



The low cost M-Series utilizes the hydraulic magnetic principle which provides accurate and reliable circuit protection even when exposed to extremely hot and/or cold application environments.

Available in a choice of rocker actuator styles and colors, push button, push-pull, paddle, and baton style handle actuators, the Visi-Rocker® two-color actuators as well as non-illuminated or illuminated rocker versions with LED or neon bulbs. The exclusive Rockerguard® bezel helps prevent inadvertent actuation. "Wiping" contact design insures long term reliability. Various styling options allow design flexibility.

Typical applications would include power supplies, medical equipment, and telecommunications equipment.

Agency Certifications

UL Recognized

UL Standard 1077



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

CSA Certified



Component Supplementary Protector under Class 3215 30, File 047848 0 000, CSA Standard C22.2 No. 235

UL Listed

UL Standard 489A



Circuit Breakers, Communications Equipment (CCN/Guide DITT, File E189195)

VDE Certified



EN60934, VDE 0642 under File No. 10537

TUV Certified



EN60934 under License No. E9671241.06

Electrical

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

M-SERIES TABLE A: COMPONENT SUPPLEMENTARY PROTECTOR								
CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING		INTERRUPTING CAPACITY (AMPS)		
	MAX RATING	FREQUENCY	PHASE	FULL LOAD AMPS	GENERAL PURPOSE AMPS	POLES BREAKING	UL / CSA	
							WITH BACKUP FUSE ¹	WITHOUT BACKUP FUSE
SERIES	32	DC	---	0.02 - 15	15.1 - 25	1	---	1000
	50 ³	DC	---	---	0.02 - 7.5	1	---	1000
	65	DC	---	0.02 - 15	15.1 - 25	2	---	1000
	65 ^{2,3}	DC	---	0.02 - 15	15.1 - 30	1	---	1000
	80 ²	DC	---	0.02 - 15	15.1 - 30	1	---	600
	125	50 / 60	1	0.02 - 15	15.1 - 30	1	---	1000
	250	50 / 60	1	0.02 - 12	---	1	---	1000
	250	50 / 60	1	0.02 - 15	15.1 - 30	2	---	1000
	250 ³	50 / 60	1	---	12.1 - 18	1	1000	---

Notes for Tables A :

- 1 Requires Branch Circuit backup with a UL Listed type K-5 or Type RK-5 Fuse rated 60 Amps maximum.
- 2 Polarity Sensitive.
- 3 Available only with special catalog number. Consult factory.

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

M-SERIES TABLE B: COMPONENT SUPPLEMENTARY PROTECTOR										
CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING		POLES BREAKING	INTERRUPTING CAPACITY (AMPS)			
	MAX RATING	FREQUENCY	PHASE	FULL LOAD AMPS	GENERAL PURPOSE AMPS		UL / CSA		VDE / TUV	
							WITH BACKUP FUSE ¹	WITHOUT BACKUP FUSE	WITH BACKUP FUSE ²	WITHOUT BACKUP FUSE
SERIES	32	DC	---	0.02 - 15	15.1 - 25	1	---	1000	3000	500
	50 ⁴	DC	---	---	0.02 - 7.5	1	---	1000	3000	500
	65	DC	---	0.02 - 15	15.1 - 25	2	---	1000	3000	500
	80 ³	DC	---	0.10 - 15	15.1 - 25	1	---	600	---	600 ⁴
	125	50 / 60	1	0.02 - 15	15.1 - 25	1	---	1000	3000	500
	250	50 / 60	1	0.02 - 12	---	1	---	1000	3000	500
	250	50 / 60	1	0.02 - 15	15.1 - 25	2	---	1000	3000	500

Notes for Table B:

- 1 Requires Branch Circuit backup with a UL Listed type K-5 or Type RK-5 Fuse rated 60 Amps maximum.
- 2 Requires backup protection with a thermal magnetic circuit breaker rated 16 Amps and having a Type C trip characteristic per EN60898/DIN VDE 0641 (C16A).
- 3 Polarity Sensitive.
- 4 Available only with special catalog number. Consult factory.
- 5 TUV only.

Table C: Lists UL489A Listed & TUV Certified configurations & performance capabilities for use in Communications Equipment.

M-SERIES TABLE C: UL489A (COMMUNICATIONS EQUIPMENT -- POLARITY SENSITIVE)						
CIRCUIT CONFIGURATION	VOLTAGE		CURRENT RATING	POLES BREAKING	INTERRUPTING CAPACITY (AMPS)	
	MAX RATING	FREQUENCY	GENERAL PURPOSE AMPS		WITHOUT BACKUP FUSE	
					UL489A	TUV
SERIES	80	DC	0.02 - 30	1	600	---
	65 ¹	DC	0.02 - 30	1	1000	---
	80	DC	0.10 - 25	1	600	600

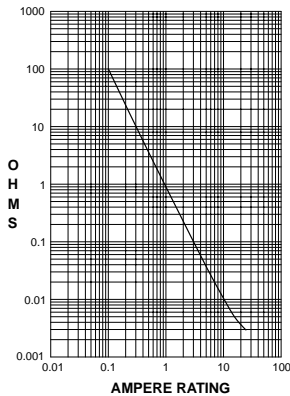
Notes for Table C:

- 1 Available only with Special Catalog Number.

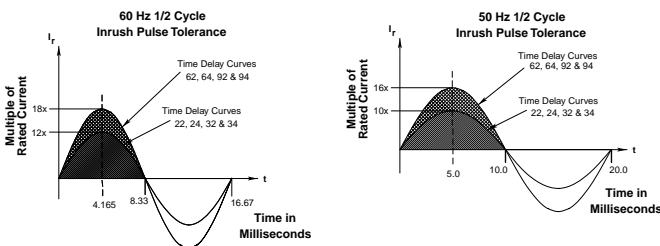
Electrical

Maximum Voltage	125/250 VAC 50/60 Hz, 80 VDC (See Rating Tables.)
Current Ratings	Standard current coils: 0.100, 0.250, 0.500, 0.750, 1.00 thru 15.0 in 1 amp increments, 18.0, 20.0, 25.0, 30.0. Other ratings available - see Ordering Scheme.
Auxiliary Switch Rating	SPDT; 7A 250VAC, 7A (Res) 28VDC, 4A (Ind.) 28VDC, 0.25A 80VDC (Res) (silver contacts), 0.1A 125VAC (gold contacts).
Insulation Resistance	Minimum of 100 Megohms at 500 VDC.
Dielectric Strength	UL, CSA 1500V, 50/60 Hz for one minute between all electrically isolated terminals. M-Series Circuit Breakers comply with the 8mm spacing and 3750 V 50/60Hz dielectric requirements from hazardous voltage to operator accessible surfaces, per Publications IEC 380, 435, 950, EN 60950 and VDE 0805.
Resistance, Impedance	Values from Line to Load Terminal - based on Series Trip Circuit Breaker.

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



CURRENT (AMPS)	TOLERANCE (%)
0.10 - 20.0	± 25%
20.1 - 30.0	± 35%

Pulse Tolerance Curves

Mechanical

Endurance	10,000 ON-OFF operations @ 6 per minute with rated Current and Voltage.
Trip Free	All M-Series Circuit Breakers will trip on overload, even when actuator is forcibly held in the ON position.
Trip Indication	The actuator moves positively to the OFF position when an overload causes the circuit breaker to trip.

