Compact size and well known for its proven reliability, the A-Series utilizes the hydraulic magnetic principle which provides precise operation and performance even when exposed to extremely hot and/or cold application environments. When aesthetics demand a clean contemporary and functional design, the visi-rocker two-color actuator can be specified. A rockerguard and push-to-reset bezel help prevent inadvertent actuation. A specially constructed version is now available for applications requiring CE markings. The A-Series is used in many telecommunications and marine applications. In addition, these breakers meet CSA Standard 22.2 No. 100 for the Generator & Welder markets.

1-6 poles (handle), 1-3 poles (rocker). 0.02 - 50 amps, up to 277 VAC or 80 VDC, with a choice of time delays, terminals and actuator colors.

## Agency Certifications

### UL Recognized

| | |
|---|---|
| UL Standard 1077 | Component Recognition Program as Protectors Supplementary (Guide CCN/QVNU2, File E75596) |
| UL Standard 508 | Switches, Industrial Control (Guide CCN/NRNT2, File E148683) |
| UL Standard 1500 | Protectors, Supplementary for Marine Electrical & Fuel Systems (Guide PEQZ2, File E75596) Ignition Protection |

### UL Listed

| | |
|---|---|
| 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

### TUV Certified

EN60934, under License No. R72040875

### VDE Certified

EN60934, VDE 0642 under File No. 10537

## Electrical

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

**A -SERIES TABLE A: COMPONENT SUPPLEMENTARY PROTECTORS**

| CIRCUIT CONFIGURATION | VOLTAGE | | | CURRENT RATING | | SHORT CIRCUIT CAPACITY (AMPS) | | APPLICATION CODES | | CONSTRUCTION NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| | MAX. RATING | FREQUENCY | PHASE | FULL LOAD AMPS | GENERAL PURPOSE AMPS | UL/CSA | | UL | CSA | |
| | | | | | | WITH BACKUP FUSE | WITHOUT BACKUP FUSE | | | |
| SERIES | 32 | DC | --- | 0.02 - 50 | --- | --- | 5000 | TC1, OL1,U2 | TC1, OL1,U2 | |
| | 65 | DC | --- | 31 - 50 | --- | --- | 7500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | 80 | DC | --- | 0.02 - 30 | --- | --- | 7500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | | | | --- | 31 - 50 | --- | 7500 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | |
| | 125 | 50 / 60 | 1 | 0.02 - 30 | --- | --- | 3000 | TC1, OL1,U2 | TC1, OL1,U2 | Rocker Version |
| | 125 | 50 / 60 | 1 | 1 - 50 | --- | --- | 2000 | TC1, OL1,U2 | TC1, OL1,U2 | |
| | 125 | 50 / 60 | 1[4] | 1 - 50 | --- | --- | 1000 | TC1, OL1,U2 | TC3, OL1,U3 | |
| | 125 / 250 | 50 / 60 | 1[3] | 0.02 - 30 | --- | --- | 3000 | TC1,2, OL1,U2 | TC1,2, OL1,U2 | Rocker Version |
| | 125 / 250 | 50 / 60 | 1[3] | 0.02 - 50 | --- | --- | 3000 | TC1,2, OL1,U2 | TC1,2, OL1,U2 | |
| | 250 | 50 / 60 | 1 | 0.02 - 30 | --- | --- | 1500 | TC1, OL0,U2 | TC1, OL0,U2 | Single Pole Break |
| | | | | 0.02 - 30 | --- | --- | 3000 | TC1, OL1,U2 | TC1, OL1,U2 | Two Pole Break |
| | | | | --- | 31 - 50 | --- | 3000 | TC1,2, OL0,U1 | TC1,2, OL1,U1 | |
| | | | 1[4] | 1 - 50 | --- | --- | 1000 | TC1, OL1,U2 | TC3, OL1,U3 | |
| | | | 3 | 0.02 - 30 | --- | 5000[2] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| | | | | 31 - 50 | --- | 2000[1] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| | 277 | 50 / 60 | 1 | 0.02 - 30 | --- | 5000[1] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| DUAL COIL | 32 | DC | --- | 0.02 - 50 | --- | --- | 5000 | TC1, OL1,U2 | TC1, OL1,U2 | |
| | 65 | DC | --- | 0.02 - 50 | --- | --- | 7500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | 80 | DC | --- | 0.02 - 30 | --- | --- | 7500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | | | | --- | 31 - 50 | --- | 7500 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | |
| | 125 | 50 / 60 | 1 | 0.02 - 30 | --- | --- | 3000 | TC1, OL1,U2 | TC1, OL1,U2 | Rocker Version |
| | | | | 1 - 50 | --- | --- | 2000 | TC1, OL1,U2 | TC1, OL1,U2 | |
| | 125 | 50 / 60 | 1[4] | 1 - 50 | --- | --- | 1000 | TC1, OL1,U2 | TC3, OL1,U3 | |
| | 125 / 250 | 50 / 60 | 1[3] | 0.02 - 30 | --- | --- | 3000 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version |
| | 125 / 250 | 50 / 60 | 1[3] | 0.02 - 50 | --- | --- | 3000 | TC1,2, OL1,U2 | TC1,2, OL1,U2 | |
| | 250 | 50 / 60 | 1 | 0.02 - 30 | --- | --- | 1500 | TC1, OL0,U2 | TC1, OL0,U2 | Single Pole Break |
| | | | 1 | 0.02 - 30 | --- | --- | 3000 | TC1, OL1,U2 | TC1, OL1,U2 | Two Pole Break |
| | | | 1 | --- | 31 - 50 | --- | 3000 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | |
| | | | 1[4] | 1 - 50 | --- | --- | 1000 | TC1, OL1,U2 | TC3, OL1,U3 | |
| | | | 3 | 0.02 - 30 | --- | 5000[2] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| | | | | 31 - 50 | --- | 2000[1] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| | 277 | 50 / 60 | 1 | 0.02 - 30 | --- | 5000[1] | --- | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| SHUNT | 80 | DC | --- | 0.02 - 30 | --- | --- | 7500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | 125 / 250 | 50 / 60 | 1 | 0.02 - 30 | --- | --- | 3000 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | 250 | 50 / 60 | 1 | 0.02 - 30 | --- | --- | 3000 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | | | 3 | 0.02 - 30 | --- | 5000[2] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| | 277 | 50 / 60 | 1 | 0.02 - 30 | --- | 5000[1] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| RELAY | 80 | DC | --- | 0.02 - 30 | --- | --- | 7500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | 125 / 250 | 50 / 60 | 1[3] | 0.02 - 30 | --- | --- | 3000 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | 250 | 50 / 60 | 1 | 0.02 - 30 | --- | --- | 3000 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | |
| | | | 3 | 0.02 - 30 | --- | 5000[2] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| | 277 | 50 / 60 | 1 | 0.02 - 30 | --- | 5000[1] | --- | TC1,2, OL1,C1 | TC1,2, OL1,C1 | |
| SWITCH ONLY | 65 | DC | --- | 0.02 - 50 | --- | | | | | |
| | 80 | DC | --- | 0.02 - 30 | --- | | | | | |
| | 250 | 50 / 60 | 1 | --- | 31 - 50 | | | | | |
| | | | 3 | 0.02 - 50 | --- | | | | | |
| | 277 | 50 / 60 | 1 | 0.02 - 30 | 31 - 50 | | | | | |

Notes for Table A:

1 Requires branch circuit backup with a UL LISTED Type K5 or RK5 fuse (15A minimum) at no more than 4 times the rating of the protector.

2 Same as note 1, except that backup fuse is limited to 80 A maximum.

3 2 pole protector required (with one pole per power line) for: 250/125 VAC, 125/250 VAC and 208Y/120 VAC Power Systems. 1 pole protector required for : 125 VAC, 1Ø Power System.

4 Meets the requirements of CSA 22.2 No. 100-04 - Motors and Generators.

## Electrical

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

**A-SERIES TABLE B: COMPONENT SUPPLEMENTARY PROTECTORS**

| CIRCUIT CONFIGURATION | VOLTAGE | | | CURRENT RATING | | SHORT CIRCUIT CAPACITY (AMPS) | | | | | | APPLICATION CODES | | VDE CONSTRUCTION NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | UL/CSA | | VDE | | TUV | | | | |
| | MAX. RATING | FREQUENCY | PHASE | FULL LOAD AMPS | GENERAL PURPOSE AMPS | WITH BACKUP FUSE | WITHOUT BACKUP FUSE | (Inc) WITH BACKUP FUSE | (Icn) WITHOUT BACKUP | (Inc) WITH BACKUP FUSE | (Icn) WITHOUT BACKUP | UL | CSA | |
| SERIES | 65 | DC | --- | 0.10 - 50 | --- | --- | 7500 | --- | --- | 5000 | 3000 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | World Market Breaker TUV Only |
| | 80 | DC | --- | 0.10 - 30 | --- | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Handle Version 1 Pole Only |
| | | | | 31 - 50 | 31 - 50 | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | Handle Version 1 Pole Only |
| | | | | 0.10 - 30 | --- | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 1 - 3 Poles |
| | | | | 31 - 32 | --- | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 2 Pole Only |
| | | | | 31 - 50 | 31 - 50 | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | Rocker Version 1 Pole Only |
| | 250 | 50 / 60 | 1 | 0.10 - 30 | --- | --- | 3000 | 3000 | 1500 | 5000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 1 - 3 Poles |
| | | | | 31 - 50 | 31 - 50 | --- | 3000 | --- | --- | 5000 | 1500 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | Rocker Version 1 - 3 Poles |
| | | | | 31 - 32 | --- | --- | 3000 | 6000 | 1500 | 5000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 2 Pole Only |
| | | | 1 | 0.10 - 30 | --- | --- | 3000 | 6000 | 1500 | 5000 | 1500 | TC1, OL1,U2 | TC1, OL1,U2 | Rocker Version 2 Pole Only |
| | | | 1 [4] | 1 - 50 | --- | --- | 1000 | --- | --- | 5000 | 1500 | TC1, OL1,U2 | TC3, OL1,U3 | Rocker Version 1 - 3 Poles |
| | | | 3 | 0.10 - 30 | --- | 5000 [2] | --- | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,C1 | TC1,2, OL1,C1 | Rocker Version 1 - 3 Poles |
| | | | | 31 - 50 | --- | 2000 [1] | --- | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,C1 | TC1,2, OL1,C1 | Rocker Version 1 - 3 Poles |
| DUAL COIL | 80 | DC | --- | 0.10 - 30 | --- | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 1 - 3 Poles |
| | 250 | 50 / 60 | 1 | 0.10 - 30 | --- | --- | 3000 | 3000 | 1500 | 5000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 1 - 3 Poles |
| | | | | 30 - 50 | 31 - 50 | --- | 3000 | --- | --- | 5000 | 1500 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | Rocker Version 1 - 3 Poles |
| | | | 3 | 0.10 - 30 | --- | 5000 [2] | --- | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,C1 | TC1,2, OL1,C1 | Rocker Version 1 - 3 Poles |
| | | | | 31 - 50 | --- | 2000 [1] | --- | --- | --- | 3000 | 1500 | TC1,2, OL1,C1 | TC1,2, OL1,C1 | Rocker Version 1 - 3 Poles |
| SHUNT | 80 | DC | --- | 0.10 - 30 | --- | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Handle Version 1 Pole Only |
| | | | | 0.10 - 30 | --- | --- | 7500 | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 1 - 3 Poles |
| | 250 | 50 / 60 | 1 | 0.10 - 30 | --- | --- | 3000 | 3000 | 1500 | 5000 | 1500 | TC1,2, OL1,U1 | TC1,2, OL1,U1 | Rocker Version 1 - 3 Poles |
| | | | | 30 - 50 | 31 - 50 | --- | 3000 | --- | --- | 5000 | 1500 | TC1,2, OL0,U1 | TC1,2, OL0,U1 | Rocker Version 1 - 3 Poles |
| | | | 3 | 0.10 - 30 | --- | 5000 [2] | --- | 3000 | 1500 | 3000 | 1500 | TC1,2, OL1,C1 | TC1,2, OL1,C1 | Rocker Version 1 - 3 Poles |
| | | | | 31 - 50 | --- | 2000 [1] | --- | --- | --- | 3000 | 1500 | TC1,2, OL1,C1 | TC1,2, OL1,C1 | Rocker Version 1 - 3 Poles |

Notes for Table B:
1 General Purpose Ratings for UL/CSA Only.
2 Requires branch circuit backup with a UL LISTED Type K5 or RK5 fuse (15A minimum) at no more than 4 times the rating of the protector.
3 Same as note 2, except that backup fuse is limited to 80 A maximum.
4 Meets the requirements of CSA 22.2 No. 100-04 - Motors and Generators.

Table C: 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.

**A-SERIES TABLE C: UL1500 (Marine Ignition Protected)**

| CIRCUIT CONFIGURATION | VOLTAGE | | | CURRENT RATING | SHORT CIRCUIT CAPACITY (AMPS) | APPLICATION CODES | |
|---|---|---|---|---|---|---|---|
| | MAX. RATING | FREQUENCY | PHASE | FULL LOAD AMPS | WITHOUT BACKUP FUSE | UL | CSA |
| SERIES | 14 [1] | DC | --- | 0.02 - 50 | 5000 | TC1,2,OL1,U1 | TC1,2,OL1,U1 |
| | 32 [1] | DC | --- | 0.02 - 50 | 5000 | TC1,2,OL1,U2 | TC1,2,OL1,U2 |
| | 65 | DC | --- | 0.02 - 50 | 3000 | TC1,2,OL1,U1 | TC1,2,OL1,U1 |
| | 125 / 250 | 50 / 60 | 1[2] | 0.02 - 50 | 1500 | TC1,2,OL1,U1 | TC1,2,OL1,U1 |
| | 250 | 50 / 60 | 1 | 0.02 - 30 | 1000 | TC1,2,OL1,U1 | TC1,2,OL1,U1 |

Notes for Table C:
1 Available with special catalog number only (consult factory).
2 2 pole protector required (with one pole per power line) for: 250/125 VAC, 125/250 VAC and 208Y/120 VAC Power Systems. 1 pole protector required for : 125 VAC, 1Ø Power System.

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

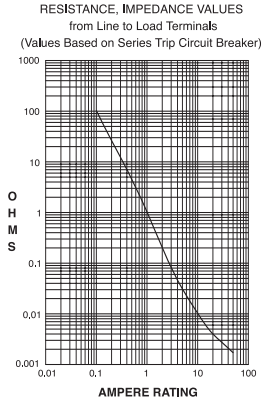
**A-SERIES TABLE D: UL489A (COMMUNICATIONS EQUIPMENT)**

| CIRCUIT CONFIGURATION | VOLTAGE | | CURRENT RATING | INTERRUPTING CAPACITY (AMPS) |
|---|---|---|---|---|
| | MAX. RATING | FREQUENCY | GENERAL PURPOSE AMPS | WITHOUT BACKUP FUSE |
| SERIES | 80 | DC | 0.10 - 50 | 5000 |
| | 80 | DC | 60 - 90 [1] | 5000 |

Notes for Table C:
1 Parallel Pole Construction

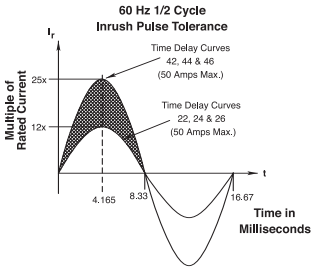
## Electrical

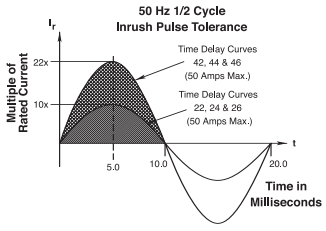
| | |
|---|---|
| Maximum Voltage | 277VAC 50/60 Hz, 80VDC |
| Current Ratings | Standard current coils: 0.100, 0.250, 0.500, 0.750, 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 50.0. Other ratings available - consult ordering scheme. |
| Standard Voltage Coils | DC-6V, 12V; AC-120V, Other ratings available, consult ordering scheme. |
| Auxiliary Switch Rating | SPDT; 10.1 A - 250VAC, 1.0 A-65VDC/0.5 A - 80 VDC, 0.1A - 125VAC (with gold contacts). |
| Insulation Resistance | Minimum: 100 Megohms at 500 VDC |
| Dielectric Strength | UL, CSA - 1500V 60 Hz for one minute between all electrically isolated terminals. A-Series rocker circuit breakers comply with the 8mm spacing & 3750V dielectric requirements from hazardous voltage to operator accessible surfaces per EN 60950 and VDE 0805. |
| Resistance, Impedance | Values from Line to Load Terminal - based on Series Trip Circuit Breaker. |




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

Pulse Tolerance Curves




## Mechanical

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

## Physical

| | |
|---|---|
| Number of Poles | 1 - 6 Poles (handle) and 1-3 poles (rocker) at 30 Amps or less. 1 and 2 poles at 31 Amps thru 50 Amps. |
| Internal Circuit Configurations | Series, (with or without auxiliary switch), Shunt and Relay with current or voltage trip coils, Dual Coil, Switch Only with or without auxiliary switch. |
| Weight | Approximately 65 grams/pole. (Approximately 2.32 ounces/pole) |
| Standard Colors | Housing - Black; Actuator- See Ordering Scheme. |

## 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 ultra-short curves tested @ 90% of rated current. |
| Vibration | Withstands 0.060" excursion from 10-55 Hz, and 10 Gs 55-500 Hz, at rated current per Method 204C, Test Condition A. Instantaneous and ultrashort curves tested at 90% of rated current. |
| Moisture Resistance | Method 106D; ten 24-hour cycles @ + 25°C to +65°C, 80-98% RH.56 days @ +85°C, 85% 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 |

| A | A | 3 | – | B | 0 | – | 10 | – | 450 | – | 1 | B | 1 | – | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Actuator Color | 10 Mounting/ Barriers | | 11 Agency Approval |

## 1 SERIES
**A**

## 2 ACTUATOR[1]
| | |
|---|---|
| **A** | Handle, one per pole |
| **B** | Handle, one per multipole unit |
| **S** | Mid-Trip Handle, one per pole |
| **T** | Mid-Trip Handle, one per pole & Alarm Switch |

