

**Type: 1180**



Miniaturised single pole thermal circuit breaker with switching function optional (push-push actuation). Reliable snap-acting and trip-free mechanism. Approved to CBE standard EN/IEC 60934. S type, TO. Blade terminals fitting into sockets for rail mounting.

**Voltage rating:**

- AC 250 V
- DC 65 V
- UL, UL Canada: AC 250 V
- UL, UL Canada: DC 72 V

**Current ratings:**

from 0.1 A to 10 A

**Number of poles:**

single pole

**Mounting method:**

socket  
rail mounting

**Terminal design:**

blade terminals

**Actuation:**

push button

**Auxiliary contacts:**

without auxiliary contacts

**Water splash protection:**

without water splash protection

**Illumination:**

without illumination

**Typical life:**

- 6,000 operations at 1 x  $I_N$  (resistive)
- 3,000 operations at 1 x  $I_N$  (inductive)
- 500 operations at 2 x  $I_N$  inductive

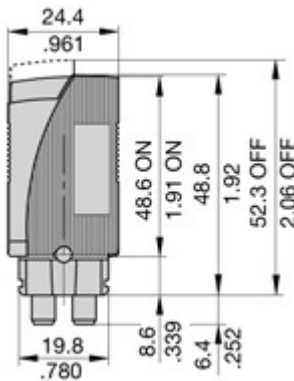
**Interrupting capacity  $I_{cn}$ :**

- 0.1...5 A: 6 x  $I_N$
- 6...10 A: 8 x  $I_N$

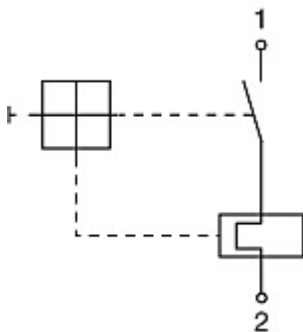
**Approvals:**

VDE, UL, UL Canada

**Dimensions**



**Internal connection diagrams**



## Description

Miniaturised single pole thermal circuit breaker with switching function optional (push-push actuation). Reliable snap-acting and trip-free mechanism. Approved to CBE standard EN/IEC 60934. S-type, TO. Blade terminals fitting into sockets for rail mounting.

## Typical applications

Protection of loads in power distribution systems in control cabinets and process control.

## Ordering information

<b>Type No.</b>	
<b>1180</b>	single pole thermal circuit breaker, plug-in mounting
<b>Versions</b>	
<b>01</b>	with switching function, without label
<b>02</b>	reset function only, without label
<b>Current rating range</b>	
<b>0.1...10 A</b>	
<b>1180 - 01 - 1 A</b> ordering example	

## Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance ( $\Omega$ )	Current rating (A)	Internal resistance ( $\Omega$ )
0.1	81	2	0.25
0.2	22	2.5	0.18
0.25	14	3	0.11
0.3	8.7	3.5	0.08
0.4	5.5	4	0.07
0.5	3.4	5	$\leq 0.05$
0.6	2.5	6	$\leq 0.05$
0.7	1.7	7	$\leq 0.05$
0.8	1.5	8	$\leq 0.05$
1	0.9	10	$\leq 0.05$
1.5	0.4		

## Approvals

Authority	Voltage rating	Current ratings
VDE	AC 250 V; DC 65 V	0.1...10 A
UL	AC 250 V; DC 72 V	0.1...10 A
UL, Canada	AC 250 V; DC 72 V	0.1...10 A



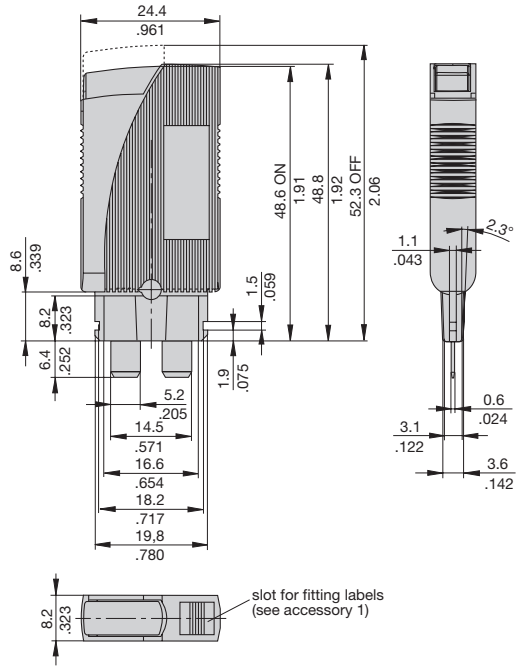
1180-...