Physical

Number of Poles	1 or 2
Internal Circuit Configurations	Series with or without Auxiliary Switch. Switch Only with or without Auxiliary Switch.
Weight	Approximately 30 grams/pole (Approximately 1.07 ounces/pole)
Standard Colors	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, Cond. I. Instantaneous curves tested at 80% 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 curves tested at 80% of rated current.
Moisture Resistance	Method 106D, i.e., ten 24-hour cycles @ + 25°C to +65°C, 80-98% RH.
Salt Spray	Method 101, Condition A (90-95% RH @ 5% NaCl Solution, 96 hrs).
Thermal Shock	Method 107D, Condition A (Five cycles @ -55°C to +25°C to +85°C to +25°C).
Operating Temperature	-40° C to +85° C
Chemical Resistance	Only the outside surfaces of the case and the handles may be cleaned with detergents or alcohol. Organic (hydrocarbon based) solvents are not recommended because they attack plastics. Caution should be taken when solvents are used to clean and remove flux from terminals. Lubricants should not be introduced into the handle/bushing openings.

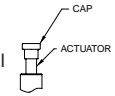



1 SERIES

M

2 ACTUATOR ¹

Handle
M Paddle  **N** Baton 

Push Button
T Push-Pull 

Push Button w/ Snap-In Mounting
V Push-Pull 

3 POLES

1 One

4 CIRCUIT

without Auxiliary Switch
B Series Trip (Current)

with Auxiliary Switch, Silver Contacts **Terminal Type:**
S ² Series Trip (Current) .060 Dia, Round Solder Turret
T ^{2,3} Series Trip (Current) .058 Dia, Round Q.C.
with Auxiliary Switch, Gold Contacts
4 ² Series Trip (Current) .058 Dia, Round Solder Turret

5 FREQUENCY & DELAY

12 DC Short	72 DC, Short, Hi-Inrush
14 DC Medium	74 DC, Medium, Hi-Inrush

6 CURRENT RATING (AMPERES)

020 0.020	225 0.250	420 2.000	710 10.500
025 0.025	230 0.300	522 2.250	611 11.000
030 0.030	235 0.350	425 2.500	711 11.500
035 0.035	240 0.400	527 2.750	612 12.000
040 0.040	245 0.450	430 3.000	712 12.500
045 0.045	250 0.500	435 3.500	613 13.000
050 0.050	255 0.550	440 4.000	614 14.000
055 0.055	260 0.600	445 4.500	615 15.000
060 0.060	265 0.650	450 5.000	616 16.000
065 0.065	270 0.700	455 5.500	617 17.000
070 0.070	275 0.750	460 6.000	717 17.500
075 0.075	280 0.800	465 6.500	618 18.000
080 0.080	285 0.850	470 7.000	619 19.000
085 0.085	290 0.900	475 7.500	620 20.000
090 0.090	295 0.950	480 8.000	622 22.000
095 0.095	410 1.000	485 8.500	624 24.000
210 0.100	512 1.250	490 9.000	625 25.000
215 0.150	415 1.500	495 9.500	630 30.000
220 0.200	517 1.750	610 10.000	

7 TERMINAL⁴

1 Push-On 0.250 Tab (Q.C.)	4 Screw 8-32 (Back-connected)
2 Screw 8-32 w/upturned lugs	A Push-In Stud
3 Screw 8-32 (Bus Type)	

8 ACTUATOR COLOR & LEGEND⁵

Gloss Handle	Push-Button	Actuator Color
1	A	White
2	B	Black
3	C	Red
4	D	Green
5	E	Blue
6	F	Yellow
8	H	Orange

9 FRONT PANEL HARDWARE⁶

	Handle	Push-Button
No outer Panel Hardware	A	1
Knurled Nut		
bright nickel	B	2
bright nickel w/ locking ring	C	
black	D	
black w/ locking ring	E	
Panel Dress Nut		
bright nickel	F	
bright nickel w/ locking ring	G	
black	H	
black w/ locking ring	J	

10 LEGEND PLATE / BUTTON MARKING

Handle Actuator Legend Plate (for Paddle and Baton Actuators)

A No Legend Plate
B ON - OFF Vertical
C ON - OFF Horizontal
D I - O Vertical
E I - O Horizontal

Push-Pull Actuator Button Cap

1⁸ No Marking
2 Rated Amps Horizontal
3 Rated Amps Line Side Down
4 Rated Amps Line Side Up

11 BUSHING COLOR⁷

B Black

12 AGENCY APPROVAL⁹

J UL489A LISTED, TUV CERTIFIED
M UL RECOGNIZED
N UL RECOGNIZED, TUV CERTIFIED
T UL489A LISTED

Notes:
1 One actuator is located in the center of each multi-pole breaker.
2 One Auxiliary Switch is supplied per breaker. On two-pole breakers, standard Auxiliary Switch mounting is in pole one. Auxiliary Switch option limited to Series Trip and Switch Only circuits. Not available with Back Connected Screw or Push-in Stud terminals.
3 Mates with AMP .058" diameter pin receptacles including 60983-1 (gold plated) and 60983-3 (tin plated).
4 Screw terminals or Push-in Stud recommended above 20 amps.
5 Actuator color is only visible in the OFF position on Push-Pull actuators.
6 All units have one hex nut installed on bushing for use behind the panel.
7 Other colors available. Consult factory.
8 Not available with UL489A Listed breakers.
9 TUV certified to 25 amps. UL Recognized, CSA certified and UL Listed to 30 amps.



1 SERIES
M

2 ACTUATOR ¹
Non-Illuminated single color
A Angled **B** Flat
Two Color Visi-Rocker
D Indicate ON **E** Indicate OFF
Illuminated single color²
F Angled **G** Flat

ROCKER STYLE DESCRIPTION (DUAL LEGEND SHOWN)				
STYLE	INDICATE - "ON"	INDICATE - "OFF"	FLAT	ANGLED
VERTICAL				
HORIZONTAL				

3 POLES
1 One **2** Two

4 CIRCUIT ²
without Auxiliary Switch
A Switch Only (No Coil), Maintained Contacts
B Series Trip (Current)
with Auxiliary Switch, Silver Contacts
P³ Switch Only, Maintained Contacts **Terminal Type:** .060 Dia, Round Solder Turret
Q^{3,4} Switch Only, Maintained Contacts .058 Dia, Round Q.C.
S³ Series Trip (Current) .060 Dia, Round Solder Turret
T^{3,4} Series Trip (Current) .058 Dia, Round Q.C.
with Auxiliary Switch, Gold Contacts
2³ Switch Only, Maintained Contacts .058 Dia, Round Q.C.
4^{3,4} Series Trip (Current) .058 Dia, Round Solder Turret

5 FREQUENCY & DELAY		32	DC, 50/60Hz Short
03	DC 50/60Hz, Switch Only	34	DC, 50/60Hz Medium
10	DC Instantaneous	62	50/60Hz Short, Hi-Inrush
12	DC Short	64	50/60Hz Medium, Hi-Inrush
14	DC Medium	72	DC, Short, Hi-Inrush
20	50/60Hz Instantaneous	74	DC, Medium, Hi-Inrush
22	50/60Hz Short	92	DC, 50/60Hz Short, Hi-Inrush
24	50/60Hz Medium	94	DC, 50/60Hz, Medium, Hi-Inrush
30	DC, 50/60Hz Instantaneous		

- Notes:
 1 One actuator is located in the center of each multi-pole breaker.
 2 For Switch Only circuits, select Current Coil Rating from the following chart:

