Sensata Technologies

TH11 and TH21

Self-hold Thermal Cut-Outs

KEY BENEFITS

Flexible mounting:

3 terminal configurations available

Robust design:

The bimetal disc is protected by the metal support

Full automated live:

Provides stable setting values

Low price:

The particular design provides high competitivity

KLIXON®

Sensata Technologies has developed the electrical self-hold temperature cut-out in order to offer a non-self resetting device, suitable for high current applications, thus fulfilling the growing need for higher safety.

Design and operating principles

The TH11 and TH21 consists of two nickel-plated supports, held together with ceramic pins. One support holds the high-performance Klixon® bimetal disc, which, in combination with the sophisticated contact system, guarantees the superior cycling performance. One ceramic pin has a layer of resistive material, functioning as a small heater when a voltage is supplied. A wide temperature range, standard 5K tolerance, different bimetal resistivity and various optional terminal configurations make the TH11 and TH21 suitable for a wide range of applications. Whereas the TH11 operates at 230 Vac. The TH21 is designed for 120 Vac applications. Because of their identical dimensions, the TH11 and TH21 can be easily exchanged with the auto reset thermal protector TH10.

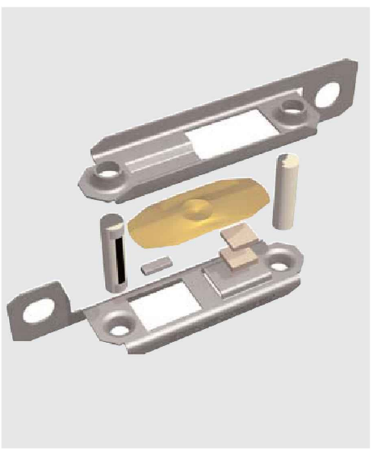
The operating principle of the TH-series is both simple and effective. A current flows through the resistive Klixon® bimetal disc. When a fault condition occurs, the increased ambient temperature causes the bimetal disc to snap open the contacts. The resistive layer spots the voltage over the open contacts and a current flows through the resistor, generating sufficient heat to keep the bimetal warm and the contacts open. When the power is switched off, the device cools down to a safe temperature and the contacts will close.

Applications

The TH11 and TH21 are temperature resistive cut-outs for such applications as:

- Fan heaters
- Convector heaters
- Hair dryers

and various other applications which require a non-self resetting protector like transformers, cable reels etc.



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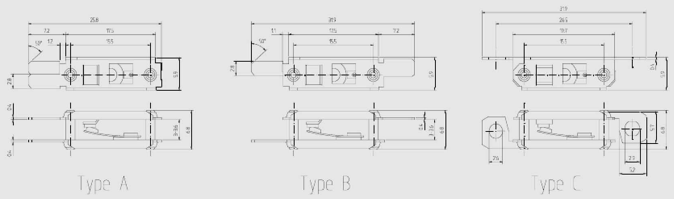

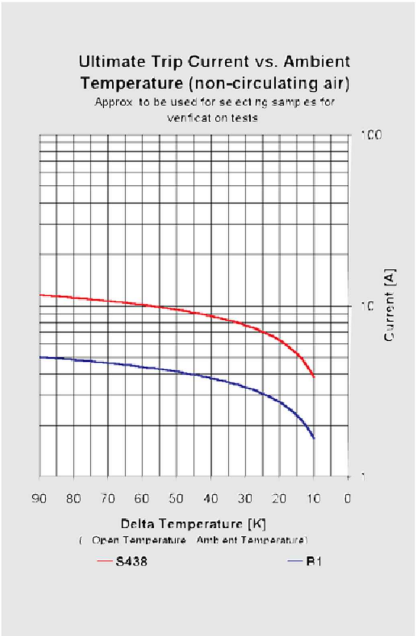

Coding System

TH 11 C A 101

Function	
11	220V selfhold
21	110V selfhold

Terminal Configuration	
Code	Terminals
A	Terminals on same end
B	Terminals on opposite end
C	Terminals on opposite end (with holes)

Disc and contact support material	
Code	Material
A	Steel

Standard opening temperature		
Operating Temp.	Low resistivity bimetal disc (F30)	High resistivity bimetal disc (B1)
60°C	031	035
65°C	041	045
70°C	051	055
75°C	061	065
80°C	071	075
85°C	081	085
90°C	091	095
95°C	101	105
100°C	111	115
105°C	121	125
110°C	131	135
115°C	141	145
120°C	151	155
125°C	161	165
130°C	171	175
135°C	181	
140°C	191	
145°C	201	
150°C	211	

Specifications

Standard operating temperature range	from 60°C - 150°C TH11 from 60°C - 130°C TH21
Max. Ambient temperature	200°C
Tolerance on open temperature	± 5K
Selfhold function in still-air	> -20°C TH11 > -35°C TH21

Declarations TH11

Declarations to EN60730-2-9	
Purpose of the control	Voltage maintained Thermal Cut-Out
Construction	Incorporated, non-electronic
Degree of protection	IP00
Terminals for ext. conductors	For internal conductors only
Method of (dis) connection of terminals	Riveting, soldering, spotwelding, spring loaded contacting
Temperature limits of the switchhead	200°C
PTI of insulation materials	PTI 250
Method of mounting	By various means in conjunction with (holes in) terminals such that adequate creepage and clearance distances are maintained between live parts and accessible metal parts
Operating time	For continuous operation
Type of action	Type 2B
Reset characteristic	Voltage maintained off-position thru heat from the heaterfilm on one ceramic pin. Device resets by interrupting the power supply
Extent of sensing element	Whole control
Control pollution degree	Degree 2

Certifications:
Agency: ENEC
Filenumber: 2014531.14
Rating: 16(2)A 250 Vac @ 1.000 cycles
Standard: EN60730-2-9, EN60730-2-2, EN60730-1

Agency: UL
Filenumber: E54813

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