

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).

ON/Off switches without overcurrent protection, compliant with the relevant switch standard IEC/EN 61058, available upon request.

Typical applications

Motors, transformers, solenoids, household and office machines, electrical tools, mobile homes, boating, 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 rating range: 0.1...20 A - Appliance inlet module offers additional functionalities



1-pole

3130

3-pole

Your benefits

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

Preferred types – for more details on all configurations please see page 2

Preferred types are E-T-A products most frequently used by E-T-A customers. We manufacture E-T-A preferred types in particularly high

volumes. Our preferred types are supplied at shorter lead times than non-standard versions.

Preferred types

Preferred type 3130 1-pole	Preferred ratings (A)									
	1	2	3	4	5	8	10	15	16	20
3130-F110-P7T1-W01Q-	x	x	x	x	x	x	x	x	x	x

Approvals



Information online

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

Compliances



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 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 2-pole 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 3-pole 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 (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 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)	

Technical data

Interrupting capacity I_{cn} (IEC/EN 60934)	0.1...2 A	$10 \times I_N$	
	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)			
	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	DC 50 V	2 000 A, C, 1
Degree of protection (IEC 60529/DIN 40050)	operating area IP40 terminal area IP00		
Vibration	5 g (57-500 Hz) ± 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)		





Preferred types – a short explanation.

Preferred types are E-T-A products most frequently used by E-T-A customers. We manufacture E-T-A preferred types in particularly high

volumes. Our preferred types are supplied at shorter lead times than non-standard versions.

Preferred type 3130 1-pole	Preferred ratings (A)									
	1	2	3	4	5	8	10	15	16	20
3130-F110-P7T1-W01Q-	x	x	x	x	x	x	x	x	x	x

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)	
UL	UL 1077	AC 250 V AC 250 V DC 50 V	0.1 A...16 A (1 + 2 pole)* 0.1 A...12 A (3 pole)* 0.1 A...16 A (1 – 3 pole)*	
CSA	C22.2 No 235	AC 250 V AC 250 V DC 50 V	0.1 A...16 A (1-, 2- pole)** 0.1 A...12 A (3-pole)* 0.1 A...16 A (1-, 2-, 3-pole)***	
CQC	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)	

* TC2, OL 1

** TC2, 0,1A-12 A: OL1, >12 A: OL0

*** TC2, OL0

Ordering information - 1-pole

Type No.	
3130	single pole thermal circuit breaker
Mounting	
F	snap in frame
Frame	
1	standard
Number of poles	
1	single pole, thermally protected
Frame mounting	
0	panel thickness 1-2.5 mm (.039-.099 in)
Terminal design	
P7	blade terminals DIN 46244-C-Ms-S (QC 2x.110)
H7	for terminals 1.1, 2.1 3.1 terminal screws M 3.5 for terminals 1.2, 2.2, 3.2 blade terminals (QC 2x.110)
Characteristic curve	
T1	thermal
Actuator style	
W	rocker switch with marking „I“ and „O“ moulded in
Actuator colour	
01 Q	black opaque without illumination
02 Q	white opaque without illumination
04 Q	red opaque without illumination
14 Q R	red translucent with LED-illumination
15 Q Y	orange translucent with LED-illumination
19 Q G	green translucent with LED-illumination (DC only)
Illumination voltage range*	
2	10 - 14 V DC
3	20 - 28 V DC
6	90 - 140 V AC
7	185 - 275 V AC
Current ratings	
0,1...20 A	
3130 - F 1 1 0 - P7 T1 - W 14 Q R 3 - 5 A ordering example	

Please observe our minimum ordering quantities

* N/A for non-illuminated version

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
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	panel thickness 1-2.5 mm (.039-.099 in)
A	2-pole, version for X3130
Terminal design	
P7	blade terminals DIN 46244-C-Ms-S (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 (QC 2x.110)
Characteristic curve	
T1	thermal
Actuator style	
W	rocker switch with marking „I“ and „O“ moulded in
Actuator colour	
01 Q	black opaque without illumination
02 Q	white opaque without illumination
04 Q	red opaque without illumination
14 Q R	red translucent with LED-illumination
15 Q Y	orange translucent with LED-illumination
19 Q G	green translucent with LED-illumination
Illumination voltage range*	
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
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

