

# E-T-A® Thermal Overcurrent Circuit Breaker 3130

## Description

Single, two and three pole rocker switch/thermal 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. Neon illumination is optional (filament bulb for low voltages) and there is a choice of rocker colours.

## Typical applications

Motors, transformers, solenoids, household and office machines, hand tools.



1 pole

3130

3 pole

## Ordering information

<b>Type No.</b>	
3130	rocker switch/circuit breaker
<b>Mounting</b>	
F	snap in frame
<b>Frame</b>	
1	standard
3	special single pole version
<b>Number of poles</b>	
1	single pole, thermally protected
2	2 pole, thermally protected
3	3 pole, thermally protected
5	2 pole, thermally protected on one pole only
6	3 pole, thermally protected on two poles only
A	1 pole, unprotected
<b>Frame mounting</b>	
0	panel thickness 1-2.5 mm (only 3130-F1.-...)
1	panel thickness 1.5-3.2 mm (only 3130-F31.-...)
<b>Terminal design</b>	
P7	blade terminals DIN 46244-C-Ms-S
H7	for terminals 1.1, 2.1 3.1 terminal screws M 3,5 for terminals 1.2, 2.2, 3.1 blade terminals
N7	blade terminals with shunt terminal
<b>Characteristic curve</b>	
T1	thermal, 1.05-1.4 I <sub>N</sub>
Q1	switch, only with terminal design -N7
<b>Switch style</b>	
W	rocker, one-piece, rounded profile
<b>Switch colour designation</b>	
	opaque                      translucent
01	black                      12 white
02	white                      14 red
04	red                      19 green
09	green
<b>Rocker markings</b>	
Q	"I" and "O" moulded in
<b>Rocker illumination (for single pole on request)</b>	
B	filament, AC/DC
G	green LED, DC
R	red LED, DC
Y	yellow LED, DC
<b>Illumination voltage range</b>	
1	6 V (4-7 V) B, G, R, Y
2	12 V (10-14 V) B, G, R, Y
3	24 V (20-28 V) B, G, R, Y
4	48 V (42-54 V) B, G, R, Y
6	115 V (90-140 V) B
7	230 V (185-275 V) B
<b>Current ratings</b>	
	0.1...20 A 1 pole
	0.1...16 A 2 and 3 pole

3130 - F 1 3 0 - P7 T1 - W 12 Q B 7 - 5 A ordering example

## Preliminary technical data

Max. voltage rating	AC 240 V; 3 AC 415 V; DC 28 V		
Current ratings	0.1...20 A 1 pole 0.1...16 A 2 and 3 pole		
Protection class (IEC 730-1)	I (II when mounted to the installation drawing)		
Typical life	30,000 operations at I <sub>N</sub> , 1 and 3 pole 50,000 operations at I <sub>N</sub> , 2 pole		
Temperature range	-30...+60 °C		
Creepage resistance	PTI 400 to IEC 112		
Insulation co-ordination (IEC 664 and 664 A)	Rated impulse withstand voltage	Pollution degree	
operating area	4 kV	3	
current path/current path	4 kV	3	
Dielectric strength (IEC 664 and 664A)	Test voltage	operating area	
operating area	AC 3000 V (double insulation)	current path/current path	
current path/current path	AC 1500 V		
Insulation resistance	>100 MΩ (DC 500 V)		
Interrupting capacity (VDE 0660, Part 101, P-2)	0.1... 2 A	10 x I <sub>N</sub>	
	2.5...20 A	150 A	1 pole
	2.5...16 A	250 A	2 pole
	2.5...12 A	150 A	3 pole
	14 + 16 A	130 A	3 pole
Interrupting capacity (UL 1077/EN 60934 PC1)	I <sub>N</sub>	0.1...12 A	14...16 A
	1 + 2 pole	AC 250V/3500A	AC 250V/3500A
	3 pole	3AC 250V/5000A	
	1 + 2 pole	DC 50V/2000A	DC 50V/2000A
Environmental protection (IEC 529/DIN 40050)	operating area IP 40 terminal area IP 00		
Vibration	5 g (57-500 Hz), ±0.38 mm (10-57 Hz) to IEC 68-2-6, Test Fc 10 frequency cycles/axis		
Shock	1 pole: 25 g (11 ms) 2 + 3 pole: 20 g (11 ms) to IEC 68-2-27, Test Ea		
Corrosion	96 hours at 5 % saltspray, to IEC 68-2-11, Test Ka		
Humidity	240 hours at 95 % RH, to IEC 68-2-3, Test Ca		
Mass	approx. 45 g (three pole) approx. 31 g (double pole) approx. 17 g (single pole)		

