

Description

Single and multi-pole circuit breakers with magnetic or hydraulic-magnetic tripping, threadneck or plug-in socket mounting, and a choice of tripping characteristics. Push/pull manual actuation for switching on and off. A precise switching mechanism ensures unaffected trip-free operation and reliable disconnection even at the smallest overcurrents. Low temperature sensitivity at rated load.

Approved to CBE standard EN 60934 (IEC 60934): S-type, HM or MO.

Typical application

Control equipment, communications systems, power semiconductors.

Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance (Ω) per pole		
	-F4/-F5	-E1/H1/R1	-E2/H2/R2
0.02	583	2 896	2 660
0.05	94	531	542
0.08	35.6	202	199
0.1	22.9	129	127
0.15	9.89	57.3	55.7
0.2	5.02	30.5	30.5
0.3	2.44	13.9	13.7
0.5	0.789	4.50	4.42
0.75	0.392	2.19	1.82
1	0.246	1.10	1.08
1.25	0.145	0.695	0.686
1.5	0.10	0.487	0.472
1.75	0.083	0.355	0.337
2	0.059	0.295	0.291
2.5	0.048	0.174	0.168
3	0.028	0.121	0.118
4	< 0.02	0.0729	0.0687
5	< 0.02	0.0437	0.0449
6	< 0.02	0.0329	0.0323
8	< 0.02	< 0.02	< 0.02
10	< 0.02	< 0.02	< 0.02
12	< 0.02	< 0.02	< 0.02
15	< 0.02	< 0.02	< 0.02
16	< 0.02	< 0.02	< 0.02
20	< 0.02	< 0.02	< 0.02
25	< 0.02*	< 0.02	< 0.02
30	< 0.02*	< 0.02	< 0.02
40		< 0.02	
50		< 0.02	

* 50 % ON duty / 60 min.



Technical data

For further details please see: http://www.e-t-a.de/ti_e

Voltage rating 3 AC 415 V; AC 240 V, 50/60 Hz; DC 80 V (higher DC voltages to special order)

Current ratings 0.02...50 A DC
0.02...30 A AC

Typical life

3 AC 415 V, AC 240 V:

0.02...30 A 6,000 operations at $1 \times I_N$, inductive

10,000 operations at $1 \times I_N$, resistive

DC 80 V: 0.02...25 A

6,000 operations at $1 \times I_N$, inductive

0.02...30 A 10,000 operations at $1 \times I_N$, resistive

40 + 50 A 5,000 operations at $1 \times I_N$, resistive

Ambient temperature -40...+85 °C (-40...+185 °F)

Insulation co-ordination rated impulse pollution
(IEC 60664 and 60664A) withstand voltage degree
2.5 kV 2
reinforced insulation in operating area

Dielectric strength

(IEC 60664 and 60664A)

operating area

Line to Load

pole to pole (2- and 3-pole)

switching to trip circuit

(version -X)

test voltage AC 3,000 V

test voltage AC 1,500 V

test voltage AC 1,500 V

test voltage AC 1,500 V

Insulation resistance > 100 M Ω (DC 500 V)

Interrupting capacity 6 x I_N at AC;
IEC 60934 - test sequence E 4 x I_N at DC

Interrupting capacity
(UL 1077)

I_N 0.02...20 A 25...30 A
AC: 1-pole AC 250 V/3,500A AC 250 V/3,500A

2-pole AC 250 V/3,500A AC 250 V/5,000A

DC: 1-pole 0.02...50 A DC 80 V/3,500 A

2-pole 0.02...30 A DC 80 V/3,500 A

Degree of protection operating area IP40
(IEC 60529/DIN 40050) terminal area IP00

Vibration

with button down: 10 g (57-2000 Hz), ± 0.76 mm (10-57 Hz)
at $0.9 \times I_N$

other mounting planes: 10 g (57-2000 Hz) at I_N
to IEC 60068-2-6, test Fc
10 frequency cycles/axis

Shock

100 g (11 ms) at $1 \times I_N$, directions

1,2,3,4,5

100 g (11 ms) at $0.8 \times I_N$, direction 6
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. 70 g per pole

Ordering information

Type No.

