

广州安的电子科技有限公司
Safty Electronic Technology Co., Limited

ST01 系列热保护器技术规格书

Technical Specifications for ST01 Series Thermal Protector

编 制：何 英

Draw up：何 英

审 核：朱杰华

Examine：朱杰华

批 准：朱俊

Approved：朱俊

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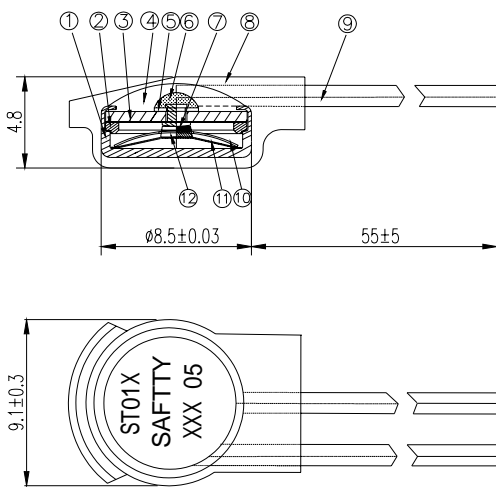
Technical Specifications for ST01 Series Thermal Protector

1 产品用途 Product application

ST01 系列热保护器具有体积小、无电流热效应、控温准确、感温灵敏、抗压强度高等特点，广泛适用于分马力电动机、变压器、线圈、电子产品、传感器的过热保护。

ST01 series thermal protector has the following features: miniature size, no current heat effect, accurate temperature response, temperature sensitive, compact and pressure stable, etc. It is widely used in fractional electric motors, transformers, coils, electronics and sensors for thermal overheat protection.

2 外形和结构: Shape and structure



序号 No.	零件名称 part name	材料名称 material	序号 No.	零件名称 part name	材料名称 material
1	外壳 case	环保 ROHS 无铅铜 lead-free cooper	7	静触点 stationary contact	AgNi10
2	环 ring	环保 无铅铜	8	绝缘套 shrink cap insulation	NOMEX
3	盖板 cover plate	95 瓷 ceramic	9	引线 lead wire	UL10362
4	环氧树脂 epoxy resin	环氧 epoxy	10	双金属片 bimetal-dis c	P30R
5	垫片 shim	环保 无铅铜	11	簧片 spring	铍铜 beryllium copper
6	焊锡 tin solder	无铅焊锡 lead-free tin	12	动触点 movable contact	AgNi10/Cu

3 性能 Capabilities

3.1 额定电流(COS =1.0) Rated current (COS =1.0)

DC24V-10A、DC12V-10A、AC125V-8A、AC250V-5A

3.2 动作特性: Performance

3.2.1 额定断开温度:60 ~ 180 (详见附表)。Rated open temperature: 60 ~ 180 (details as per attached list)

3.2.2 复位温度35 ~ 150 (详见附表)。Reset temperature: 35 ~ 150 (details as per attached list)

3.3 电气强度(测试仪器为耐压测试仪): Electric strength(the test instrument is high voltage tester)

a. 产品在断开时的引线之间应能承受AC500V,历时1min而无击穿闪络现象;

When the product is in the breaking state, the lead wires should be able to withstand AC500V lasting for 1min without breakdown or flashover;

b. 产品引线与绝缘外壳之间能承受AC1500V,历时1min而无击穿闪络现象。

The part between the lead wires and the case should be able to withstand AC500V lasting for 1min without breakdown or flashover;

3.4 绝缘电阻:在正常条件下,引线与绝缘外壳之间的绝缘电阻在100M 以上。(所用表计为DC500V兆欧表)

Insulation resistance: Under normal conditions, the insulation resistance between leads (terminal) and case should be more than 100MΩ measured by ohmmeter of DC500V.

3.5 接触电阻:标准引线长度产品的接触电阻应不大于50m 。

Contact resistance: The contact resistance of standard lead length products should be lower than 50mΩ.

3.6 抗拉力试验:产品的引线端应能承受大于或等于30N静拉力并保持1分钟,导线不断裂或松动。

Tensile resistance test: Terminal & leads should endure more than 30N axes direction pull lasting for 1 minute without break or loosness.

