Type: 1658

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

Voltage rating:
- AC 240 V
- DC 28 V

Current ratings:
from 5 A to 30 A

Number of poles:
single pole

Mounting method:
threadneck
flange

Terminal design:
blade terminals
screw terminals

Actuation:
push button

Auxiliary contacts:
without auxiliary contacts

Water splash protection:
with water splash protection
without water splash protection

Illumination:
without illumination

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

Interrupting capacity I_{cn}:
5...7 A: 180 A
8...30 A: 200 A

Approvals:
VDE, UL
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

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1658</td>
<td>single pole thermal circuit breaker</td>
</tr>
</tbody>
</table>

**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

**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

**Ordering example**

1658 - G21 - 02 - P10 - 5 A

* Screws and lock washers bulk shipped

Standard current ratings and typical voltage drop values

<table>
<thead>
<tr>
<th>Current rating (A)</th>
<th>Voltage drop (mA)</th>
<th>Current rating (A)</th>
<th>Voltage drop (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>≤ 150</td>
<td>12</td>
<td>≤ 140</td>
</tr>
<tr>
<td>6</td>
<td>≤ 150</td>
<td>15</td>
<td>≤ 240</td>
</tr>
<tr>
<td>7</td>
<td>≤ 150</td>
<td>16</td>
<td>≤ 240</td>
</tr>
<tr>
<td>8</td>
<td>≤ 150</td>
<td>20</td>
<td>≤ 240</td>
</tr>
<tr>
<td>9</td>
<td>≤ 150</td>
<td>25</td>
<td>≤ 240</td>
</tr>
<tr>
<td>10</td>
<td>≤ 140</td>
<td>30</td>
<td>≤ 240</td>
</tr>
</tbody>
</table>

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**

- AC + DC: 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)

**Insulation co-ordination**

rated impulse withstand voltage 2.5 kV 2

reinforced insulation in operating area

**Dielectric strength**

(test voltage)

- AC 3,000 V

**Insulation resistance**

> 100 MQ (DC 500 V)

**Interrupting capacity I_n**

- 5...7 A 180 A
- 8...30 A 200 A

**Interrupting capacity I_N**

(UL 1077/EN 60934 PC1)

- 5...16 A AC 240 V 2,000 A
- 18...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**

- operating area IP40
- terminal area IP00

**Vibration**

8 g (57-500 Hz) ± 0.61 mm (10-57 Hz), test Fc, 10 frequency cycles/axis

**Shock**

30 g (11 ms)

**Corrosion**

96 hours at 5 % salt mist, test Ka

**Humidity**

240 hours at 95 % RH, test Cab

**Mass**

approx. 16 g

Approvals

<table>
<thead>
<tr>
<th>Authority</th>
<th>Voltage rating</th>
<th>Current ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDE (EN 60934)</td>
<td>AC 240 V; DC 28 V</td>
<td>5...25 A</td>
</tr>
<tr>
<td>UL</td>
<td>AC 240 V</td>
<td>5...16 A</td>
</tr>
<tr>
<td></td>
<td>AC 120 V</td>
<td>18...30 A</td>
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<tr>
<td></td>
<td>AC 120 V</td>
<td>5...30 A</td>
</tr>
<tr>
<td></td>
<td>DC 32 V</td>
<td>5...30 A</td>
</tr>
<tr>
<td></td>
<td>DC 28 V</td>
<td>5...30 A</td>
</tr>
</tbody>
</table>

* Screws and lock washers bulk shipped

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Thermal Overcurrent Circuit Breaker 1658-...

**Dimensions**

- **A00**
  - tightening torque max. 0.8 Nm
  - 3/8-27UNS-2A
  - mounting hole

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

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

- **A41**
  - tightening torque max. 0.8 Nm
  - 3/8-27UNS-2A

- **G41**
  - tightening torque max. 0.8 Nm
  - 3/8-27UNS-2A

- **F01**
  - Off: 6.2\(\pm\)0.2
  - On: 0.7\(\pm\)0.3
  - e6: 0.236
  - 13.8\(\pm\)0.1
  - thickness: 1.3 mm
  - 16\(\pm\)0.1

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)
  - terminal screw 6-32 UNC
  - lock washer

- **S83**
  - terminal screw 6-32 UNC
  - lock washer

- **P13**
  - blade terminals DIN 46244-A6.3-0.8 (QC .250)
  - angled 90°
  - terminal screw 6-32 UNC

- **P10-S83**
  - blade terminals
  - terminal screw
  - lock washer

- **S80**
  - terminal screw 6-32 UNC
  - blade terminals DIN 46244-A6.3-0.8 (QC .250)
  - lock washer

**Installation drawing**

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