

## 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

|  |                   |  |
|--|-------------------|--|
| <b>Type No.</b>                          | 482               | single pole thermal circuit breaker          |
| <b>Mounting</b>                          | <b>G</b>          | threadneck panel mounting                    |
| <b>Threadneck design</b>                 | <b>1</b>          | M 12x1 nickel plated                         |
|  | <b>2</b>          | M 12x1 black                                 |
| <b>Hardware - washer for threadneck</b>  | <b>0</b>          | without hardware                             |
|  | <b>1</b>          | corrugated washer 12/15, fitted              |
| <b>Hardware - hex nut for threadneck</b> | <b>0</b>          | without hardware                             |
|  | <b>1</b>          | hex nut M12x1 nickel plated                  |
|  | <b>2</b>          | hex nut M12x1 black                          |
| <b>Terminal design (main terminals)</b>  | <b>K1</b>         | screw terminals with metric thread M4        |
| <b>Characteristic curve</b>              | <b>M1</b>         | thermal 1.15-1.4 I <sub>N</sub>              |
| <b>Terminal screws</b>                   | <b>A</b>          | flat head screw M4x6, ISO 1580, fitted       |
|  | <b>F</b>          | Phillips screw M4x6 (ISO 7045), bulk shipped |
|  | <b>Z</b>          | without                                      |
| <b>Terminal washers</b>                  | <b>0</b>          | without lock washer                          |
|  | <b>1</b>          | lock washer DIN 137-B4, fitted               |
|  | <b>6</b>          | lock washer DIN 137-B4, bulk shipped         |
| <b>Auxiliary contact</b>                 | <b>S0</b>         | without auxiliary contacts                   |
|  | <b>S1</b>         | with auxiliary contact (NC)                  |
| <b>Current ratings</b>                   | <b>0.1...50 A</b> |  |

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

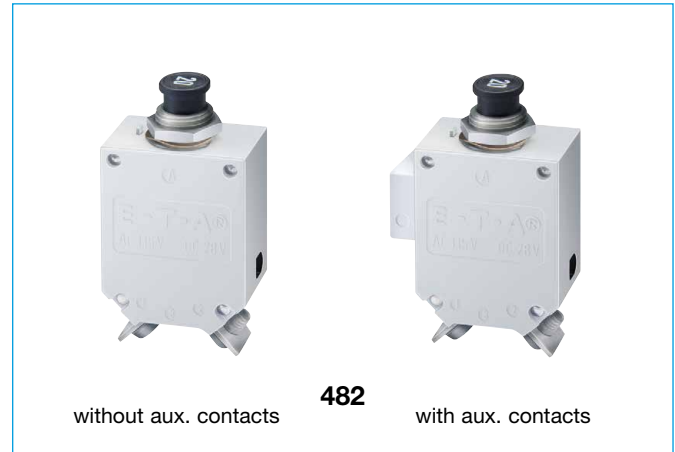
Please be informed that we have minimum ordering quantities to be observed.

## Preferred types

| Preferred types     | Standard current ratings (A) |   |   |   |   |    |    |    |    |    |    |    |    |
|---------------------|------------------------------|---|---|---|---|----|----|----|----|----|----|----|----|
|                     | 1                            | 3 | 5 | 6 | 8 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 |
| 482-G111-K1M1-A1S0- | x                            | x | x | x | x | x  | x  | x  | x  | x  | x  | x  | x  |
| 482-G212-K1M1-A1S0- | x                            |   | x |   |   | x  | x  | x  | x  | x  | x  | x  | x  |

## Approvals

| Authority | Standard          | Rated voltage | Current ratings |
|-----------|-------------------|---------------|-----------------|
| UL        | UL 1077           | DC 72 V       | 0.1 A...50 A    |
| CSA       | C22.2 No 235      | DC 72 V       | 0.1 A...50 A    |
| Bw        | VG 95345, part 21 | DC 28 V       | 0.5 A...50 A    |