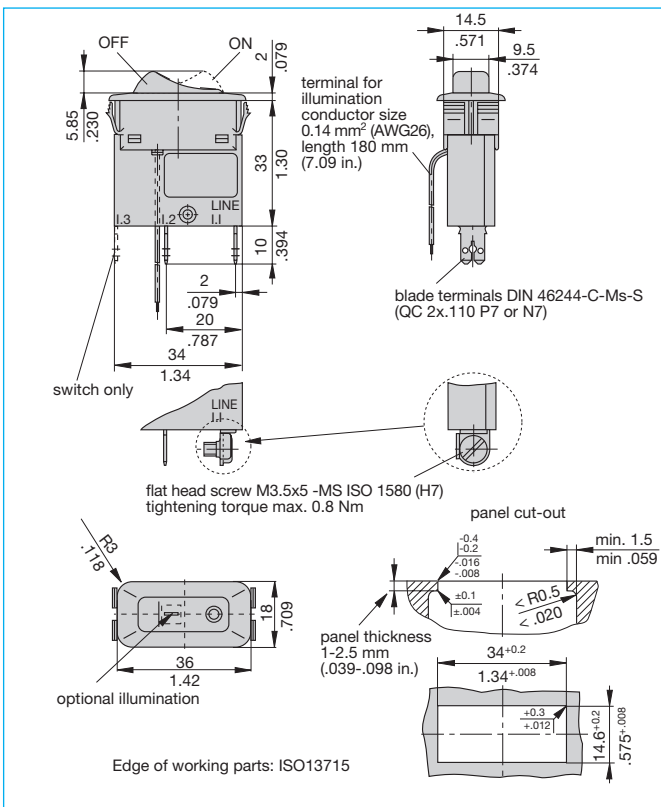
* N/A for non-illuminated version



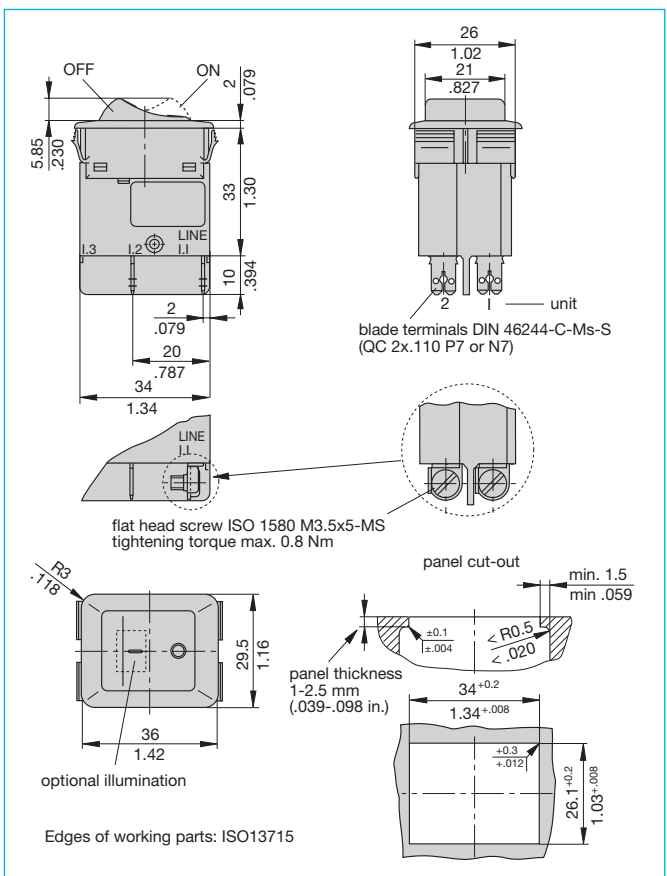
Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance per pole (Ω)	Current rating (A)	Internal resistance per pole (Ω)
0.1	94	4	0.0435
0.2	24	5	0.0325
0.3	12	6	0.0215
0.4	5.30	7	0.0165
0.5	4.20	8	0.0165
0.8	1.50	10	< 0.02
1	0.9	12	< 0.02
1.2	0.80	14	< 0.02
1.5	0.45	15	< 0.02
2	0.27	16	< 0.02
2.5	0.0785	18	< 0.02
3	0.0595	20	< 0.02
3.5	0.0565		

