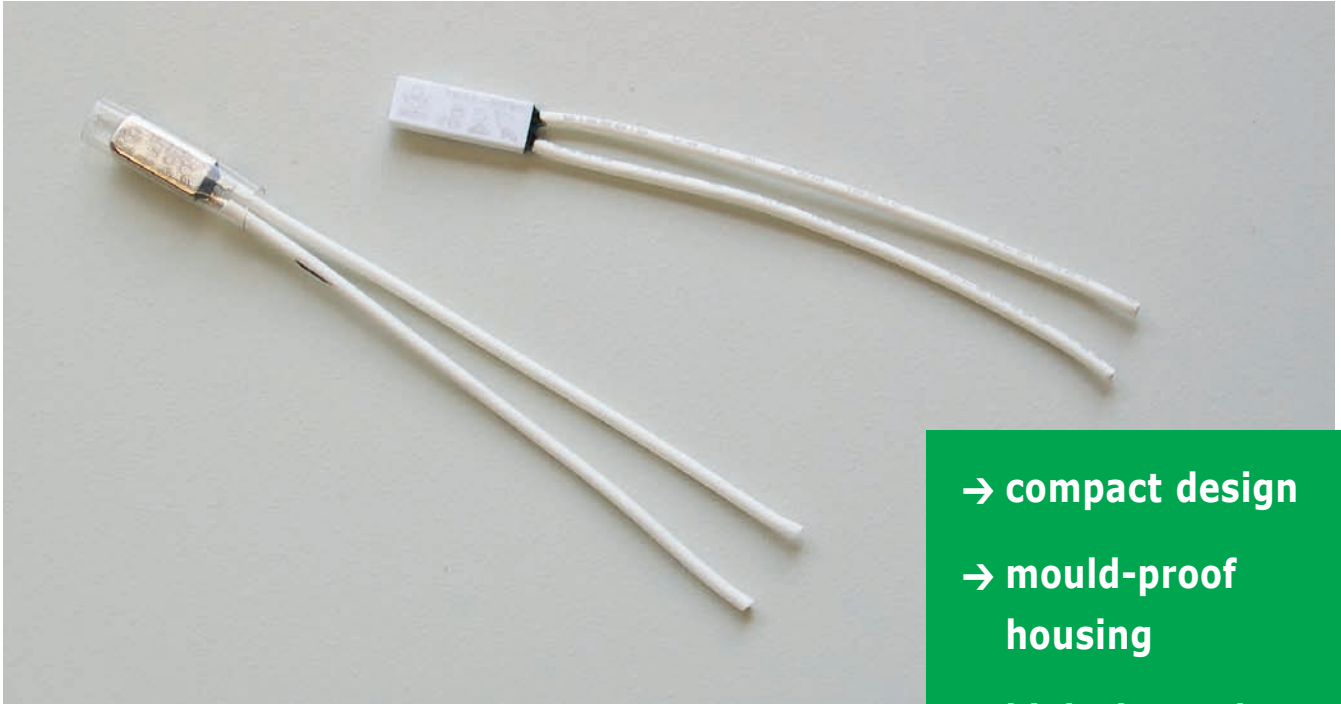


Thermal Protector TB 02



- compact design
- mould-proof housing
- high thermal sensitivity
- high mechanical stability (especially metal housing)

Applications

Thermal overload protection of small electrical equipment, small electric motors, heating appliances, fluorescent lighting ballasts and others.

