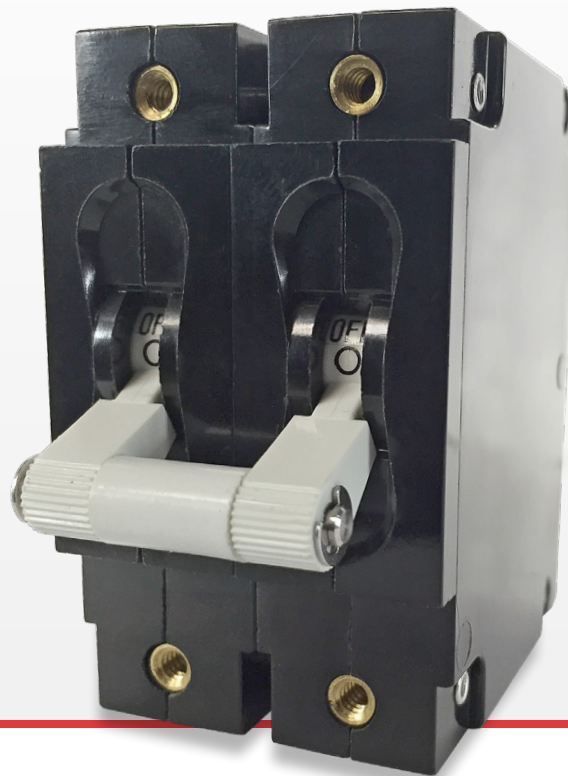


# C-Series

Hydraulic-Magnetic Circuit Breaker

**PRODUCT WEBPAGE**

*request sample, configure part*



## Compact Circuit Breaker with High Amperage and Voltage Capabilities

Compact yet robust, the C-Series hydraulic-magnetic circuit breaker is designed for high amperage and voltage applications. C-Series breakers are available as a one to six pole configuration and are rated up to 100 amps, 480VAC/80VDC or 240VAC/125VDC for UL 489 configurations. Parallel pole options offer ratings from 100–250 amps. The C-Series employs a unique arc chute design which allows for higher interrupting capacities of up to 10,000 amps.

|            |            |            |            |
|------------|------------|------------|------------|
| <b>1-6</b> | <b>250</b> | <b>480</b> | <b>125</b> |
| Poles      | Amps Max   | VAC Max    | VDC Max    |

## Typical Applications

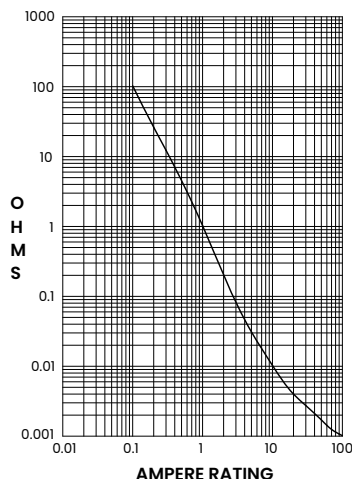
- Marine
- Renewable Energy
- Military
- Commercial Food
- Datacom/Telecom
- Generators & Welders
- Industrial Automation
- Medical Equipment

# Tech Spec

## Electrical

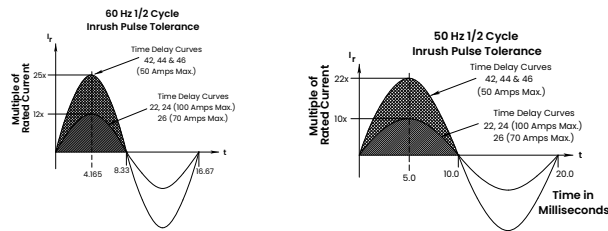
|                         |                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum Voltage         | AC, 480 WYE/277 VAC, 50/60 Hz (see Table A.) UL489: AC,240 VAC. (See Table D),50/60 Hz, 125 VDC                                                                                                                                                                                                                                                          |
| Current Ratings         | Standard current coils: 0.100, 0.250, 0.500, 0.750, 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 25.0, 30.0, 35.0, 40.0, 50.0, 60.0, 70.0, 80.0, 90.0 and 100 amps. Other ratings available, see ordering scheme.                                                                                                                                                 |
| Standard Voltage Coils  | DC - 6V, 12V; AC - 120V; other ratings available, see ordering scheme.                                                                                                                                                                                                                                                                                   |
| Auxiliary Switch Rating | SPDT; 10.1 amps-250VAC, DC Aux.Switch 1.0A, 65 VDC. 0.5A, 80VDC,1/4 HP, 125VAC,VDE & TUV1.0 125 VAC.                                                                                                                                                                                                                                                     |
| Insulation Resistance   | Minimum of 100 Megohms at 500 VDC.                                                                                                                                                                                                                                                                                                                       |
| Dielectric Strength     | UL, CSA: 1960 V 50/60 Hz for oneminute between all electrically isolated terminals. C-Series Circuit Breakers comply with the 8mm spacing and 3750V 50/60 Hz dielectric requirements from hazardous voltage to operator accessible surfaces, between adjacent poles and from main circuits to auxiliary circuits per Publications EN 60950 and VDE 0805. |
| Resistance, Impedance   | Values from Line to Load Terminal -based on Series Trip Circuit Breaker.                                                                                                                                                                                                                                                                                 |

RESISTANCE, IMPEDANCE VALUES  
from Line to Load Terminals  
(Values Based on Series Trip Circuit Breaker)



| CURRENT (AMPS) | TOLERANCE (%) |
|----------------|---------------|
| 0.10 - 5.0     | 15            |
| 5.1 - 20.0     | 25            |
| 20.1 - 50.0    | 35            |

### Pulse Tolerance Curves



## Mechanical

|                 |                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Endurance       | 10,000 ON-OFF operations @ 6 per minute; with rated current & voltage.                                                                                                                                                                                                                                                                                       |
| Trip Free       | All circuit breakers will trip on overload, even when actuator is forcibly held in the ON position.                                                                                                                                                                                                                                                          |
| Trip Indication | The operating actuator moves positively to the OFF position when an overload causes the breaker to trip. With mid-trip, handle moves to the mid position on electrical trip of the circuit breaker. With mid trip handle with alarm switch, handle moves to the mid position and the alarm switch actuates when the circuit breaker is electrically tripped. |

## Physical

|                          |                                                                                                                                                                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Poles          | 1-6 poles ≤ 50A; 1-4 poles @ 51-70A; 1-2 poles 71-100A. UL489 Handle: 1 pole ≤ 100A, 2 pole ≤50A; Rocker: 1 pole ≤ 100A                                                                                                                                                          |
| Internal Circuit Config. | Series (with or without auxiliary switch, mid trip & mid trip with alarm switch) Shunt & Relay with current or voltage trip coils, Dual Coil, Switch Only (with or without aux. switch). UL489: Series (with or without auxiliary switch, mid-trip & midtrip with alarm switch). |
| Weight                   | Approx.112 grams/pole ( 3.95 oz).                                                                                                                                                                                                                                                |
| Standard Colors          | Housing: Black                                                                                                                                                                                                                                                                   |

## Environmental

Designed and tested in accordance with requirements of specification MIL-PRF-55629 & MIL-STD-202 as follows:

|                       |                                                                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shock                 | Withstands 100Gs,6mssawtooth while carrying rated current perMethod 213, Test Condition "I". Instantaneous and ultrashort curves tested @ 90% of rated current.              |
| Vibration             | Withstands 0.060" excursion from 10-55 Hz & 10 Gs 55-500 Hz, @ rated current per Method 204C, Test Cond. A. Instantaneous & ultrashort curves tested @ 90% of rated current. |
| Moisture Resistance   | Method 106D, i.e., ten 24-hour cycles @ +25°C to +65°C, 80-98% RH..                                                                                                          |
| Salt Spray            | Method 101, Condition A (90-95% RH @ 5% NaCl Solution, 96 hrs).                                                                                                              |
| Thermal Shock         | RH @ 5% NaCl Solution, 96 hrs). Thermal Shock Method 107D, Condition A (five cycles @ -55°C to +25°C to +85°C to +25°C).                                                     |
| Operating Temperature | -40° C to +85° C                                                                                                                                                             |

# Tech Specs

## Tables

**Table A:** Lists UL Recognized & CSA Accepted configurations and performance capabilities as a component supplementary protector

| Component Supplementary Protectors |             |           |                 |                 |                      |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|------------------------------------|-------------|-----------|-----------------|-----------------|----------------------|-------------------------------|--------------------------|-------------------|-----------------|-----------------------|-------------------------------------------------|------------------------------------|--------------------------|------------------------------------------------|-----------------|--------------------------|--------------------------|-----------------|-----------------|--------------------------|-----------------|------------------------------------|
| Circuit Configuration              | Voltage     |           |                 | Current Rating  |                      | Short Circuit Capacity (Amps) |                          | Application Codes |                 | Construction Notes    |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | Max. Rating | Frequency | Phase           | Full Load Amps  | General Purpose Amps | UL / CSA                      |                          | UL                | CSA             |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      | With Backup Fuse              | Without Backup Fuse      |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
| Series                             | 32          | DC        | ---             | 0.02 - 100      | ---                  | ---                           | 5,000                    | TC1, OL1, U2      | TC1, OL1, U2    | ---                   |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 48          |           |                 | 110 - 150       |                      |                               |                          | TC1, 2, OL1, U1   | TC1, 2, OL1, U1 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 65          |           |                 | 0.02 - 70       |                      |                               |                          | TC1, 2, OL0, U1   | TC1, 2, OL0, U1 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 80          |           |                 | -               | 71 - 100             |                               |                          | TC1, 2, OL1, U1   | TC1, 2, OL1, U1 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 | 0.02 - 70       | ---                  |                               |                          | TC1, 2, OL0, U1   | TC1, 2, OL0, U1 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 | ---             | 71 - 100             |                               |                          | TC1, 2, OL1, U1   | TC1, 2, OL1, U1 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 | 0.02 - 70       | ---                  |                               |                          | TC1, 2, OL0, U1   | TC1, 2, OL0, U1 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125         |           |                 | ---             | 71 - 100             |                               |                          | TC1, 2, OL1, U1   | TC1, 2, OL1, U1 |                       | Must have Agency "L"                            |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125/250     |           |                 | 0.02 - 50       | ---                  |                               | ---                      | 5,000             | TC1, 2, OL1, U1 | TC1, 2, OL1, U1       | Must have Agency "L"                            |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 250         |           |                 |                 |                      |                               |                          |                   | TC1, 2, OL1, U1 | TC1, 2, OL1, U1       | Must have Agency "L". 250 volts requires 2 pole |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125         | 50 / 60   | 1               |                 |                      |                               |                          |                   | 0.02 - 100      | 3,000                 | TC1, OL1, U2                                    | TC1, OL1, U2                       | Per pole rating          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 150         | DC        | ---             |                 |                      |                               |                          |                   | ---             | 80 - 100<br>101 - 175 | 5,000                                           | TC1, 2, OL1, U1                    | TC1, 2, OL1, U1          | Must have Agency "L"                           |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          |                   |                 |                       |                                                 | TC1, 2, OL0, U3                    | ---                      | Must have Agency "L" parallel pole             |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125/250     | 50 / 60   | 1               |                 |                      |                               |                          |                   | 0.02 - 100      | ---                   | 3,500                                           | TC1, OL1, U2                       | TC1, OL1, U2             | ---                                            |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          |                   | 0.02 - 50       |                       | 3,000                                           | TC1, 2, OL1, U1                    | TC1, 2, OL1, U1          | 2 or 3 poles breaking single phase             |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          |                   | 51 - 100        |                       | 1,000                                           | TC1, 2, OL1, U1                    | TC1, 2, OL1, U1          | 2 or 3 poles breaking single phase             |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          |                   | 0.02 - 100      |                       | 5,000                                           | TC1, 2, OL1, U2                    | TC1, 2, OL1, U2          | 2 or 3 poles breaking single phase. Agency "L" |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 250         |           |                 |                 |                      |                               |                          |                   | 0.02 - 50       |                       | 3,500                                           | TC1, 2, OL1, U2                    | TC1, 2, OL1, U2          | Per pole rating                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 | 0.02 - 100      |                      |                               |                          |                   | 5,000           |                       | TC1, 2, OL1, U1                                 | TC1, 2, OL1, U1                    | Must have Agency "L"     |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 | 51 - 70         | 5,000                | ---                           | TC1, 2, OL1, C1          | TC1, 2, OL1, C1   | ---             |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 | ---             |                      | 0.02 - 100                    | ---                      | 3,000             | TC1, 2, OL0, U2 |                       | TC1, 2, OL0, U2                                 | ---                                |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 277         |           |                 | 3               | 0.02 - 70            | ---                           | 5,000                    | ---               | TC1, 2, OL1, C1 |                       | TC1, 2, OL1, C1                                 | 3 poles breaking 3 phase           |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 | ---                  | 0.02 - 90                     | ---                      | 5,000             | TC1, 2, OL0, U1 |                       | TC1, 2, OL0, U1                                 | Must have Agency "L"               |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 | 480/277              | 1                             | 0.02 - 50                | 5,000             | ---             |                       | TC1, 2, OL1, C1                                 | TC1, 2, OL1, C1                    | ---                      |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               | 0.02 - 30                |                   |                 |                       | TC1, 2, OL1, C1                                 | TC1, 2, OL1, C1                    | 3 poles breaking 3 phase |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | ---         |           | TC1, 2, OL0, C1 | TC1, 2, OL0, C1 |                      |                               | ---                      |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 0.02 - 30   |           | TC1, 2, OL1, C1 | TC1, 2, OL1, C1 |                      |                               | 2 poles breaking 1 phase |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
| Dual Coil                          | 80          | DC        | ---             | 0.02 - 50       | ---                  | ---                           | ---                      | 7,500             | TC1, 2, OL1, U1 | TC1, 2, OL1, U1       | ---                                             |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125         | 50 / 60   | 1               |                 |                      |                               |                          | 3,000             | TC1, OL1, U2    | TC1, OL1, U2          | Per pole rating                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125/250     |           |                 |                 |                      |                               |                          | 3,500             | TC1, OL1, U2    | TC1, OL1, U2          | 2 or 3 poles breaking single phase              |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 250         |           |                 |                 |                      |                               |                          | 3                 | 3,000           | TC1, 2, OL1, U1       | TC1, 2, OL1, U1                                 | 2 or 3 poles breaking single phase |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          |                   | 3,500           | TC1, OL1, U2          | TC1, OL1, U2                                    | ---                                |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 277         | 50 / 60   | 1               |                 |                      |                               |                          | 3,000             | TC1, OL0, U2    | TC1, OL0, U2          | Per pole rating                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          | ---               | 5,000           | ---                   | TC1, 2, OL1, C1                                 | TC1, 2, OL1, C1                    | ---                      |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          | ---               | ---             | TC1, 2, OL1, C1       | TC1, 2, OL1, C1                                 | 3 poles breaking 3 phase           |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          | ---               | ---             | TC1, 2, OL1, C1       | TC1, 2, OL1, C1                                 | ---                                |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
| Shunt                              | 80          | DC        | ---             |                 |                      |                               |                          | 0.02 - 30         | 31 - 50         | 5,000                 | ---                                             | 7,500                              | TC1, 2, OL1, U1          | TC1, 2, OL1, U1                                | ---             |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 277         | 50 / 60   | 3               |                 |                      |                               |                          |                   |                 |                       |                                                 | ---                                | ---                      | TC1, 2, OL1, C1                                | TC1, 2, OL1, C1 | 3 poles breaking 3 phase |                          |                 |                 |                          |                 |                                    |
|                                    | 250         |           |                 |                 |                      |                               |                          |                   |                 |                       |                                                 | ---                                | ---                      | TC1, 2, OL1, C1                                | TC1, 2, OL1, C1 | 3 poles breaking 3 phase |                          |                 |                 |                          |                 |                                    |
|                                    | 480/277     |           |                 |                 |                      |                               |                          |                   |                 |                       |                                                 | 1                                  | ---                      | ---                                            | TC1, 2, OL0, C1 | TC1, 2, OL0, C1          | ---                      |                 |                 |                          |                 |                                    |
|                                    |             |           |                 |                 |                      |                               |                          |                   |                 |                       |                                                 |                                    | 0.02 - 30                | ---                                            | TC1, 2, OL1, C1 | TC1, 2, OL1, C1          | 2 poles breaking 1 phase |                 |                 |                          |                 |                                    |
|                                    | 480         | ---       | ---             |                 |                      |                               |                          |                   |                 |                       |                                                 | TC1, 2, OL0, C1                    | TC1, 2, OL0, C1          | ---                                            |                 |                          |                          |                 |                 |                          |                 |                                    |
| Relay                              | 80          | DC        | ---             |                 |                      |                               |                          |                   |                 |                       |                                                 | 0.02 - 50                          | ---                      | 5,000                                          | ---             | 7,500                    | TC1, 2, OL1, U1          | TC1, 2, OL1, U1 | ---             |                          |                 |                                    |
|                                    | 277         | 50 / 60   | 1               |                 |                      |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 | ---                      | ---                      | TC1, 2, OL1, C1 | TC1, 2, OL1, C1 | 3 poles breaking 3 phase |                 |                                    |
|                                    | 250         |           |                 |                 |                      |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 | 3                        | ---                      | ---             | TC1, 2, OL1, C1 |                          | TC1, 2, OL1, C1 |                                    |
| Switch Only                        | 65          | DC        | ---             | 0.02 - 100      |                      |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 | ---                      | ---                      | ---             | ---             | ---                      | ---             | 2 or 3 poles breaking single phase |
|                                    | 80          | 50 / 60   | 1               |                 |                      |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125         |           |                 |                 | ---                  |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 125/250     |           |                 |                 | 0.02 - 70            |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 250         |           |                 |                 | 0.02 - 50            |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 277         |           |                 |                 | 0.02 - 30            |                               |                          |                   |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |
|                                    | 480/277     |           |                 |                 | 3                    | ---                           | 31 - 50                  | ---               |                 |                       |                                                 |                                    |                          |                                                |                 |                          |                          |                 |                 |                          |                 |                                    |

