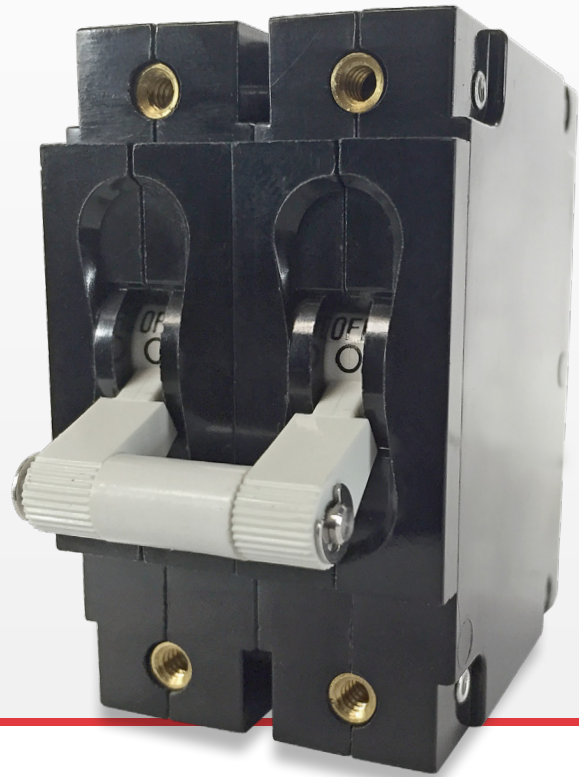


C-Series

Hydraulic-Magnetic Circuit Breaker

PRODUCT WEBPAGE

request sample, configure part



Compact Circuit Breaker with High Amperage and Voltage Capabilities

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

1-6	250	480	125
Poles	Amps Max	VAC Max	VDC Max

Typical Applications

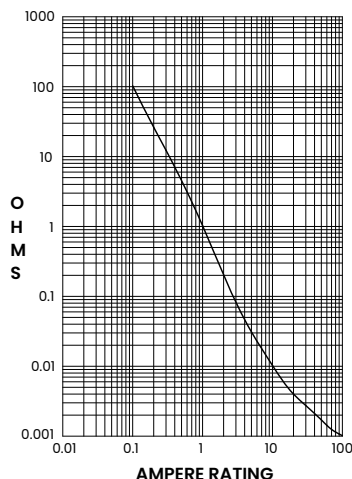
- Marine
- Renewable Energy
- Military
- Commercial Food
- Datacom/Telecom
- Generators & Welders
- Industrial Automation
- Medical Equipment

Tech Spec

Electrical

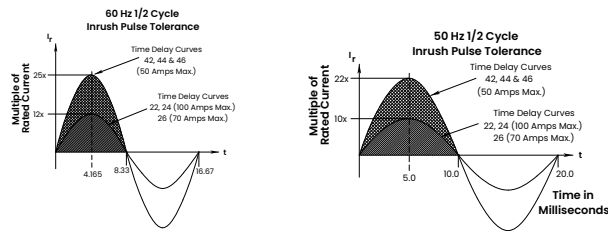
Maximum Voltage	AC, 480 WYE/277 VAC, 50/60 Hz (see Table A.) UL489: AC,240 VAC. (See Table D),50/60 Hz, 125 VDC
Current Ratings	Standard current coils: 0.100, 0.250, 0.500, 0.750, 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 25.0, 30.0, 35.0, 40.0, 50.0, 60.0, 70.0, 80.0, 90.0 and 100 amps. Other ratings available,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

