



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Description

Very cost effective design to meet international requirements. No exposed metal parts which are, or could become, current-carrying except for terminals. R-type TO CBE to EN 60934.

- Manual reset, cycling trip free mechanism
- Extremely small and lightweight
- UL, CSA, VDE and EN 60934 (IEC 60934) approved

Typical applications

Battery chargers, consumer products, power supplies, motors.

Ordering information

Type No.	
1658	single pole thermal circuit breaker
Threadneck design	
G21	manual reset type, 3/8"-27 threadneck
G41	manual reset type, 7/16"-28 threadneck
A21	auto reset type, 3/8"-27 threadneck
A41	auto reset type, 7/16"-28 threadneck
A00	auto reset type, without threadneck
F01	snap in
Hardware	
00	no hardware
01	one PAL nut, bulk
02	one PAL nut, one knurled nut, bulk
03	one PAL nut mounted
04	one PAL nut, one knurled nut, mounted
05	one PAL nut mounted, one knurled nut, bulk
06	one knurled nut, bulk
07	one hex nut, bulk
08	two hex nuts, bulk
Terminals	
P10	blade terminals A6.3-0.8 (QC .250)
P13	blade terminals A6.3-0.8 (QC .250), 90°
S80	straight screw terminals*
S83	90° bent screw terminals*
Current ratings	
5...30 A	
1658 - G21 - 02 - P10 - 5 A Ordering example	

* Screws and lock washers bulk shipped

Standard current ratings and typical voltage drop values

Current rating (A)	Voltage drop (mV)	Current rating (A)	Voltage drop (mV)
5	≤ 250	12	≤ 250
6	≤ 250	15	≤ 250
7	≤ 250	16	≤ 250
8	≤ 250	20	≤ 250
9	≤ 250	25	≤ 250
10	≤ 250	30	≤ 250

Approvals

Authority	Voltage rating	Current ratings
VDE (EN 60934)	AC 240 V; DC 28 V	5...25 A
UL	AC 240 V	5...16 A 1658-G../F..
	AC 120 V	18...30 A 1658-G../F..
	AC 120 V	5...30 A 1658-A...
	DC 32 V	5...30 A 1658-G../F..
	DC 28 V	5...30 A 1658-A..



1658-...

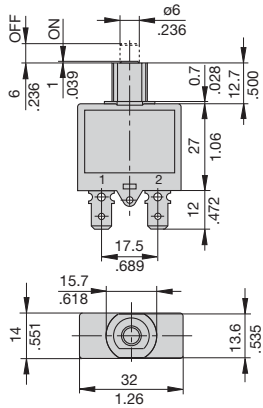
Technical data

For further details please see chapter: Technical Information

Voltage rating	AC 240 V; DC 28 V	
Current ratings	5...30 A	
Typical life	5...16 A	1,000 operations at 2 x I _N , inductive
	17...25 A	1,000 operations at 2 x I _N , resistive
Ambient temperature	-20...+60 °C (-4...+140 °F), ≤ 7 A max. +40 °C (+104 °F)	
Insulation co-ordination (IEC 60664 and 60664 A)	rated impulse withstand voltage	pollution degree 2
	reinforced insulation in operating area	
Dielectric strength (IEC 60664 and 60664 A) operating area	test voltage	AC 3,000 V
	> 100 MΩ (DC 500 V)	
Insulating capacity I _{cn}	5...7 A	180 A
	8...30 A	200 A
Interrupting capacity (UL 1077/EN 60934 PC1)	I _N 5...16 A	U _N AC 240 V 2,000 A
	17...30 A	AC 120 V 2,000 A
	5...30 A	DC 32 V 2,500 A
	5...30 A	DC 28 V 2,000 A (1658-A..)
Degree of protection (IEC 60529/DIN 40050)	operating area	IP40
	terminal area	IP00
Vibration	8 g (57-500 Hz) ± 0.61 mm (10-57 Hz), to IEC 60068-2-6, test Fc, 10 frequency cycles/axis	
Shock	30 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. 16 g	

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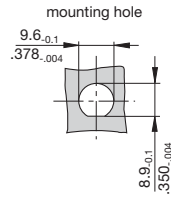
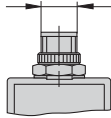
Dimensions