**Notes:**

- Requires branch circuit backup with a UL LISTED Type K5 or RK5 fuse rated 15A minimum and no more than 4 times full load amps not to exceed 125A for 50 Amp or less rating and not to exceed 175 for 51 through 100 Amp rating

## Tables

**Table B:** Lists UL Recognized and CSA Accepted configurations and performance capabilities as a Manual Motor Controller.

| Manual Motor Controllers          |                  |           |       |                |                    |
|-----------------------------------|------------------|-----------|-------|----------------|--------------------|
| Circuit Configuration             | Voltage          |           |       | Current Rating | Horsepower Ratings |
|                                   | Max. Rating      | Frequency | Phase | Full Load Amps | Max. HP            |
| Series, Shunt & Relay Switch Only | 120 <sup>1</sup> | 50 / 60   | 1     | 0.02 - 50      | 7 <sup>1/2</sup>   |
|                                   | 250 <sup>1</sup> |           | 3     | 0.02 - 20      | 3                  |
|                                   | 277 <sup>1</sup> |           | 1     |                | 5                  |
|                                   | 480 <sup>2</sup> |           | 3     |                | 3                  |
|                                   |                  |           |       |                |                    |

Notes:

1. Requires branch circuit backup with a UL Listed Type K5 or RK5 fuse rated 15A Minimum and no more than 4 times full load amps not to exceed 125A for 50 Amp or less rating and not to exceed 175A for 51 through 100A rating.
2. UL Recognized and CSA Certified at 480V refers to 3 and 4 pole versions used in a 3Ø, WYE connected circuit or a 2 pole version with 2 poles breaking 1Ø and backed up with a series fusing as stated in note 1.
- \* Shunt and Relay Trip - Voltage Coil Construction not current coils

**Table C:** Lists UL Recognized, CSA Accepted, VDE and TUV Certified configurations and performance capabilities as a Component Supplementary Protector.

| Component Supplementary Protectors |             |            |                    |                |                                   |                               |                             |                        |                             |                        |                           |                   |                    |               |
|------------------------------------|-------------|------------|--------------------|----------------|-----------------------------------|-------------------------------|-----------------------------|------------------------|-----------------------------|------------------------|---------------------------|-------------------|--------------------|---------------|
| Circuit Configuration              | Voltage     |            |                    | Current Rating |                                   | Short Circuit Capacity (Amps) |                             |                        |                             |                        |                           | Application Codes | Construction Notes |               |
|                                    | Max. Rating | Frequency  | Phase              | Full Load Amps | General Purpose Amps <sup>1</sup> | UL / CSA                      |                             | VDE                    |                             | TUV                    |                           | UL / CSA          |                    |               |
|                                    |             |            |                    |                |                                   | With Backup Fuse              | Without Backup Fuse         | (Inc) With Backup Fuse | (Inc) Without Backup Fuse   | (Inc) With Backup Fuse | (Inc) Without Backup Fuse |                   |                    |               |
| Series                             | 80          | DC         | ---                | 0.10 – 70      | ---                               | ---                           | 7,500                       | ---                    | 5,000                       | 5,000                  | 1,500                     | TC1,2,OL1,U1      | ---                |               |
|                                    | 250         |            |                    | 71 – 100       | 71 – 100                          |                               | 10,000                      |                        | TC1,2,OL0,U1                | Agency F, H, J or R    |                           |                   |                    |               |
|                                    |             |            |                    | 1 – 50         | ---                               |                               | 5,000                       |                        | ---                         | ---                    | 5,000                     | TC1,2,OL1,U1      | Agency J or R      |               |
|                                    |             | 0.10 – 50  | 5,000              | 3,000          |                                   | 1,500                         | 3,000                       | 1,500                  | TC1,2,OL1,U1                | 2P, Agency J or R      |                           |                   |                    |               |
|                                    |             | 0.10 – 70  |                    |                |                                   |                               |                             |                        |                             | ---                    | ---                       | 5,000             | 5,000              | ---           |
|                                    |             | 0.10 – 100 |                    |                |                                   |                               |                             |                        |                             | ---                    | ---                       | 5,000             | 5,000              | Agency J or R |
|                                    |             | 0.10 – 90  | 5,000 <sup>2</sup> | ---            |                                   | 3,000                         | 1,500                       | 3,000                  | TC1,2,OL1,C1                | Rocker                 |                           |                   |                    |               |
|                                    |             | 0.10 – 30  |                    |                | 5,000                             | 2,500                         | Handle, Agency F, H, J or R |                        |                             |                        |                           |                   |                    |               |
|                                    | Dual Coil   | 80         | DC                 | ---            | 0.10 – 30                         | ---                           | 7,500                       | ---                    | 1,500                       | 5,000                  | 1,500                     | TC1,2,OL1,U1      | ---                |               |
|                                    | 250         | 50 / 60    | 1 & 3              | 5,000          | 3,000                             |                               | 3,000                       | TC1,2,OL1,U1           |                             | ---                    |                           |                   |                    |               |
| Shunt                              | 80          | DC         | ---                | 0.10 – 70      | 7,500                             |                               | ---                         | 5,000                  |                             | 5,000                  |                           | TC1,2,OL1,U1      | ---                |               |
|                                    | 250         | 50 / 60    | 1 & 3              | 0.10 – 30      | 5,000 <sup>2</sup>                | ---                           | 5,000                       | 3,000                  | 1,500                       | 3,000                  | TC1,2,OL1,C1              | Rocker            |                    |               |
|                                    | 415         |            |                    |                |                                   |                               | 5,000                       | 2,500                  | Handle, Agency F, H, J or R |                        |                           |                   |                    |               |

Notes:

1. General Purpose ratings for UL/CSA only.
2. Requires branch circuit backup with a UL LISTED Type K5 or RK5 fuse rated 15A minimum and no more than 4 times full load amps not to exceed 125A for 50 Amp or less rating and not to exceed 175 for 51 through 100 Amp rating.

**Table D:** Lists UL Listed (489), CSA Certified (C22.2 No. 5.1-M) configuration and performance capabilities as a Molded Case Circuit Breaker.

| UL489 Listed Branch Circuit Breakers |             |           |                                               |                |                              |                                           |                                                   |
|--------------------------------------|-------------|-----------|-----------------------------------------------|----------------|------------------------------|-------------------------------------------|---------------------------------------------------|
| Circuit Configuration                | Voltage     |           |                                               | Current Rating | Interrupting Capacity (Amps) | Construction Notes                        |                                                   |
|                                      | Max. Rating | Frequency | Phase                                         | Full Load Amps | Without Backup Fuse          |                                           |                                                   |
| Series                               | 80          | DC        | ---                                           | 0.10 - 100     | 50,000 <sup>1</sup>          | Limited to 2 Poles Max from 71 - 100 Amps |                                                   |
|                                      |             |           |                                               | 101 - 150      | 10,000                       |                                           | 2 Poles - Parallel Poles                          |
|                                      |             |           |                                               | 151 - 250      |                              |                                           | 3 Poles - Parallel Poles                          |
|                                      |             |           |                                               | 125            | 0.10 - 100                   |                                           | 5,000                                             |
|                                      | 125 / 250   | 0.10 - 50 | 1 or 2 Poles (2 poles required for 250 Volts) |                |                              |                                           |                                                   |
|                                      | 120         | 50 / 60   | 1                                             | 51 - 70        | 10,000                       | 1 - 3 Poles                               |                                                   |
|                                      |             |           |                                               | 120 / 240      | 0.10 - 50                    | 5,000                                     | 2 or 3 Poles (1 pole of a 3 pole unit is neutral) |
|                                      | 240         |           |                                               |                | 0.10 - 30                    | 5,000                                     |                                                   |
|                                      |             |           |                                               | 277            | 0.10 - 20                    | 10,000                                    | 2 Poles                                           |
|                                      |             |           |                                               |                |                              |                                           | 1-2 Poles                                         |
|                                      | Dual Coil   |           |                                               | 120            |                              |                                           | 0.10 - 30                                         |

Notes:

- 1 Special catalog number required. Consult factory.