VOLTAGE			FULL LOAD AMP RATING		GENERAL PURPOSE AMP RATING		TUNGSTEN LAMP RATING		POLES BREAKING
MAX. RATING	FREQUENCY	PHASE	MAX. AMPS	CHOOSE CURRENT COIL RATING CODE:	MAX. AMPS	CHOOSE CURRENT COIL RATING CODE:	MAX. AMPS	CHOOSE CURRENT COIL RATING CODE:	
32	DC	-	15	615	25	625	-	-	1
50	DC	-	-	-	7.5	Consult Factory	-	-	1
65	DC	-	15	615	25	625	-	-	2
125	50/60HZ	1	15	615	25	625	15	615	1
250	50/60HZ	1	12	612	-	-	-	-	1
250	50/60HZ	1	15	615	25	625	-	-	2

- 3 One Auxiliary Switch is supplied per breaker. On two-pole breakers, standard Auxiliary Switch mounting is in pole one. Auxiliary Switch option limited to Series Trip & Switch Only circuits, and is not available in single pole illuminated breakers, or Back Connected Screw or Push-in Stud terminals.
 4 Mates with AMP .058" diameter pin receptacles: 60983-1 (gold plated) & 60983-2 (tin plated).
 5 For neon bulb applications at 120VAC @ 47K, 1/4 WATT and for 250VAC applications @ 150K, 1/4 WATT, external resistors must be supplied by customer.
 6 On Visi-Rocker breakers, Visi portion of rocker cannot be the same color as the bezel.
 7 For LED (DC or rectified AC) applications, LED is mounted in the center of the rocker actuator with electrical characteristics as follows: 100 millicandela at 20mA; Maximum power dissipation = 75mW at 25°C; Maximum forward current = 25mA; Typical forward voltage = 2.1V at 20mA; Typical reverse current = 100uA at 3V. Customer supplies the proper external resistor limiting current to these values.
 8 Rocker color for LED's and green neon lamp must be clear, smoke gray, white translucent or match color of LED or neon lamp.
 9 Other colors available. Consult factory.
 10 TUV and VDE Certified to 25 amps. UL Recognized and CSA Certified to 30 amps. Screw Terminals or Push-in Stud recommended above 20 amps.
 11 TUV or VDE Certified must have I-O or Dual Legends. Legend required on Visi-Rocker breakers.
 12 30 amp rating not available with delay's 30, 32, 34, 92 or 94.
 13 Screw Terminals are VDE certified only with use of ring terminal attached to wire.

6 CURRENT RATING (AMPERES)¹⁰

020	0.020	225	0.250	420	2.000	710	10.500
025	0.025	230	0.300	522	2.250	611	11.000
030	0.030	235	0.350	425	2.500	711	11.500
035	0.035	240	0.400	527	2.750	612	12.000
040	0.040	245	0.450	430	3.000	712	12.500
045	0.045	250	0.500	435	3.500	613	13.000
050	0.050	255	0.550	440	4.000	614	14.000
055	0.055	260	0.600	445	4.500	615	15.000
060	0.060	265	0.650	450	5.000	616	16.000
065	0.065	270	0.700	455	5.500	617	17.000
070	0.070	275	0.750	460	6.000	717	17.500
075	0.075	280	0.800	465	6.500	618	18.000
080	0.080	285	0.850	470	7.000	619	19.000
085	0.085	290	0.900	475	7.500	620	20.000
090	0.090	295	0.950	480	8.000	622	22.000
095	0.095	410	1.000	485	8.500	624	24.000
210	0.100	512	1.250	490	9.000	625	25.000
215	0.150	415	1.500	495	9.500	630 ¹²	30.000
220	0.200	517	1.750	610	10.000		

7 TERMINAL ¹⁰
1 Push-On 0.250 Tab (Q.C.) **4¹³** Screw 8-32 (Back-connected)
2¹³ Screw 8-32 w/upturned lugs **A** Push-In Stud
3¹³ Screw 8-32 (Bus Type)

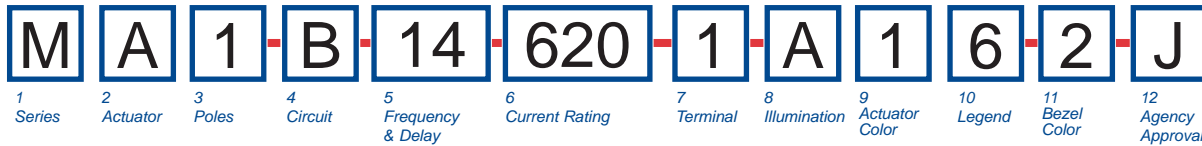
8 ROCKER ILLUMINATION
Non-illuminated
Neon ⁵ Neon Green Glow⁸
 without resistor, 120VAC/250VAC **B** C
LED^{7,9} Red Green Amber
 without resistor **D** **G** **K**
 with resistor, 4-8 VDC **E** **H** **L**
 with resistor, 9-16 VDC **F** **J** **M**

9 ACTUATOR & LEGEND COLOR
Solid Color Actuator Legend
1 White Black
2 Black White
3 Red White
4 Green White
5 Blue White
6 Yellow Black
7 Gray Black
8 Orange Black
Visi-Rocker⁶ Visi & Legend (remainder of rocker same color as bezel)
1 White
2 Black
3 Red
4 Green
5 Blue
6 Yellow
7 Gray
8 Orange
Illuminated ⁸ Actuator Legend
A Clear Black
B Red Transparent White
C Green Transparent White
D Amber Transparent White
E Smoke Gray Transparent Black
F White Translucent Black

10 LEGEND¹¹
1 No Legend **5** I - O Horizontal
2 ON - OFF Vertical **6** Dual Vertical
3 ON - OFF Horizontal **7** Dual Horizontal
4 I - O Vertical

11 BEZEL COLOR / STYLE ⁹
 Color without Rockerguard with Rockerguard
 White **A** **1**
 Black **B** **2**
 Gray **G** **7**

12 AGENCY APPROVAL ¹⁰
C UL Recognized & CSA Certified
D VDE Certified, UL Recognized & CSA Certified
E TUV Certified, UL Recognized & CSA Certified



1 SERIES
M

2 ACTUATOR¹
Non-Illuminated single color
A Angled **B** Flat
Two Color Visi-Rocker
D Indicate ON **E** Indicate OFF
Illuminated single color²
F Angled **G** Flat

ROCKER STYLE DESCRIPTION (DUAL LEGEND SHOWN)				
STYLE	INDICATE - "ON"	INDICATE - "OFF"	FLAT	ANGLED
VERTICAL				
HORIZONTAL				

3 POLES
1 One

4 CIRCUIT²
without Auxiliary Switch
B Series Trip (Current)
with Auxiliary Switch, Silver Contacts
S Series Trip (Current) **Terminal Type** .080 x .020 Flat Q.C./Solder
T³ Series Trip (Current) .058 Dia, Round Q.C.
with Auxiliary Switch, Gold Contacts
4³ Series Trip (Current) .058 Dia, Round Q.C.

