

# C-Series Circuit Breaker

The C-Series hydraulic/magnetic circuit breakers are ideal for applications that require higher amperage and voltage handling capability in a smaller package. They are available in 1-6 poles, 0.02-100amps, UL Recognized up to 480VAC or 150VDC, UL489 Listed up to 240VAC or 125VDC, with choice of time delays, terminal options, actuator styles and colors.

## Product Highlights:

- ♦ The UL489 C-Series employs a unique arc chute design which allows for higher interrupting capacities of up to 10,000 amps. New thermoset glass filled polyester half shell construction provides for increased mechanical and electrical strength. The wiping contacts, mechanical linkage with two step actuation, clean contacts providing high, positive contact pressure and longer contact life
- ♦ Available with American Standard or Metric Threaded Stud terminals, or Saddle Clamp screw terminals. Optional mid-trip handle style actuator allows visual indication of electrical overload with or without alarm feature
- ♦ Available with new solid color rocker actuators and unique two-color Visi-rocker® actuators, which can be specified to indicate either the ON or TRIPPED/OFF mode
- ♦ Exclusive Rockerguard and Push-To-Reset bezel help prevent inadvertent actuation



HANDLE ACTUATOR



METAL TOGGLE ACTUATOR



PARALLEL POLE ACTUATOR

## Agency Certifications:

UL Recognized  
UL Standard 1077 | UL Standard 508  
UL Standard 1500  
UL Listed  
UL Standard 489 | UL Standard 489A  
CSA Accepted | CSA Certified  
TUV Certified | VDE Certified

\* For full Agency Certifications, please see pg. 6



**Carling Technologies®**

Innovative Designs. Powerful Solutions.

Innovative Designs. Powerful Solutions.

Carling Technologies, Inc.  
60 Johnson Avenue • Plainville, CT 06062-1177  
Phone: (860) 793-9281 • Fax: (860) 793-9231  
Email: [sales@carlingtech.com](mailto:sales@carlingtech.com) • [www.carlingtech.com](http://www.carlingtech.com)

## Electrical Tables

**Table A:** Lists UL Recognized & CSA Accepted configurations and performance capabilities as a Component Supplementary Protector

| C-SERIES TABLE A: COMPONENT SUPPLEMENTARY PROTECTORS |                |           |           |                   |                         |                                  |                        |                   |                          |                                                                |
|------------------------------------------------------|----------------|-----------|-----------|-------------------|-------------------------|----------------------------------|------------------------|-------------------|--------------------------|----------------------------------------------------------------|
| CIRCUIT<br>CONFIGURATION                             | VOLTAGE        |           |           | CURRENT RATING    |                         | SHORT CIRCUIT CAPACITY (AMPS)    |                        | APPLICATION CODES |                          | NOTES                                                          |
|                                                      |                |           |           |                   |                         | UL/CSA                           |                        |                   |                          |                                                                |
|                                                      | MAX.<br>RATING | FREQUENCY | PHASE     | FULL LOAD<br>AMPS | GENERAL<br>PURPOSE AMPS | WITH BACKUP<br>FUSE <sup>1</sup> | WITHOUT<br>BACKUP FUSE | UL                | CSA                      |                                                                |
| SERIES                                               | 32             | DC        | —         | 0.02 - 100        | —                       | —                                | 5000                   | TC1, OL1, U2      | TC1, OL1, U2             |                                                                |
|                                                      | 48             | DC        | —         | 110 - 150         | —                       | —                                | 5000                   | TC1, OL1, U2      | TC1, OL1, U2             | Must Have Agency Code "L"                                      |
|                                                      | 65             | DC        | —         | 0.02 - 70         | —                       | —                                | 5000                   | TC1,2, OL1,U1     | TC1,2, OL1,U1            |                                                                |
|                                                      |                |           |           | —                 | 71 -100                 | —                                | 5000                   | TC1,2, OL0,U1     | TC1,2, OL0,U1            |                                                                |
|                                                      | 80             | DC        | —         | 0.02 - 70         | —                       | —                                | 7500                   | TC1,2, OL1,U1     | TC1,2, OL1,U1            |                                                                |
|                                                      |                |           |           | —                 | 71 -100                 | —                                | 7500                   | TC1,2, OL0,U1     | TC1,2, OL0,U1            |                                                                |
|                                                      | 80             | DC        | —         | 0.02 - 70         | —                       | —                                | 10,000                 | TC1,2, OL1,U1     | TC1,2, OL1,U1            | Must Have Agency Code "L"                                      |
|                                                      |                |           |           | —                 | 71 -100                 | —                                | 10,000                 | TC1,2, OL0,U1     | TC1,2, OL0,U1            | Must Have Agency Code "L"                                      |
|                                                      | 125            | DC        | —         | 0.02 - 50         | —                       | —                                | 5000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | Must Have Agency Code "L"                                      |
|                                                      | 125 / 250      | DC        | —         | 0.02 - 50         | —                       | —                                | 5000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | Must Have Agency Code "L"                                      |
|                                                      | 250            | DC        | —         | 0.02 - 50         | —                       | —                                | 5000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | Must Have Agency Code "L". 2 Pole Break Required for 250 Volts |
|                                                      | 125            | 50 / 60   | 1         | 0.02 - 100        | —                       | —                                | 3000                   | TC1, OL1, U2      | TC1, OL1, U2             | Per Pole Rating                                                |
|                                                      |                |           |           | 0.02 - 100        | —                       | —                                | 5000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | Must Have Agency Code "L"                                      |
|                                                      | 150            | DC        | —         | —                 | 80-100                  | —                                | 5000                   | TC1, OLO, U3      | —                        | Agency Code "L"                                                |
|                                                      | 150            | DC        | —         | —                 | 101-175                 | —                                | 5000                   | TC, OLO, U3       | —                        | Agency Code "L" Parallel Pole                                  |
|                                                      | 125 / 250      | 50 / 60   | 1         | 0.02 - 100        | —                       | —                                | 3500                   | TC1, OL1, U2      | TC1, OL1, U2             |                                                                |
|                                                      |                |           |           | 0.02 - 50         | —                       | —                                | 3000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | 2 or 3 poles breaking single phase                             |
|                                                      |                |           |           | 51 - 100          | —                       | —                                | 1000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | 2 or 3 poles breaking single phase                             |
|                                                      |                |           |           | 0.02 - 100        | —                       | —                                | 5000                   | TC1,1,OL1,U2      | TC1,1,OL1,U2             | 2 or 3 poles breaking single phase, "L" Agency Code            |
|                                                      | 250            | 50 / 60   | 1         | 0.02 - 50         | —                       | —                                | 3500                   | TC1, OL1, U2      | TC1, OL1, U2             | Per Pole Rating                                                |
|                                                      |                |           |           | 0.02 - 100        | —                       | —                                | 5000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | Must Have Agency Code "L"                                      |
|                                                      |                |           |           | 51 - 70           | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             |                                                                |
|                                                      |                |           | 3         | 0.02 - 100        | —                       | —                                | 3000                   | TC1, OLO, U2      | TC1, OLO, U2             |                                                                |
|                                                      |                |           |           | 0.02 - 70         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 3 poles breaking 3 phase                                       |
|                                                      |                |           |           | 0.02 - 90         | —                       | —                                | 5000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | Must Have Agency Code "L"                                      |
|                                                      | 277            | 50 / 60   | 1         | 0.02 - 50         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             |                                                                |
|                                                      | 480 / 277      | 50 / 60   | 3         | 0.02 - 30         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 3 poles breaking 3 phase                                       |
|                                                      |                |           |           | —                 | 31 - 50                 | 5000                             | —                      | TC1,2,OL0,C1      | TC1,2,OL0,C1             |                                                                |
|                                                      | 480            | 50 / 60   | 1         | 0.02 - 30         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 2 poles breaking 1 phase                                       |
|                                                      |                |           |           | —                 | 31 - 50                 | 5000                             | —                      | TC1,2,OL0,C1      | TC1,2,OL0,C1             |                                                                |
| DUAL COIL                                            | 80             | DC        | —         | 0.02 - 50         | —                       | —                                | 7500                   | TC1,2, OL1,U1     | TC1,2, OL1,U1            |                                                                |
|                                                      | 125            | 50 / 60   | 1         | 0.02 - 50         | —                       | —                                | 3000                   | TC1, OL1, U2      | TC1, OL1, U2             | Per Pole Rating                                                |
|                                                      | 125 / 250      | 50 / 60   | 1         | 0.02 - 50         | —                       | —                                | 3500                   | TC1, OL1, U2      | TC1, OL1, U2             | 2 or 3 poles breaking single phase                             |
|                                                      |                |           |           | 0.02 - 50         | —                       | —                                | 3000                   | TC1,2,OL1,U1      | TC1,2,OL1,U1             | 2 or 3 poles breaking single phase                             |
|                                                      | 250            | 50 / 60   | 1         | 0.02 - 50         | —                       | —                                | 3500                   | TC1, OL1, U2      | TC1, OL1, U2             | Per Pole Rating                                                |
|                                                      |                |           | 3         | 0.02 - 50         | —                       | —                                | 3000                   | TC1, OLO, U2      | TC1, OLO, U2             | 3 poles breaking 3 phase                                       |
| SHUNT                                                | 277            | 50 / 60   | 3         | 0.02 - 50         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 3 poles breaking 3 phase                                       |
|                                                      | 80             | DC        | —         | 0.02 - 50         | —                       | —                                | 7500                   | TC1,2, OL1,U1     | TC1,2, OL1,U1            |                                                                |
|                                                      | 277            | 50 / 60   | 1         | 0.02 - 50         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             |                                                                |
|                                                      | 250            | 50 / 60   | 3         | 0.02 - 50         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 3 poles breaking 3 phase                                       |
|                                                      | 480 / 277      | 50 / 60   | 3         | 0.02 - 30         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 3 poles breaking 3 phase                                       |
|                                                      |                |           |           | —                 | 31 - 50                 | 5000                             | —                      | TC1,2,OL0,C1      | TC1,2,OL0,C1             |                                                                |
|                                                      | 480            | 50 / 60   | 1         | 0.02 - 30         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 2 poles breaking 1 phase                                       |
|                                                      |                |           |           | —                 | 31 - 50                 | 5000                             | —                      | TC1,2,OL0,C1      | TC1,2,OL0,C1             |                                                                |
|                                                      | 80             | DC        | —         | 0.02 - 50         | —                       | —                                | 7500                   | TC1,2, OL1,U1     | TC1,2, OL1,U1            |                                                                |
|                                                      | 277            | 50 / 60   | 1         | 0.02 - 50         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             |                                                                |
|                                                      | 250            | 50 / 60   | 3         | 0.02 - 50         | —                       | 5000                             | —                      | TC1,2,OL1,C1      | TC1,2,OL1,C1             | 3 poles breaking 3 phase                                       |
|                                                      |                |           |           | 0.02 - 70         | —                       | —                                | —                      | —                 | —                        |                                                                |
| SWITCH ONLY                                          | 65             | DC        | —         | 0.02 - 70         | —                       | —                                | —                      | —                 | —                        |                                                                |
|                                                      |                |           |           | —                 | 71 -100                 | —                                | —                      | —                 | —                        |                                                                |
|                                                      | 80             | DC        | —         | 0.02 - 70         | —                       | —                                | —                      | —                 | —                        |                                                                |
|                                                      |                |           |           | —                 | 71 -100                 | —                                | —                      | —                 | —                        |                                                                |
|                                                      | 125            | 50 / 60   | 1         | 0.02 - 100        | —                       | —                                | —                      | —                 | —                        |                                                                |
|                                                      | 125 / 250      | 50 / 60   | 1         | 0.02 - 100        | —                       | —                                | —                      | —                 | —                        | 2 or 3 poles breaking single phase                             |
|                                                      | 250            | 50 / 60   | 1         | 0.02 - 100        | —                       | —                                | —                      | —                 | —                        |                                                                |
|                                                      |                |           | 3         | 0.02 - 70         | —                       | —                                | —                      | —                 | —                        |                                                                |
| 277                                                  | 50 / 60        | 1         | 0.02 - 50 | —                 | —                       | —                                | —                      | —                 |                          |                                                                |
| 480 / 277                                            | 50 / 60        | 3         | 0.02 - 30 | —                 | —                       | —                                | —                      | —                 | 3 poles breaking 3 phase |                                                                |
|                                                      |                |           | —         | 31 - 50           | —                       | —                                | —                      | —                 |                          |                                                                |

Notes for Table A:

- <sup>1</sup> 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

\*Manufacturer reserves the right to change product specification without prior notice.

## Electrical Tables

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

| C-SERIES TABLE B: 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 1/2              |
|                                            | 250 <sup>1</sup> | 50 / 60   | 1     | 0.02 - 20      | 3                  |
|                                            |                  |           | 3     | 0.02 - 20      | 5                  |
|                                            | 277 <sup>1</sup> | 50 / 60   | 1     | 0.02 - 20      | 3                  |
|                                            | 480 <sup>2</sup> | 50 / 60   | 3     | 0.02 - 20      | 5                  |

Notes for Table B:

1 UL recognized and CSA Accepted at 480V refers to 3 & 4 pole versions used in a 3Ø, wye connected circuit or 2-pole version connected with 2 poles breaking. 1Ø and backed up with series fusing as stated above in note 1.

