In today's very competitive marketplace you need reliability, so you need to use circuit breakers that are high quality and technically correct for your application. Altech is a US leader in DIN rail mounted breakers with ratings up to 63A. Only Altech offers DIN rail mounted breakers that meet UL489, UL508 or UL1077 approvals with a short circuit interrupt capacity of up to 10kA.

Overview of Physical Attributes of Our Lines

**L, M and R Series**

1. Strong thermoplastic housing.
2. Strong terminal barriers.
3. Spring action DIN Rail clips for both top and bottom.
5. Indicator window.
6. Trip curve (D) and amperage (15A) window display.

**Ordering Part Builder**

**EXAMPLE**

```
DC 1 CU 25 L
```

**...Series**
UL 489 = L / UL 508 = M / UL 1077 = R

**...Current Rating**
0.3 – 63A

**...Trip Curve** (Series dependent; Z is special order)
B, C, D, G, Z

**...No. of Poles**
1, 2, 3, 4

**...Current Type**
DC = DC / Blank = AC

**UL (AC), DL (DC), V-EA and UR Series**

**EXAMPLE**

```
1 C 25 UL
```

**...Series**
UL 489 AC = UL / UL 489 DC = DL
UL 508 = UM / UL 1077 = UR

**...Current Rating**
0.3 – 63A

**...Trip Curve**
B, C, D, G, Z

**...No. of Poles**
1, 2, 3, 4

* Trip curves available depend on circuit breaker series.
## Miniature Molded Case Circuit Breakers

### L Series, AC or DC UL489

![L Series, AC or DC UL489](image)

### UL (AC), DL (DC) Series UL489

![UL (AC), DL (DC) Series UL489](image)

#### Current/ Voltage Rating

<table>
<thead>
<tr>
<th>Current/ Voltage Rating</th>
<th>UL 489 AC Version (one device - dual voltage ratings)</th>
<th>UL 489 DC Version</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.2-63A/240V AC, 0.2-32A/480VY/277VAC</td>
<td>0.3 - 63A/240V AC, 0.3-32A/480VY/277VAC</td>
</tr>
<tr>
<td></td>
<td>0.2-63A/125/250V DC</td>
<td>0.3 - 63A/125/250V DC</td>
</tr>
<tr>
<td>Poles</td>
<td>1, 2, 3 (4 poles available upon request.)</td>
<td>1, 2, 3 (4 poles available upon request.)</td>
</tr>
<tr>
<td>Trip Characteristics</td>
<td>C, D; AC and DC</td>
<td>C, D; AC and DC</td>
</tr>
<tr>
<td>Interrupting Capacity</td>
<td>10kA</td>
<td>10kA</td>
</tr>
<tr>
<td>Calibration Temperature</td>
<td>40°C (104°F)</td>
<td>40°C (104°F)</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-25°C to 60°C (-13°F to 140°F)</td>
<td>-25°C to 55°C (-13°F to 131°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-25°C to 75°C (-13°F to 167°F)</td>
<td>-40°C to 70°C (-40°F to 158°F)</td>
</tr>
<tr>
<td>Terminal Size Acceptability and Terminal Torque</td>
<td>14-3 AWG: 17.7 lb-in. (2.0 Nm)</td>
<td>Top: 18-3 AWG; Bottom: 18-2 AWG</td>
</tr>
<tr>
<td></td>
<td>18-16 AWG: 25 lb-in.(2.8 Nm)</td>
<td>2.0 Nm (17.7 lb.in.) (min) / 2.5 Nm (22.2 lb.in) (max)</td>
</tr>
<tr>
<td>Electrical Life</td>
<td>6,000 switching cycles ON/ OFF</td>
<td>6,000 switching cycles ON/ OFF</td>
</tr>
<tr>
<td>Mechanical Life</td>
<td>10,000 switching cycles ON/ OFF</td>
<td>10,000 switching cycles ON/ OFF</td>
</tr>
<tr>
<td>Terminal Protection Degree</td>
<td>IP20 at front</td>
<td>IP20</td>
</tr>
<tr>
<td>Mounting Orientation</td>
<td>In any plane</td>
<td>In any plane</td>
</tr>
<tr>
<td>Accessories</td>
<td>• Auxiliary Contact</td>
<td>• Auxiliary Contact, Alarm Switch</td>
</tr>
<tr>
<td></td>
<td>• Shunt Trip</td>
<td>• Shunt Trip</td>
</tr>
<tr>
<td></td>
<td>• Neutral Pole</td>
<td>• Neutral Pole</td>
</tr>
<tr>
<td></td>
<td>• Undervoltage Trip</td>
<td>• Lock-out Adapter</td>
</tr>
<tr>
<td></td>
<td>• Front Mounting Kit with hardware</td>
<td>• Touch Protection Caps</td>
</tr>
<tr>
<td></td>
<td>• Lock-out Adapter</td>
<td>• Cooling Spacer</td>
</tr>
<tr>
<td></td>
<td>• Mounting Screw 34mm</td>
<td>• Mounting Screw 34mm</td>
</tr>
</tbody>
</table>

#### Dimensions

### L Series

![L Series Dimensions](image)

### UL (AC), DL (DC) Series

![UL (AC), DL (DC) Series Dimensions](image)

#### NOTES

When a busbar is used, mixing and matching between the two series is not possible. The terminal positions are different in the Z direction (front to back).