5 FREQUENCY & DELAY
10 DC Instantaneous **14** DC Medium
12 DC Short **72** DC, Short, Hi-Inrush
74 DC, Medium, Hi-Inrush

6 CURRENT RATING (AMPERES)

020	0.020	225	0.250	420	2.000	710	10.500
025	0.025	230	0.300	522	2.250	611	11.000
030	0.030	235	0.350	425	2.500	711	11.500
035	0.035	240	0.400	527	2.750	612	12.000
040	0.040	245	0.450	430	3.000	712	12.500
045	0.045	250	0.500	435	3.500	613	13.000
050	0.050	255	0.550	440	4.000	614	14.000
055	0.055	260	0.600	445	4.500	615	15.000
060	0.060	265	0.650	450	5.000	616	16.000
065	0.065	270	0.700	455	5.500	617	17.000
070	0.070	275	0.750	460	6.000	717	17.500
075	0.075	280	0.800	465	6.500	618	18.000
080	0.080	285	0.850	470	7.000	619	19.000
085	0.085	290	0.900	475	7.500	620	20.000
090	0.090	295	0.950	480	8.000	622	22.000
095	0.095	410	1.000	485	8.500	624	24.000
210	0.100	512	1.250	490	9.000	625	25.000
215	0.150	415	1.500	495	9.500	630	30.000
220	0.200	517	1.750	610	10.000		

7 TERMINAL⁹
1 Push-On 0.250 Tab (Q.C.) **4** Screw 8-32 (Back-connected)
2 Screw 8-32 w/upturned lugs **A** Push-In Stud
3 Screw 8-32 (Bus Type)

8 ILLUMINATION
Non-Illuminated
Neon⁴
without resistor, 120VAC/250VAC
LED
without resistor^{5,7}
with resistor, 4-8 VDC
with resistor, 9-16 VDC

A	Neon	Green Glow ⁷	
B	Red	Green	Amber
D		G	K
E		H	L
F		J	M

9 ACTUATOR & LEGEND COLOR

Solid Color	Actuator	Legend
1	White	Black
2	Black	White
3	Red	White
4	Green	White
5	Blue	White
6	Yellow	Black
7	Gray	Black
8	Orange	Black
Visi-Rocker⁶ Visi & Legend (remainder of rocker same color as bezel)		
1	White	
2	Black	
3	Red	
4	Green	
5	Blue	
6	Yellow	
7	Gray	
8	Orange	
Illuminated³		
A	Clear	Legend
B	Red Transparent	White
C	Green Transparent	White
D	Amber Transparent	White
E	Smoke Gray Transparent	Black
F	White Translucent	Black

10 LEGEND¹⁰

1	No Legend (Single Color or Illuminated Rocker Options Only)
2	ON - OFF Vertical
3	ON - OFF Horizontal
4	I - O Vertical
5	I - O Horizontal
6	Dual Vertical
7	Dual Horizontal

11 BEZEL COLOR / STYLE⁸

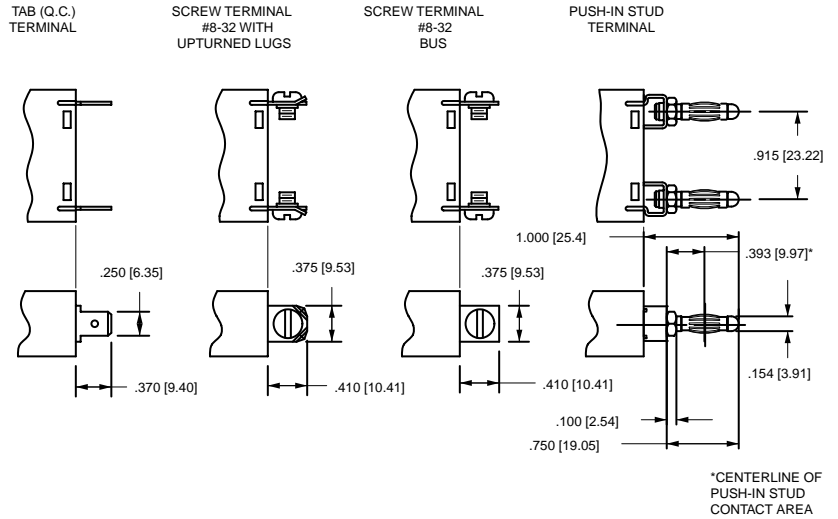
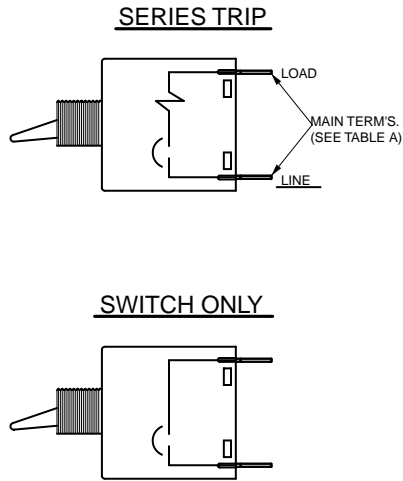
Color	without Rockerguard	with Rockerguard
White	A	1
Black	B	2
Gray	G	7

12 AGENCY APPROVAL⁹

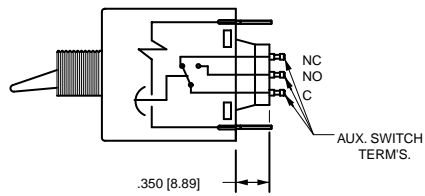
J	UL489A Listed & TUV Certified
M	UL Recognized & CSA Certified
N	TUV Certified, UL Recognized & CSA Certified
T	UL489A Listed

- Notes:
- One actuator is located in the center of each multi-pole breaker.
 - One Auxiliary Switch is supplied per breaker. Auxiliary Switch option limited to Series Trip & Switch Only circuits, and is not available in single pole illuminated breakers, or with Back Connected Screw or Push-in Stud terminals.
 - Mates with AMP .058" diameter pin receptacles: 60983-1 (gold plated) & 60983-1 (tin plated).
 - For neon bulb applications at 120VAC @ 47K, 1/4 WATT and for 250VAC applications @ 150K, 1/4 WATT, external resistors must be supplied by customer.
 - For LED (DC or rectified AC) applications, LED is mounted in the center of the rocker actuator with electrical characteristics as follows: 100 millicandela at 20mA; Maximum power dissipation = 75mW at 25°C; Maximum forward current = 25mA; Typical forward voltage = 2.1V at 20mA; Typical reverse current = 100uA at 3V. Customer supplies the proper external resistor limiting current to these values.
 - On Visi-Rocker breakers, Visi portion of rocker cannot be the same color as the bezel.
 - Rocker color for LED's and green neon lamp must be clear, smoke gray, white translucent or match color of LED or neon lamp.
 - Other colors available. Consult factory.
 - TUV Certified to 25 amps. UL Recognized, CSA Certified and UL489A Listed to 30 amps. Screw Terminals recommended above 20 amps.
 - UL489A Listed must have ON-OFF or Dual legends. TUV Certified approvals must have I - O or Dual legends.

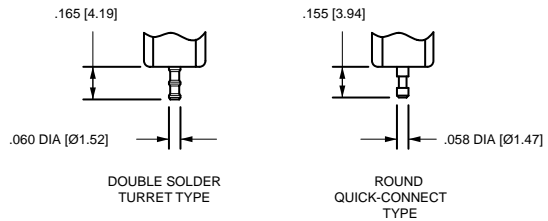
TERMINAL DIMENSIONAL DETAIL



SERIES TRIP W/ AUXILIARY SWITCH



AUXILIARY SWITCH TERMINALS



MULTI-POLE IDENTIFICATION SCHEME

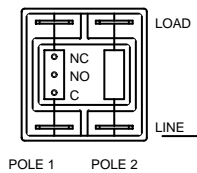


FIG. A

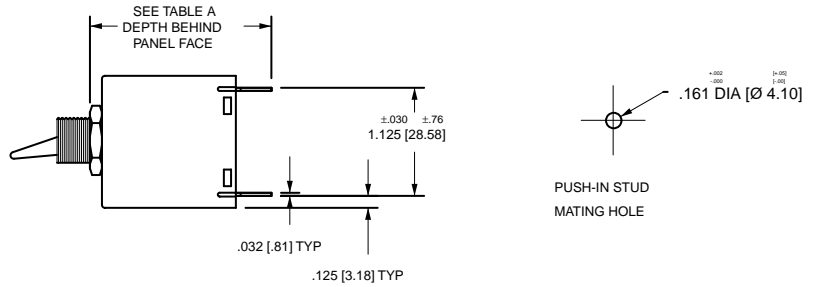


TABLE A		
TERMINAL DESCRIPTION		DEPTH BEHIND PANEL FACE *
MAIN	TAB (Q.C)	1.890 [48.00]
	SCREW (#8-32)***	1.930 [49.03]
	PUSH-IN STUD	2.520 [64.00]
AUX. ** SWITCH	DOUBLE SOLDER TURRET TYPE	2.035 [51.69]
	ROUND Q.C TYPE	2.025 [51.44]

*DEPTH INCLUDES BEHIND PANEL HEX NUT AS SUPPLIED ON ALL UNITS.