\* Series, 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.

| C-SERIES TABLE C: 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 | (I <sub>nc</sub> ) WITH BACKUP FUSE | (I <sub>cn</sub> ) WITHOUT BACKUP FUSE | (I <sub>nc</sub> ) WITH BACKUP FUSE | (I <sub>cn</sub> ) WITHOUT BACKUP FUSE |                   |               |                               |
| SERIES                                               | 80          | DC        | ---   | 0.10 - 70      | ---                               | ---                           | 7500                | ---                                 | 5000                                   | 5000                                | 1500                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 | Agency Code F, H, J or R Only |
|                                                      |             |           | ---   | 71 - 100       | 71 -100                           | ---                           | 10,000              | ---                                 | 5000                                   | ---                                 | 5000                                   | TC1,2, OL0,U1     | TC1,2, OL0,U1 |                               |
|                                                      | 125         | DC        | ---   | 1 - 50         | ---                               | ---                           | 5000                | ---                                 | ---                                    | ---                                 | 5000                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 | Agency Code J or R Only       |
|                                                      |             |           | ---   | 0.10 - 50      | ---                               | ---                           | 5000                | ---                                 | ---                                    | ---                                 | 5000                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 |                               |
|                                                      | 250         | 50 / 60   | 1     | 0.10 - 70      | ---                               | ---                           | 5000                | 3000                                | 1500                                   | 3000                                | 1500                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 | Agency Code J or R Only, 2P   |
|                                                      |             |           |       | 0.10 - 100     | ---                               | ---                           | 5000                | ---                                 | ---                                    | 5000                                | 5000                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 |                               |
|                                                      |             |           |       | 0.10 - 90      | ---                               | ---                           | 5000                | ---                                 | ---                                    | 5000                                | 5000                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 |                               |
|                                                      | 415         | 50 / 60   | 3     | 0.10 - 30      | ---                               | 5000                          | ---                 | 3000                                | 1500                                   | 3000                                | 1500                                   | TC1,2, OL1,C1     | TC1,2, OL1,C1 | Rocker                        |
| 5000                                                 |             |           |       |                |                                   | ---                           | 5000                | 2500                                | 3000                                   | 1500                                | TC1,2, OL1,C1                          | TC1,2, OL1,C1     |               |                               |
| DUAL COIL                                            | 80          | DC        | ---   | 0.10 - 30      | ---                               | ---                           | 7500                | ---                                 | 1500                                   | 5000                                | 1500                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 | Handle/ Agency F, H, J, or R  |
|                                                      | 250         | 50 / 60   | 1 & 3 | 0.10 - 30      | ---                               | ---                           | 5000                | 3000                                | 1500                                   | 3000                                | 1500                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 |                               |
| SHUNT                                                | 80          | DC        | ---   | 0.10 - 70      | ---                               | ---                           | 7500                | ---                                 | 5000                                   | 5000                                | 1500                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 |                               |
|                                                      | 250         | 50 / 60   | 1 & 3 | 0.10 - 70      | ---                               | ---                           | 5000                | 3000                                | 1500                                   | 3000                                | 1500                                   | TC1,2, OL1,U1     | TC1,2, OL1,U1 |                               |
|                                                      | 415         | 50 / 60   | 3     | 0.10 - 30      | ---                               | 5000                          | ---                 | 3000                                | 1500                                   | 3000                                | 1500                                   | TC1,2, OL1,C1     | TC1,2, OL1,C1 | Rocker                        |
|                                                      |             |           |       |                |                                   | 5000                          | ---                 | 5000                                | 2500                                   | 3000                                | 1500                                   | TC1,2, OL1,C1     | TC1,2, OL1,C1 |                               |

Notes for Table C:

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.

## Electrical Tables

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

| C SERIES TABLE D : 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.       |
|                                                         |             |           |       |                | 10,000                       | Limited to 2 Poles Max from 71 - 100 Amps.       |
|                                                         | 125         | DC        | ---   | 0.10 - 100     | 5,000                        | 1 - 3 Poles                                      |
|                                                         | 125 / 250   | DC        | ---   | 0.10 - 50      | 5,000                        | 1 or 2 Poles (2 Poles Required for 250 Volts)    |
|                                                         |             |           |       | 0.10 - 50      | 10,000                       | 1 - 3 Poles                                      |
|                                                         | 120         | 50 / 60   | 1     | 51 - 70        | 5,000                        | 1 - 3 Poles                                      |
|                                                         |             |           |       | 0.10 - 50      | 5,000                        | 2 or 3 Poles. 1 Pole of a 3 Pole Unit is Neutral |
|                                                         | 120 / 240   | 50 / 60   | 1     | 0.10 - 50      | 10000 <sup>1</sup>           | 2 or 3 Poles. 1 Pole of a 3 Pole Unit is Neutral |
|                                                         |             |           |       | 0.10 - 50      | 5,000                        | 1 Pole                                           |
|                                                         | 240         | 50 / 60   | 1     | 0.10 - 30      | 5,000                        | 2 Pole                                           |
| DUAL COIL                                               | 277         | 50 / 60   | 1     | 0.10 - 20      | 10,000                       | 1 Pole                                           |
|                                                         | 120         | 50 / 60   | 1     | 0.10 - 30      | 10,000                       | ---                                              |

Notes from Table D:

1 Special catalog number required. Consult factory.

**Table E:** Lists UL Recognized, CSA Accepted configurations and performance capabilities as Protectors, Supplementary for Marine Electrical and Fuel Systems (Guide PEQZ2, 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.

| C-SERIES TABLE E: UL1500 (Marine Ignition Protected) |             |           |       |                |                              |                   |              |                                  |
|------------------------------------------------------|-------------|-----------|-------|----------------|------------------------------|-------------------|--------------|----------------------------------|
| 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     | 5000                         | TC1,2,OL1,U1      | TC1,2,OL1,U1 | ---                              |
|                                                      |             |           |       | 101 - 150      | 5000                         | TC1,2,OL1,U1      | TC1,2,OL1,U1 | ---                              |
|                                                      | 65          | DC        | ---   | 0.02 - 100     | 1500                         | TC1,2,OL0,U1      | TC1,2,OL0,U1 | ---                              |
|                                                      | 80          | DC        | ---   | 0.02 - 70      | 1500                         | TC1,2,OL1,U1      | TC1,2,OL1,U1 | ---                              |
|                                                      |             |           |       | 0.02 - 70      | 5000                         | TC1,2,OL1,U1      | TC1,2,OL1,U1 | ---                              |
|                                                      | 125         | 50 / 60   | 1     | 71 - 100       | 1500                         | TC1,2,OL1,U1      | TC1,2,OL1,U1 | ---                              |
|                                                      |             |           |       | 0.02 - 70      | 1500                         | TC1,2,OL1,U1      | TC1,2,OL1,U1 | ---                              |
|                                                      | 250         | 50 / 60   | 1     | 71 - 100       | 1500                         | TC1,2,OL1,U1      | TC1,2,OL1,U1 | 2 Poles Breaking<br>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.

| C-SERIES TABLE F : PARALLEL POLE CONSTRUCTION<br>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        | 110 - 250            | 10,000                       |

Electrical

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum Voltage                              | AC, 480 WYE/277 VAC, 50/60 Hz (see Table A.)<br>UL489: AC,240 VAC. (Table D), 50/60 Hz, 125 VDC, UL 1077, 150 VDC, 277 VAC                                                                                                                                                                                                                                                                      |
| Current Rating                               | 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 & TUV 1.0 125 VAC.                                                                                                                                                                                                                                                                                         |
| Insulation Resistance<br>Dielectric Strength | Minimum of 100 Megohms at 500 VDC.<br>UL, CSA: 1960 V 50/60 Hz for one minute 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.                                                                                                                                                                                                                                                                                                                         |



Pulse Tolerance Curves



Mechanical

|                 |                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Endurance       | 10,000 ON-OFF operations @ 6 per minute; with rated current & voltage                                                                                                                                                                                                                                                                                        |
| Trip Free       | All C-Series 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 Configuration | 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 & mid-trip 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 100 Gs, 6ms sawtooth while carrying rated current per Method 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                                                                                                | Method 107D, Condition A (five cycles @ -55°C to +25°C to +85°C to +25°C).                                                                                                   |
| Operating Temperature                                                                                        | -40°C to +85°C                                                                                                                                                               |

### Agency Certifications:

#### UL Recognized

UL Standard 1077      Component Recognition Program  
as Protectors, Supplementary  
(Guide CCN/QVNU2, File E75596)



UL Standard 508      Motor Controllers, Manual  
(Guide CCN/NLRV2, File E135367)



UL Standard 1500      Protectors, Supplementary for  
Marine Electrical & Fuel Systems  
(Guide PEQZ2, File E75596)  
Ignition Protection



#### UL Listed

UL Standard 489      Circuit Breakers, Molded Case,  
(Guide DIVQ, File E129899)



UL Standard 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.  
R72041016

#### VDE Certified



EN60934, VDE 0642 under File No.  
10537



### 1 SERIES

**C**

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

- A** Handle, one per pole  
**B** Handle, one per multipole unit  
**S** Mid-Trip Handle, one per pole  
**T** Mid-Trip, one per pole & Alarm Switch

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

- |              |                |               |
|--------------|----------------|---------------|
| <b>1</b> One | <b>3</b> Three | <b>5</b> Five |
| <b>2</b> Two | <b>4</b> Four  | <b>6</b> Six  |

### 4 CIRCUIT<sup>3</sup>

- |                                            |                                                               |
|--------------------------------------------|---------------------------------------------------------------|
| <b>A<sup>3</sup></b> Switch Only (no coil) | <b>F<sup>4</sup></b> Relay Trip (current)                     |
| <b>B</b> Series Trip (current)             | <b>G<sup>4</sup></b> Relay Trip (voltage)                     |
| <b>C</b> Series Trip (voltage)             | <b>H<sup>4,5</sup></b> Dual Coil with Shunt Trip Voltage Coil |
| <b>D<sup>4</sup></b> Shunt Trip (current)  | <b>K<sup>4,5</sup></b> Dual Coil with Relay Trip Voltage Coil |
| <b>E<sup>4</sup></b> Shunt Trip (voltage)  |                                                               |

### 5 AUXILIARY/ALARM SWITCH

- |                                                     |                                                     |
|-----------------------------------------------------|-----------------------------------------------------|
| <b>0</b> w/o Aux Switch                             | <b>5</b> S.P.S.T., 0.110 Q.C. Term. (Gold Contacts) |
| <b>1</b> S.P.D.T., 0.110 Q.C. Term.                 | <b>6</b> S.P.S.T., 0.139 Solder Lug                 |
| <b>3</b> S.P.D.T., 0.139 Solder Lug                 | <b>7</b> S.P.S.T., 0.110 Q.C. Term. (Gold Contacts) |
| <b>4</b> S.P.D.T., 0.110 Q.C. Term. (Gold Contacts) | <b>8</b> S.P.S.T., 0.187 Q.C. Term.                 |
|                                                     | <b>9</b> S.P.D.T., 0.187 Q.C. Term.                 |

### 6 FREQUENCY & DELAY

- |                                               |                                                 |
|-----------------------------------------------|-------------------------------------------------|
| <b>03<sup>3</sup></b> DC 50/60Hz, Switch Only | <b>30</b> DC 50/60Hz Instantaneous              |
| <b>10<sup>7</sup></b> DC Instantaneous        | <b>31</b> DC 50/60Hz Ultra Short                |
| <b>11</b> DC Ultra Short                      | <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>42<sup>8</sup></b> 50/60Hz Short, Hi-Inrush  |
| <b>20<sup>7</sup></b> 50/60Hz Instantaneous   | <b>44<sup>8</sup></b> 50/60Hz Medium, Hi-Inrush |
| <b>21</b> 50/60Hz Ultra Short                 | <b>46<sup>8</sup></b> 50/60Hz Long, Hi-Inrush   |
| <b>22</b> 50/60Hz Short                       | <b>52<sup>8</sup></b> DC Short, Hi-Inrush       |
| <b>24</b> 50/60Hz Medium                      | <b>54<sup>8</sup></b> DC Medium, Hi-Inrush      |
| <b>26</b> 50/60Hz Long                        | <b>56</b> DC Long, Hi-Inrush                    |

#### 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  
 S: Handle moves to mid-position only upon electrical trip of the breaker. Available with circuit codes B, C, D, E, F, G, H and K.  
 T: Handle moves to mid-position and alarm switch activates only upon electrical trip of the breaker. Available with circuit codes B & C.  
 Standard multipole units have all poles identical except when specifying auxiliary switch and/or mixed poles. 4 pole max w/VDE. 5th pole available as Series Trip w/Voltage Coil only.
- 3 Switch Only circuits, rated up to 50 amps and 6 poles, and only available with VDE Certification when tied to a protected pole (Circuit Code B, C, D or H.). 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 Circuit Codes D,E,F,G,H & K available with Terminal Codes 1,2,4 & 5 only. Circuit Codes D, F, H & K available up to 50 amps maximum Current Rating.
- 5 Consult factory for available Dual Coil options, as special catalog number is required. Dual Coil Voltage Coils with Shunt Trip Construction trip instantaneously on line voltage. Dual Coil Voltage Coils require 30VA minimum power to trip instantaneously and are rated for intermittent duty only.
- 6 ers, one aux. switch is supplied, mounted in the extreme right pole. Voltage coils not rated for continuous duty. Available only with delay codes 10 and 20.
- 7 Available with Circuit Codes B & D only, and up to 50 amps maximum.
- 8 Current Ratings 60 - 70 are available up to four poles maximum. Ratings 71 - 100 are available up to two poles maximum.
- 9 Terminal Code 1 available to 60 amps maximum.
- 10 Terminal Codes 2,4,5 and C available to 50 amps maximum.
- 11 Terminal Codes 3,6 & 9 available to 100 amps maximum.
- 12 Terminal Code 7 available to 25 amps maximum.
- 13 Terminal Code A available to 100 amps maximum.
- 14 Terminal Codes 7,8,9 & C are not VDE approved.
- 15 No marking available. Consult factory. VDE/TUV Approval requires dual (I-O, ON-OFF) or I-O markings on all handles.
- 16 Single pole only.
- 17 VDE/TUV: 30 amps max.; UL/CSA: 50 amps max.; Available in 2 - 4 poles only and limited to AC Delays. "General Purpose amps" not rated for "full load amps" or to be used in applications with a motor.
- 18

