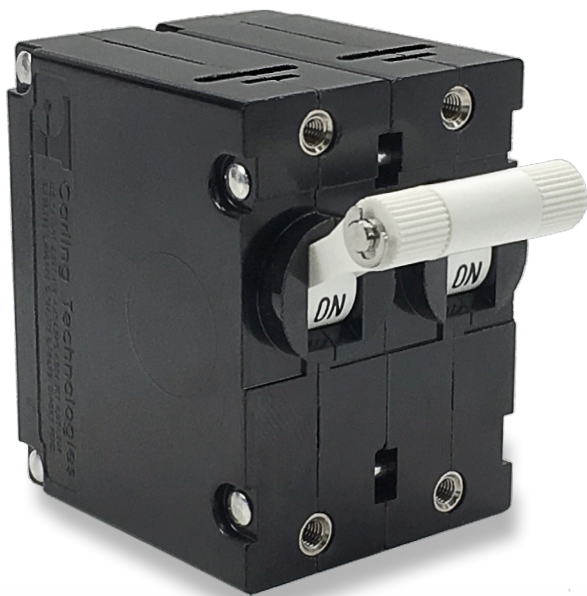


A-Series

Hydraulic-Magnetic Circuit Breaker

PRODUCT WEBPAGE

request sample, configure part



Compact and Versatile Design

The A-Series hydraulic-magnetic circuit breakers offer precise operation in a compact size for both general purpose as well as full amp load applications. Visi Rocker® and recessed paddle actuators are ideally suited for clean, front panel designs while the metal toggle configuration is ideal for harsh environments. The A-Series is available as a one to six pole configuration, rated up to 50 amps, 277VAC/80VDC and has a max IC of 7,500 amps.

1-6	50	277	80	7500A
Poles	Amps Max	VAC Max	VDC Max	Max IC

Typical Applications

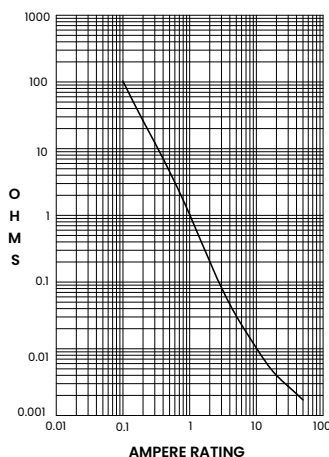
- Marine
- Renewable Energy
- Welders
- Industrial Automation
- Medical Equipment
- Telecom
- Generators
- Military
- Commercial Food

Tech Specs

Electrical

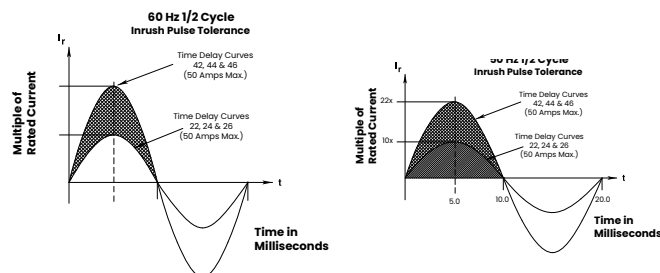
Maximum Voltage	277VAC 50/60 Hz, 80VDC
Current Ratings	Standard current coils: 0.100, 0.250, 0.500, 0.750, 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 50.0. Other ratings available - consult ordering scheme.
Standard Voltage Coils	DC-6V, 12V; AC-120V, Other ratings available, consult 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.

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



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

Pulse Tolerance Curves



Mechanical

Endurance	10,000 ON-OFF operations @ 6 per minute; with rated Current & Voltage.
Trip Free	All 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 Config.	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

Tech Specs

Electrical Tables

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

Component Supplementary Protectors										
Circuit Configuration	Voltage			Current Rating		Short Circuit Capacity (Amps)		Application Codes		Notes
	Max Rating	Frequency	Phase	Full Load Amps	General Purpose Amps	UL / CSA		UL	CSA	
Series	32	DC	---	0.02 - 15	---	---	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
	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
	125 / 250	50 / 60	1 ³	0.02 - 50	---	---	3000	TC1, 2, OL1, U2	TC1, 2, OL1, U2	Handle
	250	50 / 60	1	0.02 - 30	---	---	1500	TC1, 2, OL0, U2	TC1, 2, OL0, U2	Single Pole
				0.02 - 30	---	---	3000	TC1, OL1, U2	TC1, OL1, U2	Two Pole
				---	---	---	3000	TC1, 2, OL0, U1	TC1, 2, OL0, U1	
			1 ⁴	1 - 50	---	---	1000	TC1, OL1, U2	TC3, OL1, U3	
				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
				1 - 50	---	---	2000	TC1, OL1, U2	TC1, OL1, U2	
	125	50 / 60	1 ⁴	0.02 - 30	---	---	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
	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
			1	0.02 - 30	---	---	3000	TC1, OL1, U2	TC1, OL1, U2	Two Pole
			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	
			1	0.02 - 30	---	---	3000	TC1, 2, OL1, U1	TC1, 2, OL1, U1	
	250	50 / 60	3	0.02 - 30	---	5000 ²	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	
			3	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	
			1	0.02 - 30	---	---	3000	TC1, 2, OL1, U1	TC1, 2, OL1, U1	
	250	50 / 60	3	0.02 - 30	---	5000 ²	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	
			1	0.02 - 30	---	5000 ¹	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	
Switch Only	65	DC	---	0.02 - 50	---	not applicable				
	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:

- 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.
- Same as note 1, except that backup fuse is limited to 80 A maximum.
- 2 pole protector required (with one pole per power line) for: 125/250 VAC, 1 pole protector required for: 125 VAC, 1Ø Power System.
- Satisfies the requirements of clause 11.2.8.2.5 of CSA STD C22.2 No 100 for the use of supplementary protectors with portable generators.

Tech Specs

Electrical Tables

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

Component Supplementary Protectors																			
Circuit Configuration	Voltage			Current Rating		Short Circuit Capacity (Amps)						Application Codes		Notes					
	Max Rating	Frequency	Phase	Full Load Amps	General Purpose Amps	UL / CSA		VDE		TUV									
						With Backup Fuse	Without Backup Fuse	(Inc) with Backup Fuse	(Inc) without Backup Fuse	(Inc) with Backup Fuse	(Inc) without Backup Fuse	UL	CSA						
Series	65	DC	---	0.10 - 50	---	---	7500	---	---	5000	3000	TCI, 2, OLI, UI	TCI, 2, OLI, UI	World Market Breaker TUV only					
	80	DC	---	0.10 - 30	---			3000	1500	3000	1500	TCI, 2, OLI, UI	TCI, 2, OLI, UI	Handle: 1 Pole					
				31 - 50	31 - 50							TCI, 2, OL0, UI	TCI, 2, OL0, UI						
				0.10 - 30	---							TCI, 2, OLI, UI	TCI, 2, OLI, UI	Rocker: 1-3 Poles					
				31 - 32	---							TCI, 2, OLI, UI	TCI, 2, OLI, UI	Rocker: 2 Pole					
				31 - 50	31 - 50	TCI, 2, OL0, UI	TCI, 2, OL0, UI					Rocker: 1 Pole							
	250	50 / 60	1	0.10 - 30	---	---	3000	3000	1500	5000		TCI, 2, OLI, UI	TCI, 2, OLI, UI	Rocker: 1-3 Poles					
				31 - 50	31 - 50			---	---			TCI, 2, OL0, UI	TCI, 2, OL0, UI						
				31 - 32	---			6000	1500			TCI, 2, OLI, UI	TCI, 2, OLI, UI	Rocker: 2 Pole					
				1	0.10 - 30			1000	---			---	TCI, OL1, U2		TCI, OL1, U2				
				1 ⁴	1 - 50								---		---	TCI, OL1, U2	TC3, OL1, U3		
			3	0.10 - 30	---	5000 ³	---	3000	1500	3000		TCI, 2, OLI, C1	TCI, 2, OLI, C1	Rocker: 1-3 Poles					
				31 - 50	---	2000 ²	---	---	---	---		---	---						
				Dual Coil	80	DC	---	0.10 - 30	---	---		7500	3000	1500	3000	1500	TCI, 2, OLI, UI	TCI, 2, OLI, UI	Rocker: 1-3 Poles
					250	50 / 60	1	0.10 - 30	---			3000	---	---	5000		TCI, 2, OLI, UI	TCI, 2, OLI, UI	
								30 - 50	31 - 50			---	---	TCI, 2, OL0, UI	TCI, 2, OL0, UI				
0.10 - 30	---	3000	1500					3000	TCI, 2, OLI, C1		TCI, 2, OLI, C1								
3	0.10 - 30	---	5000 ³				---	3000	1500		3000	TCI, 2, OLI, C1	TCI, 2, OLI, C1						
	31 - 50	---	2000 ²				---	---	---			---	---						
Shunt	80	DC	---	0.10 - 30	---	---	7500	3000	1500	3000	1500	TCI, 2, OLI, UI	TCI, 2, OLI, UI	Handle: 1 Pole					
	250	50 / 60	1	0.10 - 30	---		3000	---	---	5000		TCI, 2, OLI, UI	TCI, 2, OLI, UI	Rocker: 1-3 Poles					
				30 - 50	31 - 50		5000 ³	---	3000	1500		3000	TCI, 2, OL0, UI		TCI, 2, OL0, UI				
				0.10 - 30	---								TCI, 2, OLI, C1		TCI, 2, OLI, C1				
			3	0.10 - 30	---								2000 ²		---	---	---	TCI, 2, OLI, C1	TCI, 2, OLI, C1
				31 - 50	---													---	---

Notes:

- General Purpose Ratings for UL/CSA Only.
- 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.
- Same as note 2, except that backup fuse is limited to 80 A maximum.
- Satisfies the requirements of clause 11.2.8.2.5 of CSA STD C22.2 No 100 for the use of supplementary protectors with portable generators.

