

Description

Circuit breaker combined with illuminated ON/OFF rocker switch in a miniaturised design

Features

- For snap-in mounting, actuator design: rocker switch. For other mounting and actuator designs, please refer to the additional 1410 data sheets.
- Current rating range 0.63...10 A
- Rated voltage range AC 125/250 V, DC 28 V, DC 60 V
- Very fast trip curve through globally unique hot wire principle
- Reliable overcurrent trip through snap action and trip-free mechanisms
- Trip behaviour is independent from the ambient temperature
- Rocker illumination

Typical applications

Transformers, motors and gear protection in household appliances and office equipment as well as hand tools

Benefits

- Perfect combination of fuse replacement and ON/OFF switch thanks to compact dimensions and suitable current ratings
- Maximum device availability: after an overcurrent trip, the circuit breaker can be immediately reset, no fuse replacement required
- Fast trip curve ensures on-time disconnection and protection of sensitive components on printed circuit boards
- Rocker illumination indicates the switching status clearly visible. Optionally with illumination after an overcurrent trip

Compliance



Approvals

Approval authority	Standard	Rated voltage	Current rating range
UL	UL 1077	AC 250 V DC 60 V DC 50 V	0.63 A...10 A 0.63 A...5 A 5.5 A...8 A
CSA	C22.2 No 235	AC 125 V DC 48 V	0.63 A...8 A 0.63 A...8 A



1410-F1..

Technical data

For detailed technical information please see www.e-t-a.de/ti_en

Rated voltage	UL: AC 250 V, DC 50 V, DC 60 V CSA: AC 125 V, DC 48 V		
Current rating range	0.63 ... 10 A		
Typical life			
ON/OFF switch	30,000 cycles for $I_N \leq 6.3$ A AC/DC 10,000 cycles for $I_N > 6.3$ A AC 3,000 cycles for $I_N > 6.3$ A DC		
Circuit breakers	500 disconnections at $2 \times I_N$		
Ambient temperature	-20 °C ... +70 °C		
Insulation coordination (IEC 60664, IEC 60934)	Overvoltage category II (Rated impulse voltage 2.5 kV), pollution degree 2		
Dielectric strength			
Degree of protection	II at actuating area, test voltage AC 3000 V		
Insulation resistance	> 100 MOhm (DC 500 V)		
Interrupting capacity I_{cn}	0.63 ... 2 A	$12 \times I_N$	
	2.5 ... 8 A	$8 \times I_N$ AC, max. 50 A	
	10 A	$6 \times I_N$	
	3.15 ... 10 A	$10 \times I_N$ DC	
Rupture capacity	0.63 ... 10 A	2,000 A	at AC 250V
	UL 1077	0.63 ... 8 A	200 A at DC 50V
		0.63 ... 5 A	200 A at DC 60V
Degree of protection (IEC 60529)	Actuating area IP30 IP00 terminal area		
Vibration resistance	8 g (57-500 Hz), ± 0.61 mm (10-57 Hz), Test according to IEC 60068-2-6, test Fc 10 frequency cycles/axis		
Shock resistance	20 g (11 ms) Test according to IEC 60068-2-27, test Ea		
Corrosion	48 hours at 5 % salt mist, Test according to IEC 60068-2-11, test Ka		
Humidity	96 hrs 95 % RH, test according to IEC 60068-2-78, test Cab		
Mass	9 g		

Ordering number code

Type No.	1410	Circuit breakers with thermal trip principle
Mounting method	F	Snap-in mounting
Size	1	Panel cut-out 28 x 12.7
Number of poles	1	1-pole, thermally protected
Design, accessories	0	none
Terminal design	P1	Blade terminals according to IEC 61210, 2.8 x 0.8 mm/6.3 x 0.8 mm, silver-plated
Characteristic curve	F1	Fast trip curve
Actuator	W	Rocker switch, rounded
Actuator colour	14	red translucent
Actuator marking	Q	I and O on actuator surface
Illumination	E	Rocker illuminated in ON-position
	B	Rocker illuminated after tripping
Illumination voltage (Standard) range	2	20-28 V nominal value 24 V AC/DC
	3	90-140 V nominal value 115 V AC
	4	185-275 V nominal value 230 V AC
Current rating range	0.63 ... 10 A	
Ordering example	1410-F1 1 0 - P1 F1- W14 Q	E 3-2 A

Ordering example

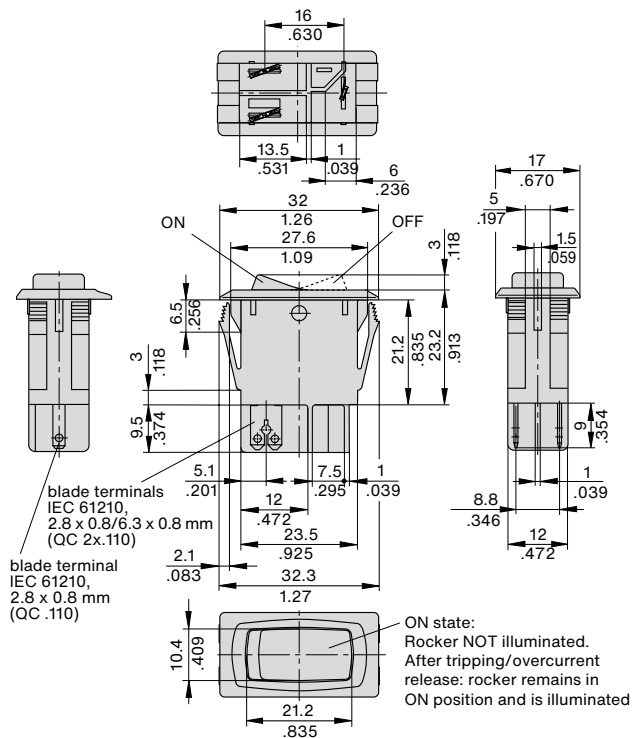
Please observe our minimum order quantities.

