

ST06

Technical Specifications for ST06 Series Thermal Protector



Draw up: _____

Examine: _____

Approved: _____

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ST06

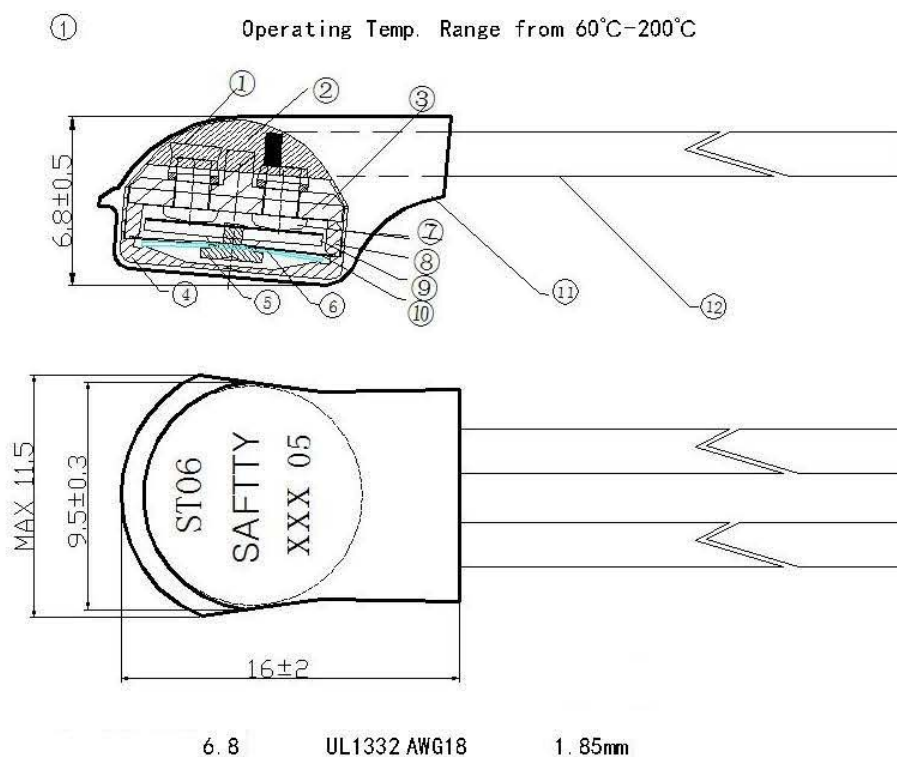
Technical Specifications for ST06 Series Thermal Protector

1 Product application

ST06

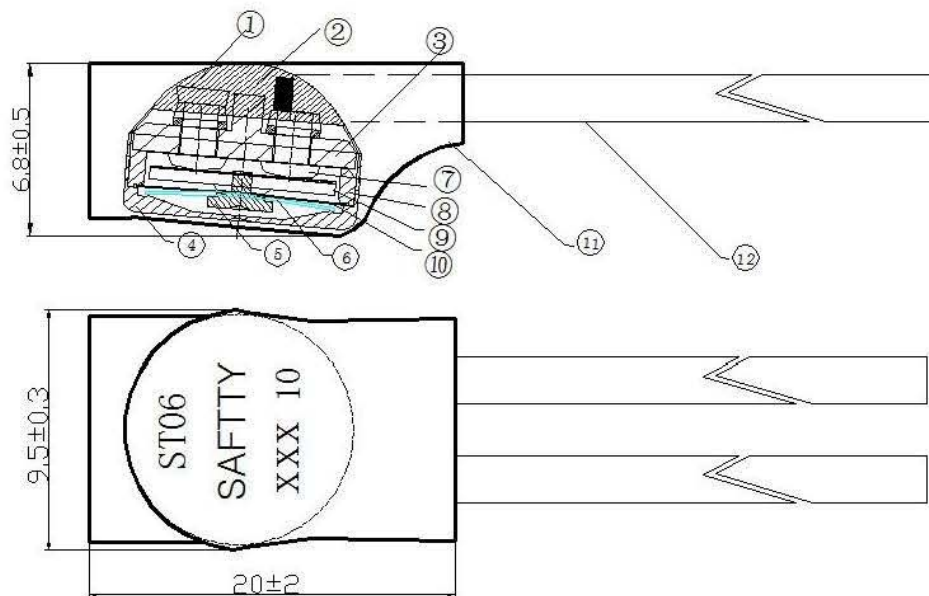
ST06 series thermal protector has the following features: miniature size, The thermal effect of current is slight, accurate temperature response, temperature sensitive, compact and pressure stable, etc. It is widely used in electric motors, pumps, transformers, coils, electronics and sensors for thermal overheat protection.