## 3 POLES
| | | | | | |
|---|---|---|---|---|---|
| **1** | One | **3** | Three | **5** | Five |
| **2** | Two | **4** | Four | **6** | Six |

## 4 CIRCUIT
| | | | |
|---|---|---|---|
| **A**[2] | Switch Only (No Coil) | **F**[3] | Relay Trip (Current) |
| **B** | Series Trip (Current) | **G**[3] | Relay Trip (Voltage) |
| **C** | Series Trip (Voltage) | **H**[3,4] | Dual Coil with Shunt Trip Voltage Coil |
| **D**[3] | Shunt Trip (Current) | **K**[3,4] | Dual Coil with Relay Trip Voltage Coil |
| **E**[3] | Shunt Trip (Voltage) | | |

## 5 AUXILIARY/ALARM SWITCH[5]
| | | | |
|---|---|---|---|
| **0** | w/o Aux Switch | **5** | S.P.S.T., 0.093 Q.C. Term.(Gold Contacts) |
| **1** | S.P.D.T., 0.093 Q.C. Term. | **6** | S.P.S.T., 0.139 Solder Lug |
| **2** | S.P.D.T., 0.110 Q.C. Term. | **7** | S.P.S.T., 0.110 Q.C. Term.(Gold Contacts) |
| **3** | S.P.D.T., 0.139 Solder Lug | **8** | S.P.S.T., 0.187 Q.C. Term. |
| **4** | S.P.D.T., 0.110 Q.C. Term. (Gold Contacts) | **9** | S.P.D.T., 0.187 Q.C. Term. |

## 6 FREQUENCY & DELAY
| | | | |
|---|---|---|---|
| **03** | DC 50/60Hz, Switch Only | **30** | DC, 50/60Hz Instantaneous |
| **10**[6] | 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**[7] | 50/60Hz Short, Hi-Inrush |
| **20**[6] | 50/60Hz Instantaneous | **44**[7] | 50/60Hz Medium, Hi-Inrush |
| **21** | 50/60Hz Ultra Short | **46**[7] | 50/60Hz Long, Hi-Inrush |
| **22** | 50/60Hz Short0 | **52**[7] | DC, Short,Hi-Inrush |
| **24** | 50/60Hz Medium | **54**[7] | DC,Medium, Hi-Inrush |
| **26** | 50/60Hz Long | **56**[7] | DC, Long, Hi-Inrush |

## 7 CURRENT RATING (AMPERES)
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **020** | 0.020 | **225** | 0.250 | **420** | 2.000 | **611** | 11.000 |
| **025** | 0.025 | **230** | 0.300 | **522** | 2.250 | **711** | 11.500 |
| **030** | 0.030 | **235** | 0.350 | **527** | 2.750 | **612** | 12.000 |
| **035** | 0.035 | **240** | 0.400 | **430** | 3.000 | **712** | 12.500 |
| **040** | 0.040 | **245** | 0.450 | **435** | 3.500 | **613** | 13.000 |
| **045** | 0.045 | **250** | 0.500 | **440** | 4.000 | **614** | 14.000 |
| **050** | 0.050 | **255** | 0.550 | **445** | 4.500 | **615** | 15.000 |
| **055** | 0.055 | **260** | 0.600 | **450** | 5.000 | **616** | 16.000 |
| **060** | 0.060 | **265** | 0.650 | **455** | 5.500 | **617** | 17.000 |
| **065** | 0.065 | **270** | 0.700 | **460** | 6.000 | **618** | 18.000 |
| **070** | 0.070 | **275** | 0.750 | **465** | 6.500 | **620** | 20.000 |
| **075** | 0.075 | **280** | 0.800 | **470** | 7.000 | **622** | 22.000 |
| **080** | 0.080 | **285** | 0.850 | **475** | 7.500 | **624** | 24.000 |
| **085** | 0.085 | **290** | 0.900 | **480** | 8.000 | **625** | 25.000 |
| **090** | 0.090 | **295** | 0.950 | **485** | 8.500 | **630** | 30.000 |
| **095** | 0.095 | **410** | 1.000 | **490** | 9.000 | **635**[8] | 35.000 |
| **210** | 0.100 | **512** | 1.250 | **495** | 9.500 | **640**[8] | 40.000 |
| **215** | 0.150 | **415** | 1.500 | **610** | 10.000 | **645**[8] | 45.000 |
| **220** | 0.200 | **517** | 1.750 | **710** | 10.500 | **650**[8] | 50.000 |

### *OR* VOLTAGE COIL (NOMINAL RATED VOLTAGE)[6]
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A06** | 6 DC | **A32** | 32 DC | **J12** | 12 AC | **J65** | 65 AC |
| **A12** | 12 DC | **A48** | 48 DC | **J18** | 18 AC | **K20** | 120 AC |
| **A18** | 18 DC | **A65** | 65 DC | **J24** | 24 AC | **L40** | 240 AC |
| **A24** | 24 DC | **J06** | 6 AC | **J48** | 48 AC | | |

## 8 TERMINAL[9]
| | | | |
|---|---|---|---|
| **1**[10] | Push-On 0.250 Tab (Q.C.) | **E**[11] | Screw M4 (Bus Type) |
| **2** | Screw 8-32 w/upturned lugs | **F** | Screw M5 w/upturned lugs and 30° bend |
| **3**[11] | Screw 8-32 (Bus Type) | **G** | Screw M5 (Bus Type) and 30° bend |
| **4** | Screw 10-32 w/upturned lugs | **H**[11] | Screw M5 (Bus Type) |
| **5**[11] | Screw 10-32 (Bus Type) | **L**[12] | 0.250 Q.C./ Solder Lug |
| **6** | Screw 8-32 w/upturned lugs and 30° bend | **M**[11] | M6 Threaded Stud |
| **7** | Screw 8-32 (Bus Type) and 30° bend | **Q**[14] | Push-In Stud |
| **8** | Screw 10-32 w/upturned lugs and 30° bend | **R** | Screw M4 w/upturned lugs and 30° bend |
| **9** | Screw 10-32 (Bus Type) and 30° bend | **T**[11] | Screw M4 (Bus Type) and 30° bend |
| **B** | Screw M5 w/upturned lugs | **P**[13] | Printed Circuit Board Terminals |
| **C** | Screw M4 w/upturned lugs | **S**[13] | Push-On 0.110 Tab (Q.C.) |

## 9 ACTUATOR COLOR & LEGEND
| Actuator Color | I-O | ON-OFF | Dual | Legend Color |
|---|---|---|---|---|
| White | **A** | **B** | **1** | Black |
| Black | **C** | **D** | **2** | White |
| Red | **F** | **G** | **3** | White |
| Green | **H** | **J** | **4** | White |
| Blue | **K** | **L** | **5** | White |
| Yellow | **M** | **N** | **6** | Black |
| Gray | **P** | **Q** | **7** | Black |
| Orange | **R** | **S** | **8** | Black |
| Black (short handle)[15] | **T** | **U** | **9** | White |

## 10 MOUNTING/BARRIERS
| | MOUNTING STYLE | BARRIERS |
|---|---|---|
| | ***Threaded Inserts, 2 per pole*** | |
| **1** | 6-32 x 0.195 inches | no |
| **A** | 6-32 X 0.195 inches | yes |
| **2** | ISO M3 x 5mm | no |
| **B** | ISO M3 x 5mm (multipole only) | yes |
| | ***Front panel Snap-In, 0.75" wide bezel*** | |
| **5** | without Handleguard | no |
| **6** | without Handleguard (multipole only) | yes |
| | ***Front panel Snap-In, 0.96" wide bezel*** | |
| **7** | without Handleguard, 1-pole 0.96" wide; multipole units have .105" bezel overhang on all sides | no |
| **8** | without Handleguard, 1-pole 0.96" wide; (multipole only) .105" bezel overhang on all sides | yes |

## 11 AGENCY APPROVAL
| | |
|---|---|
| **C** | UL Recognized & CSA Accepted |
| **D** | VDE Certified, UL Recognized & CSA Accepted |
| **E** | TUV Certified, UL Recognized & CSA Accepted |
| **I** | UL Rec. STD 1077, UL Rec. 1500 (ignition protected), & CSA Accepted |

Notes:

1 Actuator Code:
A: Handle tie pin spacer(s) and retainers provided unassembled 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.

2 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.

3 Available with terminal Codes 1, 2 and 3. Current Rating limited to 30 amps maximum.

4 Consult factory for available Dual Coil options, as special catalog number is required. With Shunt construction, Dual Coils will trip instantaneously on line voltage. Dual coils require 30VA minimum power to trip and are rated for intermittent duty only.

5 Auxiliary Switch breakers with Series Trip & Switch Only circuits: ≤ 30A - supplied with standard half shells. 35-50A - supplied with extended boat (B-Style) half shells.
On multi-pole breakers, one auxilary switch is supplied, mounted in the extreme right pole.

6 Separate pole type voltage coils not rated for continuous duty. Available only with delay codes 10 and 20.

7 Available with Circuit Codes B & D only. VDE Certified to 30 amps. UL Recognized, CSA Accepted & TUV Certified to 50 amps.

8 VDE Certification available with single pole breakers with DC Delay only. UL Recognition and CSA Accepted available in one and two pole breakers.

9 Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9, G, H, M and Q..

10 Terminal Code 1: VDE Certification up to 25 amps and UL Recognition and CSA Certification up to 30 amps, but not recommended over 20 amps.

11 Terminal Codes 3, 5, E and H (Bus Type) with VDE, are supplied with Lock Washers, and Terminal Code M (M6 Threaded Stud) with VDE is supplied with Lock and Flat Washers. These breakers are only VDE Certified when the washers are used.

12 Terminal Code L: VDE Certified available up to 12A. UL Recognized & CSA Accepted available up to 30A.

13 Single pole breakers with Terminal Code P (Printed Circuit Board) are available up to 30 amps with VDE Certification and 50 amps with UL Recognition and CSA Accepted, with Circuit Codes A, B and C. Two pole breakers with Terminal Code P (Printed Circuit Board) are available up to 40 amps with UL Recognition and CSA Accepted with Circuit Codes A, B and C.

14 Terminal Code Q not available with VDE certification.

15 Single pole only.

| A | A | 1 | – | B | 0 | – | 14 | – | 450 | – | 1 | B | 1 | – | M | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Actuator Color | 10 Mounting/ Barriers | | 11 Max. Appl. Rating | 12 Agency Approval |

### 1 SERIES
**A**

### 2 ACTUATOR[1]
| | |
|---|---|
| **A** | Handle, one per pole |
| **S** | Mid-Trip Handle, one per pole |
| **T** | Mid-Trip Handle, one per pole & Alarm Switch |

### 3 POLES[2]
**1** One **2** Two **3** Three **4** Four

### 4 CIRCUIT
| | |
|---|---|
| **B** | Series Trip (Current) |

### 5 AUXILIARY/ALARM SWITCH[2]
| | | | |
|---|---|---|---|
| **0** | w/o Aux Switch | **7** | S.P.S.T., 0.110 Q.C. Term.(Gold Contacts) |
| **1** | S.P.D.T., 0.093 Q.C. Term. | **8** | S.P.S.T., 0.187 Q.C. Term. |
| **2** | S.P.D.T., 0.110 Q.C. Term. | **9** | S.P.D.T., 0.187 Q.C. Term. |
| **3** | S.P.D.T., 0.139 Solder Lug | | |

### 6 FREQUENCY & DELAY
| | | | |
|---|---|---|---|
| **11** | DC Ultra Short | **52**[3] | DC, Short,Hi-Inrush |
| **12** | DC Short | **54**[3] | DC, Medium, Hi-Inrush |
| **14** | DC Medium | **56**[3] | DC, Long, Hi-Inrush |
| **16** | DC Long | | |

### 7 CURRENT RATING (AMPERES)
| | | | | | |
|---|---|---|---|---|---|
| **210** | 0.100 | **415** | 1.500 | **710** | 10.500 |
| **215** | 0.150 | **517** | 1.750 | **611** | 11.000 |
| **220** | 0.200 | **420** | 2.000 | **711** | 11.500 |
| **225** | 0.250 | **522** | 2.250 | **612** | 12.000 |
| **230** | 0.300 | **527** | 2.750 | **712** | 12.500 |
| **235** | 0.350 | **430** | 3.000 | **613** | 13.000 |
| **240** | 0.400 | **435** | 3.500 | **614** | 14.000 |
| **245** | 0.450 | **440** | 4.000 | **615** | 15.000 |
| **250** | 0.500 | **445** | 4.500 | **616** | 16.000 |
| **255** | 0.550 | **450** | 5.000 | **617** | 17.000 |
| **260** | 0.600 | **455** | 5.500 | **618** | 18.000 |
| **265** | 0.650 | **460** | 6.000 | **620** | 20.000 |
| **270** | 0.700 | **465** | 6.500 | **622** | 22.000 |
| **275** | 0.750 | **470** | 7.000 | **624** | 24.000 |
| **280** | 0.800 | **475** | 7.500 | **625** | 25.000 |
| **285** | 0.850 | **480** | 8.000 | **630** | 30.000 |
| **290** | 0.900 | **485** | 8.500 | **635**[4] | 35.000 |
| **295** | 0.950 | **490** | 9.000 | **640**[4] | 40.000 |
| **410** | 1.000 | **495** | 9.500 | **645**[4] | 45.000 |
| **512** | 1.250 | **610** | 10.000 | **650**[4] | 50.000 |

### 8 TERMINAL[5]
| | | | |
|---|---|---|---|
| **1**[6] | Push-On 0.250 Tab (Q.C.) | **9** | Screw 10-32 (Bus Type) and 30° bend |
| **2** | Screw 8-32 w/upturned lugs | **B** | Screw M5 w/upturned lugs |
| **3**[7] | Screw 8-32 (Bus Type) | **F** | Screw M5 w/upturned lugs and 30° bend |
| **4** | Screw 10-32 w/upturned lugs | **G** | Screw M5 (Bus Type) and 30° bend |
| **5**[7] | Screw 10-32 (Bus Type) | **H** | Screw M5 (Bus Type) |
| **6** | Screw 8-32 w/upturned lugs and 30° bend | **M**[7] | M6 Threaded Stud |
| **7** | Screw 8-32 (Bus Type) and 30° bend | **P**[8] | Printed Circuit Board Terminals |
| **8** | Screw 10-32 w/upturned lugs and 30° bend | **Q**[9] | Push-In Stud |

### 9 ACTUATOR COLOR
| | LEGEND ON-OFF | Dual | Legend Color |
|---|---|---|---|
| White | **B** | **1** | Black |
| Black | **D** | **2** | White |
| Red | **G** | **3** | White |
| Green | **J** | **4** | White |
| Blue | **L** | **5** | White |
| Yellow | **N** | **6** | Black |
| Gray | **Q** | **7** | Black |
| Orange | **S** | **8** | Black |
| Black (short handle)[10] | **U** | **9** | White |

### 10 MOUNTING/BARRIERS
| | MOUNTING STYLE | BARRIERS |
|---|---|---|
| | ***Threaded Insert, 2 per pole*** | |
| **1** | 6-32 x 0.195 inches | no |
| **A** | 6-32 X 0.195 inches | yes |
| **2** | ISO M3 x 5mm | no |
| **B** | ISO M3 x 5mm (multipole only) | yes |
| | ***Front panel Snap-In, 0.75" wide bezel*** | |
| **5** | without Handleguard | no |
| **6** | without Handleguard (multipole only) | yes |
| | ***Front panel Snap-In, 0.96" wide bezel*** | |
| **7** | without Handleguard, 1-pole 0.96" wide; multipole units have .105" bezel overhang on all sides | no |
| **8** | without Handleguard, 1-pole 0.96" wide; (multipole only) .105" bezel overhang on all sides | yes |

### 11 MAXIMUM APPLICATION RATING
| | |
|---|---|
| **M** | 80 DC |

### 12 AGENCY APPROVAL
| | |
|---|---|
| **T** | UL489A LISTED |
| **K** | UL489A LISTED, VDE CERTIFIED |
| **J** | UL489A LISTED, TUV CERTIFIED |

Notes:
1. Actuator Code:
   A: Handle tie pin spacer(s) and retainers provided unassembled 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.
2. On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
3. VDE Certified to 30 amps. UL489A Listed to 50 amps.
4. VDE Certification available with single pole breakers only. UL489A Listing available with one and two pole breakers.
5. Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9 G, H, M and Q.
6. Terminal Code 1 (Push-On) available up to 25 amps with VDE Certification and 30 amps with UL489A Listing, but is not recommended over 20 amps.
7. Terminal Codes 3, 5 and H (Bus Type) with VDE, are supplied with Lock Washers, and Terminal Code M (M6 Threaded Stud) with VDE is supplied with Lock and Flat Washers. These breakers are only VDE Certified when the washers are used.
8. Single pole breakers with Terminal Code P (Printed Circuit Board) are available up to 30 amps with VDE Certification and 50 amps with UL489A Listing.
9. Terminal Code Q not available with VDE certification.
10. Single pole only.

| A | A | 3 | – | B | 0 | – | 14 | – | 450 | – | 1 | A | 1 | – | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Actuator Color | 10 Mounting/ Barriers | | 11 Agency Approval |

### 1 SERIES
**A**

### 2 ACTUATOR[1]
| | |
|---|---|
| **A** | Handle, one per pole |
| **S** | Mid-Trip Handle, one per pole |
| **T** | Mid-Trip Handle, one per pole & Alarm Switch |

### 3 POLES
| | | | | | |
|---|---|---|---|---|---|
| **1** | One | **3** | Three | **5** | Five |
| **2** | Two | **4** | Four | **6** | Six |

### 4 CIRCUIT
| | | | |
|---|---|---|---|
| **A**[2] | Switch Only (No Coil) | **D**[3] | Shunt Trip (Current) |
| **B** | Series Trip (Current) | **E**[3] | Shunt Trip (Voltage) |
| **C** | Series Trip (Voltage) | **H**[3,4] | Dual Coil with Shunt Trip Voltage Coil |

### 5 AUXILIARY/ALARM SWITCH[5]
| | | | |
|---|---|---|---|
| **0** | w/o Aux Switch | **4** | S.P.D.T., 0.110 Q.C. Term. (Gold Contacts) |
| **2** | S.P.D.T., 0.110 Q.C. Term. | | |
| **3** | S.P.D.T., 0.139 Solder Lug | | |