**WHEN CALLED FOR ON MULTI-POLE UNITS, ONLY ONE AUX. SWITCH IS NORMALLY SUPPLIED, MOUNTED AS SHOWN IN FIG. A

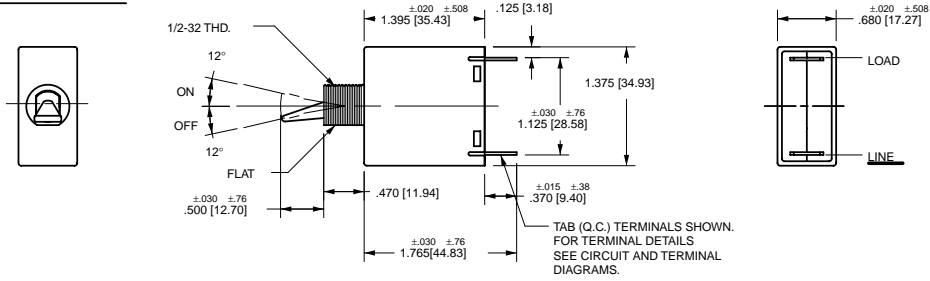
***RECOMMENDED TIGHTENING TORQUE 12-15 IN-LBS [1.4 - 1.7 NM]

Notes:

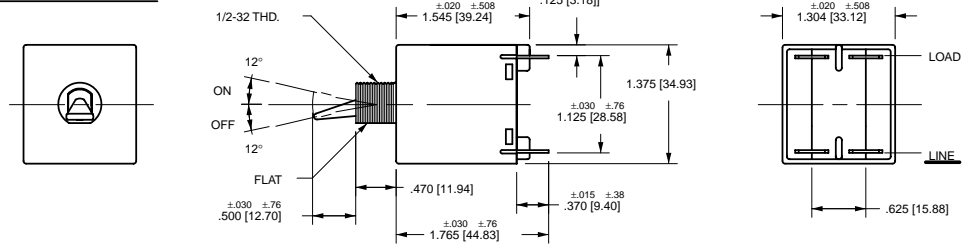
- All dimensions are in inches [millimeters].
- Tolerance ± 0.015 [.38] unless otherwise specified.

PADDLE ACTUATOR STYLE

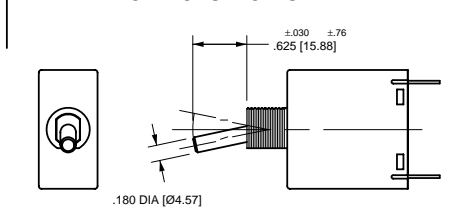
SINGLE POLE



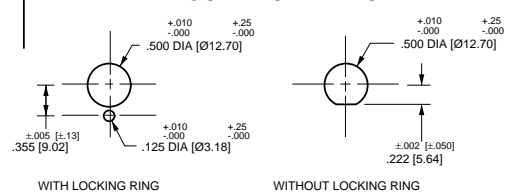
DOUBLE POLE



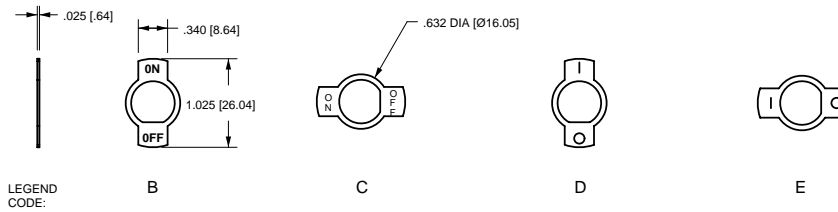
BATON ACTUATOR STYLE



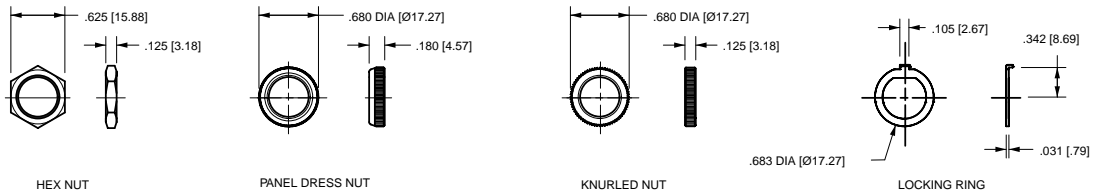
MOUNTING DETAILS



LEGEND PLATES



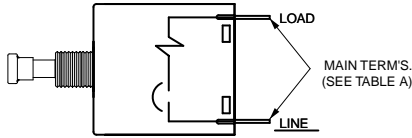
PANEL HARDWARE



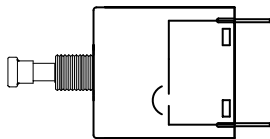
NO

Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance $\pm .010$ [.25] unless otherwise specified.

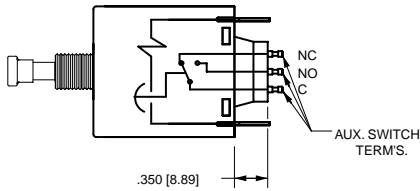
SERIES TRIP



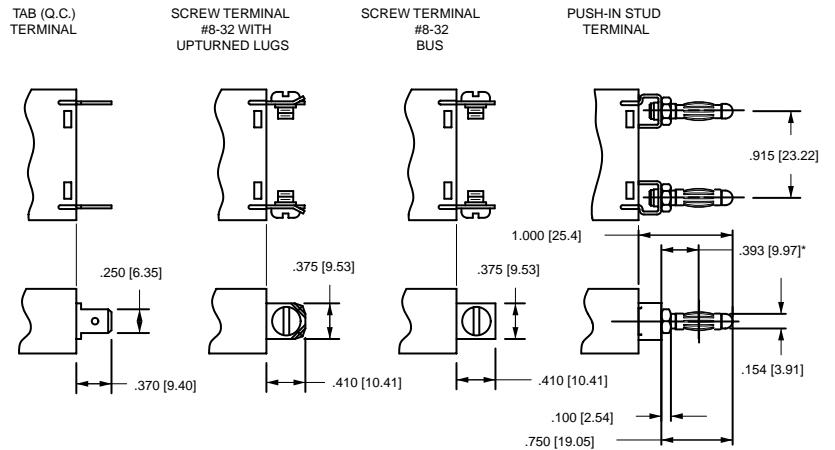
SWITCH ONLY (PUSH-PULL ONLY)