2 Shape and structure



Note: This thickness value 6.8 is a product using UL1332 AWG18 wire with a diameter of 1.85 mm; if a specific wire is required, the thickness measurement value of the product will change.

No.	Part name	No.	Part name	No.	Part name
1	Solder Wire Piece	5	Shaft pin	9	Dynamic contact
2	Epoxy resin	6	Bimetal-disc	10	Pot slice
3	Cover plate	7	Stationary contact	11	Insulation shrink cap
4	Case	8	Ring	12	Lead wire



6.8 UL10362 AWG18 1.75mm

Note: This thickness value 6.8 is a product using UL10362 AWG18 wire with a diameter of 1.75 mm; if a specific wire is required, the thickness measurement value of the product will change.

No.	Part name	No.	Part name	No.	Part name
1	case	5	Shaft pin	9	Dynamic contact
2	Silica gel	6	Bimetal-disc	10	Pot slice
3	Cover plate	7	Stationary contact	11	Insulation shrink cap
4	Case	8	Ring	12	Lead wire

3 Capabilities

- 3.1 Rated AC voltage: 277V;
 Rated DC voltage: 24V;
 Maximum withstand voltage: AC500V DC28V;
 Rated current/lifetime (COS Φ =1.0)

① 60°C-200°C model current / cycle life:

AC10A-10000cycles

AC25A-100cycles

DC40A-3000cycles

② 205°C-250°C model current / cycle life:

AC10A-1000cycles.

3.2 Performance

3.2.1 60°C~250°C

Rated open temperature: 60°C~250°C(details as per attached list)

3.2.2

Reset temperature: (details as per attached list)

3.3

Electric strength(the test instrument is high voltage tester)

a. AC500V,

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



b. AC2000V,

The part between the lead wires and the case should be able to withstand AC2000V lasting for 1min without breakdown or flash-over;

3.4 Insulation resistance:

100M Ω

DC500V

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

3.5 Contact resistance

55mm

50m Ω .

The contact resistance of standard lead wire length 55mm products should be lower than 50m Ω .

3.6 Tensile resistance test

30N

Terminal & leads should endure more than 30N axes direction pull lasting for 1 minute without break or looseness.

3.7 High temperature test

30 $^{\circ}$ C

16h,

2

$\pm 5^{\circ}$ C $\pm 5\%$

Keep the thermal protector in an incubator which temp. is 30 $^{\circ}$ C higher than its rated switching temperature for sixteen hours, and test it two hours later after taking out from the incubator, while the temperature change does not exceed the initial value of $\pm 5^{\circ}$ C or $\pm 5\%$, returns the maximum value.

3.8 Low temperature resistance test

-40 $^{\circ}$ C

2h,

2

$\pm$

5 $^{\circ}$ C $\pm 5\%$

Keep the thermal protector in a -40 $^{\circ}$ C incubator for two hours, and test it two hours later after taking out from the incubator, while the temperature change does not exceed the initial value of $\pm 5^{\circ}$ C or $\pm 5\%$, returns the maximum value.

3.9 Anti-Vibration test:

1.5mm,

10~55Hz,

3~5 /min,

Y、Z,

2h,

$\pm 5^{\circ}$ C $\pm 5\%$,

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 $\pm 5^{\circ}$ C or $\pm 5\%$, returns the maximum value.



3.10 Short-circuit limit test

RL1-15A 200A

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 Product disconnection bounce time

Bounce Time < 1ms.

5 Others

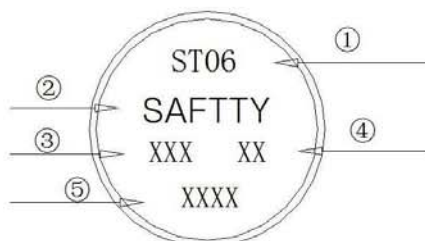
5.1 1°C/1min,
0.01A.