Tech Specs

Electrical Tables

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

UL1500 (Marine Ignition Protection)							
Circuit Configuration	Voltage			Current Rating	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, OL1, U1	TC1, OL1, U1
	32 ¹					TC1, OL1, U2	TC1, OL1, U2
	65				3000	TC1, OL1, U1	TC1, OL1, U1
	125	50 / 60	1			TC1, OL1, U2	TC1, OL1, U2
	125 / 250		1 ²			TC1, OL1, U2	TC1, OL1, U2
	250		1	0.02 - 30	1500	TC1, OL1, U1	TC1, OL1, U1

¹ Notes:

² Available with special catalog number only (consult factory).

³ 2 pole protector required (with one per power line) for 125 / 250 VAC. 1 pole protector required for 125 VAC 1 phase power system

Table D: Lists UL Listed configurations and performance capabilities as Circuit Breakers for use in Communications Equipment

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
			60 - 90 ¹	

Notes:

¹ Parallel Pole Construction

Time Delay Specs

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

Agency Approvals

UL 1077	Component Recognition Program as Protectors Supplementary (Guide CCN/QVNU2, File E75596)
UL 508	Switches, Industrial Control (Guide CCN/NRNT2, File E148683)
UL 1500	Protectors, Supplementary for Marine Electrical & Fuel Systems (Guide PEQ22, File E75596) Ignition Protection
UL 489A	Communications Equipment (Guide CCN/DITT, File E189195)
CSA Certified	Component Supplementary Protector under Class 3215 30, File 047848 0 000 CSA Standard C22.2 No. 235
TUV Certified	EN60934, under License No. R72103448
VDE Certified	EN60934, VDE 0642 under File No. 10537

Ordering Scheme

Handle - UL 1077 Recognized

Sample
Part Number

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

Selection

1

2

3

4

5

6

7

8

9

10

11

1. SERIES

A

2. ACTUATOR ¹

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

3. POLES

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

4. CIRCUIT

A Switch Only (No Coil) ²
B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH ³

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

6. FREQUENCY & DELAY

03 DC 50/60Hz, Switch Only	36 DC, 50/60Hz Long
10 DC Instantaneous	44 50/60Hz Medium, High-inrush
14 DC Medium	46 50/60Hz Long, High-inrush
16 DC Long	54 DC, Medium, High-inrush
20 50/60Hz Instantaneous	56 DC, Long, High-inrush
24 50/60Hz Medium	
26 50/60Hz Long	
34 DC, 50/60Hz Medium	

Notes:

- Actuator Code:
A: Handle tie pin spacer(s) and retainers provided un-assembled with multi-pole units.
B: Handle location as viewed from front of breaker:
2 pole - left pole 3 pole - center pole 4 pole - two handles at center poles
5 pole - three handles at center poles 6 pole - four handles at center poles
- Switch Only circuits, rated up to 50 amps and 6 poles, and only available when tied to a protected pole (Circuit Code B), For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650.
- 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.
- Terminal Code I: VDE Certification up to 25 amps and UL Recognition and CSA Certification up to 30 amps, but not recommended over 20 amps.
- Terminal Codes 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.

7. CURRENT RATING (AMPERES)

CODE	AMPERES						
210	0.100	450	5.000	620	20.000	650	50.000
250	0.500	475	7.500	625	25.000		
410	1.000	610	10.000	630	30.000		
430	3.000	615	15.000	640	40.000		

8. TERMINAL

- 1** Push-On 0.250 Tab (Q.C.) ⁴
4 Screw 10-32 with upturned lugs
5 Screw 10-32 (Bus Type) ⁵
B Screw M5 with upturned lugs
H Screw M5 (Bus Type) ⁵
M M6 Threaded Stud

9. ACTUATOR COLOR & LEGEND

Actuator Color	I-O	ON-OFF	Dual	Legend
White	A	B	1	Black
Black	C	D	2	White
Red	F	G	3	White
Green	H	J	4	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;	no
	multipole units have .105" bezel overhang on all sides	
8	without Handleguard, 1-pole 0.96" wide;	yes
	(multipole only) .105" bezel overhang on all sides	

11. AGENCY APPROVAL

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

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Scheme

Handle - UL 489A Listed

Sample
Part Number

A A 1 - B 0 - 14 - 450 - 1 B 1 - M T

Selection

1

2

3

4

5

6

7

8

9

10

11

12

1. SERIES

A

2. ACTUATOR

1

A Handle, one per pole

3. POLES

2

1 One
2 Two

3 Three
4 Four

4. CIRCUIT

B Series Trip (Current)

5 AUXILIARY/ALARM SWITCH

2

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

6. FREQUENCY & DELAY

14 DC Medium
16 DC Long
54 DC, Medium, High-inrush
56 DC, Long, High-inrush

7. CURRENT RATING (AMPERES)

CODE	AMPERES					
210	0.100	450	5.000	620	20.000	650 50.000
250	0.500	475	7.500	625	25.000	
410	1.000	610	10.000	630	30.000	
430	3.000	615	15.000	640	40.000	

8. TERMINAL

1 Push-On 0.250 Tab (Q.C.)³
4 Screw 10-32 with upturned lugs
5 Screw 10-32 (Bus Type)⁴
B Screw M5 with upturned lugs
H Screw M5 (Bus Type)⁴
M M6 Threaded Stud⁵

9. ACTUATOR COLOR & LEGEND

Actuator Color	ON-OFF	Dual	Legend Color
White	B	1	Black
Black	D	2	White
Red	G	3	White
Green	J	4	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 Handguard	no
6 without Handguard (multipole only)	yes
Front panel Snap-In, 0.96" wide bezel	
7 without Handguard, 1-pole 0.96" wide;	no
8 multipole units have .105" bezel overhang on all sides	yes
without Handguard, 1-pole 0.96" wide;	yes
(multipole only) .105" bezel overhang on all sides	

11. MAXIMUM APPLICATION RATING

M 80 DC

12. AGENCY APPROVAL

T UL489A Listed
K UL489A Listed, VDE Certified⁶
J UL489A Listed, TUV Certified

Notes:

- 1 Actuator Code: A: Handle tie pin spacer(s) and retainers provided un-assembled with multi-pole units.
- 2 On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- 3 Terminal Code 1 available up to 25 amps with VDE Certification and 30 amps with UL489A Listing, but is not recommended over 20 amps.
- 4 Terminal Codes 5 and H (Bus Type) with VDE, are supplied with Lock Washers, and
- 5 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.
- 6 VDE Certification available with single pole breakers only. UL489A Listing available with one and two pole breakers.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Scheme

Handle - World

Sample
Part Number

A A 3 - B 0 - 14 - 450 - 1 A 1 - P

Selection

1

2

3

4

5

6

7

8

9

10

11

1. SERIES

A

2. ACTUATOR ¹

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

3. POLES

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

4. CIRCUIT

- B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH ²

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

6. FREQUENCY & DELAY

- | | |
|--------------------------|--------------------------------|
| 10 DC Instantaneous | 34 DC, 50/60Hz Medium |
| 14 DC Medium | 36 DC, 50/60Hz Long |
| 16 DC Long | 44 50/60Hz Medium, High-inrush |
| 20 50/60Hz Instantaneous | 46 50/60Hz Long, High-inrush |
| 24 50/60Hz Medium | 54 DC, Medium, High-inrush |
| 26 50/60Hz Long | 56 DC, Long, High-inrush |

7. CURRENT RATING (AMPERES)

- | CODE | AMPERES | | | | |
|------|---------|-----|--------|------------------|--------|
| 210 | 0.100 | 450 | 5.000 | 620 | 20.000 |
| 250 | 0.500 | 475 | 7.500 | 625 | 25.000 |
| 410 | 1.000 | 610 | 10.000 | 630 | 30.000 |
| 430 | 3.000 | 615 | 15.000 | 640 ³ | 40.000 |
| | | | | 650 ³ | 50.000 |

8. TERMINAL ⁴

- 1 Push-On 0.250 Tab (Q.C.) ⁵
4 Screw 10-32 with upturned lugs
5 Screw 10-32 (Bus Type) ⁶
B Screw M5 with upturned lugs
H Screw M5 (Bus Type) ⁶
M M6 Threaded Stud

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

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;	no
8 multipole units have .105" bezel overhang on all sides	yes
without Handleguard, 1-pole 0.96" wide;	
(multipole only) .105" bezel overhang on all sides	