# Tech Specs

## Tables

**Table E:** Lists UL Recognized, CSA Accepted configurations and performance capabilities as Protectors, Supplementary for Marine Electrical and Fuel Systems (Guide PEQ22, File E75596). Ignition Protected per UL 1500. UL Classified Small Craft Electrical Devices, Marine in accordance with ISO 8846 (Guide UZMK, File MQ1515) as Marine Supplementary Protectors.

| UL1500 (Marine Ignition Protection) |            |           |                 |                 |                              |                   |                 |                    |
|-------------------------------------|------------|-----------|-----------------|-----------------|------------------------------|-------------------|-----------------|--------------------|
| Circuit Configuration               | Voltage    |           |                 | Current Rating  | Interrupting Capacity (Amps) | Application Codes |                 | Construction Notes |
|                                     | Max Rating | Frequency | Phase           | Full Load Amps  | Without Backup Fuse          | UL                | CSA             |                    |
| Series                              | 48         | DC        | ---             | 0.02 - 100      | 5,000                        | TCI, 2, OLI, UI   | TCI, 2, OLI, UI | ---                |
|                                     |            |           |                 | 101 - 150       |                              |                   |                 |                    |
|                                     | 65         |           |                 | 0.02 - 100      | 1,500                        | TCI, 2, OLO, UI   | TCI, 2, OLO, UI |                    |
|                                     | 80         |           | TCI, 2, OLI, UI | TCI, 2, OLI, UI |                              |                   |                 |                    |
|                                     | 125        | 50 / 60   | 1               | 0.02 - 70       | 5,000                        | TCI, 2, OLI, UI   | TCI, 2, OLI, UI |                    |
|                                     |            |           |                 | 71 - 100        |                              |                   |                 |                    |
|                                     | 250        |           |                 | 0.02 - 70       | 1,500                        | TCI, 2, OLI, UI   | TCI, 2, OLI, UI |                    |
|                                     |            |           |                 | 71 - 100        |                              |                   |                 |                    |
| 2 Poles Breaking Single Phase       |            |           |                 |                 |                              |                   |                 |                    |

**Table F:** Lists UL Listed configurations and performance capabilities as Circuit Breakers for use in Communications Equipment (Guide DITT, File E189195), under UL489A.

| PARALLEL POLE CONSTRUCTION UL489A Listed for Communications Equipment |             |           |                      |                              |
|-----------------------------------------------------------------------|-------------|-----------|----------------------|------------------------------|
| Circuit Configuration                                                 | Voltage     |           | Current Rating       | Interrupting Capacity (Amps) |
|                                                                       | Max. Rating | Frequency | General Purpose Amps | Without Backup Fuse          |
| Series                                                                | 80          | DC        | 100 - 250            | 10,000                       |

## Time Delay Specs

To view all hydraulic-magnetic circuit breaker time delay values, please visit [www.carlingtech.com/sites/default/files/documents/Carling-HM-CB-Time-Delays.pdf](http://www.carlingtech.com/sites/default/files/documents/Carling-HM-CB-Time-Delays.pdf)

## Agency Approvals

|               |                                                                                                               |
|---------------|---------------------------------------------------------------------------------------------------------------|
| UL 1077       | Component Recognition Program as Protectors Supplementary (Guide CCN/QVNU2, File E75596)                      |
| UL 508        | Switches, Industrial Control (Guide CCN/NRNT2, File E148683)                                                  |
| UL 1500       | Protectors, Supplementary for Marine Electrical & Fuel Systems (Guide PEQ22, File E75596) Ignition Protection |
| UL 489        | Circuit Breakers, Molded Case, (Guide DIVQ, File E129899)                                                     |
| UL 489A       | Communications Equipment (Guide CCN/DITT, File E189195)                                                       |
| CSA Accepted  | Component Supplementary Protector under Class 3215 30, File 047848 0 000 CSA Standard C22.2 No. 235           |
| CSA Certified | Circuit Breaker Model Case (Class 1432 01, File 093910), CSA Standard C22.2 No. 5.1 - M                       |
| TUV Certified | EN60934, under License No. R72040875                                                                          |
| VDE Certified | EN60934, VDE 0642 under File No. 10537                                                                        |

# Ordering Scheme

Handle - UL 1077 Recognized

Sample  
Part Number

C A 3 - B 0 - 10 - 450 - 1 2 1 - C

Selection

1

2

3

4

5

6

7

8

9

10

11

## 1. SERIES

C

## 2. ACTUATOR <sup>1</sup>

- A Handle, one per pole  
B Handle, one per multipole unit

## 3. POLES

- 1 One 3 Three 5 Five  
2 Two 4 Four 6 Six

## 4. CIRCUIT <sup>2</sup>

- A Switch Only (No Coil)  
B Series Trip (Current)

## 5. AUXILIARY / ALARM SWITCH <sup>3</sup>

- 0 without Aux Switch  
2 S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

- |    |                         |                 |                             |
|----|-------------------------|-----------------|-----------------------------|
| 03 | DC 50/60Hz, Switch Only | 30              | DC, 50/60Hz Instantaneous   |
| 10 | DC Instantaneous        | 32              | DC, 50/60Hz Short           |
| 12 | DC Short                | 34              | DC, 50/60Hz Medium          |
| 14 | DC Medium               | 36              | DC, 50/60Hz Long            |
| 16 | DC Long                 | 44 <sup>4</sup> | 50/60Hz Medium, High-inrush |
| 20 | 50/60Hz Instantaneous   | 46 <sup>4</sup> | 50/60Hz Long, High-inrush   |
| 22 | 50/60Hz Short           | 54 <sup>4</sup> | DC, Medium, High-inrush     |
| 24 | 50/60Hz Medium          | 56 <sup>4</sup> | DC, Long, High-inrush       |
| 26 | 50/60Hz Long            |                 |                             |

Notes:

- 1 Actuator Code:  
A: Handle tie pin spacer(s) and retainers provided assembled with multi-pole units. B: Handle location as viewed from front of breaker:  
2 pole - left pole 3 pole - center pole 4 pole - two handles at center poles  
5 pole - three handles at center poles 6 pole - four handles at center poles  
For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650. For 55-70 amps, select Current Code 670. For 75-100 amps, select Current Code 810.
- 3 Auxiliary Switch available with Series Trip & Switch Only circuits. On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- 4 Available with Circuit Code B, and up to 50 amps maximum.
- 5 Current Ratings 60 - 70 are available up to four poles maximum. Ratings 71 - 100 are available up to two poles maximum.
- 6 Terminal Code 1 available to 60 amps maximum.  
Terminal Codes 3 and 6 available to 100 amps maximum.  
Terminal Code A available to 100 amps maximum.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 7. CURRENT RATING (AMPERES) <sup>5</sup>

| CODE | AMPERES |     |        |     |        |     |         |
|------|---------|-----|--------|-----|--------|-----|---------|
| 220  | 0.200   | 470 | 7.000  | 625 | 25.000 | 660 | 60.000  |
| 250  | 0.500   | 475 | 7.500  | 630 | 30.000 | 670 | 70.000  |
| 410  | 1.000   | 610 | 10.000 | 635 | 35.000 | 680 | 80.000  |
| 425  | 2.500   | 615 | 15.000 | 640 | 40.000 | 690 | 90.000  |
| 450  | 5.000   | 620 | 20.000 | 650 | 50.000 | 810 | 100.000 |

## 8. TERMINAL <sup>6</sup>

- 1 Stud 10-32  
3 Stud 1/4-20  
6 Stud M6  
A Plug-In Stud

## 9. ACTUATOR COLOR & LEGEND

|   | Actuator Color | Legend Color |
|---|----------------|--------------|
| 1 | White          | Black        |
| 2 | Black          | White        |
| 3 | Red            | White        |
| 4 | Green          | White        |

## 10. MOUNTING / BARRIERS

|   | MOUNTING STYLE<br>Threaded Insert | BARRIERS | VOLTAGE |
|---|-----------------------------------|----------|---------|
| 1 | 6-32 x 0.195 inches               | no       | < 300   |
| A | 6-32 X 0.195 inches               | yes      | < 300   |
| C | 6-32 X 0.195 inches               | yes      | ≥ 300   |
| 2 | ISO M3 x 5mm                      | no       | < 300   |
| B | ISO M3 x 5mm                      | yes      | < 300   |
| D | ISO M3 x 5mm                      | yes      | ≥ 300   |

## 11 AGENCY APPROVAL

- C UL Recognized, CSA Accepted  
D VDE Certified, UL Recognized, CSA Accepted  
E TUV Certified, UL Recognized, CSA Accepted  
H UL489 Construction: VDE Certified, UL Recognized, CSA Accepted  
I UL Recognized STD 1077, UL Recognized 1500 (ignition protected), CSA Accepted  
L UL489 Construction: UL Recognized, CSA Accepted  
R UL489 Construction: TUV Certified, UL Recognized, CSA Accepted



# Ordering Scheme

Handle - UL 489 & UL 489A Listed / Parallel Pole

Sample  
Part Number

C A 2 - P 0 - D4 - 820 - 3 2 1 - M T

Selection

1

2

3

4

5

6

7

8

9

10

11

12

## 1. SERIES

C

## 2. ACTUATOR

A Handle, one per pole

## 3. POLES

1 One  
2 Two  
3 Three

## 4. CIRCUIT

P Series Trip (parallel pole)

## 5 AUXILIARY/ALARM SWITCH <sup>1</sup>

0 without Aux Switch  
2 S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

D1 DC Ultra Short  
D2 DC Short  
D4 DC Medium  
D6 DC Long

## 7. CURRENT RATING (AMPERES) <sup>2</sup>

| CODE | AMPERES | CODE | AMPERES | CODE | AMPERES | CODE | AMPERES |
|------|---------|------|---------|------|---------|------|---------|
| 810  | 100.00  | 815  | 150.00  | 917  | 175.00  | 825  | 250.00  |
| 912  | 125.00  | 816  | 160.00  | 820  | 200.00  |      |         |

## 8. TERMINAL <sup>3</sup>

3 1/4-20 threaded Stud  
6 M6 threaded Stud  
A Plug-In Stud

## 9 ACTUATOR COLOR & LEGEND

|   | Actuator Color | Legend Color |
|---|----------------|--------------|
| 1 | White          | Black        |
| 2 | Black          | White        |
| 3 | Red            | White        |
| 4 | Green          | White        |

## 10. MOUNTING

**Threaded Insert**  
1 6-32 x 0.195 inches  
2 ISO M3 x 5mm

## 11. MAXIMUM APPLICATION RATING

M 80 DC

## 12. AGENCY APPROVAL <sup>4</sup>

A Without Approval  
G UL489 Listed  
J UL489A Listed, TUV Certified  
K UL489A Listed, VDE Certified  
T UL489A Listed  
7 UL489A Listed, TUV Certified

### Notes:

- Auxiliary Switch available with Series Trip & Switch Only circuits. On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- Ratings for 101 to 125 amps are available in 1-pole.  
Ratings from 110 to 200 amps are available in 2-pole.  
For ratings from 225-300 amps, specify 3-pole.
- Terminal Codes 3 & 6 are supplied with bus bars connecting the Line and Load Terminals. Terminal Code A, Line and Load Terminals must be connected to a copper bus bar having a minimum cross-section of 0.078 square inches. Terminal Code A is not available on the single pole unit.  
1 pole only available with terminal codes 3 and 6.
- Agency codes K and 7 are not available with 1 pole.  
Agency code J is only available with 1 pole.  
Agency code G is only available in 2 and 3 pole.  
Circuit P, ratings 101-150 amps (2 pole) and ratings 151-250 amps (3 pole).

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme

Handle - UL 489 Listed

Sample  
Part Number

C A 3 - B 0 - 14 - 450 - 1 2 1 - K G

Selection 1 2 3 4 5 6 7 8 9 10 11 12

## 1. SERIES

C

## 2. ACTUATOR 1

- A Handle, one per pole  
B Handle, one per multipole unit

## 3. POLES 2

- 1 One  
2 Two  
3 Three

## 4. CIRCUIT

- B Series Trip (Current)

## 5 AUXILIARY/ALARM SWITCH 3

- 0 without Aux Switch  
2 S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

- |    |                |      |                             |
|----|----------------|------|-----------------------------|
| 12 | DC Short       | 26   | 50/60Hz Long                |
| 14 | DC Medium      | 44 4 | 50/60Hz Medium, High-inrush |
| 16 | DC Long        | 46 4 | 50/60Hz Long, High-inrush   |
| 22 | 50/60Hz Short  | 54 4 | DC Medium, High-inrush      |
| 24 | 50/60Hz Medium | 56 4 | DC Long, High-inrush        |

Notes:

- Actuator Code:  
A: Handle tie pin spacer(s) and retainers provided assembled with multipole units.  
B: Handle located, as viewed from front of breaker in left pole. 2 pole maximum.
- Standard multipole units have all poles identical except when specifying auxiliary switch and/or mixed poles. 2 & 3 pole circuit breakers required for 120/240 VAC (Maximum application rating code C) applications, have all poles identical except when specifying auxiliary switch which is normally supplied in extreme right pole per figure B. Terminal barriers are required on all multipole breakers. Third pole is for 120/240 VAC applications requiring neutral disconnect.
- On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- Available up to 50 amps maximum.
- Terminal Code 1 available to 60 amps maximum.  
Terminal Codes 3, 6 and A available to 100 amps maximum.
- Barriers supplied on multi-pole units only.