SERIES TRIP W/ AUXILIARY SWITCH

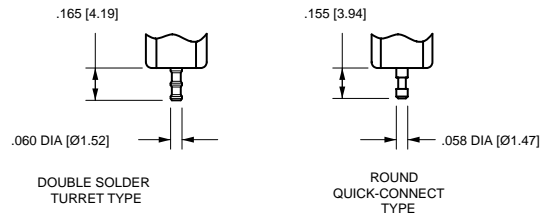


TERMINAL DIMENSIONAL DETAIL



*CENTERLINE OF PUSH-IN STUD CONTACT AREA

AUXILIARY SWITCH TERMINALS



MULTI-POLE IDENTIFICATION SCHEME

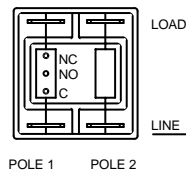


FIG. A

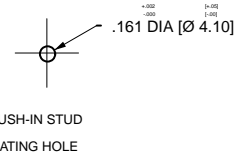
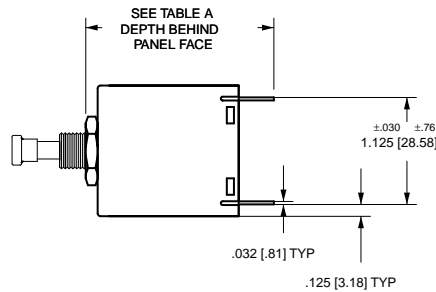


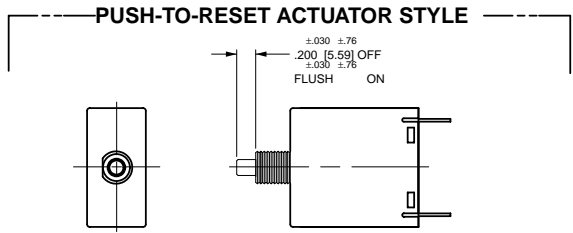
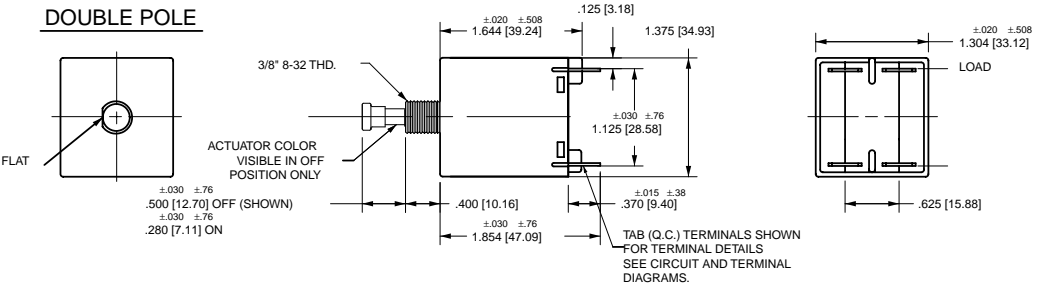
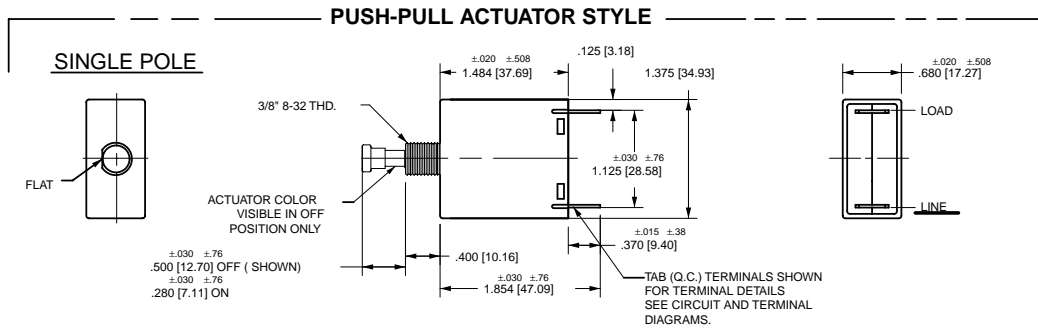
TABLE A		
TERMINAL DESCRIPTION		DEPTH BEHIND PANEL FACE *
MAIN	TAB (Q.C)	1.952 [49.57]
	SCREW (#8-32)	1.992 [50.60]
	PUSH-IN STUD	2.530 [64.26]
AUX. ** SWITCH	DOUBLE SOLDER TURRET TYPE	2.097 [53.26]
	ROUND Q.C TYPE	2.087 [53.01]

*DEPTH INCLUDES BEHIND PANEL HEX NUT AS SUPPLIED ON ALL UNITS.

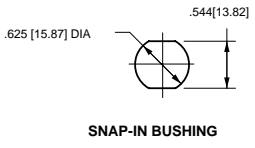
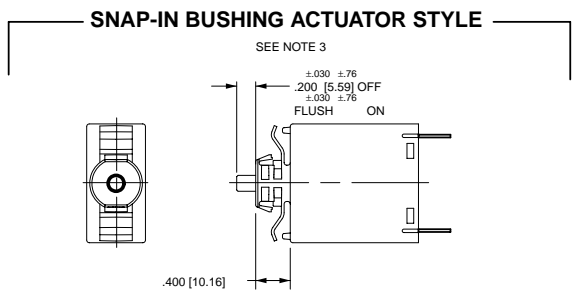
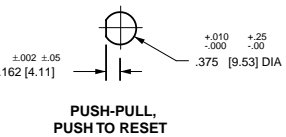
** WHEN CALLED FOR ON MULTI-POLE UNITS, ONLY ONE AUX. SWITCH IS NORMALLY SUPPLIED, MOUNTED AS SHOWN IN FIG. A

Notes:

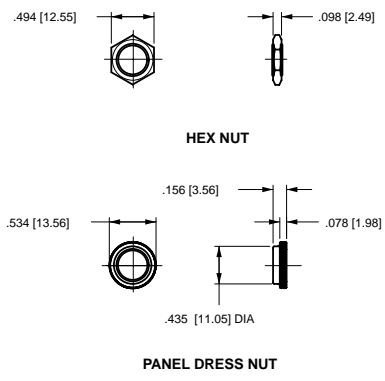
- All dimensions are in inches [millimeters].
- Tolerance ±.015 [.38] unless otherwise specified.



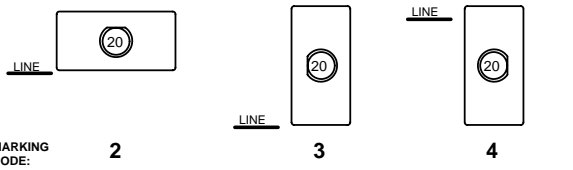
MOUNTING DETAILS



PANEL HARDWARE

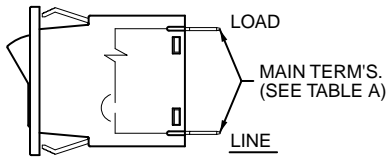


BUTTON MARKING ORIENTATION (PUSH-PULL ONLY)

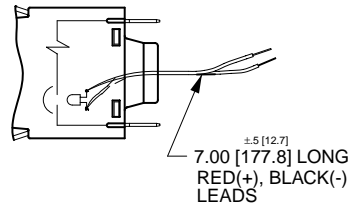


Notes:
 1 All dimensions are in inches [millimeters].
 2 Tolerance ± 0.10 [.25] unless otherwise specified.
 3 Available with Push-Pull or Push-to-Reset Actuators.