11. AGENCY APPROVAL

- P TUV Certified, UL Recognized & CSA Accepted
Q UL Recognized STD 1077, UL Recognized 1500 (ignition protected), & CSA Accepted

Notes:

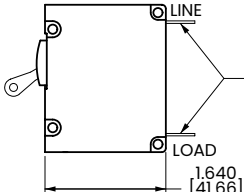
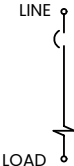
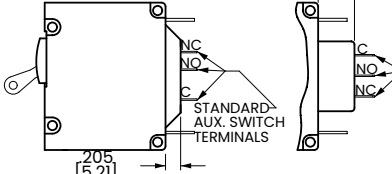
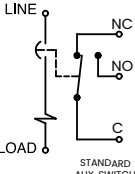
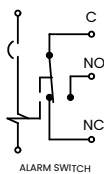
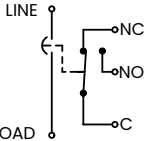
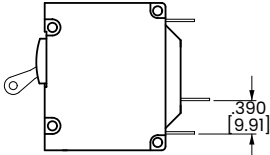
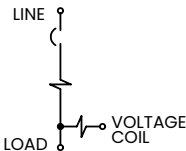
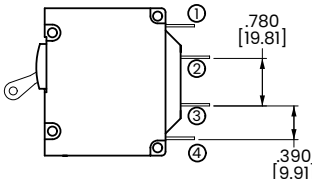
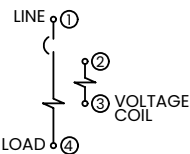
- 1 Actuator Code: A: Handle tie pin spacer(s) and retainers provided unassembled with multi-pole units.
- 2 On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- 3 Available up to two poles with AC or DC delays.
- 4 Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with screws and stud.
- 5 Terminal Code I: TUV Certification up to 30 amps, but not recommended over 20 amps.
- 6 Terminal Codes 5 and H (Bus Type) are supplied with Lock Washers. These breakers are only TUV Certified when the washers are used.

[Configure Complete Part Number >](#)

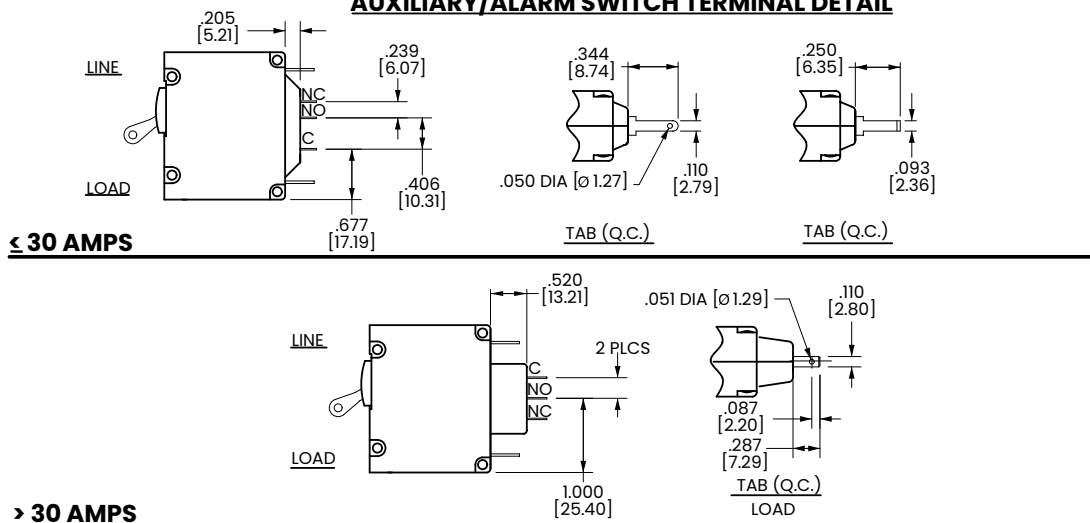
[Browse Standard Parts >](#)

Circuit & Terminal Diagrams Handle

inches [millimeters]

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

AUXILIARY/ALARM SWITCH TERMINAL DETAIL



Notes:
1 Tolerance $\pm .020$ [5.1] unless otherwise specified.
2 Alarm Switch available with .110 x .020 Q.C. & Solder Lug Terminals Only.

Circuit & Terminal Diagrams Handle

inches [millimeters]

HANDLE POSITION VS. AUX/ALARM SWITCH MODE						
CIRCUIT BREAKER MODE	STANDARD C/B		MID TRIP C/B		MID TRIP C/B	
	HANDLE POSITION	AUX. SWITCH MODE	HANDLE POSITION	ALARM SWITCH MODE	HANDLE POSITION	AUX. SWITCH CODE (W/O ALARM SWITCH)
OFF						
ON						
ELECTRICAL TRIP						

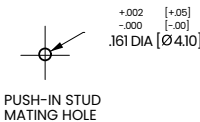
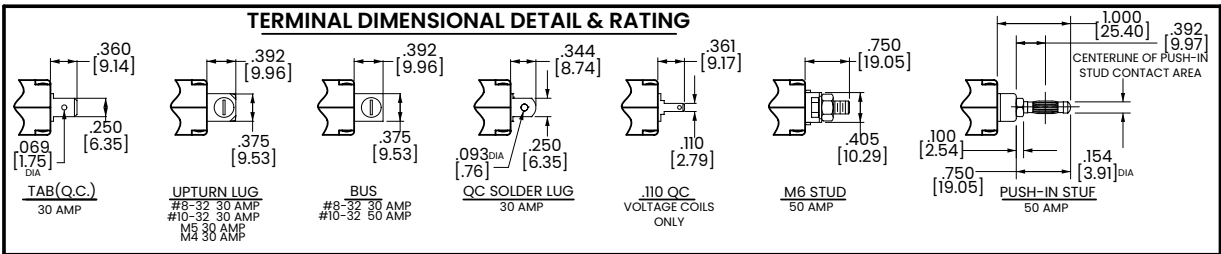
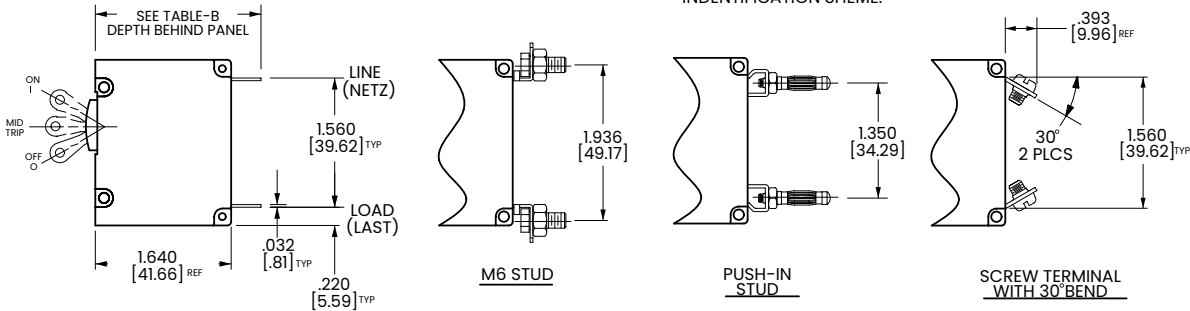


TABLE A TIGHTENING TORQUE SPECIFICATIONS	
THREAD SIZE	TORQUE
#6-32 & M3 MOUNTING HARDWARE	7-9 IN-LBS [0.8-1.0 NM]
#8-32 & M4 THREAD TERMINAL SCREW	12-15 IN-LBS [1.4-1.7 NM]
#10-32 & M5 THREAD TERMINAL SCREW	15-20 IN-LBS [1.7-2.3 NM]

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]

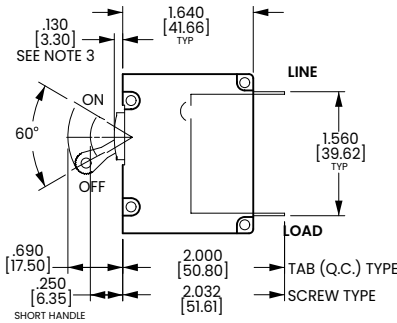
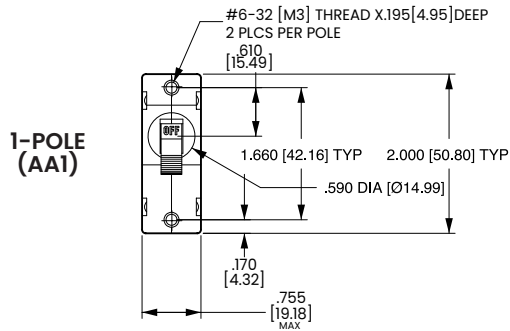
*AVAILABLE ON SERIES TRIP AND SWITCH ONLY CIRCUITS WHEN CALLED FOR ON MULTI-POLE UNITS. ONLY ONE AUX. SWITCH IS NORMALLY SUPPLIED, AS SHOWN IN MULTI-POLE IDENTIFICATION SCHEME.



