

3130 Thermal Overcurrent Circuit Breaker

Description

Single, two and three pole rocker switch/thermal trip free circuit breakers (S-type TO CBE to EN 60934) of compact design for snap-in panel mounting. Available either with protection on one/both/all poles or, in the case of the double pole version, protection on one pole only. Illumination is optional and there is a choice of rocker colours. Approved to CBE standard EN 60934 (IEC 60934).

Typical applications

Motors, protection of transformers (e.g. for illumination), solenoids, household and office machines, electrical tools, mobile homes, boats, construction vehicles, medical equipment to EN 60601.

Features and benefits

- Single pole, double pole or three-pole thermal circuit breaker/switch combination
- Voltage ratings AC 240 V; 3 AC 415 V; DC 50 V
- Current ratings: 0.1...20 A
- Rating UL1077/AC 277 V, Use Group EA for industrial applications
- Can be combined with X3120 Power Entry Module. Please refer to the respective section in this document.

Compliances



Your benefits

- Maximum equipment availability is ensured by overload protection perfectly matched with the loads (prevention of nuisance tripping) and quick resettability
- Reduced mounting and wiring time
- Less space requirement
- Less disposition and storage costs
- Enhanced overall reliability

Information online

The current data sheet is available on our website:
www.e-t-a.de/d001



Approvals

Authority	Standard	Rated voltage	Current ratings	Approval logos			
VDE	IEC/EN 60934	AC 240 V AC 240 V 3 AC 415 V DC 50 V DC 28 V	0.1 A...20 A (1-pole) 0.1A...16 A (2-pole) 0.1A...16 A (3-pole) 0.1A...16 A (1-, 2-pole) 0.1 A...20 A (1-pole)				
CQC ⁽¹⁾	GB/T 17701	AC 240 V AC 240 V 3 AC 415 V DC 50 V	0.1 A...20 A (1-pole) 0.1A...16 A (2-pole) 0.1A...16 A (3-pole) 0.1A...16 A (1-, 2-pole)				
(1) not for frame mounting 2/3/4/5							
Authority	Standard	Rated voltage	Current ratings	UL-categories			Approval logos
				UG	TC	OL	
UL/CSA	UL 1077, CSA C22.2 No.235	AC 277 V AC 250 V AC 250 V DC 50 V	0.1...16 A (a) 0.1...16 A (b) 0.1...12 A (c) 0.1...16 A (d)	EA B, D B, D B, D	1 1(a), 2 2 1(a), 2	1 1 1 1	

(a) 1- and 2-pole, all poles protected

(b) 1- and 2-pole

(c) 3-pole

(d) 1-, 2- and 3-pole

Technical data

For further details please see: www.e-t-a.de/ti_e

Voltage rating AC 240 V; 3 AC 415 V; DC 50 V
(UL: AC 250 V; 3 AC 250 V; DC 50 V)

Current ratings 0.1...20 A 1-pole
0.1...16 A 2- and 3-pole

Typical life 1-pole (IEC/EN 60934)

AC 240 V: 0.1...20 A 30,000 operations at $1 \times I_N$, inductive

DC 50 V: 0.1...4 A 30,000 operations at $1 \times I_N$, inductive

4.5...16 A 30,000 operations at $1 \times I_N$, resistive

DC 28 V: 0.1...20 A 30,000 operations at $1 \times I_N$, inductive

Typical life 2-pole (IEC/EN 60934)

AC 240 V: 0.1...16 A 50,000 operations at $1 \times I_N$, inductive

DC 50 V: 0.1...16 A 50,000 operations at $1 \times I_N$, inductive

Typical life 3-pole (IEC/EN 60934)

3 AC 415 V: 0.1...16 A 30,000 operations at $1 \times I_N$, inductive

Ambient temperature -30...+60 °C (-22...+140 °F)

Insulation co-ordination rated impulse pollution
(IEC 60664 and 60664 A) withstand voltage degree
2.5 kV 2
reinforced insulation in operating area

Dielectric strength
(IEC 60664 and 60664 A) test voltage
operating area AC 3,000 V
current path/current path AC 1,500 V

Insulation resistance > 100 MΩ (DC 500 V)

Interrupting capacity I_{CN} (EN 60934)