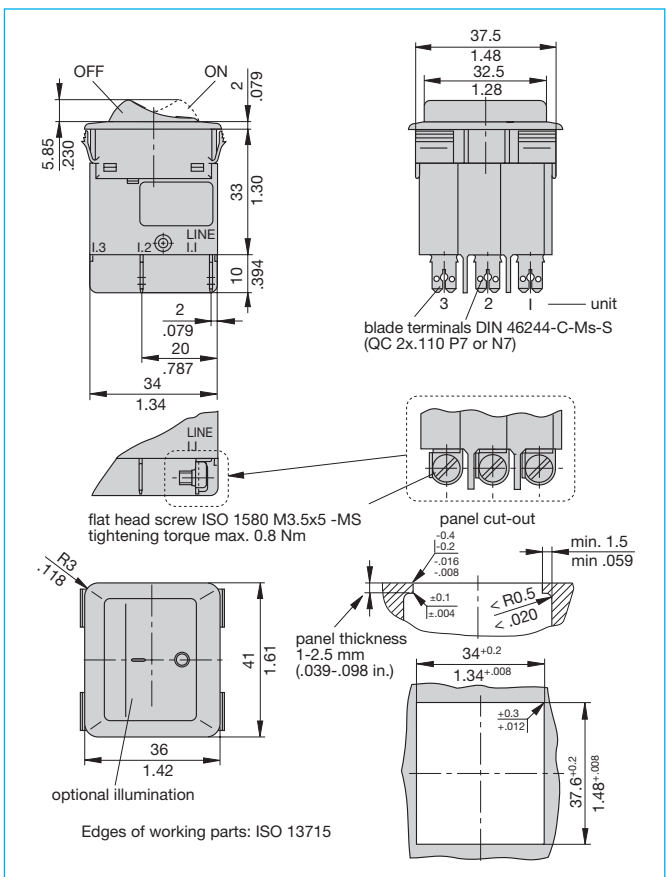
Dimensions 3130-F110-...



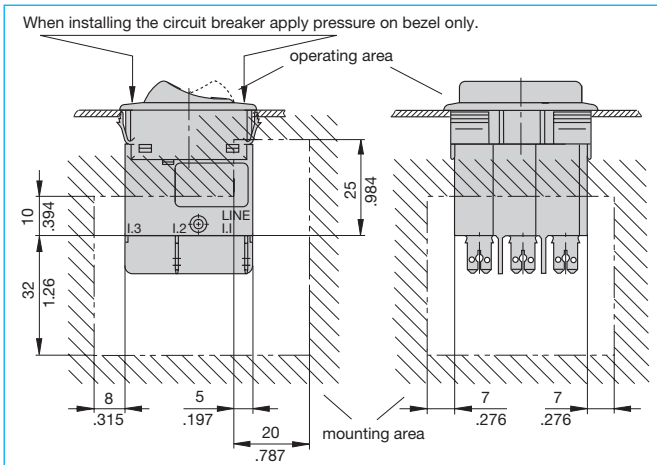
Dimensions 3130-F120-...



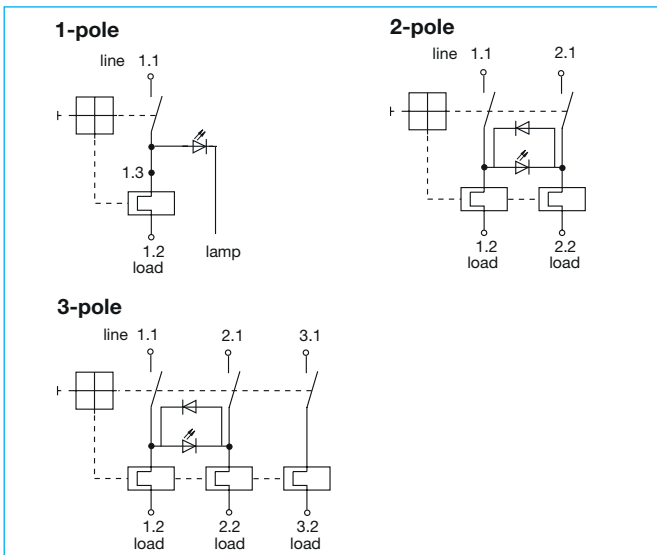
Dimensions 3130-F130-...