### 6 FREQUENCY & DELAY
| | | | |
|---|---|---|---|
| **03** | DC 50/60Hz, Switch Only | **30** | DC, 50/60Hz Instantaneous |
| **10**[6] | 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**[7] | 50/60Hz Short, Hi-Inrush |
| **20**[6] | 50/60Hz Instantaneous | **44**[7] | 50/60Hz Medium, Hi-Inrush |
| **21** | 50/60Hz Ultra Short | **46**[7] | 50/60Hz Long, Hi-Inrush |
| **22** | 50/60Hz Short0 | **52**[7] | DC, Short,Hi-Inrush |
| **24** | 50/60Hz Medium | **54**[7] | DC,Medium, Hi-Inrush |
| **26** | 50/60Hz Long | **56**[7] | DC, Long, Hi-Inrush |

### 7 CURRENT RATING (AMPERES)
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **210** | 0.100 | **285** | 0.850 | **455** | 5.500 | **613** | 13.000 |
| **215** | 0.150 | **290** | 0.900 | **460** | 6.000 | **614** | 14.000 |
| **220** | 0.200 | **295** | 0.950 | **465** | 6.500 | **615** | 15.000 |
| **225** | 0.250 | **410** | 1.000 | **470** | 7.000 | **616** | 16.000 |
| **230** | 0.300 | **512** | 1.250 | **475** | 7.500 | **617** | 17.000 |
| **235** | 0.350 | **415** | 1.500 | **480** | 8.000 | **618** | 18.000 |
| **240** | 0.400 | **517** | 1.750 | **485** | 8.500 | **620** | 20.000 |
| **245** | 0.450 | **420** | 2.000 | **490** | 9.000 | **622** | 22.000 |
| **250** | 0.500 | **522** | 2.250 | **495** | 9.500 | **624** | 24.000 |
| **255** | 0.550 | **527** | 2.750 | **610** | 10.000 | **625** | 25.000 |
| **260** | 0.600 | **430** | 3.000 | **710** | 10.500 | **630** | 30.000 |
| **265** | 0.650 | **435** | 3.500 | **611** | 11.000 | **635**[8] | 35.000 |
| **270** | 0.700 | **440** | 4.000 | **711** | 11.500 | **640**[8] | 40.000 |
| **275** | 0.750 | **445** | 4.500 | **612** | 12.000 | **645**[8] | 45.000 |
| **280** | 0.800 | **450** | 5.000 | **712** | 12.500 | **650**[8] | 50.000 |

### *OR* VOLTAGE COIL (NOMINAL RATED VOLTAGE)[6]
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A06** | 6 DC | **A32** | 32 DC | **J12** | 12 AC | **J65** | 65 AC |
| **A12** | 12 DC | **A48** | 48 DC | **J18** | 18 AC | **K20** | 120 AC |
| **A18** | 18 DC | **A65** | 65 DC | **J24** | 24 AC | **L40** | 240 AC |
| **A24** | 24 DC | **J06** | 6 AC | **J48** | 48 AC | | |

### 8 TERMINAL[9]
| | | | |
|---|---|---|---|
| **1**[10] | Push-On 0.250 Tab (Q.C.) | **B** | Screw M5 w/upturned lugs |
| **2** | Screw 8-32 w/upturned lugs | **C** | Screw M4 w/upturned lugs |
| **3**[11] | Screw 8-32 (Bus Type) | **E**[11] | Screw M4 (Bus Type) |
| **4** | Screw 10-32 w/upturned lugs | **F** | Screw M5 w/upturned lugs and 30° bend |
| **5**[11] | Screw 10-32 (Bus Type) | **G** | Screw M5 (Bus Type) and 30° bend |
| **6** | Screw 8-32 w/upturned lugs and 30° bend | **H**[11] | Screw M5 (Bus Type) |
| **7** | Screw 8-32 (Bus Type) and 30° bend | **R** | Screw M4 w/upturned lugs and 30° bend |
| **8** | Screw 10-32 w/upturned lugs and 30° bend | **T**[11] | Screw M4 (Bus Type) and 30° bend |
| **9** | Screw 10-32 (Bus Type) and 30° bend | | |

### 9 ACTUATOR COLOR & LEGEND
| Actuator Color | I-O | Dual | Legend Color |
|---|---|---|---|
| White | **A** | **1** | Black |
| Black | **C** | **2** | White |
| Red | **F** | **3** | White |
| Green | **H** | **4** | White |
| Blue | **K** | **5** | White |
| Yellow | **M** | **6** | Black |
| Gray | **P** | **7** | Black |
| Orange | **R** | **8** | Black |

### 10 MOUNTING/BARRIERS
| | MOUNTING STYLE | BARRIERS |
|---|---|---|
| | ***Threaded Inserts, 2 per pole*** | |
| **1** | 6-32 x 0.195 inches | no |
| **A** | 6-32 X 0.195 inches | yes |
| **2** | ISO M3 x 5mm | no |
| **B** | ISO M3 x 5mm (multipole only) | yes |
| | ***Front panel Snap-In, 0.75" wide bezel*** | |
| **5** | without Handleguard | no |
| **6** | without Handleguard (multipole only) | yes |
| | ***Front panel Snap-In, 0.96" wide bezel*** | |
| **7** | without Handleguard, 1-pole 0.96" wide; multipole units have .105" bezel overhang on all sides | no |
| **8** | without Handleguard, 1-pole 0.96" wide; (multipole only) .105" bezel overhang on all sides | yes |

### 11 AGENCY APPROVAL
| | |
|---|---|
| **P** | TUV Certified, UL Recognized & CSA Accepted |
| **Q** | UL Rec. STD 1077, UL Rec. 1500 (ignition protected), & CSA Accepted |

Notes:
1. Actuator Code:
   A: Handle tie pin spacer(s) and retainers provided unassembled with multi-pole units.
   S: Handle moves to mid-position only upon electrical trip of the breaker. Available with circuit codes B, C, D, E, and H.
   T: Handle moves to mid-position and alarm switch activates only upon electrical trip of the breaker. Available with circuit codes B & C.
2. Switch Only circuits, rated up to 50 amps and 6 poles, and only available when tied to a protected pole (Circuit Code B, C, D or H.), For .01 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650.
3. Available with terminal Codes 1, 2 and 3. Current Rating limited to 30 amps maximum.
4. Consult factory for available Dual Coil options, as special catalog number is required. With Shunt construction, Dual Coils will trip instantaneously on line voltage. Dual coils require 30VA minimum power to trip and are rated for intermittent duty only.
5. On multi-pole breakers, one auxilary switch is supplied, mounted in the extreme right pole.
6. Separate pole type voltage coils not rated for continuous duty. Available only with delay codes 10, 20 & 30.
7. Available with Circuit Codes B & D only. VDE Certified to 30 amps. UL Recognized, CSA Accepted & TUV Certified to 50 amps.
8. Available up to two poles with AC or DC delays.
9. Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9, G and H.
10. Terminal Code 1: TUV Certification up to 30 amps, but not recommended over 20 amps.
11. Terminal Codes 3, 5 , 7, 9, E, G and H (Bus Type) are supplied with Lock Washers. These breakers are ONLY TUV Certified when the washers are used.

| A | M | 1 | – | B | 0 | – | 10 | – | 450 | – | 1 | 0 | 1 | – | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Legend Plate | 10 Mounting/ Barriers | | 11 Agency Approval |

### 1 SERIES
**A**

### 2 ACTUATOR[1]
**M** Sealed Toggle, one per unit

### 3 POLES
**1** One
**2** Two
**3** Three

### 4 CIRCUIT
**A**[2] Switch Only (No Coil)
**B** Series Trip (Current)
**C** Series Trip (Voltage)
**D**[3] Shunt Trip (Current)
**E**[3] Shunt Trip (Voltage)
**F**[3] Relay Trip (Current)
**G**[3] Relay Trip (Voltage)
**H**[3,4] Dual Coil with Shunt Trip Voltage Coil
**K**[3,4] Dual Coil with Relay Trip Voltage Coil

### 5 AUXILIARY/ALARM SWITCH[5]
**0** w/o Aux Switch
**1** S.P.D.T., 0.093 Q.C. Term.
**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., 0.093 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
**03** DC 50/60Hz, Switch Only
**10**[6] DC Instantaneous
**11** DC Ultra Short
**12** DC Short
**14** DC Medium
**16** DC Long
**20**[6] 50/60Hz Instantaneous
**21** 50/60Hz Ultra Short
**22** 50/60Hz Short0
**24** 50/60Hz Medium
**26** 50/60Hz Long
**30** DC, 50/60Hz Instantaneous
**31** DC, 50/60Hz Ultra Short
**32** DC, 50/60Hz Short
**34** DC, 50/60Hz Medium
**36** DC, 50/60Hz Long
**42**[7] 50/60Hz Short, Hi-Inrush
**44**[7] 50/60Hz Medium, Hi-Inrush
**46**[7] 50/60Hz Long, Hi-Inrush
**52**[7] DC, Short,Hi-Inrush
**54**[7] DC,Medium, Hi-Inrush
**56**[7] DC, Long, Hi-Inrush

### 7 CURRENT RATING (AMPERES)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **020** | 0.020 | **225** | 0.250 | **420** | 2.000 | **611** | 11.000 |
| **025** | 0.025 | **230** | 0.300 | **522** | 2.250 | **711** | 11.500 |
| **030** | 0.030 | **235** | 0.350 | **527** | 2.750 | **612** | 12.000 |
| **035** | 0.035 | **240** | 0.400 | **430** | 3.000 | **712** | 12.500 |
| **040** | 0.040 | **245** | 0.450 | **435** | 3.500 | **613** | 13.000 |
| **045** | 0.045 | **250** | 0.500 | **440** | 4.000 | **614** | 14.000 |
| **050** | 0.050 | **255** | 0.550 | **445** | 4.500 | **615** | 15.000 |
| **055** | 0.055 | **260** | 0.600 | **450** | 5.000 | **616** | 16.000 |
| **060** | 0.060 | **265** | 0.650 | **455** | 5.500 | **617** | 17.000 |
| **065** | 0.065 | **270** | 0.700 | **460** | 6.000 | **618** | 18.000 |
| **070** | 0.070 | **275** | 0.750 | **465** | 6.500 | **620** | 20.000 |
| **075** | 0.075 | **280** | 0.800 | **470** | 7.000 | **622** | 22.000 |
| **080** | 0.080 | **285** | 0.850 | **475** | 7.500 | **624** | 24.000 |
| **085** | 0.085 | **290** | 0.900 | **480** | 8.000 | **625** | 25.000 |
| **090** | 0.090 | **295** | 0.950 | **485** | 8.500 | **630** | 30.000 |
| **095** | 0.095 | **410** | 1.000 | **490** | 9.000 | **635**[8] | 35.000 |
| **210** | 0.100 | **512** | 1.250 | **495** | 9.500 | **640**[8] | 40.000 |
| **215** | 0.150 | **415** | 1.500 | **610** | 10.000 | **645**[8] | 45.000 |
| **220** | 0.200 | **517** | 1.750 | **710** | 10.500 | **650**[8] | 50.000 |

### *OR* VOLTAGE COIL (NOMINAL RATED VOLTAGE)[6]

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

### 8 TERMINAL[9]
**1**[10] Push-On 0.250 Tab (Q.C.)
**2** Screw 8-32 w/upturned lugs
**3** Screw 8-32 (Bus Type)
**4** Screw 10-32 w/upturned lugs
**5** Screw 10-32 (Bus Type)
**6** Screw 8-32 w/upturned lugs and 30° bend
**7** Screw 8-32 (Bus Type) and 30° bend
**8** Screw 10-32 w/upturned lugs and 30° bend
**9** Screw 10-32 (Bus Type) and 30° bend
**B** Screw M5 w/upturned lugs
**C** Screw M4 w/upturned lugs
**E** Screw M4 (Bus Type)
**F** Screw M5 w/upturned lugs and 30° bend
**G** Screw M5 (Bus Type) and 30° bend
**H** Screw M5 (Bus Type)
**L**[11] 0.250 Q.C./ Solder Lug
**M** M6 Threaded Stud
**Q** Push-In Stud
**R** Screw M4 w/upturned lugs and 30° bend
**T** Screw M4 (Bus Type) and 30° bend
**P**[12] Printed Circuit Board Terminals
**S**[12] Push-On 0.110 Tab (Q.C.)

### 9 LEGEND PLATE
**0** No legend plate

### 10 MOUNTING/BARRIERS

| | MOUNTING STYLE | BARRIERS |
|---|---|---|
| **1** | Standard Hex Nut | no |
| **A** | Standard Hex Nut (multipole only) | yes |

### 11 AGENCY APPROVAL
**C** UL Recognized & CSA Accepted

Notes:
1 Actuator Code M: Handle location as viewed from front of panel:
2 pole - right pole 3 pole - center pole
2 Switch Only circuits, rated up to 50 amps and 3 poles. For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650.
3 Available with terminal Codes 1, 2 and 3. Current Rating limited to 30 amps maximum.
4 Consult factory for available Dual Coil options, as special catalog number is required. With Shunt construction, Dual Coils will trip instantaneously on line voltage. Dual coils require 30VA minimum power to trip and are rated for intermittent duty only.
5 Auxiliary Switch available on Series Trip & Switch Only circuits, limited to 30 amps. On multi-pole breakers, one auxilary switch is supplied, mounted in the extreme right pole.
6 Voltage coils not rated for continuous duty. Available only with delay codes 10 and 20.
7 Available with Circuit Codes B & D only. VDE Certified to 30 amps. UL Recognized, CSA Accepted & TUV Certified to 50 amps.
8 UL Recognition and CSA Certification available on one and two pole breakers.
9 Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9, G, H, M and Q..
10 Terminal Code 1: UL Recognition and CSA Certification up to 30 amps, but not recommended over 20 amps.
11 Terminal Code L : available up to 30A.
12 Single pole breakers with Terminal Code P (Printed Circuit Board) are available up to 50 amps, with Circuit Codes A, B and C. Two pole breakers with Terminal Code P (Printed Circuit Board) are available up to 40 amps with Circuit Codes A, B and C.

| A | F | 1 | – | B | 0 | – | 24 | – | 630 | – | 2 | 3 | 1 | – | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Actuator Color | 10 Mounting/ Barriers | | 11 Agency Approval |

## 1 SERIES
**A**

## 2 ACTUATOR [1]

***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 |

***Push-To-Reset, Visi-Rocker***

| | |
|---|---|
| **N** | Indicate OFF, vertical legend |
| **O** | Indicate OFF, horizontal legend |
| **P** | Indicate OFF, no legend |

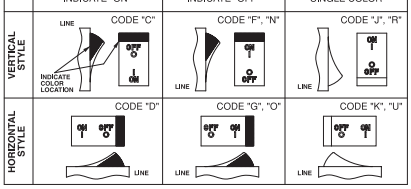
***Single color***

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

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

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

**ROCKER STYLE DESCRIPTIONS**




## 3 POLES [2]

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

## 4 CIRCUIT

| | | | |
|---|---|---|---|
| **A** [3] | Switch Only (No Coil) | **F** [4] | Relay Trip (Current) |
| **B** | Series Trip (Current) | **G** [4] | Relay Trip (Voltage) |
| **C** | Series Trip (Voltage) | **H** [4, 5] | Dual Coil with Shunt Trip Voltage Coil |
| **D** [4] | Shunt Trip (Current) | **K** [4, 5] | Dual Coil with Relay Trip Voltage Coil |
| **E** [4] | Shunt Trip (Voltage) | | |

## 5 AUXILIARY/ALARM SWITCH [6, 7]

| | | | |
|---|---|---|---|
| **0** | w/o Aux Switch | **5** | S.P.S.T., 0.093 Q.C. Term.(Gold Contacts) |
| **1** | S.P.D.T., 0.093 Q.C. Term. | **6** | S.P.S.T., 0.139 Solder Lug |
| **2** | S.P.D.T., 0.110 Q.C. Term. | **7** | S.P.S.T., 0.110 Q.C. Term.(Gold Contacts) |
| **3** | S.P.D.T., 0.139 Solder Lug | **8** | S.P.S.T., 0.187 Q.C. Term. |
| **4** | S.P.D.T., 0.110 Q.C. Term. (Gold Contacts) | **9** | S.P.D.T., 0.187 Q.C. Term. |

## 6 FREQUENCY & DELAY

| | | | |
|---|---|---|---|
| **03** | DC 50/60Hz, Switch Only | **30** | DC, 50/60Hz Instantaneous |
| **10** [8] | 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** [9] | 50/60Hz Short, Hi-Inrush |
| **20** [8] | 50/60Hz Instantaneous | **44** [9] | 50/60Hz Medium, Hi-Inrush |
| **21** | 50/60Hz Ultra Short | **46** [9] | 50/60Hz Long, Hi-Inrush |
| **22** | 50/60Hz Short | **52** [9] | DC, Short,Hi-Inrush |
| **24** | 50/60Hz Medium | **54** [9] | DC,Medium, Hi-Inrush |
| **26** | 50/60Hz Long | **56** | DC, Long, Hi-Inrush |

## 7 CURRENT RATING (AMPERES)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **020** | 0.020 | **225** | 0.250 | **420** | 2.000 | **611** | 11.000 |
| **025** | 0.025 | **230** | 0.300 | **522** | 2.250 | **711** | 11.500 |
| **030** | 0.030 | **235** | 0.350 | **527** | 2.750 | **612** | 12.000 |
| **035** | 0.035 | **240** | 0.400 | **430** | 3.000 | **712** | 12.500 |
| **040** | 0.040 | **245** | 0.450 | **435** | 3.500 | **613** | 13.000 |
| **045** | 0.045 | **250** | 0.500 | **440** | 4.000 | **614** | 14.000 |
| **050** | 0.050 | **255** | 0.550 | **445** | 4.500 | **615** | 15.000 |
| **055** | 0.055 | **260** | 0.600 | **450** | 5.000 | **616** | 16.000 |
| **060** | 0.060 | **265** | 0.650 | **455** | 5.500 | **617** | 17.000 |
| **065** | 0.065 | **270** | 0.700 | **460** | 6.000 | **618** | 18.000 |
| **070** | 0.070 | **275** | 0.750 | **465** | 6.500 | **620** | 20.000 |
| **075** | 0.075 | **280** | 0.800 | **470** | 7.000 | **622** | 22.000 |
| **080** | 0.080 | **285** | 0.850 | **475** | 7.500 | **624** | 24.000 |
| **085** | 0.085 | **290** | 0.900 | **480** | 8.000 | **625** | 25.000 |
| **090** | 0.090 | **295** | 0.950 | **485** | 8.500 | **630** | 30.000 |
| **095** | 0.095 | **410** | 1.000 | **490** | 9.000 | **635** [10] | 35.000 |
| **210** | 0.100 | **512** | 1.250 | **495** | 9.500 | **640** [10] | 40.000 |
| **215** | 0.150 | **415** | 1.500 | **610** | 10.000 | **645** [10] | 45.000 |
| **220** | 0.200 | **517** | 1.750 | **710** | 10.500 | **650** [10] | 50.000 |

