

Description

Combination of single pole circuit breaker and ON/OFF switch with soft-touch rocker actuation. Contoured rockers are available with a choice of colours and legends, with optional illumination. The 3131 is sealed to provide IP66 rated front of panel water splash protection. It meets the requirements of circuit breaker standard EN 60934 (IEC 60934): S type, TO.

Typical applications

Motor protection, transformer protection, household appliances and office equipment, electrical tools, mobile homes, watercraft, construction vehicles, medical equipment.

Current ratings and typical internal resistance values

Current rating (A)	Internal resistance (Ω)	Current rating (A)	Internal resistance (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		

Illumination voltage / power consumption

operating voltage	power consumption (LED)	
	Y = yellow	T = blue
12 V	10 mA	10 mA
24 V	10 mA	10 mA
115 V	< 1 mA	-
230 V	< 1 mA	-

Approvals

Authority	Voltage rating	Current rating
UL 1500	Ignition Protected	
UL 1077	AC 250 V; DC 32 V	0.1...20 A
VDE (EN 60934)	AC 240 V; DC 32 V	0.05...20 A



3131
Circuit breaker

Technical data

For further details please see chapter: Technical Information

Voltage rating	AC 240 V; DC 28 V	
Current rating range	0.1...20 A	
Typical life	0.1...20 A 30,000 operations at $1 \times I_N$, inductive	
Ambient temperature	-20...+60 °C (-4...+140 °F)	
Insulation co-ordination (IEC 60664)	2.5 kV/2 re-inforced insulation in the operating area	
Dielectric strength	test voltage AC 3,000 V	
operating area	current path/current path test voltage AC 1,500 V	
Insulation resistance	> 100 M Ω (DC 500 V)	
Interrupting capacity I_{cn}	0.1...2 A	$10 \times I_N$
	2.5...20 A	200 A
Interrupting capacity (UL 1077)	0.1...16 A: AC 240 V	3,000 A
	DC 32 V	2,500 A
Protection class (IEC 60529)	operating area IP66 terminal area IP00	
Vibration	5 g (57-500 Hz) $\pm$ 0.38 mm (10-57 Hz) test to IEC 60068-2-6, test Fc, 10 frequency cycles/axis	
Shock	25 g (11 ms), test to IEC 60068-2-27, test Ea	
Corrosion	96 hours at 5 % salt mist, test to IEC 60068-2-11, test Ka	
Humidity	240 hours at 95 % RH, test to IEC 60068-2-78, test Cab	
Mass	approx. 30 g	

Dimensions

3131 single pole thermal circuit breaker or switch

A circuit breaker single pole, latching switch

C circuit breaker single pole, momentary switch

F flange mounting

1 with sealing IP66

H terminal 1: screws M3.5x5 ISO 1580 (DIN 85)

terminal 2: blade terminal for 1x6.3x0.8 mm or 2x2.8x0.8
EN 60934 connectors

N terminals 1,2 and 4: blade terminal for 1x6.3x0.8 mm or 2x2.8x0.8 EN 60934 connectors

P terminals 1 and 2: blade terminal for 1x6.3x0.8 mm or 2x2.8x0.8 EN 60934 connectors

T thermal 1.0 – 1.4 times rated current

Q switch only

0 without actuator
rocker X3131-W... must be ordered separately

Actuator colour	
0	without actuator

00 without

0 without

Orientation	
0	without

- 1 illuminated when in position 1 (ON)
- 3 as 1, with dimmed illumination of window 1

Type of illumination	blue LED
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Y yellow LED