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



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

Pulse Tolerance Curves



Mechanical

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

Physical

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

Environmental

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

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

Tech Specs

Tables

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

Component Supplementary Protectors																		
Circuit Configuration	Voltage			Current Rating		Short Circuit Capacity (Amps)		Application Codes		Construction Notes								
	Max. Rating	Frequency	Phase	Full Load Amps	General Purpose Amps	UL / CSA		UL	CSA									
						With Backup Fuse	Without Backup Fuse											
Series	32	DC	---	0.02 - 100	---	---	5,000	TC1, OL1, U2	TC1, OL1, U2	---								
	48			110 - 150				TC1, 2, OL1, U1	TC1, 2, OL1, U1									
	65			0.02 - 70				TC1, 2, OL0, U1	TC1, 2, OL0, U1									
	80			-	71 - 100			TC1, 2, OL1, U1	TC1, 2, OL1, U1									
				0.02 - 70	---		7,500	TC1, 2, OL0, U1	TC1, 2, OL0, U1									
				---	71 - 100			TC1, 2, OL1, U1	TC1, 2, OL1, U1									
				0.02 - 70	---			TC1, 2, OL0, U1	TC1, 2, OL0, U1									
	125			10,000	TC1, 2, OL1, U1		TC1, 2, OL1, U1	Must have Agency "L"										
	125/250				---		71 - 100		TC1, 2, OL0, U1	TC1, 2, OL0, U1								
	250				0.02 - 50		---		TC1, 2, OL1, U1	TC1, 2, OL1, U1								
	125			50 / 60	1		0.02 - 100	---	3,000	TC1, OL1, U2	TC1, OL1, U2	Per pole rating						
	150	DC	---	---	80 - 100 101 - 175	5,000	TC1, 2, OL1, U1		TC1, 2, OL1, U1	Must have Agency "L"								
							TC1, 2, OL0, U3		---	Must have Agency "L"								
	125/250	50 / 60	1	0.02 - 100	---	3,500	TC1, OL1, U2		TC1, OL1, U2	---								
				0.02 - 50		3,000	TC1, 2, OL1, U1		TC1, 2, OL1, U1	2 or 3 poles breaking single phase								
				51 - 100		1,000	TC1, 2, OL1, U1		TC1, 2, OL1, U1	2 or 3 poles breaking single phase								
				0.02 - 100		5,000	TC1, 2, OL1, U2		TC1, 2, OL1, U2	2 or 3 poles breaking single phase. Agency "L"								
	250			3	0.02 - 50	---	3,500		TC1, 2, OL1, U2	TC1, 2, OL1, U2	Per pole rating							
					0.02 - 100		5,000		TC1, 2, OL1, U1	TC1, 2, OL1, U1	Must have Agency "L"							
					51 - 70		5,000		TC1, 2, OL1, C1	TC1, 2, OL1, C1	---							
					---		0.02 - 100		3,000	TC1, 2, OL0, U2	TC1, 2, OL0, U2	---						
	277				1	0.02 - 70	---		5,000	TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase						
						---			5,000	TC1, 2, OL0, U1	TC1, 2, OL0, U1	Must have Agency "L"						
						0.02 - 50			5,000	TC1, 2, OL1, C1	TC1, 2, OL1, C1	---						
						0.02 - 30				TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase						
	480/277		3		---	TC1, 2, OL0, C1	TC1, 2, OL0, C1			---								
	480		1		0.02 - 30	---	TC1, 2, OL1, C1			TC1, 2, OL1, C1	2 poles breaking 1 phase							
	Dual Coil		80		DC	---	0.02 - 50		---	---	7,500	TC1, 2, OL1, U1	TC1, 2, OL1, U1	---				
		125	50 / 60		1	3,000		TC1, OL1, U2			TC1, OL1, U2	Per pole rating						
		125/250		3,500		TC1, OL1, U2		TC1, OL1, U2			2 or 3 poles breaking single phase							
250				3,000		TC1, 2, OL1, U1		TC1, 2, OL1, U1			2 or 3 poles breaking single phase							
		3,500		TC1, OL1, U2		TC1, OL1, U2		---										
3,000		TC1, OL0, U2		TC1, OL0, U2		Per pole rating												
277		1		5,000		---		TC1, 2, OL1, C1			TC1, 2, OL1, C1	---						
Shunt	80	DC	---	5,000	---	7,500		TC1, 2, OL1, U1			TC1, 2, OL1, U1	---						
	277	50 / 60	3			5,000		---			TC1, 2, OL1, C1	TC1, 2, OL1, C1	---					
	250										0.02 - 30	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase			
	480/277										---	31 - 50	TC1, 2, OL0, C1	TC1, 2, OL0, C1	---			
											0.02 - 30	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase			
	480										1	---	31 - 50	TC1, 2, OL0, C1	TC1, 2, OL0, C1	---		
Relay	80	DC	---	5,000	---	7,500		TC1, 2, OL1, U1			TC1, 2, OL1, U1	---						
	277	50 / 60	3			5,000		---			TC1, 2, OL1, C1	TC1, 2, OL1, C1	---					
	250					5,000		---			TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase					
Switch Only	65	DC	---	71 - 100	---	---		---			---	---	---					
	80			---														
	125			71 - 100														
	125/250	50 / 60	1	0.02 - 100									---	---	---	---	2 or 3 poles breaking single phase	
	250			3													0.02 - 70	---
	277			1													0.02 - 50	---
	480/277			3													0.02 - 30	---