***OR* VOLTAGE COIL (NOMINAL RATED VOLTAGE)**

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

## 8 TERMINAL [11]

| | | | |
|---|---|---|---|
| **1** [12] | Push-On 0.250 Tab (Q.C.) | **E** [13] | Screw M4 (Bus Type) |
| **2** | Screw 8-32 w/upturned lugs | **F** | Screw M5 w/upturned lugs and 30° bend |
| **3** [13] | Screw 8-32 (Bus Type) | **G** | Screw M5 (Bus Type) and 30° bend |
| **4** | Screw 10-32 w/upturned lugs | **H** [13] | Screw M5 (Bus Type) |
| **5** [13] | Screw 10-32 (Bus Type) | **L** [14] | 0.250 Q.C./ Solder Lug |
| **6** | Screw 8-32 w/upturned lugs and 30° bend | **M** [13] | M6 Threaded Studs |
| **7** | Screw 8-32 (Bus Type) and 30° bend | **P** [15] | Printed Circuit Board Terminals |
| **8** | Screw 10-32 w/upturned lugs and 30° bend | **Q** [16] | Push-In Stud |
| **9** | Screw 10-32 (Bus Type) and 30° bend | **R** | Screw M4 w/upturned lugs and 30° bend |
| **B** | Screw M5 w/upturned lugs | **S** [17] | Push-On 0.110 Tab (Q.C.) |
| **C** | Screw M4 w/upturned lugs | **T** | Screw M4 (Bus Type) and 30° bend |

## 9 ACTUATOR COLOR & LEGEND

| *Actuator or* | *Marking:* | | | *Marking Color:* | |
|---|---|---|---|---|---|
| *Visi-Color* [12] | I-O | ON-OFF | Dual [12] | Single Color | Visi-Rocker |
| 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 [20]

| | | BARRIERS |
|---|---|---|
| | **STANDARD ROCKER BEZEL**, ***Threaded Insert, 2 per pole*** | |
| **1** | 6-32 x 0.195 inches | no |
| **A** | 6-32 X 0.195 inches (multi-pole units only) | yes |
| **2** | ISO M3 x 5mm | no |
| **B** | ISO M3 x 5mm (multi-pole units only) | yes |
| | **ROCKERGUARD & PUSH-TO-RESET BEZEL**, ***Threaded Insert, 2 per pole*** | |
| **3** | 6-32 x 0.195 inches | no |
| **C** | 6-32 x 0.195 inches (multi-pole units only) | yes |
| **4** | ISO M3 x 5mm | no |
| **D** | ISO M3 x 5mm (multi-pole units only) | yes |
| | **FRONT PANEL SNAP-IN BRACKET, *0.744" wide bezel*** | |
| **8** | without Rockerguard (single pole units only) | no |
| **H** | with Rockerguard (single pole units only) | no |
| | **FRONT PANEL SNAP-IN BRACKET, *0.96" wide bezel*** | |
| **9** | without Rockerguard (single pole units only) | no |
| **J** | with Rockerguard (single pole units only) | no |

## 11 AGENCY APPROVAL

| | |
|---|---|
| **C** | UL Recognized & CSA Accepted |
| **D** | VDE Certified, UL Recognized & CSA Accepted |
| **E** | TUV Certified, UL Recognized & CSA Accepted |
| **I** | UL Rec. STD 1077, UL Rec. 1500 (ignition protected), & CSA Accepted |

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. Switch Only circuits, rated up to 50 amps & 3 poles, are 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.
4. Available with terminal Codes 1, 2 and 3. Current Rating limited to 30 amps maximum.
5. Consult factory for Dual Coil options, as special catalog number is required. With Shunt construction, Dual Coils will trip instantaneously on line voltage. Dual coils require 30VA minimum power to trip and are rated for intermittent duty only.
6. Auxiliary Switch breakers with Series Trip & Switch Only circuits: ≤ 30A, are supplied with standard half shells. 30-50A are supplied with extended boat (B-Style) half shells.
7. On multi-pole breakers, one aux. switch is supplied, mounted in the extreme right pole.
8. Separate pole type voltage coils not rated for continuous duty. Available only with delay codes 10 and 20.
9. Available with Circuit Codes B & D only. VDE Certified to 30 amps. UL Recognized, CSA Accepted & TUV Certified to 50 amps.
10. Series Trip current ratings: VDE Certification available with single pole breakers with DC Delay only. UL Recognition & CSA Accepted available in one and two pole breakers.
11. Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9, G, H, M and Q.
12. Terminal Code 1: VDE Certification up to 25 amps and UL Recognition and CSA Accepted up to 30 amps, but not recommended over 20 amps.
13. Terminal Codes 3, 5 E & H (Bus Type) with VDE, are supplied with Lock Washers; Terminal Code M (M6 Threaded Stud) with VDE is supplied with Lock and Flat Washers. These breakers are only VDE Certified when the washers are used.
14. VDE Cert. available up to 12 amps. UL Rec. & CSA Accepted available up to 30 amps.
15. Single pole breakers with Terminal Code P (Printed Circuit Board) are available up to 30 amps with VDE Certification and 50 amps with UL Recognition and CSA Accepted, with Circuit Codes A, B and C. Two pole breakers with Terminal Code P (Printed Circuit Board) are available up to 40 amps with UL Recognition and CSA Certification with Circuit Codes A, B and C.
16. Terminal Code Q not available with VDE.
17. Terminal Code S used on voltage coil circuit constructions only.
18. Color shown is visi and legend with remainder of rocker black.
19. Dual = ON-OFF/I-O legend with actuator. None = no legend on actuator
20. Legend on Push-to-reset bezel/shroud is white with single color actuator codes R, & U. Legend on Push-to-reset bezel/shroud matches Visi-color of rocker with actuator codes N & O. Rockerguard available with actuator codes C through L.

| A | F | 1 | – | B | 0 | – | 14 | – | 450 | – | 1 | 3 | 1 | – | M | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Actuator Color | 10 Mounting/ Barriers | | 11 Max. Appl. Rating | 12 Agency Approval |

## 1 SERIES
**A**

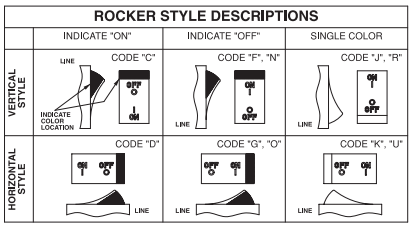
## 2 ACTUATOR [1]

***Two Color Visi-Rocker***
- **C** Indicate ON, vertical legend
- **D** Indicate ON, horizontal legend
- **F** Indicate OFF, vertical legend
- **G** Indicate OFF, horizontal legend

***Push-To-Reset, Visi-Rocker***
- **N** Indicate OFF, vertical legend
- **O** Indicate OFF, horizontal legend

***Single color***
- **J** Vertical legend
- **K** Horizontal legend

***Push-To-Reset , Single color***
- **R** Vertical legend
- **U** Horizontal legend




## 3 POLES [2]
**1** One **2** Two **3** Three

## 4 CIRCUIT
**B** Series Trip (Current)

## 5 AUXILIARY/ALARM SWITCH [3]
- **0** w/o Aux Switch
- **1** S.P.D.T., 0.093 Q.C. Term.
- **2** S.P.D.T., 0.110 Q.C. Term.
- **3** S.P.D.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
- **52** DC, Short,Hi-Inrush
- **54** DC, Medium, Hi-Inrush
- **56** DC, Long, Hi-Inrush

## 7 CURRENT RATING (AMPERES)

| | | | | | |
|---|---|---|---|---|---|
| **210** | 0.100 | **415** | 1.500 | **710** | 10.500 |
| **215** | 0.150 | **517** | 1.750 | **611** | 11.000 |
| **220** | 0.200 | **420** | 2.000 | **711** | 11.500 |
| **225** | 0.250 | **522** | 2.250 | **612** | 12.000 |
| **230** | 0.300 | **527** | 2.750 | **712** | 12.500 |
| **235** | 0.350 | **430** | 3.000 | **613** | 13.000 |
| **240** | 0.400 | **435** | 3.500 | **614** | 14.000 |
| **245** | 0.450 | **440** | 4.000 | **615** | 15.000 |
| **250** | 0.500 | **445** | 4.500 | **616** | 16.000 |
| **255** | 0.550 | **450** | 5.000 | **617** | 17.000 |
| **260** | 0.600 | **455** | 5.500 | **618** | 18.000 |
| **265** | 0.650 | **460** | 6.000 | **620** | 20.000 |
| **270** | 0.700 | **465** | 6.500 | **622** | 22.000 |
| **275** | 0.750 | **470** | 7.000 | **624** | 24.000 |
| **280** | 0.800 | **475** | 7.500 | **625** | 25.000 |
| **285** | 0.850 | **480** | 8.000 | **630** | 30.000 |
| **290** | 0.900 | **485** | 8.500 | **635** [5] | 35.000 |
| **295** | 0.950 | **490** | 9.000 | **640** [5] | 40.000 |
| **410** | 1.000 | **495** | 9.500 | **645** [5] | 45.000 |
| **512** | 1.250 | **610** | 10.000 | **650** [5] | 50.000 |

## 8 TERMINAL [5]
- **1** [6] Push-On 0.250 Tab (Q.C.)
- **2** Screw 8-32 w/upturned lugs
- **3** [7] Screw 8-32 (Bus Type)
- **4** Screw 10-32 w/upturned lugs
- **5** [7] Screw 10-32 (Bus Type)
- **6** Screw 8-32 w/upturned lugs and 30° bend
- **7** Screw 8-32 (Bus Type) and 30° bend
- **8** Screw 10-32 w/upturned lugs and 30° bend
- **9** Screw 10-32 (Bus Type) and 30° bend
- **B** Screw M5 w/upturned lugs
- **F** Screw M5 w/upturned lugs and 30° bend
- **G** Screw M5 (Bus Type) and 30° bend
- **H** Screw M5 (Bus Type)
- **M** [7] M6 Threaded Stud
- **P** [8] Printed Circuit Board Terminals
- **Q** [9] Push-In Stud

## 9 ACTUATOR COLOR & LEGEND

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

## 10 MOUNTING/BARRIERS [11]

| | **STANDARD ROCKER BEZEL** | BARRIERS |
|---|---|---|
| | ***Threaded Insert, 2 per pole*** | |
| **1** | 6-32 x 0.195 inches | no |
| **A** | 6-32 X 0.195 inches (multi-pole units only) | yes |
| **2** | ISO M3 x 5mm | no |
| **B** | ISO M3 x 5mm (multi-pole units only) | yes |
| | **ROCKERGUARD & PUSH-TO-RESET BEZEL** | |
| | ***Threaded Insert, 2 per pole*** | |
| **3** | 6-32 x 0.195 inches | no |
| **C** | 6-32 x 0.195 inches (multi-pole units only) | yes |
| **4** | ISO M3 x 5mm | no |
| **D** | ISO M3 x 5mm (multi-pole units only) | yes |
| | **FRONT PANEL SNAP-IN BRACKET, *0.744" [18.90mm] wide bezel*** | |
| **8** | without Rockerguard (single pole units only) | no |
| **H** | with Rockerguard (single pole units only) | no |
| | **FRONT PANEL SNAP-IN BRACKET, *0.96" [24.48mm] wide bezel*** | |
| **9** | without Rockerguard (single pole units only) | no |
| **J** | with Rockerguard (single pole units only) | no |

## 11 MAXIMUM APPLICATION RATING
**M** 80 DC

## 12 AGENCY APPROVAL
- **T** UL489A Listed
- **K** UL489A Listed, VDE Certified
- **J** UL489A Listed, 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. Auxiliary Switch breakers with Series Trip circuits: ≤ 30A, are supplied with standard half shells. 30-50A are supplied with extended boat (B-Style) half shells.
4. VDE Certification available with single pole breakers only. UL489A Listing available with one and two pole breakers.
5. Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9, G, H, M and Q.
6. Terminal Code 1 (Push-On) available up to 25 amps with TUV or VDE Certification and 30 amps with UL489A Listing, but is not recommended over 20 amps.
7. Terminal Codes 3, 5 and H (Bus Type) with TUV or VDE, are supplied with Lock Washers, and Terminal Code M (M6 Threaded Stud) with VDE is supplied with Lock and Flat Washers. These breakers are only TUV or VDE Certified when the washers are used.
8. Single pole breakers with Terminal Code P (Printed Circuit Board) are available up to 30 amps with VDE Certification and 50 amps with UL489A Listing.
9. Terminal Code Q not available with VDE certification.
10. Color shown is Visi and Legend with remainder of rocker black. Dual = ON-OFF/I-O legend.
11. Legend on Push-to-reset bezel/shroud is white with single color actuator codes R & U. Legend on Push-To-Reset bezel/shroud matches Visi-Color of rocker with actuator codes N & O. Rockerguard available with actuator codes C through K.

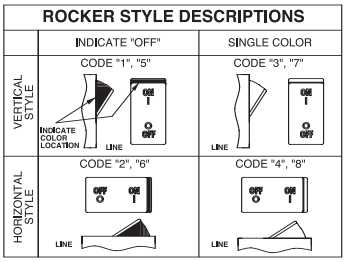
| A | 1 | 1 | – | B | 0 | – | 24 | – | 630 | – | 2 | 3 | 1 | – | E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Actuator Color | 10 Mounting/ Barriers | | 11 Agency Approval |

## 1 SERIES
**A**

## 2 ACTUATOR [1]

***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

**ROCKER STYLE DESCRIPTIONS**




## 3 POLES [2]
**1** One **2** Two **3** Three

## 4 CIRCUIT

| | | | |
|---|---|---|---|
| **A** [3] | Switch Only (No Coil) | **F** [4] | Relay Trip (Current) |
| **B** | Series Trip (Current) | **G** [4] | Relay Trip (Voltage) |
| **C** | Series Trip (Voltage) | **H** [4,5] | Dual Coil with Shunt Trip Voltage Coil |
| **D** [4] | Shunt Trip (Current) | **K** [4,5] | Dual Coil with Relay Trip Voltage Coil |
| **E** [4] | Shunt Trip (Voltage) | | |

## 5 AUXILIARY/ALARM SWITCH [6,7]

| | | | |
|---|---|---|---|
| **0** | w/o Aux Switch | **5** | S.P.S.T., 0.093 Q.C. Term.(Gold Contacts) |
| **1** | S.P.D.T., 0.093 Q.C. Term. | **6** | S.P.S.T., 0.139 Solder Lug |
| **2** | S.P.D.T., 0.110 Q.C. Term. | **7** | S.P.S.T., 0.110 Q.C. Term.(Gold Contacts) |
| **3** | S.P.D.T., 0.139 Solder Lug | **8** | S.P.S.T., 0.187 Q.C. Term. |
| **4** | S.P.D.T., 0.110 Q.C. Term. (Gold Contacts) | **9** | S.P.D.T., 0.187 Q.C. Term. |

## 6 FREQUENCY & DELAY

| | | | |
|---|---|---|---|
| **03** | DC 50/60Hz, Switch Only | **30** | DC, 50/60Hz Instantaneous |
| **10** [8] | 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** [9] | 50/60Hz Short, Hi-Inrush |
| **20** [8] | 50/60Hz Instantaneous | **44** [9] | 50/60Hz Medium, Hi-Inrush |
| **21** | 50/60Hz Ultra Short | **46** [9] | 50/60Hz Long, Hi-Inrush |
| **22** | 50/60Hz Short | **52** [9] | DC, Short,Hi-Inrush |
| **24** | 50/60Hz Medium | **54** [9] | DC,Medium, Hi-Inrush |
| **26** | 50/60Hz Long | **56** | DC, Long, Hi-Inrush |

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 Switch Only circuits, rated up to 50 amps & 3 poles. For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650.
4 Available with terminal Codes 1, 2 and 3. Current Rating limited to 30 amps maximum.
5 Consult factory for Dual Coil options, as special catalog number is required. With Shunt construction, Dual Coils will trip instantaneously on line voltage. Dual coils require 30VA minimum power to trip and are rated for intermittent duty only.
6 Auxiliary Switch breakers with Series Trip & Switch Only circuits: ≤ 30A, are supplied with standard half shells. 30-50A are supplied with extended boat (B-Style) half shells.
7 On multi-pole breakers, one aux. switch is supplied, mounted in the extreme right pole.
8 Separate pole type voltage coils not rated for continuous duty. Available only with delay codes 10 & 20.
9 Available with Circuit Codes B & D only. UL Recognized, CSA Accepted & TUV Certified to 50 amps.
10 UL Recognition, CSA Acceptance & TUV Certification available in one and two pole breakers.
11 Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9, G, H, M and Q.
12 Terminal Code 1: Available up to 30 amps, but not recommended over 20 amps.
13 Terminal Codes 3, 5 E & H (Bus Type) with TUV, are supplied with Lock Washers; Terminal Code M (M6 Threaded Stud) with TUV is supplied with Lock and Flat Washers. These breakers are only TUV Certified when the washers are used.
14 TUV Cert. available up to 12 amps. UL Rec. & CSA Accepted available up to 30 amps.
15 Single pole breakers with Terminal Code P (Printed Circuit Board) are available up to 50 amps with UL Recognition, CSA Accepted & TUV Certification, with Circuit Codes A, B and C. Two pole breakers with Terminal Code P (Printed Circuit Board) are available up to 40 amps with UL Recognition and CSA Accepted with Circuit Codes A, B and C.
16 Terminal Code S used on voltage coil circuit constructions only.
17 Color shown is visi and legend with remainder of rocker black, Dual = ON-OFF/I-O legend.
18 Legend on Push-to-reset bezel/shroud is white with single color actuator codes 7 & 8. Legend on Push-To-Reset bezel/shroud matches Visi-Color of rocker with actuator codes 5 & 6.
19 Recessed "off-side" available with actuator codes 1, 2, 3 & 4. Legends on rocker are available in ink stamping only.

