

CIRCUIT BREAKERS FOR EQUIPMENT

Serie T11



**Our codes: ET...
(from 1A up to 16A)**

Product description

The T11 series of circuit breakers for equipment is a line of small, single pole push to reset, overload protective devices. The trip mechanism is of the superior «latch type». A high contact force can be maintained until the unit trips. This prevents electrical «noise» due to contact bounce and reduces the risk of contact welding which may occur with spring type mechanism.

The overload sensing is done with the aid of a thermal bimetal which has the advantage of being immune to high inrush currents and line transients. All T11-units are «positively trip-free». The contacts will open and will remain open during an overload. Contacts cannot be held in the closed position and they will not close automatically even if the closing command is maintained.

The T11 is specifically designed to protect equipment, wiring, transformers, power supplies, motors and sub-assemblies, such as printed circuit boards. For non-PCB mounting the T11 is connected to wiring with the popular quick connect terminals. Rated currents can be specified from 0,05 A to 16 A. All models are internationally approved.

The Swiss precision design is simple with few moving parts. This results in an extremely reliable CBE with high resistance against shock and vibration.

Available options

- Threaded neck type
- Snap-in type
- Drop-in type with soldering pins for PCB mounting
- Shunt terminal
- Additional position indication of the reset button by white ring

Special features

- Wide rated current range
- Variety of mounting styles
- Compact and reliable design
- Immunity to inrush currents and line transients
- Positively trip-free
- UL, CSA, VDE

Applications

- Electric power tools
- Electric household appliances
- Power supplies
- Battery chargers
- Sport machines
- Transformers

Effect of ambient temperature

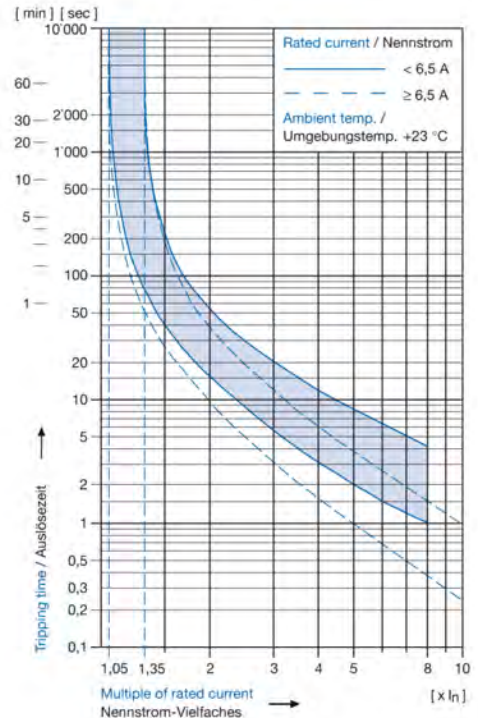
The unit is calibrated for an ambient temperature of +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor from the table below:

Ambient temperature [°C]	Correction factor
-5	0,87
0	0,90
+10	0,95
+23	1,00
+30	1,04
+40	1,10
+50	1,15
+60	1,20

