

# Thermal Protector



ADVANCE THERMO TECHNOLOGY CO., LTD.

Thermal Protector (S107) is used to prevent overheating.



# What is Thermal Protector (S107)?

## Specification:

- Electrical rating : 115 VAC / 22A and 227 VAC / 8A
- Rate Open Temperature rang : 65 – 160 °C, tolerance  $\pm 5$  °C or  $\pm 10$  °C Circuit Resistance (Initial Value) : 50 m  $\Omega$  or Less
- Insulation Resistance : 100 M  $\Omega$  or More (with 500 VDC) Dielectric Strength : 1,500 VAC/1 Minute or 1,800 VAC/1 sec. Switching cycles : 5,000 cycles ( At rated load )



Semi-Product  
Ingressive Protection : IP00



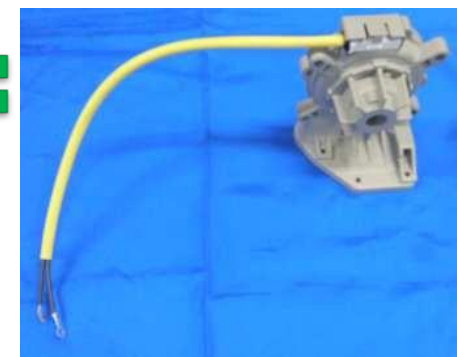
Thermal Protector  
Ingressive Protection: IP00



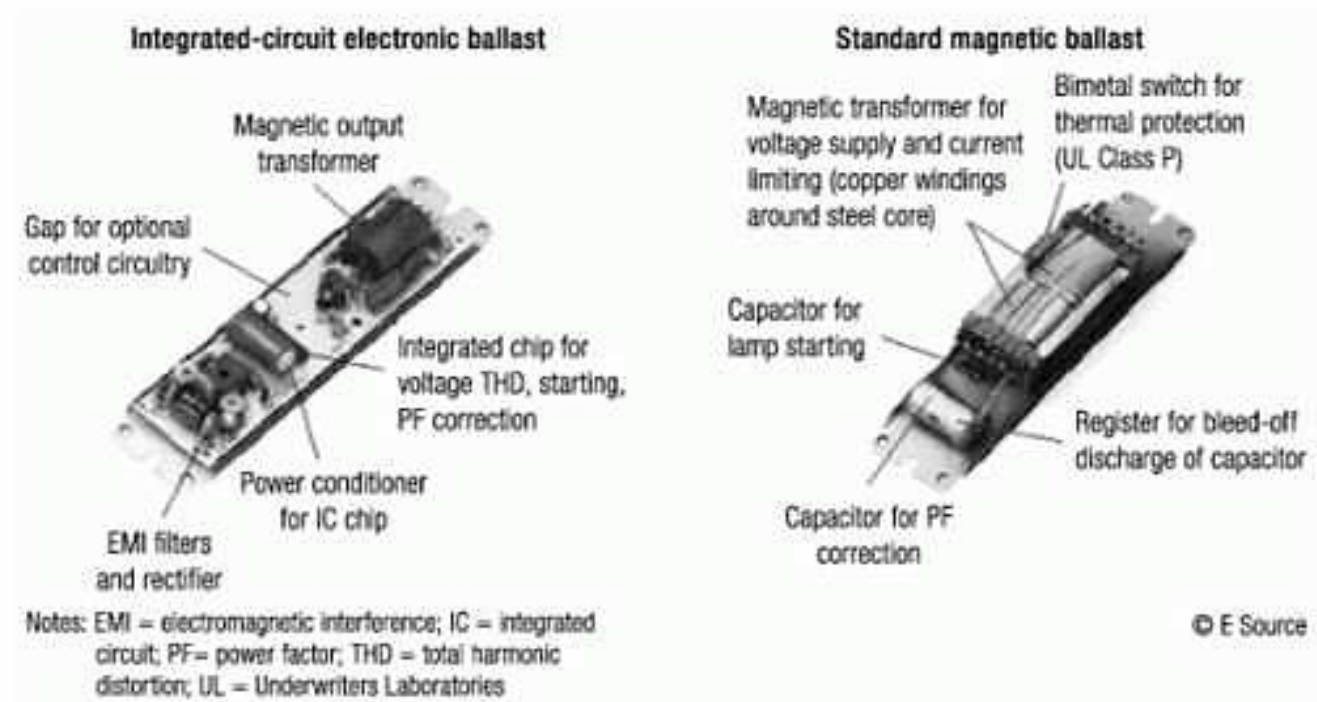
Thermal Protector  
(Water proof) Ingressive  
Protection : IP65