8340 Magnetic push/pull circuit breaker

Mounting

G threadneck panel mounting

Threadneck design

2 M12x1

Number of poles (main current paths)

1 single pole, protected

2 two pole, protected

3 three pole, protected

Panel hardware

0 without panel hardware

1 with hex nut M12x1 and washer 12/15

Terminal design

P1 blade terminals A6.3-0.8 mm (QC.250) (≤ 35 A)

K4 screw terminals M5 recommended for $I_N > 20$ A

Characteristic curve *)

Characteristic curve, instantaneous:

F4 DC

F5 AC 50/60 Hz

Short delay:

E1 DC

E2 AC 50/60 Hz

Medium delay:

H1 DC

H2 AC 50/60 Hz

Long delay:

R1 DC

R2 AC 50/60 Hz

Actuator colour

A black with white trip indicator band

Actuator marking

4 rated current

legible with location pin above (standard)

7 rated current

legible with location pin below

Auxiliary contacts

H0 without auxiliary contacts

Current ratings (optional)

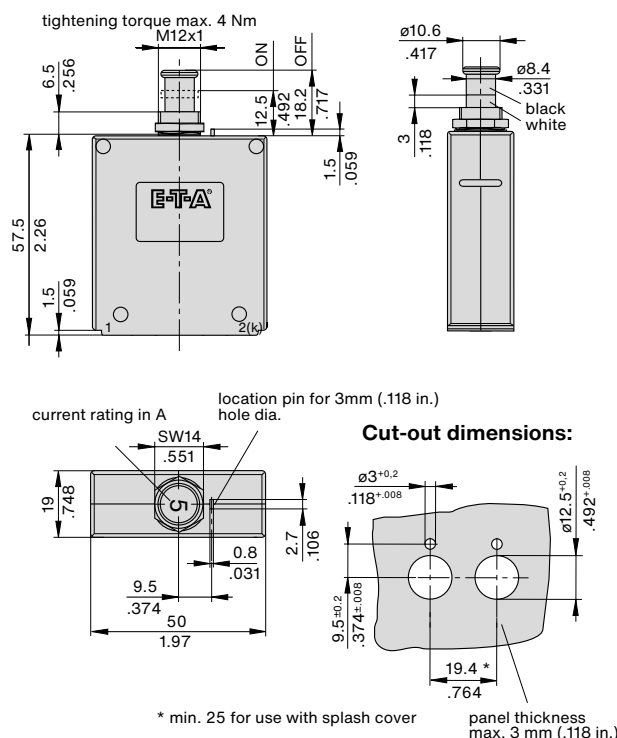
0.02...50 A

8340-G 2 2 1- P1 F4- A 4 H0 - 8 A ordering example

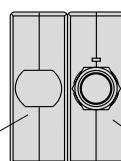
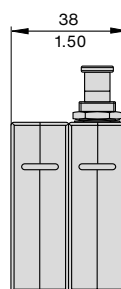
Please be informed that we have minimum ordering quantities to be observed.

*) Other characteristic curves upon request (e.g. pulse delayed, for high inrush currents or capacitive loads)

Dimensions (1-pole)



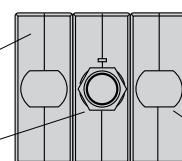
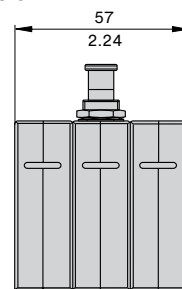
2-pole



unit 1

unit 2

3-pole

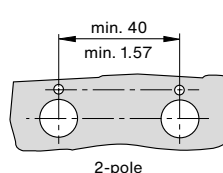


unit 1

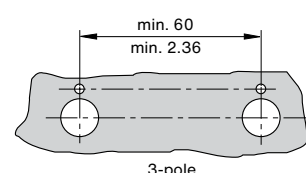
unit 2

unit 3

Cut-out dimensions:



2-pole



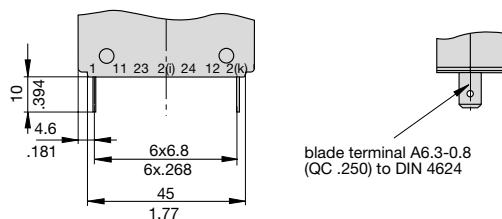
3-pole

panel thickness max. 3 mm (.118 in.)

