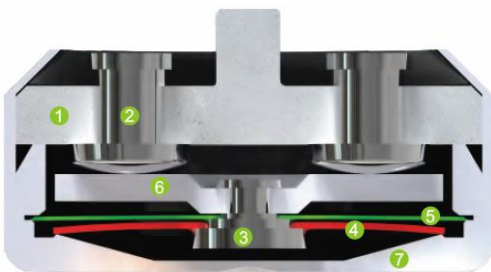


ST06 Series Thermal Protectors



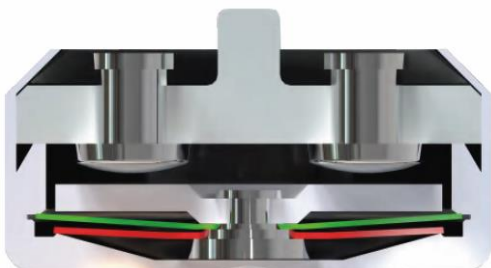
Main parts

- | | |
|------------------------------|-----------------------|
| 1) ceramic cover plate | 5) spring disc |
| 2) stationary silver contact | 6) movable contact |
| 3) shaft pin | 7) conductive housing |
| 4) bimetal disc | |



Construction

Stationary silver contact and ceramic covers are riveted together; The movable contact, bimetal disc and spring disc are riveted together by shaft pins. The movable contact is in close contact with the stationary silver contact under the pre-pressure of the spring disc; The current passes through the stationary silver contact and the movable contact to form a loop.



Function

When the circuit works normally, the movable contact and the stationary silver contact are in a closed state. When the rated operating temperature is reached, the bimetal disc is deformed by heat, and the spring disc is pushed downward through the riveting shaft pin, so that the movable and stationary silver contact are abruptly opened. After the circuit is disconnected, the ambient temperature begins to fall. When it reaches the defined reset temperature, the bimetal disc and the spring disc snaps back into its start position, the contacts will close again, and the circuit returns to the normal working state.

ST06-U1

NC | reset automatically | with connector cables | insulation: Mylar-Nomex



Nominal switching temp. (NST) in 5K	60°C...200°C
Tolerance (standard)	±5K
	≥35°C (≤ 95°C NST)
Reset temp. tolerance	-50K±15K (≥ 100°C ≤ 180°C NST)
	-65K±15K (≥ 185°C ≤ 200°C NST)
Thickness	6.8mm
Diameter	9.5mm
Length of the insulation cap	16.0mm
Resistance to impregnation	Suitable
Suitable for installation in protection class	I + II
Pressure resistance to the switch housing	600N
Standard connection	0.81 mm ² / AWG18
Recognized standards	UL/VDE/CQC

Operating voltage range AC/DC	up until 500 V AC / 28 V DC
Rated voltage AC	250 V (VDE) 277 V (UL)
Rated current AC cos φ = 1.0 /cycles	10 A / 10,000
Max. current AC cos φ = 1.0 /cycles	25 A / 100
Rated current AC cos φ = 0.6 /cycles	6.3 A / 10,000
Rated voltage DC	24.0 V
Max. switching current DC /cycles	40.0 A / 3,000
Insulation voltage	2.0kV
Total bounce time	< 1 ms
Contact resistance	≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz	100 m/s ²

ST06-U2

NC | reset automatically | with connector cables | without isolation cap



Nominal switching temp. (NST) in 5K	60°C...250°C
Tolerance (standard)	(60-200°C) ±5K
	(205-250°C) ±10K
	≥35°C (≤ 95°C NST)
Reset temp. tolerance	-50K±15K (≥ 100°C ≤ 180°C NST)
	-65K±15K (≥ 185°C ≤ 200°C NST)
	120°C±15K (>200°C NST)
Thickness	6.3mm
Diameter	9.0mm
Resistance to impregnation	Suitable
Suitable for installation in protection class	I
Pressure resistance to the switch housing	600N
Standard connection	0.81 mm ² / AWG18
Recognized standards	UL/VDE/CQC (200°C)

Operating voltage range AC/DC	up until 500 V AC / 28 V DC
Rated voltage AC	250 V (VDE) 277 V (UL)
Rated current AC cos φ = 1.0 /cycles	10 A / 10,000
Max. current AC cos φ = 1.0 /cycles	25 A / 100
Rated current AC cos φ = 0.6 /cycles	6.3 A / 10,000
Rated voltage DC	24.0 V
Max. switching current DC /cycles	40.0 A / 3,000
Insulation voltage	The housing is not isolated
Total bounce time	< 1 ms
Contact resistance	≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz	100 m/s ²