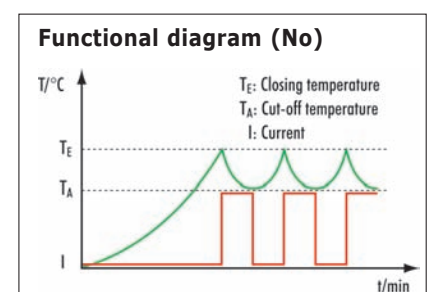
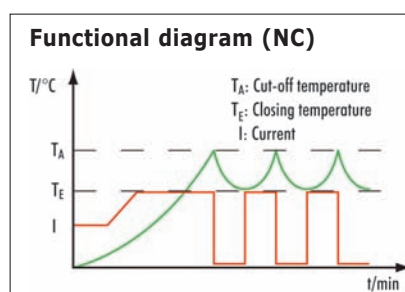
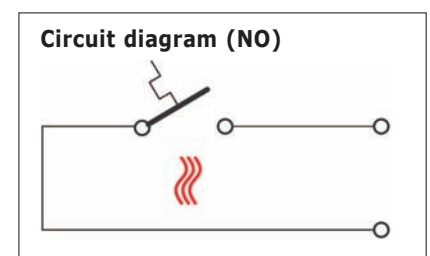
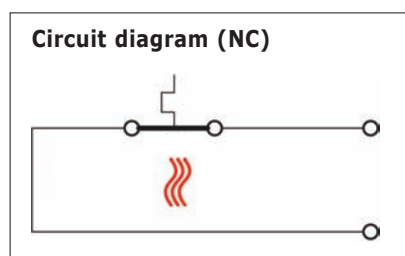
After cooling down to the snap-back temperature of the bimetal disk, the protector returns to its initial position automatically.

Function

The thermal protector TB 02 normally operates not current sensitive. Temperature detection is realized by a bimetal snap disk.

Using high-impedance bimetal material, the response time of the protector can be reduced (moderate current sensitivity).

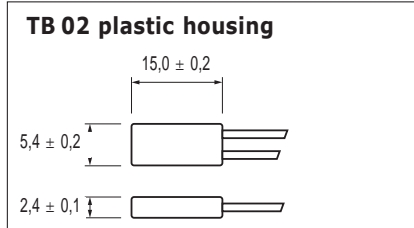
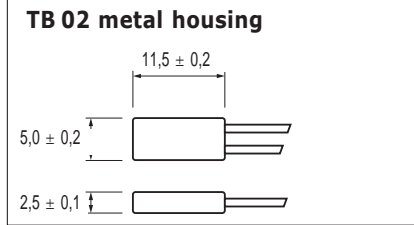
The thermal protector is available with normally closed (NC) as well as normally opened (NO) contacts.



Technical Data Thermal Protector TB 02

Switching Capacity	250 V / 50 Hz, 2 A
Minimum Current	50 mA
Max. Switching Capacity	250 VAC, 2 A
10.000 Cycles	115 VAC, 3 A 24 VDC, 3 A 12 VDC, 4 A
Action Type	3 C
Switching Temperature	50°C – 155°C (±5K)
Switching Differential	10 – 50 k (±15K) depending on Switching Temperature
Max. Ambient Temperature	160°C
Approvals	UL/CSA 2111; VDE 60730-2-2; CQC; TÜV 60730-2-9+2-3

Dimensions TB 02



Technical Informations

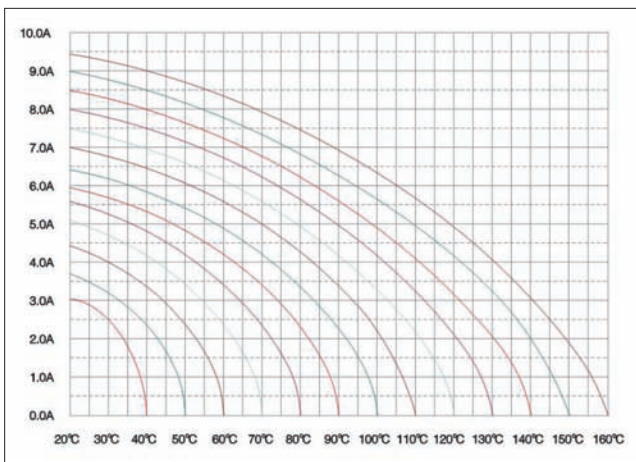
The thermal protector TB 02 is enclosed by a mould-proof housing which is available as metal or plastic type.