## 7. CURRENT RATING (AMPERES) 4

| CODE | AMPERES |     |        |     |         |
|------|---------|-----|--------|-----|---------|
| 220  | 0.200   | 475 | 7.500  | 630 | 30.000  |
| 250  | 0.500   | 610 | 10.000 | 635 | 35.000  |
| 410  | 1.000   | 615 | 15.000 | 640 | 40.000  |
| 425  | 2.500   | 620 | 20.000 | 650 | 50.000  |
| 450  | 5.000   | 625 | 25.000 | 660 | 60.000  |
|      |         |     |        | 670 | 70.000  |
|      |         |     |        | 680 | 80.000  |
|      |         |     |        | 690 | 90.000  |
|      |         |     |        | 810 | 100.000 |

## 8. TERMINAL 5

- 1 Stud 10-32  
3 Stud 1/4-20  
6 Stud M6  
A Plug-In Stud

## 9 ACTUATOR COLOR & LEGEND

|   | Actuator Color | Legend Color |
|---|----------------|--------------|
| 1 | White          | Black        |
| 2 | Black          | White        |
| 3 | Red            | White        |
| 4 | Green          | White        |

## 10. MOUNTING 6

|   | MOUNTING STYLE<br>Threaded Insert | BARRIERS |
|---|-----------------------------------|----------|
| 1 | 6-32 x 0.195 inches               | yes      |
| 2 | ISO M3 x 5mm                      | yes      |

## 11. MAXIMUM APPLICATION RATING

- B 125 DC  
C 120/240 AC  
D 240 AC  
K 120 AC  
F 277 AC  
M 80 DC

## 12. AGENCY APPROVAL

- A without approvals  
F UL489 Listed, CSA Certified & VDE Certified  
G UL489 Listed & CSA Certified  
J UL489 Listed, CSA Certified & TUV Certified

 [Configure Complete Part Number >](#)

 [Browse Standard Parts >](#)



# Circuit & Terminal Diagrams Handle

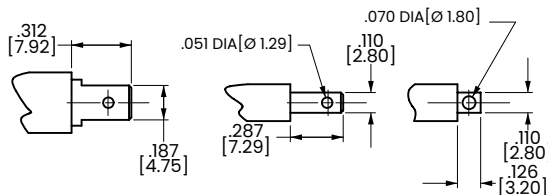
inches [millimeters]

| TERMINAL     |      |                    | RATING (AMPS) |    |     |
|--------------|------|--------------------|---------------|----|-----|
| DESCRIPTION  | CODE | DIMENSIONAL DETAIL | 25            | 50 | 100 |
| #10-32 STUD  | 1    |                    |               |    |     |
| M5 STUD      | 4    |                    |               |    |     |
| #1/4-20 STUD | 3    |                    |               |    |     |
| M6 STUD      | 6    |                    |               |    |     |
| #1/4-20 STUD | 3    |                    |               |    |     |
| M6 STUD      | 6    |                    |               |    |     |
| #10-32 SCREW | 2    |                    |               |    |     |
| M-5 SCREW    | 5    |                    |               |    |     |

NOTES: TOLERANCE ON STUD LENGTHS IS  $\pm .031$  [ $\pm .79$ ] UNLESS OTHERWISE SPECIFIED.

| TERMINAL             |      |                    | RATING (AMPS) |    |     |
|----------------------|------|--------------------|---------------|----|-----|
| DESCRIPTION          | CODE | DIMENSIONAL DETAIL | 25            | 50 | 100 |
| .250 DOUBLE Q.C.     | 7    |                    |               |    |     |
| 7/16" CLIP TERMINALS | 9    |                    |               |    |     |
| PUSH-IN STUD         | A    |                    |               |    |     |

## AUXILIARY / ALARM SWITCH TERMINAL DETAIL<sup>3</sup>



TAB (Q.C.).187

TAB (Q.C.).110

SOLDER TYPE

| TIGHTENING TORQUE SPECIFICATIONS |                           |
|----------------------------------|---------------------------|
| THREAD SIZE                      | TORQUE                    |
| #6-32[M3] MOUNTING INSERTS       | 7-9 IN-LBS [0.8-1.0 NM]   |
| #10-32 & M5 THD STUDS            | 15-20 IN-LBS [1.7-2.3 NM] |
| #10-32 THD SCREW                 | 15-20 IN-LBS [1.7-2.3 NM] |
| #1/4-20 & M6 THD STUDS           | 30-35 IN-LBS [3.4-4.0 NM] |

| TERMINAL HARDWARE    |       |                     |               |                                    |
|----------------------|-------|---------------------|---------------|------------------------------------|
| TERMINAL DESCRIPTION | CODE  | AGENCY APPROVAL     | AMPERE RATING | HARDWARE SUPPLIED                  |
| #10-32 STUD          | 1     | ALL                 | .02-50        | LOCK WASHER-FLAT WASHER-NUT        |
| M5 STUD              | 4     | ALL                 | .02-50        | LOCK WASHER-FLAT WASHER-NUT        |
| #1/4-20 STUD         | 3     | ALL                 | .02-80        | LOCK WASHER-FLAT WASHER-NUT        |
|                      |       |                     | 81-100        | LOCK WASHER-NUT-(2)FLAT WASHER-NUT |
| M6 STUD              | 6     | ALL                 | .02-80        | LOCK WASHER-FLAT WASHER-NUT        |
|                      |       |                     | 81-100        | LOCK WASHER-NUT-(2)FLAT WASHER-NUT |
| #10-32 SCREW         | 2 & 5 | UL RECOGNIZED       | .02-50        | * SADDLE CLAMP-FLAT WASHER-SCREW   |
|                      |       | UL-489 LISTED       | .02-50        | LOCK WASHER-FLAT WASHER-SCREW      |
|                      |       | TUV & VDE CERTIFIED | .02-16        | * SADDLE CLAMP-FLAT WASHER-SCREW   |
|                      |       | TUV & VDE CERTIFIED | 16.1-50       | LOCK WASHER-FLAT WASHER-SCREW      |

\* THE SADDLE CLAMP IS FOR DIRECT WIRE CONNECTION USE. DISCARD SADDLE CLAMP IF WIRE TERMINAL LUG IS USED

Notes:

- 1 Tolerance  $\pm .020$  [.51] unless otherwise specified.
- 2 Available on Series Trip and Switch Only Circuits when called for on multi-pole units. Only one auxiliary switch is normally supplied, as viewed in multi-pole identification scheme.

# Circuit & Terminal Diagrams Handle

inches [millimeters]

|  | CIRCUIT SCHEMATIC                           |     | CIRCUIT CODE | AUX SWITCH CODE | CIRCUIT SCHEMATIC                                            |     | CIRCUIT CODE | AUX SWITCH CODE |
|--|---------------------------------------------|-----|--------------|-----------------|--------------------------------------------------------------|-----|--------------|-----------------|
|  | ANSI                                        | IEC |              |                 | ANSI                                                         | IEC |              |                 |
|  | SWITCH ONLY (NO COIL)                       |     |              |                 | SWITCH ONLY (NO COIL)                                        |     |              |                 |
|  |                                             |     | A            | O               |                                                              |     | B<br>C       | O               |
|  | SWITCH ONLY (NO COIL) WITH AUXILIARY SWITCH |     | A            | 2<br>3<br>4     | SERIES TRIP WITH AUXILIARY/ALARM SWITCH                      |     | B<br>C       | 2<br>3<br>4     |
|  | SHUNT TRIP                                  |     | D<br>E       | 0               | DUAL COIL; SERIES TRIP CURRENT COIL, SHUNT TRIP VOLTAGE COIL |     | H            | 0               |
|  | RELAY TRIP                                  |     | F<br>G       | 0               | DUAL COIL; SERIES TRIP CURRENT COIL, RELAY TRIP VOLTAGE COIL |     | K            | 0               |

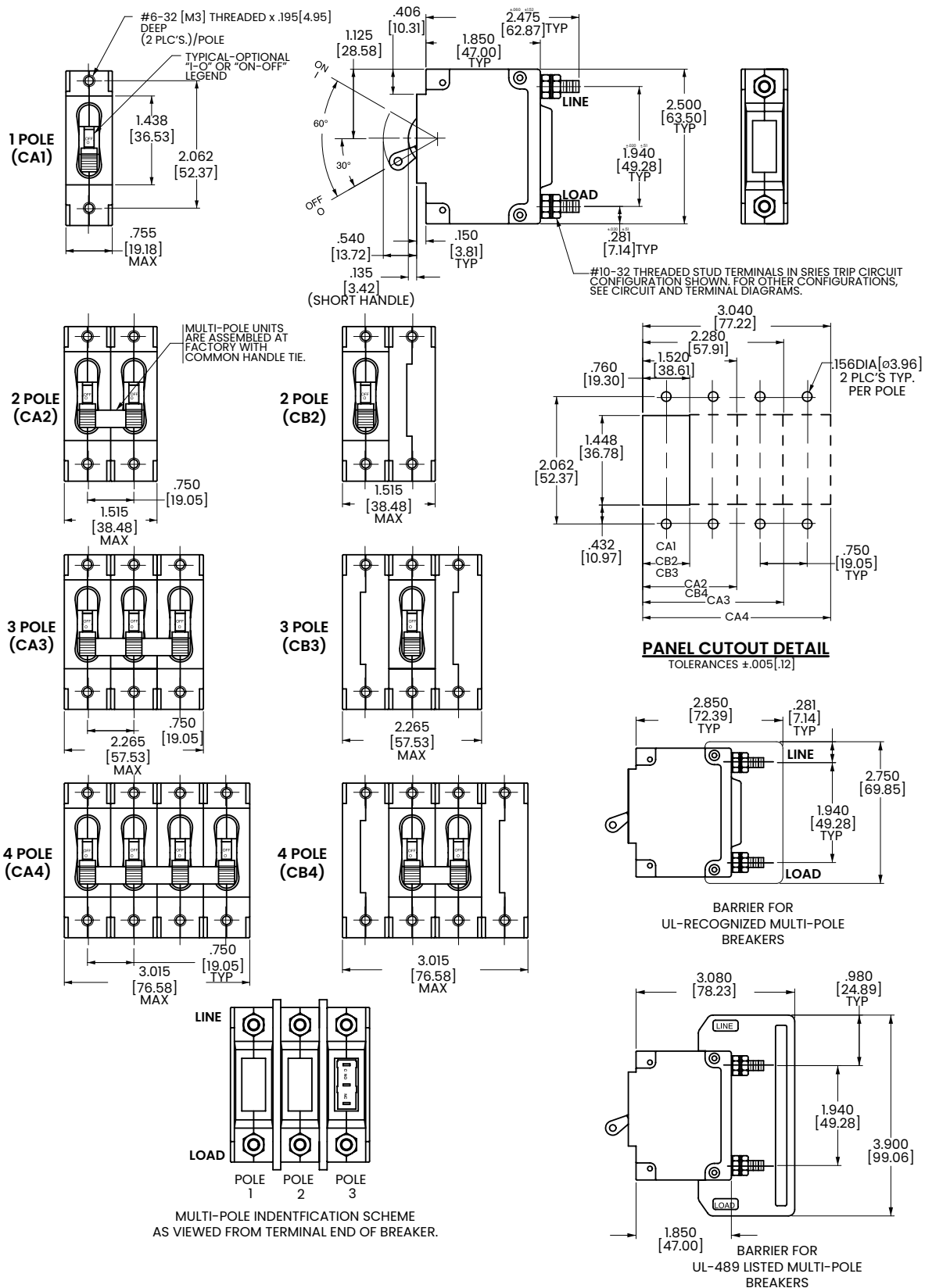
| HANDLE POSITION VS. AUX/ALARM SWITCH MODE |                 |                  |                 |                            |                             |
|-------------------------------------------|-----------------|------------------|-----------------|----------------------------|-----------------------------|
| CIRCUIT BREAKER MODE                      | STANDARD C/B    |                  | MID TRIP C/B    |                            |                             |
|                                           | HANDLE POSITION | AUX. SWITCH MODE | HANDLE POSITION | STANDARD ALARM SWITCH MODE | REVERSE ALARM SWITCH MODE 4 |
| OFF                                       |                 |                  |                 |                            |                             |
| ON                                        |                 |                  |                 |                            |                             |
| ELECTRICAL TRIP                           |                 |                  |                 |                            |                             |

Notes:

- Tolerance  $\pm 0.020$  [51] unless otherwise specified.
- Schematic shown represents current trip circuits.
- Available only as special catalog number.

# Dimensional Specs Handle

inches [millimeters]



Notes:

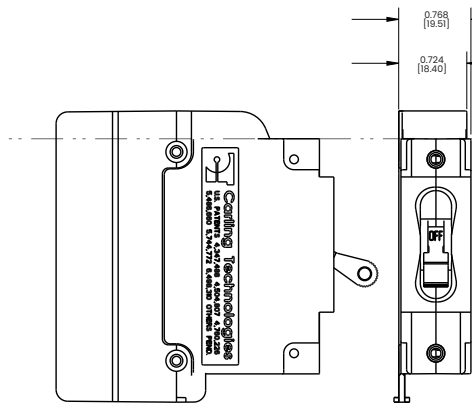
1 Tolerance ±.020 [0.51] unless otherwise specified.