ST06-U4

NC | reset automatically | with connector cables | insulation: epoxy resin



Nominal switching temp. (NST) in 5K	60°C...150°C
Tolerance (standard)	±5K
	≥35°C (≤ 95°C NST)
Reset temp. tolerance	-50K±15K (≥ 100°C ≤ 150°C NST)
Thickness	7.3mm
Diameter	10.0mm
Length of the insulation cap	17.0mm
Resistance to impregnation	Suitable
Suitable for installation in protection class	I + II
Pressure resistance to the switch housing	600N
Standard connection	0.81 mm ² / AWG18
Recognized standards	UL/VDE/CQC

Operating voltage range AC/DC	up until 500 V AC / 28 V DC
Rated voltage AC	250 V (VDE) 277 V (UL)
Rated current AC cos φ = 1.0 /cycles	10 A / 10,000
Max. current AC cos φ = 1.0 /cycles	25 A / 100
Rated current AC cos φ = 0.6 /cycles	6.3 A / 10,000
Rated voltage DC	24.0 V
Max. switching current DC /cycles	40.0 A / 3,000
Insulation voltage	1.5kV
Total bounce time	< 1 ms
Contact resistance	≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz	100 m/s ²

STH6-U1

NC | reset automatically | with connector cables | insulation: Mylar-Nomex



Nominal switching temp. (NST) in 5K	60°C...200°C
Tolerance (standard)	(60...140°C) ±5K
	(145...200°C) ±10K
	≥35°C (≤ 130°C NST)
Reset temp. tolerance	-85K±15K (≥ 135°C ≤ 190°C NST)
	-90K±15K (≥ 195°C ≤ 200°C NST)
Thickness	6.8mm
Diameter	9.5mm
Length of the insulation cap	16.0mm
Resistance to impregnation	Suitable
Suitable for installation in protection class	I + II
Pressure resistance to the switch housing	600N
Standard connection	1.00 mm ² / AWG17
Recognized standards	UL/VDE/CQC

Operating voltage range AC/DC	up until 500 V AC / 28 V DC
Rated voltage AC	250 V (VDE) 277 V (UL)
Rated current AC cos φ = 1.0 /cycles	13.5 A / 10,000
Max. current AC cos φ = 1.0 /cycles	35 A / 2,000
Rated current AC cos φ = 0.6 /cycles	9 A / 10,000
Rated voltage DC	24.0 V
Max. switching current DC /cycles	60.0 A / 3,000
Insulation voltage	2.0kV
Total bounce time	< 1 ms
Contact resistance	≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz	100 m/s ²

ST06HT

NC | reset automatically | with connector cables | insulation: Teflon shrink cap



Nominal switching temp. (NST) in 5K	205...250°C
Tolerance (standard)	±10K
Reset temp.	120°C ± 20K
Thickness	6.8mm
Diameter	9.1mm
Length of the insulation cap	20.0mm
Resistance to impregnation	Suitable
Suitable for installation in protection class	I + II
Pressure resistance to the switch housing	600N
Standard connection	0.81 mm ² / AWG18
Recognized standards	UL/VDE/CQC

Operating voltage range AC/DC	up until 500 V AC / 14 V DC
Rated voltage AC	250 V (VDE) 277 V (UL)
Rated current AC cos φ = 1.0 /cycles	10 A / 1,000
Insulation voltage	2.0kV
Total bounce time	< 1 ms
Contact resistance	≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz	100 m/s ²

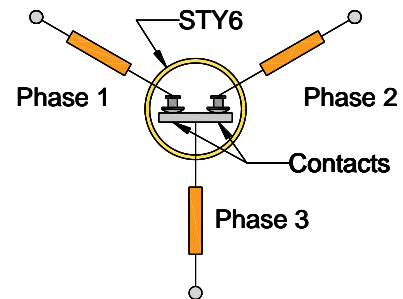
STY6-U1

NC | reset automatically | with connector cables | insulation: Mylar-Nomex | star point switching



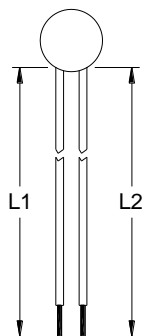
Nominal switching temp. (NST) in 5K	70°C...200°C
Tolerance (standard)	±5K
Reset temp. tolerance	≥35°C (≤ 95°C NST) -50K±15K (≥ 100°C ≤ 180°C NST) -65K±15K (≥ 185°C ≤ 200°C NST)
Thickness	6.6mm
Diameter	9.5mm
Length of the insulation cap	16.0mm
Resistance to impregnation	Suitable
Suitable for installation in protection class	I + II
Pressure resistance to the switch housing	600N
Standard connection	0.52 mm ² / AWG20
Recognized standards	UL
Insulation voltage	2.0kV
Total bounce time	< 1 ms
Contact resistance	≤ 50 mΩ
Vibration resistance at 10 ... 60 Hz	100 m/s ²

