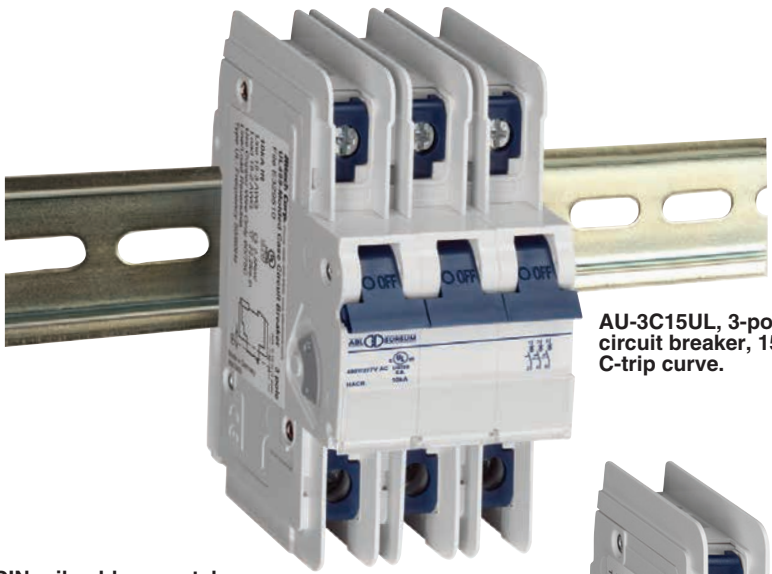
# CIRCUIT BREAKERS FOR BRANCH CIRCUIT PROTECTION

## UL 489 AC & DC CIRCUIT BREAKERS MINIATURE MCCB, CIRCUIT BREAKERS

### *UL Series*

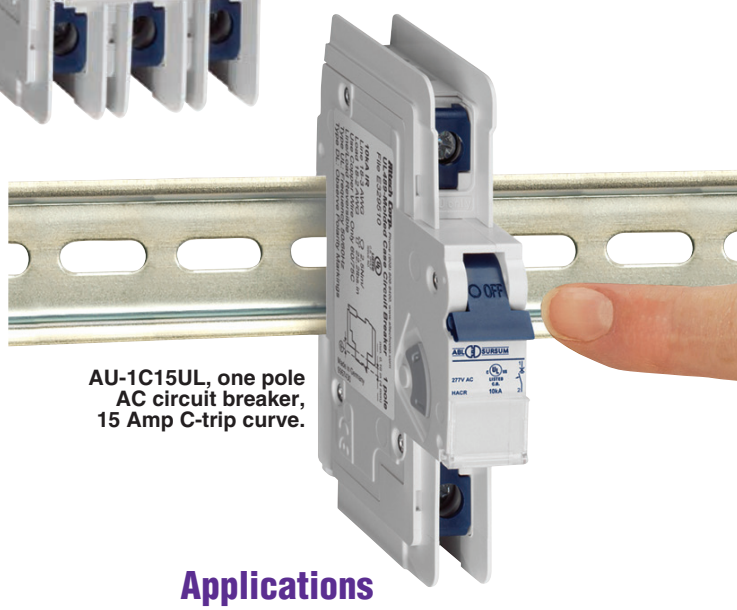
E301611 Pending

- DIN Rail Mounted
- Disconnect and Switching Function
- 17.5 mm (0.69") Width per Pole
- Thermal Magnetic and Curent Limiting
- Available in AC and DC
- 240V, 480Y/277 Vac, 50/60Hz
- 125 Vdc (1-Pole), 250 Vdc (2-Pole)
- 10kA Short Circuit Interrupting Capacity
- HACR Type 40°C (104°F)
- Line/Load Reversible



AU-3C15UL, 3-pole circuit breaker, 15 Amp C-trip curve.

DIN rail sold separately. Visit omega.com/drtb-rail



AU-1C15UL, one pole AC circuit breaker, 15 Amp C-trip curve.

**For Terminal Blocks and Enclosures. Visit omega.com/auto**

The UL 489 Series miniature molded case circuit breakers are DIN rail mountable and provide feeder and branch circuit protection per UL 489. Circuit breakers can be reset and reused over and over again, when compared with a standard fuse that must be replaced and discarded in compliance with special disposal procedures. Typical uses include convenience receptacles, motor controls, load circuits leaving equipment, and heating and air conditioning.

UL 489 Series miniature circuit breakers are available in one-, two-, three- and four-pole configurations and up to 23 different current ratings from 0.3A to 63A and can safely be used in applications up to 480Y/277 Vac with a 10kA short circuit withstand rating. Two levels of circuit protection available, one for medium inrush startup currents to provide protection for small transformers, pilot devices, etc., and one with a magnetic range to allow for higher inrush levels during startup usually seen with motors. These molded case circuit breakers are Din rail mounted and, at only 17.5 mm wide, they are extremely compact and reduce panel size.

