

Description

Single pole compact high performance thermal circuit breaker with tease-free, trip-free, snap action mechanism and push/pull on/off manual actuation (M-type TO CBE to EN 60934). An indicator band on the push button clearly shows the tripped/off position. Threadneck panel mounted in tracked vehicle and aircraft/general purpose versions, with optional auxiliary contacts.

Typical applications

Extra low voltage wiring systems on all types of vehicles for land, sea and air, battery powered machines, process control.

Ordering information

Type No.

482 single pole thermal circuit breaker

Mounting

G threadneck panel mounting

Threadneck design

1 M 12x1 nickel plated

2 M 12x1 black

3 15/32-UN-2A black

6 M12x1x8 black, without locating pin, push button marking as with 482-G2..

7 M12x1x6,4 black, without locating pin, push button marking as with 482-G1..

Hardware - washer for threadneck

0 without hardware

1 corrugated washer 12/15, fitted

2 serrated lock washer 12/15, fitted (MS 35333-136)

3 serrated lock washer 12/15, bulk shipped (MS 35333-136)

Hardware - hex nut for threadneck

0 without hardware

1 hex nut M12x1 nickel plated

2 hex nut M12x1 black

3 hex nut 15/32-UN-2B black, fitted

4 hex nut 15/32-UN-2B black, bulk shipped

Terminal design (main terminals)

K1 screw terminals with metric thread M4

J1 screw terminals with inch thread 8-32-UNC-2B

R1 round connector ø6

Characteristic curve

M1 thermal 1.15-1.4 I_N

Terminal screws

A flat head screw M4x6, ISO 1580, fitted

B Phillips screw 8-32UNC-2Ax6

(MS 51957-41), fitted

F Phillips screw M4x6 (ISO 7045), bulk shipped

H socket head cap screw

M4x6 (DIN 7984), fitted

K hex screw 8-32UNC-3Ax7.6 fitted

Terminal washers

0 without lock washer

1 lock washer DIN 137-B4, fitted

2 lock washer 4.3, fitted, MS 35336-37

3 lock washer 4.3, bulk shipped

(MS 35 338-137)

5 lock washer 4.3/9, fitted

6 lock washer DIN 137-B4, bulk shipped

Auxiliary contact

S0 without auxiliary contacts

S1 with auxiliary contact (NC)

S5 with polarized aux. contact (NC)

Barrier

(blank) without barrier

T with barrier, 31 mm wide

Current ratings

0.1...50 A

482 - G 1 1 1 - K1 M1 - A 1 S1 . - 10 A ordering example



without aux. contacts



with aux. contacts

482

Technical data

Voltage rating	AC 115 V (400 Hz); DC 28 V AC 230 (50/60 Hz) to special order		
Current rating range	0.1...50 A		
Auxiliary circuit	0.5 A, DC 28 V		
Typical life	10,000 operations mechanical 5,000 operations at I _N		
Ambient temperature	-55...+75 °C (-67...+167 °F)		
Insulation co-ordination (IEC 60664 and 60664A)	rated impulse withstand voltage 1.5 kV	pollution degree 3	
Dielectric strength (IEC 60664 and 60664A) operating area main to aux. circuit	test voltage AC 1,500 V AC 1,500 V		
Insulation resistance	> 100 MΩ (DC 500 V)		
Interrupting capacity I _{cn}	0.1...2.5 A 3...3.5 A 4...7 A 7.5...50 A 35...50 A	15 x I _N 250 A DC / 150 A AC 500 A 6,000 A DC / 1,000 A AC with auxiliary contact: 3,000 A DC / 1,000 A AC	
Interrupting capacity (UL 1077)	I _N 0.1...50 A	U _N DC 72 V	5000 A
Degree of protection (IEC 60529/DIN 40050)	operating area IP40 terminal area IP00		
Vibration	10 g (55-2000 Hz) ±0.76 mm (10-55 Hz) to VG 95210, sheet 19/IEC 60068-2-6, test Fc		
Shock	50 g (11 ms) to VG 95210, sheet 28/IEC 60068-2-27, test Ea		
Corrosion	48 hours at 5 % salt mist to VG 95210, sheet 2/IEC 60068-2-11, test Ka		
Humidity	240 hours at 95 % RH to VG 95210, sheet 7/IEC 60068-2-3, test C		
Explosion	to VG 95210, sheet 10/MIL-STD-202, meth. 109		
Mass	approx. 43 g without auxiliary contact approx. 46 g with auxiliary contact		