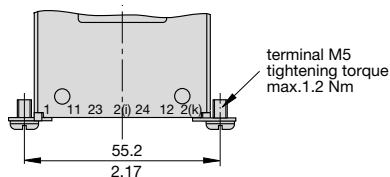
This is a metric design and millimeter dimensions take precedence ($\frac{\text{mm}}{\text{inch}}$)

Terminal design

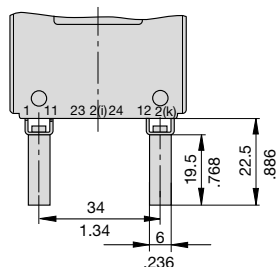
Terminal design -P1



Terminal design -K4

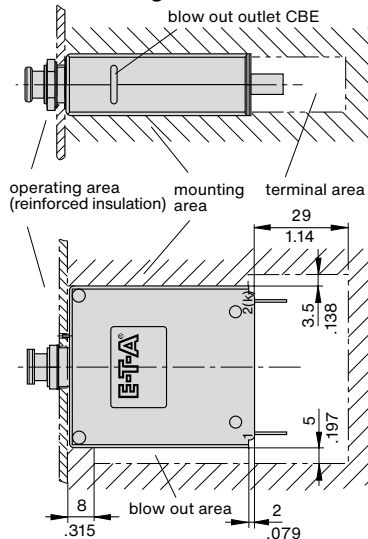


Terminal design -R1

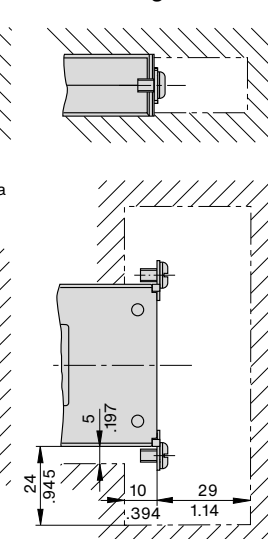


Installation drawings

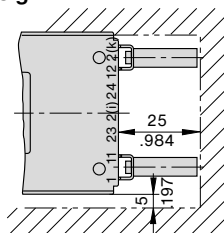
Terminal design -P



Terminal design -K

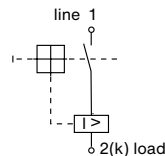


Terminal design -R

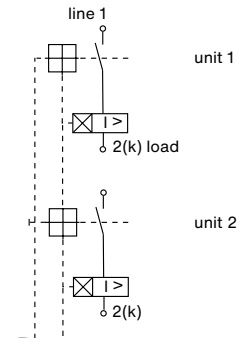


Internal connection diagrams

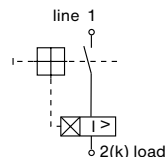
1-pole, protected magnetically



double pole



1-pole, protected hydraulic-magnetically



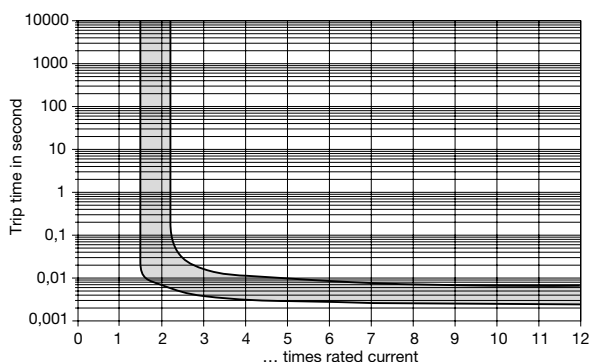
Approvals

Authority	Standard	Rated voltage	Current ratings