### 7 CURRENT RATING (AMPERES)

| CODE | AMPERES |     |       |     |        |
|------|---------|-----|-------|-----|--------|
| 020  | 0.020   | 235 | 0.350 | 430 | 3.000  |
| 025  | 0.025   | 240 | 0.400 | 435 | 3.500  |
| 030  | 0.030   | 245 | 0.450 | 440 | 4.000  |
| 035  | 0.035   | 250 | 0.500 | 445 | 4.500  |
| 040  | 0.040   | 255 | 0.550 | 450 | 5.000  |
| 045  | 0.045   | 260 | 0.600 | 455 | 5.500  |
| 050  | 0.050   | 265 | 0.650 | 460 | 6.000  |
| 055  | 0.055   | 270 | 0.700 | 465 | 6.500  |
| 060  | 0.060   | 275 | 0.750 | 470 | 7.000  |
| 065  | 0.065   | 280 | 0.800 | 475 | 7.500  |
| 070  | 0.070   | 285 | 0.850 | 480 | 8.000  |
| 075  | 0.075   | 290 | 0.900 | 485 | 8.500  |
| 080  | 0.080   | 295 | 0.950 | 490 | 9.000  |
| 085  | 0.085   | 410 | 1.000 | 495 | 9.500  |
| 090  | 0.090   | 512 | 1.250 | 610 | 10.000 |
| 095  | 0.095   | 415 | 1.500 | 710 | 10.500 |
| 210  | 0.100   | 517 | 1.750 | 611 | 11.000 |
| 215  | 0.150   | 420 | 2.000 | 711 | 11.500 |
| 220  | 0.200   | 522 | 2.250 | 612 | 12.000 |
| 225  | 0.250   | 425 | 2.500 | 712 | 12.500 |
| 230  | 0.300   | 527 | 2.750 | 613 | 13.000 |

### VOLTAGE COIL (NOMINAL RATED VOLTAGE)<sup>7</sup>

| CODE | RATING |     |      |     |       |
|------|--------|-----|------|-----|-------|
| A06  | 6DC    | A32 | 32DC | J12 | 12AC  |
| A12  | 12DC   | A48 | 48DC | J18 | 18AC  |
| A18  | 18DC   | A65 | 65DC | J24 | 24AC  |
| A24  | 24DC   | J06 | 6AC  | J48 | 48AC  |
|      |        |     |      | J65 | 65AC  |
|      |        |     |      | K20 | 120AC |
|      |        |     |      | L40 | 240AC |

### 8 TERMINAL<sup>15</sup>

|                 |                          |                    |                            |
|-----------------|--------------------------|--------------------|----------------------------|
| 1 <sup>10</sup> | Stud 10-32, threaded     | 6 <sup>12</sup>    | Screw M6, threaded         |
| 2 <sup>11</sup> | Screw 10-32              | 7 <sup>13,15</sup> | 0.250 Double Click Connect |
| 3 <sup>12</sup> | Screw 1/4-20, threaded   | 8 <sup>15</sup>    | 1/4" Clip Terminal         |
| 4 <sup>11</sup> | Screw M5 x 0.8, threaded | 9 <sup>12,15</sup> | 7/16" Clip Terminal        |
| 5 <sup>11</sup> | Screw M5 x 0.8           | A <sup>14</sup>    | Plug-In Stud               |
|                 |                          | C <sup>11,15</sup> | 5/16" Clip Terminal        |

### 9 ACTUATOR COLOR & LEGEND<sup>16</sup>

| Actuator Color                     | I-O      | ON-OFF   | Dual     | Legend Color |
|------------------------------------|----------|----------|----------|--------------|
| White                              | <b>A</b> | <b>B</b> | <b>1</b> | Black        |
| Black                              | <b>C</b> | <b>D</b> | <b>2</b> | White        |
| Red                                | <b>F</b> | <b>G</b> | <b>3</b> | White        |
| Green                              | <b>H</b> | <b>J</b> | <b>4</b> | White        |
| Blue                               | <b>K</b> | <b>L</b> | <b>5</b> | White        |
| Yellow                             | <b>M</b> | <b>N</b> | <b>6</b> | Black        |
| Gray                               | <b>P</b> | <b>Q</b> | <b>7</b> | Black        |
| Orange                             | <b>R</b> | <b>S</b> | <b>8</b> | Black        |
| Black (short handle) <sup>17</sup> | <b>T</b> | <b>U</b> | <b>9</b> | White        |

### 10 MOUNTING/BARRIERS

|                       | MOUNTING STYLE                                                  | BARRIERS | VOLTAGE |
|-----------------------|-----------------------------------------------------------------|----------|---------|
|                       | <b>Threaded Insert</b>                                          |          |         |
| <b>1</b>              | 6-32 x 0.195 inches                                             | no       | < 300   |
| <b>A</b>              | 6-32 x 0.195 inches                                             | yes      | < 300   |
| <b>C<sup>18</sup></b> | 6-32 x 0.195 inches                                             | yes      | ≥ 300   |
| <b>2</b>              | ISO M3 x 5mm                                                    | no       | < 300   |
| <b>B</b>              | ISO M3 x 5mm                                                    | yes      | < 300   |
| <b>D<sup>18</sup></b> | ISO M3 x 5mm                                                    | yes      | ≥ 300   |
| <b>E<sup>17</sup></b> | Front Panel Snap-In, 1.00" [25.4mm] wide bezel with Handleguard | no       | < 300   |

### 11 AGENCY APPROVAL

|          |                                                                   |
|----------|-------------------------------------------------------------------|
| <b>C</b> | UL Recognized, CSA Accepted                                       |
| <b>D</b> | VDE Certified, UL Recognized, CSA Accepted                        |
| <b>E</b> | TUV Certified, UL Recognized, CSA Accepted                        |
| <b>H</b> | UL489 Construction: VDE Certified, UL Recognized, CSA Accepted    |
| <b>I</b> | UL Rec. STD 1077, UL Rec. 1500 (ignition protected), CSA Accepted |
| <b>L</b> | UL489 Construction: UL Recognized, CSA Accepted                   |
| <b>R</b> | UL489 Construction: TUV Certified, UL Recognized, CSA Accepted    |

## 8 | C-Series Handle Parallel Pole UL489A Listed – Ordering Scheme

|             |               |            |          |              |                       |          |                        |          |                     |          |               |                     |                |          |                        |                       |
|-------------|---------------|------------|----------|--------------|-----------------------|----------|------------------------|----------|---------------------|----------|---------------|---------------------|----------------|----------|------------------------|-----------------------|
| <b>C</b>    | <b>A</b>      | <b>2</b>   | <b>—</b> | <b>P</b>     | <b>0</b>              | <b>—</b> | <b>D4</b>              | <b>—</b> | <b>820</b>          | <b>—</b> | <b>3</b>      | <b>2</b>            | <b>1</b>       | <b>—</b> | <b>M</b>               | <b>T</b>              |
| 1<br>Series | 2<br>Actuator | 3<br>Poles |          | 4<br>Circuit | 5<br>Aux/Alarm Switch |          | 6<br>Frequency & Delay |          | 7<br>Current Rating |          | 8<br>Terminal | 9<br>Actuator Color | 10<br>Mounting |          | 11<br>Max. App. Rating | 12<br>Agency Approval |

### 1 SERIES

**C**

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

**A** Handle, one per pole  
**S** Mid-Trip Handle, one per pole  
**T** Mid-Trip, one per pole & Alarm Switch

### 3 POLES<sup>3</sup>

**2** Two **3** Three

### 4 CIRCUIT

**P** Series Trip (parallel pole)

### 5 AUXILIARY/ALARM SWITCH

|                                                     |                                                     |
|-----------------------------------------------------|-----------------------------------------------------|
| <b>0</b> w/o Aux Switch                             | <b>5</b> S.P.S.T., 0.110 Q.C. Term. (Gold Contacts) |
| <b>2</b> S.P.D.T., 0.110 Q.C. Term.                 | <b>6</b> S.P.S.T., 0.139 Solder Lug                 |
| <b>3</b> S.P.D.T., 0.139 Solder Lug                 | <b>7</b> S.P.S.T., 0.110 Q.C. Term. (Gold Contacts) |
| <b>4</b> S.P.D.T., 0.110 Q.C. Term. (Gold Contacts) | <b>8</b> S.P.S.T., 0.187 Q.C. Term.                 |
|                                                     | <b>9</b> S.P.D.T., 0.187 Q.C. Term.                 |

### 6 FREQUENCY & DELAY

|                          |                     |
|--------------------------|---------------------|
| <b>D1</b> DC Ultra Short | <b>D4</b> DC Medium |
| <b>D2</b> DC Short       | <b>D6</b> DC Long   |

### 7 CURRENT RATING (AMPERES)

| CODE       | AMPERES |            |         |                                |
|------------|---------|------------|---------|--------------------------------|
| <b>811</b> | 110.000 | <b>814</b> | 140.000 | <b>917</b> 170.000             |
| <b>812</b> | 120.000 | <b>815</b> | 150.000 | <b>922<sup>3</sup></b> 225.000 |
| <b>912</b> | 125.000 | <b>816</b> | 160.000 | <b>825<sup>3</sup></b> 250.000 |
| <b>813</b> | 130.000 | <b>817</b> | 170.000 | <b>820</b> 200.000             |

### 8 TERMINAL<sup>2</sup>

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

### 9 ACTUATOR COLOR

| White  | LEGEND ON-OFF | Dual     | Legend Color |
|--------|---------------|----------|--------------|
| Black  | <b>B</b>      | <b>1</b> | Black        |
| Red    | <b>D</b>      | <b>2</b> | White        |
| Green  | <b>G</b>      | <b>3</b> | White        |
| Blue   | <b>J</b>      | <b>4</b> | White        |
| Yellow | <b>L</b>      | <b>5</b> | White        |
| Gray   | <b>N</b>      | <b>6</b> | Black        |
| Orange | <b>Q</b>      | <b>7</b> | Black        |
|        | <b>S</b>      | <b>8</b> | Black        |

### 10 MOUNTING/BARRIERS

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

### 11 MAXIMUM APPLICATION RATING

**M** 80 DC

### 12 AGENCY APPROVAL

**T** UL489A Listed (up to 250 amps)  
**K** UL489A Listed, VDE Certified (up to 200 amps)  
**7** UL489A Listed, TUV Certified (up to 250 amps)

#### Notes:

- Actuator Code:  
**A:** Handle tie pin spacer(s) and retainers provided assembled with multi-pole units.  
**S:** Handle moves to mid-position only upon electrical trip of the breaker.  
**T:** Handle moves to mid-position and alarm switch activates only upon electrical trip of the breaker.
- Terminal Code:  
**3 & 6:** Supplied with bus bars connecting the Line and Load Terminals.  
**A:** Line and Load Terminals must be connected to a copper bus bar having a minimum cross section of 0.078 square inches.
- Above 200 amps, 3 poles are required.

|             |               |            |          |              |                          |          |                           |          |                     |          |               |                        |                             |          |                           |                       |
|-------------|---------------|------------|----------|--------------|--------------------------|----------|---------------------------|----------|---------------------|----------|---------------|------------------------|-----------------------------|----------|---------------------------|-----------------------|
| <b>C</b>    | <b>A</b>      | <b>3</b>   | <b>—</b> | <b>B</b>     | <b>0</b>                 | <b>—</b> | <b>14</b>                 | <b>—</b> | <b>450</b>          | <b>—</b> | <b>1</b>      | <b>2</b>               | <b>1</b>                    | <b>—</b> | <b>K</b>                  | <b>G</b>              |
| 1<br>Series | 2<br>Actuator | 3<br>Poles |          | 4<br>Circuit | 5<br>Aux/Alarm<br>Switch |          | 6<br>Frequency<br>& Delay |          | 7<br>Current Rating |          | 8<br>Terminal | 9<br>Actuator<br>Color | 10<br>Mounting/<br>Barriers |          | 11<br>Max. App.<br>Rating | 12 Agency<br>Approval |

### 1 SERIES C

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

- A** Handle, one per pole  
**B** Handle, one per multipole unit  
**S** Mid-Trip Handle, one per pole  
**T** Mid-Trip, one per pole & Alarm Switch

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

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

### 4 CIRCUIT

- B** Series Trip (current)

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

- 0** w/o Aux Switch  
**2** S.P.D.T., 0.110 Q.C. Term.  
**3** S.P.D.T., 0.139 Solder Lug  
**4** S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)  
**5** S.P.S.T., 0.110 Q.C. Term. (Gold Contacts)  
**6** S.P.S.T., 0.139 Solder Lug  
**7** S.P.S.T., 0.110 Q.C. Term. (Gold Contacts)  
**8** S.P.S.T., 0.187 Q.C. Term.  
**9** S.P.D.T., 0.187 Q.C. Term.