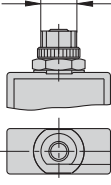
A00



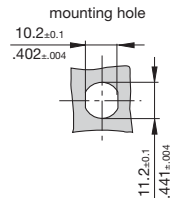
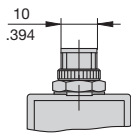
A21 tightening torque max. 0.8 Nm
3/8-27UNS-2A



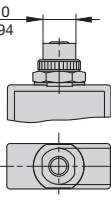
G21 tightening torque max. 0.8 Nm
3/8-27UNS-2A



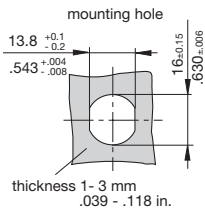
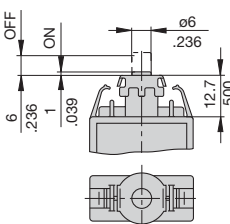
A41



G41
 10
 .394
 double "D"
 7/16-28UNS-2A
 tightening torque max. 0.8 Nm



F01

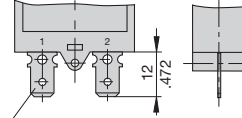


Caution:
Please keep a tight grip on the unit while removing the female connectors.

See ordering information for mounting hardware.

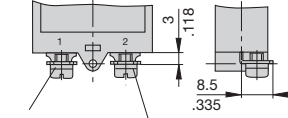
Terminal design

P10



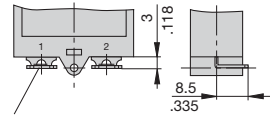
blade terminals DIN 46244-A6.3-0.8 (QC .250)

S83



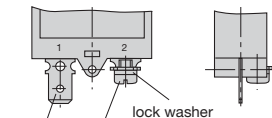
terminal screw 6-32 UNC
lock washer

P13



blade terminals DIN 46244-A6.3-0.8 (QC .250) angled 90°

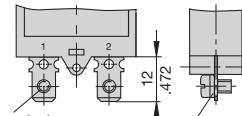
P10-S83



terminal screw 6-32 UNC
lock washer

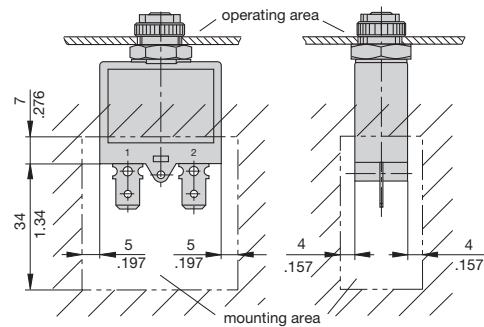
blade terminals DIN 46244-A6.3-0.8 (QC .250)

S80



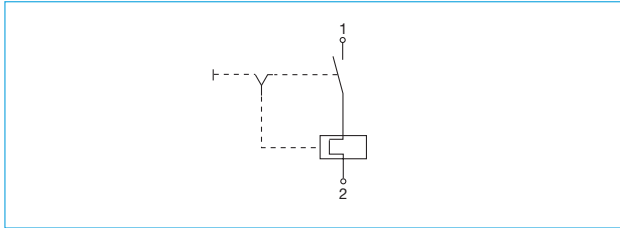
terminal screw 6-32 UNC
lock washer

Installation drawing

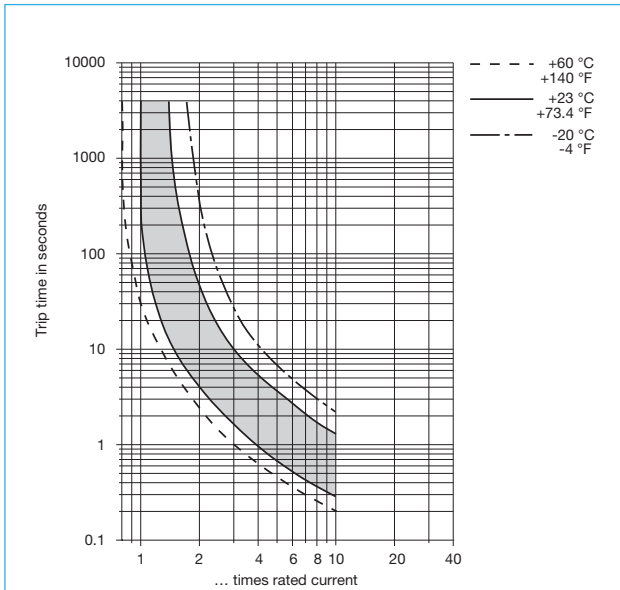


This is a metric design and millimeter dimensions take precedence ($\frac{mm}{inch}$)