Approvals

Authority	Voltage ratings	Current ratings
VG 95345 T21	DC 28 V	0.1...50 A
QPL, Canada	DC 28 V	0.5...35 A
UL	DC 72 V	0.1...50 A

Previous ordering codes:

482-N-MS = 482-G111-K1M1-A1S0-...A

482-MS = 482-G212-K1M1-A1S0-...A

Current rating (A)	Volt drop (mV)	Current rating (A)	Volt drop (mV)
0.1	16 000	5	350
0.2	8 000	7.5	230
0.5	3 000	10	< 200
0.8	2 000	15	< 200
1	1 500	20	< 200
1.2	1 200	25	< 200
1.5	1 000	30	< 200
1.8	850	35	< 200
2	800	40	< 200
2.5	700	45	< 200
3	600	50	< 200
4	430		

Technical drawings of the 100A-1000A current transformer, showing dimensions in inches.

Top View (Front View):

- Overall height: 12.2" max.
- Overall width: 6.35" max.
- Terminal: M12x1
- Mounting holes: 4 holes, 1.5" max. diameter.
- Location pin: 1.5" max. diameter.
- Current rating in A: 100A, 250A, 400A, 600A, 1000A.
- Mounting holes: 4 holes, 1.5" max. diameter.
- Thickness: 1.5" - 3 mm (.059" - .118").

Bottom View (Side View):

- Overall height: 18" max.
- Overall width: 9.5" max.
- Mounting holes: 4 holes, 1.5" max. diameter.
- Location pin: 1.5" max. diameter.
- Current rating in A: 100A, 250A, 400A, 600A, 1000A.
- Mounting holes: 4 holes, 1.5" max. diameter.
- Thickness: 1.5" - 3 mm (.059" - .118").

Technical drawings of the M2018 terminal block, showing dimensions in inches and millimeters.

Front View:

- Overall height: max. 50
- Top section height: 12.2 (480)
- Top section width: 6.0 (152)
- Top section thickness: .236
- Top section width: 1.5 (38)
- Top section thickness: .059
- Top section width: 6.35 (162)
- Top section thickness: .250
- Top section width: 43.4 (1103)
- Top section thickness: 1.71 (43)
- Top section width: max. 48
- Top section thickness: max. 1.89
- Top section width: 17.9 (454)
- Top section thickness: .709
- Top section width: 45°
- Top section thickness: max. 2.5 (63)
- Top section width: max. .058
- Top section thickness: max. 10.5 (267)
- Top section width: max. 4.13 (105)
- Top section thickness: 2.7 (69)
- Top section width: 1.06
- Top section thickness: 9.5 (241)
- Top section width: 0.8 (20)
- Top section thickness: .374
- Top section width: .031
- Top section thickness: max. 31
- Top section width: max. 1.22
- Top section thickness: max. 6.56 (167)
- Top section width: max. 2.5 (63)
- Top section width: max. 1.05 (26)
- Top section width: max. 1.97 (50)
- Top section width: 16.2 (413)
- Top section width: .638 (16.2)
- Top section width: 7 (178)
- Top section width: .276 (7.0)

Side View:

- Overall height: max. 50
- Top section height: 12.2 (480)
- Top section width: 6.0 (152)
- Top section thickness: .236
- Top section width: 1.5 (38)
- Top section thickness: .059
- Top section width: 6.35 (162)
- Top section thickness: .250
- Top section width: 43.4 (1103)
- Top section thickness: 1.71 (43)
- Top section width: max. 48
- Top section thickness: max. 1.89
- Top section width: 17.9 (454)
- Top section thickness: .709
- Top section width: 45°
- Top section thickness: max. 2.5 (63)
- Top section width: max. .058
- Top section thickness: max. 10.5 (267)
- Top section width: max. 4.13 (105)
- Top section thickness: 2.7 (69)
- Top section width: 1.06
- Top section thickness: 9.5 (241)
- Top section width: 0.8 (20)
- Top section thickness: .374
- Top section width: .031
- Top section thickness: max. 31
- Top section width: max. 1.22
- Top section thickness: max. 6.56 (167)
- Top section width: max. 2.5 (63)
- Top section width: max. 1.05 (26)
- Top section width: max. 1.97 (50)
- Top section width: 16.2 (413)
- Top section width: .638 (16.2)
- Top section width: 7 (178)
- Top section width: .276 (7.0)

Detail View:

- Overall height: max. 50
- Top section height: 12.2 (480)
- Top section width: 6.0 (152)
- Top section thickness: .236
- Top section width: 1.5 (38)
- Top section thickness: .059
- Top section width: 6.35 (162)
- Top section thickness: .250
- Top section width: 43.4 (1103)
- Top section thickness: 1.71 (43)
- Top section width: max. 48
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- Top section thickness: max. 2.5 (63)
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- Top section width: max. 1.97 (50)
- Top section width: 16.2 (413)
- Top section width: .638 (16.2)
- Top section width: 7 (178)
- Top section width: .276 (7.0)

Mounting Holes:

- Overall height: max. 50
- Top section height: 12.2 (480)
- Top section width: 6.0 (152)
- Top section thickness: .236
- Top section width: 1.5 (38)
- Top section thickness: .059
- Top section width: 6.35 (162)
- Top section thickness: .250
- Top section width: 43.4 (1103)
- Top section thickness: 1.71 (43)
- Top section width: max. 48
- Top section thickness: max. 1.89
- Top section width: 17.9 (454)
- Top section thickness: .709
- Top section width: 45°
- Top section thickness: max. 2.5 (63)
- Top section width: max. .058
- Top section thickness: max. 10.5 (267)
- Top section width: max. 4.13 (105)
- Top section thickness: 2.7 (69)
- Top section width: 1.06
- Top section thickness: 9.5 (241)
- Top section width: 0.8 (20)
- Top section thickness: .374
- Top section width: .031
- Top section thickness: max. 31
- Top section width: max. 1.22
- Top section thickness: max. 6.56 (167)
- Top section width: max. 2.5 (63)
- Top section width: max. 1.05 (26)
- Top section width: max. 1.97 (50)
- Top section width: 16.2 (413)
- Top section width: .638 (16.2)
- Top section width: 7 (178)
- Top section width: .276 (7.0)

Dimensions:

- Overall height: max. 50
- Top section height: 12.2 (480)
- Top section width: 6.0 (152)
- Top section thickness: .236
- Top section width: 1.5 (38)
- Top section thickness: .059
- Top section width: 6.35 (162)
- Top section thickness: .250
- Top section width: 43.4 (1103)
- Top section thickness: 1.71 (43)
- Top section width: max. 48
- Top section thickness: max. 1.89
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- Top section thickness: .709
- Top section width: 45°
- Top section thickness: max. 2.5 (63)
- Top section width: max. .058
- Top section thickness: max. 10.5 (267)
- Top section width: max. 4.13 (105)
- Top section thickness: 2.7 (69)
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- Top section thickness: 9.5 (241)
- Top section width: 0.8 (20)
- Top section thickness: .374
- Top section width: .031
- Top section thickness: max. 31
- Top section width: max. 1.22
- Top section thickness: max. 6.56 (167)
- Top section width: max. 2.5 (63)
- Top section width: max. 1.05 (26)
- Top section width: max. 1.97 (50)
- Top section width: 16.2 (413)
- Top section width: .638 (16.2)
- Top section width: 7 (178)
- Top section width: .276 (7.0)

Notes:

- tightening torque max. 4 Nm
- screw ISO1580-M4x6 with lock washer DIN 137 B4 tightening torque max. 1.2 Nm
- mounting holes
- thickness 1.5 - 3 mm .059 - .118 in.
- location pin
- current rating in A
- auxiliary contact female contact for male contacts to EN3155-016 M2018
- black
- white
- lock washer
- 2°
- min. 3
- min. .118
- ø10.6
- ø4.17
- ø8.4
- .331
- 14.5
- .571
- min. .032
- min. .126
- 9.5
- ø2.2
- .374
- ø12.5
- ø2
- .492
- ø.018