VDE	IEC / EN 60934	AC 240/415 V AC 240 V DC 80 V	0.02 A...30 A 0.02 A...30 A 0.02 A...50 A
UL	UL 1077	AC 250 V DC 80 V DC 80 V	0.02 A...30 A 0.02 A...50 A 100 A (2 poles in parallel)
CSA	C22.2 No 235	AC 250 V DC 80 V	0.02 A...30 A 0.02 A...50 A
CQC	GB 17701	AC 240/415 V AC 240 V DC 80 V DC 110 V	0.02 A...30 A 0.02 A...30 A 0.02 A...50 A 0.02 A...50 A (8340-G)
QPL Sweden Defence Material Admin.	MIL-C-55629	AC 240 V DC 50 V AC 240 V AC 240 / 415 V	1 A...30 A (8340-F410) 1 A...30 A (8340-410) 1 A...30 A (8340-F420) 1 A...30 A (8340-F430)

Typical time/current characteristics

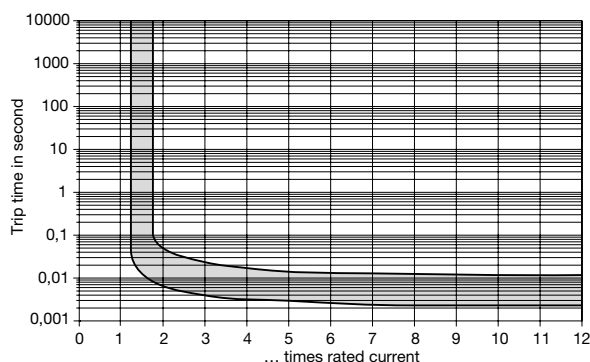
Curve F4 for DC, magnetic (instantaneous)

($I_N > 20$ A, 50% ON period, 60 min.) at +23 °C / +73.4 °F

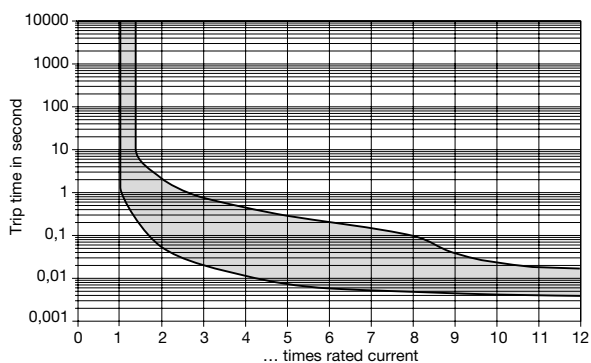


Curve F5 for AC 50/60 Hz (instantaneous)

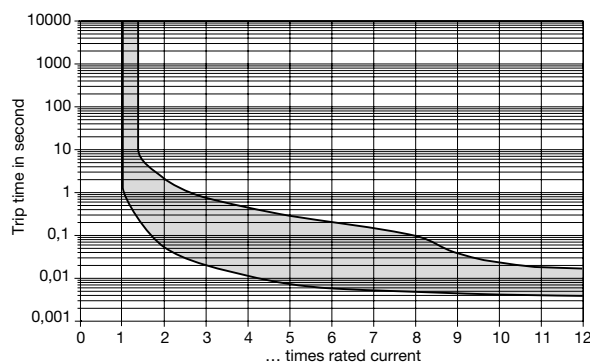
($I_N > 20$ A, 50 % ED/60 min.)