## 7 CURRENT RATING (AMPERES)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **020** | 0.020 | **225** | 0.250 | **420** | 2.000 | **611** | 11.000 |
| **025** | 0.025 | **230** | 0.300 | **522** | 2.250 | **711** | 11.500 |
| **030** | 0.030 | **235** | 0.350 | **527** | 2.750 | **612** | 12.000 |
| **035** | 0.035 | **240** | 0.400 | **430** | 3.000 | **712** | 12.500 |
| **040** | 0.040 | **245** | 0.450 | **435** | 3.500 | **613** | 13.000 |
| **045** | 0.045 | **250** | 0.500 | **440** | 4.000 | **614** | 14.000 |
| **050** | 0.050 | **255** | 0.550 | **445** | 4.500 | **615** | 15.000 |
| **055** | 0.055 | **260** | 0.600 | **450** | 5.000 | **616** | 16.000 |
| **060** | 0.060 | **265** | 0.650 | **455** | 5.500 | **617** | 17.000 |
| **065** | 0.065 | **270** | 0.700 | **460** | 6.000 | **618** | 18.000 |
| **070** | 0.070 | **275** | 0.750 | **465** | 6.500 | **620** | 20.000 |
| **075** | 0.075 | **280** | 0.800 | **470** | 7.000 | **622** | 22.000 |
| **080** | 0.080 | **285** | 0.850 | **475** | 7.500 | **624** | 24.000 |
| **085** | 0.085 | **290** | 0.900 | **480** | 8.000 | **625** | 25.000 |
| **090** | 0.090 | **295** | 0.950 | **485** | 8.500 | **630** | 30.000 |
| **095** | 0.095 | **410** | 1.000 | **490** | 9.000 | **635** [10] | 35.000 |
| **210** | 0.100 | **512** | 1.250 | **495** | 9.500 | **640** [10] | 40.000 |
| **215** | 0.150 | **415** | 1.500 | **610** | 10.000 | **645** [10] | 45.000 |
| **220** | 0.200 | **517** | 1.750 | **710** | 10.500 | **650** [10] | 50.000 |

### *OR* VOLTAGE COIL (NOMINAL RATED VOLTAGE)

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

## 8 TERMINAL [11]

| | | | |
|---|---|---|---|
| **1** [12] | Push-On 0.250 Tab (Q.C.) | **E** [13] | Screw M4 (Bus Type) |
| **2** | Screw 8-32 w/upturned lugs | **F** | Screw M5 w/upturned lugs and 30° bend |
| **3** [13] | Screw 8-32 (Bus Type) | **G** | Screw M5 (Bus Type) and 30° bend |
| **4** | Screw 10-32 w/upturned lugs | **H** [13] | Screw M5 (Bus Type) |
| **5** [13] | Screw 10-32 (Bus Type) | **L** [14] | 0.250 Q.C./ Solder Lug |
| **6** | Screw 8-32 w/upturned lugs and 30° bend | **M** [13] | M6 Threaded Studs |
| **7** | Screw 8-32 (Bus Type) and 30° bend | **P** [15] | Printed Circuit Board Terminals |
| **8** | Screw 10-32 w/upturned lugs and 30° bend | **Q** | Push-In Stud |
| **9** | Screw 10-32 (Bus Type) and 30° bend | **R** | Screw M4 w/upturned lugs and 30° bend |
| **B** | Screw M5 w/upturned lugs | **S** [16] | Push-On 0.110 Tab (Q.C.) |
| **C** | Screw M4 w/upturned lugs | **T** | Screw M4 (Bus Type) and 30° bend |

## 9 ACTUATOR COLOR & LEGEND

| *Actuator or Visi-Color* [17] | *Marking:* I-O | ON-OFF | Dual [17] | *Marking Color:* Single Color | Visi-Rocker |
|---|---|---|---|---|---|
| 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 [18]

| | | BARRIERS |
|---|---|---|
| | **STANDARD ROCKER BEZEL**, ***Threaded Insert, 2 per pole FLAT ROCKER ACTUATOR*** | |
| **1** | 6-32 x 0.195 inches | no |
| **A** | 6-32 X 0.195 inches (multi-pole units only) | yes |
| **2** | ISO M3 x 5mm | no |
| **B** | ISO M3 x 5mm (multi-pole units only) | yes |
| | ***RECESSED OFF SIDE ROCKER ACTUATOR*** [19] | |
| **5** | 6-32 x 0.195 inches | no |
| **E** | 6-32 x 0.195 inches (multi-pole units only) | yes |
| **6** | ISO M3 x 5mm | no |
| **F** | ISO M3 x 5mm (multi-pole units only) | yes |
| | **PUSH-TO-RESET BEZEL**, ***Threaded Insert, 2 per pole*** | |
| **3** | 6-32 x 0.195 inches | no |
| **C** | 6-32 x 0.195 inches (multi-pole units only) | yes |
| **4** | ISO M3 x 5mm | no |
| **D** | ISO M3 x 5mm (multi-pole units only) | yes |

## 11 AGENCY APPROVAL

**C** UL Recognized & CSA Accepted
**E** TUV Certified, UL Recognized & CSA Accepted
**I** UL Rec. STD 1077, UL Rec. 1500 (ignition protected), & CSA Accepted

| A | 1 | 1 | – | B | 0 | – | 14 | – | 630 | – | 2 | 3 | 1 | – | M | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Series | 2 Actuator | 3 Poles | | 4 Circuit | 5 Aux/Alarm Switch | | 6 Frequency & Delay | | 7 Current Rating | | 8 Terminal | 9 Actuator Color | 10 Mounting/ Barriers | | 11 Max. Appl. Rating | 12 Agency Approval |

## 1 SERIES
**A**

## 2 ACTUATOR [1]

***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

**ROCKER STYLE DESCRIPTIONS**

| | INDICATE "OFF" | SINGLE COLOR |
|---|---|---|
| VERTICAL STYLE | CODE "1", "5" | CODE "3", "7" |
| HORIZONTAL STYLE | CODE "2", "6" | CODE "4", "8" |

## 3 POLES [2]
**1** One **2** Two **3** Three

## 4 CIRCUIT
**B** Series Trip (Current)

## 5 AUXILIARY/ALARM SWITCH [3,4]

| | | | |
|---|---|---|---|
| **0** | w/o Aux Switch | **7** | S.P.S.T., 0.110 Q.C. Term.(Gold Contacts) |
| **1** | S.P.D.T., 0.093 Q.C. Term. | **8** | S.P.S.T., 0.187 Q.C. Term. |
| **2** | S.P.D.T., 0.110 Q.C. Term. | **9** | S.P.D.T., 0.187 Q.C. Term. |
| **3** | S.P.D.T., 0.139 Solder Lug | | |

## 6 FREQUENCY & DELAY

| | | | |
|---|---|---|---|
| **11** | DC Ultra Short | **52** | DC, Short,Hi-Inrush |
| **12** | DC Short | **54** | DC,Medium, Hi-Inrush |
| **14** | DC Medium | **56** | DC, Long, Hi-Inrush |
| **16** | DC Long | | |

## 7 CURRENT RATING (AMPERES)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **210** | 0.100 | **285** | 0.850 | **455** | 5.500 | **613** | 13.000 |
| **215** | 0.150 | **290** | 0.900 | **460** | 6.000 | **614** | 14.000 |
| **220** | 0.200 | **295** | 0.950 | **465** | 6.500 | **615** | 15.000 |
| **225** | 0.250 | **410** | 1.000 | **470** | 7.000 | **616** | 16.000 |
| **230** | 0.300 | **512** | 1.250 | **475** | 7.500 | **617** | 17.000 |
| **235** | 0.350 | **415** | 1.500 | **480** | 8.000 | **618** | 18.000 |
| **240** | 0.400 | **517** | 1.750 | **485** | 8.500 | **620** | 20.000 |
| **245** | 0.450 | **420** | 2.000 | **490** | 9.000 | **622** | 22.000 |
| **250** | 0.500 | **522** | 2.250 | **495** | 9.500 | **624** | 24.000 |
| **255** | 0.550 | **527** | 2.750 | **610** | 10.000 | **625** | 25.000 |
| **260** | 0.600 | **430** | 3.000 | **710** | 10.500 | **630** | 30.000 |
| **265** | 0.650 | **435** | 3.500 | **611** | 11.000 | **635** [5] | 35.000 |
| **270** | 0.700 | **440** | 4.000 | **711** | 11.500 | **640** [5] | 40.000 |
| **275** | 0.750 | **445** | 4.500 | **612** | 12.000 | **645** [5] | 45.000 |
| **280** | 0.800 | **450** | 5.000 | **712** | 12.500 | **650** [5] | 50.000 |

## 8 TERMINAL [6]

| | | | |
|---|---|---|---|
| **1** [7] | Push-On 0.250 Tab (Q.C.) | **B** | Screw M5 w/upturned lugs |
| **2** | Screw 8-32 w/upturned lugs | **C** | Screw M4 w/upturned lugs |
| **3** [8] | Screw 8-32 (Bus Type) | **F** | Screw M5 w/upturned lugs and 30° bend |
| **4** | Screw 10-32 w/upturned lugs | **G** | Screw M5 (Bus Type) and 30° bend |
| **5** [8] | Screw 10-32 (Bus Type) | **H** [8] | Screw M5 (Bus Type) |
| **6** | Screw 8-32 w/upturned lugs and 30° bend | **M** [8] | M6 Threaded Studs |
| **7** | Screw 8-32 (Bus Type) and 30° bend | **P** [9] | Printed Circuit Board Terminals |
| **8** | Screw 10-32 w/upturned lugs and 30° bend | **Q** [10] | Push-In Stud |
| **9** | Screw 10-32 (Bus Type) and 30° bend | | |

## 9 ACTUATOR COLOR & LEGEND

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

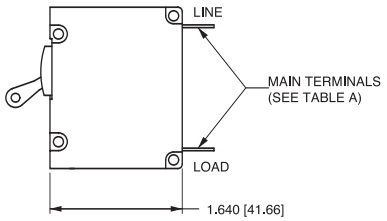
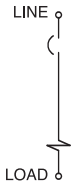
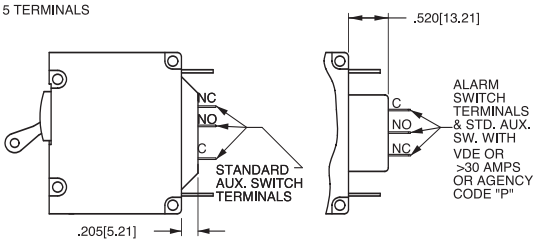
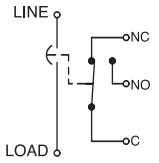
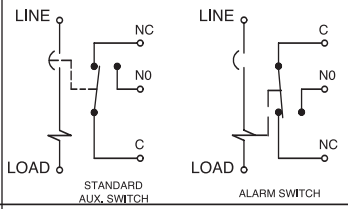
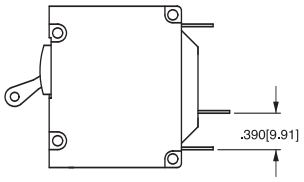
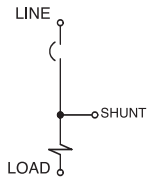
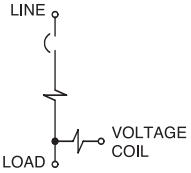
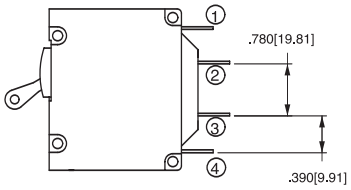
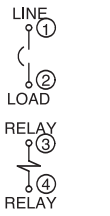
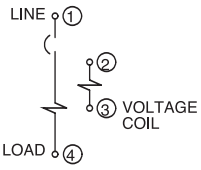
## 10 MOUNTING/BARRIERS [12]

| | | BARRIERS |
|---|---|---|
| | **STANDARD ROCKER BEZEL**, ***Threaded Insert, 2 per pole*** | |
| | ***FLAT ROCKER ACTUATOR*** | |
| **1** | 6-32 x 0.195 inches | no |
| **A** | 6-32 X 0.195 inches (multi-pole units only) | yes |
| **2** | ISO M3 x 5mm | no |
| **B** | ISO M3 x 5mm (multi-pole units only) | yes |
| | ***RECESSED OFF SIDE ROCKER ACTUATOR*** [13] | |
| **5** | 6-32 x 0.195 inches | no |
| **E** | 6-32 x 0.195 inches (multi-pole units only) | yes |
| **6** | ISO M3 x 5mm | no |
| **F** | ISO M3 x 5mm (multi-pole units only) | yes |
| | **PUSH-TO-RESET BEZEL**, ***Threaded Insert, 2 per pole*** | |
| **3** | 6-32 x 0.195 inches | no |
| **C** | 6-32 x 0.195 inches (multi-pole units only) | yes |
| **4** | ISO M3 x 5mm | no |
| **D** | ISO M3 x 5mm (multi-pole units only) | yes |

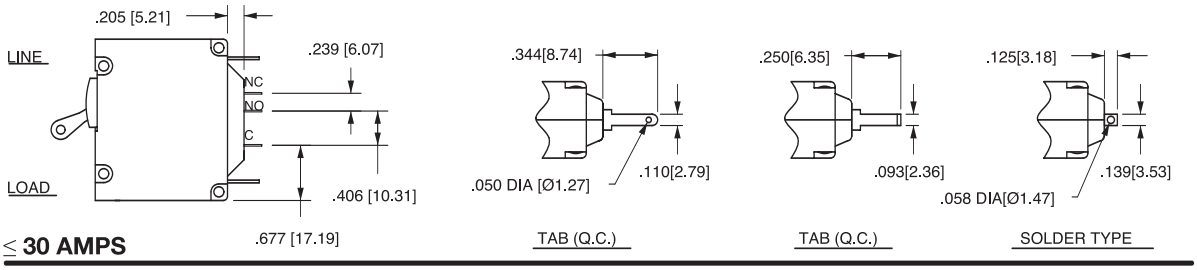
## 11 MAXIMUM APPLICATION RATING
**M** 80 DC

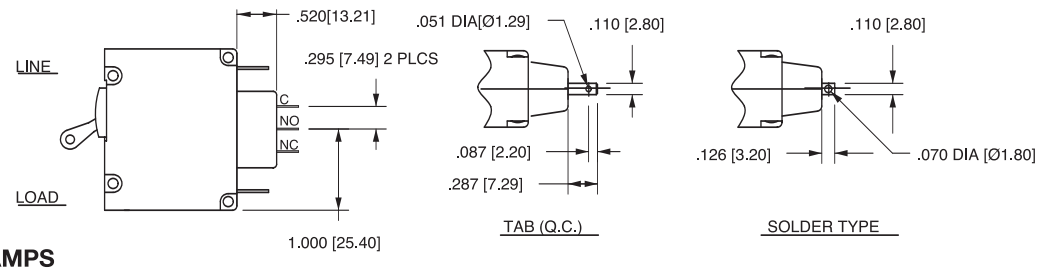
## 12 AGENCY APPROVAL
**T** UL489A Listed
**J** UL489A Listed, TUV Certified

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. Auxiliary Switch breakers with Series Trip circuits: ≤ 30A, are supplied with standard half shells. 30-50 amps are supplied with extended boat (B-Style) half shells.
4. On multi-pole breakers, one aux. switch is supplied, mounted in the extreme right pole.
5. VDE Certification available with single pole breakers only. UL489A Listing available with one and two pole breakers.
6. Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with Terminal Codes 5, 9 G, H, M and Q.
7. Terminal Code 1 (Push-On) available up to 25 amps with VDE Certification and 30 amps with UL489A Listing, but is not recommended over 20 amps.
8. Terminal Codes 3, 5 and H (Bus Type) with TUV or VDE, are supplied with Lock Washers, and Terminal Code M (M6 Threaded Stud) with VDE is supplied with Lock and Flat Washers. These breakers are only TUV or VDE Certified when the washers are used.
9. Single pole breakers with Terminal Code P (Printed Circuit Board) are available up to 30 amps with VDE Certification and 50 amps with UL489A Listing.
10. Terminal Code Q not available with VDE certification.
11. Color shown is visi and legend with remainder of rocker black, Dual = ON-OFF/I-O legend.
12. Legend on Push-to-reset bezel/shroud is white with single color actuator codes 7 & 8. Legend on Push-To-Reset bezel/shroud matches Visi-Color of rocker with actuator codes 5 & 6.
13. Recessed “off-side” available with actuator codes 1, 2, 3 & 4. Legends on rocker are available in ink stamping only.

| CIRCUIT BREAKER PROFILE | CIRCUIT SCHEMATIC<br>ANSI<br>SWITCH ONLY (NO COIL) | CIRCUIT CODE | AUX SWITCH CODE | CIRCUIT SCHEMATIC<br>ANSI<br>SERIES TRIP | CIRCUIT CODE | AUX SWITCH CODE |
|---|---|---|---|---|---|---|
| 2 TERMINALS<br>  | | A | 0 |  | BC | 0 |
| 5 TERMINALS<br>  | SWITCH ONLY (NO COIL) WITH AUXILIARY SWITCH<br>  | A | 1<br>2<br>3<br>4 | SERIES TRIP WITH (3) AUXILIARY/ALARM SWITCH<br>  | BC | 1<br>2<br>3<br>4 |
| 3 TERMINALS<br>  | SHUNT TRIP<br>  | DE | 0 | DUAL COIL; SERIES TRIP CURRENT COIL, SHUNT TRIP VOLTAGE COIL<br>  | H | 0 |
| 4 TERMINALS<br>  | RELAY TRIP<br>  | FG | 0 | DUAL COIL; SERIES TRIP CURRENT COIL, RELAY TRIP VOLTAGE COIL<br>  | K | 0 |

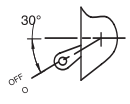
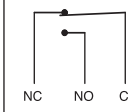
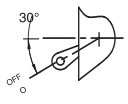
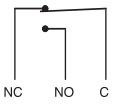
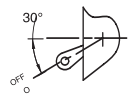
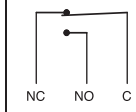
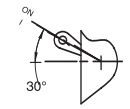
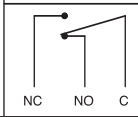
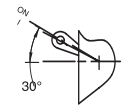
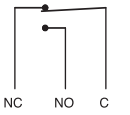
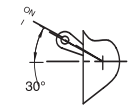
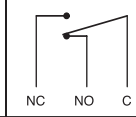
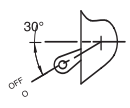
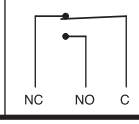
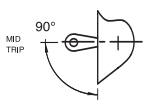
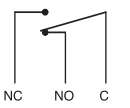
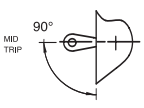
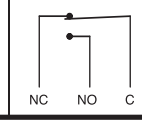
## AUXILIARY/ALARM SWITCH TERMINAL DETAIL



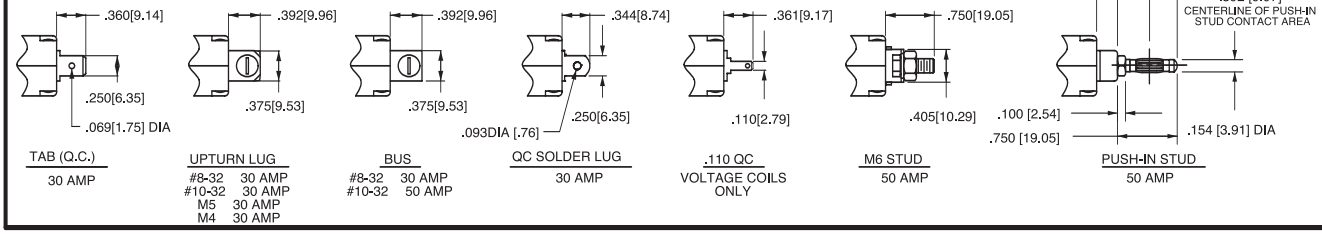




Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance ±.020 [.51] unless otherwise specified.
3 Alarm Switch available with .110 x .020 Q.C. & Solder Lug Terminals Only.