## Technical data

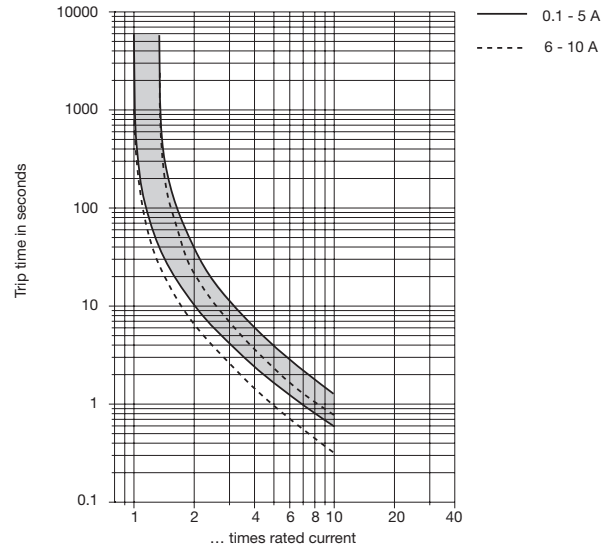
Voltage rating	AC 250 V; DC 65 V (UL, UL Canada: AC 250 V; DC 72 V)	
Current ratings	0.1...10 A	
Typical life	6,000 operations at $1 \times I_N$ (low-inductance) 3,000 operations at $1 \times I_N$ (inductive) 500 operations at $2 \times I_N$ (inductive)	
Ambient temperature	-20...+60 °C (T 60) -4...+140 °F	
Insulation co-ordination (IEC 60664 and 60664 A)	rated impulse withstand voltage 2.5 kV reinforced insulation in operating area	pollution degree 2
Dielectric strength (IEC 60664 and 60664A)	test voltage AC 3,000 V installation area AC 1,500 V	
Insulation resistance	> 100 M $\Omega$ (DC 500 V)	
Interrupting capacity $I_{cn}$	0.1...5 A $6 \times I_N$ 6...10 A $8 \times I_N$	
Interrupting capacity (UL 1077)	AC 250 V: 2,000 A DC 65 V: 200 A	
Degree of protection (IEC 60529/DIN 40050)	operating area IP40 terminal area IP00	
Vibration without terminal block	5 g (57-500 Hz) $\pm 0.38$ mm (10-57 Hz) to IEC 60068-2-6, test Fc, 10 frequency cycles/axis and to EN 50155	
Shock without terminal block	25 g (11 ms) to IEC 60068-2-27, test Ea	
Corrosion	96 hours at 5 % salt mist, to IEC 60068-2-11, test Ka	
Humidity	240 hours at 95 % RH to IEC 60068-2-3, test Ca	
Mass	approx. 15 g	

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## Dimensions



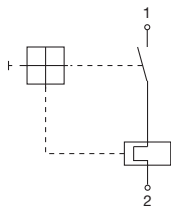
## Typical time/current characteristics at +23 °C / +73.4 °F



The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 – Technical information.

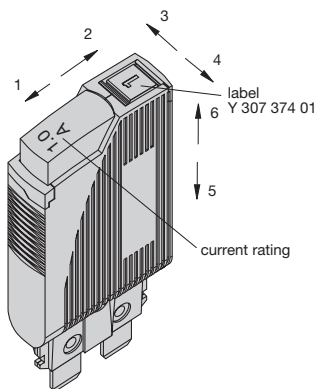
Ambient temperature °F	-22	-4	+14	+32	+73.4	+104	+122	+140
°C	-30	-20	-10	0	+23	+40	+50	+60
Derating factor	0.8	0.76	0.84	0.92	1	1.08	1.16	1.24

## Internal connection diagram



**Note:** When several devices are mounted together, each device should only carry 80 % of its rating or it must be overrated accordingly.

## Shock directions



This is a metric design and millimeter dimensions take precedence ( $\frac{mm}{inch}$ )