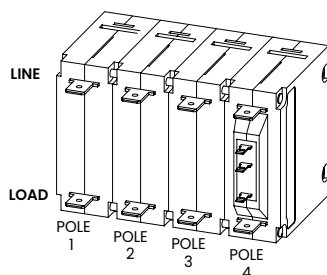
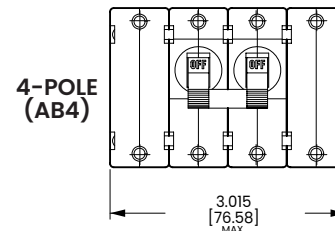
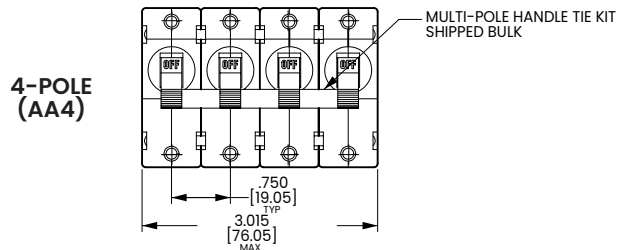
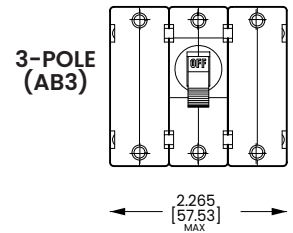
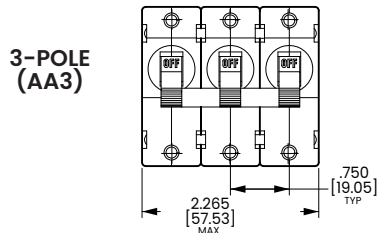
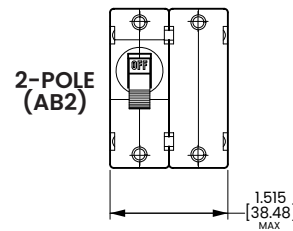
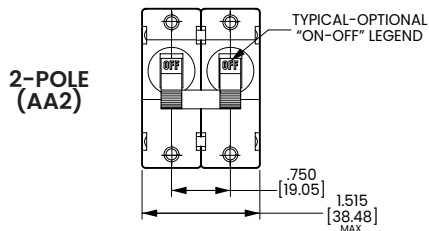
- Notes:
- 1 Tolerance $\pm .020$ [.51] unless otherwise specified.
 - 2 Alarm Switch available with .110 x .020 QC & solder lug terminals only.

Dimensional Specs Handle

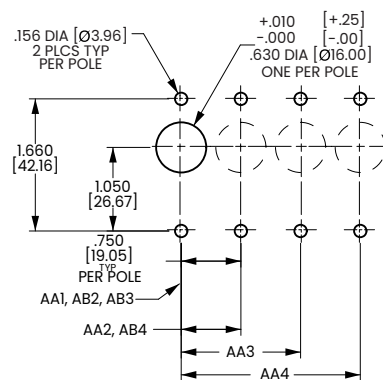
inches [millimeters]



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



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



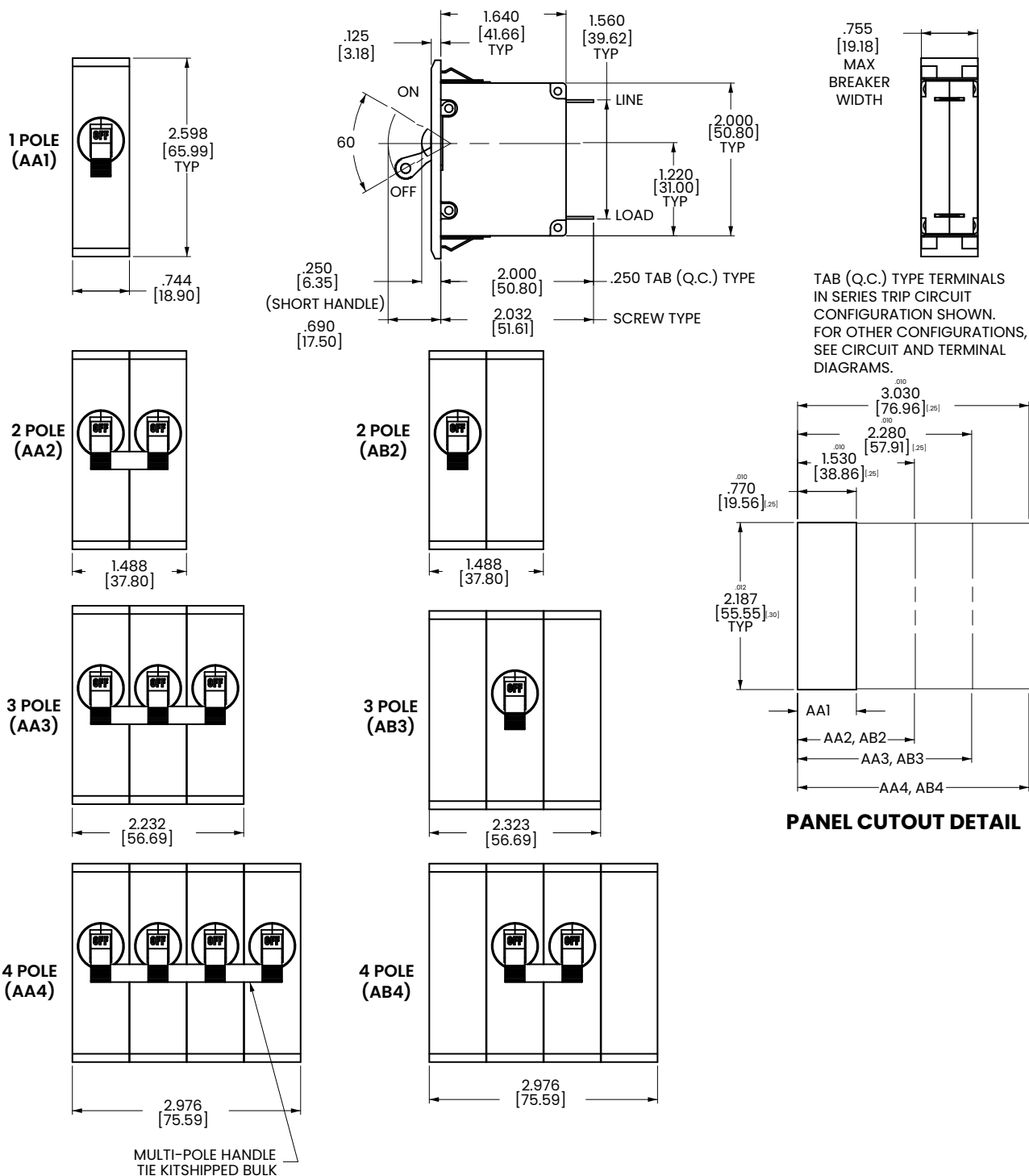
PANEL CUTOUT DETAIL
TOLERANCE $\pm .005$ [±.12]
UNLESS OTHERWISE SPECIFIED

Notes:

- 1 Tolerance ± 0.20 [.51] unless otherwise specified.
- 2 For agency code P = .150 [3.81].

Dimensional Specs Handle

inches [millimeters]



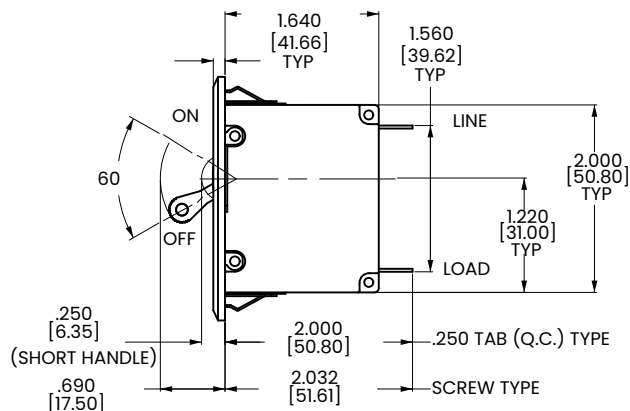
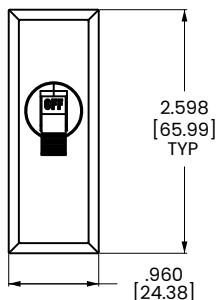
Notes:

- 1 Recommended panel thickness: .040 [1.02] to .100 [2.54].
- 2 Tolerance $\pm .020$ [.51] unless otherwise specified.

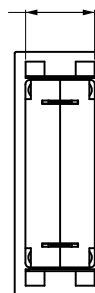
Dimensional Specs Handle

inches [millimeters]

**1 POLE
(AA1)**

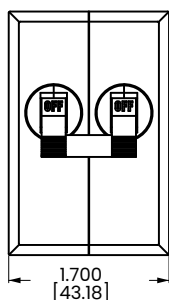


.755
[19.18]
MAX
BREAKER
WIDTH

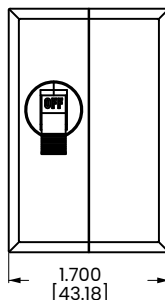


TAB (Q.C.) TYPE TERMINALS
IN SERIES TRIP CIRCUIT
CONFIGURATION SHOWN.
FOR OTHER CONFIGURATIONS,
SEE CIRCUIT AND TERMINAL
DIAGRAMS.