Notes:

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

Tech Specs

Tables

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

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

Notes:

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

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

Component Supplementary Protectors															
Circuit Configuration	Voltage			Current Rating		Short Circuit Capacity (Amps)						Application Codes	Construction Notes		
	Max. Rating	Frequency	Phase	Full Load Amps	General Purpose Amps ¹	UL / CSA		VDE		TUV		UL / CSA			
						With Backup Fuse	Without Backup Fuse	(Inc) With Backup Fuse	(Inc) Without Backup Fuse	(Inc) With Backup Fuse	(Inc) Without Backup Fuse				
Series	80	DC	---	0.10 – 70	---	---	7,500	---	5,000	5,000	1,500	TC1,2,OL1,U1	---		
	125			71 – 100	71 – 100		10,000					TC1,2,OL0,U1	Agency F, H, J or R		
				1 – 50	---		5,000					TC1,2,OL1,U1	Agency J or R		
	250	50 / 60	1	0.10 – 50	---	5,000	3,000	1,500	3,000	1,500	TC1,2,OL1,U1	2P, Agency J or R			
				0.10 – 70								---	---	---	---
				0.10 – 100								---	---	---	---
				0.10 – 90								---	---	---	---
			415	3		0.10 – 30	5,000 ²	---	3,000	1,500	3,000	TC1,2,OL1,C1	Rocker		
	5,000	2,500			5,000	2,500	Handle, Agency F, H, J or R								
Dual Coil	80	DC	---	0.10 – 30	---	---	7,500	---	1,500	5,000	3,000	TC1,2,OL1,U1	---		
	250	50 / 60	1 & 3				5,000	3,000					3,000		
Shunt	80	DC	---	0.10 – 70	---	---	7,500	---	5,000	5,000	1,500	TC1,2,OL1,U1	---		
	250	50 / 60	1 & 3				5,000	3,000					1,500	3,000	TC1,2,OL1,U1
	415		3	0.10 – 30	5,000 ²	---	5,000	2,500	TC1,2,OL1,C1	Rocker					
		5,000					2,500	Handle, Agency F, H, J or R							

Notes:

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

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

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

Notes:

- Special catalog number required. Consult factory.

Tech Specs

Tables

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

UL1500 (Marine Ignition Protection)								
Circuit Configuration	Voltage			Current Rating	Interrupting Capacity (Amps)	Application Codes		Construction Notes
	Max Rating	Frequency	Phase	Full Load Amps	Without Backup Fuse	UL	CSA	
Series	48	DC	---	0.02 - 100	5,000	TCI, 2, OLI, UI	TCI, 2, OLI, UI	---
				101 - 150				
	65			0.02 - 100	1,500	TCI, 2, OL0, UI	TCI, 2, OL0, UI	
	80		TCI, 2, OLI, UI	TCI, 2, OLI, UI				
	125	50 / 60	1	0.02 - 70	5,000	TCI, 2, OLI, UI	TCI, 2, OLI, UI	
				71 - 100	1,500	TCI, 2, OLI, UI	TCI, 2, OLI, UI	
				0.02 - 70				
	250			71 - 100				
2 Poles Breaking Single Phase								