# Dimensional Specs

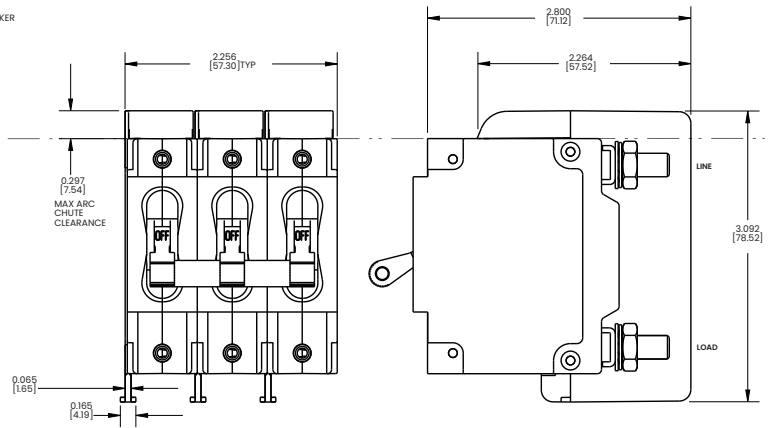
## Arc Chute Barrier

inches [millimeters]

1-POLE (CA1)  
W/ ARC CHUTE BARRIER

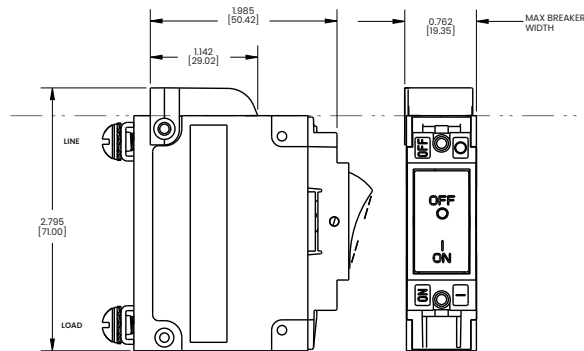


3-POLE (CA3)  
W/ ARC CHUTE BARRIER

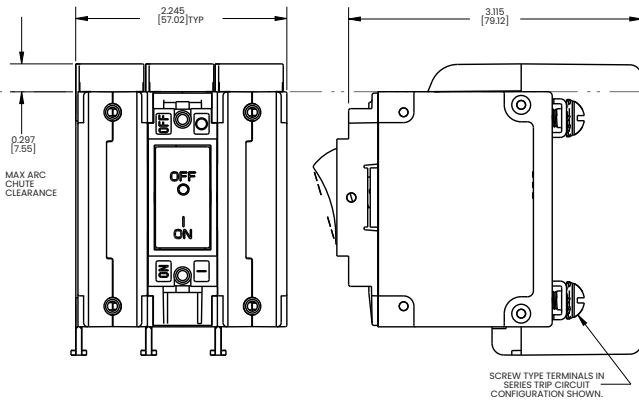


INDICATE "ON"

1-POLE (CC1, CD1)  
W/ ARC CHUTE (NO BARRIER)

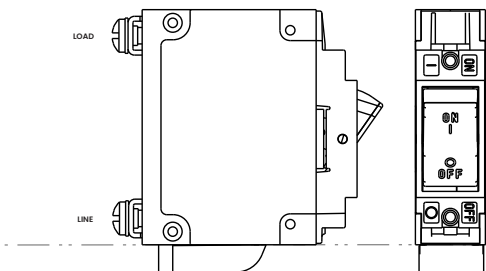


3-POLE (CC3, CD3)  
W/ ARC CHUTE BARRIER

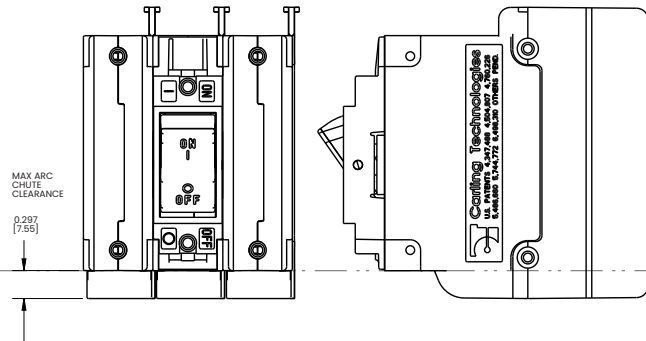


INDICATE "OFF" / SINGLE COLOR

1-POLE (CF1, CG1, C11, C21)  
W/ ARC CHUTE (NO BARRIER)



3-POLE (CF3, CG3, C13, C23)  
W/ ARC CHUTE BARRIER



### Notes:

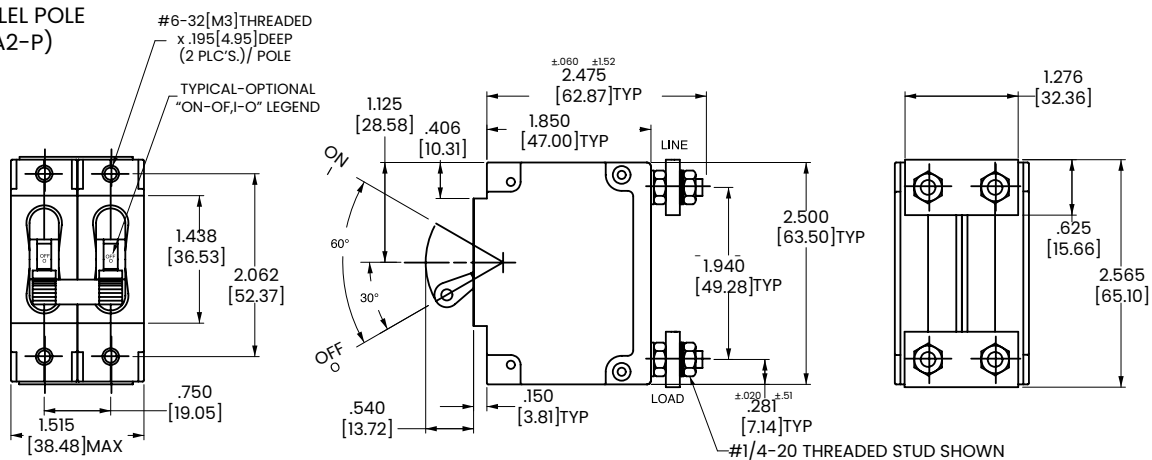
- Only 1-pole and 3-pole configurations shown. Arc chute (without barrier) and arc chute barrier also available for 2-pole construction.
- Dimensions apply to all variations shown.
- Notice that line and load terminal orientation for indicate on and indicate off rocker circuit breakers are opposite.
- Screw type terminals shown for Rocker style (CF1, C11, etc) circuit breakers. For other terminal configurations see circuit and terminal diagrams.
- Tolerance  $\pm .020$  unless otherwise specified.
- Must be ordered under a special catalog number.

# Dimensional Specs

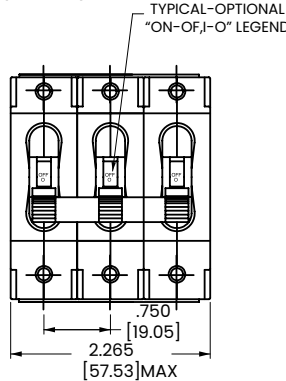
Parallel Pole

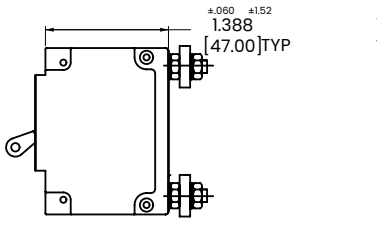
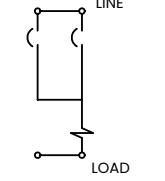
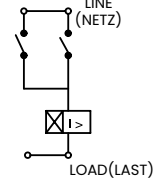
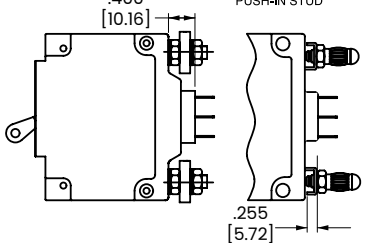
inches [millimeters]

## PARALLEL POLE (CA2-P)

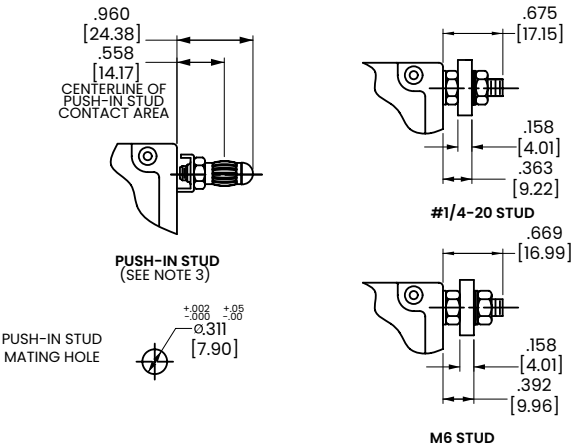


## PARALLEL POLE (CA3-P)

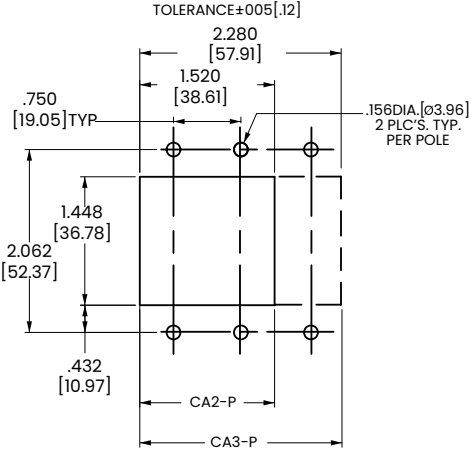


| CIRCUIT BREAKER PROFILE                                                                                                         | CIRCUIT SCHEMATIC (CA2-P SHOWN)                                                                     |                                                                                                                    | CIRCUIT CODE | SAFETY CODE |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------|-------------|
|                                                                                                                                 | ANSI                                                                                                | IEC                                                                                                                |              |             |
| <br>1.388 [47.00] TYP                         | <br>LINE<br>LOAD | <br>LINE (NETZ)<br>LOAD (LAST) | P            | 0           |
| <br>.400 [10.16] PUSH-IN STUD<br>.255 [5.72] | SERIES TRIP WITH AUXILIARY SWITCH                                                                   |                                                                                                                    | P            | 2<br>3<br>4 |

## TERMINAL DETAILS



## PANEL CUT-OUT DETAIL



Notes:  
1 Tolerance  $\pm .020$  [.51] unless otherwise specified.

# Ordering Scheme

Sealed Toggle - UL 1077 Recognized

Sample  
Part Number

**C M 3 - B 0 - 10 - 450 - 1 0 1 - C**

Selection

1 2 3 4 5 6 7 8 9 10 11

## 1. SERIES

**C**

## 2. ACTUATOR <sup>1</sup>

**M** Sealed Toggle, one per pole

## 3. POLES

**1** One **2** Two **3** Three

## 4. CIRCUIT

**A** Switch Only (no coil)  
**B** Series Trip (current)

## 5. AUXILIARY / ALARM SWITCH <sup>2</sup>

**0** without Aux Switch  
**2** S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| <b>03</b> DC 50/60Hz, Switch Only | <b>30</b> DC 50/60Hz Instantaneous                 |
| <b>10</b> DC Instantaneous        | <b>32</b> DC 50/60Hz Short                         |
| <b>12</b> DC Short                | <b>34</b> DC 50/60Hz Medium                        |
| <b>14</b> DC Medium               | <b>36</b> DC 50/60Hz Long                          |
| <b>16</b> DC Long                 | <b>44</b> <sup>3</sup> 50/60Hz Medium, High-inrush |
| <b>20</b> 50/60Hz Instantaneous   | <b>46</b> <sup>3</sup> 50/60Hz Long, High-inrush   |
| <b>22</b> 50/60Hz Short           | <b>54</b> <sup>3</sup> DC Medium, High-inrush      |
| <b>24</b> 50/60Hz Medium          | <b>56</b> <sup>3</sup> DC Long, High-inrush        |
| <b>26</b> 50/60Hz Long            |                                                    |

## 7. CURRENT RATING (AMPERES) <sup>4</sup>

| CODE       | AMPERES |            |        |            |        |            |         |
|------------|---------|------------|--------|------------|--------|------------|---------|
| <b>220</b> | 0.200   | <b>475</b> | 7.500  | <b>630</b> | 30.000 | <b>670</b> | 70.000  |
| <b>250</b> | 0.500   | <b>610</b> | 10.000 | <b>635</b> | 35.000 | <b>680</b> | 80.000  |
| <b>410</b> | 1.000   | <b>615</b> | 15.000 | <b>640</b> | 40.000 | <b>690</b> | 90.000  |
| <b>425</b> | 2.500   | <b>620</b> | 20.000 | <b>650</b> | 50.000 | <b>810</b> | 100.000 |
| <b>450</b> | 5.000   | <b>625</b> | 25.000 | <b>660</b> | 60.000 |            |         |

## 8. TERMINAL <sup>5</sup>

**1** Stud 10-32  
**3** Stud 1/4-20  
**6** Stud M6  
**A** Plug-In Stud

## 9. LEGEND PLATE

**0** No Legend

## 10. MOUNTING / BARRIERS

|          | MOUNTING STYLE                           | BARRIERS |
|----------|------------------------------------------|----------|
| <b>1</b> | Standard Hex Nut                         | no       |
| <b>A</b> | Standard Hex Nut (multi-pole units only) | yes      |

## 11. AGENCY APPROVAL

**C** UL Recognized & CSA Accepted  
**I** UL Recognized & CSA Accepted, UL1500 ignition protection  
**L** UL Recognized & CSA Accepted with listed construction

Notes:

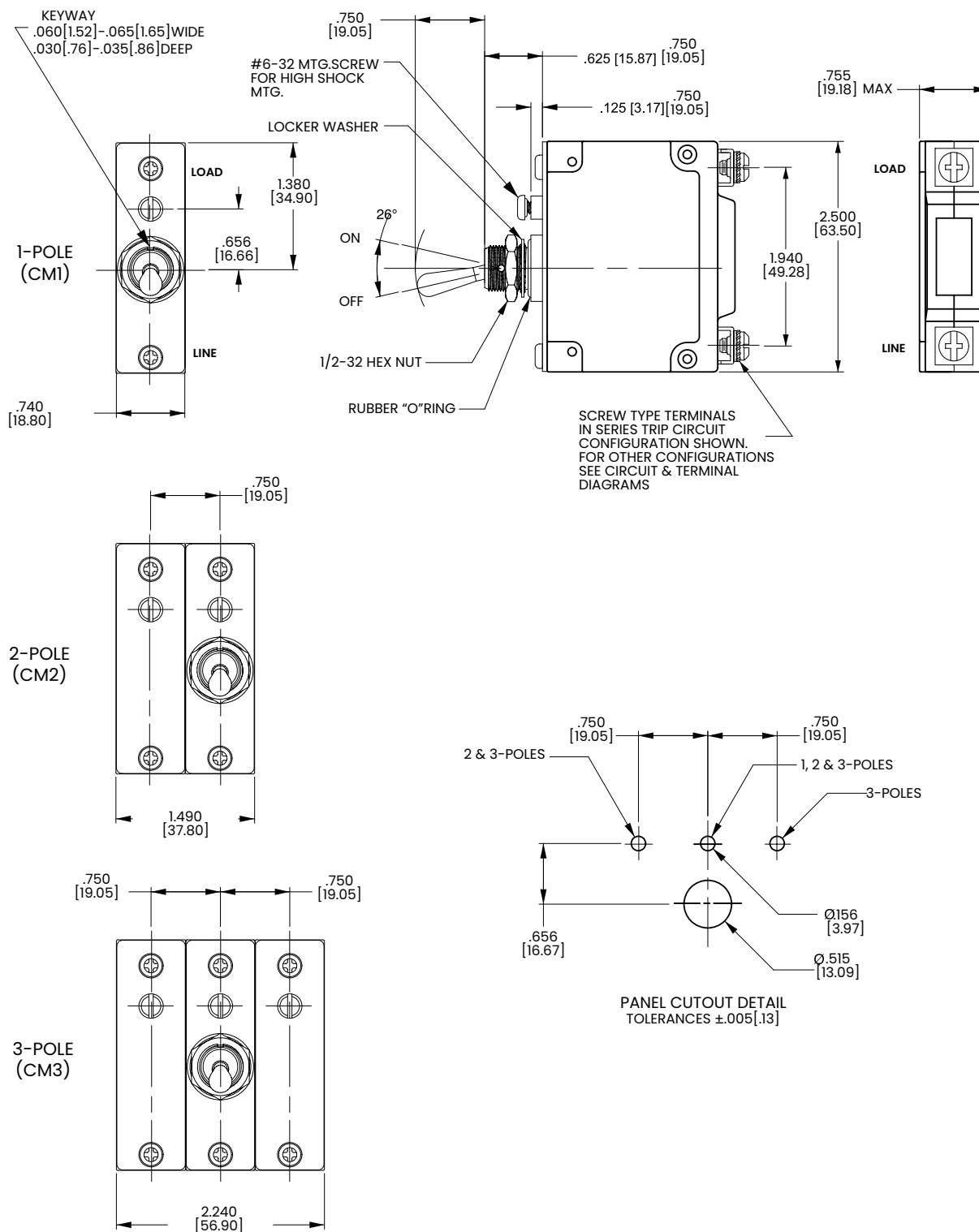
- Actuator Code M: Handle location as viewed from front of breaker:  
2 pole - right pole 3 pole - center pole
- Auxiliary Switch available with Series Trip and Switch Only circuits. On multipole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- Available with Circuit Code B and up to 50 amps maximum.
- Consult factory for current ratings 71-100, in three pole units, available as special catalog number only.
- Terminal Codes 3, 6 and A available to 100 amps maximum

 [Configure Complete Part Number >](#)

 [Browse Standard Parts >](#)

# Dimensional Specs Sealed Toggle

inches [millimeters]



Notes:

1 Tolerance  $\pm .020$  [.51] unless otherwise specified.



# Ordering Scheme

Rocker - UL 1077 Recognized

Sample  
Part Number

C C 3 - B 0 - 14-450 - 1 2 1 - D

Selection

1

2

3

4

5

6

7

8

9

10

11

## 1. SERIES

C

## 2. ACTUATOR <sup>1</sup>

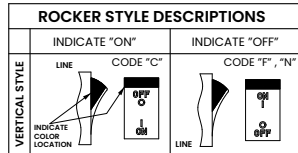
Two Color Visi-Rocker

C Indicate ON, vertical legend

F Indicate OFF, vertical legend

Push-To-Reset, Visi-Rocker

N Indicate OFF, vertical legend



## 3. POLES <sup>2</sup>

1 One 2 Two 3 Three

## 4. CIRCUIT

A Switch Only (No Coil) <sup>3</sup>  
B Series Trip (Current)

## 5. AUXILIARY / ALARM SWITCH <sup>4</sup>

0 without Aux Switch  
2 S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

|                            |                                             |
|----------------------------|---------------------------------------------|
| 03 DC 50/60Hz, Switch Only | 30 DC 50/60Hz Instantaneous                 |
| 10 DC Instantaneous        | 32 DC 50/60Hz Short                         |
| 12 DC Short                | 34 DC 50/60Hz Medium                        |
| 14 DC Medium               | 36 DC 50/60Hz Long                          |
| 16 DC Long                 | 44 <sup>5</sup> 50/60Hz Medium, High-inrush |
| 20 50/60Hz Instantaneous   | 46 <sup>5</sup> 50/60Hz Long, High-inrush   |
| 22 50/60Hz Short           | 54 <sup>5</sup> DC Medium, High-inrush      |
| 24 50/60Hz Medium          | 56 <sup>5</sup> DC Long, High-inrush        |
| 26 50/60Hz Long            |                                             |

Notes:

- 1 Push-To-Reset actuators have OFF portion of rocker shrouded.
- 2 Multi-pole breakers have all poles identical except when specifying Auxiliary switch and/or mixed poles, and have one rocker per breaker. Rocker location as viewed from front panel: 2 pole - left pole; 3 pole - center pole.
- 3 Switch Only circuits, rated up to 50 amps and 3 poles. For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650. For 55-70 amps, select Current Code 670. For 75-100 amps, select Current Code 810.
- 4 Auxiliary Switch available with Series Trip and Switch Only circuits. On multipole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- 5 Available with Circuit Code B and up to 50 amps maximum.
- 6 Current Ratings 60-70 are available up to four poles maximum. Ratings 71-100 are available up to two poles maximum.
- 7 Terminal Codes 3, 6 & A available to 100 amps maximum.
- 8 Color shown is visi and legend with remainder of rocker black.

## 7. CURRENT RATING (AMPERES) <sup>6</sup>

| CODE | AMPERES |     |        |     |        |     |         |
|------|---------|-----|--------|-----|--------|-----|---------|
| 220  | 0.200   | 475 | 7.500  | 630 | 30.000 | 670 | 70.000  |
| 250  | 0.500   | 610 | 10.000 | 635 | 35.000 | 680 | 80.000  |
| 410  | 1.000   | 615 | 15.000 | 640 | 40.000 | 690 | 90.000  |
| 425  | 2.500   | 620 | 20.000 | 650 | 50.000 | 810 | 100.000 |
| 450  | 5.000   | 625 | 25.000 | 660 | 60.000 |     |         |

## 8. TERMINAL <sup>7</sup>

1 Stud 10-32  
3 Stud 1/4-20  
6 Stud M6  
A Plug-In Stud

## 9. ACTUATOR COLOR & LEGEND <sup>8</sup>

|   | Actuator/Visi-Color | Legend Color |
|---|---------------------|--------------|
| 1 | White               | Black        |
| 2 | Black               | White        |
| 3 | Red                 | White        |
| 4 | Green               | White        |

## 10 MOUNTING / BARRIERS

|                     | STANDARD ROCKER BEZEL | BARRIERS | VOLTAGE |
|---------------------|-----------------------|----------|---------|
| 1                   | 6-32 x 0.195 inches   | no       | <300    |
| 2                   | 6-32 x 0.195 inches   | yes      | <300    |
| 3                   | 6-32 x 0.195 inches   | yes      | ≥300    |
| 4                   | ISO M3 x 5mm          | no       | <300    |
| 5                   | ISO M3 x 5mm          | yes      | <300    |
| 6                   | ISO M3 x 5mm          | yes      | ≥300    |
| ROCKERGARD BEZEL    |                       |          |         |
| A                   | 6-32 x 0.195 inches   | no       | <300    |
| C                   | 6-32 x 0.195 inches   | yes      | <300    |
| E                   | 6-32 x 0.195 inches   | yes      | ≥300    |
| G                   | ISO M3 x 5mm          | no       | <300    |
| J                   | ISO M3 x 5mm          | yes      | <300    |
| L                   | ISO M3 x 5mm          | yes      | ≥300    |
| PUSH-TO-RESET BEZEL |                       |          |         |
| B                   | 6-32 x 0.195 inches   | no       | <300    |
| D                   | 6-32 x 0.195 inches   | yes      | <300    |
| F                   | 6-32 x 0.195 inches   | yes      | ≥300    |
| H                   | ISO M3 x 5mm          | no       | <300    |
| J                   | ISO M3 x 5mm          | yes      | <300    |
| M                   | ISO M3 x 5mm          | yes      | ≥300    |

## 11 AGENCY APPROVAL

C UL Recognized & CSA Accepted  
D VDE Certified, UL Recognized & CSA Accepted  
E TUV Certified, UL Recognized & CSA Accepted  
H UL489 Construction: VDE Certified, UL Recognized & CSA Accepted  
I UL Recognized STD 1077, UL Recognized 1500 (ignition protected), & CSA Accepted  
L UL489 Construction: UL Recognized & CSA Accepted  
R UL489 Construction: TUV Certified, UL Recognized & CSA Accepted

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme

Rocker - UL 489A Listed / Parallel Pole

Sample  
Part Number

**C 1 2 - P 0 - D4 - 820 - 3 2 A - M T**

Selection 1 2 3 4 5 6 7 8 9 10 11 12

## 1. SERIES

**C**

## 2. ACTUATOR

**C** Curved Rocker, Two Color Visi, Indicate On, Vertical Legend  
**D** Curved Rocker, Two Color Visi, Indicate On, Horizontal Legend  
**F** Curved Rocker, Two Color Visi, Indicate Off, Vertical Legend  
**1** Flat Rocker, Two Color Visi, Vertical Legend  
**2** Flat Rocker, Two Color Visi, Horizontal Legend  
**5** Flat Rocker, Push To Reset, Two Color Visi, Vertical Legend  
**6** Flat Rocker, Push To Reset, Two Color Visi, Horizontal Legend

## 3. POLES

**1** One **2** Two **3** Three

## 4. CIRCUIT

**P** Series Trip (parallel pole)

## 5 AUXILIARY/ALARM SWITCH

**0** without Aux Switch  
**2** S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

**D1** DC Ultra Short  
**D2** DC Short  
**D4** DC Medium  
**D6** DC Long

## 7. CURRENT RATING (AMPERES) 1

| CODE       | AMPERES |
|------------|---------|
| <b>810</b> | 100.00  |
| <b>912</b> | 125.00  |
| <b>815</b> | 150.00  |
| <b>816</b> | 160.00  |
| <b>917</b> | 175.00  |
| <b>820</b> | 200.00  |
| <b>825</b> | 250.00  |

## 8. TERMINAL 2, 3

**3** Stud 1/4-20  
**6** Stud M6  
**A** Plug-In Stud

## 9 ACTUATOR COLOR & LEGEND

|          | Actuator Color | Legend Color |
|----------|----------------|--------------|
| <b>1</b> | White          | Black        |
| <b>2</b> | Black          | White        |
| <b>3</b> | Red            | White        |
| <b>4</b> | Green          | White        |

## 10. MOUNTING

### ROCKER / MOUNTING INSERT STYLE

**A** Standard Rocker Bezel - 6-32 Inserts  
**B** Standard Rocker Bezel - M3 Inserts  
**C** Rocker Guard Bezel - 6-32 Inserts  
**D** Rocker Guard Bezel - M3 Inserts  
**E** Standard Bezel with recessed Off Side Flat Rocker - 6-32 Inserts  
**F** Standard Bezel with recessed Off Side Flat Rocker - M3 Inserts  
**G** Push to Reset Bezel - 6-32 Inserts  
**H** Push to Reset Bezel - M3 Inserts

## 11. MAXIMUM APPLICATION RATING

**M** 80 DC

## 12. AGENCY APPROVAL 4

**A** Without Approval  
**G** UL489 Listed  
**J** UL489A Listed, TUV Certified  
**T** UL489A Listed  
**7** UL489A Listed, TUV Certified

Notes:

- Ratings for 101 to 125 amps are available in 1-pole. Ratings from 110 to 200 amps are available in 2-pole. For ratings from 225-300 amps, specify 3-pole.
- Breakers with Terminal Codes 3 & 6 are supplied with bus bars connecting the Line and Load Terminals. For Terminal Code A, Line and Load Terminals must be connected to a copper bus bar having a minimum cross-section of 0.078 square inches. Terminal Code A is not available on the single pole unit.
- 1 pole only available with terminal codes 3 and 6.
- Agency codes K and 7 are not available with 1 pole. Agency code J is only available with 1 pole. Agency code G is only available in 2 and 3 pole. Circuit P, ratings 101-150 amps (2 pole) and ratings 151-250 amps (3 pole).