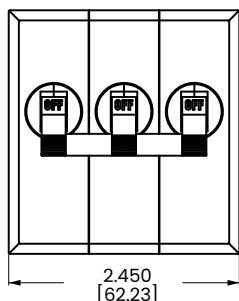
**2 POLE
(AA2)**



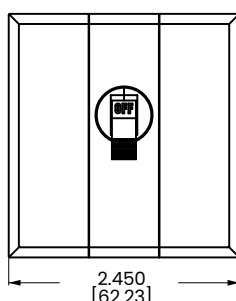
**2 POLE
(AB2)**



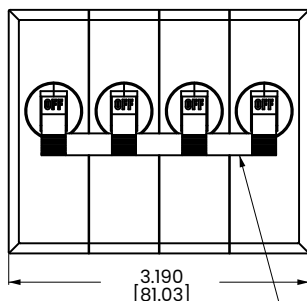
**3 POLE
(AA3)**



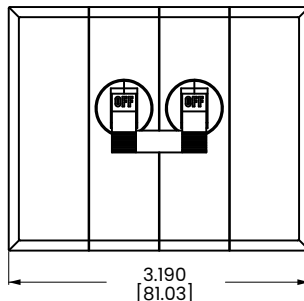
**3 POLE
(AB3)**



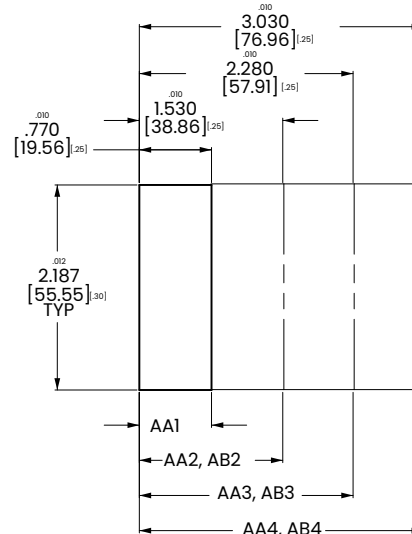
**4 POLE
(AA4)**



**4 POLE
(AB4)**



MULTI-POLE HANDLE TIE KIT
SHIPPED BULK



PANEL CUTOUT DETAIL

Notes:

- 1 Recommended panel thickness: .040 [1.02] to .100 [2.54].
- 2 Tolerance $\pm .020$ [.51] unless otherwise specified.

Ordering Scheme

Sealed Toggle

Sample
Part Number

A M 1 - B 0 - 10 - 450 - 1 0 1 - C

Selection

1

2

3

4

5

6

7

8

9

10

11

1. SERIES

A

2. ACTUATOR ¹

M Sealed Toggle, one per unit

3. POLES

1 One 2 Two 3 Three

4. CIRCUIT

A Switch Only (No Coil) ²
B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH ³

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

6. FREQUENCY & DELAY

03	DC 50/60Hz, Switch Only	34	DC, 50/60Hz Medium
10	DC Instantaneous	36	DC, 50/60Hz Long
14	DC Medium	44	50/60Hz Medium, High-inrush
16	DC Long	46	50/60Hz Long, High-inrush
20	50/60Hz Instantaneous	54	DC, Medium, High-inrush
24	50/60Hz Medium	56	DC, Long, High-inrush
26	50/60Hz Long		

7. CURRENT RATING (AMPERES)

CODE	AMPERES						
210	0.100	450	5.000	620	20.000	650	50.000
250	0.500	475	7.500	625	25.000		
410	1.000	610	10.000	630	30.000		
430	3.000	615	15.000	640	40.000		

8. TERMINAL ⁴

1 Push-On 0.250 Tab (Q.C.) ⁵
4 Screw 10-32 with upturned lugs
5 Screw 10-32 (Bus Type)
B Screw M5 with upturned lugs
H Screw M5 (Bus Type)
M M6 Threaded Stud

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
I UL Recognized STD 1077, UL Recognized 1500 (ignition protected), & CSA Accepted

Notes:

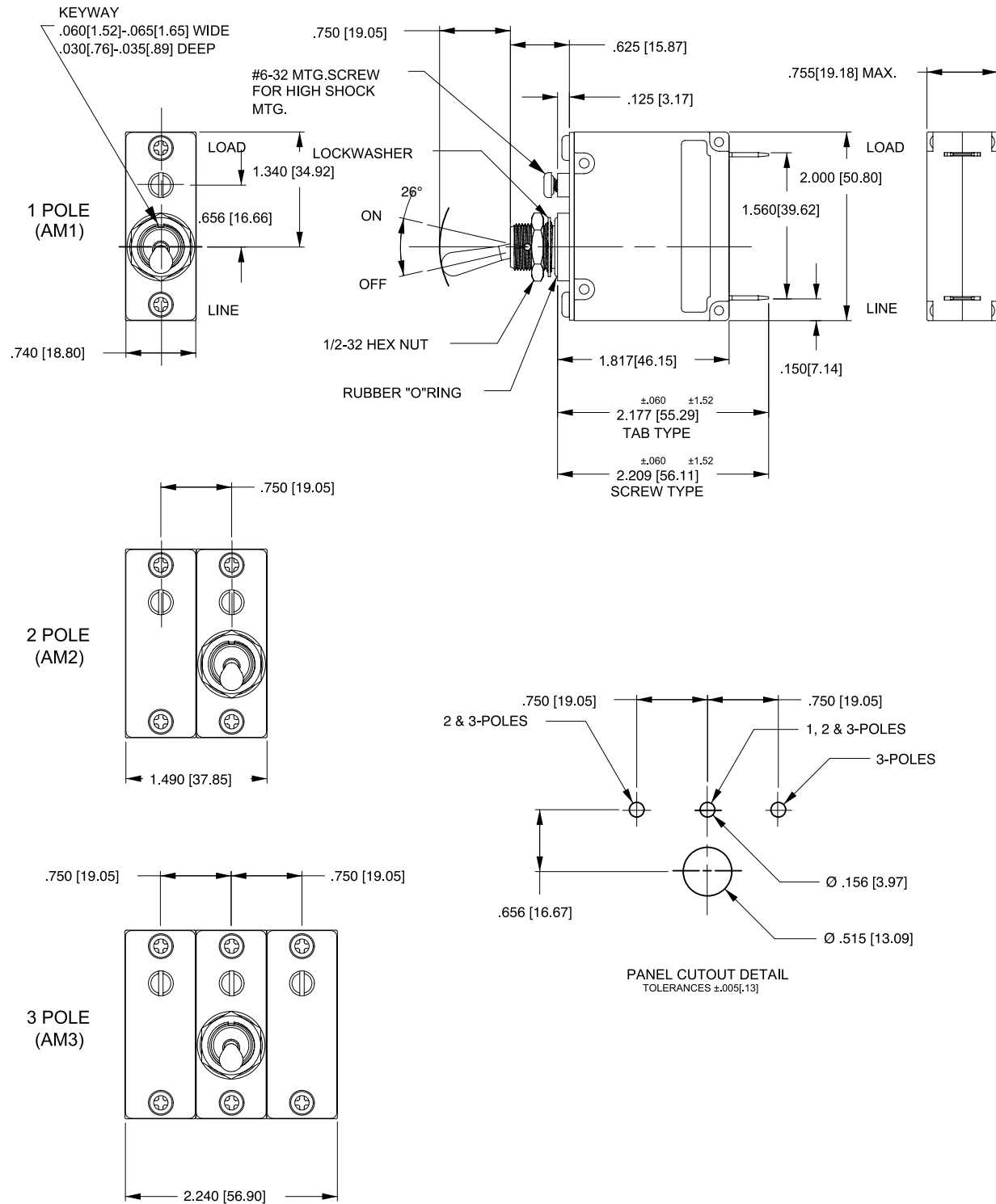
- Actuator Code M: Handle location as viewed from front of panel:
2 pole - right pole 3 pole - center pole
- Switch Only circuits, rated up to 50 amps and 3 poles. Only available when tied to a protected pole. For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650.
- Auxiliary Switch available on Series Trip & Switch Only circuits, limited to 30 amps. On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with screws and stud.
- Terminal Code I: UL Recognition and CSA Certification up to 30 amps, but not recommended over 20 amps.

 [Configure Complete Part Number >](#)

 [Browse Standard Parts >](#)

Dimensional Specs Sealed Toggle

inches [millimeters]



Notes:
 1 Tolerance ±.020 [.51] unless otherwise specified.