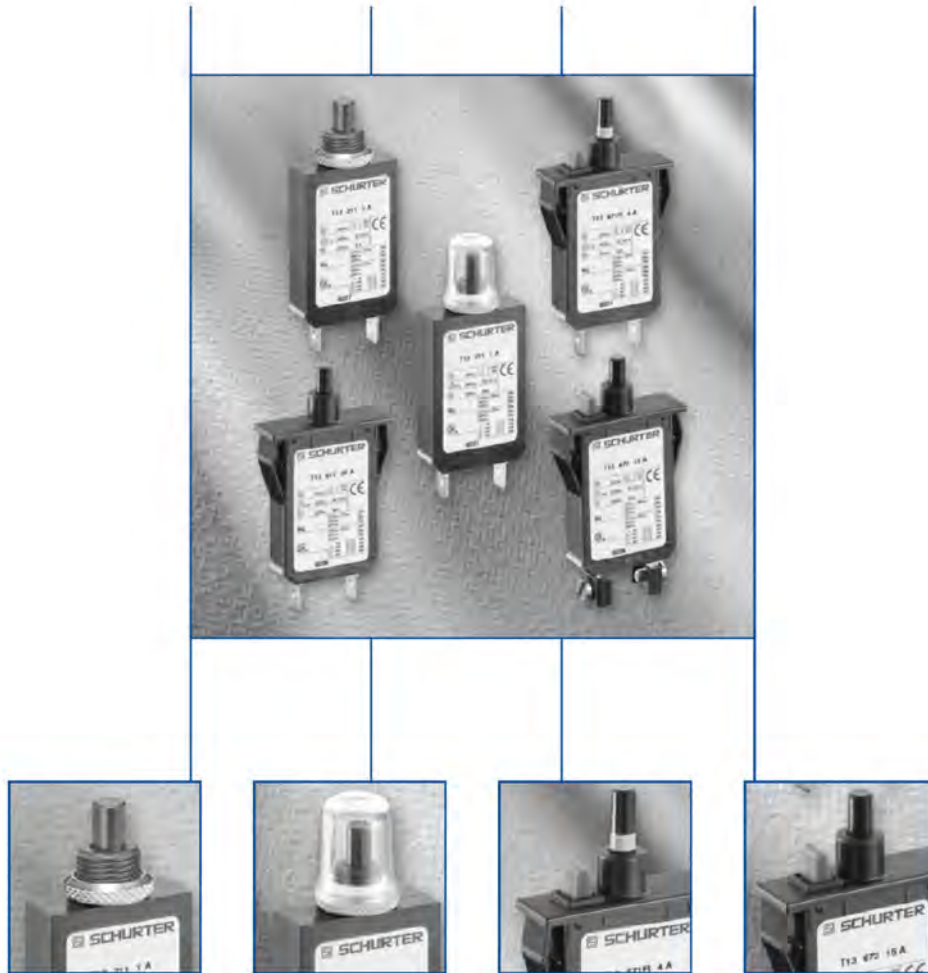
Example

Rated current at +23°C 5,0 A
 Ambient temperature +40°C
 Correction factor 1,1
 Chosen rated current at
 +40°C ambient temperature
5,0 A x 1,1 = 5,5 A

Tripping characteristics



Technical data		
Rated voltage U _e	See approvals, page 20	AC 120; 240 V DC 24; 32; 48 V
Rated current I _n	See approvals, page 20	AC/DC 0,05 – 16 A
Conditional short circuit current I _{nc}	EN 60934 PC1, AC 240 V	2000 A
Short circuit capacity I _{CN}	AC 240 V with I _n < 6,5 A AC 240 V with I _n ≥ 6,5 A	8 x I _n 96 A
Class of protection	<ul style="list-style-type: none"> Between live parts and accessible parts Other parts 	II I
Degree of protection	Accessible range Termination range	IP40 IP00
Dielectric strength	Accessible range	Test voltage AC 4000 V



ET 17A - ET 18A - ET 20A - ET 22A ET 25A - ET 28A - ET 30A

Product description

The T13 series of circuit breakers for equipment (CBE) consists of single-pole, thermally operated devices intended to provide protection against damage due to overcurrent conditions.

The T13 was specially designed for use in markets where the back-up breakers in the building installation may not rip instantaneously below currents of 400 A. This applies, for instance, for North America. To provide a protection ensuring fitness for further use after interrupting a short circuit in conjunction with the available back-up device, a CBE with a breaking capacity of at least 400 A is required.

The T13 not only has such a high breaking capacity, but offers also a wide rated current range, excellent conditional short circuit capacity and double-insulation for parts accessible in normal use.

Typical applications are the protection of single phase motors, internal wiring, power supplies, rectifiers and transformers.

Available options

- Threaded neck type
- Snap-in type
- For resetting only or resetting plus manual trip with separate trip lever
- Terminals: Quick connect- or screw clamp terminals
- Setting indication on the reset button indicates the position of the contacts

Special features

- High breaking capacity
- Wide rated current range
- Excellent conditional short circuit capacity
- Positively trip-free

Effect of ambient temperature

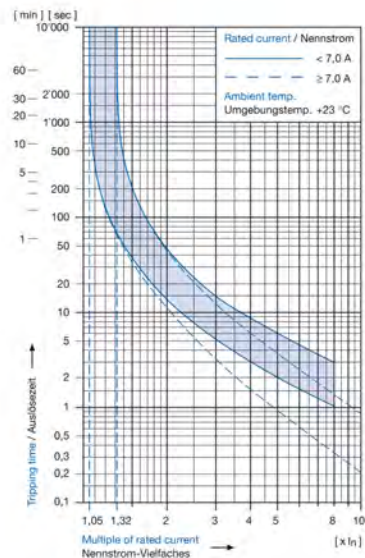
The unit is calibrated for an ambient temperature of +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor from the table below:

Ambient temperature [°C]	Correction factor
-5	0,88
0	0,90
+10	0,95
+23	1,00
+30	1,05
+40	1,10
+50	1,18
+60	1,26

Example

Rated current at +23°C 5,0 A
 Ambient temperature +40°C
 Correction factor 1,1
 Chosen rated current at
 +40°C ambient temperature
5,0 A x 1,1 = 5,5 A

Tripping characteristics



Technical data

Rated voltage U_e	See approvals, page 44	AC 240; 277 V, DC 28 V
Rated current I_n	See approvals, page 44	AC/DC 0,05 – 30 A
Conditional short circuit current I_{nc} (UL 1077, EN 60934 – PC1)	AC 277 V with $I_n < 7$ A AC 277 V with $I_n \geq 7$ A DC 28 V with $I_n \leq 30$ A	1000 A 5000 A 1000 A
Short circuit capacity I_{cn} EN 60934	AC 240 V with $I_n < 7$ A AC 240 V with $I_n \geq 7$ A AC/DC 28 V	$8 \times I_n$ 400 A 400 A
Class of protection	<ul style="list-style-type: none"> Between live parts and accessible parts Other parts 	II I
Degree of protection	Accessible range Termination range	IP40 IP00
Dielectric strength	Accessible range	AC 4000 V
Insulation resistance	DC 500 V	>100 M Ω