Current ratings I_N and typical internal resistance values

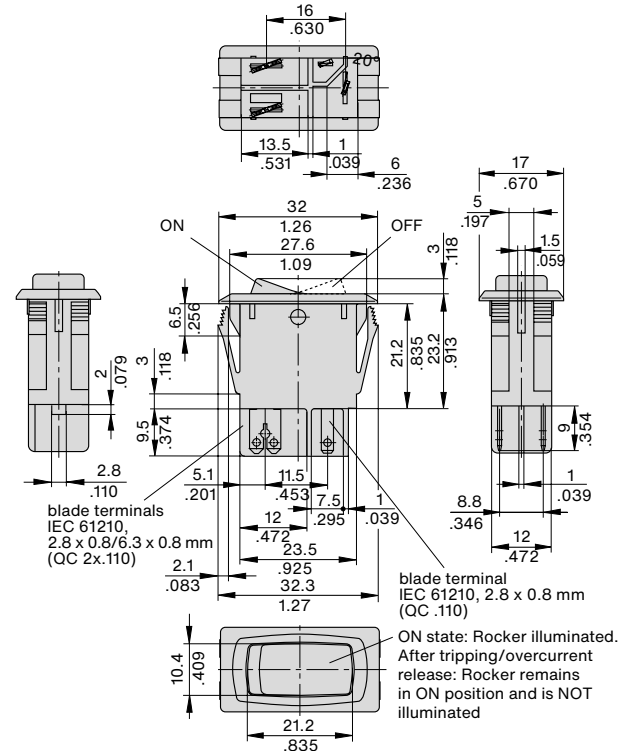
Current rating (A)	Internal resistance (Ω)	Current rating (A)	Internal resistance (Ω)
0.63	1.8	3.15	< 0.12
1	1.3	4	< 0.1
1.5	< 1	5	< 0.1
2	< 1	6.3	< 0.1
2.5	< 0.15	8	< 0.1
		10	< 0.1

Dimensions

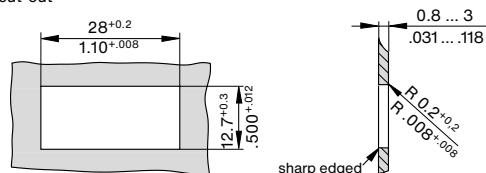
1410-F...-...-...B.



1410-F...-...-...E.



panel cut-out

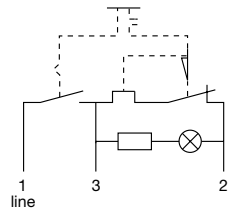


Note

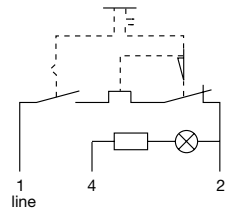
- In the event of an overcurrent release, the rocker remains in ON position. The circuit breaker can be switched on again via the OFF position (reset).
- We recommend illumination version B as overcurrent release indication.

Schematic diagrams

1410-F...-...-...B.



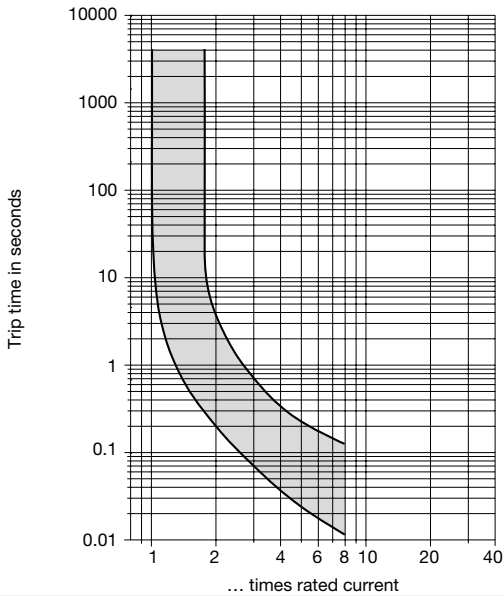
1410-F...-...-...E.



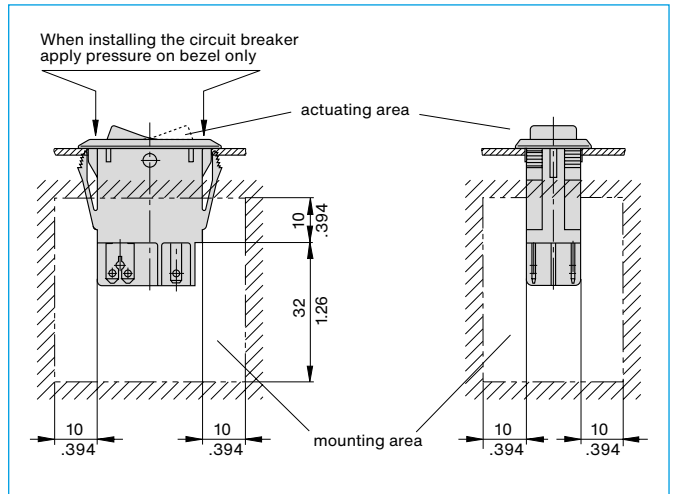
lamp current:
 24 V = 35 mA
 115 V < 1 mA
 230 V < 1 mA

Time/current characteristics

Ambient temperature 23 °C



Installation drawing



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