Ordering Scheme

Rocker UL 1077 Recognized

Sample
Part Number

A F 1 - B 0 - 24-630 - 2 3 1 - D

Selection

1

2

3

4

5

6

7

8

9

10

11

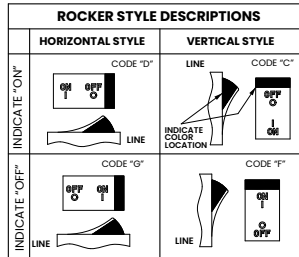
1. SERIES

A

2. ACTUATOR

Two Color Visi-Rocker

- C Indicate ON, vertical legend
- D Indicate ON, horizontal legend
- F Indicate OFF, vertical legend
- G Indicate OFF, horizontal legend



3. POLES

1 One 2 Two 3 Three

4. CIRCUIT

- A Switch Only (No Coil) ¹
- B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH 2, 3

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

6. FREQUENCY & DELAY 4

- | | |
|----------------------------|--------------------------------|
| 03 DC 50/60Hz, Switch Only | 34 DC, 50/60Hz Medium |
| 10 DC Instantaneous | 36 DC, 50/60Hz Long |
| 14 DC Medium | 44 50/60Hz Medium, High-inrush |
| 16 DC Long | 46 50/60Hz Long, High-inrush |
| 20 50/60Hz Instantaneous | 54 DC, Medium, High-inrush |
| 24 50/60Hz Medium | 56 DC, Long, High-inrush |
| 26 50/60Hz Long | |

7. CURRENT RATING (AMPERES)

CODE	AMPERES					
210	0.100	450	5.000	620	20.000	650 50.000
250	0.500	475	7.500	625	25.000	
410	1.000	610	10.000	630	30.000	
430	3.000	615	15.000	640	40.000	

8. TERMINAL 5

- 1 Push-On 0.250 Tab (Q.C.) ⁶
- 4 Screw 10-32 with upturned lugs
- 5 Screw 10-32 (Bus Type) ⁷
- B Screw M5 with upturned lugs
- H Screw M5 (Bus Type) ⁷
- M M6 Threaded Stud ⁸

9. ACTUATOR COLOR & LEGEND 9

Actuator or Visi-Color	Marking:		Marking Color	
	I-O	ON-OFF	Single Color	Visi-Rocker
White	A	B	Black	White
Black	C	D	White	n/a
Red	F	G	White	Red
Green	H	J	White	Green

10. MOUNTING / BARRIERS

STANDARD ROCKER BEZEL Threaded Insert, 2 per pole		BARRIERS
A	6-32 x 0.195 inches	no
1	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 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. AGENCY APPROVAL 10

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

Notes:

- Switch Only circuits, rated up to 50 amps, UL Recognized.
- On multi-pole breakers, one auxiliary switch is supplied, mounted in the right pole.
- 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.
- 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.
- Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with screws and stud.
- Terminal Code I: VDE Certification up to 25 amps and UL Recognition and CSA Accepted up to 30 amps, but not recommended over 20 amps.
- Terminal Codes 5 and 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.
- Color shown is visi and legend with remainder of rocker black.
- Available with Circuit Code B. VDE Certified to 30 amps. UL Recognized, CSA Accepted & TUV Certified to 50 amps.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Scheme Rocker - UL 489A Listed

Sample
Part Number

A F 1 - B 0 - 14-450 - 1 3 1 - M T

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

1. SERIES

A

2. ACTUATOR

Two Color Visi-Rocker

- C Indicate ON, vertical legend
- D Indicate ON, horizontal legend
- F Indicate OFF, vertical legend
- G Indicate OFF, horizontal legend

ROCKER STYLE DESCRIPTIONS			
	INDICATE "ON"		INDICATE "OFF"
VERTICAL STYLE	LINE	CODE "C"	CODE "F"
HORIZONTAL STYLE	LINE	CODE "D"	CODE "G"

3. POLES

1 One 2 Two 3 Three

4. CIRCUIT

B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH 1, 2

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

6. FREQUENCY & DELAY

- 14 DC Medium
- 16 DC Long
- 54 DC, Medium, High-inrush
- 56 DC, Long, High-inrush

7. CURRENT RATING (AMPERES)

CODE	AMPERES						
210	0.100	450	5.000	620	20.000	650	50.000
250	0.500	475	7.500	625	25.000		
410	1.000	610	10.000	630	30.000		
430	3.000	615	15.000	640	40.000		

8. TERMINAL 3

- 1 Push-On 0.250 Tab (Q.C.) ⁴
- 4 Screw 10-32 with upturned lugs
- 5 Screw 10-32 (Bus Type) ⁵
- B Screw M5 with upturned lugs
- H Screw M5 (Bus Type) ⁵
- M M6 Threaded Stud ⁶

9. ACTUATOR COLOR & LEGEND 7

Actuator or Visi-Color	Marking:		Marking Color	
	ON-OFF	Dual	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

10. MOUNTING / BARRIERS

STANDARD ROCKER BEZEL Threaded Insert, 2 per pole		BARRIERS
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 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 ⁸
- J UL489A Listed, TUV Certified

Notes:

- 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.
- On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with screws and stud.
- Terminal Code 1 available up to 25 amps with TUV or VDE Certification and 30 amps with UL489A Listing, but is not recommended over 20 amps.
- Terminal Codes 5 and H (Bus Type) with TUV or VDE, are supplied with Lock Washers.
- Terminal Code M with VDE is supplied with Lock and Flat Washers. These breakers are only TUV or VDE Certified when the washers are used.
- Color shown is Visi and Legend with remainder of rocker black. Dual = ON-OFF/I-O legend.
- VDE Certification available with single pole breakers only. UL489A Listing available with one and two pole breakers.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

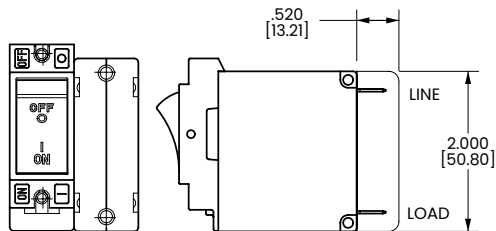
Circuit & Terminal Diagrams Rocker

inches [millimeters]

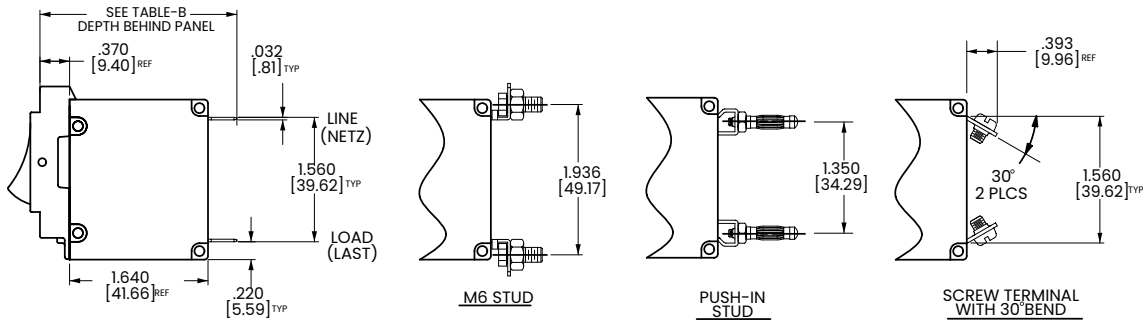
CIRCUIT BREAKER PROFILE		CIRCUIT SCHEMATIC		CIRCUIT CODE	AUX SWITCH CODE	CIRCUIT SCHEMATIC		CIRCUIT CODE	AUX SWITCH CODE
2 TERMINALS		ANSI	IEC			ANSI	IEC		
		SWITCH ONLY (NO COIL)		A	0	SERIES TRIP		B C	0
		LINE	LINE (NETZ)			LINE	LINE (NETZ) (3)		
		SWITCH ONLY (NO COIL) WITH AUXILIARY SWITCH (4)		A	1 2 3 4	SERIES TRIPS WITH AUXILIARY SWITCH (4)		B C	1 2 3 4
		LINE	LINE (NETZ)			LINE	LINE (NETZ) (3)		
		SHUNT TRIP		D E	0	DUAL COIL; SERIES TRIP CURRENT COIL, SHUNT TRIP VOLTAGE COIL		H	0
		LINE	LINE (NETZ) (3)			LINE	LINE (NETZ) (3)		
		RELAY TRIP		F G	0	DUAL COIL; SERIES TRIP CURRENT COIL, RELAY TRIP VOLTAGE COIL		K	0
		LINE	LINE (NETZ) (3)			LINE	LINE (NETZ) (3)		

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 SHOWN IN MULTI-POLE IDENTIFICATION SCHEME.