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

5.2 600N.

In your production, the thermal protectors could not withstand a big impact and stress. The maximum bearing pressure is 600N.

5.3 Model Code System explanation



① ST06 Model No.

② SAFTTY SAFTTY

③ XXX— (060-250) °C

Product operating temperature (060-250), indicating that the product is operating at the identified temperature (unit: °C)

④ XX— 05 ---> ±5°C 10 ---> ±10°C.

Product operating temperature tolerance, 05 ---> ±5°C; 10 ---> ±10°C.

⑤ XXXX--

Production batch number for product traceability. The batch generation rules are as follows:

Production batch number							
E	v	A 1					
Weekly batch sequence number (composed of uppercase English letters plus 1-9 numbers, numbers combined with letter loops)							
Weeks (consisting of uppercase or lowercase or numbers, see the list of weekly serial numbers below)							
Year (expressed in capital letters, see table below)							
For example, the first batch of products in the 48th week of 2018 should be expressed as: EvA1							
1. The chronological table is as follows:							
YEAR	2018	2019	2020	2021	2022	2023	2024
MARK	E	F	G	H	I	J	K
2. The weekly sequence number table is as follows:							
WEEK	1(27)	2(28)	3(29)	4(30)	5(31)	6(32)	7(33)
MARK	A(a)	B(b)	C(c)	D(d)	E(e)	F(f)	G(g)
WEEK	8(34)	9(35)	10(36)	11(37)	12(38)	13(39)	14(40)
MARK	H(h)	I(i)	J(j)	K(k)	L(l)	M(m)	N(n)
WEEK	15(41)	16(42)	17(43)	18(44)	19(45)	20(46)	21(47)
MARK	O(o)	P(p)	Q(q)	R(r)	S(s)	T(t)	U(u)
WEEK	22(48)	23(49)	24(50)	25(51)	26(52)	53	
MARK	V(v)	W(w)	X(x)	Y(y)	Z(z)	9	

UL1332/ UL10362, AWG18,

55/55mm,

6mm.

Standard lead wire is UL1332 or UL10362, AWG18, Yellow or Black, 55mm and semi-stripped 6mm.



5.4 Certifications

ISO9001, RoHS,

5.5 Packing, storage and transportation

① 100pcs, 10
32*26*25CM;

Product packaging using transparent plastic self-sealing bags, each small packaging bag contains 100pcs, each large package contains 10 small packets, the delivery is packed in cartons, the size is 32 * 26 * 25CM; if the total quantity is small, our company will use other specifications of cartons.

② 40~80%、 -5~40℃ 12

The product should be stored at the -5~40℃ environment with the relative humidity of 40~80% for 12 months without changes.

③

Direct transportation or shipment, it should be handled carefully and avoid collision or damp.

④

If you products need to suitable for impregnation process, please explain the specific requirements to our sales before quoting.

1: Attached list 1

N0.	°C Open temp.	°C Reset temp.	N0.	°C Open temp.	°C Reset temp.
1	60±5	≥35	21	160±5	110±15
2	65±5	≥35	22	165±5	115±15
3	70±5	≥35	23	170±5	120±15
4	75±5	≥35	24	175±5	125±15
5	80±5	≥35	25	180±5	130±15
6	85±5	≥35	26	185±5	120±15
7	90±5	≥35	27	190±5	125±15
8	95±5	≥35	28	195±5	130±15
9	100±5	50±15	29	200±5	135±15
10	105±5	55±15	30	205±10	120±15
11	110±5	60±15	31	210±10	120±15
12	115±5	65±15	32	215±10	120±15
13	120±5	70±15	33	220±10	120±15
14	125±5	75±15	34	225±10	120±15
15	130±5	80±15	35	230±10	120±15
16	135±5	85±15	36	235±10	120±15
17	140±5	90±15	37	240±10	120±15
18	145±5	95±15	38	245±10	120±15
19	150±5	100±15	39	250±10	120±15
20	155±5	105±15			

2: Attached list 2

No.	Wire type	AWG	Number of cores	Wire outer diameter (mm)	Wire resistance value (mm/mΩ)
1	UL10362	18	19	1.82	0.029
2	UL1332	20	19	1.65	0.034
3	UL1332	18	1	1.72	0.029
4	UL1332	18	19	1.85	0.029