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

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

Time Delay Specs

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

Agency Approvals

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

Ordering Scheme

Handle - UL 1077 Recognized

Sample
Part Number

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

Selection

1

2

3

4

5

6

7

8

9

10

11

1. SERIES

C

2. ACTUATOR 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 ²

- A Switch Only (No Coil)
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 | 30 | DC, 50/60Hz Instantaneous |
| 10 | DC Instantaneous | 32 | DC, 50/60Hz Short |
| 12 | DC Short | 34 | DC, 50/60Hz Medium |
| 14 | DC Medium | 36 | DC, 50/60Hz Long |
| 16 | DC Long | 44 ⁴ | 50/60Hz Medium, High-inrush |
| 20 | 50/60Hz Instantaneous | 46 ⁴ | 50/60Hz Long, High-inrush |
| 22 | 50/60Hz Short | 54 ⁴ | DC, Medium, High-inrush |
| 24 | 50/60Hz Medium | 56 ⁴ | DC, Long, High-inrush |
| 26 | 50/60Hz Long | | |

Notes:

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

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

7. CURRENT RATING (AMPERES) ⁵

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

8. TERMINAL ⁶

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

9. ACTUATOR COLOR & LEGEND

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

10. MOUNTING / BARRIERS

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

11 AGENCY APPROVAL

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

Ordering Scheme

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

Sample
Part Number

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

Selection

1

2

3

4

5

6

7

8

9

10

11

12

1. SERIES

C

2. ACTUATOR

A Handle, one per pole

3. POLES

1 One
2 Two
3 Three

4. CIRCUIT

P Series Trip (parallel pole)

5 AUXILIARY/ALARM SWITCH ¹

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

6. FREQUENCY & DELAY

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

7. CURRENT RATING (AMPERES) ²

CODE	AMPERES
810	100.00
815	150.00
816	160.00
917	175.00
820	200.00
825	250.00

8. TERMINAL ³

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

9 ACTUATOR COLOR & LEGEND

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

10. MOUNTING

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

11. MAXIMUM APPLICATION RATING

M 80 DC

12. AGENCY APPROVAL ⁴

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

Notes:

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

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Scheme

Handle - UL 489 Listed

Sample
Part Number

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

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

1. SERIES

C

2. ACTUATOR 1

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

3. POLES 2

- 1 One
2 Two
3 Three

4. CIRCUIT

- B Series Trip (Current)

5 AUXILIARY/ALARM SWITCH 3

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

6. FREQUENCY & DELAY

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

Notes:

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

7. CURRENT RATING (AMPERES) 4

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

8. TERMINAL 5

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

9 ACTUATOR COLOR & LEGEND

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

10. MOUNTING 6

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

11. MAXIMUM APPLICATION RATING

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

12. AGENCY APPROVAL

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

 [Configure Complete Part Number >](#)

 [Browse Standard Parts >](#)

Circuit & Terminal Diagrams Handle

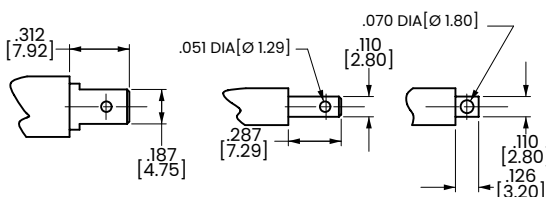
inches [millimeters]

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

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

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

AUXILIARY / ALARM SWITCH TERMINAL DETAIL³



TAB (Q.C.).187

TAB (Q.C.).110

SOLDER TYPE

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

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

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

Notes:

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

Circuit & Terminal Diagrams Handle

inches [millimeters]