482-G600-K1M1-A1S0

tightening torque max. 4 Nm

OFF
12.2
.480
6 ON
.236
max. 50
max. 1.97
1.5
.059
max. 2.5
max. .059
M12x1
6.35
.250
43.4
1.71
max. 48
max. 1.89
17.9
.709
45°
screw ISO1580-M4x6
with lock washer DIN 137 B4
tightening torque max. 1.2 Nm

location pin
current rating
in A
min. $\phi 3.2$
min. .126
9.5 ± 0.2
.374 ± 0.08
thickness 1.5 - 3 mm
.059 - .118 in.
 $\phi 12.5 \pm 0.2$
1.000 .008

482-G600-K1M1-A1S0

tightening torque max. 4 Nm

OFF
10.7
.421
4.5 ON
.177
max. 50
max. 1.97
8-0.4
.315-.016
max. 2.5
max. .059
M12x1
43.4
1.71
max. 48
max. 1.89
17.9
.709
45°
screw ISO1580-M4x6
with lock washer DIN 137 B4
tightening torque max. 1.2 Nm

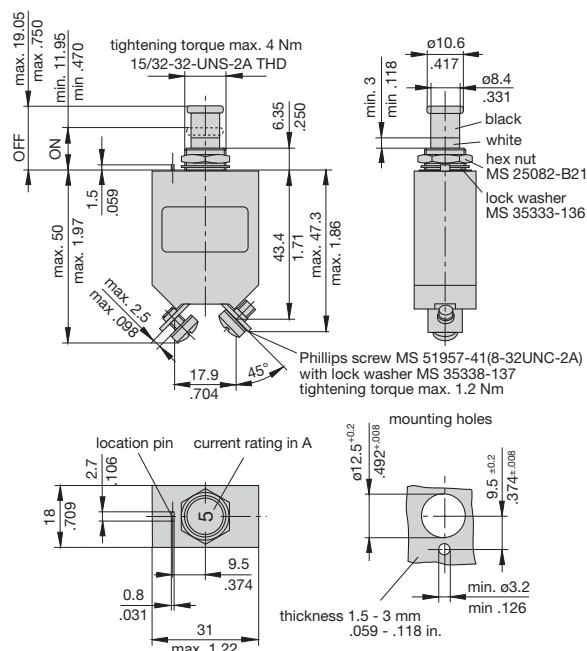
current rating in A
max. 31
max. 1.22
18
.709
thickness 1.5 - 3 mm
.059 - .118 in.

mounting hole
 $\phi 12.5 \pm 0.2$
492-.008

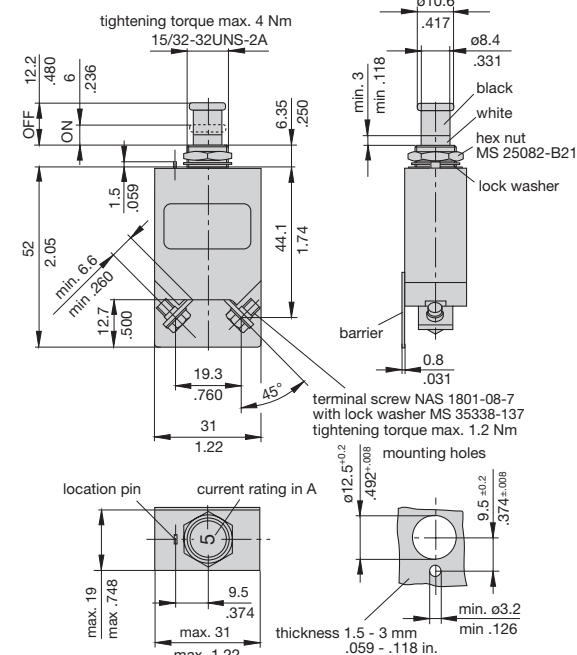
[illegible]
$$\left(\frac{\text{mm}}{\text{inch}}\right)$$

Dimensions 482-G3...