Electrical insulation of the metal housing is possible by means of insulation tubes. Its rectangular homogeneous design provides efficient and fast temperature transfer.

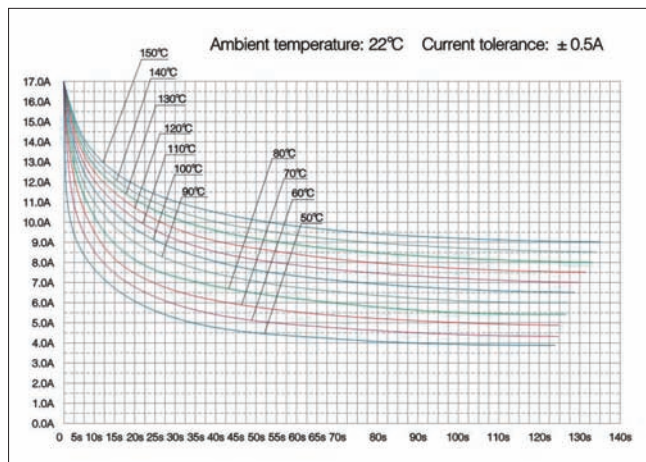
Standard leads are 70 mm (22/24 AWG).

Other leads (diameter, stripped etc.) are available on request.

Tripping Temperature vs. Current



Current vs. Tripping Time



Coding system

TB 02 - BB 8 D - 105

- operating temperature (example: 105°C ±5K)
- bimetal: **D** low resistance value
- type case: **1** metal case, **8** plastic case
- function: **BB** normally closed type (NC)
KA normally open type (NO)
- item: **2 Amp.**