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

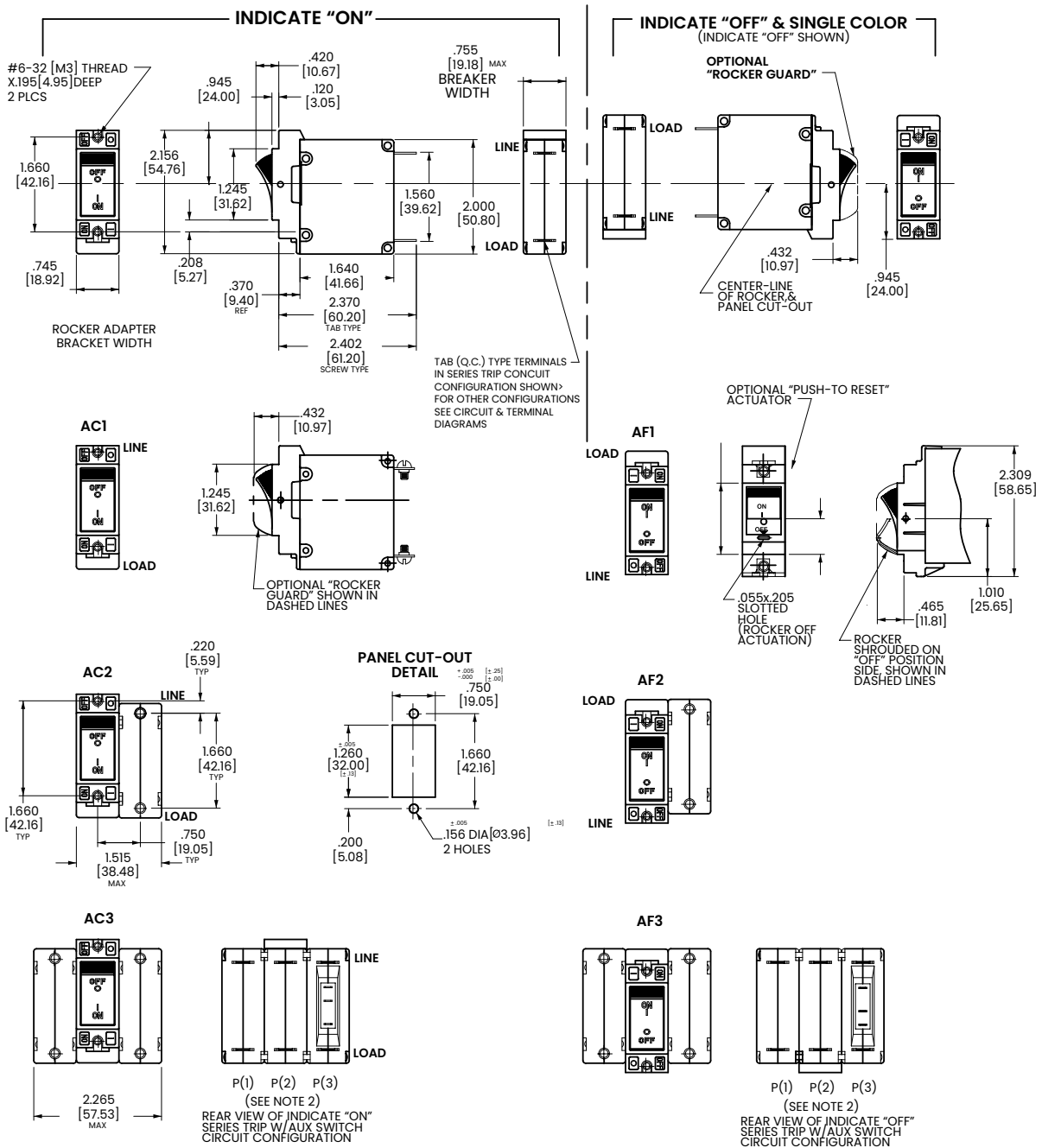


- Notes:
- 1 Tolerance $\pm .020$ [.51] unless otherwise specified.
 - 2 Schematic shown represents current trip circuit.
 - 3 Circuits shown for >30 amps / VDE.

Dimensional Specs

Rocker

inches [millimeters]



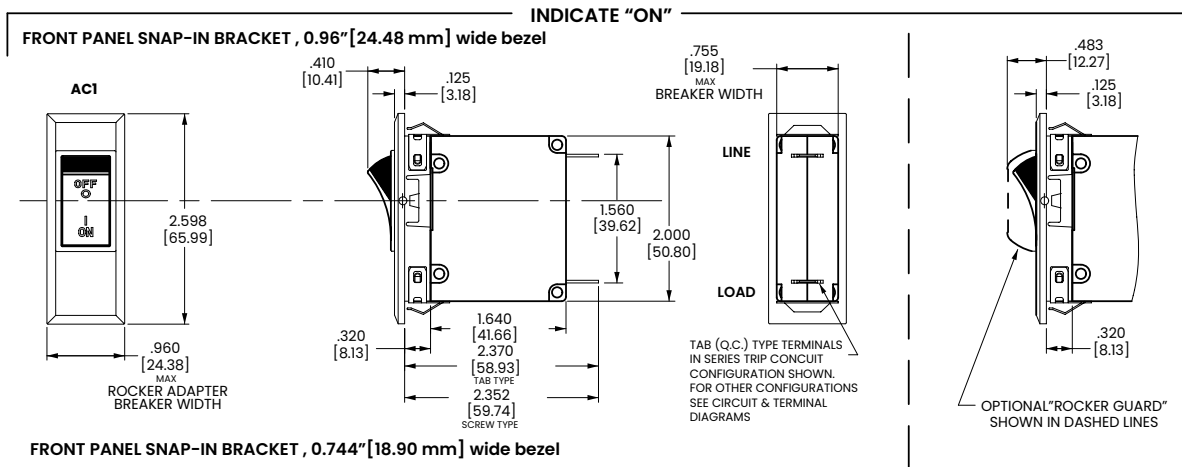
Notes:

- 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 Tolerance ± 0.20 [5.1] unless otherwise specified.

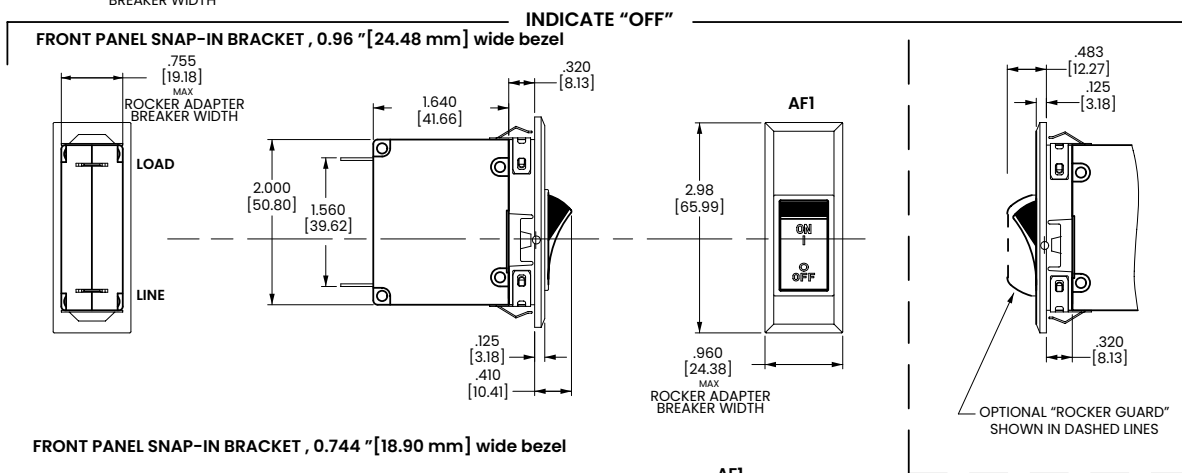
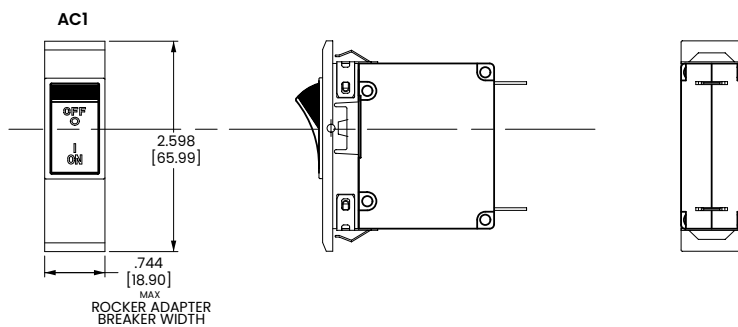
Dimensional Specs

Rocker Snap-In Bracket

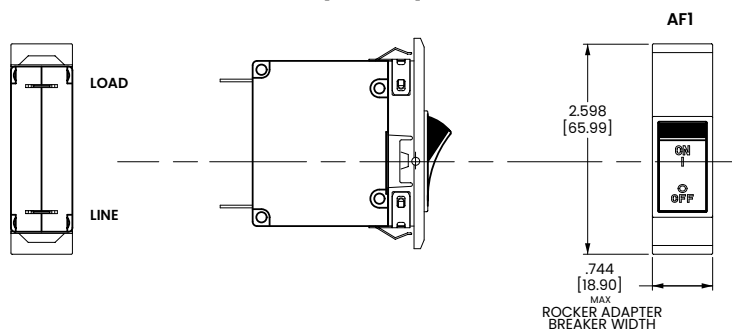
inches [millimeters]



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



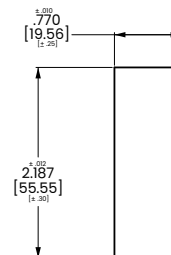
FRONT PANEL SNAP-IN BRACKET, 0.744" [18.90 mm] wide bezel



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: .040 [1.02] to .100 [2.54]
- 4 Tolerance $\pm .020$ [.51] unless otherwise specified.