Internal connection diagram



Typical time/current characteristics

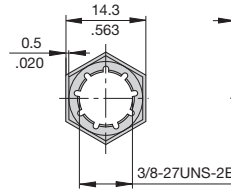


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

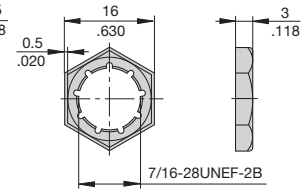
Ambient temperature °F	-4	+14	+32	+73.4	+104	+122	+140
°C	-20	-10	0	+23	+40	+50	+60
Derating factor $I_N > 7A$	0.83	0.85	0.9	1	1.1	1.18	1.25
$I_N \leq 7A$	0.74	0.76	0.82	1	1.23	-	-

Accessories

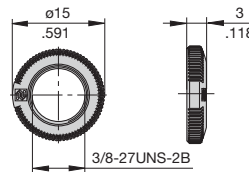
Mounting nut 3/8", 27-thread
Y 306 671 01



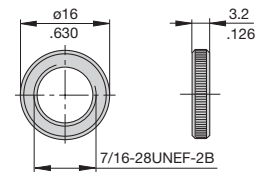
Mounting nut 7/16", 28-thread
Y 303 200 01



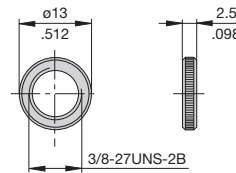
Knurled nut 3/8", 27-thread
plastic (standard)
Y 307 117 02



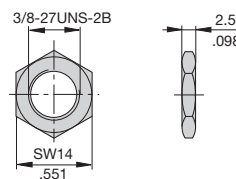
Knurled nut 7/16", 28-thread
nickel-plated brass
Y 302 294 03



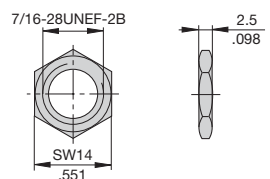
Knurled nut 3/8", 27-thread
nickel-plated brass
Y 300 190 03



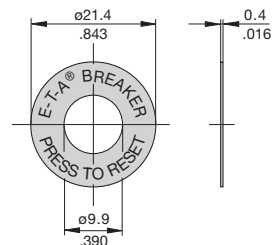
Hex nut 3/8", 27-thread
nickel-plated brass
Y 300 192 01



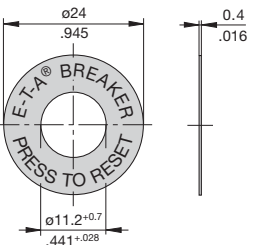
Hex nut 7/16", 28-thread
nickel-plated brass
Y 302 295 01



Press to Reset Plate for 3/8"
thread, aluminium
Y 301 059 02



Press to Reset Plate for 7/16"
thread, aluminium
Y 302 732 01

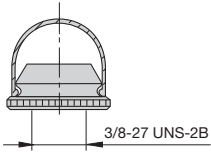


This is a metric design and millimeter dimensions take precedence ($\frac{mm}{inch}$)

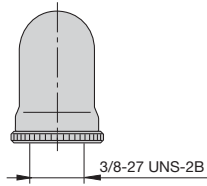
Accessories

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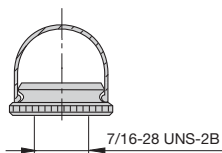
**Reset button seal for 3/8", 27-thread,
short**
X 201 285 01



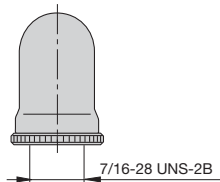
long
X 200 799 01



**Reset button seal for 7/16", 28-thread,
short**
X 222 119 01



long
X 222 119 02



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.