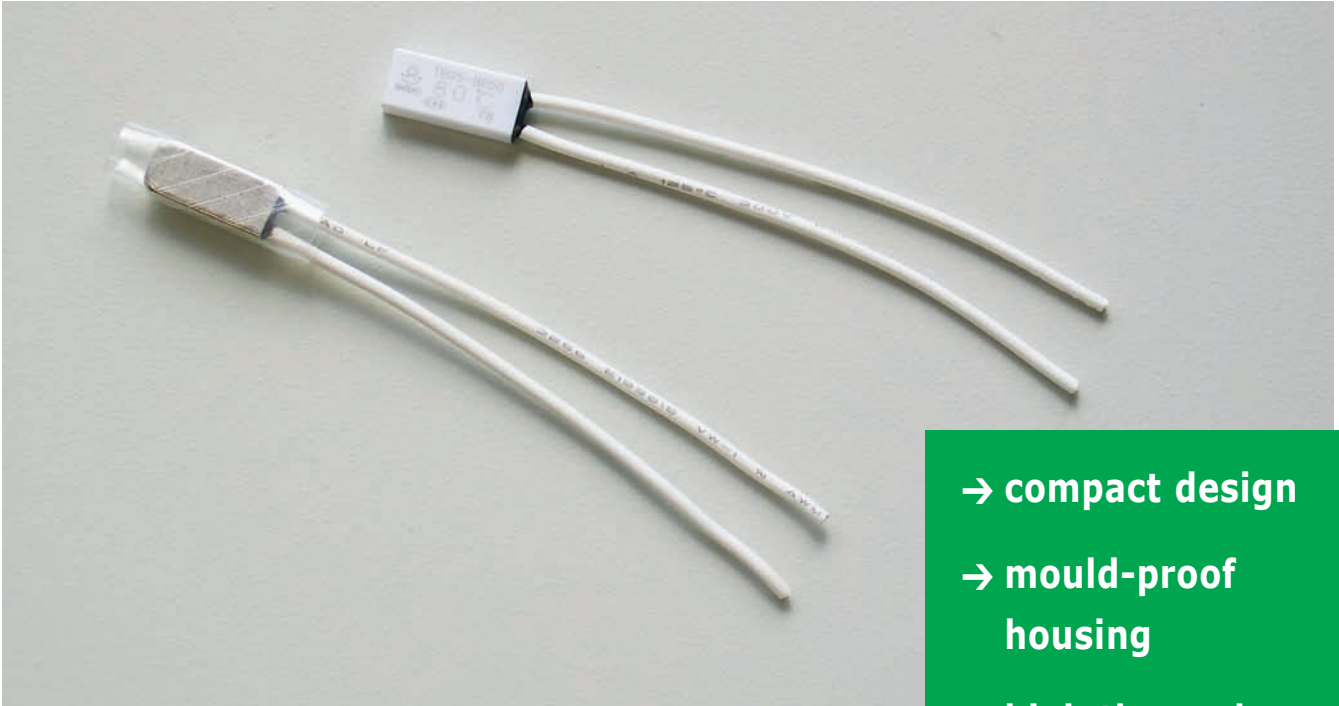


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manufactured: 08.05.2017 subject to change

Thermal Protector TB 05



- compact design
- mould-proof housing
- high thermal sensitivity
- high mechanical stability (especially metal housing)

Applications

Thermal overload protection of small electrical equipment, small electric motors, heating appliances, fluorescent lighting ballasts and others.

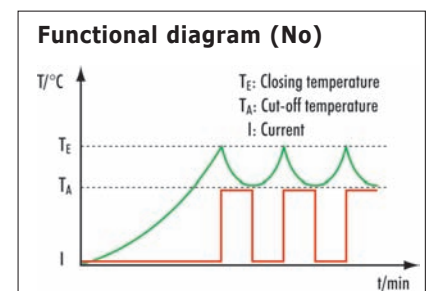
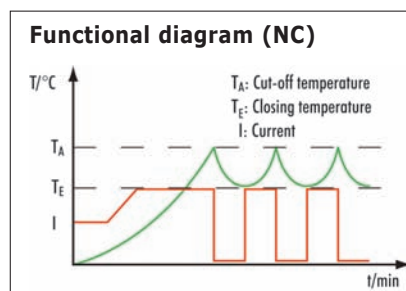
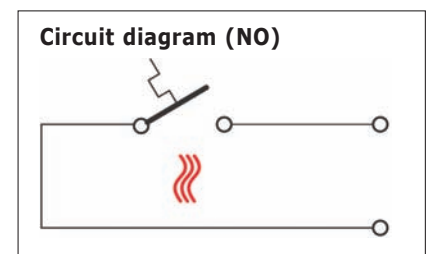
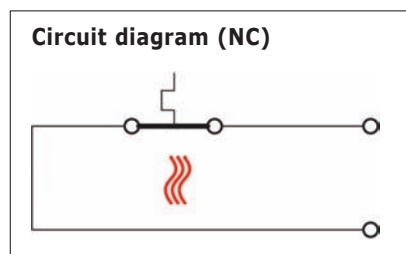
After cooling down to the snap-back temperature of the bimetal disk, the protector returns to its initial position automatically.

Function

The thermal protector TB 05 normally operates not current sensitive. Temperature detection is realized by a bimetal snap disk.

Using high-impedance bimetal material, the response time of the protector can be reduced (moderate current sensitivity).

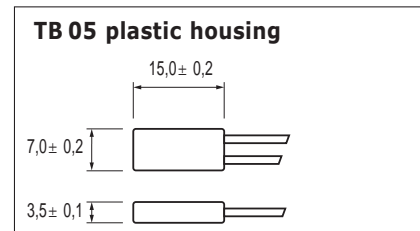
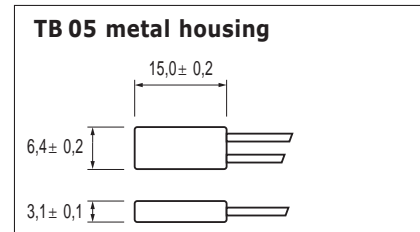
The thermal protector is available with normally closed (NC) as well as normally opened (NO) contacts.



