T11 Series

- Thermal release
- Positively trip-free

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 simple precision design has 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
- Contact with extra thick silver plating for increased contact life
- Shunt terminal
- Additional position indication of the reset button by colored 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 and other approvals

Effect of ambient temperature

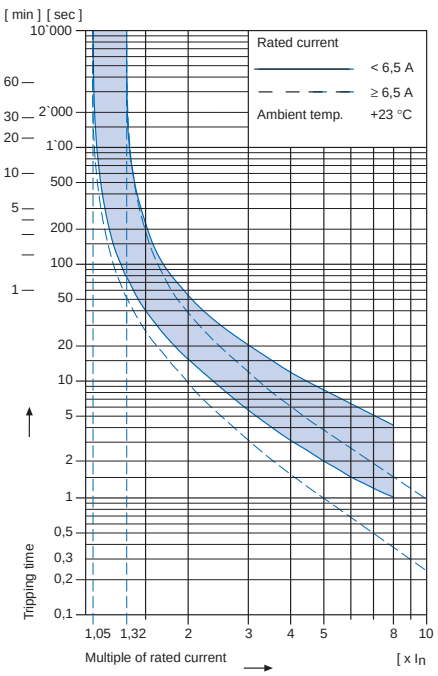
The unit is calibrated for an ambient temperature of +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor from the table below:

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 Ue	See approvals, page 181	AC 120; 240 V DC 24; 32; 48 V
Rated current I_n	See approvals, page 181	AC/DC 0,05 – 16 A
Conditional short circuit current I_{nc}	EN 60 934 PC1, AC 240 V	1000 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 60 A
Class of protection	• 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

Technical data (continued)

Insulation resistance	DC 500 V	>100 MΩ
Permissible ambient temperature		-5°C to +60°C
Type of actuation	Reset type (manual)	R
Type of tripping	• Thermal • Positively trip-free	TO
Weight		approx. 10 g

Approvals

			Rated current range	Rated voltage AC	Rated voltage DC
	UL	1077	0,05 – 6 A	240 V	48 V
			6,5 – 12 A*	240 V	48 V
			0,05 – 16 A	28 V	28 V
	CSA	C 22,2	0,1 – 6 A	240 V	24 V
			>6 – 10 A	120 V	24 V
			0,1 – 16 A	28 V	28 V
			6,5 – 12 A*	240 V	
	VDE		0,1 – 16 A	240 V	
	Europe	EN 60934	0,05 – 10 A	240 V	
			0,05 – 12 A		32 V
	SEMKO	EN 60934	0,05 – 10 A	240 V	
			0,05 – 12 A		32 V
	NEMKO		0,1 – 6 A	240 V	
	DEMKO		0,1 – 6 A	240 V	
	FEMKO		0,1 – 6 A	240 V	
	SEV	EN 60934	0,05 – 10 A	240 V	
					32 V

* For rated currents starting at 6,5 to 12 A: Model T11-...U
Models 214, 314, 614 and 814 are only available for rated currents ≤6 A I_n.
PCB mounting T11-818 by request.

Order code

Basic type

T11 Single pole thermal overload protection switch, positively trip-free

Mounting style

2 Threaded neck type 3/8 – 27 UNS – 2 A
6 mm long with hexagonal nut

3 Threaded neck type 3/8 – 27 UNS – 2 A
8 mm long with hexagonal nut

6 Snap-in type

8 Drop-in type • with quick connect terminals
• with soldering pins for PCB mounting

Actuation type

1 Reset type

Terminal type

1 6,3 x 0,8 mm quick connect terminals DIN 46244-A

4 2,8 x 0,8 mm quick connect terminals DIN 46244-A
(only available ≤ 6A)

8 Soldering pins Ø 1 mm tinned, horizontal PCB mounting
rated current max. 12 A

Construction variants *

U Contact with extra thick silver plating 6,5 – 12 A

N Shunt terminal only for rated currents <6,5 A

R Setting indication on reset button

* (U; N; R; UR; NR)

