

Thermal Motor Protector ST07 Series



- Sensitive to temperature and current
- Gasketed steel case suitable for most impregnation processes
- Wide selection of leads & insulating sleeves
- Repeatable temperature performance over life

Applications

Over temperature & current protection in electrical appliances, as shaded pole motors, permanent split capacitor motors, fluorescent lighting ballasts, HID ballasts, transformers, recessed lighting fixtures, battery packs, vacuum cleaners, automotive accessory motors, solenoids, PC boards and much more.

Function

The operating principal of ST07 is both simple and effective. At the heart of the protector is a bimetal snap action disc. When the temperature of the disc reaches its rated temperature it snaps open, resulting in an open circuit. This temperature is reached during a fault condition, caused by either an increase in ambient temperature, an increase in current flowing through the disc, or a combination of both. After the ST07 breaks the circuit, the system cools and the ST07 automatically reset allowing power to be restored to the circuit.

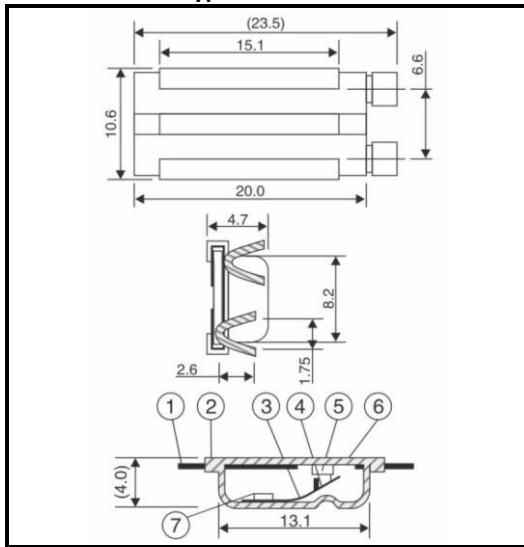
Technical Data

Function	Normally closed (NC)
Nominal switching temperature in 5K steps	50°C ... 180°C
Tolerance (Standard)	± 5K
Differential temperature	See table above
Curent @ AC 270V	10A
Curent @ AC 120V	22A
Curent @ DC 16V	20A
Insulation voltage	1,5 kV
Lead wire length (Standard)	65 ± 5mm
recognized standards	VDE EN 60730-2-2 (55°C ... 180°C) UL 2111 (65°C ... 165°C)

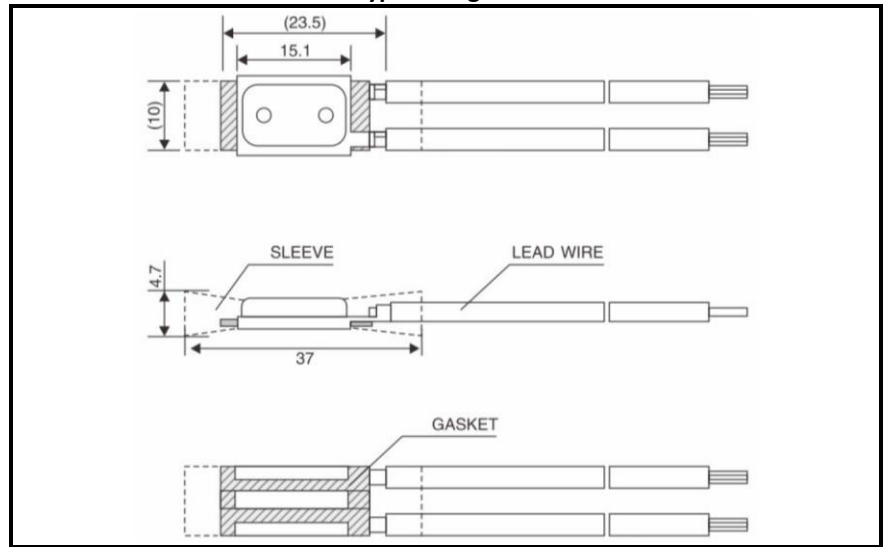
Delta T (°C)	Low Resistance Current (A)	High Resistance Current (A)
140	~20	~10
120	~18	~9
100	~15	~8
80	~12	~7
60	~10	~6
40	~8	~5
20	~6	~4
0	~5	~3