	I_N	U_N	I_{CN}
1, 2, 3-pole	0.1...2 A	AC 240 V/3 AC 415 V	$10 \times I_N$
1 pole	2.5...20 A	AC 240 V	200 A
2 pole	2.5...16 A	AC 240 V	300 A
3 pole	2.5...12 A	3 AC 415 V	150 A
3 pole	14...16 A	3 AC 415 V	130 A

Technical data

Rupture capacity I_{NC} (UL1077)

	I_N	U_N	I_{nc}
1, 2-pole	0.1...16 A	AC 250 V	3 500 A, C, 1
3-pole	0.1...12 A	3 AC 250 V	5 000 A, C, 1
1, 2-pole	0.1...16 A	AC 277 V	2 000 A, C, 1
1,2-pole	0.1...16 A	DC 50 V	2 000 A, C, 1

Degree of protection operating area IP40
(IEC 60529/DIN 40050) terminal area IP00

Vibration 5 g (57-500 Hz) $\pm$ 0.38 mm (10-57 Hz)
to IEC 60068-2-6, test Fc
10 frequency cycles/axis

Shock 1-pole: 25 g (11 ms) 2 + 3-pole: 20 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 60068-2-78, test Cab

Mass approx. 45 g (three pole)
approx. 31 g (double pole)
approx. 17 g (single pole)

Ordering information - 1-pole

Type No.

3130 single pole thermal circuit breaker

Mounting

F Snap-in frame

Frame

1 Standard, panel cut-out 14.6 x 34 mm

3 Panel cut-out 18.0 x 35-37 mm

Number of poles

1 single pole, thermally protected

Frame mounting

For Frame 1, snap-in, panel thickness 1.0-2.5 mm, color

0 black

2 white

4 grey

For Frame 3, snap-in, panel thickness 1.5-3.2 mm, color

1 black

3 white

5 grey

Terminal design

P7 blade terminals 6.3 x 0.8 mm

H7 for terminals 1.1, 2.1 3.1 terminal screws M 3.5
for terminals 1.2, 2.2, 3.2 blade terminals 6.3 x 0.8 mm

Characteristic curve

T1 thermal

Actuator style

W rocker switch with marking „I“ and „O“
moulded in

Actuator colour

Rocker opaque without illumination

01 Q black

02 Q white

04 Q red

Rocker translucent white, with LED illumination

12 Q G green

12 Q R red

12 Q Y yellow

Rocker translucent color, with LED illumination

14 Q R red

15 Q Y orange

19 Q G green

Illumination voltage range⁽¹⁾

2 10 - 14 V DC

3 20 - 28 V DC

6 90 - 140 V AC

7 185 - 275 V AC

9 225 - 330 V AC

Current ratings

0.1...20 A

3130 - F 1 1 0 - P7 T1 - W 14 Q R 3 - 5 A ordering example

Custom designed versions

Looking for a version you cannot find in our order numbering key?
Please get in touch. We will be pleased to find a solution for you.

Ordering information - multipole

Type No.

3130 multipole thermal circuit breaker

Mounting

F Snap-in frame

Frame

1 Standard, panel cut-out size depending on no. of poles

A version for X3130

Number of poles

2 2-pole thermally protected

3 3-pole thermally protected

5 2-pole, 1-pole thermally protected

Frame mounting

0 Snap-in frame, black, panel thickness
1.0-2.5 mm for frame size 1

A 2-pole, version for X3130

Terminal design

P7 blade terminals 6.3 x 0.8 mm
(characteristic curve T1)

H7 for terminals 1.1, 2.1 3.1 terminal screws M 3.5
for terminals 1.2, 2.2, 3.2 blade terminals 6.3 x 0.8 mm