0 without illumination

2 10 - 14 V DC

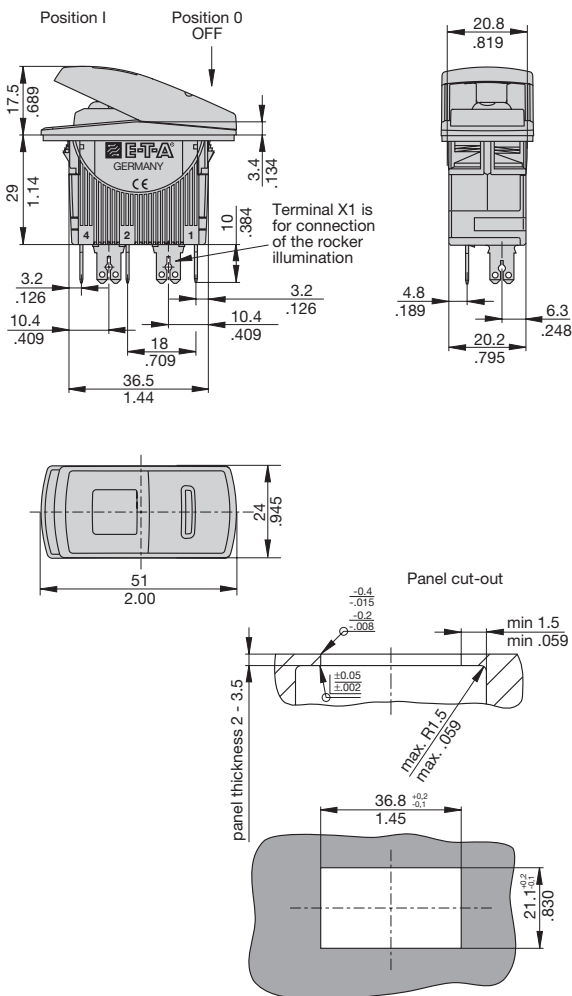
3 20 - 32 V DC

7 185 - 275 V AC

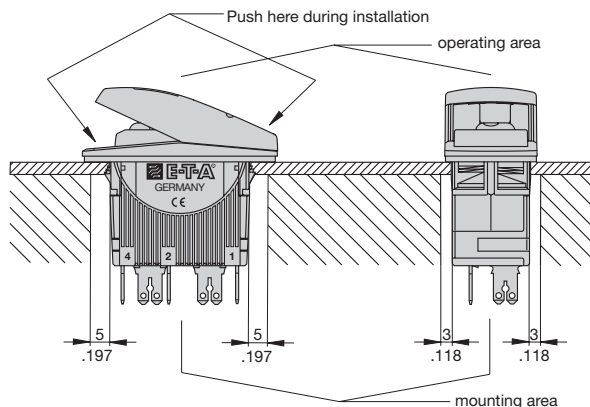
0.1...20 A

3131 - A F 1 P T - 0 0 00 0 0 - 1 Y 3 - 10 A ordering example

3131 - N Q - 0 0 00 0 0 - - 20 A switch



Installation drawing

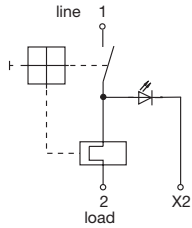


This is a metric design and millimeter dimensions take precedence ($\frac{\text{mm}}{\text{inch}}$)