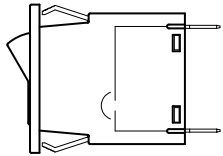
SERIES TRIP



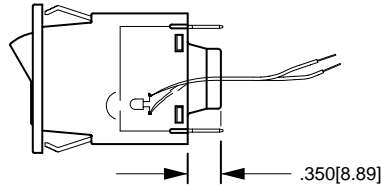
SERIES TRIP W/ ILLUMINATED ROCKER



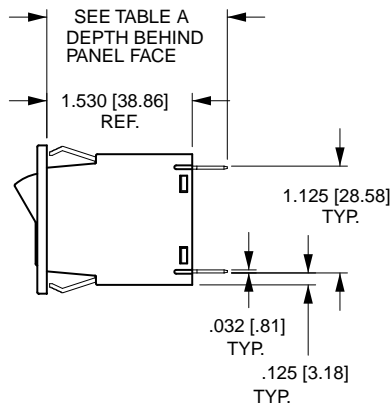
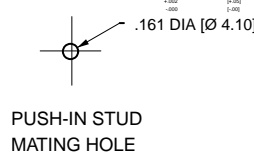
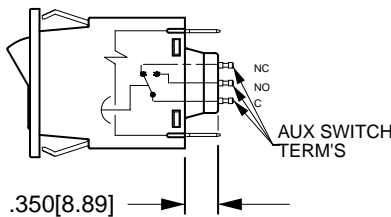
SWITCH ONLY



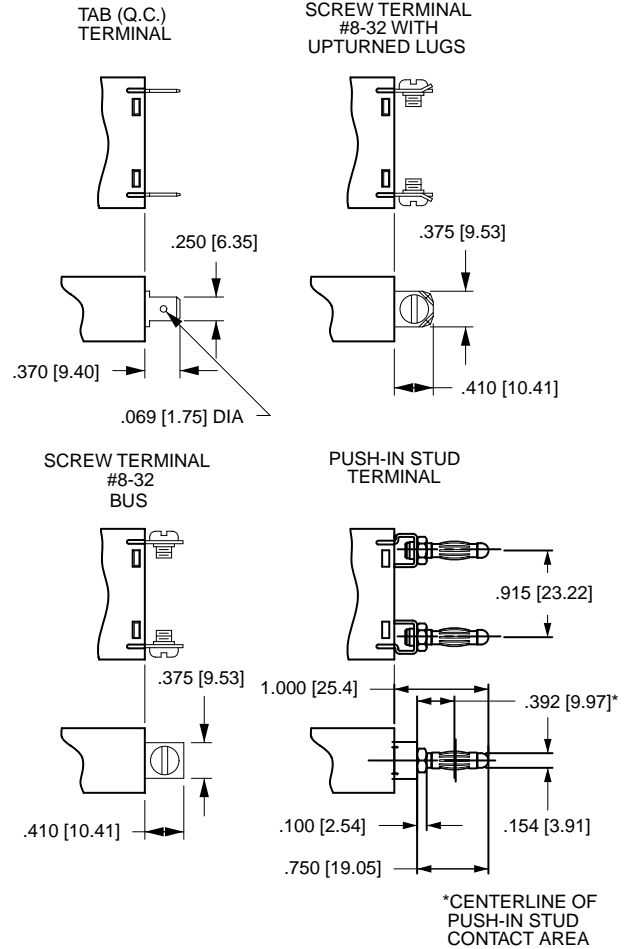
SWITCH ONLY W/ ILLUMINATED ROCKER



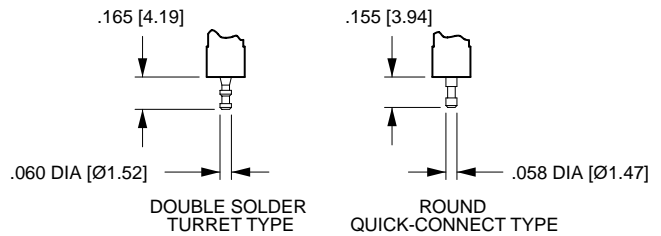
SERIES TRIP W/ AUXILIARY SWITCH



TERMINAL DIMENSIONAL DETAIL



AUXILIARY SWITCH TERMINALS



MULTI-POLE IDENTIFICATION SCHEME

VISI-OFF, SINGLE COLOR & ILLUMINATED OPTIONS ONLY

VISI-ON OPTION ONLY

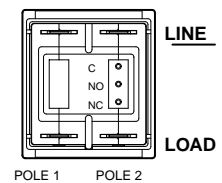
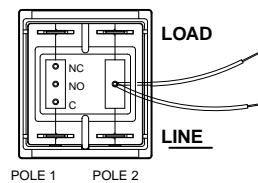


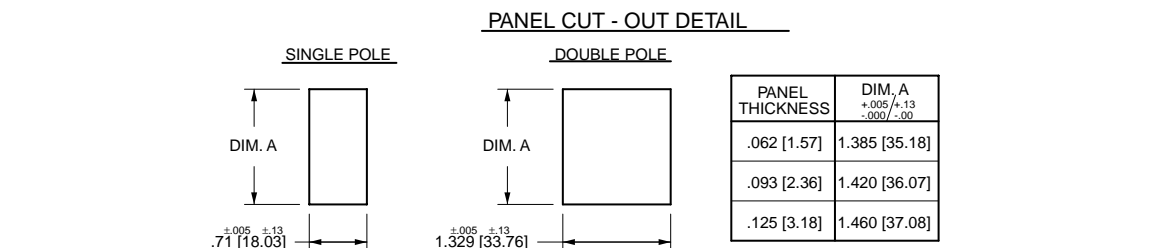
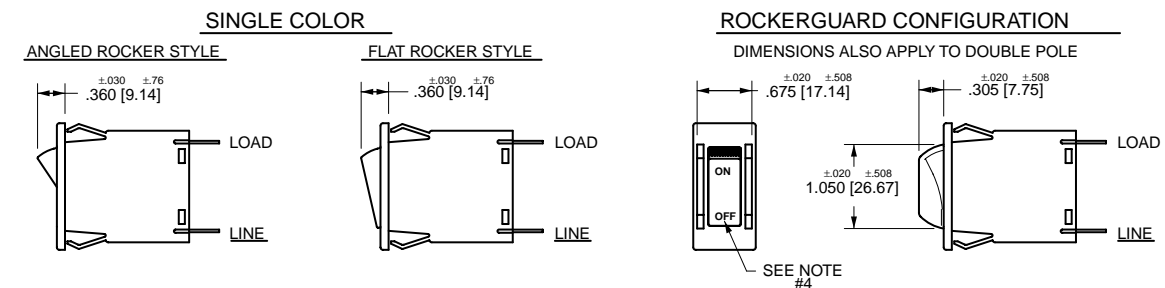
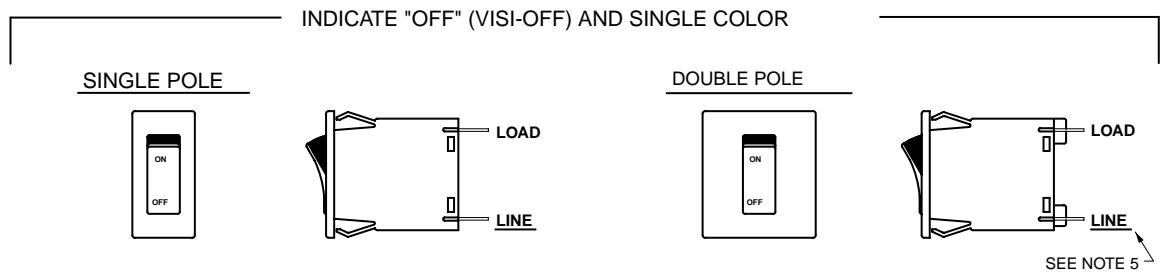
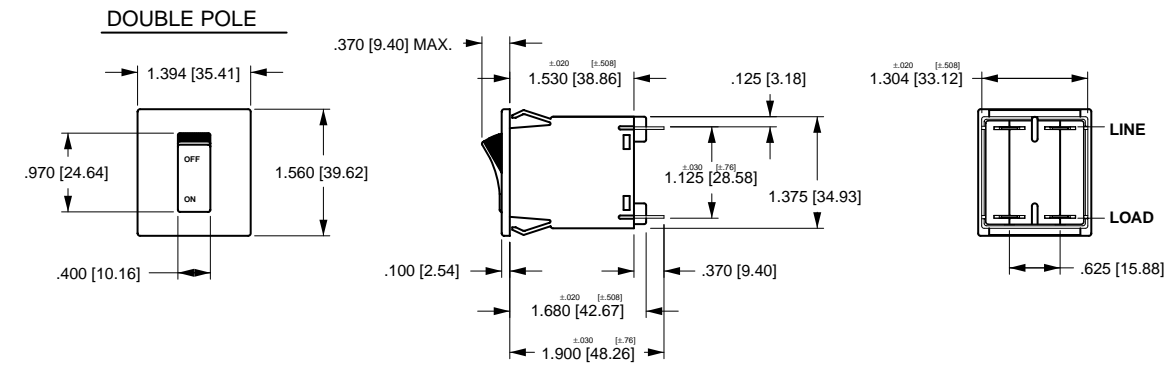
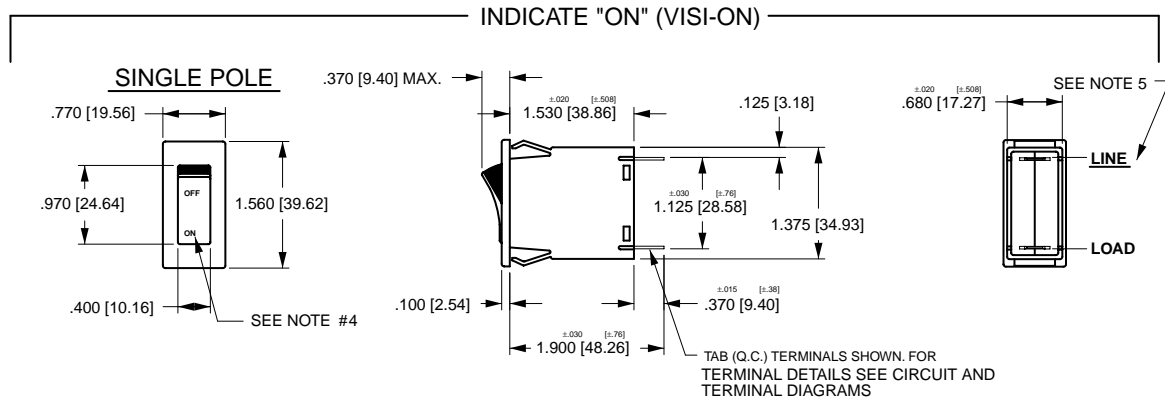
TABLE - A		
TERMINAL DESCRIPTION		DEPTH BEHIND PANEL FACE
MAIN	TAB (Q.C.)	1.900 [48.26]
	SCREW (#8-32)**	1.940 [49.28]
	PUSH-IN STUD	2.530 [64.26]
* AUX. SWITCH	DOUBLE SOLDER TURRET TYPE	2.045 [51.94]
	ROUND Q.C. TYPE	2.035 [51.69]