Rated current

0,05	**0,1**	**0,15**	**0,2**	**0,3**	**0,4**	**0,5**	**0,6**	**0,7**	**0,8**	**0,9**	**1,0**
1,1	**1,2**	**1,3**	**1,4**	**1,5**	**1,6**	**1,7**	**1,8**	**1,9**	**2,0**	**2,1**	**2,3**
2,5	**2,8**	**3,0**	**3,3**	**3,5**	**4,0**	**4,5**	**5,0**	**5,5**	**6,0**	**6,5**	**7,0**
7,5	**8,0**	**8,5**	**9,0**	**9,5**	**10**	**11**	**12**	**13**	**14**	**15**	**16**

See approvals, page 181

Other rated currents by request

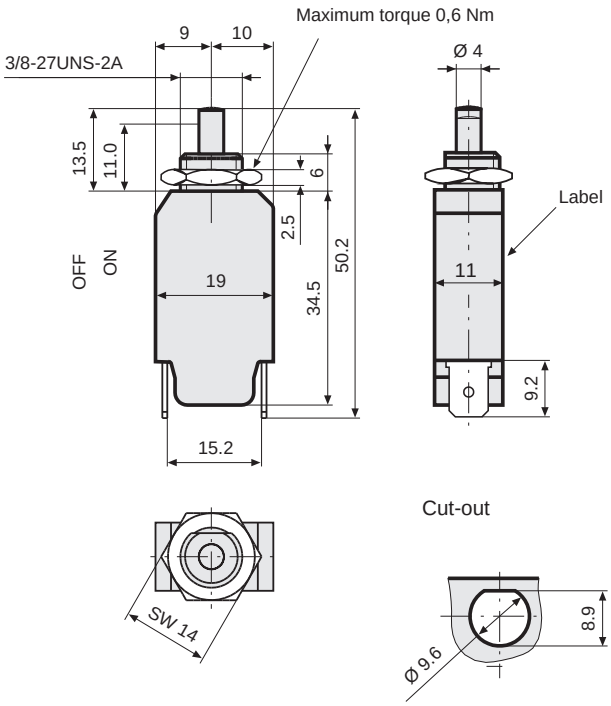
Accessories

TZZ 01 Protective cover for threaded neck type front side IP54

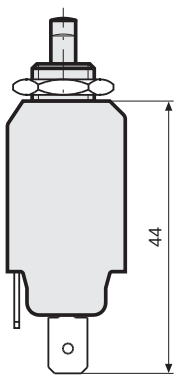
T 1 1 – 2 1 1 U N R – 0,15 – T Z Z 0 1 **Order example**