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Scheme Rocker - UL 489 Listed

Sample  
Part Number

**C C 3 - B 0 - 23 - 450 - 1 2 A - K G**

Selection

1

2

3

4

5

6

7

8

9

10

11

12

## 1. SERIES

C

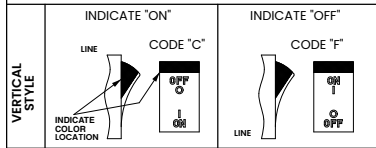
## 2. ACTUATOR <sup>1</sup>

### Two Color Visi-Rocker

C Indicate ON, vertical legend

F Indicate OFF, vertical legend

### ROCKER STYLE DESCRIPTIONS



## 3. POLES

1 One

2 Two

3 Three

## 4. CIRCUIT

B Series Trip (current)

## 5 AUXILIARY/ALARM SWITCH <sup>2</sup>

0 without Aux Switch  
2 S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

|                   |                                             |
|-------------------|---------------------------------------------|
| 12 DC Short       | 26 50/60Hz Long                             |
| 14 DC Medium      | 44 <sup>3</sup> 50/60Hz Medium, High-inrush |
| 16 DC Long        | 46 <sup>3</sup> 50/60Hz Long, High-inrush   |
| 22 50/60Hz Short  | 54 <sup>3</sup> DC Medium, High-inrush      |
| 24 50/60Hz Medium | 56 <sup>3</sup> DC Long, High-inrush        |

### Notes:

- Multi-pole breakers have all breakers identical except when specifying Auxiliary switch and/or mixed poles, and have one rocker per breaker.
- On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- Available up to 50 amps maximum.
- Current ratings 71 - 100 with VDE approvals are available up to two poles maximum.
- Terminal Codes 3, 6 & A available to 100 amps maximum.
- Color shown is visi and legend with remainder of rocker black.
- Dual = ON-OFF/I-O legend on actuator.
- Barriers supplied on multi-pole units only.
- 2 & 3 pole circuit breakers required for 120/240 AC rating.

## 7. CURRENT RATING (AMPERES) <sup>4</sup>

| CODE | AMPERES |     |        |     |         |
|------|---------|-----|--------|-----|---------|
| 210  | 0.100   | 475 | 7.500  | 630 | 30.000  |
| 250  | 0.500   | 610 | 10.000 | 635 | 35.000  |
| 410  | 1.000   | 615 | 15.000 | 640 | 40.000  |
| 425  | 2.500   | 620 | 20.000 | 650 | 50.000  |
| 450  | 5.000   | 625 | 25.000 | 660 | 60.000  |
|      |         |     |        | 670 | 70.000  |
|      |         |     |        | 680 | 80.000  |
|      |         |     |        | 690 | 90.000  |
|      |         |     |        | 810 | 100.000 |

## 8. TERMINAL <sup>5</sup>

1 Stud 10-32  
3 Stud 1/4-20  
6 Stud M6  
A Plug-In Stud

## 9. ACTUATOR COLOR & LEGEND <sup>6, 7</sup>

|   | Actuator Color | Legend Color |
|---|----------------|--------------|
| 1 | White          | Black        |
| 2 | Black          | White        |
| 3 | Red            | White        |
| 4 | Green          | White        |

## 10. MOUNTING / BARRIERS <sup>8</sup>

|   | Standard Rocker Bezel<br>Threaded Insert, 2 per pole | BARRIERS |
|---|------------------------------------------------------|----------|
| A | 6-32 X 0.195 inches                                  | yes      |
| C | ISO M3 x 5mm                                         | yes      |
|   | Rockerguard Bezel<br>Threaded Insert, 2 per pole     |          |
| B | 6-32 x 0.195 inches                                  | yes      |
| D | ISO M3 x 5mm                                         | yes      |

## 11. MAXIMUM APPLICATION RATING <sup>9</sup>

B 125 DC  
C 120/240 AC  
D 240 AC  
F 277 AC  
K 120 AC  
M 80 DC

## 12. AGENCY APPROVAL

A without approvals  
F UL 489 Listed, CSA Certified, & VDE Certified  
G UL 489 Listed & CSA Certified  
J UL 489 Listed, CSA Certified & TUV Certified

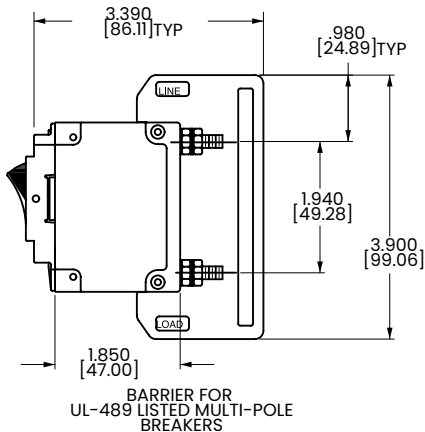
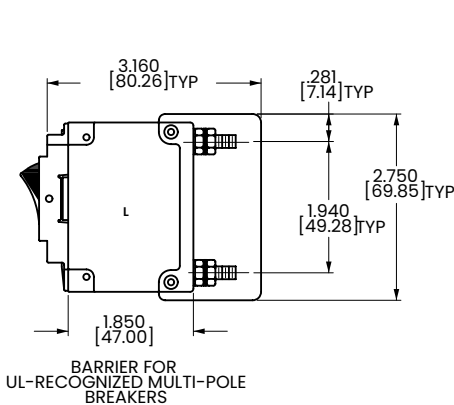
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Circuit & Terminal Diagrams Rocker

inches [millimeters]

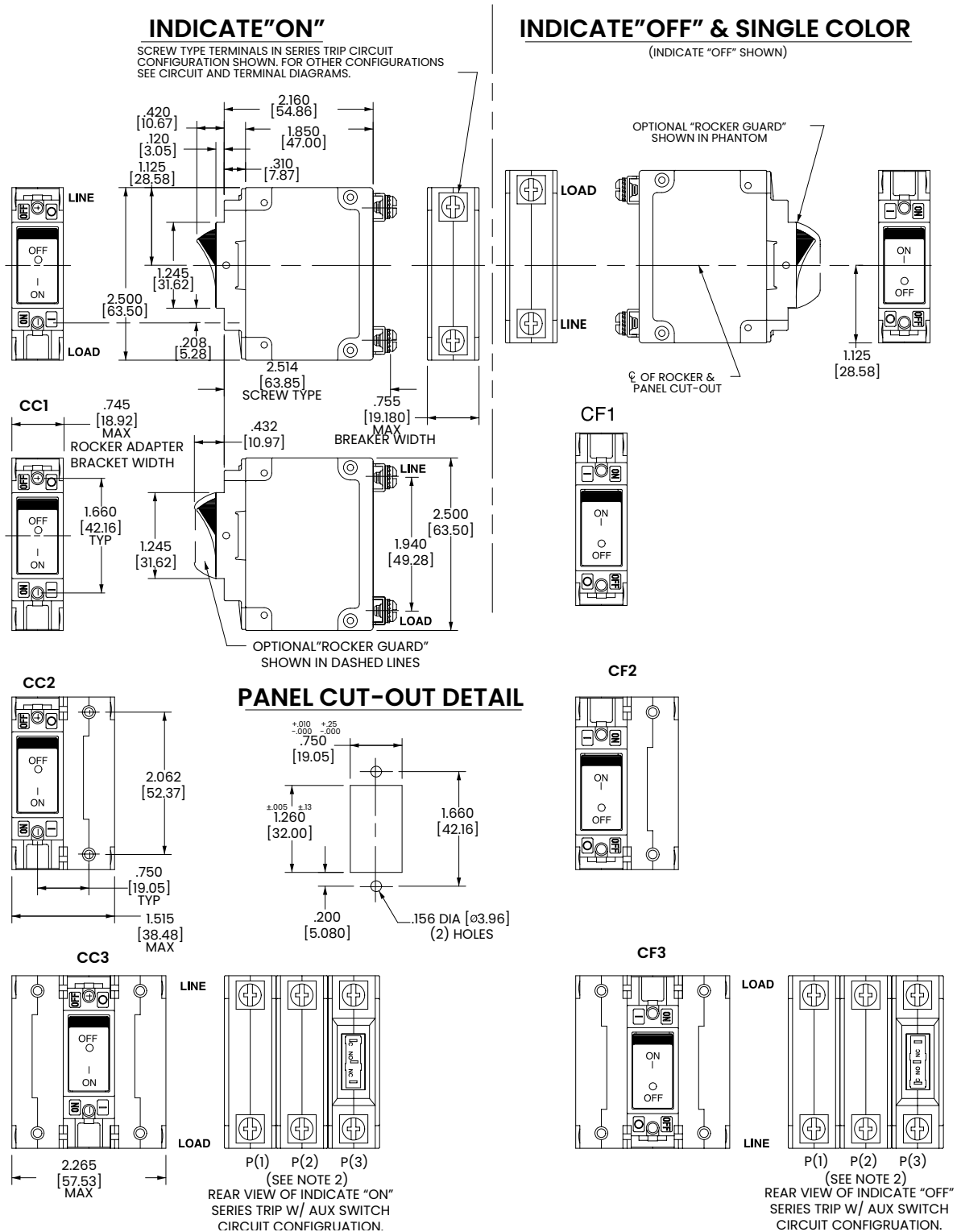
| CIRCUIT BREAKER PROFILE                                                                                                                                  | CIRCUIT SCHEMATIC                           |                 | CIRCUIT CODE | AUX SWITCH CODE | CIRCUIT SCHEMATIC                                            |                 | CIRCUIT CODE | AUX SWITCH CODE |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------|--------------|-----------------|--------------------------------------------------------------|-----------------|--------------|-----------------|
|                                                                                                                                                          | ANSI                                        | IEC             |              |                 | ANSI                                                         | IEC             |              |                 |
| <p>SERIES TRIP (2 TERM'S.)</p> <p>±.031 [.79]<br/>.625 [5.88] TYP</p> <p>2.160 [54.86] TYP</p> <p>LINE</p> <p>MAIN TERM'S. (SEE TABLE A)</p> <p>LOAD</p> | SWITCH ONLY (NO COIL)                       |                 | A            | 0               | SWITCH TRIP                                                  |                 | BC           | 0               |
|                                                                                                                                                          | LINE                                        | LINE (NETZ)     |              |                 | LINE                                                         | LINE (NETZ) (3) |              |                 |
| <p>SERIES TRIP W/AUX. SWITCH (5 TERM'S.)</p> <p>6.75 [17.15] TYP</p> <p>.970 [24.64]</p> <p>1.265 [32.13]</p> <p>AUX. SWITCH TERM'S. (3 PLCS.)</p>       | SWITCH ONLY (NO COIL) WITH AUXILIARY SWITCH |                 | A            | 2<br>3<br>4     | SERIES TRIP WITH AUXILIARY SWITCH                            |                 | BC           | 2<br>3<br>4     |
|                                                                                                                                                          | LINE                                        | LINE (NETZ)     |              |                 | LINE                                                         | LINE (NETZ) (3) |              |                 |
| <p>SHUNT TRIP (3 TERM'S.)</p>                                                                                                                            | SHUNT TRIP                                  |                 | DE           | 0               | DUAL COIL: SERIES TRIP CURRENT COIL, SHUNT TRIP VOLTAGE COIL |                 | H            | 0               |
|                                                                                                                                                          | LINE                                        | LINE (NETZ) (3) |              |                 | LINE                                                         | LINE (NETZ)     |              |                 |
| <p>SHUNT TRIP (4 TERM'S.)</p> <p>±.031 [.79]<br/>.812 [20.62] TYP</p> <p>.646 [16.41]</p> <p>6.46 [16.41] TYP</p>                                        | RELAY TRIP                                  |                 | FG           | 0               | DUAL COIL: SERIES TRIP CURRENT COIL, RELAY TRIP VOLTAGE COIL |                 | K            | 0               |
|                                                                                                                                                          | LINE                                        | RELAY (RELAIS)  |              |                 | LINE                                                         | RELAY (RELAIS)  |              |                 |



- Notes:
- 1 Tolerance ±.020 [.51] unless otherwise specified.
  - 2 Schematic shown represents current trip circuit.

# Dimensional Specs Rocker

inches [millimeters]



## Notes:

- 1 Dimensions apply to all variations shown. Notice that circuit breaker line and load terminal orientation on indicate OFF is opposite of indicate ON.
- 2 For pole orientation with horizontal legend, rotate front view clockwise 90°.
- 3 Tolerance ±.020 [.51] unless otherwise specified.