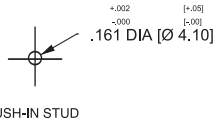
## HANDLE POSITION VS. AUX/ALARM SWITCH MODE

| CIRCUIT BREAKER MODE | STANDARD C/B HANDLE POSITION | STANDARD C/B AUX. SWITCH MODE | MID TRIP C/B HANDLE POSITION | MID TRIP C/B ALARM SWITCH MODE | MID TRIP C/B HANDLE POSITION | MID TRIP C/B AUX. SWITCH MODE (w/o ALARM SWITCH) |
|---|---|---|---|---|---|---|
| OFF |  |  |  |  |  |  |
| ON |  |  |  |  |  |  |
| ELECTRICAL TRIP |  |  |  |  |  |  |

## TERMINAL DIMENSIONAL DETAIL & RATING



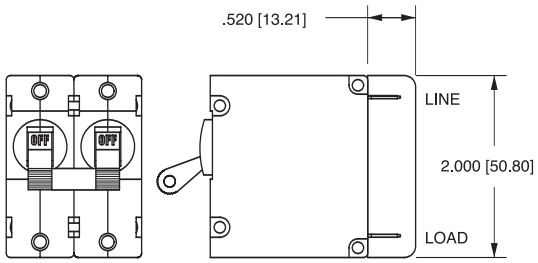

| TAB (Q.C.) | UPTURN LUG | BUS | QC SOLDER LUG | .110 QC | M6 STUD | PUSH-IN STUD |
|---|---|---|---|---|---|---|
| 30 AMP | #8-32 30 AMP<br>#10-32 30 AMP<br>M5 30 AMP<br>M4 30 AMP | #8-32 30 AMP<br>#10-32 50 AMP | 30 AMP | VOLTAGE COILS ONLY | 50 AMP | 50 AMP |




PUSH-IN STUD
MATING HOLE

### TABLE A
### TIGHTENING TORQUE SPECIFICATIONS

| THREAD SIZE | TORQUE |
|---|---|
| #6-32 & M3 MOUNTING HARDWARE | 7-9 IN-LBS [0.8-1.0 NM] |
| #8-32 & M4 THREAD TERMINAL SCREW | 12-15 IN-LBS [1.4-1.7 NM] |
| #10-32 & M5 THREAD TERMINAL SCREW | 15-20 IN-LBS [1.7-2.3 NM] |

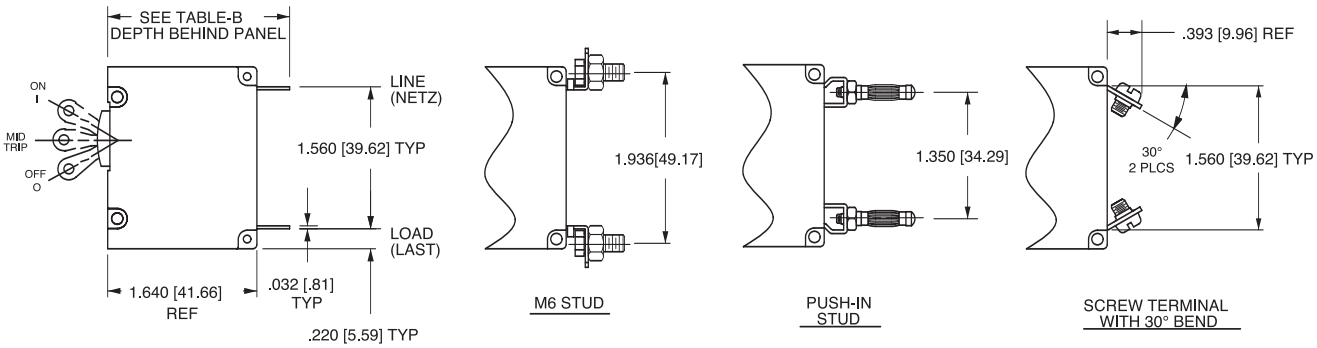



**BARRIER FOR UL-RECOGNIZED MULTI-POLE BREAKERS**

### TABLE B

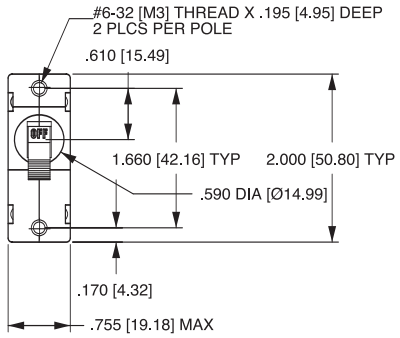
| TERMINAL DESCRIPTION | | DEPTH BEHIND PANEL |
|---|---|---|
| MAIN | TAB (Q.C.) | 2.000 [50.80] |
| | SCREW TYPE | 2.032 [51.60] |
| SHUNT, RELAY & DUAL COIL | TAB (Q.C.) | 2.207 [56.10] |
| | SCREW #8-32 W/UPTURNED LUGS | 2.364 [60.05] |
| AUX. SWITCH* | .093 TAB (Q.C.) | 2.095 [53.20] |
| | .110 TAB (Q.C.) | 2.189 [55.60] |
| | SOLDER TYPE | 1.970 [50.00] |

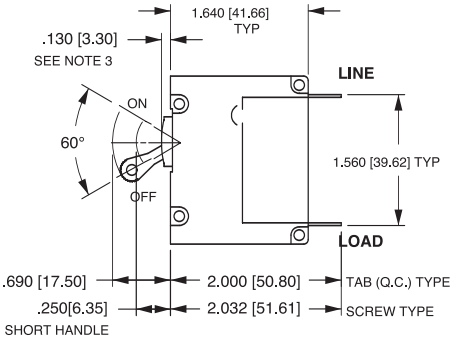
* AVAILABLE ON SERIES TRIP AND SWITCH ONLY CIRCUITS. WHEN CALLED FOR ON MULTI-POLE UNITS, ONLY ONE AUX. SWITCH IS NORMALLY SUPPLIED, AS SHOWN IN MULTI-POLE IDENTIFICATION SCHEME.

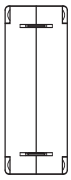



Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance ±.020 [.51] unless otherwise specified.
3 Alarm Switch available with .110 x .020 QC & solder lug terminals only.

## 1-POLE (AA1)

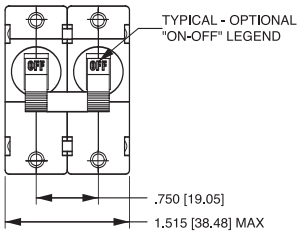


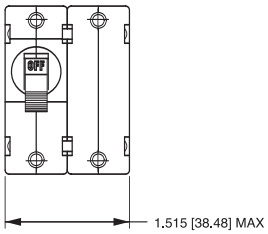



TAB (Q.C.) TYPE TERMINALS IN SERIES TRIP CIRCUIT CONFIGURATION SHOWN. FOR OTHER CONFIGURATIONS, SEE CIRCUIT AND TERMINAL DIAGRAMS.

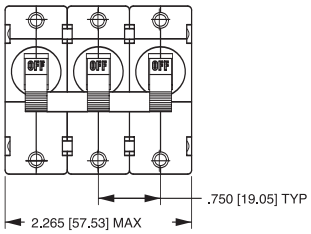
## 2-POLE (AA2)



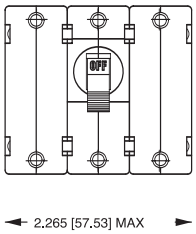

## 2-POLE (AB2)



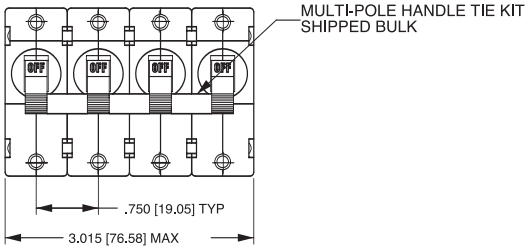

## 3-POLE (AA3)



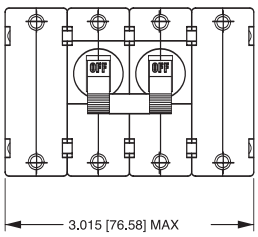

## 3-POLE (AB3)

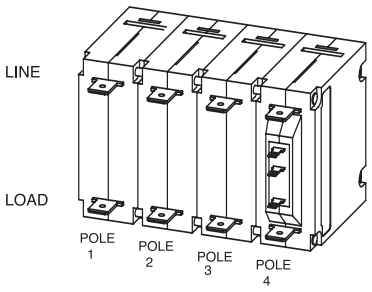



## 4-POLE (AA4)

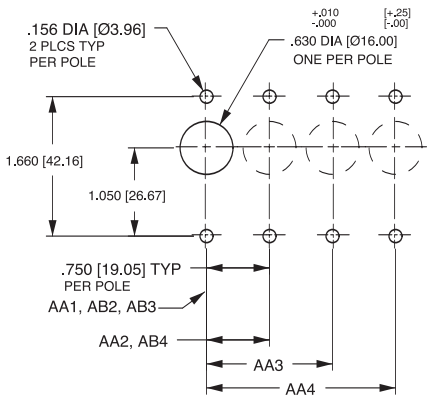



## 4-POLE (AB4)



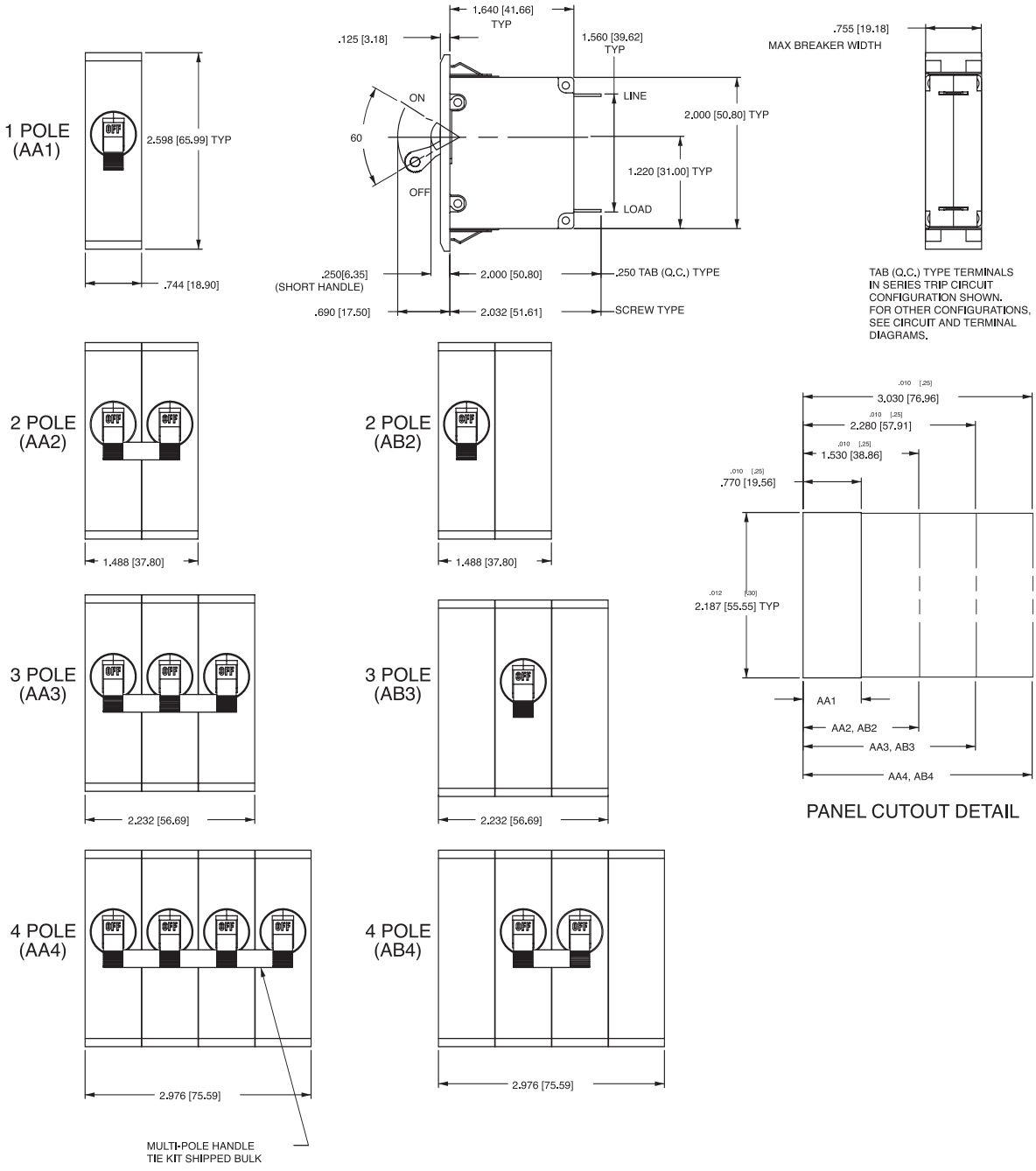

MULTI-POLE IDENTIFICATION SCHEME
AS VIEWED FROM TERMINAL END OF BREAKER.



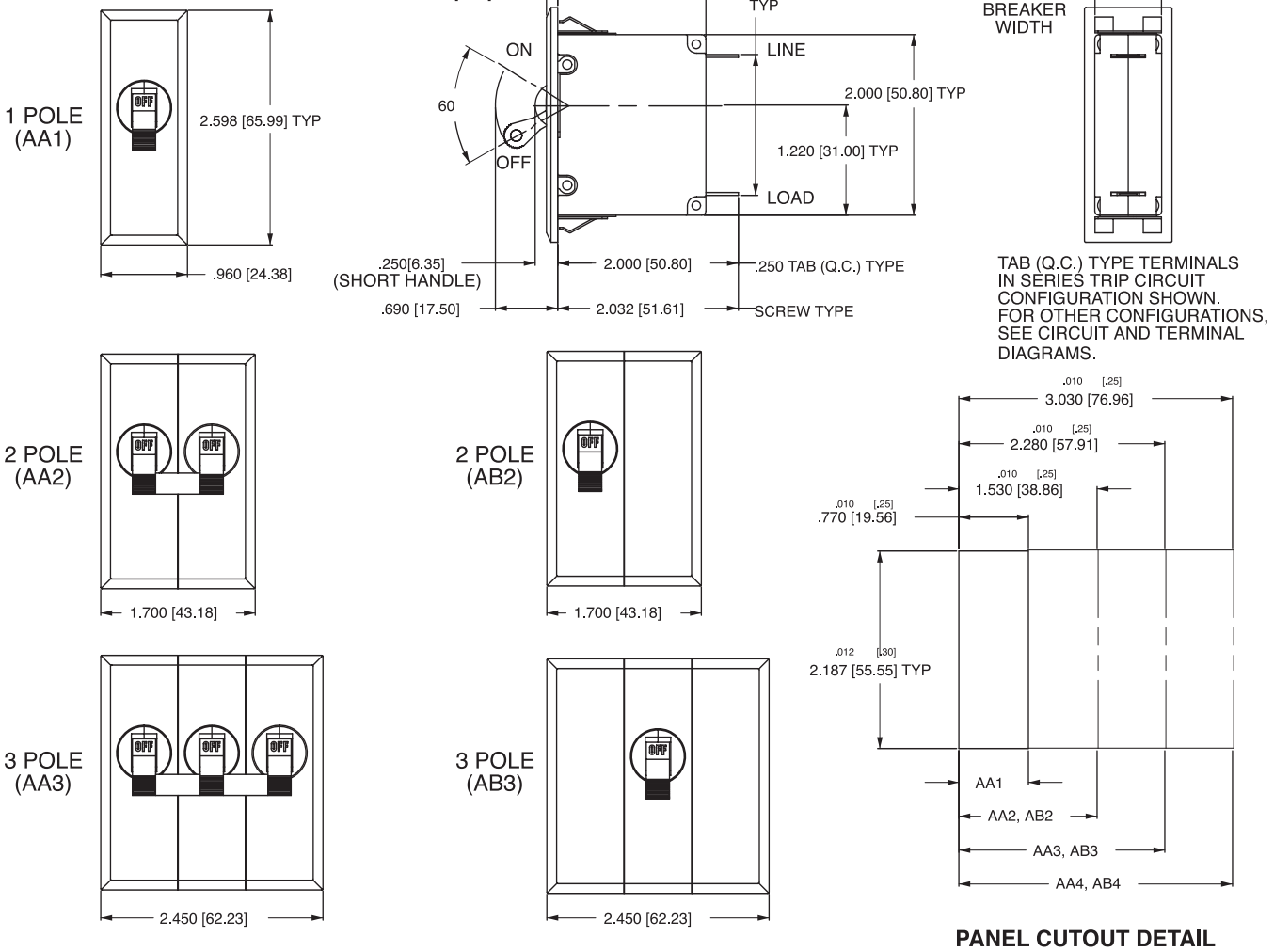

**PANEL CUTOUT DETAIL**

TOLERANCES ±.005 [±.12]
UNLESS OTHERWISE SPECIFIED

Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance ± 0.20 [.51] unless otherwise specified.
3 For agency code P = .150 [3.81].