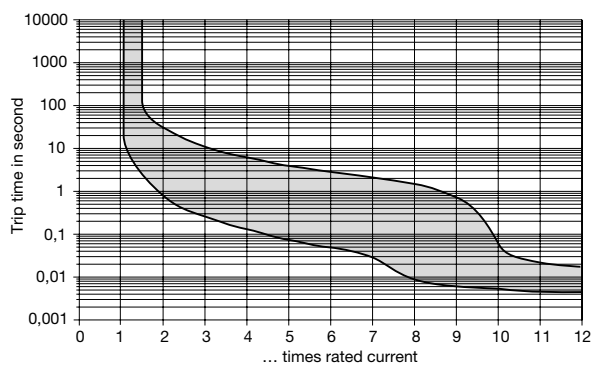
Curve E1 for DC (short delay)



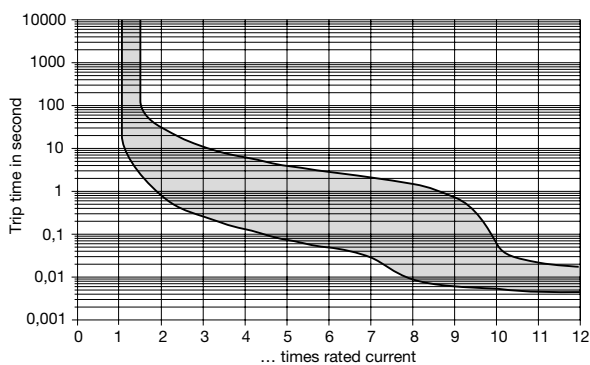
Curve E2 (short delay) for AC 50/60 Hz



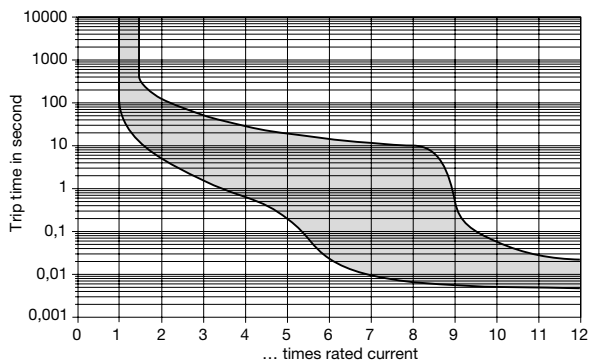
Curve H1 for DC (medium delay)



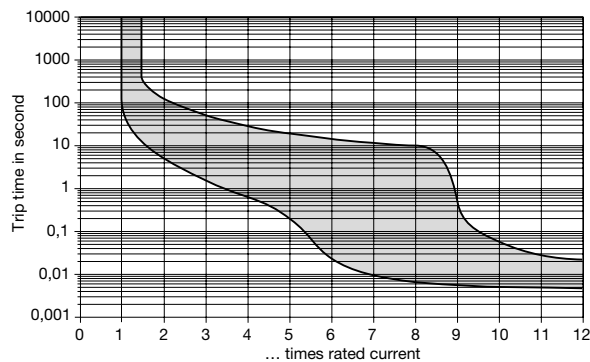
Curve H2 (medium delay) for AC 50/60 Hz



Curve R1 for DC (long delay)



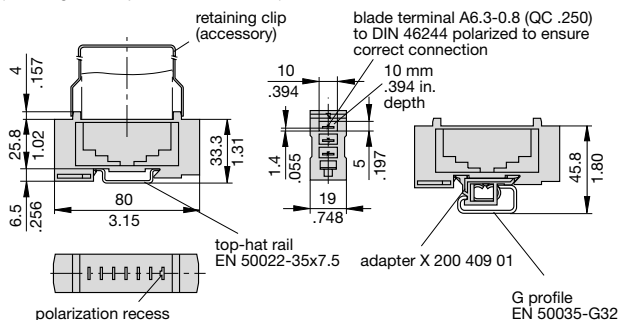
Curve R2 (long delay) for AC 50/60 Hz



Accessories

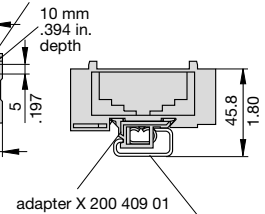
Socket 18-P10-Si

(for ratings >16 A please contact E-T-A)