* AUX. SWITCH IS NOT AVAILABLE ON SINGLE POLE ILLUMINATED UNITS. WHEN CALLED FOR ON MULTI-POLE UNITS, ONLY ONE AUX. SWITCH IS NORMALLY SUPPLIED, MOUNTED AS SHOWN IN FIG. A OR FIG. B.

**RECOMMENDED TIGHTENING TORQUE 12-15 IN LBS [1.4-2.7 NM]

Notes:

- All dimensions are in inches [millimeters].
- Tolerance ±.015 [.38] unless otherwise specified.
- Schematic shown represents current trip circuit.



- 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 I-O, ON-OFF or dual legends available for vertical or horizontal mounting. For pole orientation with horizontal legend, rotate front view clockwise 90°.
 - 3 All dimensions are in inches [millimeters].
 - 4 Tolerance ± 0.010 [.25] unless otherwise specified.

ONE POLE

ROCKER AND AUXILIARY SWITCH OPTIONS

FIG-A
NON-ILLUMINATED (SINGLE COLOR AND VISI-OFF) ROCKER OPTIONS WITH AUXILIARY SWITCH

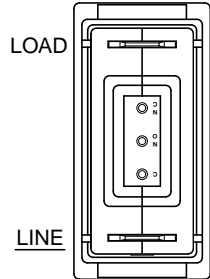


FIG-B
NON-ILLUMINATED (VISI-ON) OPTION ONLY WITH AUXILIARY SWITCH

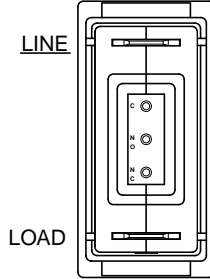
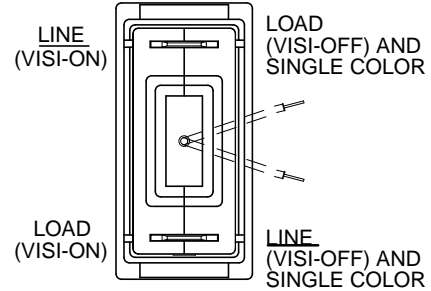


FIG-C
ALL-ROCKER OPTIONS WITHOUT AUXILIARY SWITCH



AVAILABLE CIRCUIT OPTIONS:

SERIES TRIP OR "SWITCH ONLY"

SERIES TRIP OR "SWITCH ONLY"

SERIES TRIP OR "SWITCH ONLY"

TWO POLE

ROCKER AND AUXILIARY SWITCH OPTIONS

FIG-D
ILLUMINATED AND NON-ILLUMINATED (SINGLE COLOR AND VISI-OFF) ROCKER OPTIONS WITH (1) AUXILIARY SWITCH

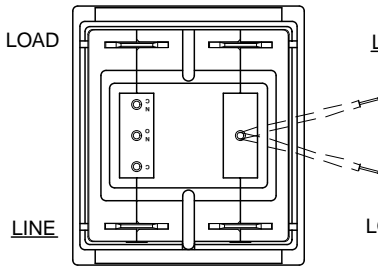


FIG-E
NON-ILLUMINATED (VISI-ON) OPTION ONLY WITH (1) AUXILIARY SWITCH

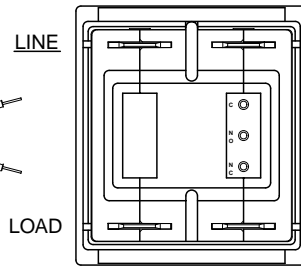
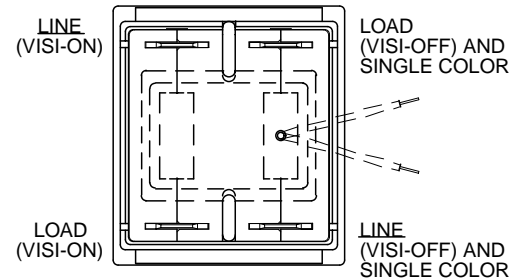


FIG-F
ALL-ROCKER OPTIONS WITHOUT AUXILIARY SWITCH



AVAILABLE CIRCUIT OPTIONS:

POLE 1
SERIES TRIP OR "SWITCH ONLY"

POLE 2
SERIES TRIP OR "SWITCH ONLY"

POLE 1
SERIES TRIP OR "SWITCH ONLY"

POLE 2
SERIES TRIP OR "SWITCH ONLY"

POLE 1
SERIES TRIP OR "SWITCH ONLY"

POLE 2
SERIES TRIP OR "SWITCH ONLY"

MULTI-POLE BREAKERS ARE AVAILABLE WITH A MAXIMUM OF 1 AUXILIARY SWITCH MOUNTED AS SHOWN ABOVE

