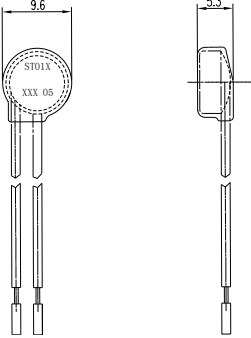

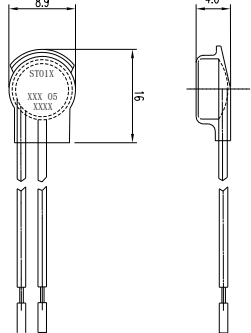


Triple thermal switch for motor windings

Technical Data

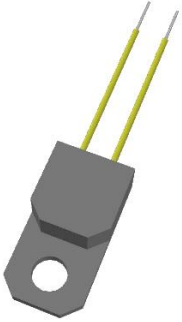
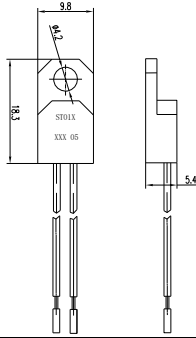

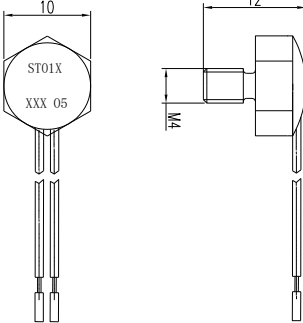
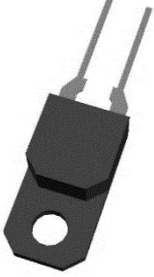
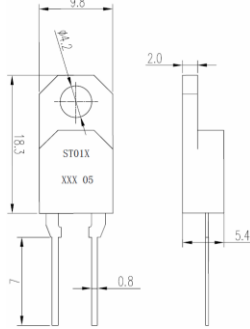
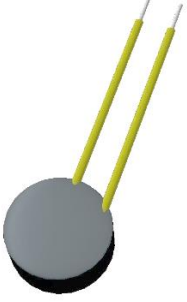
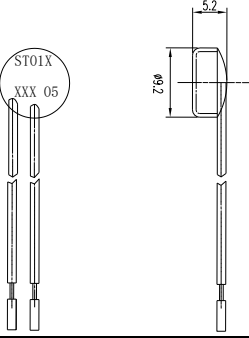

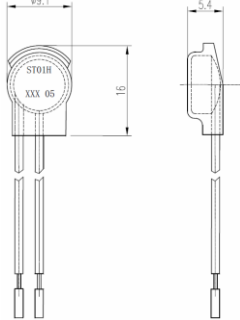
Function	Normally closed (NC)	Normally open (NO)
Nominal switching temperature in 5K steps	60°C ... 180°C	60°C ... 180°C
Tolerance (Standard)	± 5K	± 5K
Reset temperature	(NST ≤ 90°C) -30K ± 15K (90°C ≤ NST ≤ 180°C) Details on page 4	(NST ≤ 90°C) -30K ± 15K (90°C ≤ NST ≤ 180°C) Details on page 4
Max. operating voltage	AC 500V / DC 60V	AC 500V / DC 60V
Cycles at AC 250V / 3,0A cos φ 1,0	10.000	10.000
Cycles at AC 250V / 6,3A cos φ 1,0	3.000	3.000
Cycles at AC 250V / 5,0A cos φ 0,7	10.000	10.000
Cycles at AC 125V / 8,0A cos φ 0,7	10.000	10.000
Cycles at DC 12V ... 24V / 10A	3.000	3.000
Contact resistance	< 50mΩ	< 50mΩ
Insulation voltage	AC 2.0kV / 1 min. U7 (AC 1.8kV / 1 min.) exempt design U2, U3	AC 2.0kV / 1 min. U7 (AC 1.8kV / 1 min.) exempt design U2, U3
Lead wire length (Standard)	55 ± 5mm	55 ± 5mm
Recognized standards	TÜV IEC 60730-2-9 UL 2111/60730-2-2 CQC GB14536.3	(60°C ... 180°C) (60°C ... 165°C) (60°C ... 180°C)

Designs

Type	Model	Illustration	Dimensions (mm)	Description
ST01	U1			Isolation cap Completely isolated
ST01	U2			without isolation
ST01	U3			without wires without isolation
ST01	U4			with epoxy cover (max. 150°C) Completely isolated
ST01	U5			Transparent isolation cap (max. 155°C) Completely isolated

Changes and errors excepted

Designs

Type	Type	Type	Type	Type
ST01	U6			Plastic housing for screw-on (max. 155°C) Completely isolated
ST01	U7			M4x6mm thread for screw-in Completely isolated
ST01	U8			Solid wires for PCB mounting (max. 155°C) Pitch 5.08mm Completely isolated
ST01	U9			Plastic housing (max. 155°C) Completely isolated
ST01-H with PTC Self-holding	U1			Isolation cap Self-holding (PTC) (max. 155°C) Completely isolated

Changes and errors excepted

Order Code

ST01 - A - U1 . 125 . 05 . 55-6/55-6

Type:

ST01

Function:

A = Normally Closed (NC)

B = Normally Open (NO)

Design:

U1 = Isolation cap

U2 = without isolation

U3 = without isolation and wires

U4 = Epoxy cover

U5 = transparent isolation cap

U6 = Plastic case for screw-on

U7 = M4x6mm Thread for screw-in

U8 = Solid wires for PCB-mounting

U9 = Plastic case

Nominal switching temperature:

60°C ~ 180°C

in steps of 5K

Tolerance:

05 (± 5K)

08 (± 8K)

10 (± 10K)

Wire length:

Standard = L1&L2 = 55mm

Stripping length = 6mm

Example: ST01-A-U1.125.05.55-6/55-6

For different or unlisted specifications, please contact us. Customization is always possible.

Available standard connection wires

Isolation material	Temperature max.	Max. operating voltage	Size	UL-Style
XLPE	150°C	300V	AWG 22	3398
			AWG 24	
Silicone	200°C	600V	AWG 22	3135
			AWG 24	
PFA	250°C	600V	AWG 22	10362
			AWG 24	

The standard wire length is 55mm, of which 6mm stripped.

Up to 150°C, white XLPE stranded wires in AWG 22 used as standard. (UL3398)

Above 150°C, yellow PFA stranded wire in AWG 22 used as standard. (UL10362)

Available switching & reset temperatures

Switching temperature	Reset temperature
60°C ± 5K	35°C - 53°C
65°C ± 5K	36°C - 57°C
70°C ± 5K	36°C - 57°C
75°C ± 5K	38°C - 63°C
80°C ± 5K	53 ± 15K
85°C ± 5K	57 ± 15K
90°C ± 5K	60 ± 15K
95°C ± 5K	65 ± 15K
100°C ± 5K	70 ± 15K

Switching temperature	Reset temperature
105°C ± 5K	75 ± 15K
110°C ± 5K	80 ± 15K
115°C ± 5K	85 ± 15K
120°C ± 5K	90 ± 15K
125°C ± 5K	95 ± 15K
130°C ± 5K	100°C ± 15K
135°C ± 5K	105°C ± 15K
140°C ± 5K	110°C ± 15K

Switching temperature	Reset temperature
145°C ± 5K	115°C ± 15K
150°C ± 5K	120°C ± 15K
155°C ± 5K	125°C ± 15K
160°C ± 5K	130°C ± 15K
165°C ± 5K	135°C ± 15K
170°C ± 5K	140°C ± 15K
175°C ± 5K	145°C ± 15K
180°C ± 5K	150°C ± 15K

Changes and errors excepted