Polarized socket with adapter 18-P10-Si-20025

blade terminal A6.3-0.8 (QC .250) to DIN 46244 polarized to ensure correct connection



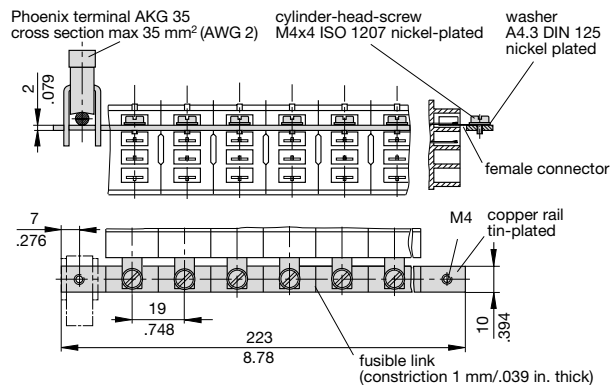
Bus bar (10-way) (supplied as a complete package)

for type 18 socket

(for max. 100 A continuous load), more positions available on request

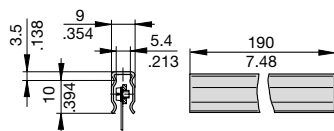
X 211 158 01 with terminal

X 211 158 02 without terminal



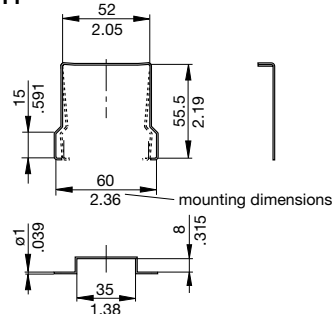
Insulated sleeving for bus bars

Y 303 824 11



Retaining clip for socket 18-P10-Si

Y 300 579 11



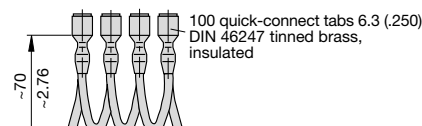
Connector bus link -P10

X 210 588 01/1.5 mm² (AWG 16), brown (up to 13 A max. load)

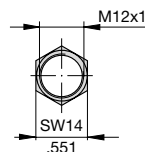
X 210 588 02/2.5 mm² (AWG 14), black (up to 20 A max. load)

X 210 588 03/2.5 mm² (AWG 14), red (up to 20 A max. load)

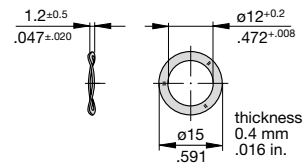
X 210 588 04/2.5 mm² (AWG 14), blue (up to 20 A max. load)



Hex nut Y 300 116 02



Spring washer Y 300 118 03

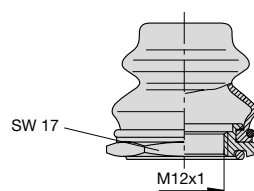


Accessories for push button

Splash cover with hex nut and O ring (IP66 and IP67)

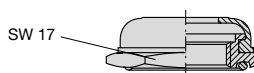
X 200 801 08 (nickel plated hex nut M12x1, splash cover transparent)

X 200 801 03 (black finish hex nut M12x1, splash cover black)



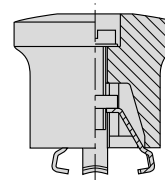
Splash seal, black, hex nut and O ring (IP54)

X 200 802 01 (nickel plated hex nut M12x1, splash seal black)

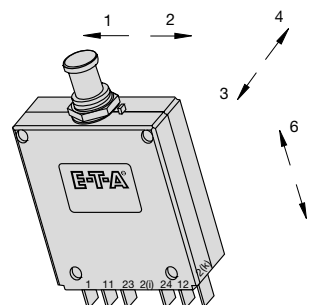


Actuator extension

X 200 803 01 (black button)



Shock directions / Mounting attitudes



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.