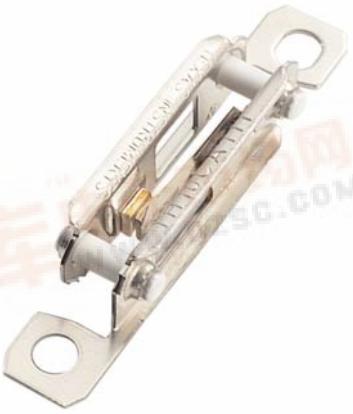
Product Bulletin

TH10
Thermal Cut-out



Texas Instruments has developed the TH10 temperature cut-out to respond to the need of increasing power of heating and personal care appliances. As a result of this, Texas Instruments has further established its leading position in the worldwide thermal protection market.

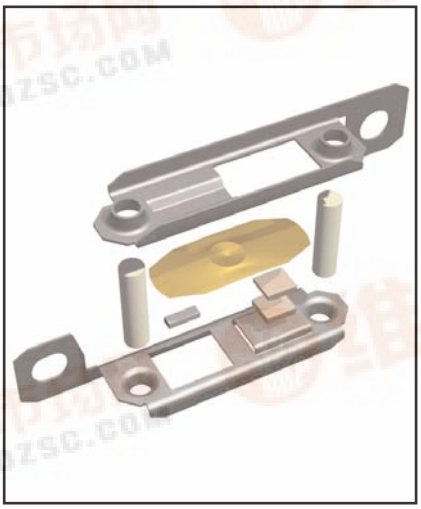
Design and operating principles
The TH10 consists of two nickel-plated supports, held together with ceramic pins. One support holds the high performance Klixon™ bimetal disc, which, in combination with the sophisticated contact system, provides superior cycling performance. For self-hold versions see TH11/21, they have an identical construction but resistive material on one ceramic pin. A wide temperature range, standard 5K tolerance, different bimetal resistivity, plus optional terminal configurations make the TH10 suitable for a very wide range of applications.

The operating principle of the TH10 is 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. As the device cools down to a safe temperature again, the contacts will automatically reset.

Applications
The TH10 operates as a sensitive power cut-out for:

- Hair dryers
- Fan heaters
- Convector heaters
- Transformers
- Hand dryers

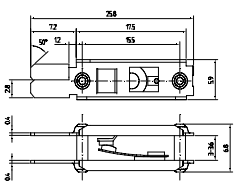
and various other applications. With the TH10 Texas Instruments provides you with cost-effective protection while offering superior quality and reliability.



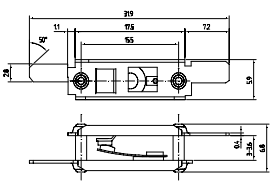
Key Benefits

- Flexible mounting:
  Three 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

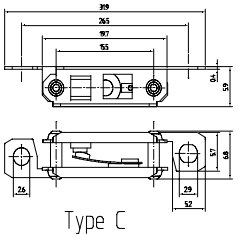
Dimensions (mm)



Type A



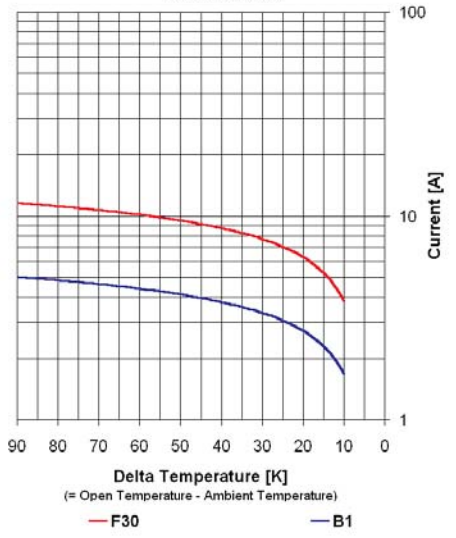
Type B



Type C

Ultimate Trip Current vs. Ambient Temperature (non-circulating air)

Approx. to be used for selecting samples for verification tests.



Coding System

TH 10 C A 101

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	Nickel plated 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	185
140°C	191	195
145°C	201	205
150°C	211	215

Specifications

Standard operating temperature range	from 45°C - 170°C
Max. Ambient temperature	200°C
Tolerance on open temperature	± 5K

Declarations

Declarations to EN60730-2-9	
Purpose of the control	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
Details for int. conductors	Insulation of conductors used by OEM's must be able to withstand the operating temperatures in normal use
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 2C
Reset characteristic	Automatic
Extent of sensing element	Whole control
Control pollution degree	Normal

Certifications

Agency	File number	Rating A-res (A-ind. @ PF=0.6)V / cycles	Standard
ENEC	2014531.14	13(2)A250 Vac @ 10.000 cycles TH10 type A and B @ 30.000 cycles TH10 type C and Z	EN60730-2-9
UL	E 54813	13(2)A250 Vac @ 30.000 cycles 18(0)A125 Vac @ 30.000 cycles	UL 873 Type TH10CA only
CSA	LR31809	13(2)A250 Vac @ 10.000 cycles	CSA std C22.2 # 24-1987

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