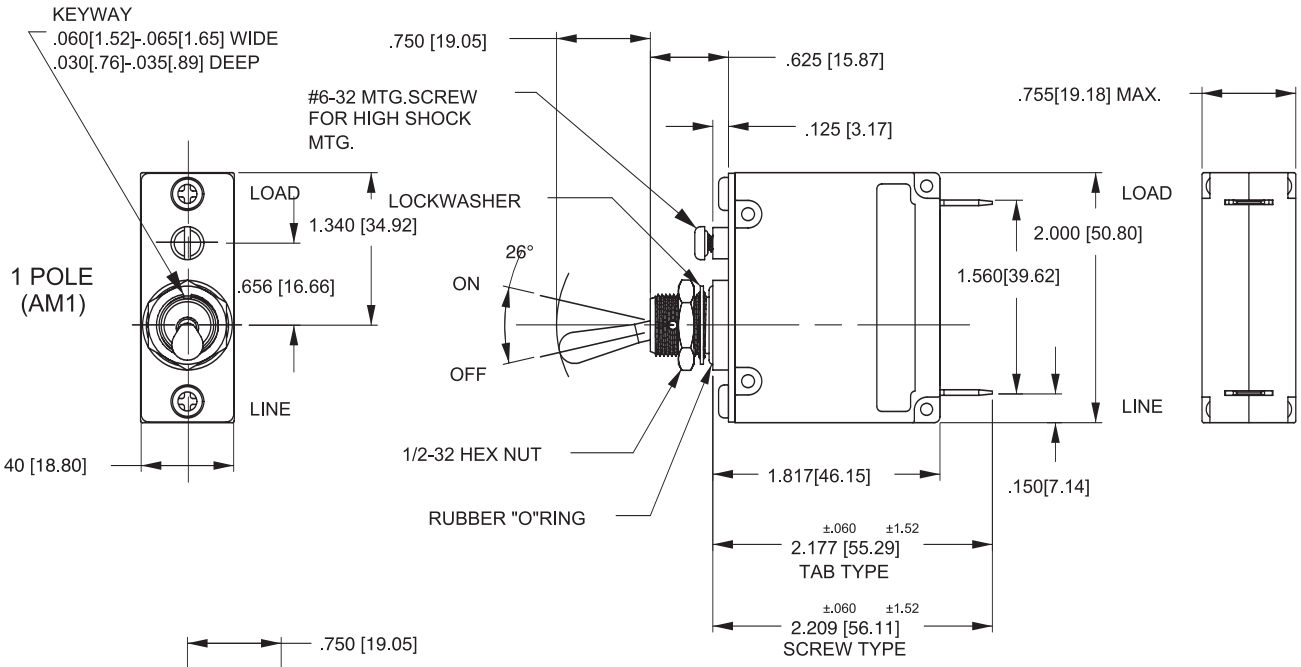


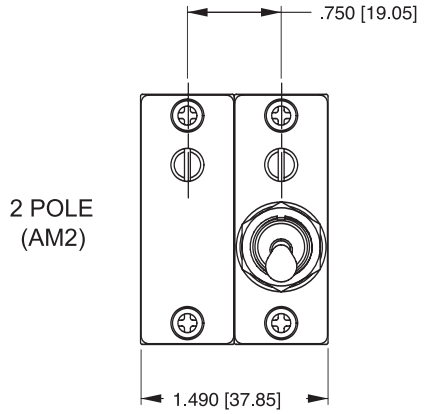

Notes:
1 All dimensions are in inches [millimeters].
2 Recommended panel thickness: .040 [1.02] to .100 [2.54].
3 Tolerance ±.020 [.51] unless otherwise specified.

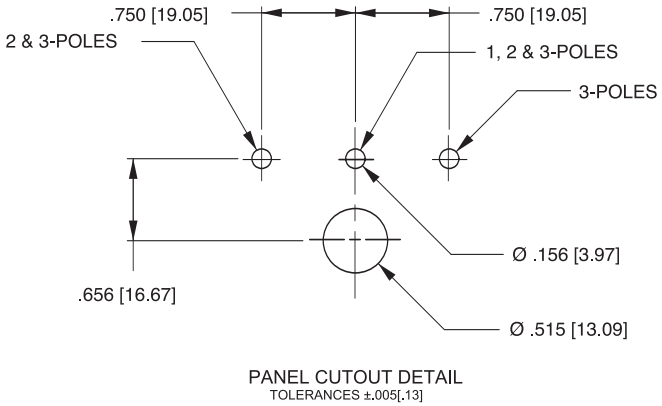


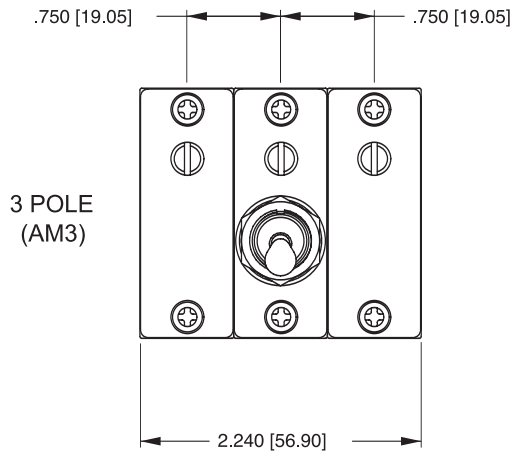

**PANEL CUTOUT DETAIL**

Notes:
1 All dimensions are in inches [millimeters].
2 Recommended panel thickness: .040 [1.02] to .100 [2.54].
3 Tolerance ±.020 [.51] unless otherwise specified.

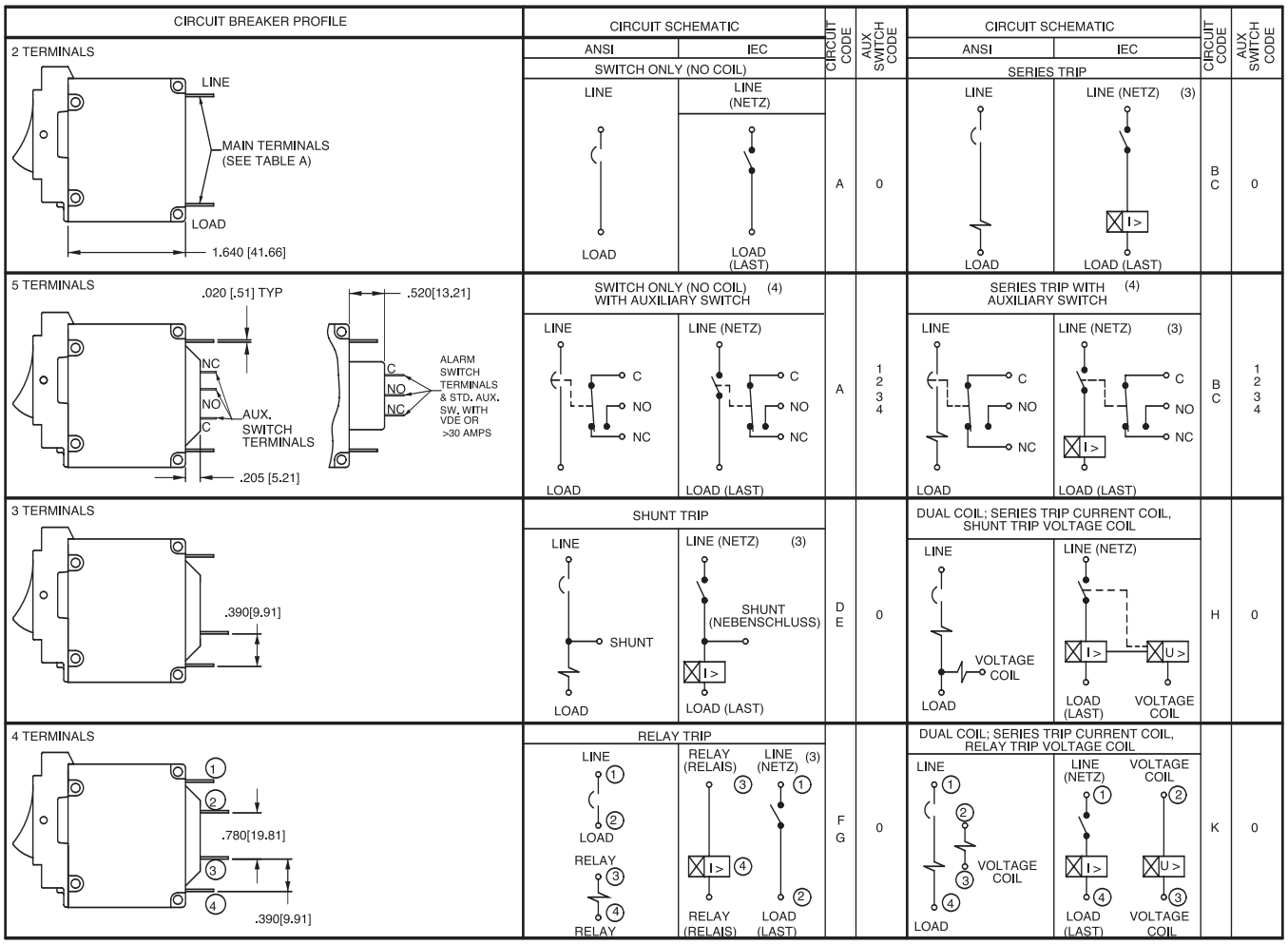


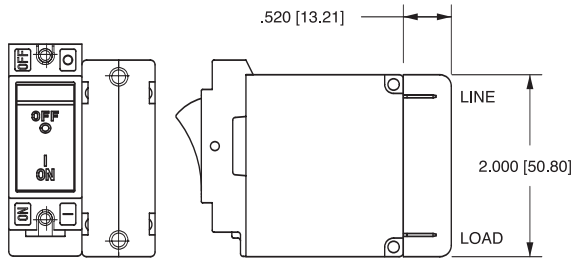




Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance ±.020 [.51] unless otherwise specified.

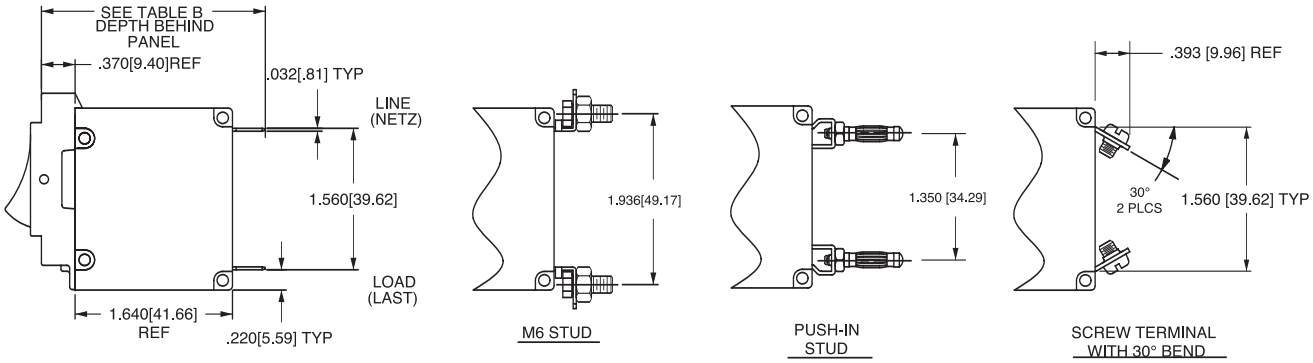



| TABLE B | | |
|---|---|---|
| TERMINAL DESCRIPTION | | DEPTH BEHIND PANEL |
| MAIN | TAB (Q.C.) | 2.370 [60.20] |
| | SCREW TYPE | 2.402 [61.01] |
| SHUNT, RELAY & DUAL COIL | TAB (Q.C.) | 2.577 [65.46] |
| | SCREW #8-32 W/UPTURNED LUGS | 2.734 [69.44] |
| AUX. SWITCH* | .093 TAB (Q.C.) | 2.465 [62.61] |
| | .110 TAB (Q.C.) | 2.559 [65.00] |
| | SOLDER TYPE | 2.340 [59.44] |

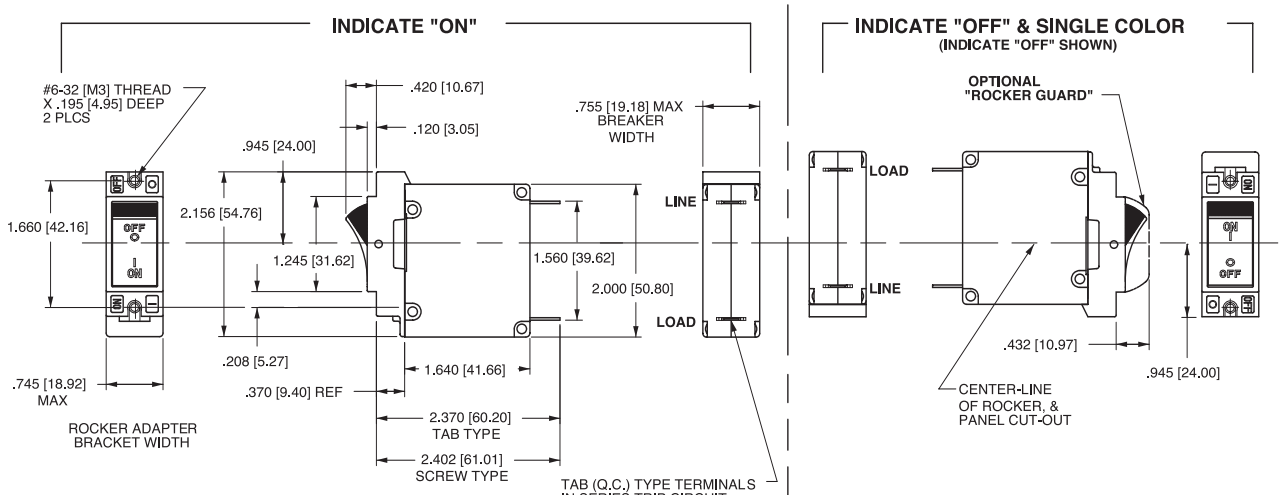
* AVAILABLE ON SERIES TRIP AND SWITCH ONLY CIRCUITS. WHEN CALLED FOR ON MULTI-POLE UNITS, ONLY ONE AUX. SWITCH IS NORMALLY SUPPLIED, AS VIEWED IN MULTI-POLE IDENTIFICATION SCHEME.

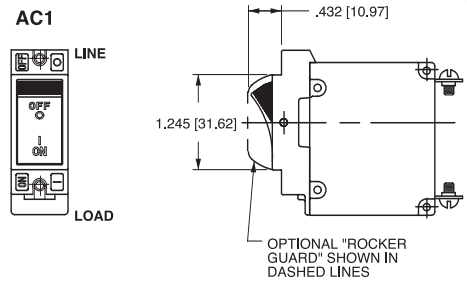


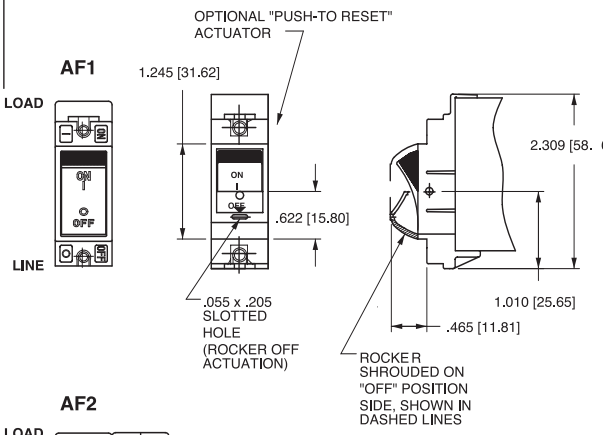

**BARRIER FOR UL-RECOGNIZED MULTI-POLE BREAKERS**

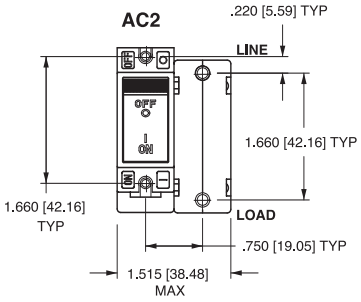


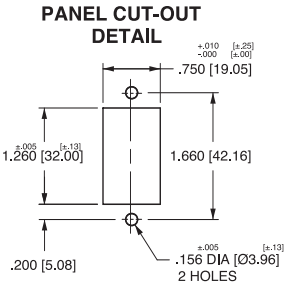

Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance ±.020 [.51] unless otherwise specified.
3 Schematic shown represents current trip circuit.
4. Circuits shown for >30 amps / VDE.