Technical Data Thermal Protector TB 05

Switching Capacity	250 V / 50 Hz, 5 A
Minimum Current	50 mA
Max. Switching Capacity	250 VAC, 5 A
10.000 Cycles	24 VDC, 10 A
Action Type	3 C
Switching Temperature	50°C – 155°C (±5K)
Switching Differential	10 – 50 k (±15K) depending on Switching Temperature
Max. Ambient Temperature	160°C
Approvals	UL; VDE 60730-2-3; CQC

Dimensions TB 05



Technical Informations

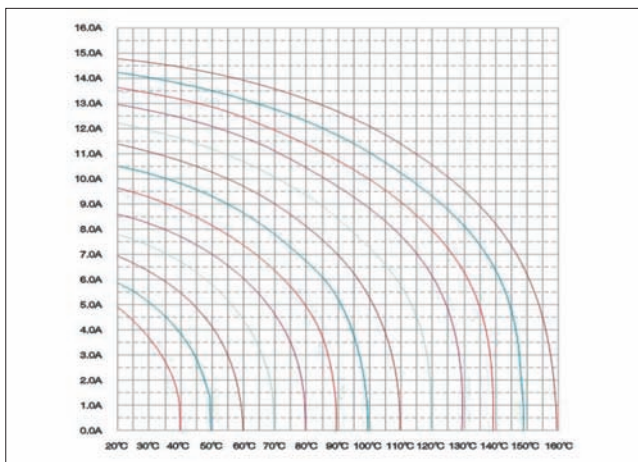
The thermal protector TB 05 is enclosed by a mould-proof housing which is available as metal or plastic type.

Electrical insulation of the metal housing is possible by means of insulation tubes. Its rectangular homogeneous design provides efficient and fast temperature transfer.

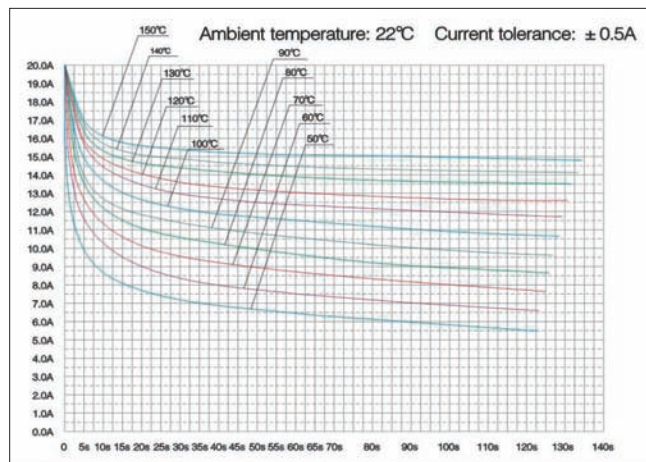
Standard leads are 70 mm (20/22 AWG).

Other leads (diameter, stripped etc.) are available on request.

Tripping Temperature vs. Current



Current vs. Tripping Time



Coding system

TB 05 - BB 5 D - 105

- operating temperature (example: 105°C ±5K)
- bimetal: **D** low resistance value
- type case: **1** metal case, **5** plastic case
- function: **BB** normally closed type (NC)
KA normally open type (NO)
- item: **5 Amp.**