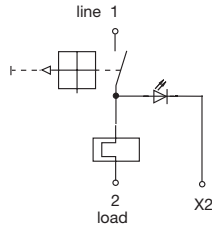
Internal connection diagrams

circuit breaker

1-pole switch

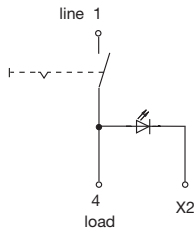


1-pole momentary switch

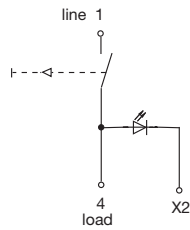


switch

1-pole switch

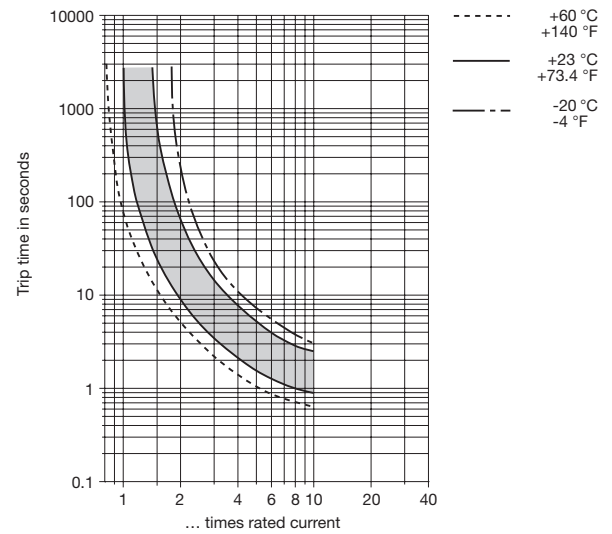


1-pole momentary switch

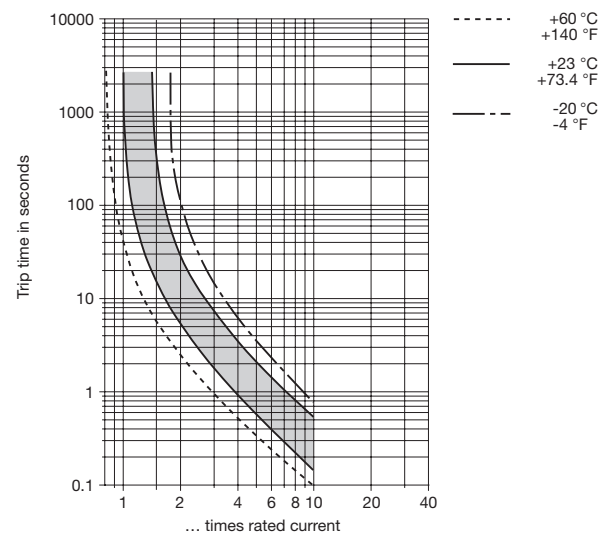


Typical time/current characteristics

0.1 ... 2 A



2.5 ... 20 A



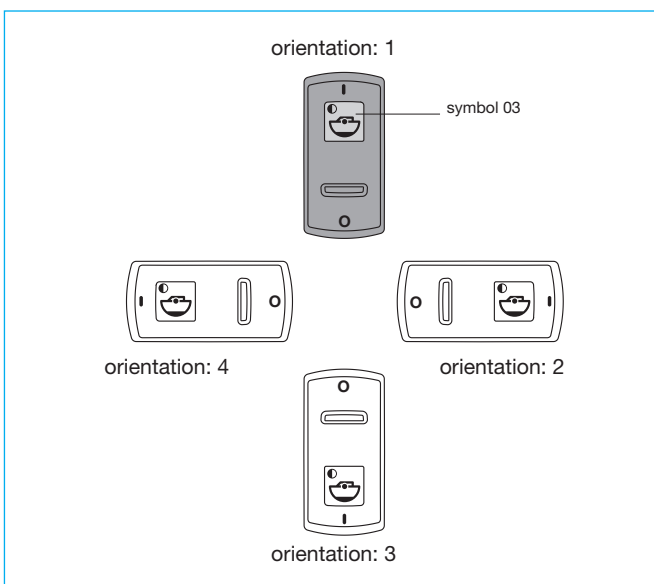
The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

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

List of available legends

		Ordering information
Interior light		01
Anchor light		02
Cockpit light		03
Navigation light		04
UKW-radio		05
Refrigerator		06
Anchor		07
Windshield wiper		08
Bilge pump		09
Potable water		10
Horn		11
Ventilation fan		12
Panel light		13
Navigation instruments		14
Music		15
Heating		16
Shower pump		17
Icebox		19
Screenwash		20
Search light		23
Autopilot		24
Trim tabs		25
Mast lift		26

		Ordering information
Navigation light (sailing ship)		27
Cockpit light (sailing ship)		28
Deck light (sailing ship)		29
Anchor light (sailing ship)		30
Toilet		31
Outlet		41
Further symbols upon request		



Ordering Information X3131-...