Characteristic curve

T1 thermal

Actuator style

W rocker switch with marking „I“ and „O“
moulded in

Actuator colour

Rocker opaque without illumination

01 Q black

02 Q white

04 Q red

Rocker translucent color, with LED illumination

14 Q R red

15 Q Y orange

16 Q T blue

19 Q G green

Illumination voltage range⁽¹⁾

2 10 - 14 V DC

3 20 - 28 V DC

6 90 - 140 V AC

7 185 - 275 V AC

8 320 - 450 V AC

9 225 - 330 V AC⁽²⁾

Current ratings

0.1...16 A

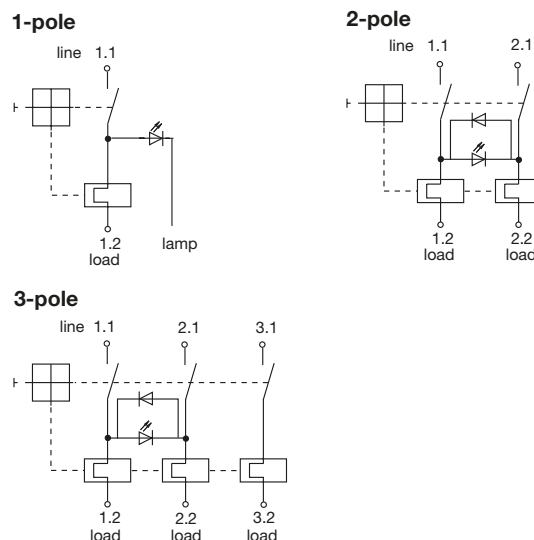
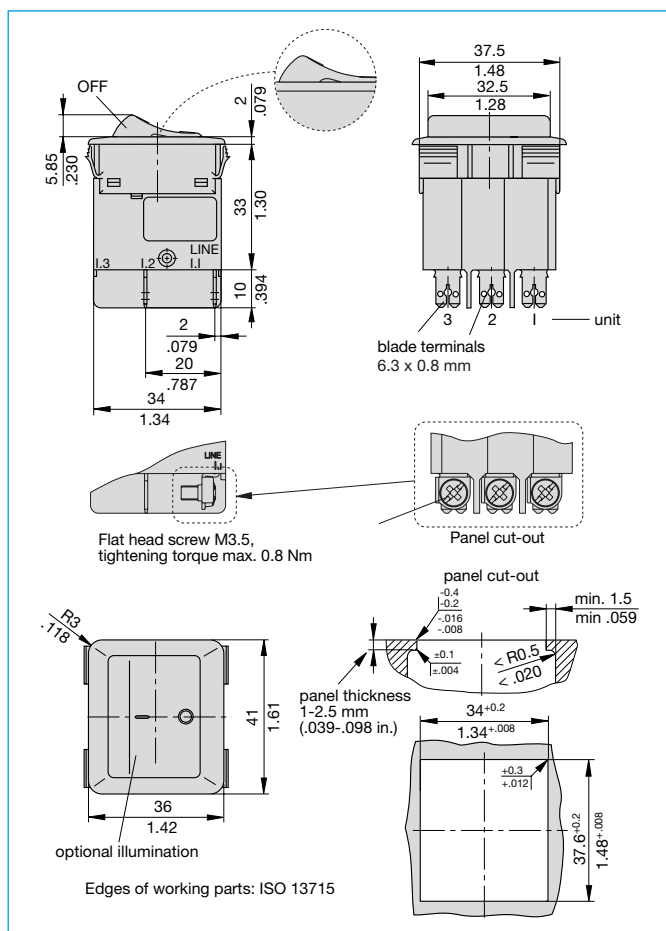
3130 - F 1 3 0 - P7 T1 - W 14 Q R 7 - 5 A ordering example