## Approvals

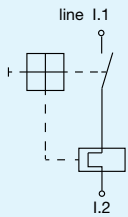
Authority	Voltage rating	Current rating
UL, CSA	AC 250 V, DC 50 V	0.1...16 A 1 and 2 pole
	3 AC 250 V	0.1...12 A 3 pole
Semko	AC 240 V, DC 28 V	0.1...16 A 1 and 2 pole
	3 AC 415 V	0.1...12 A 3 pole

## Standard current ratings and typical internal resistance values

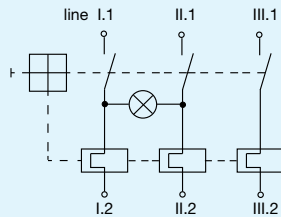
Current rating (A)	Internal resistance per pole (Ω)	Current rating (A)	Internal resistance per pole (Ω)
0.1	94	3.5	0.0565
0.2	24	4	0.0435
0.3	12	5	0.0325
0.4	5.30	6	0.0215
0.5	4.20	7	0.0165
0.8	1.50	8	0.0165
1	0.9	10	<0.02
1.2	0.80	12	<0.02
1.5	0.45	14	<0.02
2	0.27	16	<0.02
2.5	0.0785	18	<0.02
3	0.0595	20	<0.02

## Internal wiring diagrams

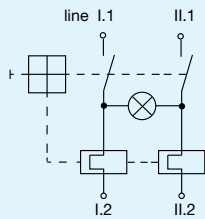