Accessories are field mounted on the UL 489 series circuit breakers for enhanced control and monitoring capabilities. Field mounting kits include all necessary parts and instructions. Accessories can be gang mounted on a single controller (the auxiliary switch in the outside position). The mounting arrangement links the internal latch-pins for the tripping mechanisms, ensuring simultaneous trips. Handles are linked to simplify manual resetting. Accessories include neutral pole, shunt and undervoltage trip and auxiliary contacts.

## Applications

### AC C-Trip Curve

Low inrush motors, resistive loads, wiring protection, receptacles, lighting, and control circuit applications. Relatively short thermal trip delay and medium magnetic trip point.

### AC D-Trip Curve

High inrush motors, transformers, power supplies, heaters and reactive loads. Relatively long thermal trip delay and very high magnetic trip point.

### DC C and D-Trip Curves

Telecommunication equipment, computer equipment, uninterruptable power supplies.

## SPECIFICATIONS

**Current/Voltage Rating:**
- **AC:** 0.3-63A – 240 Vac
- **AC:** 0.3-32A 480Y/277 Vac
- **DC:** 0.3-63A 125 Vdc 1-pole - 250 Vdc 2-pole

**Electrical Life:** 6000 cycles on/off
**Mechanical Life:** 10,000 cycles on/off
**Calibration Temperature:** 40°C (104°F)
**Operating Temperature:** -25 to 55°C (-13 to 131°F)
**Storage Temperature:** -25° to 70°C (-13° to 158°F)
**Wire Connection:** Copper wire only, 60/75°C

**Short Circuit Interrupt Rating**

| NO. POLES | TYPE | 0.3-32 AMPS | 40-63 AMPS |
|---|---|---|---|
| 1 | AC | 10kA@120, 240, 277 V | 10kA @120, 240V |
| 2-3 | AC | 10kA@120, 240, 480Y/277 V | 10kA @120, 240V |
| 1 | DC | 10kA @ 125V | 10kA @ 125V |
| 2 | DC | 10kA @ 250V | 10kA @ 250V |

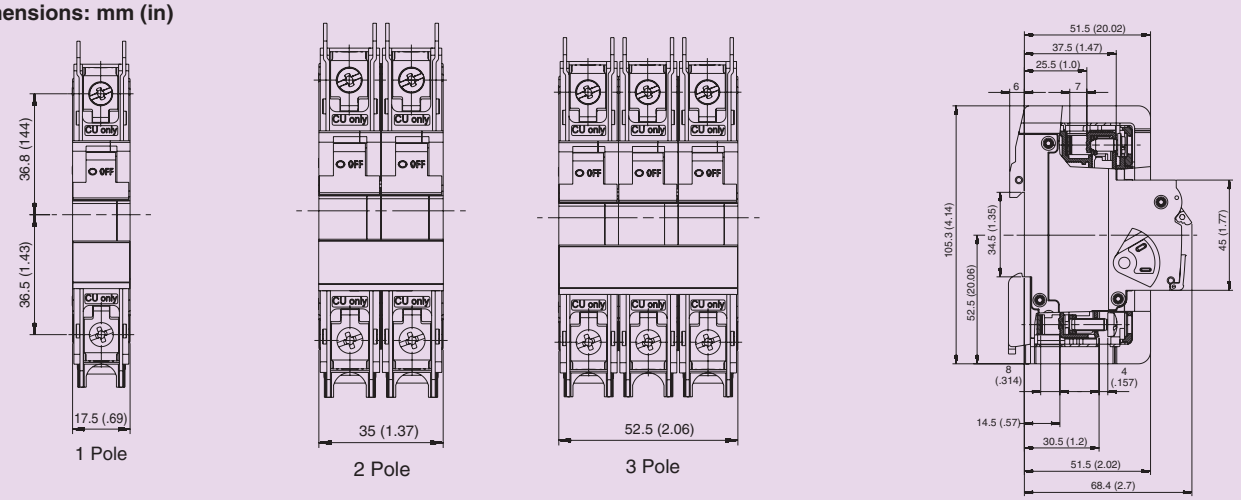
**Short Circuit Interrupt Rating according to IEC 60947-2, DIN EN 60947-2**

| NO. POLES | TYPE | 0.3 - 32 AMPS | 40-63 AMPS |
|---|---|---|---|
| 1 | AC | 15kA @ 240V | 15kA @ 240V |
| 2-3 | AC | 15kA @ 415V | 10kA @ 415V |

**Terminal Size Acceptability:** Top 18-3 AWG, Bottom18-2 AWG
**Tightening Torque Minimum/Maximum:** 17.7/ 22lb-in. (2/2.2 Nm)
**Terminal Protection Degree:** IP20