Available designs

A-Type construction

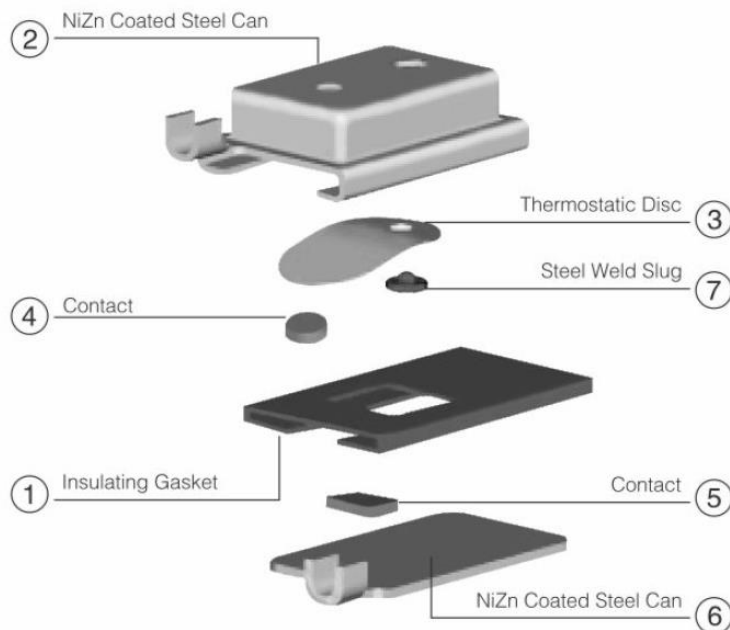


A-Type configuration



Numbering system

ST07		XXX		X		X		X	
Standard operating temperature		Terminal configuration		Temperature tolerance		Wire length		Custom wire length on request	
Operating temp.	Low resistance bimetal disc	Code	Terminal	Code	Tolerance	Code	L(mm)		
50°C	017	A	Same end	5	± 5K	65-6/65-6	L1:65, 6mm semi-strip		
55°C	018					L2:65, 6mm semi-strip			
60°C	019								
65°C	020								
70°C	021								
75°C	022								
80°C	023								
85°C	024								
90°C	025								
95°C	026								
100°C	027								
105°C	028								
110°C	029								
115°C	030								
120°C	031								
125°C	032								
130°C	033								
135°C	034								
140°C	035								
145°C	036								
150°C	037								
155°C	038								
160°C	039								
165°C	040								
170°C	041								
175°C	042								
180°C	043								



Changes and errors expected

Available switching & reset temperatures

Switching temperature	Reset temperature
50°C ± 5K	30-45°C
55°C ± 5K	30-45°C
60°C ± 5K	45 ± 15K
65°C ± 5K	50 ± 15K
70°C ± 5K	50 ± 15K
75°C ± 5K	55 ± 15K
80°C ± 5K	55 ± 15K
85°C ± 5K	60 ± 15K
90°C ± 5K	60 ± 15K
95°C ± 5K	65 ± 15K
100°C ± 5K	65 ± 15K
105°C ± 5K	70 ± 15K
110°C ± 5K	70°C ± 15K
115°C ± 5K	75°C ± 15K

Switching temperature	Reset temperature
120°C ± 5K	75°C ± 15K
125°C ± 5K	80°C ± 15K
130°C ± 5K	85°C ± 15K
135°C ± 5K	85°C ± 15K
140°C ± 5K	90°C ± 15K
145°C ± 5K	95°C ± 15K
150°C ± 5K	95°C ± 15K
155°C ± 5K	95°C ± 15K
160°C ± 5K	105°C ± 15K
165°C ± 5K	110°C ± 15K
170°C ± 5K	115°C ± 15K
175°C ± 5K	120°C ± 15K
180°C ± 5K	125°C ± 15K

Available stranded wire specifications

Insulation material	Temperature max.	Size	UL-Style
PVC (black)	105°C	AWG 18	1015
XLPE (black)	150°C	AWG 18	3321
Silicone (black)	200°C	AWG 18	3135