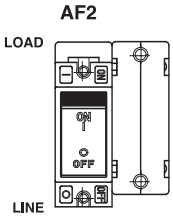


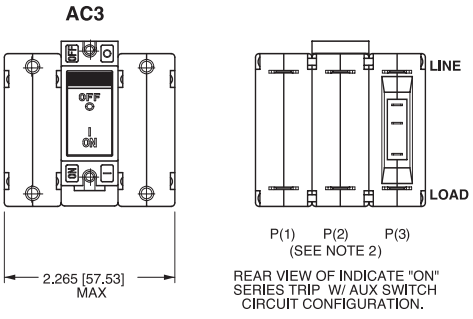



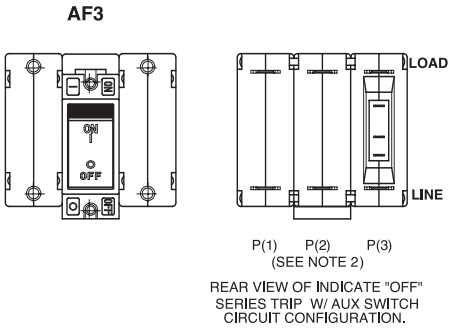



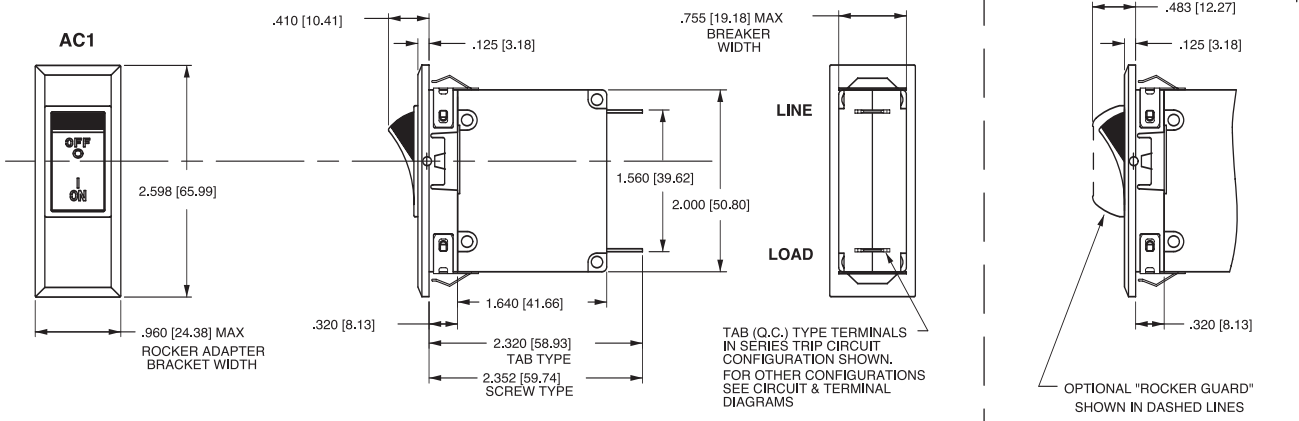



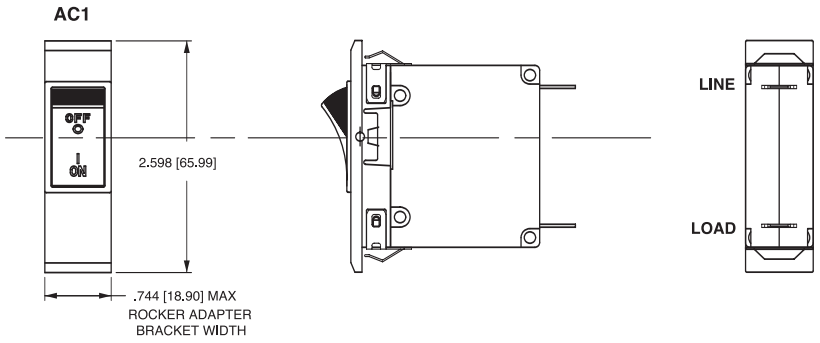

Notes:
1 Dimensions apply to all variations shown. Notice that circuit breaker line & load terminal orientation on indicate OFF is opposite of indicate ON.
2 For pole orientation with horizontal legend, rotate front view clockwise 90°.
3 All dimensions are in inches [millimeters].
4 Tolerance ± 0.20 [.51] unless otherwise specified.

## INDICATE "ON"

### FRONT PANEL SNAP-IN BRACKET, 0.96" [24.48 mm] wide bezel

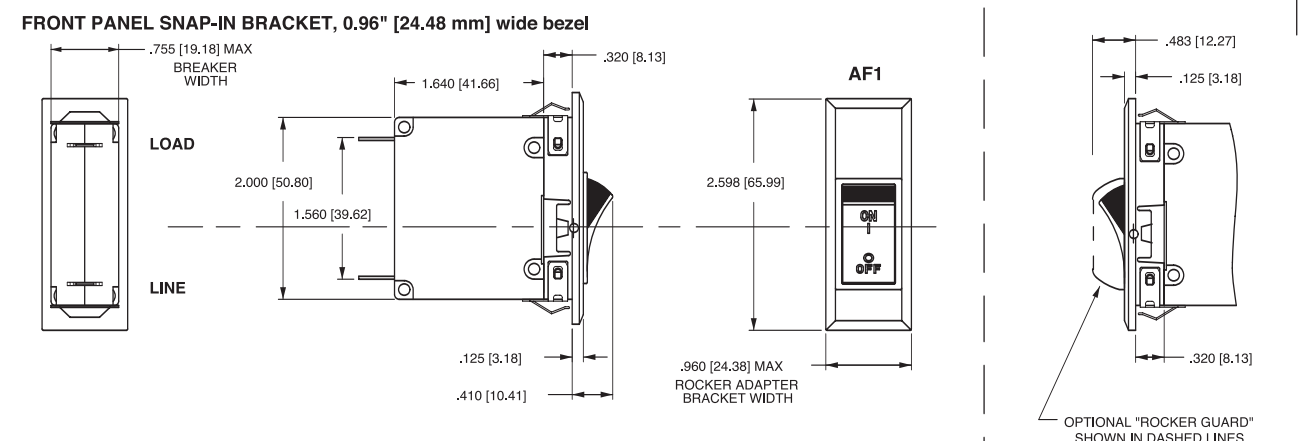



### FRONT PANEL SNAP-IN BRACKET, 0.744" [18.90 mm] wide bezel

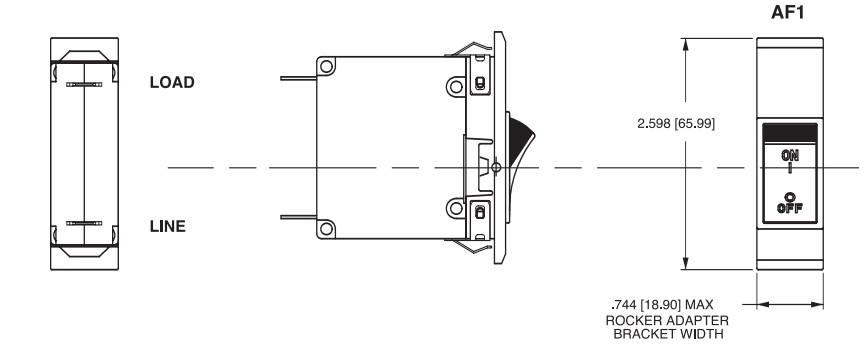


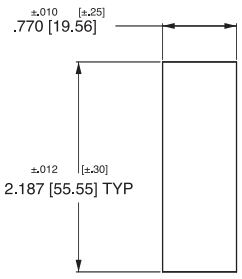

## INDICATE "OFF"

### FRONT PANEL SNAP-IN BRACKET, 0.96" [24.48 mm] wide bezel




### FRONT PANEL SNAP-IN BRACKET, 0.744" [18.90 mm] wide bezel



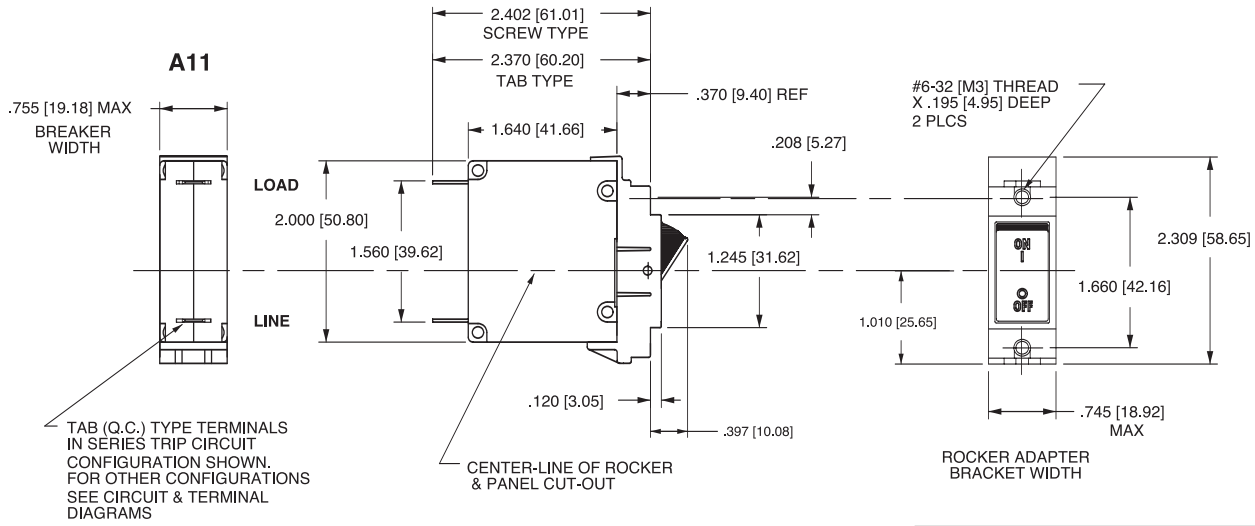

**PANEL CUTOUT DETAIL**

Notes:
1. Dimensions apply to all variations shown. Notice that circuit breaker line & load terminal
2. For pole orientation with horizontal legend, rotate front view clockwise 90°. Orientation on indicate "OFF" is opposite of indicate "ON"
3. Recommended panel thickness: .04 0 [1.02] to .100 [2.54]
4. All dimensions are in Inches [millimeters].
5. Tolerance ±.020 [.51] unless otherwise specified.

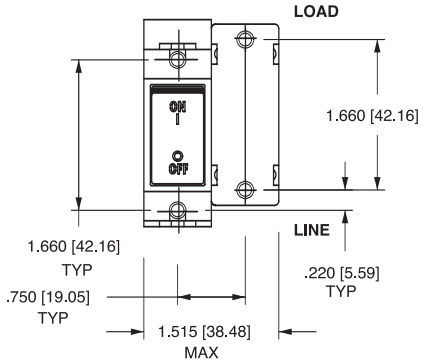
## INDICATE "OFF" & SINGLE COLOR

(INDICATE "OFF" SHOWN)

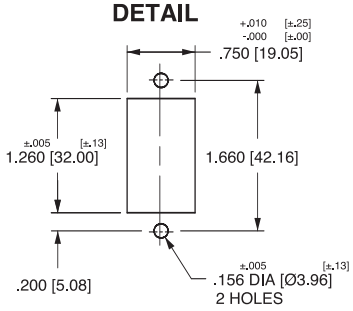
### A11

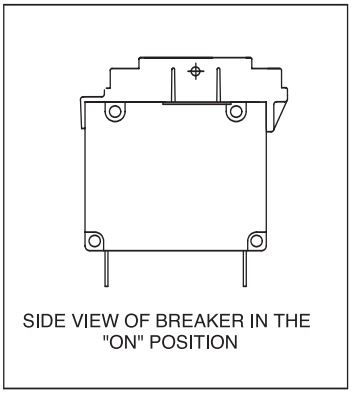



### A12



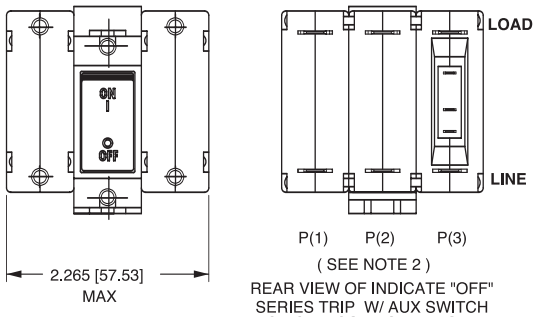

### PANEL CUT-OUT DETAIL



SIDE VIEW OF BREAKER IN THE "ON" POSITION

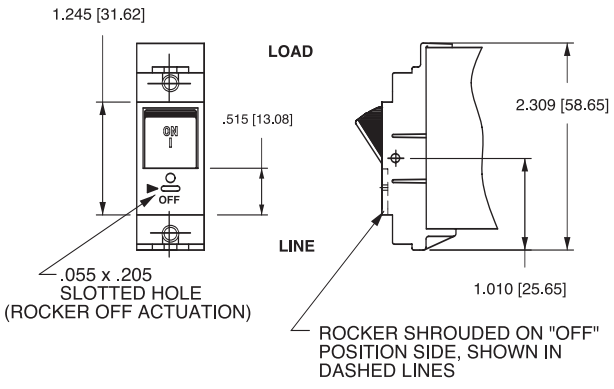
### A13




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

### PUSH-TO-RESET ACTUATOR

### A51




ACTUATOR SIDE VIEW

(SURFACE CONTOURS)

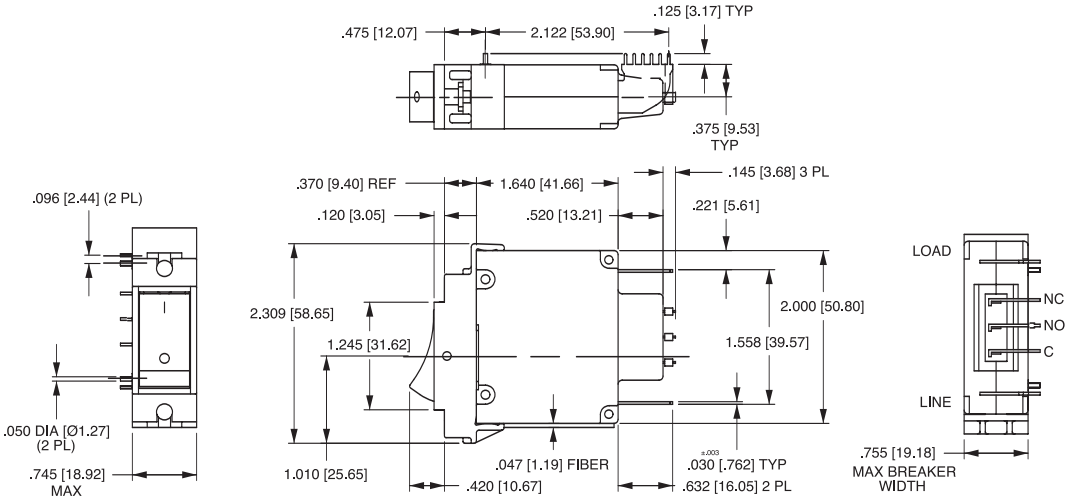
FLAT ROCKER

RECESSED OFF SIDE ROCKER

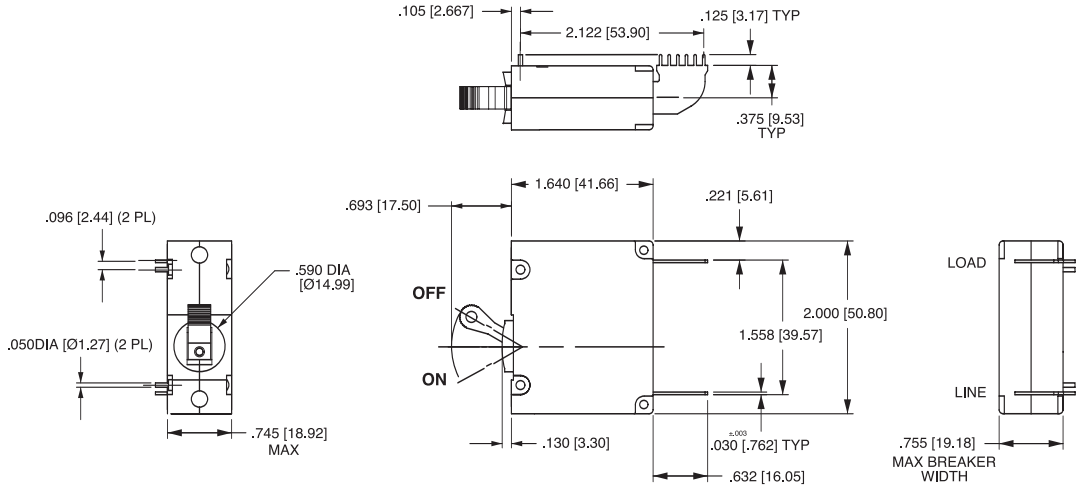
Notes:

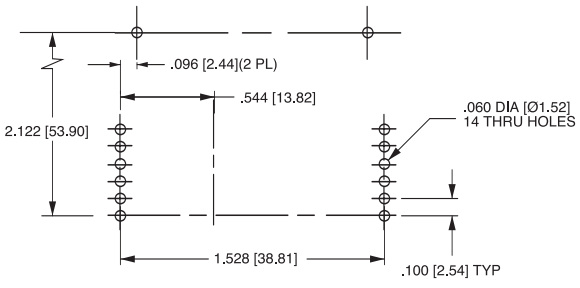
1 All dimensions are in inches [millimeters].
2 For pole orientation with horizontal legend, rotate front view clockwise 90°.
3 Tolerance ± 0.20 [.51] unless otherwise specified.

## A-SERIES ROCKER

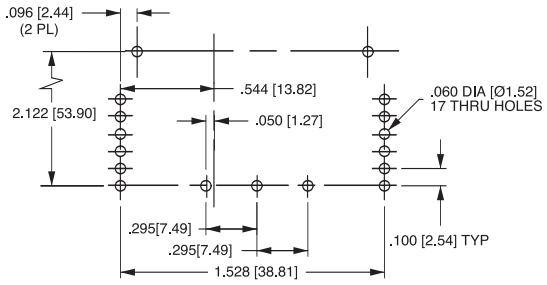



## A-SERIES HANDLE




P.C. FOOT PRINT




P.C. FOOT PRINT WITH AUX. SWITCH

Notes:
1 Drawing illustrates A-Series with VDE certification.
2 All dimensions are in inches [millimeters].
3 Tolerance ± 0.20 [.51] unless otherwise specified.