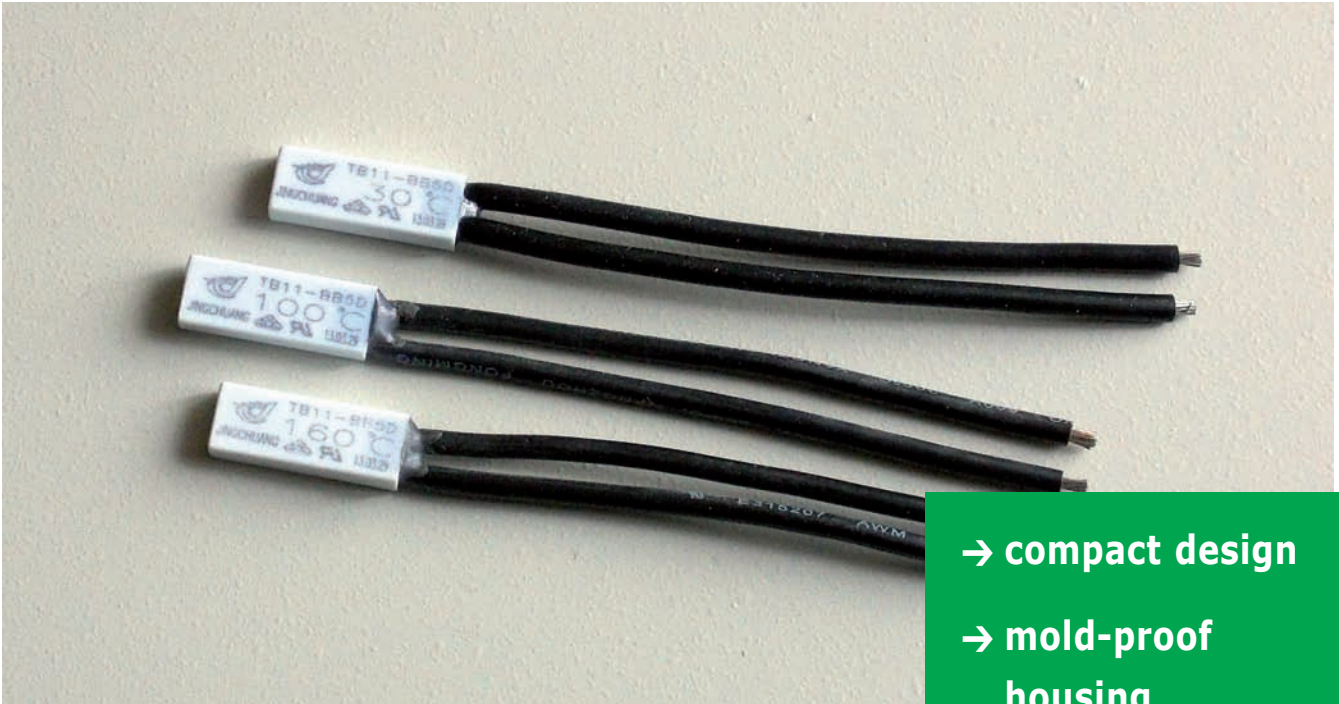


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Thermal Protector TB11



- compact design
- mold-proof housing
- high thermal sensitivity
- time delayed reset function (optionally)

Applications

Thermal overload protection of small electric equipments, small electric motors, heating appliances, fluorescent lighting ballasts, battery packs and others.

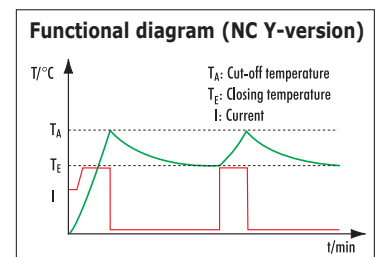
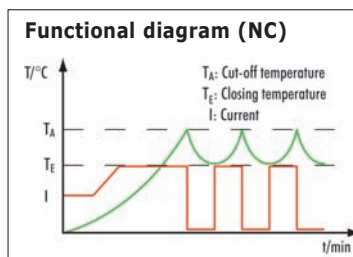
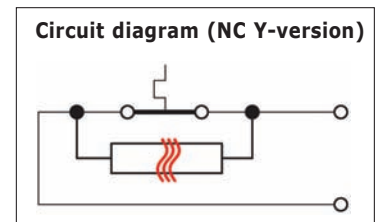
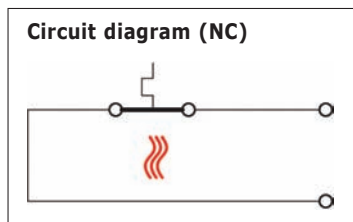
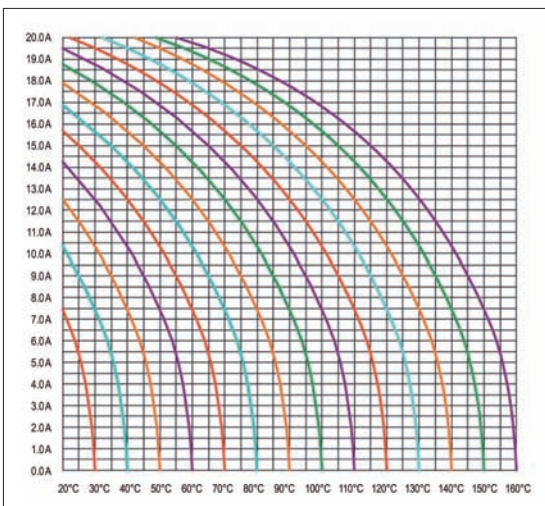
Function