Please observe our minimum ordering quantities

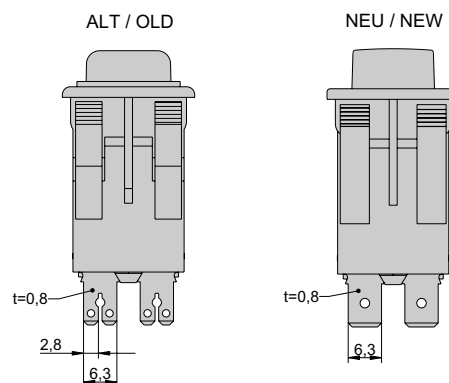
⁽¹⁾ N/A for non-illuminated version

⁽²⁾ for 2-pole variant only

Internal connection diagrams

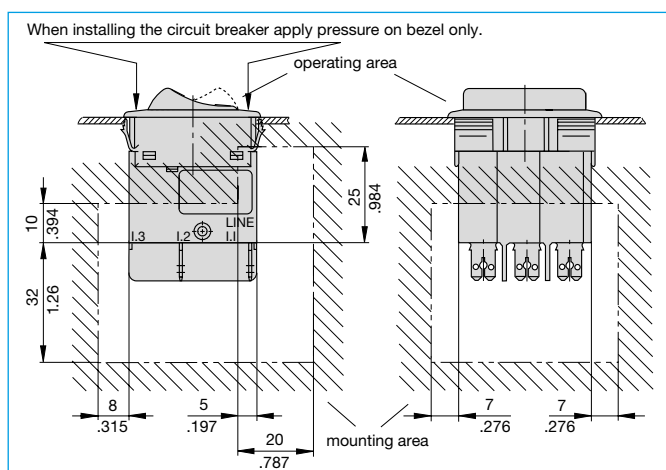


Note: Terminal drawings



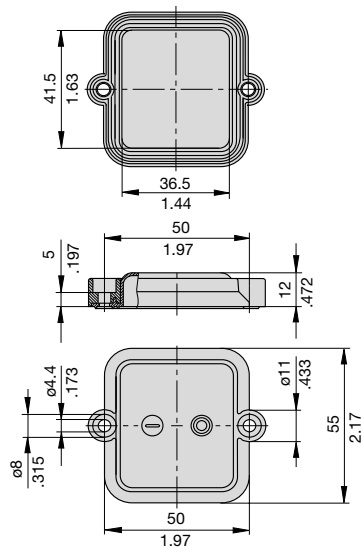
Note: The flat terminals are changed from slotted to unslotted from June 2026 onwards. This will not affect their shape, fit or function (the electromechanical specifications will remain the same). The order number remains the same as well. However, it will no longer be possible to attach receptacles for 2.8 x 0.8 mm. In some illustrations in this data sheet, the old version of the flat plug is still visible.

Installation drawing 3130-F1...



Accessories 3130-F130-...

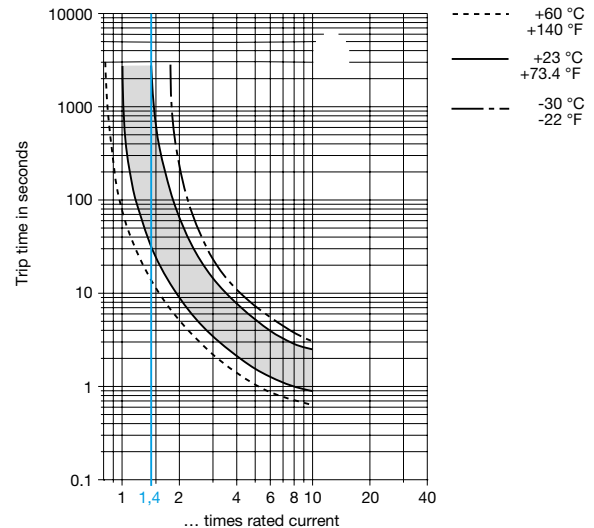
Splash cover, transparent, for 3-pole version
X 221 258 01 (IP54), comprising bezel Y 306 109 01
 and transparent cover Y 306 108 01



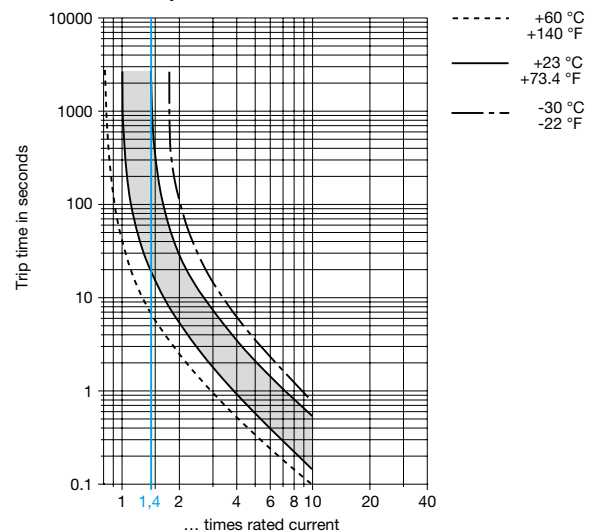
Typical time/current characteristics

Multipole types: all poles symmetrically loaded.
 With single pole overload, thermal tripping will be at
 approx. $1.54 \times I_N$ with 2-pole devices and at
 approx. $1.68 \times I_N$ with 3-pole devices.

0.1...2 A



2.5...20 A 1-pole 2.5...16 A 2- and 3-pole



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 Technical information.

Ambient temperature	°F	-22	-4	+14	+32	+73.4	+104	+122	+140
temperature	°C	-30	-20	-10	0	+23	+40	+50	+60
Derating factor		0.8	0.84	0.88	0.92	1	1.08	1.14	1.23

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

All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

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