### 6 FREQUENCY & DELAY

- 11** DC Ultra Short  
**12** DC Short  
**14** DC Medium  
**16** DC Long  
**21** 50/60Hz Ultra Short  
**22** 50/60Hz Short  
**24** 50/60Hz Medium  
**26** 50/60Hz Long  
**42<sup>4</sup>** 50/60Hz Short, Hi-Inrush  
**44<sup>4</sup>** 50/60Hz Medium, Hi-Inrush  
**46<sup>4</sup>** 50/60Hz Long, Hi-Inrush  
**52<sup>4</sup>** DC Short, Hi-Inrush  
**54<sup>4</sup>** DC Medium, Hi-Inrush  
**56<sup>4</sup>** DC Long, Hi-Inrush

#### Notes:

- 1 Actuator Code:  
**A:** Handle tie pin spacer(s) and retainers provided assembled with multi-pole units.  
**B:** Handle located, as viewed from front of breaker in left pole. 2 pole maximum.  
**S:** Handle moves to mid-position only upon electrical trip of the breaker.  
**T:** Handle moves to mid-position and alarm switch activates only upon electrical trip of the breaker.  
2 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 / alarm 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. The 3rd pole has the same construction as poles 1 & 2.  
3 On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.  
VDE approval on auxiliary switch codes 2, 3 & 4 only.  
Auxiliary / Alarm Switch with Independent Circuit ie: separate from breaker circuit, only available with circuit breakers rated 50 amp maximum at 80 VDC, 125 VDC, and 120 VAC. Auxiliary / Alarm Switch with Dependent Circuit ie: same as circuit breaker, is supplied from factory with common terminal of auxiliary / alarm switch connected to line terminal on 120/240 and 240 VAC ratings. Circuit breakers rated 120 VAC 50 amp maximum can be supplied with Auxiliary/Alarm switch common terminal connected to breaker line terminal. Consult factory for special catalog number.  
4 Available up to 50 amps maximum.  
5 Current ratings 71 - 100 with VDE approvals are available up to two poles maximum.  
6 Terminal Codes 8, 9 & C are not VDE approved.  
7 Terminal Code 1 available to 60 amps maximum.  
8 Terminal Codes 2, 4, 5 & C available to 50 amps maximum.  
9 Terminal Codes 3, 6 & 9 available to 100 amps maximum.  
10 Terminal Code A available to 100 amps maximum.  
11 VDE and TUV approvals require Dual (I-O, ON-OFF) markings on all handles.  
12 Barriers supplied on multi-pole units only.

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

| CODE | AMPERES |     |       |     |         |
|------|---------|-----|-------|-----|---------|
| 210  | 0.100   | 295 | 0.950 | 470 | 7.000   |
| 215  | 0.150   | 410 | 1.000 | 475 | 7.500   |
| 220  | 0.200   | 512 | 1.250 | 480 | 8.000   |
| 225  | 0.250   | 415 | 1.500 | 485 | 8.500   |
| 230  | 0.300   | 517 | 1.750 | 490 | 9.000   |
| 235  | 0.350   | 420 | 2.000 | 495 | 9.500   |
| 240  | 0.400   | 522 | 2.250 | 610 | 10.000  |
| 245  | 0.450   | 425 | 2.500 | 710 | 10.500  |
| 250  | 0.500   | 527 | 2.750 | 611 | 11.000  |
| 255  | 0.550   | 430 | 3.000 | 711 | 11.500  |
| 260  | 0.600   | 435 | 3.500 | 612 | 12.000  |
| 265  | 0.650   | 440 | 4.000 | 712 | 12.500  |
| 270  | 0.700   | 445 | 4.500 | 613 | 13.000  |
| 275  | 0.750   | 450 | 5.000 | 614 | 14.000  |
| 280  | 0.800   | 455 | 5.500 | 615 | 15.000  |
| 285  | 0.850   | 460 | 6.000 | 616 | 16.000  |
| 290  | 0.900   | 465 | 6.500 | 617 | 17.000  |
|      |         |     |       | 618 | 18.000  |
|      |         |     |       | 620 | 20.000  |
|      |         |     |       | 622 | 22.000  |
|      |         |     |       | 624 | 24.000  |
|      |         |     |       | 625 | 25.000  |
|      |         |     |       | 630 | 30.000  |
|      |         |     |       | 635 | 35.000  |
|      |         |     |       | 640 | 40.000  |
|      |         |     |       | 660 | 60.000  |
|      |         |     |       | 670 | 70.000  |
|      |         |     |       | 680 | 80.000  |
|      |         |     |       | 685 | 85.000  |
|      |         |     |       | 690 | 90.000  |
|      |         |     |       | 695 | 95.000  |
|      |         |     |       | 810 | 100.000 |

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

- 1<sup>7</sup>** Stud 10-32, threaded  
**2<sup>8</sup>** Screw 10-32  
**3<sup>9</sup>** Screw 1/4-20, threaded  
**4<sup>8</sup>** Screw M5 x 0.8, threaded  
**5<sup>8</sup>** Screw M5 x 0.8  
**6<sup>9</sup>** Screw M6, threaded  
**8** 1/4" Clip Terminal  
**9<sup>9</sup>** 7/16" Clip Terminal  
**A<sup>10</sup>** Plug-In Stud  
**C** 5/16" Clip Terminal

### 9 ACTUATOR COLOR & LEGEND<sup>11</sup>

| Actuator Color | ON-OFF   | Dual     | Legend Color |
|----------------|----------|----------|--------------|
| White          | <b>B</b> | <b>1</b> | Black        |
| Black          | <b>D</b> | <b>2</b> | White        |
| Red            | <b>G</b> | <b>3</b> | White        |
| Green          | <b>J</b> | <b>4</b> | White        |
| Blue           | <b>L</b> | <b>5</b> | White        |
| Yellow         | <b>N</b> | <b>6</b> | Black        |
| Gray           | <b>Q</b> | <b>7</b> | Black        |
| Orange         | <b>S</b> | <b>8</b> | Black        |

### 10 MOUNTING/BARRIERS

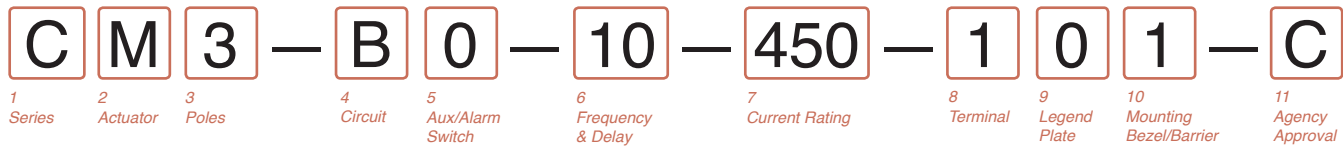
| MOUNTING STYLE               | BARRIERS <sup>12</sup> |
|------------------------------|------------------------|
| <b>Threaded Insert</b>       |                        |
| <b>1</b> 6-32 x 0.195 inches | yes                    |
| <b>2</b> ISO M3 x 5mm        | yes                    |

### 11 MAXIMUM APPLICATION RATING

- A** 65 DC  
**B** 125 DC  
**C** 120/240 AC<sup>2</sup>  
**D** 240 AC  
**K** 120 AC  
**M** 80 DC

### 12 AGENCY APPROVAL<sup>11</sup>

- A** w/o approvals  
**F** UL489 Listed, VDE Certified, CSA Accepted  
**G** UL489 Listed, CSA Accepted  
**J** UL489 Listed, TUV Certified, CSA Accepted



### 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**<sup>2</sup> Switch Only (no coil)    **F**<sup>3</sup> Relay Trip (current)  
**B** Series Trip (current)    **G**<sup>3</sup> Relay Trip (voltage)  
**C** Series Trip (voltage)    **H**<sup>3,4</sup> Dual Coil with Shunt Trip  
**D**<sup>3</sup> Shunt Trip (current)    **K**<sup>3,4</sup> Dual Coil with Relay Trip  
**E**<sup>3</sup> Shunt Trip (voltage)    Voltage Coil

### 5 AUXILIARY/ALARM SWITCH

**0** w/o Aux Switch    **5** S.P.S.T., 0.110 Q.C. Term. (Gold Contacts)  
**2** S.P.D.T., 0.110 Q.C. Term.    **6** S.P.S.T., 0.139 Solder Lug  
**3** S.P.D.T., 0.139 Solder Lug    **7** S.P.S.T., 0.110 Q.C. Term. (Gold Contacts)  
**4** S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)    **8** S.P.S.T., 0.187 Q.C. Term.  
**9** S.P.D.T., 0.187 Q.C. Term.

### 6 FREQUENCY & DELAY

**03**<sup>2</sup> DC 50/60Hz, Switch Only    **30** DC 50/60Hz Instantaneous  
**10**<sup>6</sup> DC Instantaneous    **31** DC 50/60Hz Ultra Short  
**11** DC Ultra Short    **32** DC 50/60Hz Short  
**12** DC Short    **34** DC 50/60Hz Medium  
**14** DC Medium    **36** DC 50/60Hz Long  
**16** DC Long    **42**<sup>7</sup> 50/60Hz Short, Hi-Inrush  
**20**<sup>6</sup> 50/60Hz Instantaneous    **44**<sup>7</sup> 50/60Hz Medium, Hi-Inrush  
**21** 50/60Hz Ultra Short    **46**<sup>7</sup> 50/60Hz Long, Hi-Inrush  
**22** 50/60Hz Short    **52**<sup>7</sup> DC Short, Hi-Inrush  
**24** 50/60Hz Medium    **54**<sup>7</sup> DC Medium, Hi-Inrush  
**26** 50/60Hz Long    **56** DC Long, Hi-Inrush

### 7 CURRENT RATING (AMPERES)<sup>9</sup>

| CODE       | AMPERES |            |       |            |        |
|------------|---------|------------|-------|------------|--------|
| <b>020</b> | 0.020   | <b>235</b> | 0.350 | <b>430</b> | 3.000  |
| <b>025</b> | 0.025   | <b>240</b> | 0.400 | <b>435</b> | 3.500  |
| <b>030</b> | 0.030   | <b>245</b> | 0.450 | <b>440</b> | 4.000  |
| <b>035</b> | 0.035   | <b>250</b> | 0.500 | <b>445</b> | 4.500  |
| <b>040</b> | 0.040   | <b>255</b> | 0.550 | <b>450</b> | 5.000  |
| <b>045</b> | 0.045   | <b>260</b> | 0.600 | <b>455</b> | 5.500  |
| <b>050</b> | 0.050   | <b>265</b> | 0.650 | <b>460</b> | 6.000  |
| <b>055</b> | 0.055   | <b>270</b> | 0.700 | <b>465</b> | 6.500  |
| <b>060</b> | 0.060   | <b>275</b> | 0.750 | <b>470</b> | 7.000  |
| <b>065</b> | 0.065   | <b>280</b> | 0.800 | <b>475</b> | 7.500  |
| <b>070</b> | 0.070   | <b>285</b> | 0.850 | <b>480</b> | 8.000  |
| <b>075</b> | 0.075   | <b>290</b> | 0.900 | <b>485</b> | 8.500  |
| <b>080</b> | 0.080   | <b>295</b> | 0.950 | <b>490</b> | 9.000  |
| <b>085</b> | 0.085   | <b>410</b> | 1.000 | <b>495</b> | 9.500  |
| <b>090</b> | 0.090   | <b>512</b> | 1.250 | <b>610</b> | 10.000 |
| <b>095</b> | 0.095   | <b>415</b> | 1.500 | <b>710</b> | 10.500 |
| <b>210</b> | 0.100   | <b>517</b> | 1.750 | <b>611</b> | 11.000 |
| <b>215</b> | 0.150   | <b>420</b> | 2.000 | <b>711</b> | 11.500 |
| <b>220</b> | 0.200   | <b>522</b> | 2.250 | <b>612</b> | 12.000 |
| <b>225</b> | 0.250   | <b>425</b> | 2.500 | <b>712</b> | 12.500 |
| <b>230</b> | 0.300   | <b>527</b> | 2.750 | <b>613</b> | 13.000 |

### VOLTAGE COIL (NOMINAL RATED VOLTAGE)<sup>7</sup>

| CODE       | RATING |            |      |            |       |
|------------|--------|------------|------|------------|-------|
| <b>A06</b> | 6DC    | <b>A32</b> | 32DC | <b>J12</b> | 12AC  |
| <b>A12</b> | 12DC   | <b>A48</b> | 48DC | <b>J18</b> | 18AC  |
| <b>A18</b> | 18DC   | <b>A65</b> | 65DC | <b>J24</b> | 24AC  |
| <b>A24</b> | 24DC   | <b>J06</b> | 6AC  | <b>J48</b> | 48AC  |
|            |        |            |      | <b>J65</b> | 65AC  |
|            |        |            |      | <b>K20</b> | 120AC |
|            |        |            |      | <b>L40</b> | 240AC |

### 8 TERMINAL

|                                                 |                                                   |
|-------------------------------------------------|---------------------------------------------------|
| <b>1</b> <sup>9</sup> Stud 10-32, threaded      | <b>6</b> <sup>11</sup> Screw M6, threaded         |
| <b>2</b> <sup>10</sup> Screw 10-32              | <b>7</b> <sup>12</sup> 0.250 Double Click Connect |
| <b>3</b> <sup>11</sup> Screw 1/4-20, threaded   | <b>8</b> 1/4" Clip Terminal                       |
| <b>4</b> <sup>10</sup> Screw M5 x 0.8, threaded | <b>9</b> <sup>11</sup> 7/16" Clip Terminal        |
| <b>5</b> <sup>10</sup> Screw M5 x 0.8           | <b>A</b> <sup>13</sup> Plug-In Stud               |
|                                                 | <b>C</b> <sup>10</sup> 5/16" Clip Terminal        |

### 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

|          |                                                         |
|----------|---------------------------------------------------------|
| <b>C</b> | UL Recognized, CSA Accepted                             |
| <b>L</b> | UL Recognized, CSA Accepted with listed construction    |
| <b>I</b> | UL Recognized, CSA Accepted, UL1500 ignition protection |

#### Notes:

- Actuator Code M: Handle location as viewed from front of breaker:  
 2 pole - right pole    3 pole - center pole
- Switch Only circuits, rated up to 50 amps and 3 poles, and only available with VDE. 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.
- Circuit Codes D,E,F,G,H & K available with Terminal Codes 1,2,4 & 5 only.
- Consult factory for available Dual Coil options, as special catalog number is required. Dual Coil Voltage Coils with Shunt Trip Construction trip instantaneously on line voltage. Dual Coil Voltage Coils require 30VA minimum power to trip instantaneously and are rated for intermittent duty only.
- Auxiliary Switch available with Series Trip and Switch Only circuits. On multi-pole breakers, one aux. switch is supplied, mounted in the extreme right pole. Voltage coils not rated for continuous duty. Available only with delay codes 10 and 20.
- Available with Circuit Codes B & D only, and up to 50 amps maximum.
- Consult factory for current ratings 71-100, in three pole units, available as special catalog number only.
- Terminal Code 1 available to 60 amps maximum.
- Terminal Codes 2,4,5 and C available to 50 amps maximum.
- Terminal Codes 3,6 & 9 available to 100 amps maximum.
- Terminal Code 7 available to 25 amps maximum.
- Terminal Code A available to 100 amps maximum.