UL/DL series terminal barriers might interfere with the front panel (door) when the breaker is front panel mounted. The position of the DIN rail/mounting bracket might have to be adjusted. (This series will NOT fit in an AK or EK Spelsberg enclosure!)
Manual Motor Controllers “Suitable as Motor Disconnect”

M Series UL508

- Current/Voltage Rating
  - AC Version: 0.5-63A / 480Y/277V AC
  - DC Rating: 0.3-60A / 480Y/277V AC
  - Poles: 1, 2, 3 (4 poles available upon request.)
  - Trip Characteristics: B, C, D, G
  - Short Circuit Withstand Rating (UL/CSA - Ratings): 0.5-6A (RC): 10kA with no back-up fuse
    8-63A (RC): 10kA with UL-listed Class J back-up fuse or no back-up fuse
  - Calibration Temperature: 30°C (86°F)
  - Ambient Temperature: -25°C to 60°C (-13°F to 140°F)
  - Storage Temperature: -25°C to 75°C (-13°F to 167°F)
  - Terminal Size Acceptability and Terminal Torque: 14-3 AWG: 17.7 lb-in. (2.0 Nm)
    18-16 AWG: 25 lb-in. (2.8 Nm)
  - Terminal Protection Degree: IP20
  - Mounting Orientation: In any plane
  - Horsepower Ratings: see catalog
  - Accessories: Auxiliary Contact, Shunt Trip, Neutral Pole, Lock-out Adapter, Front Mounting Kit with hardware

UM (V-EA) Series UL508

- Current/Voltage Rating
  - AC Version: 0.5-63A / 480Y/277V AC
  - DC Rating: 0.3-60A / 480Y/277V AC
  - Poles: 1, 2, 3 (4 poles available upon request.)
  - Trip Characteristics: B, C, D, E, G, Z
  - Short Circuit Withstand Rating (UL/CSA - Ratings): 0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
  - Calibration Temperature: 40°C (104°F)
  - Ambient Temperature: -25°C to 55°C (-13°F to 131°F)
  - Storage Temperature: -25°C to 70°C (-13°F to 158°F)
  - Terminal Size Acceptability and Terminal Torque: Top: 18-3 AWG; Bottom: 18-2 AWG
    2.0 Nm (17.7 lb-in.) (min) / 2.5Nm (22.2 lb-in) (max)
  - Terminal Protection Degree: IP20
  - Mounting Orientation: In any plane
  - Horsepower Ratings: see catalog
  - Accessories: Auxiliary Contact, Alarm Switch, Shunt Trip, Neutral Pole, Lock-out Adapter, Touch Protection Caps, Cooling Spacer, Mounting Screw 34mm

Dimensions

M Series

- 1 Pole: 17.5 (0.69 in.)
- 2 Pole: 36 (1.38 in.)
- 3 Pole: 52.5 (2.07 in.)

UM (V-EA) Series

- 1 Pole: 17.5 (0.69 in.)
- 2 Pole: 36 (1.38 in.)
- 3 Pole: 52.5 (2.07 in.)

NOTE When a busbar is used, mixing and matching between the two series is not possible. The terminal positons are different in the Z direction (front to back)
### Supplementary Protector

**R Series UL1077**

- **Current/Voltage Rating**
  - **AC Version**: 0.5-63A / 480Y/ 277V AC
  - **Poles**: 1, 2, 3 (4 poles available upon request.)
  - **Trip Characteristics**: B, C, D
  - **Short Circuit Withstand Rating**: 0.5-6A (RC): 10kA with no back-up fuse; 8-63A (RC): 10kA with UL-listed Class J back-up fuse; 5kA with no back-up fuse
  - **Calibration Temperature**: 30°C (86°F)
  - **Ambient Temperature**: -25°C to 60°C (-13°F to 140°F)
  - **Storage Temperature**: -25°C to 75°C (-13°F to 167°F)
  - **Terminal Size Acceptability**: 14-3 AWG: 17.5 lb-in. (2.0Nm); 18-16 AWG: 25 lb-in. (2.8Nm)
  - **Electrical Life**: 6,000 switching cycles ON/OFF
  - **Mechanical Life**: 10,000 cycles ON/OFF
  - **Terminal Protection Degree**: IP20 at front
  - **Mounting Orientation**: In any plane
  - **Accessories**: Auxiliary Contact, Shunt Trip, Neutral Pole, Lock-out Adapter

### Dimensions

![Dimensions Diagram](image)

**UR Series UL1077**

- **Current/Voltage Rating**
  - **AC Version**: 0.5-63A / 480Y/ 277V AC
  - **Poles**: 1, 2, 3 (4 poles available upon request.)
  - **Trip Characteristics**: B, C, D
  - **Short Circuit Withstand Rating**: 0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
  - **Calibration Temperature**: 30°C (86°F)
  - **Ambient Temperature**: -25°C to +60°C (-13°F to 140°F)
  - **Storage Temperature**: -25°C to +70°C (-40°F to 158°F)
  - **Terminal Size Acceptability**: 14-3 AWG: 17.5 lb-in. (2.0Nm); 18-16 AWG: 25 lb-in. (2.8Nm)
  - **Electrical Life**: 6,000 switching cycles ON/OFF
  - **Mechanical Life**: 10,000 cycles ON/OFF
  - **Terminal Protection Degree**: IP20 at front
  - **Mounting Orientation**: In any plane
  - **Accessories**: Auxiliary Contact, Alarm Switch, Shunt Trip, Neutral Pole, Lock-out Adapter, Touch Protection Caps, Cooling Spacer, Mounting Screw 34mm

### Dimensions

![Dimensions Diagram](image)

**NOTE** When a busbar is used, mixing and matching between the two series is not possible. The terminal positions are different in the Z direction (front to back).