Threaded neck type

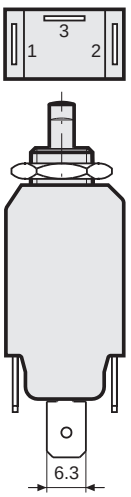
T11-211 ≤7,5 A



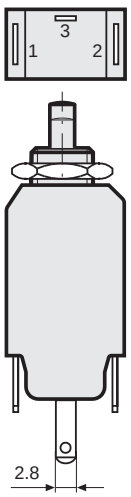
T11-211 >7,5 A



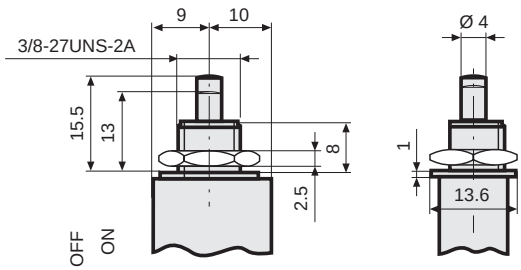
T11-211N



T11-214N

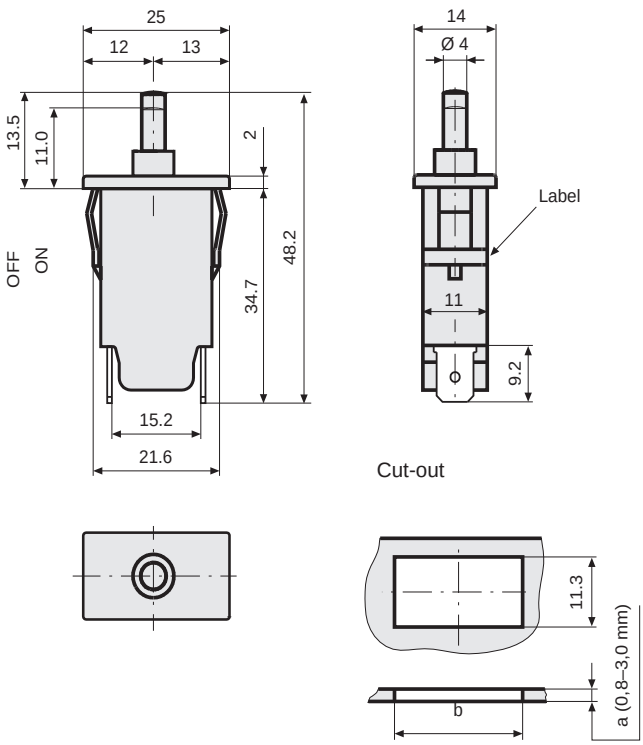


T11-311; T11-314



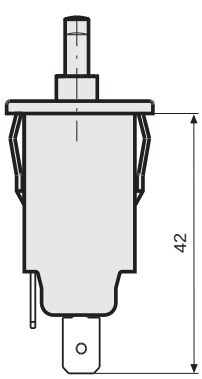
Snap-in type

T11-611 ≤7,5 A

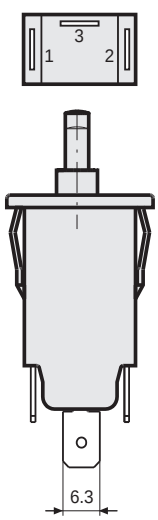


a	b
0,8	21,9
1,0	22,0
1,5	22,1
2,0	22,3
3,0	22,6

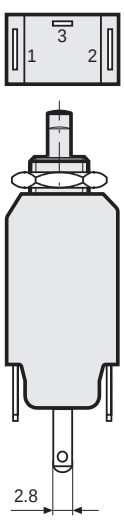
T11-611 >7,5 A

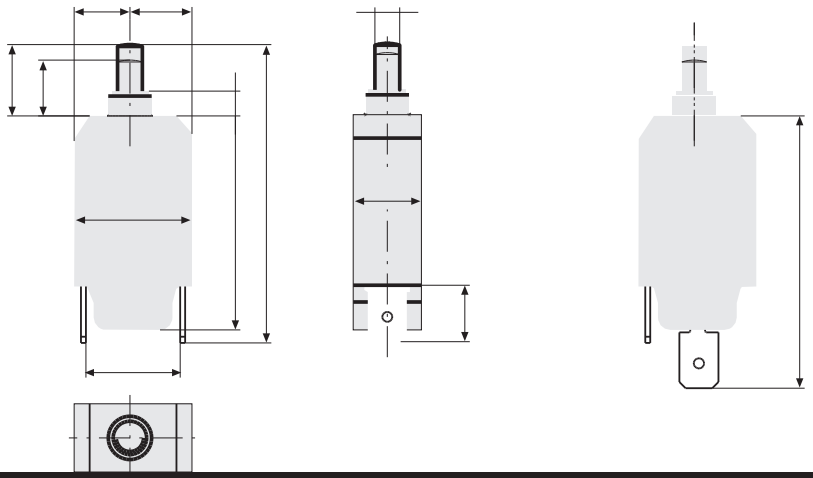


T11-611N



T11-614 N

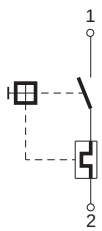




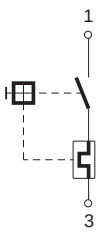
Schematic diagrams – accessories – colors

Schematic diagrams

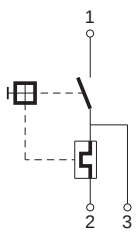
Rated current
≤7,5 A



Rated current
>7,5 A

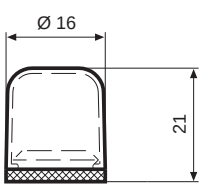


Shunt terminal
T11-...N ≤6.5 A



Accessories

Protective transparent cover, degree of protection IP54
TZZ01



Colors