

ST01 SERIES THERMAL CUT-OUT/THERMAL PROTECTOR



PRODUCT CODE SYSTEM

| | ST01 | A | 150 | 5 | Y3 | 100 | 100 | U1 |
|--|------|---|-----|---|----|-----|-----|----|
| Model: ST01 | | | | | | | | |
| A: Normally closed contacts | | | | | | | | |
| B: Normally open contacts | | | | | | | | |
| Switching temperature °C | | | | | | | | |
| Tolerance: 05 = $\pm 5K$, 08 = $\pm 8K$, 10 = $\pm 10K$ | | | | | | | | |
| Lead wire: Y1 = AWG22 Yellow UL10362, Y2 = AWG24 Yellow UL3135, Y3 AWG 22 White UL3398 | | | | | | | | |
| Lead length 1 (L5)* | | | | | | | | |
| Lead length 2 (L6) | | | | | | | | |
| Insulation of case (see page 3 for drawings & pictures) | | | | | | | | |
| U1 = Shrink cap insulation | | | | | | | | |
| U2 = Without insulation | | | | | | | | |
| U3 = Without epoxy cover or lead wire | | | | | | | | |
| U4 = Epoxy potted | | | | | | | | |
| U5 = Transparent shrink cap | | | | | | | | |
| U6 = PBT insulating case | | | | | | | | |
| U7 = With M4 thread | | | | | | | | |
| U8 = PBT insulating case with pin connection, grid dimension 5.08mm, potted, without lead wire | | | | | | | | |

Example above:

Model ST01, 150°C switching temperature, $\pm 5K$ tolerance, Y3 AWG 22 White UL3398 lead wire, lead length 100/100mm, U1 Shrink cap insulation.

*For a 1 sensor 2 lead device. A 3 sensor device with interconnecting leads is also available. The outer leads (L1 & L4) and interconnecting leads (L2 & L3) should be specified. See drawing below.

STRUCTURE

Contact:
Silver/Nickel alloy
Long life over current capability

Spring:
Beryllium copper with good elasticity

Case:
Brass construction 0.02mm thickness
Better thermal conductivity
3µm silver plated surface

TECHNICAL DATA

| | Normally Closed | Normally Open |
|---|------------------------------------|------------------------------------|
| Nominal switching temperature in 5K steps | 60 - 180°C | 60 - 180°C |
| Standard tolerance (Others on request) | $\pm 5K$ | $\pm 5K$ |
| Reset temperature range | -30K $\pm 15K$ | -30K $\pm 15K$ |
| Maximum operating voltage | 500V AC, 60V DC | 500V AC, 60V DC |
| Working current @ 250V AC 50/60Hz | 5 amps | 5 amps |
| Cycles @ 250V AC/3.0A cos ϕ 1.0 | 10,000 | |
| Cycles @ 250V AC/6.3A cos ϕ 1.0 | 3,000 | |
| Cycles @ 250V AC/4.0A cos ϕ 0.45 | 1,000 | |
| Cycles @ 250V AC/1.0A cos ϕ 0.45 | 10,000 | |
| Isolation voltage | 2.5kV | 2.5kV |
| Y1 Lead wire (PTFE) | AWG22 Yellow, UL10362, 600V, 250°C | AWG22 Yellow, UL10362, 600V, 250°C |
| Y2 Lead wire (Silicone rubber) | AWG24 Yellow, UL3135, 600V, 200°C | AWG24 Yellow, UL3135, 600V, 200°C |
| Y3 Lead wire (Cross linked polymer) | AWG22 White, UL3398, 300V, 150°C | AWG22 White, UL3398, 300V, 150°C |

DIMENSIONS & INSULATION TYPES

| Series | ST01 | ST01 | ST01 |
|---------------|-----------------------|--------------------|---------------------------------|
| Code | U1 | U2 | U3 |
| Description | Shrink cap insulation | Without insulation | Without epoxy cover & lead wire |
| | | | |
| Dimensions mm | | | |

| Series | ST01 | ST01 | ST01 |
|---------------|--------------------|------------------------|---------------------|
| Code | U4 | U5 | U6 |
| Description | Epoxy potted cover | Transparent shrink cap | PBT insulating case |
| | | | |
| Dimensions mm | | | |

ST01 SERIES THERMAL CUT-OUT/THERMAL PROTECTOR

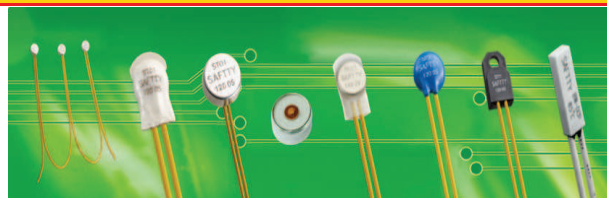


| | | | |
|---------------|------------------|--|--|
| Series | ST01 | ST01 | ST01-S |
| Code | U7 | U8 | U2 |
| Description | M4 threaded case | PBT insulating case, pin connection Grid dimension 5.08mm, potted | Super thin - 2.5mm thickness Without insulation |
| | | | |
| Dimensions mm | | | |

| | |
|---------------|---|
| Series | ST01-H |
| Code | U1 |
| Description | With PTC self-hold Shrink cap insulation |
| | |
| Dimensions mm | |

ST01 SERIES THERMAL CUT-OUT/THERMAL PROTECTOR**APPLICATIONS**

ST01 Series Thermal Cut-Outs are designed for the over-heat protection of electric motors, transformers and all types of coils, as well as electronic components and printed circuit boards.

**OPERATION**




The ST01 Series operates by means of a thermally sensitive bimetal disk which switches when reaching a pre-set response temperature and thus opening the contacts.

After cooling below its resetting temperature, the bimetal disk automatically resets and closes the contacts.

ADVANTAGES

- UL, cUL, CQC & TUV certified
- Small dimensions, suitable for embedding into windings
- Sealed metal case, suitable for vacuum pressure impregnation (VPI)
- Metal case resists up 50Kg of force during coil shaping process
- Metal case has high thermal conductivity
- Silver plating of metal case & spring greatly reduces contact resistance
- Wide range of insulation/housings available
- Wide range of lead types and lengths available

CERTIFICATION

| Certification mark | Agency | Standard No. | File No. | Application |
|---|--------|---------------|----------------|-----------------|
|  | CQC | GB14536.3 | CQC12002072538 | Motor protector |
|  | TUV | IEC 60730-2-9 | R50230650 | Thermostat |
|  | UL | 2111 | E336150 | Motor protector |

MARKING

ST01 = Model No.

SAFTTY = manufacturer

120 = Switching temperature

05 = \pm 5K tolerance

® Registered trademark.

Statements, technical information and recommendations contained herein are based on tests we believe to be reliable but they are not to be construed in any manner as warranties expressed or implied. The user shall determine the suitability of the product for their intended use and the user assumes all risk and liability whatsoever in connection therewith.