## 1 SERIES

### C

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

### Two Color Visi-Rocker

- C** Indicate ON, vertical legend
- D** Indicate ON, horizontal legend
- E** Indicate ON, no legend
- F** Indicate OFF, vertical legend
- G** Indicate OFF, horizontal legend
- H** Indicate OFF, no legend

**Single color**

- J *Vertical legend*  
K Horizontal legend  
L No legend

**Push-To-Reset, Single color**

- |   |                   |
|---|-------------------|
| R | Vertical legend   |
| U | Horizontal legend |
| V | No legend         |

### Push-To-Reset, Visi-Rocker

- |          |                                    |
|----------|------------------------------------|
| <b>N</b> | Indicate OFF,<br>vertical legend   |
| <b>O</b> | Indicate OFF,<br>horizontal legend |
| <b>P</b> | Indicate OFF,<br>no legend         |

## ROCKER STYLE DESCRIPTIONS

|                  | INDICATE "ON"                                                                                                                         | INDICATE "OFF"                                                                                              | SINGLE COLOR                                                                                           |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| VERTICAL STYLE   |  <p>LINE CODE "O"</p> <p>INDICATE COLOR LOCATION</p> |  <p>LINE CODE "F", "N"</p> |  <p>CODE "J", "R"</p> |
| HORIZONTAL STYLE |  <p>CODE "D"</p>                                     |  <p>CODE "G", "O"</p>      |  <p>CODE "K", "U"</p> |

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

- |   |     |   |     |   |       |
|---|-----|---|-----|---|-------|
| 1 | One | 2 | Two | 3 | Three |
|---|-----|---|-----|---|-------|

## 4 CIRCUIT

- |                      |                       |                        |                           |
|----------------------|-----------------------|------------------------|---------------------------|
| <b>A<sup>3</sup></b> | Switch Only (No Coil) | <b>G<sup>4</sup></b>   | Relay Trip (Voltage)      |
| <b>B</b>             | Series Trip (Current) | <b>H<sup>4,5</sup></b> | Dual Coil with Shunt Trip |
| <b>C</b>             | Series Trip (Voltage) |                        | Voltage Coil              |
| <b>D<sup>4</sup></b> | Shunt Trip (Current)  | <b>K<sup>4,5</sup></b> | Dual Coil with Relay Trip |
| <b>E<sup>4</sup></b> | Shunt Trip (Voltage)  |                        | Voltage Coil              |

## 5 AUXILIARY/ALARM SWITCH<sup>6</sup>

- |   |                            |   |                            |
|---|----------------------------|---|----------------------------|
| 0 | w/o Aux Switch             |   | (Gold Contacts)            |
| 2 | S.P.D.T., 0.110 Q.C. Term. | 6 | S.P.S.T., 0.139 Solder Lug |
| 3 | S.P.D.T., 0.139 Solder Lug | 7 | S.P.S.T., 0.110 Q.C. Term. |
| 4 | S.P.D.T., 0.110 Q.C. Term. |   | (Gold Contacts)            |
|   | (Gold Contacts)            | 8 | S.P.S.T., 0.187 Q.C. Term. |
|   |                            | 9 | S.P.D.T., 0.187 Q.C. Term. |

## 6 FREQUENCY & DELAY

- |                 |                         |                 |                           |
|-----------------|-------------------------|-----------------|---------------------------|
| 03              | DC 50/60Hz, Switch Only | 31              | DC 50/60Hz Ultra Short    |
| 10 <sup>7</sup> | DC Instantaneous        | 32              | DC 50/60Hz Short          |
| 11              | DC Ultra Short          | 34              | DC 50/60Hz Medium         |
| 12              | DC Short                | 36              | DC 50/60Hz Long           |
| 14              | DC Medium               | 42 <sup>8</sup> | 50/60Hz Short, Hi-Inrush  |
| 16              | DC Long                 | 44 <sup>8</sup> | 50/60Hz Medium, Hi-Inrush |
| 20 <sup>7</sup> | 50/60Hz Instantaneous   | 46 <sup>8</sup> | 50/60Hz Long, Hi-Inrush   |
| 21              | 50/60Hz Ultra Short     | 52 <sup>8</sup> | DC Short, Hi-Inrush       |
| 22              | 50/60Hz Short           | 54 <sup>8</sup> | DC Medium, Hi-Inrush      |
| 24              | 50/60Hz Medium          | 56 <sup>8</sup> | DC Long, Hi-Inrush        |
| 26              | 50/60Hz Long            |                 |                           |

**7 CURRENT RATING (AMPERES)**

| CODE | AMPERES |     |       |                  |         |
|------|---------|-----|-------|------------------|---------|
| 020  | 0.020   | 235 | 0.350 | 430              | 3.000   |
| 025  | 0.025   | 240 | 0.400 | 435              | 3.500   |
| 030  | 0.030   | 245 | 0.450 | 440              | 4.000   |
| 035  | 0.035   | 250 | 0.500 | 445              | 4.500   |
| 040  | 0.040   | 255 | 0.550 | 450              | 5.000   |
| 045  | 0.045   | 260 | 0.600 | 455              | 5.500   |
| 050  | 0.050   | 265 | 0.650 | 460              | 6.000   |
| 055  | 0.055   | 270 | 0.700 | 465              | 6.500   |
| 060  | 0.060   | 275 | 0.750 | 470              | 7.000   |
| 065  | 0.065   | 280 | 0.800 | 475              | 7.500   |
| 070  | 0.070   | 285 | 0.850 | 480              | 8.000   |
| 075  | 0.075   | 290 | 0.900 | 485              | 8.500   |
| 080  | 0.080   | 295 | 0.950 | 490              | 9.000   |
| 085  | 0.085   | 410 | 1.000 | 495              | 9.500   |
| 090  | 0.090   | 512 | 1.250 | 610              | 10.000  |
| 095  | 0.095   | 415 | 1.500 | 710              | 10.500  |
| 210  | 0.100   | 517 | 1.750 | 611              | 11.000  |
| 215  | 0.150   | 420 | 2.000 | 711              | 11.500  |
| 220  | 0.200   | 522 | 2.250 | 612              | 12.000  |
| 225  | 0.250   | 425 | 2.500 | 712              | 12.500  |
| 230  | 0.300   | 527 | 2.750 | 613              | 13.000  |
|      |         |     |       | 614              | 14.000  |
|      |         |     |       | 615              | 15.000  |
|      |         |     |       | 616              | 16.000  |
|      |         |     |       | 617              | 17.000  |
|      |         |     |       | 618              | 18.000  |
|      |         |     |       | 620              | 20.000  |
|      |         |     |       | 622              | 22.000  |
|      |         |     |       | 624              | 24.000  |
|      |         |     |       | 625              | 25.000  |
|      |         |     |       | 630              | 30.000  |
|      |         |     |       | 635              | 35.000  |
|      |         |     |       | 640              | 40.000  |
|      |         |     |       | 650              | 50.000  |
|      |         |     |       | 660 <sup>9</sup> | 60.000  |
|      |         |     |       | 670 <sup>9</sup> | 70.000  |
|      |         |     |       | 680 <sup>9</sup> | 80.000  |
|      |         |     |       | 685 <sup>9</sup> | 85.000  |
|      |         |     |       | 690 <sup>9</sup> | 90.000  |
|      |         |     |       | 695 <sup>9</sup> | 95.000  |
|      |         |     |       | 810 <sup>9</sup> | 100.000 |

VOLTAGE COIL (NORMINAL RATED VOLTAGE)<sup>7</sup>

| CODE | RATING |     |      |     |      |     |       |
|------|--------|-----|------|-----|------|-----|-------|
| A06  | 6DC    | A32 | 32DC | J12 | 12AC | J65 | 65AC  |
| A12  | 12DC   | A48 | 48DC | J18 | 18AC | K20 | 120AC |
| A18  | 18DC   | A65 | 65DC | J24 | 24AC | L40 | 240AC |
| A24  | 24DC   | J06 | 6AC  | J48 | 48AC |     |       |

## 8 TERMINAL

- |                 |                         |                 |                            |
|-----------------|-------------------------|-----------------|----------------------------|
| 1 <sup>10</sup> | Stud 10-32, threaded    | 7 <sup>13</sup> | 0.250 Double Quick Connect |
| 2 <sup>11</sup> | Screw 10-32             | 8               | 1/4" Clip Terminal         |
| 3 <sup>12</sup> | Stud 1/4-20, threaded   | 9               | 7/16" Clip Terminal        |
| 4 <sup>11</sup> | Stud M5 x 0.8, threaded | A <sup>14</sup> | Plug-In Stud               |
| 5 <sup>11</sup> | Screw M5 x 0.8          | C               | 5/16" Clip Terminal        |
| 6 <sup>12</sup> | Stud M6, threaded       |                 |                            |

## 9 ACTUATOR COLOR & LEGEND<sup>16,17,18</sup>

**Actuator or**  
**Visi-Color Marking:**

Marking Color:

| <b>Color:</b> | <b>I-O</b> | <b>ON-OFF</b> | <b>Dual/None</b> | <b>Single Color<br/>Rocker/Handle</b> | <b>Visi-Rocker</b> |
|---------------|------------|---------------|------------------|---------------------------------------|--------------------|
| White         | A          | B             | 1                | Black                                 | White              |
| Black         | C          | D             | 2                | White                                 | n/a                |
| Red           | F          | G             | 3                | White                                 | Red                |
| Green         | H          | J             | 4                | White                                 | Green              |
| Blue          | K          | L             | 5                | White                                 | Blue               |
| Yellow        | M          | N             | 6                | Black                                 | Yellow             |
| Gray          | P          | Q             | 7                | Black                                 | Gray               |
| Orange        | R          | S             | 8                | Black                                 | Orange             |

## 10 MOUNTING/BARRIERS<sup>1</sup>

|                 | Standard Rocker Bezel      | BARRIERS |
|-----------------|----------------------------|----------|
| 1               | 6-32 x 0.195 inches        | no       |
| 2               | 6-32 x 0.195 inches        | yes      |
| 3 <sup>19</sup> | 6-32 x 0.195 inches        | yes      |
| 4               | ISO M3 x 5mm               | no       |
| 5               | ISO M3 x 5mm               | yes      |
| 6 <sup>19</sup> | ISO M3 x 5mm               | yes      |
|                 | <b>Rockerguard Bezel</b>   |          |
| A               | 6-32 x 0.195 inches        | no       |
| C               | 6-32 x 0.195 inches        | yes      |
| E <sup>19</sup> | 6-32 x 0.195 inches        | yes      |
| G               | ISO M3 x 5mm               | no       |
| J               | ISO M3 x 5mm               | yes      |
| L <sup>19</sup> | ISO M3 x 5mm               | yes      |
|                 | <b>Push-To-Reset Bezel</b> |          |
| B               | 6-32 x 0.195 inches        | no       |
| D               | 6-32 x 0.195 inches        | yes      |
| F <sup>19</sup> | 6-32 x 0.195 inches        | yes      |
| H               | ISO M3 x 5mm               | no       |
| J               | ISO M3 x 5mm               | yes      |
| M <sup>19</sup> | ISO M3 x 5mm               | yes      |

## 11 AGENCY APPROVAL

- |                                      |                                                                   |
|--------------------------------------|-------------------------------------------------------------------|
| C<br>O<br>N<br>T<br>E<br>N<br>T<br>S | UL Recognized, CSA Accepted                                       |
|                                      | VDE Certified, UL Recognized, CSA Accepted                        |
|                                      | TUV Certified, UL Recognized, CSA Accepted                        |
|                                      | UL489 Construction: VDE Certified, UL Recognized, CSA Accepted    |
|                                      | UL Rec. STD 1077, UL Rec. 1500 (ignition protected), CSA Accepted |
|                                      | UL489 Construction: UL Recognized, CSA Accepted                   |
|                                      | UL489 Construction: TUV Certified, UL Recognized, CSA Accepted    |

Notes:

- 1 Push-To-Reset actuators have OFF position of rocker shrouded.
- 2 Multi-pole breakers have all poles identical except when specifying Aux. switch and/or mixed poles, and have one
- 3 rocker per breaker. Rocker location as viewed from front panel: 2 pole – left pole; 3 pole – center pole.
- 4 Switch Only circuits, rated up to 50 amps and 3 poles, and only available with VDE Certification when tied to a
- 5 protected pole (Circuit Code B, C, D or H). For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select
- 6 Current Code 650. For 55-70 amps, select Current Code 670. For 75-100 amps, select Current Code 810.
- 7 Circuit Codes D,E,F,G,H & K available with Terminal Codes 1,2,4 & 5 only. Circuit Codes D,F,H & K available up to
- 8 50 amps maximum Current Rating.
- 9 Consult factory for available Dual Coil options, as special catalog number is required. Dual Coil Voltage Coils
- 10 with Shunt Trip Construction trip instantaneously on line voltage. Dual Coil Voltage Coils require 30VA minimum
- 11 power to trip instantaneously and are rated for intermittent duty only.
- 12 Auxiliary Switch available with Series Trip and Switch Only circuits. On multi-pole breakers, one aux. switch is
- 13 supplied, mounted in the extreme right pole. Auxiliary switch codes 2,3 & 4 are VDE approved.
- 14 Voltage coils not rated for continuous duty. Available only with delay codes 10 and 20.
- 15 Available with Circuit Codes H,D only, and up to 50 amps maximum.
- 16 Current Ratings 60-70 are available up to 4 poles maximum. Ratings 71-100 are available up to two poles maximum.
- 17 Terminal Code 1 available to 60 amps maximum.
- 18 Terminal Codes 2,4,5 & C available to 50 amps maximum.
- 19 Terminal Codes 3,6 & 9 available to 100 amps maximum.
- 20 Terminal Code 7 available to 25 amps maximum.
- 21 Terminal Code A available to 100 amps maximum.
- 22 Terminal Codes 7,8,9 & C are not VDE approved.
- 23 Color shown is visi and legend with remainder of rocker black
- 24 Legend on Push-to-reset bezel/shroud is white when single color rocker is ordered. Dual = ON-OFF/I-O legend
- 25 with actuator Codes C - G, and J, K, N, O, R, & U. None = no legend with actuator codes H, L, P, V. Rocker-
- 26 guard available with actuator codes C - L. Push-to-reset available with actuator codes N, O, P, R, U, V.
- 27 VDE/TUV approval requires Dual (I-O, ON-OFF) or I-O markings on rocker.
- 28 VDE/TUV: 30 amps max.; UL/CSA: 50 amps max.; Available in 2 - 4 poles only and limited to AC Delays.
- 29 "General Purpose amps" not rated for "full load amps" or to be used in applications with a motor.