Application:

Water  
Pump



# Application: Fluorescent Ballast



# Application: Transformer





# Application: Coil Assembly



# Application: Industrial Motor

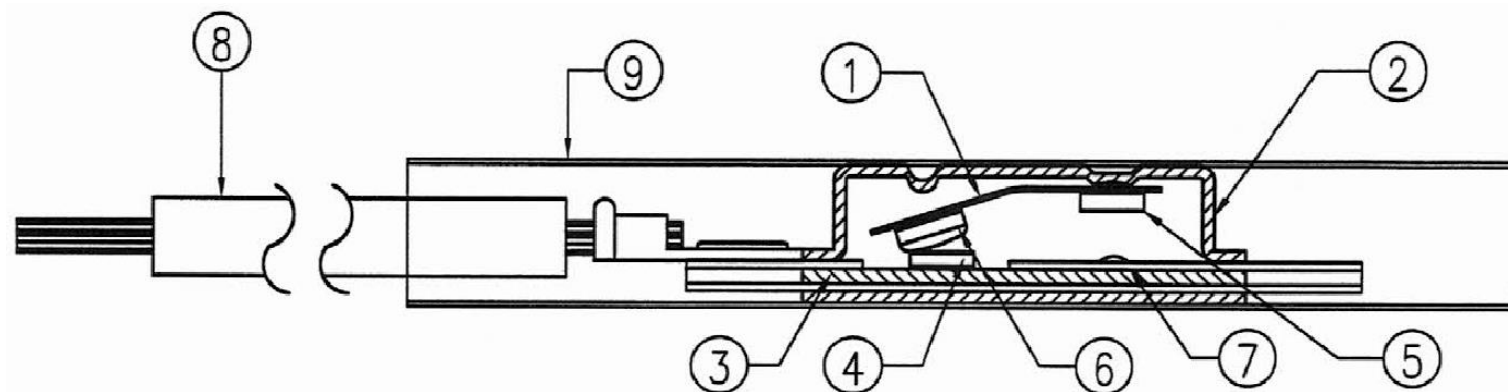


Single Phase



Three Phase





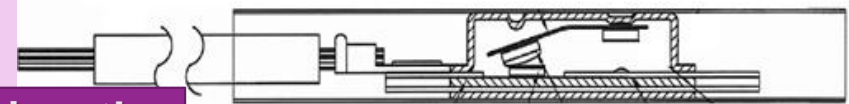
# Construction

Part Name	Material
1.Bimetal Disc	Custom calibrated to your opening temperature specification
2. Body	Nickel coated steel. Work together with the fixed plate, supporting the internal parts while serving as a conductor of the S107
3.Fixed Plate	Nickel coated steel.
4.Fixed Contact	AgNi Clad Cu with Fe base
5.Bimetal Supporter	SWCH-12A ELP-Ni Plating
6.Movable Contact	AgNi Clad Cu with Fe base
7.Gasket	PET Film impregnated with sealing epoxy
8.Electric Wire	Follow as customer requirement
9.Insulation Sleeve	PET Film

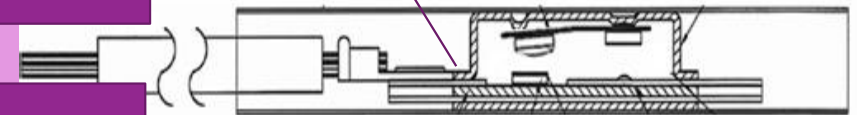


# How does the S107 protect against overheating?

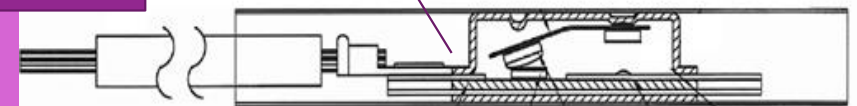
Current flows through your lead connection into the body crimp terminal, through the body, bimetal disc and contact.