The thermal protector TB11 normally operates not current

sensitive. Temperature detection is realized by bimetal snap disc.

The thermal protector is available with normal closed (NC) as well as normally opened (NO) contacts with automatically reset function. Optionally the unit can be modified by adding PTC to realize time delayed reset function (Y-type).

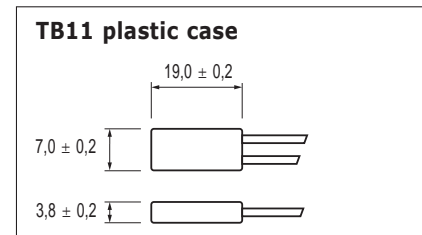
Tripping temperature vs current



Technical Data Thermal Protector TB11

Switching capacity	250 V / 50 Hz, 11 A
Minimum current value	50 mA
Max. switching capacity	250 VAC, 11 A
10.000 cycles	12 VDC, 17 A
Action type	3 C
Switching temperature	55°C – 160°C (±5K)
Switching differential	10 – 45 k (±15K) depending on switching temperature
Max. ambient temperature	180°C
Approvals	UL 60730-1; 2-9 VDE pending

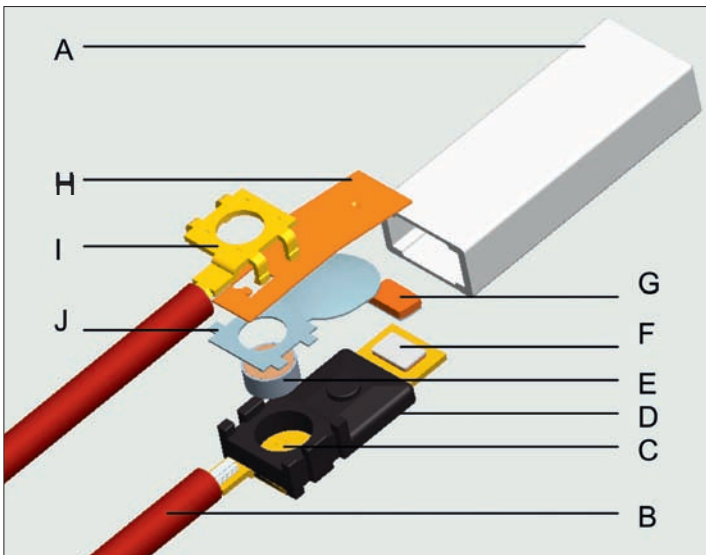
Dimensions TB11



Lead wire specification

AWG 18, UL 3358, UL 3135, UL 1332
Standard lead length: 70 mm, clear cut

Exploded view TB11



- A: plastic case
- B: lead wire
- C: lower terminal
- D: lower block
- (E: PTC)
- F: stationary contact
- G: moveable contact
- H: moveable arm
- I: upper plate
- J: bimetal disc

Coding System

TB11 - BB 5 D - 105

- operating temperature (example 105°C ±5K)
- bimetal: **D** low resistance
- type case: **5** plastic case
- function: **BB** normally closed type (NC)
KA normally open type (NO)
BY normally closed type (NC) with time delay reset function
- item: **11** Amp.