**Dimensions:**
**Height:** 105.3mm (4.15")
**Width:** One Pole 17.5mm (0.69"), 2 Pole 35mm (1.38"), 3 Pole 52.5 mm (2.07")
**Depth:** From Din rail 68.4 mm (2.69")

**Dimensions: mm (in)**

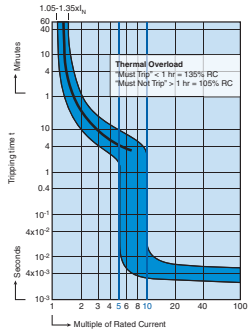



| Trip-Characteristics* | | | | Applications | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Characteristic Trip Boundaries | | | | Lighting Wiring Protection Control Circuits | Business Equipment Appliances | Transformers | Power Supplies Heaters | Motors | | Reactive Load | Telecommu-nications/ Computer Equipment | Power Supplies |
| Thermal Trip | | Magnetic Trip | | | | | | Low Inrush | High Inrush | | | |
| Must not Trip>100ms | Must Trip <1hr | Must not Trip>100ms | Must Trip at 100ms | | | | | | | | | |
| C-Characteristics AC | | | | | | | | | | | | |
| 1.05xRC | 1.35xRC | 5xRC | 10xRC | | | | | | | | | |
| C-Characteristics DC | | | | | | | | | | | | |
| 1.05xRC | 1.35xRC | 7xRC | 14xRC | | | | | | | | | |
| D-Characteristics AC | | | | | | | | | | | | |
| 1.05xRC | 1.35xRC | 10xRC | 16xRC | | | | | | | | | |
| D-Characteristics DC | | | | | | | | | | | | |
| 1.05xRC | 1.35xRC | 14xRC | 22.4xRC | | | | | | | | | |

** The value of each characteristic is shown vertically beneath its corresponding heading.*

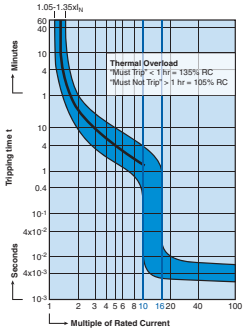
***Warning!***
*This information should only be used as a selection guide. The use of a Miniature Circuit Breaker in an application with a certain Trip-Characteristic always requires prototype testing. It is the responsibility of the circuit design engineer to select the appropriate Miniature Circuit Breaker for his specific application.*

### C (AC) Trip Curve



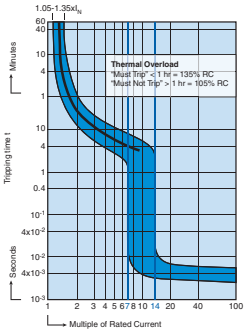

0.3A Through 10A Rated Current

### D (AC) Trip Curve



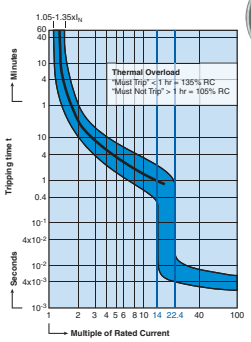

0.3A Through 10A Rated Current

### C (DC) Trip Curve




0.3A Through 10A Rated Current

### D (DC) Trip Curve




0.3A Through 10A Rated Current




## Accessories

Accessories can be field mounted on UL 489 Series miniature molded case circuit breakers for enhanced control and monitoring capabilities. Field mounting kits include all necessary parts and instructions. Accessories can be gang mounted on a single controller (the Auxiliary Switch in the outside position). The mounting arrangement links the internal latch-pins for the tripping mechanisms, ensuring simultaneous trips. Handles are linked to simplify manual resetting.

| MODEL NUMBER | DESCRIPTION |
|---|---|
| **AU-N32UL** | Neutral pole for circuit breaker, 0.3 to 32a |
| **AU-N63UL** | Neutral pole for circuit breaker, 40 to 63A |
| **AU-H10UL** | 1 Auxiliary contact, normally open |
| **AU-H11UL** | 2 Auxiliary contact, 1 NO and 1 NC |
| **AU-H12UL** | 3 Auxiliary contact, 1 NO and 2 NC |
| **AU-FA12UL** | 12 V AC/DC shunt trip, 1.3A |
| **AU-FA24UL** | 24 V AC/DC shunt trip, 0.6A |
| **AU-FA48UL** | 48 V AC/DC shunt trip, 0.2A |
| **AU-FA110UL** | Shunt trip, 110 to 240 Vac/Vdc, 277 Vac, 0.25A @ 110V 0.5A @ 240V 0.58A @ 277V |
| **AU-UA120UL** | Undervoltage Trip, 120 Vac, 60 Hz (UL Pending) |