1 pole



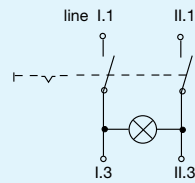
3 pole



2 pole



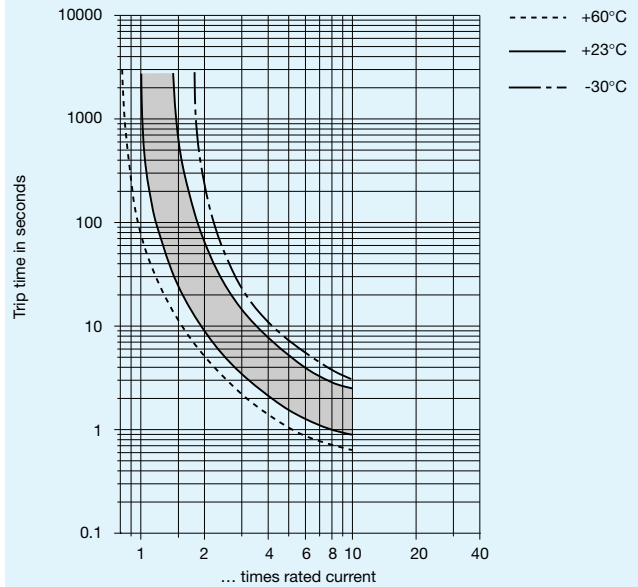
switch



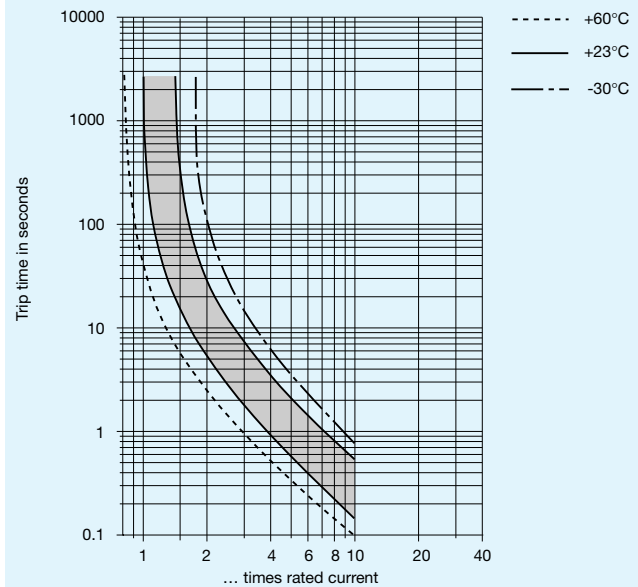
## Typical time/current characteristics

Multi-pole types:  
all poles symmetrically loaded

0.1...2 A



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

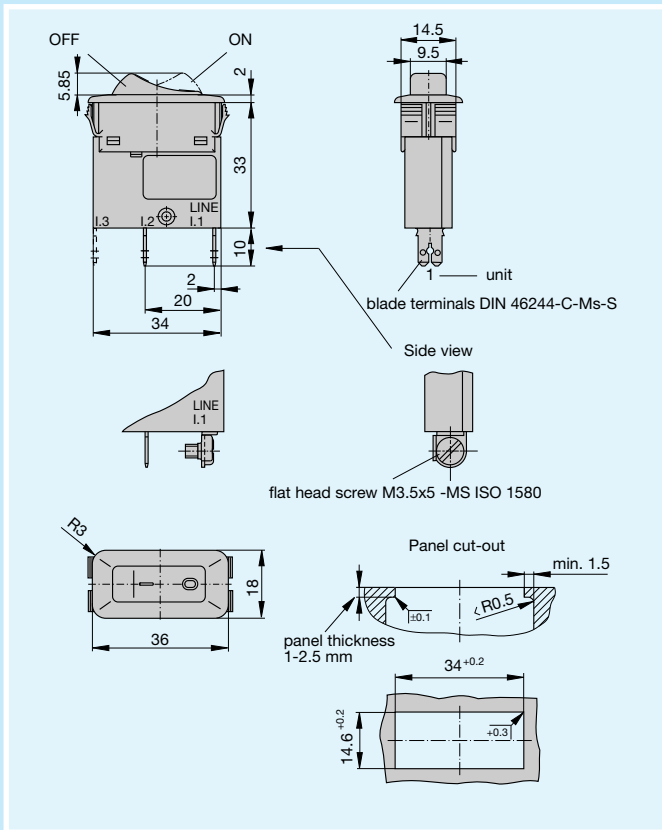


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below.

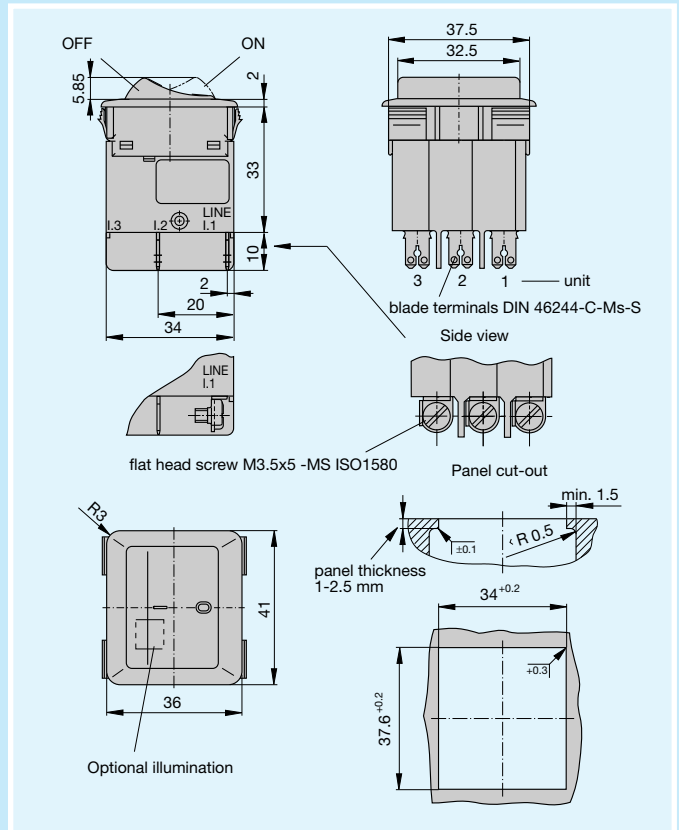
Ambient temperature °C	-30	-20	-10	-5	+10	+23	+30	+40	+50	+60
Multiplication factor	0.80	0.84	0.88	0.90	0.94	1.0	1.03	1.08	1.14	1.23

# ETA® Thermal Overcurrent Circuit Breaker 3130

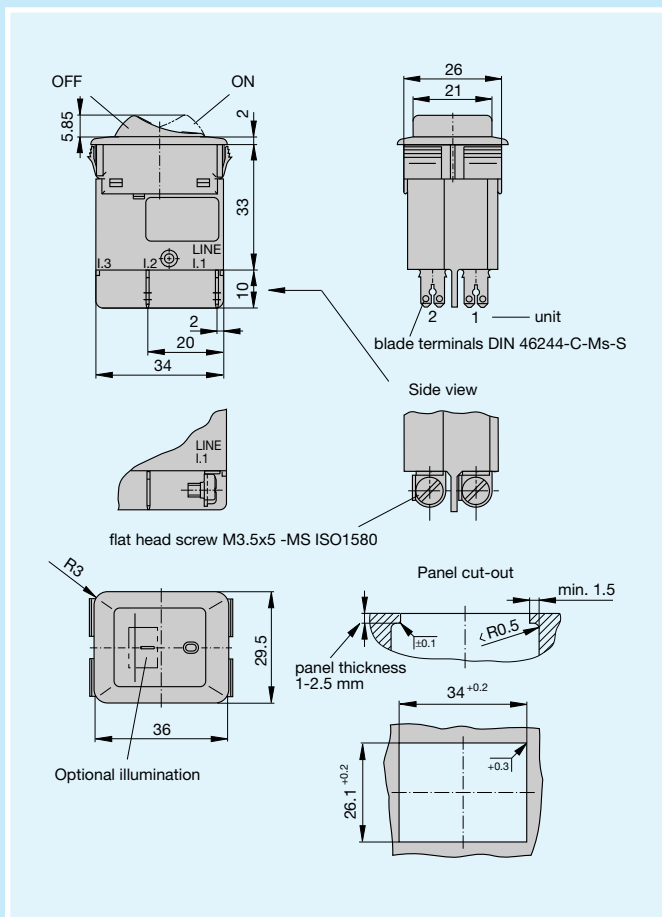
## Dimensions 3130-F110-...