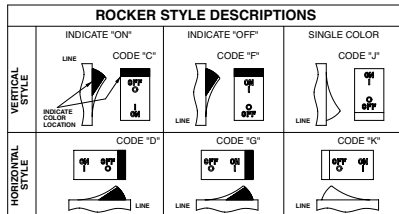
|             |               |            |          |              |                          |          |                           |          |                     |          |               |                        |                             |          |                           |                          |
|-------------|---------------|------------|----------|--------------|--------------------------|----------|---------------------------|----------|---------------------|----------|---------------|------------------------|-----------------------------|----------|---------------------------|--------------------------|
| <b>C</b>    | <b>C</b>      | <b>3</b>   | <b>—</b> | <b>B</b>     | <b>0</b>                 | <b>—</b> | <b>14</b>                 | <b>—</b> | <b>450</b>          | <b>—</b> | <b>1</b>      | <b>2</b>               | <b>A</b>                    | <b>—</b> | <b>K</b>                  | <b>G</b>                 |
| 1<br>Series | 2<br>Actuator | 3<br>Poles |          | 4<br>Circuit | 5<br>Aux/Alarm<br>Switch |          | 6<br>Frequency<br>& Delay |          | 7<br>Current Rating |          | 8<br>Terminal | 9<br>Actuator<br>Color | 10<br>Mounting/<br>Barriers |          | 11<br>Max. App.<br>Rating | 12<br>Agency<br>Approval |

### 1 SERIES C

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

#### Two Color Visi-Rocker

|          |                                 |          |                                 |
|----------|---------------------------------|----------|---------------------------------|
| <b>C</b> | Indicate ON, vertical legend    | <b>J</b> | Single color<br>Vertical legend |
| <b>D</b> | Indicate ON, horizontal legend  | <b>K</b> | Horizontal legend               |
| <b>F</b> | Indicate OFF, vertical legend   |          |                                 |
| <b>G</b> | Indicate OFF, horizontal legend |          |                                 |



### 3 POLES<sup>1</sup>

|          |     |          |     |          |       |
|----------|-----|----------|-----|----------|-------|
| <b>1</b> | One | <b>2</b> | Two | <b>3</b> | Three |
|----------|-----|----------|-----|----------|-------|

### 4 CIRCUIT

|          |                       |
|----------|-----------------------|
| <b>B</b> | Series Trip (current) |
|----------|-----------------------|

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

|          |                                            |          |                                            |
|----------|--------------------------------------------|----------|--------------------------------------------|
| <b>0</b> | w/o Aux Switch                             | <b>5</b> | S.P.S.T., 0.110 Q.C. Term. (Gold Contacts) |
| <b>2</b> | S.P.D.T., 0.110 Q.C. Term.                 | <b>6</b> | S.P.S.T., 0.139 Solder Lug                 |
| <b>3</b> | S.P.D.T., 0.139 Solder Lug                 | <b>7</b> | S.P.S.T., 0.110 Q.C. Term. (Gold Contacts) |
| <b>4</b> | S.P.D.T., 0.110 Q.C. Term. (Gold Contacts) | <b>8</b> | S.P.S.T., 0.187 Q.C. Term.                 |
|          |                                            | <b>9</b> | S.P.D.T., 0.187 Q.C. Term.                 |

### 6 FREQUENCY & DELAY

|           |                     |                       |                           |
|-----------|---------------------|-----------------------|---------------------------|
| <b>11</b> | DC Ultra Short      | <b>26</b>             | 50/60Hz Long              |
| <b>12</b> | DC Short            | <b>42<sup>B</sup></b> | 50/60Hz Short, Hi-Inrush  |
| <b>14</b> | DC Medium           | <b>44<sup>B</sup></b> | 50/60Hz Medium, Hi-Inrush |
| <b>16</b> | DC Long             | <b>46<sup>B</sup></b> | 50/60Hz Long, Hi-Inrush   |
| <b>21</b> | 50/60Hz Ultra Short | <b>52<sup>B</sup></b> | DC Short, Hi-Inrush       |
| <b>22</b> | 50/60Hz Short       | <b>54<sup>B</sup></b> | DC Medium, Hi-Inrush      |
| <b>24</b> | 50/60Hz Medium      | <b>56</b>             | DC Long, Hi-Inrush        |

#### Notes:

- Multi-pole breakers have all breakers identical except when specifying Aux. switch and/or mixed poles, and have one rocker per breaker.
- On multi-pole breakers, one aux. 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 Code 1 available to 60 amps maximum.
- Terminal Codes 2, 4, 5 & C available to 50 amps maximum.
- Terminal Codes 3, 6, 9 & A available to 100 amps maximum.
- Terminal Codes 8, 9 & C are not VDE approved.
- Color shown is visi and legend with remainder of rocker black
- Dual = ON-OFF/I-O legend on actuator.
- VDE and TUV approval requires Dual (I-O, ON-OFF) markings on rocker.
- Rockerguard available with all actuator codes.
- 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 |            |       |            |        |
|------------|---------|------------|-------|------------|--------|
| <b>210</b> | 0.100   | <b>295</b> | 0.950 | <b>470</b> | 7.000  |
| <b>215</b> | 0.150   | <b>410</b> | 1.000 | <b>475</b> | 7.500  |
| <b>220</b> | 0.200   | <b>512</b> | 1.250 | <b>480</b> | 8.000  |
| <b>225</b> | 0.250   | <b>415</b> | 1.500 | <b>485</b> | 8.500  |
| <b>230</b> | 0.300   | <b>517</b> | 1.750 | <b>490</b> | 9.000  |
| <b>235</b> | 0.350   | <b>420</b> | 2.000 | <b>495</b> | 9.500  |
| <b>240</b> | 0.400   | <b>522</b> | 2.250 | <b>610</b> | 10.000 |
| <b>245</b> | 0.450   | <b>425</b> | 2.500 | <b>710</b> | 10.500 |
| <b>250</b> | 0.500   | <b>527</b> | 2.750 | <b>611</b> | 11.000 |
| <b>255</b> | 0.550   | <b>430</b> | 3.000 | <b>711</b> | 11.500 |
| <b>260</b> | 0.600   | <b>435</b> | 3.500 | <b>612</b> | 12.000 |
| <b>265</b> | 0.650   | <b>440</b> | 4.000 | <b>713</b> | 12.500 |
| <b>270</b> | 0.700   | <b>445</b> | 4.500 | <b>613</b> | 13.000 |
| <b>275</b> | 0.750   | <b>450</b> | 5.000 | <b>614</b> | 14.000 |
| <b>280</b> | 0.800   | <b>455</b> | 5.500 | <b>615</b> | 15.000 |
| <b>285</b> | 0.850   | <b>460</b> | 6.000 | <b>616</b> | 16.000 |
| <b>290</b> | 0.900   | <b>465</b> | 6.500 | <b>617</b> | 17.000 |

### 8 TERMINAL

|                      |                                         |                        |                     |
|----------------------|-----------------------------------------|------------------------|---------------------|
| <b>1<sup>5</sup></b> | Stud 10-32, threaded                    | <b>6<sup>7</sup></b>   | Stud M6, threaded   |
| <b>2<sup>6</sup></b> | Screw 8-32 w/saddle & washer clamps     | <b>8<sup>8</sup></b>   | 1/4" Clip Terminal  |
| <b>3<sup>7</sup></b> | Stud 1/4-20, threaded                   | <b>9<sup>7,8</sup></b> | 7/16" Clip Terminal |
| <b>4<sup>6</sup></b> | Stud M5 x 0.8, threaded                 | <b>A<sup>7,8</sup></b> | Plug-In Stud        |
| <b>5<sup>6</sup></b> | Screw M5 x 0.8 w/saddle & washer clamps | <b>C<sup>8,9</sup></b> | 5/16" Clip Terminal |

### 9 ACTUATOR COLOR & LEGEND<sup>11</sup>

| Actuator or<br>Visi-Color 9 | Marking:      | Marking Color:                        |
|-----------------------------|---------------|---------------------------------------|
| <b>Color:</b>               | <b>ON-OFF</b> | <b>Dual<sup>10</sup></b>              |
| White                       | <b>B</b>      | <b>1</b>                              |
| Black                       | <b>D</b>      | <b>2</b>                              |
| Red                         | <b>G</b>      | <b>3</b>                              |
| Green                       | <b>J</b>      | <b>4</b>                              |
| Blue                        | <b>L</b>      | <b>5</b>                              |
| Yellow                      | <b>N</b>      | <b>6</b>                              |
| Gray                        | <b>Q</b>      | <b>7</b>                              |
| Orange                      | <b>S</b>      | <b>8</b>                              |
|                             |               | <b>Single Color<br/>Rocker/Handle</b> |
|                             |               | Black                                 |
|                             |               | White                                 |
|                             |               | n/a                                   |
|                             |               | Red                                   |
|                             |               | Green                                 |
|                             |               | Blue                                  |
|                             |               | Yellow                                |
|                             |               | Gray                                  |
|                             |               | Orange                                |
|                             |               | <b>Visi-Rocker</b>                    |
|                             |               | White                                 |
|                             |               | n/a                                   |
|                             |               | Red                                   |
|                             |               | Green                                 |
|                             |               | Blue                                  |
|                             |               | Yellow                                |
|                             |               | Gray                                  |
|                             |               | Orange                                |

### 10 MOUNTING/BARRIERS<sup>12</sup>

|          | Standard Rocker Bezel<br>Threaded Insert, 2 per pole | BARRIERS <sup>13</sup> |
|----------|------------------------------------------------------|------------------------|
| <b>A</b> | 6-32 x 0.195 inches                                  | yes                    |
| <b>C</b> | ISO M3 x 5mm                                         | yes                    |
|          | Rockerguard Bezel<br>Threaded Insert, 2 per pole     |                        |
| <b>B</b> | 6-32 x 0.195 inches                                  | yes                    |
| <b>D</b> | ISO M3 x 5mm                                         | yes                    |

### 11 MAXIMUM APPLICATION RATING

|          |                          |
|----------|--------------------------|
| <b>A</b> | 65 DC                    |
| <b>B</b> | 125 DC                   |
| <b>C</b> | 120/240 AC <sup>14</sup> |
| <b>D</b> | 240 AC                   |
| <b>K</b> | 120 AC                   |
| <b>M</b> | 80 DC                    |

### 12 AGENCY APPROVAL

|          |                                               |
|----------|-----------------------------------------------|
| <b>A</b> | without approvals                             |
| <b>F</b> | UL 489 Listed, CSA Certified, & VDE Certified |
| <b>G</b> | UL 489 Listed & CSA Certified                 |
| <b>J</b> | UL489 Listed, CSA Certified & TUV Certified   |



|             |               |            |          |              |                          |          |                           |          |                     |          |               |                        |                             |          |                           |                          |
|-------------|---------------|------------|----------|--------------|--------------------------|----------|---------------------------|----------|---------------------|----------|---------------|------------------------|-----------------------------|----------|---------------------------|--------------------------|
| <b>C</b>    | <b>1</b>      | <b>2</b>   | <b>—</b> | <b>B</b>     | <b>0</b>                 | <b>—</b> | <b>14</b>                 | <b>—</b> | <b>450</b>          | <b>—</b> | <b>1</b>      | <b>2</b>               | <b>A</b>                    | <b>—</b> | <b>K</b>                  | <b>G</b>                 |
| 1<br>Series | 2<br>Actuator | 3<br>Poles |          | 4<br>Circuit | 5<br>Aux/Alarm<br>Switch |          | 6<br>Frequency<br>& Delay |          | 7<br>Current Rating |          | 8<br>Terminal | 9<br>Actuator<br>Color | 10<br>Mounting/<br>Barriers |          | 11<br>Max. App.<br>Rating | 12<br>Agency<br>Approval |

### 1 SERIES C

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

#### Two Color Visi-Rocker

- 1 Indicate OFF, vertical legend  
2 Indicate OFF, horizontal legend

#### Single color

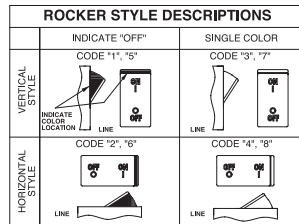
- 3 Vertical legend  
4 Horizontal legend

#### Push-To-Reset, Visi-Rocker

- 5 Indicate OFF, vertical legend  
6 Indicate OFF, horizontal legend

#### Push-To-Reset, Single color

- 7 Vertical legend  
8 Horizontal legend



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

- 1 One 2 Two 3 Three

### 4 CIRCUIT

- B Series Trip (current)

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

- 0 w/o Aux Switch  
2 S.P.D.T., 0.110 Q.C. Term.  
3 S.P.D.T., 0.139 Solder Lug  
4 S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)  
5 S.P.S.T., 0.110 Q.C. Term. (Gold Contacts)  
6 S.P.S.T., 0.139 Solder Lug  
7 S.P.S.T., 0.110 Q.C. Term. (Gold Contacts)  
8 S.P.S.T., 0.187 Q.C. Term.  
9 S.P.D.T., 0.187 Q.C. Term.