Installation drawing 3130-F1...

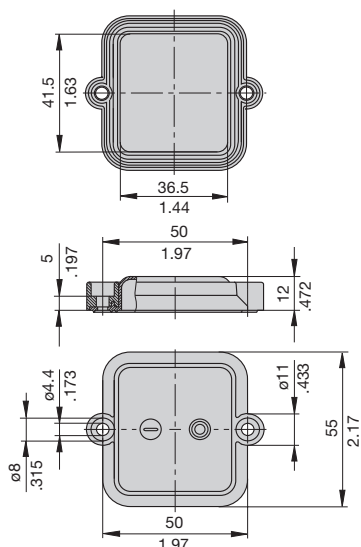


Internal connection diagrams



Accessories 3130-F130-...

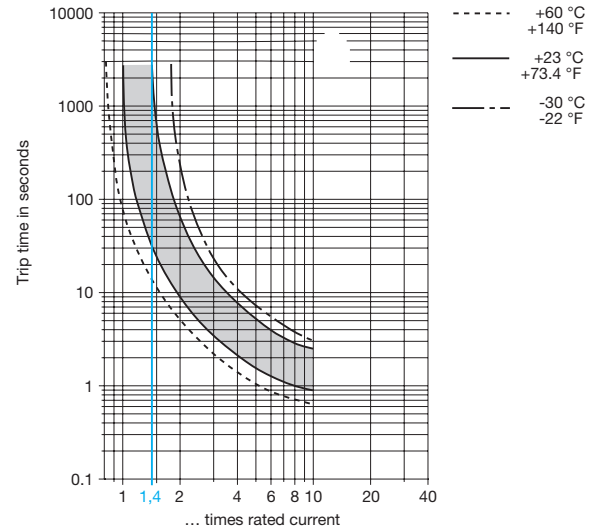
Splash cover, transparent, for 3-pole version
X 221 258 01 (IP54), comprising bezel Y 306 109 01
 and transparent cover Y 306 108 01



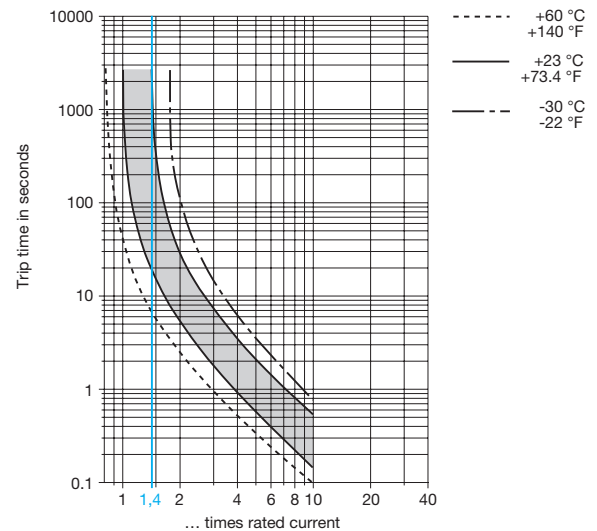
Typical time/current characteristics

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
°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 ($\frac{\text{mm}}{\text{inch}}$)

Description

The appliance inlet module X3130 with double pole circuit breaker 3130-FA.A combines three functions within a single component: A C14 appliance inlet and rocker switch with resettable overcurrent protection; screw mounting from the front or the rear.

Typical applications

Electrical medical apparatus, laboratory equipment, professional audio equipment and office machines.

Ordering information

Type No.