PANEL CUTOUT DETAIL



Ordering Scheme

Flat Rocker - UL 1077 Recognized

Sample
Part Number

A 1 1 - B 0 - 24-630 - 2 3 1 - E

Selection

1

2

3

4

5

6

7

8

9

10

11

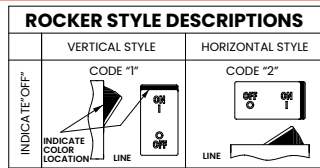
1. SERIES

A

2. ACTUATOR

Two Color Visi-Rocker

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



3. POLES

1 One 2 Two 3 Three

4. CIRCUIT

- A Switch Only (No Coil) ¹
- B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH ^{2, 3}

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

6. FREQUENCY & DELAY

- | | |
|----------------------------|--------------------------------|
| 03 DC 50/60Hz, Switch Only | 34 DC, 50/60Hz Medium |
| 10 DC Instantaneous | 36 DC, 50/60Hz Long |
| 14 DC Medium | 44 50/60Hz Medium, High-inrush |
| 16 DC Long | 46 50/60Hz Long, High-inrush |
| 20 50/60Hz Instantaneous | 54 DC, Medium, High-inrush |
| 24 50/60Hz Medium | 56 DC, Long, High-inrush |
| 26 50/60Hz Long | |

7. CURRENT RATING (AMPERES)

CODE	AMPERES					
210	0.100	450	5.000	620	20.000	650 50.000
250	0.500	475	7.500	625	25.000	
410	1.000	610	10.000	630	30.000	
430	3.000	615	15.000	640	40.000	

8. TERMINAL ⁴

- 1 Push-On 0.250 Tab (Q.C.) ⁵
- 4 Screw 10-32 with upturned lugs
- 5 Screw 10-32 (Bus Type) ⁶
- B Screw M5 with upturned lugs
- H Screw M5 (Bus Type) ⁶
- M M6 Threaded Stud ⁷

9. ACTUATOR COLOR & LEGEND ⁸

Actuator or Visi-Color	Marking:		Marking Color	
	ON-OFF	Dual	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

10. MOUNTING / BARRIERS

STANDARD ROCKER BEZEL Threaded Insert, 2 per pole BARRIERS

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

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

11. AGENCY APPROVAL

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

Notes:

- 1 Switch Only circuits, rated up to 50 amps, UL Recognized.
- 2 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.
- 3 On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- 4 Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with screws and stud.
- 5 Terminal Code 1 available up to 30 amps, but not recommended over 20 amps.
- 6 Terminal Codes 5 and H (Bus Type) with TUV, are supplied with Lock Washers
- 7 Terminal Code M (M6 Threaded Stud) is supplied with nut and washers.
- 8 Color shown is visi & legend with remainder of rocker black, Dual = ON-OFF/I-O legend.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Scheme

Flat Rocker - UL 489A Listed

Sample
Part Number

A 1 1 - B 0 - 14 - 630 - 2 3 1 - M T

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

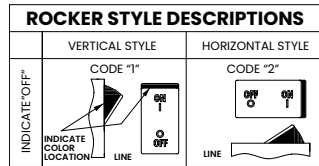
1. SERIES

A

2. ACTUATOR

Two Color Visi-Rocker

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



3. POLES

1 One 2 Two 3 Three

4. CIRCUIT

B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH ¹

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

6. FREQUENCY & DELAY

14 DC Medium
16 DC Long
54 DC, Medium, High-inrush
56 DC, Long, High-inrush

7. CURRENT RATING (AMPERES)

CODE	AMPERES						
210	0.100	450	5.000	620	20.000	650	50.000
250	0.500	475	7.500	625	25.000		
410	1.000	610	10.000	630	30.000		
430	3.000	615	15.000	640	40.000		

8. TERMINAL ²

1 Push-On 0.250 Tab (Q.C.) ³
4 Screw 10-32 with upturned lugs
5 Screw 10-32 (Bus Type) ⁴
B Screw M5 with upturned lugs
H Screw M5 (Bus Type) ⁴
M M6 Threaded Stud ⁵

9. ACTUATOR COLOR & LEGEND ⁶

Actuator or Visi-Color	Marking:		Marking Color	
	ON-OFF	Dual	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

10. MOUNTING / BARRIERS

	STANDARD ROCKER BEZEL Threaded Insert, 2 per pole FLAT ROCKER ACTUATOR	BARRIERS
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	
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

11. MAXIMUM APPLICATION RATING

M 80 DC

12.AGENCY APPROVAL

T UL489A Listed
J UL489A Listed, TUV Certified

Notes:

- 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.
- Screw Terminals are recommended on ratings greater than 20 amps. Ratings over 30 amps are only available with screws and stud.
- Terminal Code 1 available up to 25 amps with TUV or VDE Certification and 30 amps with UL489A Listing, but is not recommended over 20 amps.
- Terminal Codes 5 and H (Bus Type) with TUV or VDE, are supplied with Lock Washers
- Terminal Code M (M6 Threaded Stud) is supplied with nut and washers.
- Color shown is Visi and Legend with remainder of rocker black.
Dual = ON-OFF/I-O legend.

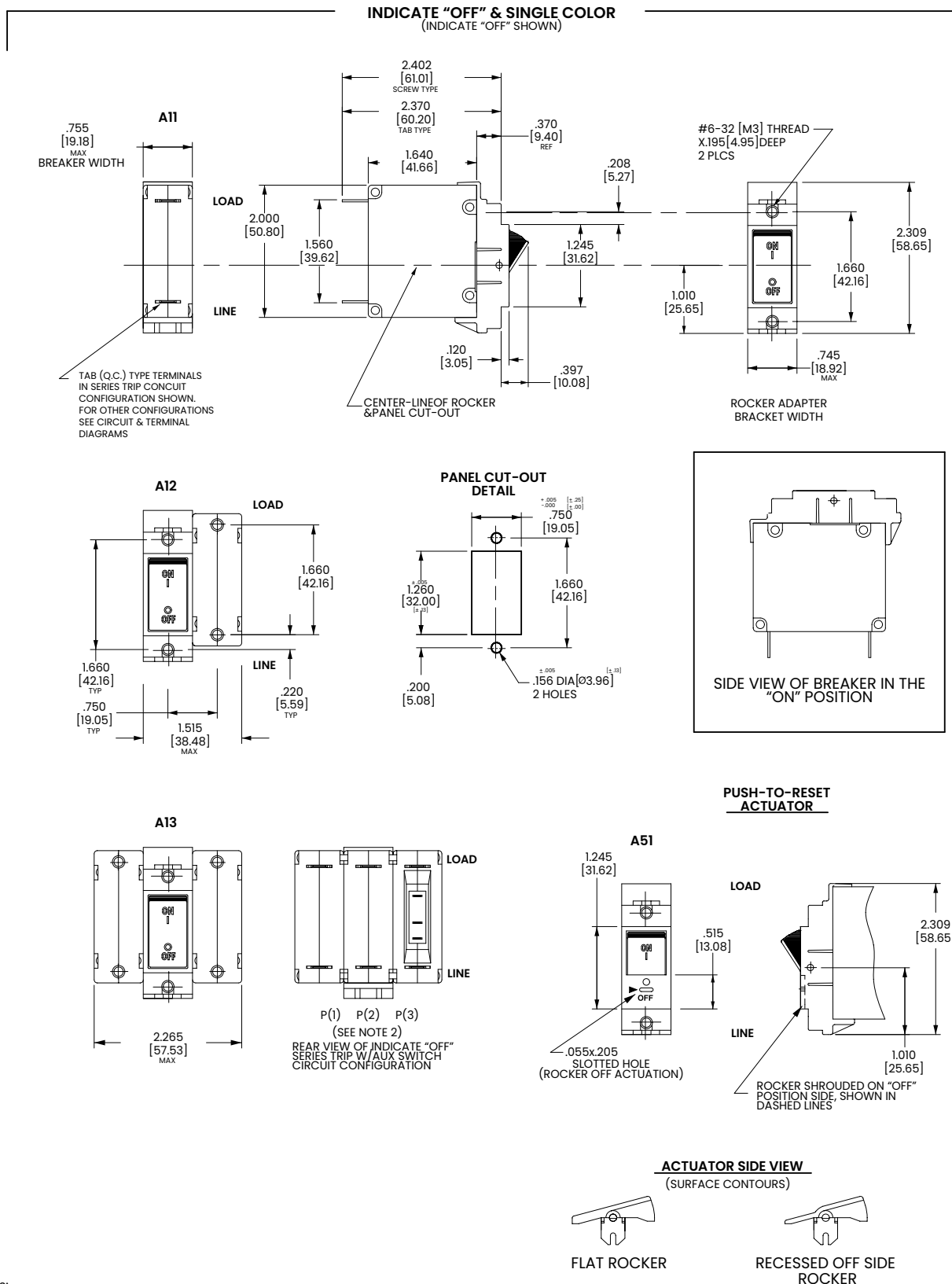
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Dimensional Specs

Flat Rocker

inches [millimeters]



Notes:

- 1 For pole orientation with horizontal legend, rotate front view clockwise 90°.
- 2 Tolerance ± 0.20 [.51] unless otherwise specified.