As the temperature rise, the heat is transferred to the bimetal disc. The disc then snap open, resulting in an open circuit, thus breaking the current path

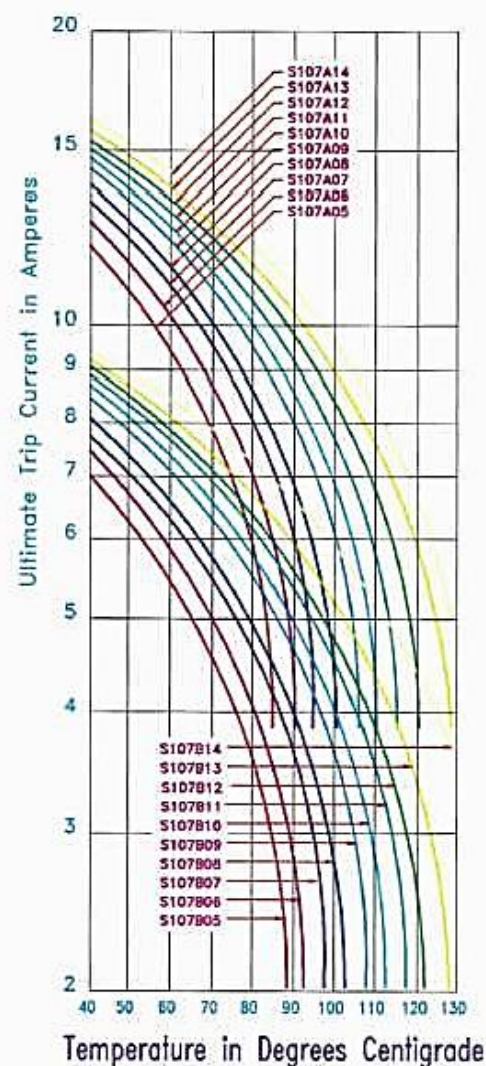


After the S107 breaks the circuit, the system cools and the S107 automatically resets allowing power to be restored in the circuit.