## Technical data

**For further details please see: [www.e-t-a.de/ti\\_e](http://www.e-t-a.de/ti_e)**

|   |   |  |
|---|---|--|
| Voltage rating                                  | AC 115 V (400 Hz); DC 28 V<br>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<br>5,000 operations at I <sub>N</sub>                      |  |
| Ambient temperature                             | -55...+75 °C (-67...+167 °F)  |  |
| Insulation co-ordination (IEC 60664 and 60664A) | rated impulse withstand voltage   | pollution degree                                   |
|   | 1.5 kV  | 3  |
| Dielectric strength (IEC 60664 and 60664A)      | test voltage  | operating area                                     |
|   | AC 1,500 V  | main to aux. circuit                               |
|   | AC 1,500 V  |  |
| Insulation resistance                           | > 100 MΩ (DC 500 V)   |  |
| Interrupting capacity I <sub>cn</sub>           | 0.1...2.5 A   | 15 x I <sub>N</sub>                                |
|   | 3...3.5 A   | 250 A DC / 150 A AC                                |
|   | 4...7 A   | 500 A  |
|   | 7.5...50 A  | 6,000 A DC / 1,000 A AC                            |
|   | 35...50 A   | with auxiliary contact:<br>3,000 A DC / 1,000 A AC |
| Interrupting capacity (UL 1077)                 | I <sub>N</sub>  | U <sub>N</sub>                                     |
|   | 0.1...50 A  | DC 72 V    5,000 A                                 |
| Degree of protection (IEC 60529/DIN 40050)      | operating area IP40<br>terminal area IP00   |  |
| Vibration                                       | 10 g (55-2000 Hz), ± 0.76 mm (10-55 Hz)<br>to VG 95210, sheet 19/IEC 60068-2-6, test Fc |  |
| Shock   | 50 g (11 ms)<br>to VG 95210, sheet 28/IEC 60068-2-27, test Ea                           |  |
| Corrosion                                       | 48 hours at 5 % salt mist<br>to VG 95210, sheet 2/IEC 60068-2-11, test Ka               |  |
| Humidity  | 240 hours at 95 % RH<br>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<br>approx. 46 g with auxiliary contact           |  |

Previous ordering codes:

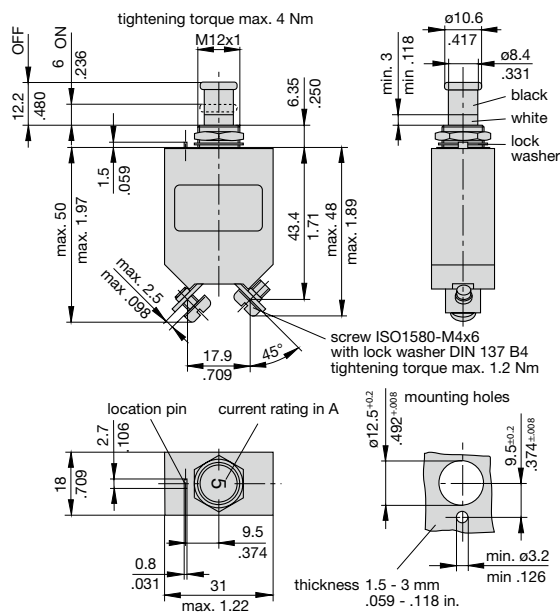
482-N-MS = 482-G111-K1M1-A1S0-...A  
482-MS = 482-G212-K1M1-A1S0-...A

## Standard current ratings and typical volt drop values

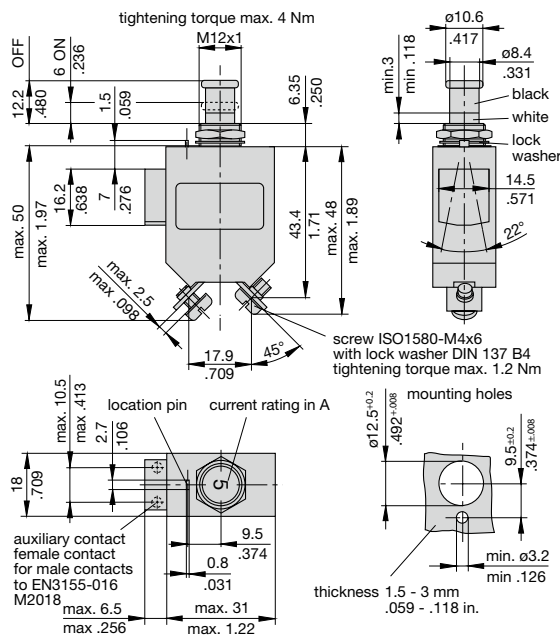
| Current rating (A) | Volt drop (mV) | Current rating (A) | Volt drop (mV) |
|--------------------|----------------|--------------------|----------------|
| 0.1                | 16,000         | 5                  | 350            |
| 0.2                | 8,000          | 7.5                | 230            |
| 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            |                    |                |