X3130 Appliance inlet module for circuit breaker type 3130-FA.A

Module

A appliance inlet C14

Design

04 screw-type mounting

Accessories

00 without

Version

01 not wired; mounting position 3130:
0 to connector

11 wired; mounting position 3130:
0 to connector

Delivery condition

M module supplied with
circuit breaker FA.A

X3130 - A 04 00 01 - M Ordering example

Approvals

X 3130-A-C14 inlet plug

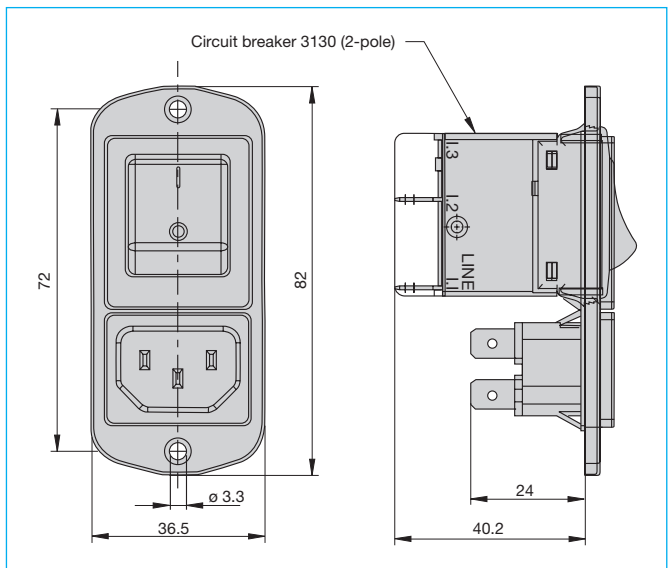
Authority	Standard	Rated voltage	Current ratings
UL	UL498, CSA C22.2 No. 42	250 V	15 A

Additionally, the circuit breakers and appliance inlets are approved as single parts (VDE, ENEC, CCC) - for details please enquire.

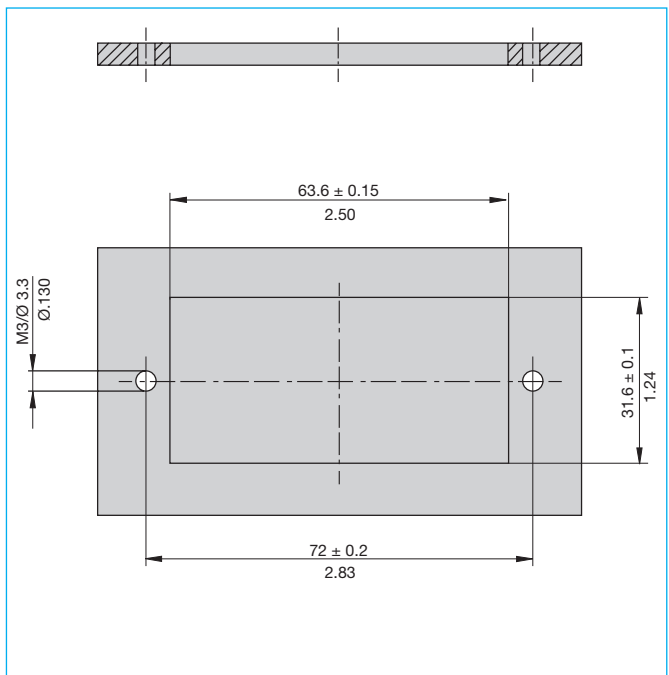
Technical data

Rated voltage	AC 240 V
Rated current	10 A (IEC) 15 A (UL/CSA)
Ambient temperature	-25°C ... 70°C
Number of poles	L, N + ground
Cable cross section	max. 1.5 mm ²
Degree of protection	Class I
Mounting method	screw-type mounting (front or rear)
Terminal design	blade terminals DIN 46244 A6.3 x 0.8
Housing material	thermoplastics, black UL94V-0
Appliance inlet	C14 according to IEC/EN 60320-1, UL 498
Switch	circuit breaker type 3130, 2-pole

Dimensions



Mounting hole X3130



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.

Mouser Electronics

Authorized Distributor

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E-T-A Circuit Breakers:

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