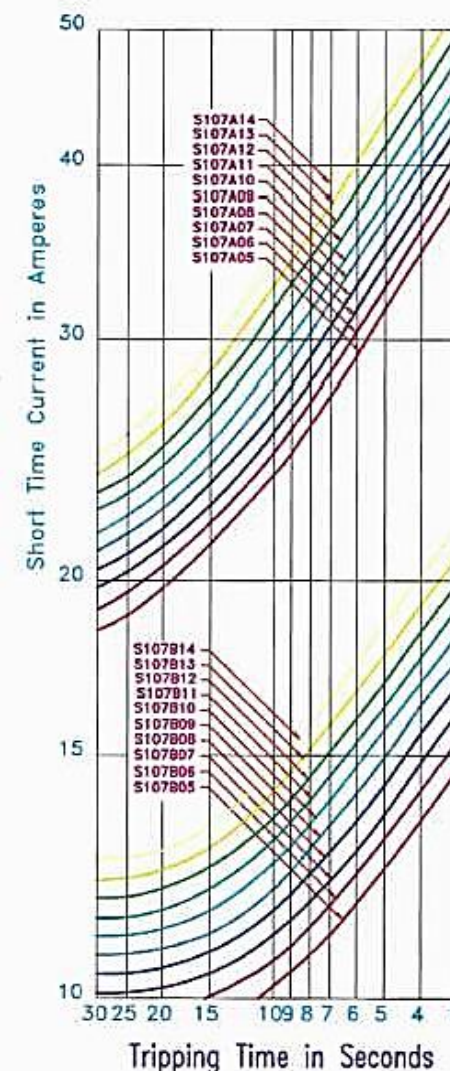


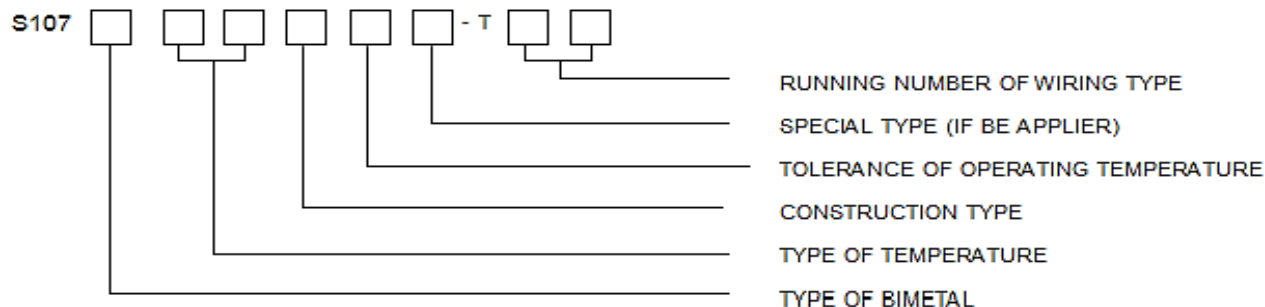
# Ultimate Trip Current and Avg. First Cycle Tripping Time

Ultimate Trip Current with  
Protector Ambient Temperature



Average First Cycle Tripping Time  
with Current in 25°C Ambient





#### RUNNING NUMBER OF WIRING TYPE

- 01 : UL3271 (CSA CL1251) 18AWG STANDARD COPPER WIRE) OR EQUIVALENT
- xx : ANOTHER TYPES FOLLOW AS CUSTOMER REQUIREMENT

#### TOLERANCE OPERATING TEMPERATURE

- 5 :  $\pm 5^{\circ}\text{C}$
- 1 :  $\pm 10^{\circ}\text{C}$

#### CONSTRUCTION TYPE

- F : SAME DIRECTION TERMINAL (AgNi Contact)
- G : OPPOSITE DIRECTION TERMINAL (AgNi Contact)
- H : SAME DIRECTION TERMINAL AND NO SLEEVE (AgNi Contact)
- I : OPPOSITE DIRECTION TERMINAL AND SLEEVE (AgNi Contact)
- E : SHORTNESS SLEEVE

#### TYPE OF TEMPERATURE

- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| 00 : $65\pm 5$ off / $43\pm 15$ on  | 11 : $120\pm 5$ off / $76\pm 15$ on  |
| 01 : $70\pm 5$ off / $51\pm 15$ on  | 12 : $125\pm 5$ off / $79\pm 15$ on  |
| 02 : $75\pm 5$ off / $53\pm 15$ on  | 13 : $130\pm 5$ off / $83\pm 15$ on  |
| 03 : $80\pm 5$ off / $55\pm 15$ on  | 14 : $135\pm 5$ off / $86\pm 15$ on  |
| 04 : $85\pm 5$ off / $57\pm 15$ on  | 15 : $140\pm 5$ off / $90\pm 15$ on  |
| 05 : $90\pm 5$ off / $59\pm 15$ on  | 16 : $145\pm 5$ off / $94\pm 15$ on  |
| 06 : $95\pm 5$ off / $62\pm 15$ on  | 17 : $150\pm 5$ off / $96\pm 15$ on  |
| 07 : $100\pm 5$ off / $64\pm 15$ on | 18 : $155\pm 5$ off / $101\pm 15$ on |
| 08 : $105\pm 5$ off / $67\pm 15$ on | 19 : $160\pm 5$ off / $105\pm 15$ on |
| 09 : $110\pm 5$ off / $70\pm 15$ on |                                      |
| 10 : $115\pm 5$ off / $73\pm 15$ on |                                      |

#### TYPE OF BIMETAL

- A : LOW RESISTANCE
- B : HIGH RESISTANCE

### Example

S107A17F5-T01



S107A15F5-TXX



S107A01F5-TXX