## Dimensions 482-G1...

### 482-G111-K1M1-A1S0 (VG 95345 T21)

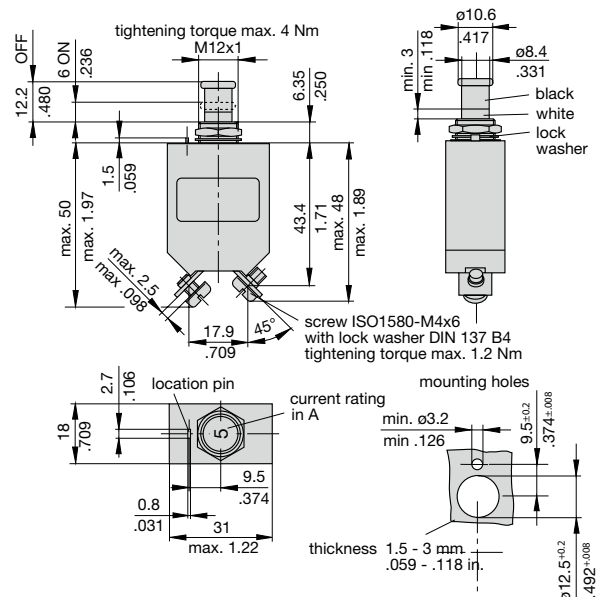


### 482-G111-K1M1-A1S1 (VG 95345 T21)



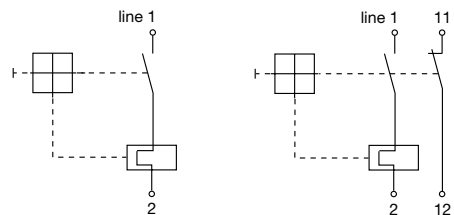
## Dimensions 482-G2../-G6../-G7...

### 482-G212-K1M1-A1S0 (VG 95345 T21)



## Internal connection diagrams

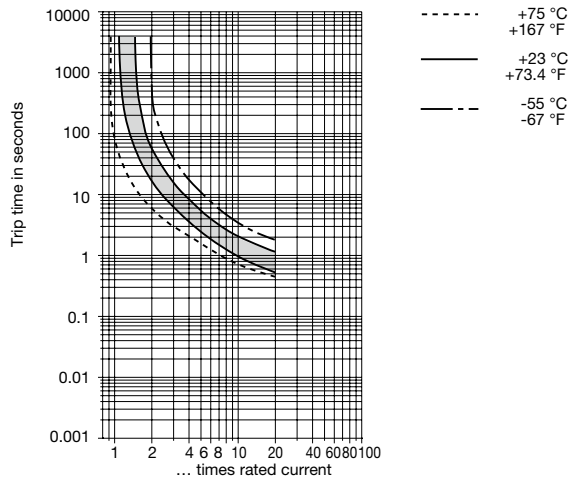
### with auxiliary contact



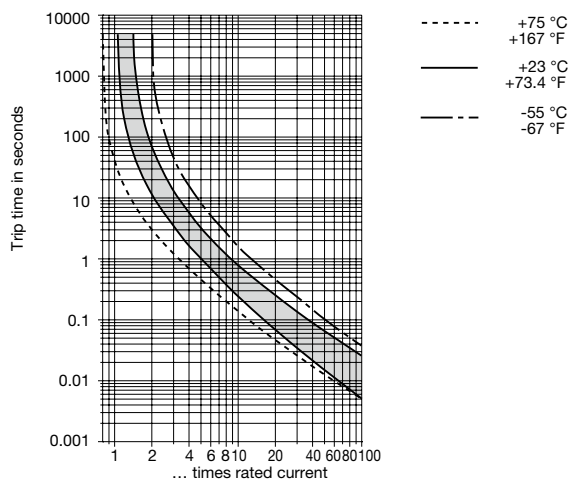
This is a metric design and millimeter dimensions take precedence (mm/inch)

## Typical time/current characteristics

### 0.1...2.5 A

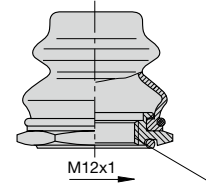


### 3...50 A

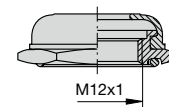


## Accessories (approved to VG 95345, part 23)

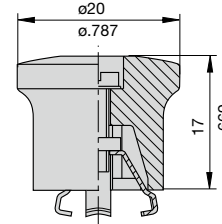
- Splash cover /hex nut assembly with O ring (IP66 and IP67)**
- X 200 801 08** nickel plated nut M12x1, transparent cover
- X 200 801 03** matt black finish nut M12x1, black cover
- X 200 801 12** with blackened nut and transparent cover



- 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



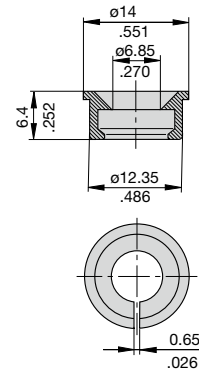
- Actuator extension (black)**
- to be fitted on the push button
- X 200 803 01**



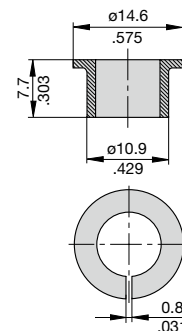
## Accessories

- 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.





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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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