482-G323-J1M1-B2 (MS 25 244)

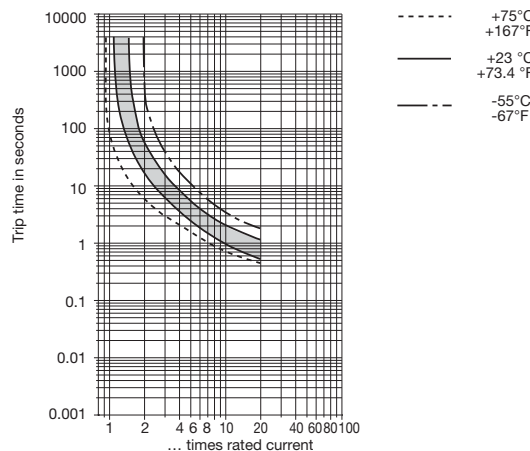


482-G323-J2..-E3S0T

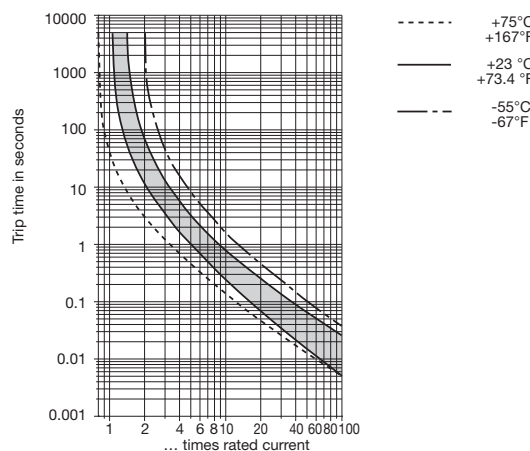


Typical time/current characteristics

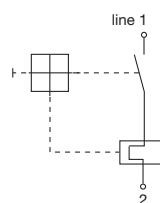
0.1...2.5 A



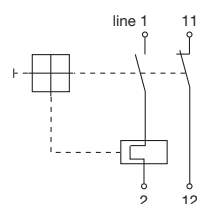
3...50 A



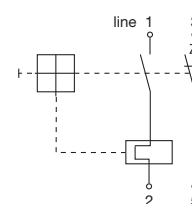
Internal connection diagrams



with auxiliary contact



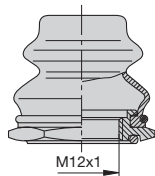
with polarized auxiliary contact



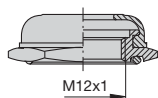
This is a metric design and millimeter dimensions take precedence (mm)
inch

Accessories (approved to VG 95345, part 23)

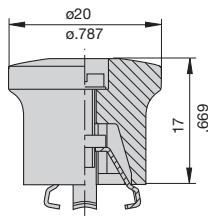
Splash cover /hex nut assembly with O ring (IP66)
X 200 801 08 - nickel plated nut M12x1, transparent cover
X 200 801 03 - matt black finish nut M12x1, black cover



Splash cover black /hex nut assembly with O ring (IP54)
X 200 802 01 - nickel plated nut M12x1
X 200 802 02 - matt black finish nut M12x1



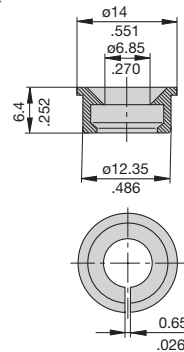
Actuator extension (black)
 to be fitted on the push button
X 200 803 01



Accessories

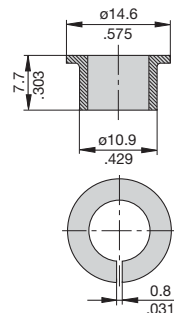
Identification collar to be snapped on the push button

Y 307 004 01 black
Y 307 004 02 white
Y 307 004 03 red
Y 307 004 04 green
Y 307 004 05 blue



Lock out ring to block the push button in OFF position

Y 307 005 01 red
Y 307 005 02 black



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.