Operating voltage range AC/DC	up until 500 V AC
Rated voltage AC	3x 400V 50/60Hz
Rated current AC cos φ = 1.0 /cycles	2.5 A / 10,000
Max. current AC cos φ = 1.0 /cycles	6.3 A / 3,000



Order Code System

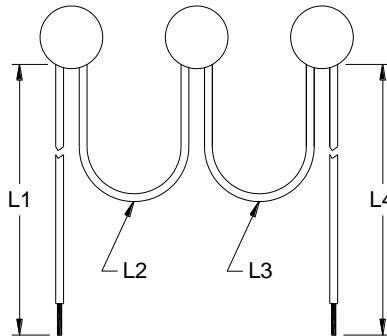
ST06 / STH6 Single



ST01 - A - U1.155.05.300-5/300-5

Type	
Function	
Design	
Nominal switching temp. (°C)	
Tolerance (K)	
Wire length (mm)	L1 L2

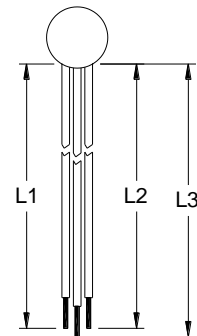
ST06 Triple



ST01 - A - U1.155.05.300-5/90/90/300-5

Type	
Function	
Design	
Nominal switching temp. (°C)	
Tolerance (K)	
Wire length (mm)	L1 L2 L3 L4

STY6



STY6 - A - U1.155.05.100-5/100-5/100-5

Type	
Function	
Design	
Nominal switching temp. (°C)	
Tolerance (K)	
Wire length (mm)	L1 L2 L3

Standard connection wires

Isolation material	Max. Temp.	Max. operating voltage	Size	UL-Style
XLPE	150°C	300V	AWG17 / 1.00mm ² (STH6)	3398
FEP	200°C	300V	AWG18 / 0.81mm ² (ST06)	1332
			AWG20 / 0.52mm ² (STY6)	
PFA	250°C	600V	AWG17 / 1.00mm ² (STH6)	10362
			AWG18 / 0.81mm ² (ST06HT)	

Other wires are available on request.

Available switching & reset temperatures

Switching °C	Reset °C
60 ± 5K	≥35
65 ± 5K	≥35
70 ± 5K	≥35
75 ± 5K	≥35
80 ± 5K	≥35
85 ± 5K	≥35
90 ± 5K	≥35
95 ± 5K	≥35
100 ± 5K	50 ± 15K
105 ± 5K	55 ± 15K
110 ± 5K	60 ± 15K
115 ± 5K	65 ± 15K
120 ± 5K	70 ± 15K
125 ± 5K	75 ± 15K
130 ± 5K	80 ± 15K
135 ± 5K	85 ± 15K
140 ± 5K	90 ± 15K
145 ± 5K	95 ± 15K
150 ± 5K	100 ± 15K
155 ± 5K	105 ± 15K

Switching °C	Reset °C
160 ± 5K	110 ± 15K
165 ± 5K	115 ± 15K
170 ± 5K	120 ± 15K
175 ± 5K	125 ± 15K
180 ± 5K	130 ± 15K
185 ± 5K	120 ± 15K
190 ± 5K	125 ± 15K
195 ± 5K	130 ± 15K
200 ± 5K	135 ± 15K
205 ± 10K	120 ± 15K
210 ± 10K	120 ± 15K
215 ± 10K	120 ± 15K
220 ± 10K	120 ± 15K
225 ± 10K	120 ± 15K
230 ± 10K	120 ± 15K
235 ± 10K	120 ± 15K
240 ± 10K	120 ± 15K
245 ± 10K	120 ± 15K
250 ± 10K	120 ± 15K

Available switching & reset temperatures → OLNY STH6 ←

Switching °C	Reset °C
70 ± 5K	≥35
75 ± 5K	≥35
80 ± 5K	≥35
85 ± 5K	≥35
90 ± 5K	≥35
95 ± 5K	≥35
100 ± 5K	≥35
105 ± 5K	≥35
110 ± 5K	≥35
115 ± 5K	≥35
120 ± 5K	≥35
125 ± 5K	≥35
130 ± 5K	≥35
135 ± 5K	50 ± 15K

Switching °C	Reset °C
140 ± 5K	55 ± 15K
145 ± 5K	60 ± 15K
150 ± 5K	65 ± 15K
155 ± 5K	70 ± 15K
160 ± 5K	70 ± 15K
165 ± 5K	80 ± 15K
170 ± 5K	85 ± 15K
175 ± 5K	90 ± 15K
180 ± 5K	95 ± 15K
185 ± 5K	100 ± 15K
190 ± 5K	105 ± 15K
195 ± 5K	105 ± 15K
200 ± 5K	110 ± 15K

Designs & Dimensions