## To Order *Visit omega.com/ul489_Series for Pricing and Details*

**MODEL NUMBERS**

| ONE POLE AC | TWO POLE AC | THREE POLE AC | ONE POLE DC | TWO POLE DC | RATED CURRENT |
|---|---|---|---|---|---|
| **AU-1(*)03UL** | **AU-3(*)03UL** | **AU-3(*)03UL** | **AU-1(*)03DL** | **AU-3(*)03DL** | 0.3A |
| **AU-1(*)05UL** | **AU-2(*)05UL** | **AU-3(*)05UL** | **AU-1(*)05DL** | **AU-2(*)05DL** | 0.5A |
| **AU-1(*)1UL** | **AU-2(*)1UL** | **AU-3(*)1UL** | **AU-1(*)1DL** | **AU-2(*)1DL** | 1.0A |
| **AU-1(*)1.6UL** | **AU-2(*)1.6UL** | **AU-3(*)1.6UL** | **AU-1(*)1.6DL** | **AU-2(*)1.6DL** | 1.6A |
| **AU-1(*)2UL** | **AU-2(*)2UL** | **AU-3(*)2UL** | **AU-1(*)2DL** | **AU-2(*)2DL** | 2.0A |
| **AU-1(*)3UL** | **AU-2(*)3UL** | **AU-3(*)3UL** | **AU-1(*)3DL** | **AU-2(*)3DL** | 3.0A |
| **AU-1(*)4UL** | **AU-2(*)4UL** | **AU-3(*)4UL** | **AU-1(*)4DL** | **AU-2(*)4DL** | 4.0A |
| **AU-1(*)5UL** | **AU-2(*)5UL** | **AU-3(*)5UL** | **AU-1(*)5DL** | **AU-2(*)5DL** | 5.0A |
| **AU-1(*)6UL** | **AU-2(*)6UL** | **AU-3(*)6UL** | **AU-1(*)6DL** | **AU-2(*)6DL** | 6.0A |
| **AU-1(*)8UL** | **AU-2(*)8UL** | **AU-3(*)8UL** | **AU-1(*)8DL** | **AU-2(*)8DL** | 8.0A |
| **AU-1(*)10UL** | **AU-2(*)10UL** | **AU-3(*)10UL** | **AU-1(*)10DL** | **AU-2(*)10DL** | 10A |
| **AU-1(*)12UL** | **AU-2(*)12UL** | **AU-3(*)12UL** | **AU-1(*)12DL** | **AU-2(*)12DL** | 12A |
| **AU-1(*)13UL** | **AU-2(*)13UL** | **AU-3(*)13UL** | **AU-1(*)13DL** | **AU-2(*)13DL** | 13A |
| **AU-1(*)15UL** | **AU-2(*)15UL** | **AU-3(*)15UL** | **AU-1(*)15DL** | **AU-2(*)15DL** | 15A |
| **AU-1(*)16UL** | **AU-2(*)16UL** | **AU-3(*)16UL** | **AU-1(*)16DL** | **AU-2(*)16DL** | 16A |
| **AU-1(*)20UL** | **AU-2(*)20UL** | **AU-3(*)20UL** | **AU-1(*)20DL** | **AU-2(*)20DL** | 20A |
| **AU-1(*)25UL** | **AU-2(*)25UL** | **AU-3(*)25UL** | **AU-1(*)25DL** | **AU-2(*)25DL** | 25A |
| **AU-1(*)30UL** | **AU-2(*)30UL** | **AU-3(*)30UL** | **AU-1(*)30DL** | **AU-2(*)30DL** | 30A |
| **AU-1(*)32UL** | **AU-2(*)32UL** | **AU-3(*)32UL** | **AU-1(*)32DL** | **AU-2(*)32DL** | 32A |
| **AU-1(*)40UL** | **AU-2(*)40UL** | **AU-3(*)40UL** | **AU-1(*)40DL** | **AU-2(*)40DL** | 40A |
| **AU-1(*)50UL** | **AU-2(*)50UL** | **AU-3(*)50UL** | **AU-1(*)50DL** | **AU-2(*)50DL** | 50A |
| **AU-1(*)60UL** | **AU-2(*)60UL** | **AU-3(*)60UL** | **AU-1(*)60DL** | **AU-2(*)60DL** | 60A |
| **AU-1(*)63UL** | **AU-2(*)63UL** | **AU-3(*)63UL** | **AU-1(*)63DL** | **AU-2(*)63DL** | 63A |

***Note:*** *(*)= "C" for C-curve and "D" for d-curve.*
***Ordering Example: AU-1C05UL*** *1-pole minature MCCB, AC circuit breaker rated for 0.5 A C-trip curve*
***AU-2D2UL*** *2-pole minature MCCB, AC circuit breaker rated for 2 A D-trip curve*