### 6 FREQUENCY & DELAY

- 11 DC Ultra Short  
12 DC Short  
14 DC Medium  
16 DC Long  
21 50/60Hz Ultra Short  
22 50/60Hz Short  
24 50/60Hz Medium  
26 50/60Hz Long  
42<sup>4</sup> 50/60Hz Short, Hi-Inrush  
44<sup>4</sup> 50/60Hz Medium, Hi-Inrush  
46<sup>4</sup> 50/60Hz Long, Hi-Inrush  
52<sup>4</sup> DC Short, Hi-Inrush  
54<sup>4</sup> DC Medium, Hi-Inrush  
56<sup>4</sup> DC Long, Hi-Inrush

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

| CODE | AMPERES |     |       |     |        |
|------|---------|-----|-------|-----|--------|
| 210  | 0.100   | 295 | 0.950 | 470 | 7.000  |
| 215  | 0.150   | 410 | 1.000 | 475 | 7.500  |
| 220  | 0.200   | 512 | 1.250 | 480 | 8.000  |
| 225  | 0.250   | 415 | 1.500 | 485 | 8.500  |
| 230  | 0.300   | 517 | 1.750 | 490 | 9.000  |
| 235  | 0.350   | 420 | 2.000 | 495 | 9.500  |
| 240  | 0.400   | 522 | 2.250 | 610 | 10.000 |
| 245  | 0.450   | 425 | 2.500 | 710 | 10.500 |
| 250  | 0.500   | 527 | 2.750 | 611 | 11.000 |
| 255  | 0.550   | 430 | 3.000 | 711 | 11.500 |
| 260  | 0.600   | 435 | 3.500 | 612 | 12.000 |
| 265  | 0.650   | 440 | 4.000 | 712 | 12.500 |
| 270  | 0.700   | 445 | 4.500 | 613 | 13.000 |
| 275  | 0.750   | 450 | 5.000 | 614 | 14.000 |
| 280  | 0.800   | 455 | 5.500 | 615 | 15.000 |
| 285  | 0.850   | 460 | 6.000 | 616 | 16.000 |
| 290  | 0.900   | 465 | 6.500 | 617 | 17.000 |

### 8 TERMINAL

- 1<sup>6</sup> Stud 10-32, threaded .625 long  
2<sup>7</sup> Screw 8-32 w/saddle & washer clamps  
3<sup>8</sup> Stud 1/4-20, threaded .625 long  
4<sup>7</sup> Stud M5 x 0.8, threaded .625 long  
5<sup>7</sup> Screw M5 x 0.8 w/saddle & washer clamps  
6<sup>8</sup> Stud M6, threaded 17mm long  
8<sup>9</sup> 1/4" Clip Terminal  
9<sup>8,9</sup> 7/16" Clip Terminal  
A<sup>8,9</sup> Plug-In Stud  
C<sup>7,9</sup> 5/16" Clip Terminal

### 9 ACTUATOR COLOR & LEGEND<sup>12</sup>

| Actuator or Visi-Color 9 | Marking:      | Marking Color:                    |
|--------------------------|---------------|-----------------------------------|
| <b>Color:</b>            | <b>ON-OFF</b> | <b>Dual<sup>11</sup></b>          |
| White                    | B             | 1                                 |
| Black                    | D             | 2                                 |
| Red                      | G             | 3                                 |
| Green                    | J             | 4                                 |
| Blue                     | L             | 5                                 |
| Yellow                   | N             | 6                                 |
| Gray                     | Q             | 7                                 |
| Orange                   | S             | 8                                 |
|                          |               | <b>Single Color Rocker/Handle</b> |
|                          |               | Black                             |
|                          |               | White                             |
|                          |               | White                             |
|                          |               | White                             |
|                          |               | White                             |
|                          |               | Black                             |
|                          |               | Black                             |
|                          |               | Black                             |
|                          |               | Black                             |
|                          |               | Black                             |
|                          |               | White                             |
|                          |               | n/a                               |
|                          |               | Red                               |
|                          |               | Green                             |
|                          |               | Blue                              |
|                          |               | Yellow                            |
|                          |               | Gray                              |
|                          |               | Orange                            |

### 10 MOUNTING/BARRIERS<sup>12</sup>

|   | Standard Rocker Bezel Threaded Insert, 2 per pole      | BARRIERS <sup>15</sup> |
|---|--------------------------------------------------------|------------------------|
| A | 6-32 x 0.195 inches                                    | yes                    |
| C | ISO M3 x 5mm                                           | yes                    |
|   | <b>Recessed Off Rocker<sup>14</sup></b>                |                        |
| E | 6-32 x 0.195 inches                                    | yes                    |
| F | ISO M3 x 5mm                                           | yes                    |
|   | <b>Push-To-Reset Bezel Threaded Insert, 2 per pole</b> |                        |
| B | 6-32 x 0.195 inches                                    | yes                    |
| D | ISO M3 x 5mm                                           | yes                    |

### 11 MAXIMUM APPLICATION RATING

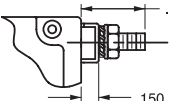
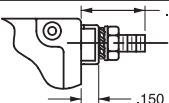
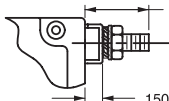
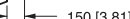
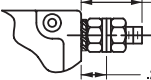
- A 65 DC  
B 125 DC  
C 120/240 AC<sup>16</sup>  
D 240 AC  
K 120 AC  
M 80 DC

### 12 AGENCY APPROVAL

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

#### Notes:

- 1 Push-to-reset actuators have OFF portion of rocker shrouded.  
2 Multi-pole breakers have all breakers identical except when specifying Aux. switch and/or mixed poles, and have one rocker per breaker.  
3 On multi-pole breakers, one aux. switch is supplied, mounted in the extreme right pole.  
4 Available up to 50 amps maximum.  
5 Current ratings 71 - 100 with VDE approvals are available up to two poles maximum.  
6 Terminal Code 1 available to 60 amps maximum.  
7 Terminal Codes 2, 4, 5 & C available to 50 amps maximum.  
8 Terminal Codes 3, 6, 9 & A available to 100 amps maximum.  
9 Terminal Codes 8, 9 & C are not VDE approved.  
10 Color shown is visi and legend with remainder of rocker black  
11 Dual = ON-OFF/I-O legend on actuator.  
12 VDE and TUV approval requires Dual (I-O, ON-OFF) markings on rocker.  
13 Legend on push-to-reset bezel/shroud is white when single color rocker is ordered.  
14 Legend on push-to-reset bezel/shroud matches visi-color of rocker with actuator codes 5 & 6.  
15 Recessed "OFF-SIDE" available with actuator codes 1, 2, 3, & 4. Legends on rocker are available in ink stamping only.  
16 Barriers supplied on multi-pole units only.  
17 2 & 3 pole circuit breakers required for 120/240 AC rating.

| TERMINAL     |      |                                                                                    | RATING (AMPS) |    |     |
|--------------|------|------------------------------------------------------------------------------------|---------------|----|-----|
| DESCRIPTION  | CODE | DIMENSIONAL DETAIL                                                                 | 25            | 50 | 100 |
|              |      |                                                                                    | 80            |    |     |
| #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  $\pm 0.031$  [ $\pm .79$ ] UNLESS OTHERWISE SPECIFIED.

|                            |      | TERMINAL                                                                                                                                                                                                                                                                                                                      | RATING (AMPS) |    |     |
|----------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----|-----|
| DESCRIPTION                | CODE | DIMENSIONAL DETAIL                                                                                                                                                                                                                                                                                                            | 25            | 50 | 100 |
| .250<br>DOUBLE<br>Q.C.     | 7    | <p>Side view dimensions:<br/>           .820 [20.83] (overall length)<br/>           .400 [10.16] (contact length)<br/>           .173 [4.39] (clip thickness)<br/>           .320 [8.13] (base width)<br/>           .250 [6.35] (clip height)</p> <p>Front view dimension:<br/>           .400 [10.16] (contact length)</p> |               |    |     |
| 7/16"<br>CLIP<br>TERMINALS | 9    | <p>Side view dimensions:<br/>           .437 DIA [Ø11.10] COMPONENT DIA (wavy contact surface)<br/>           .644[16.36] (overall length)<br/>           .901[22.89] (total length including base)</p> <p>Front view dimension:<br/>           .845[21.46] (overall length)</p>                                              |               |    |     |
| PUSH-IN<br>STUD            | A    | <p>Side view dimensions:<br/>           .482[12.24] CENTERLINE OF PUSH-IN STUD CONTACT AREA<br/>           .31" [7.90] (stud diameter)<br/>           +.002 / -.000 (+.05 / -.00) (tolerance)</p> <p>Front view dimension:<br/>           .845[21.46] (overall length)</p> <p>LOAD PUSH-IN STUD MATING HOLE symbol</p>        |               |    |     |

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<br>[0.8-1.0 NM]   |
| #10-32 & M5 THD STUDS            | 15-20 IN-LBS<br>[1.7-2.3 NM] |
| #10-32 THD SCREW                 | 15-20 IN-LBS<br>[1.7-2.3 NM] |
| #1/4-20 & M6 THD STUDS           | 30-35 IN-LBS<br>[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          |
| #14-20 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:

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

|  | CIRCUIT SCHEMATIC |     | CIRCUIT CODE | AUX SWITCH CODE | CIRCUIT SCHEMATIC |     | CIRCUIT CODE | AUX SWITCH CODE |
|--|-------------------|-----|--------------|-----------------|-------------------|-----|--------------|-----------------|
|  | ANSI              | IEC |              |                 | ANSI              | IEC |              |                 |
|  |                   |     | LINE         | O               |                   |     | B            | O               |
|  |                   |     | LOAD         | 2<br>3<br>4     |                   |     | B            | 2<br>3<br>4     |
|  |                   |     |              | 0               |                   |     | H            | 0               |
|  |                   |     |              | 0               |                   |     | 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 <sup>4</sup> |
| OFF                                       |                 |                  |                 |                            |                                        |
| ON                                        |                 |                  |                 |                            |                                        |
| ELECTRICAL TRIP                           |                 |                  |                 |                            |                                        |

## Notes:

- All dimensions are in inches [millimeters].
- Tolerance  $\pm .020$  [.51] unless otherwise specified.
- Schematic shown represents current trip circuits.
- Available only as special catalog number.



## Notes:

- 1 All dimensions are in inches [millimeters].
- 2 Tolerance ±.020 [.51] unless otherwise specified.



\*Handguard available as special catalog number only

Notes:

- 1 All dimensions are in inches [millimeters].
- 2 Tolerance  $\pm 0.020$  [.51] unless otherwise specified.

### PARALLEL POLE (CA2-P)



### PARALLEL POLE (CA3-P)



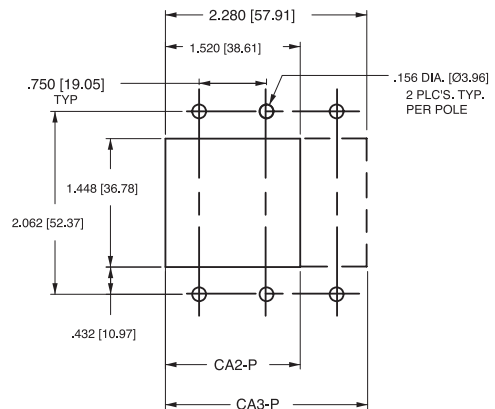
| CIRCUIT BREAKER PROFILE              | CIRCUIT SCHEMATIC<br>(CA2-P SHOWN)                                                |                                                 | CIRCUIT<br>CODE | AUX<br>SWITCH<br>CODE |
|--------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------|-----------------|-----------------------|
|                                      | ANSI                                                                              | IEC                                             |                 |                       |
| <br>1.388 [47.00] TYP<br>±.060 ±1.52 | <b>SERIES TRIP</b><br><br>LINE<br>LOAD                                            | <br>LINE (NETZ)<br>LOAD (LAST)                  | P               | 0                     |
|                                      | <b>SERIES TRIP WITH<br/>AUXILIARY SWITCH</b><br><br>LINE<br>C<br>NO<br>NC<br>LOAD | <br>LINE (NETZ)<br>C<br>NO<br>NC<br>LOAD (LAST) | P               | 2<br>3<br>4           |

### TERMINAL DETAILS



### PANEL CUTOUT DETAIL

TOLERANCES ±.005 [.12]



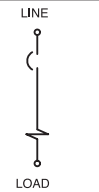
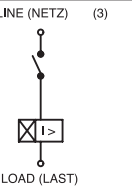
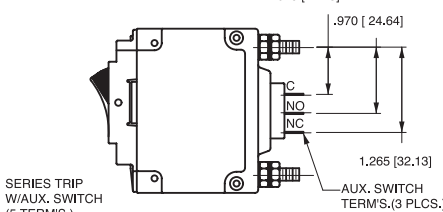
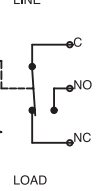
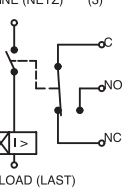
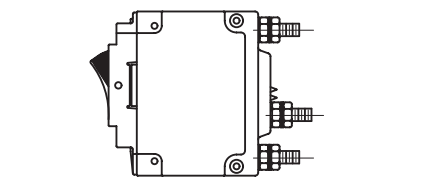
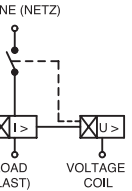
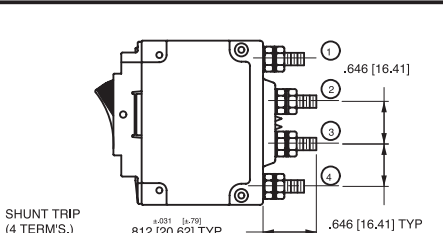
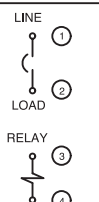
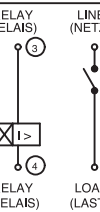
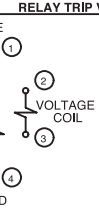
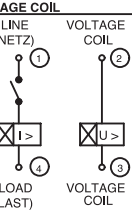
#### Notes:

- All dimensions are in inches [millimeters].
- Tolerance ±.020 [.51] unless otherwise specified.