3.7 耐高温试验:产品置于高于额定动作温度30 的空气环境中保持96h,取出放置2小时后,检测其温度变化不超过初始值的 ± 5 或 $\pm 5\%$,取最大值。

High temperature test: Keep the thermal protector in an incubator environment of 30 degree higher than its rated switching temperature for ninety six hours, and test it two hours later after taking out from the incubator, while the temperature change does not exceed the initial value of ± 5 or $\pm 5\%$, returns the maximum value.

3.8 耐低温试验:产品置于-40 空气环境中保持 96h,取出放置 2 小时后,检测其温度变化不超过初始值的 ± 5 或 $\pm 5\%$,取最大值。

low temperature resistance test: Keep the thermal protector in a -40 incubator for ninety six hours, and test it two hours later after taking out from the incubator, while the temperature change does not exceed the initial value of ± 5 or $\pm 5\%$, returns the maximum value.

3.9 抗振试验:热保护器应能承受振幅 1.5mm,频率变化 10~55Hz,扫描变化周期 3~5 次/min,振动方向 X、Y、Z,每个方向各连续振动 2h,检测其温度变化不超过初始值的 ± 5 或 $\pm 5\%$,取最大值。

Anti-Vibration test: thermal protector should be able to withstand the amplitude 1.5mm, frequency 10~55Hz, scanning change cycles of 3~5 times /min. The vibration direction X, Y, Z and each direction vibrates on a continuous basis for 2 hours while the temperature change does not exceed the initial value of ± 5 or $\pm 5\%$, returns the maximum value.

3.10 极限短路试验 Short-circuit limit test

产品在串接 RL1-15A 熔断器的电路中承受 200A 的极限短路电流时,应不引起包裹在保护器上的棉花燃烧。

When the thermal protector is in series connection with RL1-15A fuse to withstand short circuit current limit of 200A, it should not cause the cotton burned which is wrapped on the thermal protector.

4 寿命 lifetime

产品在额定电压、电流、功率因数为 0.7 的条件下,外加热源使其动作 10000 次,应能正常通断。

In the conditions of rated voltage, current and power factor 0.7, the product can be normal on-off 10000 times operated due to external heat source.

5 其它事项:Others

5.1 断开温度检测的升温速率应控制为 1 /1min ,用指示灯显示通断状态 ,允许通过产品的电流不超过 0.01A。

For action temperature testing, temperature rising rate should be controlled at 1 /1min and use indicator light to show the on/off state. The testing current should be no more than 0.01A.

5.2 使用过程中产品不能承受强烈冲击力及压迫力。

In use, the thermal protectors could not withstand a big impact and stress.

5.3 型号规格说明: Model Code System explanation

ST01--产品型号 Model No.

SAFTTY--广州安的公司标志 logo

XXX XX--额定动作温度及动作温度容差 Rated open temperature and tolerance

5.4 认证 :Certifications

UL 认证 : E336150 (动作温度范围 : 60-165)

CQC 认证 : CQC12002072538 (动作温度范围 : 60-180)

TUV 认证 : R50230650 (动作温度范围 : 60-180)

CB 认证 : CN23342-A1 (动作温度范围 : 60-180)

本标准未涉及事项或客户有其他要求另行订立 Matters this standard does not involve or customers having other requirements shall be separately set.

附表 : Attached list

序号 No.	动作温度 Open temp.	复位温度 Reset temp.	序号 No.	动作温度 Open temp.	复位温度 Reset temp.	序号 No.	动作温度 Open temp.	复位温度 Reset temp.
1	60 ± 5	35-52	10	105 ± 5	75 ± 15	19	150 ± 5	120 ± 15
2	65 ± 5	36-57	11	110 ± 5	80 ± 15	20	155 ± 5	125 ± 15
3	70 ± 5	36-57	12	115 ± 5	85 ± 15	21	160 ± 5	130 ± 15
4	75 ± 5	38-63	13	120 ± 5	90 ± 15	22	165 ± 5	135 ± 15
5	80 ± 5	50 ± 15	14	125 ± 5	95 ± 15	23	170 ± 5	140 ± 15
6	85 ± 5	55 ± 15	15	130 ± 5	100 ± 15	24	175 ± 5	145 ± 15
7	90 ± 5	60 ± 15	16	135 ± 5	105 ± 15	25	180 ± 5	150 ± 15
8	95 ± 5	65 ± 15	17	140 ± 5	110 ± 15			
9	100 ± 5	70 ± 15	18	145 ± 5	115 ± 15			