# Ordering Scheme

Flat Rocker - UL 1077 Recognized

Sample  
Part Number

C 1 2 - B 0 - 10-450 - 1 2 1 - E

Selection

1

2

3

4

5

6

7

8

9

10

11

## 1. SERIES

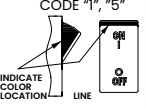
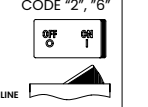
C

## 2. ACTUATOR 1

### Two Color Visi-Rocker

- 1 Indicate OFF, vertical legend
  - 2 Indicate OFF, horizontal legend
- ### Push-To-Reset, Visi-Rocker
- 5 Indicate OFF, vertical legend
  - 6 Indicate OFF, horizontal legend

### ROCKER STYLE DESCRIPTIONS

|                | VERTICAL STYLE                                                                                     | HORIZONTAL STYLE                                                                                   |
|----------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| INDICATE "OFF" | CODE "1", "5"<br> | CODE "2", "6"<br> |

## 3. POLES 2

- 1 One 2 Two 3 Three

## 4. CIRCUIT

- A Switch Only (No Coil) <sup>3</sup>  
B Series Trip (Current)

## 5. AUXILIARY / ALARM SWITCH 4

- 0 without Aux Switch  
2 S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

- |    |                         |                 |                             |
|----|-------------------------|-----------------|-----------------------------|
| 03 | DC 50/60Hz, Switch Only | 30              | DC 50/60Hz Instantaneous    |
| 10 | DC Instantaneous        | 32              | DC 50/60Hz Short            |
| 12 | DC Short                | 34              | DC 50/60Hz Medium           |
| 14 | DC Medium               | 36              | DC 50/60Hz Long             |
| 16 | DC Long                 | 44 <sup>5</sup> | 50/60Hz Medium, High-inrush |
| 20 | 50/60Hz Instantaneous   | 46 <sup>5</sup> | 50/60Hz Long, High-inrush   |
| 22 | 50/60Hz Short           | 54 <sup>5</sup> | DC Medium, High-inrush      |
| 24 | 50/60Hz Medium          | 56 <sup>5</sup> | DC Long, High-inrush        |
| 26 | 50/60Hz Long            |                 |                             |

### Notes:

- 1 Push-to-reset actuators have OFF portion of rocker shrouded.
- 2 Multi-pole breakers have all poles identical except when specifying Auxiliary switch and/or mixed poles, and have one rocker per breaker. Rocker location as viewed from front panel: 2 pole - left pole; 3 pole - center pole.
- 3 Switch Only circuits, rated up to 50 amps and 3 poles. For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650. For 55-70 amps, select Current Code 670. For 75-100 amps, select Current Code 810.
- 4 Auxiliary Switch available with Series Trip and Switch Only circuits. On multipole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- 5 Available up to 50 amps maximum.
- 6 Current ratings 60-70 are available up to four poles maximum. Current ratings 71 - 100 are available up to two poles maximum.
- 7 Terminal Codes 3, 6 & A available to 100 amps maximum.
- 8 Color shown is visi & legend with remainder of rocker black.  
Dual = ON-OFF/I-O legend.
- 9 Legend on Push-to-reset bezel/shroud is white with single color actuator codes 7 & 8. Legend on Push-to-reset bezel/shroud matches visi-color of rocker with actuator codes 5 & 6.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 7. CURRENT RATING (AMPERES) 6

| CODE | AMPERES |     |        |     |        |     |         |
|------|---------|-----|--------|-----|--------|-----|---------|
| 220  | 0.200   | 475 | 7.500  | 630 | 30.000 | 670 | 70.000  |
| 250  | 0.500   | 610 | 10.000 | 635 | 35.000 | 680 | 80.000  |
| 410  | 1.000   | 615 | 15.000 | 640 | 40.000 | 690 | 90.000  |
| 425  | 2.500   | 620 | 20.000 | 650 | 50.000 | 810 | 100.000 |
| 450  | 5.000   | 625 | 25.000 | 660 | 60.000 |     |         |

## 8. TERMINAL 7

- 1 Stud 10-32  
3 Stud 1/4-20  
6 Stud M6  
A Plug-In Stud

## 9. ACTUATOR COLOR & LEGEND 8, 9

|   | Actuator Color | Legend Color |
|---|----------------|--------------|
| 1 | White          | Black        |
| 2 | Black          | White        |
| 3 | Red            | White        |
| 4 | Green          | White        |

## 10 MOUNTING / BARRIERS

|   | STANDARD ROCKER BEZEL | BARRIERS | VOLTAGE |
|---|-----------------------|----------|---------|
| 1 | 6-32 x 0.195 inches   | no       | <300    |
| 2 | 6-32 x 0.195 inches   | yes      | <300    |
| 3 | 6-32 x 0.195 inches   | yes      | ≥300    |
| 4 | ISO M3 x 5mm          | no       | <300    |
| 5 | ISO M3 x 5mm          | yes      | <300    |
| 6 | ISO M3 x 5mm          | yes      | ≥300    |
|   | RECESSED OFF ROCKER   |          |         |
| 7 | 6-32 x 0.195 inches   | no       | <300    |
| 8 | 6-32 x 0.195 inches   | yes      | <300    |
| 9 | 6-32 x 0.195 inches   | yes      | ≥300    |
| A | ISO M3 x 5mm          | no       | <300    |
| C | ISO M3 x 5mm          | yes      | <300    |
| E | ISO M3 x 5mm          | yes      | ≥300    |
|   | PUSH-TO-RESET BEZEL   |          |         |
| B | 6-32 x 0.195 inches   | no       | <300    |
| D | 6-32 x 0.195 inches   | yes      | <300    |
| F | 6-32 x 0.195 inches   | yes      | ≥300    |
| H | ISO M3 x 5mm          | no       | <300    |
| J | ISO M3 x 5mm          | yes      | <300    |
| M | ISO M3 x 5mm          | yes      | ≥300    |

## 11 AGENCY APPROVAL

- C UL Recognized & CSA Accepted  
E TUV Certified, UL Recognized & CSA Accepted  
I UL Recognized STD 1077, UL Recognized 1500 (ignition protected), & CSA Accepted  
L UL489 Construction: UL Recognized & CSA Accepted  
R UL489 Construction: TUV Certified, UL Recognized & CSA Accepted

# Ordering Scheme

Flat Rocker - UL 489 Listed

Sample  
Part Number

C 1 2 - B 0 - 24 - 450 - 1 2 A - K G

Selection

1

2

3

4

5

6

7

8

9

10

11

12

## 1. SERIES

C

## 2. ACTUATOR 1

### Two Color Visi-Rocker

- 1 Indicate OFF, vertical legend
- 2 Indicate OFF, horizontal legend
- Push-To-Reset, Visi-Rocker**
- 5 Indicate OFF, vertical legend
- 6 Indicate OFF, horizontal legend

### ROCKER STYLE DESCRIPTIONS

|                         | VERTICAL STYLE | HORIZONTAL STYLE |
|-------------------------|----------------|------------------|
| INDICATE "OFF"          | CODE "1", "5"  | CODE "2", "6"    |
| INDICATE COLOR LOCATION |                |                  |

## 3. POLES 2

- 1 One
- 2 Two
- 3 Three

## 4. CIRCUIT

B Series Trip (current)

## 5 AUXILIARY/ALARM SWITCH 3

- 0 without Aux Switch
- 2 S.P.D.T., 0.110 Q.C. Term.

## 6. FREQUENCY & DELAY

- 12 DC Short
- 14 DC Medium
- 16 DC Long
- 22 50/60Hz Short
- 24 50/60Hz Medium
- 26 50/60Hz Long
- 44 50/60Hz Medium, High-inrush
- 46 50/60Hz Long, High-inrush
- 54 DC Medium, High-inrush
- 56 DC Long, High-inrush

### Notes:

- 1 Push-to-reset actuators have OFF portion of rocker shrouded.
- 2 Multi-pole breakers have all breakers identical except when specifying Auxiliary switch and/or mixed poles, and have one rocker per breaker.
- 3 On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- 4 Available up to 50 amps maximum.
- 5 Current ratings 60-70 are available up to four poles maximum. Current ratings 71 - 100 are available up to two poles maximum.
- 6 Terminal Codes 3, 6 & A available to 100 amps maximum.
- 7 Color shown is visi and legend with remainder of rocker black. Dual = ON-OFF/I-O legend on actuator.
- 8 Legend on push-to-reset bezel/shroud is white when single color rocker is ordered. Legend on push-to-reset bezel/shroud matches visi-color of rocker with actuator codes 5 & 6.
- 9 Barriers supplied on multi-pole units only.
- 10 2 & 3 pole circuit breakers required for 120/240 AC rating.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 7. CURRENT RATING (AMPERES) 5

| CODE | AMPERES |     |        |     |         |
|------|---------|-----|--------|-----|---------|
| 220  | 0.200   | 475 | 7.500  | 630 | 30.000  |
| 250  | 0.500   | 610 | 10.000 | 635 | 35.000  |
| 410  | 1.000   | 615 | 15.000 | 640 | 40.000  |
| 425  | 2.500   | 620 | 20.000 | 650 | 50.000  |
| 450  | 5.000   | 625 | 25.000 | 660 | 60.000  |
|      |         |     |        | 670 | 70.000  |
|      |         |     |        | 680 | 80.000  |
|      |         |     |        | 690 | 90.000  |
|      |         |     |        | 810 | 100.000 |

## 8. TERMINAL 6

- 1 Stud 10-32
- 3 Stud 1/4-20
- 6 Stud M6
- A Plug-In Stud

## 9 ACTUATOR COLOR & LEGEND 7, 8

|   | Actuator Color | Legend Color |
|---|----------------|--------------|
| 1 | White          | Black        |
| 2 | Black          | White        |
| 3 | Red            | White        |
| 4 | Green          | White        |

## 10. MOUNTING / BARRIERS 9

|   | STANDARD ROCKER BEZEL<br>Threaded Insert, 2 per pole | BARRIERS |
|---|------------------------------------------------------|----------|
| A | 6-32 x 0.195 inches                                  | yes      |
| C | ISO M3 x 5mm                                         | yes      |
|   | RECESSED OFF ROCKER<br>Threaded Insert, 2 per pole   |          |
| E | 6-32 x 0.195 inches                                  | yes      |
| F | ISO M3 x 5mm                                         | yes      |
|   | PUSH-TO-RESET BEZEL<br>Threaded Insert, 2 per pole   |          |
| B | 6-32 x 0.195 inches                                  | yes      |
| D | ISO M3 x 5mm                                         | yes      |

## 11. MAXIMUM APPLICATION RATING

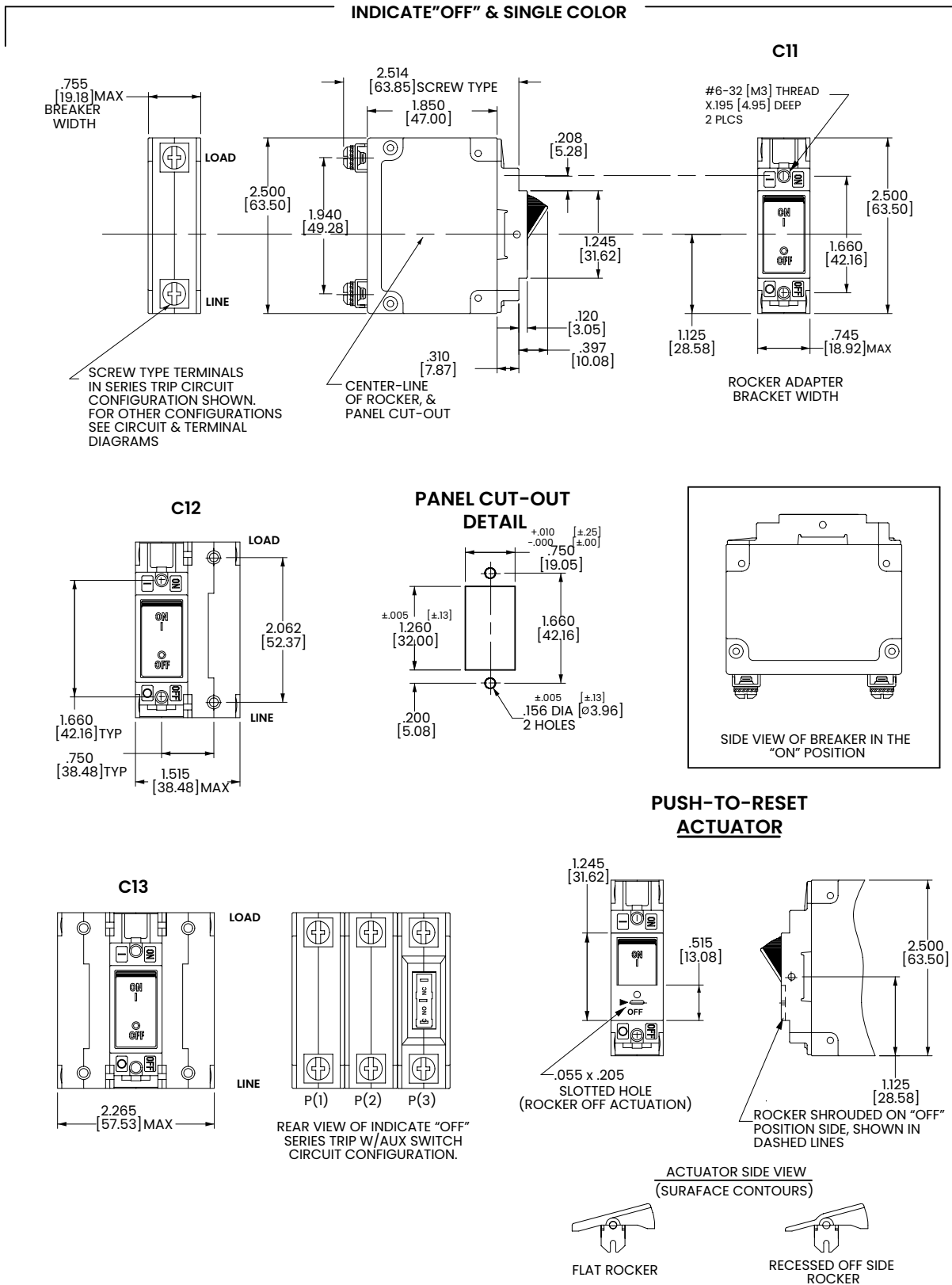
- B 125 DC
- C 120/240 AC
- D 240 AC
- F 277 AC
- K 120 AC
- M 80 DC

## 12. AGENCY APPROVAL 10

- A without approvals
- G UL 489 Listed & CSA Certified
- J UL489 Listed, CSA Certified & TUV Certified

# Dimensional Specs Flat Rocker

inches [millimeters]



## Notes:

- 1 For pole orientation with horizontal legend, rotate front view clockwise 90°.
- 2 Tolerance ±.020 [.51] unless otherwise specified.