Notes:

- 1 All dimensions are in inches [millimeters].
- 2 Tolerance ±.020 [.51] unless otherwise specified.

| CIRCUIT BREAKER PROFILE                                                                                                                                                                                                                                           | CIRCUIT SCHEMATIC                                                                                                        |                                                                                                                                                          | CIRCUIT CODE | AUX. SWITCH CODE | CIRCUIT SCHEMATIC                                                                                             |                                                                                                                                                 | CIRCUIT CODE | AUX. SWITCH CODE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|
|                                                                                                                                                                                                                                                                   | ANSI                                                                                                                     | IEC                                                                                                                                                      |              |                  | ANSI                                                                                                          | IEC                                                                                                                                             |              |                  |
|  <p>2.160 [54.86] TYP</p> <p>LINE</p> <p>MAIN TERM'S. (SEE TABLE A)</p> <p>LOAD</p> <p>SERIES TRIP (2 TERM'S.)</p> <p>±.031 [.79] TYP</p> <p>.625 [15.88] TYP</p>                | SWITCH ONLY (NO COIL)                                                                                                    |                                                                                                                                                          | A            | 0                | SWITCH TRIP                                                                                                   |                                                                                                                                                 | BC           | 0                |
|                                                                                                                                                                                                                                                                   |  <p>LINE</p> <p>LOAD</p>                |  <p>LINE (NETZ)</p> <p>LOAD (LAST)</p>                                  |              |                  |  <p>LINE</p> <p>LOAD</p>   |  <p>LINE (NETZ) (3)</p> <p>LOAD (LAST)</p>                   |              |                  |
|  <p>.675 [17.15] TYP</p> <p>.970 [24.64]</p> <p>C</p> <p>NO</p> <p>NC</p> <p>1.265 [32.13]</p> <p>AUX. SWITCH TERM'S. (3 PLCS.)</p> <p>SERIES TRIP W/AUX. SWITCH (5 TERM'S.)</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      |
|                                                                                                                                                                                                                                                                   |  <p>LINE</p> <p>LOAD</p>                |  <p>LINE (NETZ)</p> <p>LOAD (LAST)</p>                                  |              |                  |  <p>LINE</p> <p>LOAD</p>   |  <p>LINE (NETZ) (3)</p> <p>LOAD (LAST)</p>                   |              |                  |
|  <p>SHUNT TRIP (3 TERM'S.)</p>                                                                                                                                                  | SHUNT TRIP                                                                                                               |                                                                                                                                                          | DE           | 0                | DUAL COIL; SERIES TRIP CURRENT COIL, SHUNT TRIP VOLTAGE COIL                                                  |                                                                                                                                                 | H            | 0                |
|                                                                                                                                                                                                                                                                   |  <p>LINE</p> <p>LOAD</p>               |  <p>LINE (NETZ) (3)</p> <p>SHUNT (NEBENSCHLUSS)</p> <p>LOAD (LAST)</p> |              |                  |  <p>LINE</p> <p>LOAD</p>  |  <p>LINE (NETZ)</p> <p>LOAD (LAST)</p> <p>VOLTAGE COIL</p>  |              |                  |
|  <p>.646 [16.41]</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>±.031 [.79] TYP</p> <p>.812 [20.62] TYP</p> <p>.646 [16.41] TYP</p> <p>SHUNT TRIP (4 TERM'S.)</p>                  | RELAY TRIP                                                                                                               |                                                                                                                                                          | FG           | 0                | DUAL COIL; SERIES TRIP CURRENT COIL, RELAY TRIP VOLTAGE COIL                                                  |                                                                                                                                                 | K            | 0                |
|                                                                                                                                                                                                                                                                   |  <p>LINE</p> <p>LOAD</p> <p>RELAY</p> |  <p>RELAY (RELAIS)</p> <p>LOAD (LAST)</p>                             |              |                  |  <p>LINE</p> <p>LOAD</p> |  <p>LINE (NETZ)</p> <p>LOAD (LAST)</p> <p>VOLTAGE COIL</p> |              |                  |



BARRIER FOR  
UL-RECOGNIZED MULTI-POLE  
BREAKERS



BARRIER FOR  
UL-489 LISTED MULTI-POLE  
BREAKERS

#### Notes:

- All dimensions are in inches [millimeters].
- Tolerance  $\pm .020$  [.51] unless otherwise specified.
- Schematic shown represents current trip circuit.

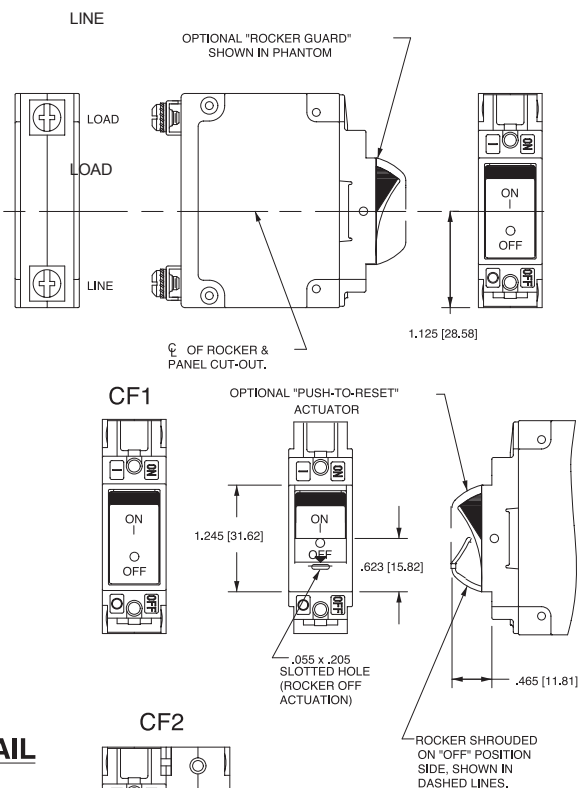
## INDICATE "ON"

SCREW TYPE TERMINALS IN SERIES TRIP CIRCUIT CONFIGURATION SHOWN. FOR OTHER CONFIGURATIONS SEE CIRCUIT AND TERMINAL DIAGRAMS.



INDICATE "OFF" & SINGLE COLOR

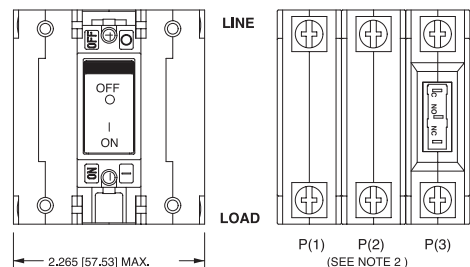
(INDICATE "OFF" SHOWN)



### PANEL CUT-OUT DETAIL

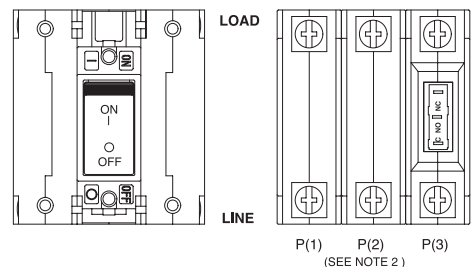


## CC3



REAR VIEW OF INDICATE "ON"  
SERIES TRIP W/ AUX SWITCH  
CIRCUIT CONFIGURATION.

## CF3

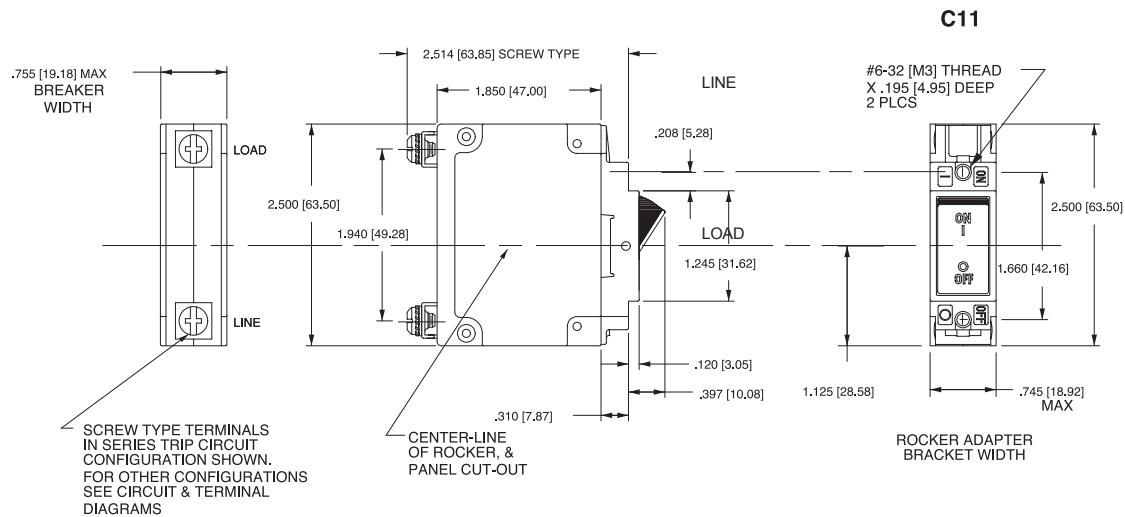


REAR VIEW OF INDICATE "OFF"  
SERIES TRIP W/ AUX SWITCH  
CIRCUIT CONFIGURATION.

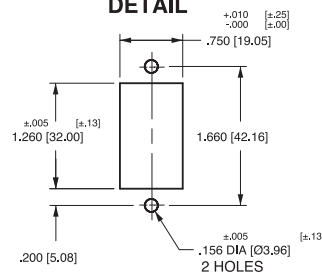
Notes:

- 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 All dimensions are in inches [millimeters].  
4 Tolerance  $\pm .020$  [.51] unless otherwise specified.

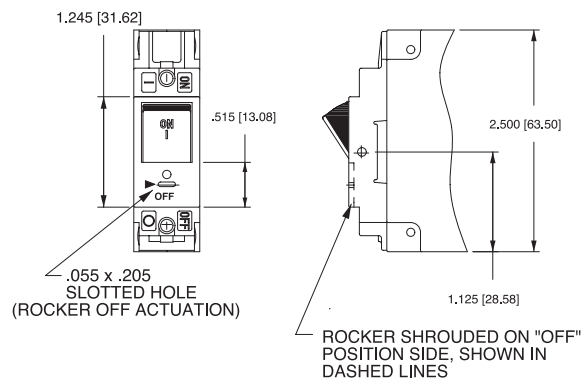
INDICATE "OFF" & SINGLE COLOR



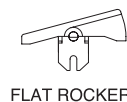
#### PANEL CUT-OUT DETAIL



#### PUSH-TO-RESET ACTUATOR



#### ACTUATOR SIDE VIEW (SURFACE CONTOURS)



#### Notes:

- 1 For pole orientation with horizontal legend, rotate front view clockwise 90°.
- 2 All dimensions are in inches [millimeters].
- 3 Tolerance ±.020 [±.51] unless otherwise specified.

### **Worldwide Headquarters**

Carling Technologies, Inc.  
60 Johnson Avenue • Plainville, CT 06062-1177  
Phone: (860) 793-9281 • Fax: (860) 793-9231  
Email: sales@carlingtech.com • www.carlingtech.com

East Region Sales Office, CT • ersm@carlingtech.com  
Midwest Region Sales Office, IL • mrsn@carlingtech.com  
West Region Sales Office, CA • wrsm@carlingtech.com

### **Asia-Pacific Headquarters**

Carling Technologies, Asia-Pacific Ltd.,  
Kowloon, Hong Kong  
Int + 852-2737-2277 • Fax: Int + 852-2736-9332  
Email: sales@carlingtech.com.hk

Shenzhen, China • shenzhen@carlingtech.com  
Shanghai, China • shanghai@carlingtech.com  
Pune, India • india@carlingtech.com  
Kaohsiung, Taiwan • taiwan@carlingtech.com  
Yokohama, Japan • japan@carlingtech.com

### **Europe / Middle East / Africa Headquarters**

Carling Technologies, Ltd.,  
Devon, England 06062-1177  
Int + 44 1392-364422 • Fax: Int + 44 1392-364477  
Email: ltd.sales@carlingtech.com

GmbH, Germany • gmbh@carlingtech.com  
SAS, France • sas@carlingtech.com

REV\_CB\_C\_0312



**Carling Technologies™**

Innovative Designs. Powerful Solutions.

Innovative Designs. Powerful Solutions.