Type number	
X3131	module for type 3131
Actuator style	
W	rocker soft-touch, two illumination windows
Actuator colour	
A	blue / white translucent
B	black / white translucent
C	skyblue / white translucent
Rocker legends	
00	without
...	see separate survey of legends
Rocker marking	
0	without
A	I and 0
Orientation	
0	without orientation
1	orientation 1 (standard)
2	orientation 2
3	orientation 3
4	orientation 4
X3131 - W A 01 0 1	ordering example

Accessories

Mounting frame

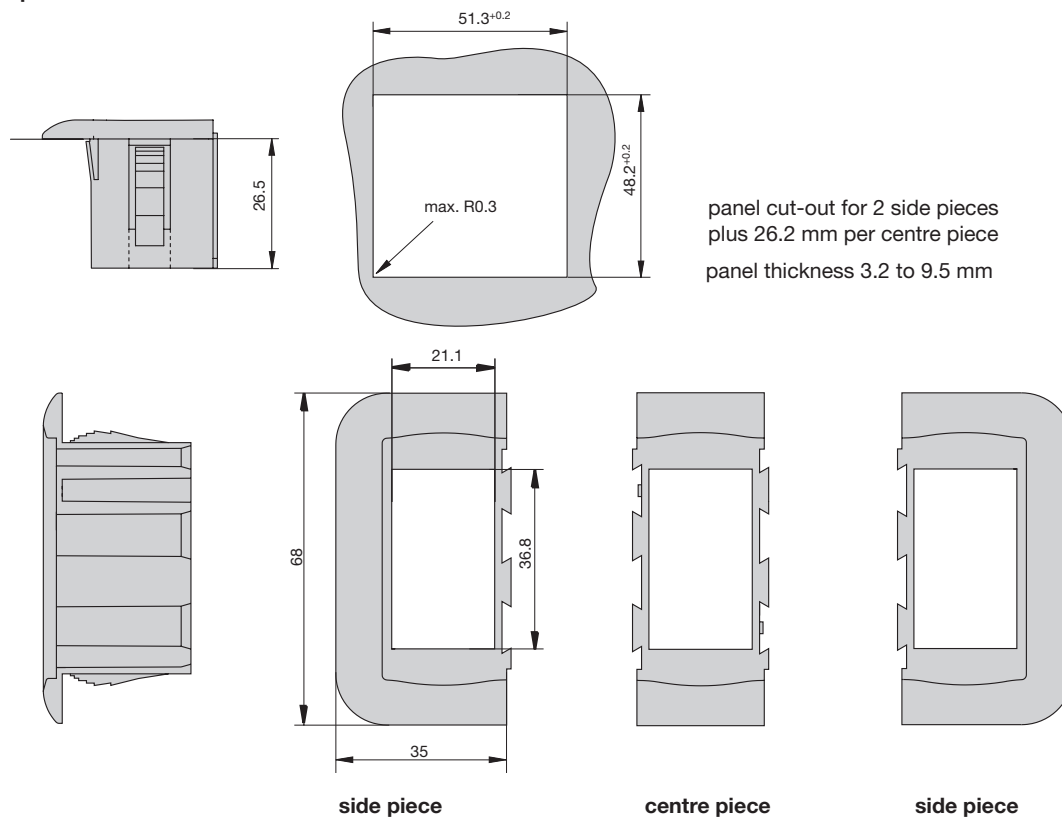
Consisting of a left- and right-side piece, can be expanded by a centre piece.

(Please order 2 side pieces per mounting frame)

The pieces firmly engage when stuck together.

side piece Y 308 790 01

centre piece Y 308 791 01



This is a metric design and millimeter dimensions take precedence (mm)
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.