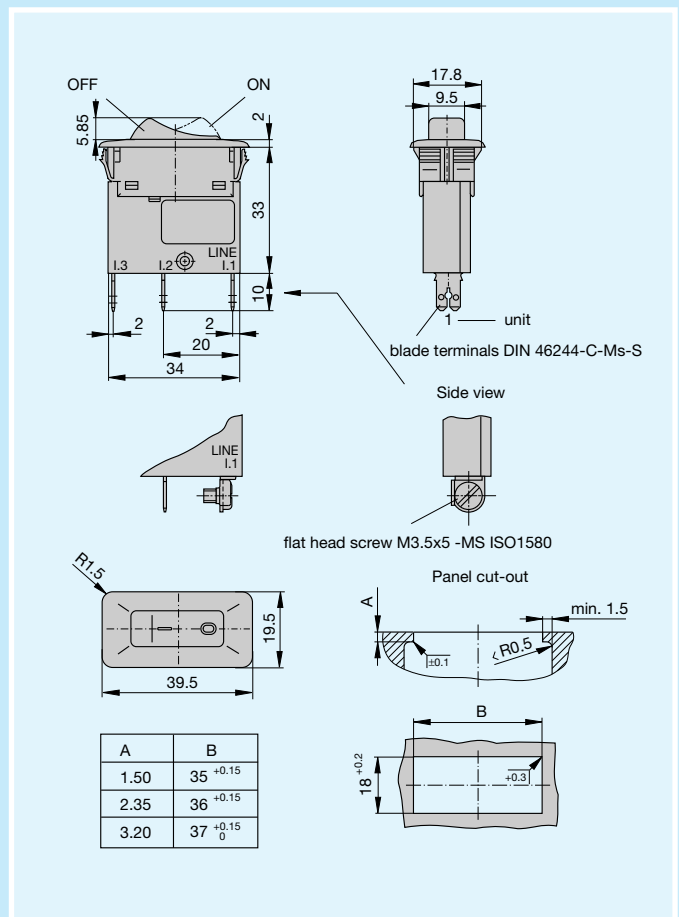
## Dimensions 3130-F130-...



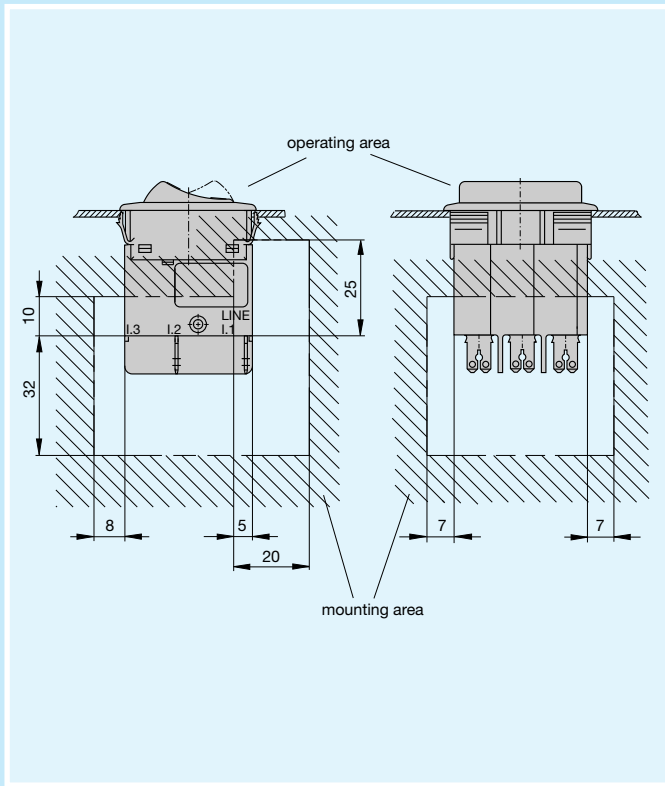
## Dimensions 3130-F120-...



## Dimensions 3130-F310-...



**Installation drawing**



**Accessories**

**Splash cover, transparent, for 3 pole version  
X 221 258 01 (IP 54)**