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

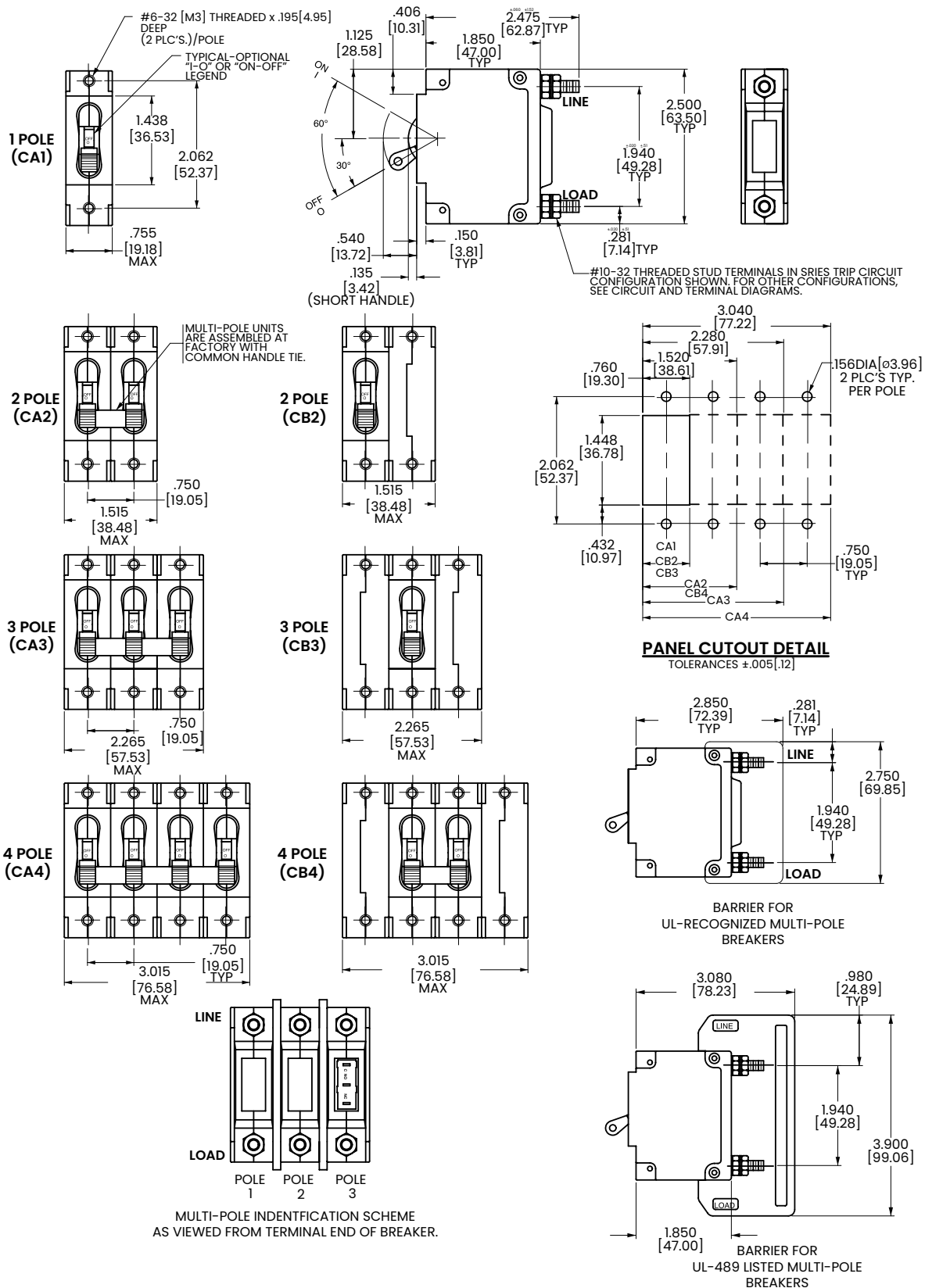
HANDLE POSITION VS. AUX/ALARM SWITCH MODE					
CIRCUIT BREAKER MODE	STANDARD C/B		MID TRIP C/B		
	HANDLE POSITION	AUX. SWITCH MODE	HANDLE POSITION	STANDARD ALARM SWITCH MODE	REVERSE ALARM SWITCH MODE 4
OFF					
ON					
ELECTRICAL TRIP					

Notes:

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

Dimensional Specs Handle

inches [millimeters]



Notes:

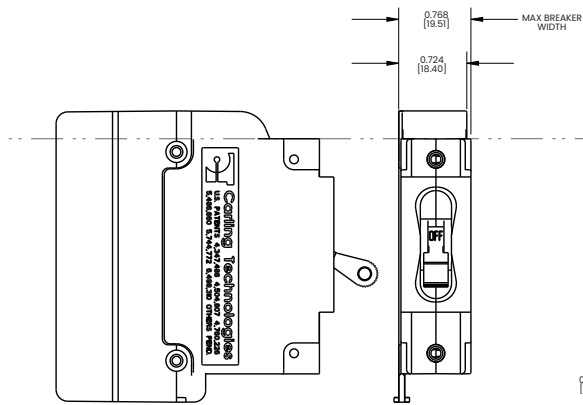
1 Tolerance ±.020 [0.51] unless otherwise specified.

Dimensional Specs

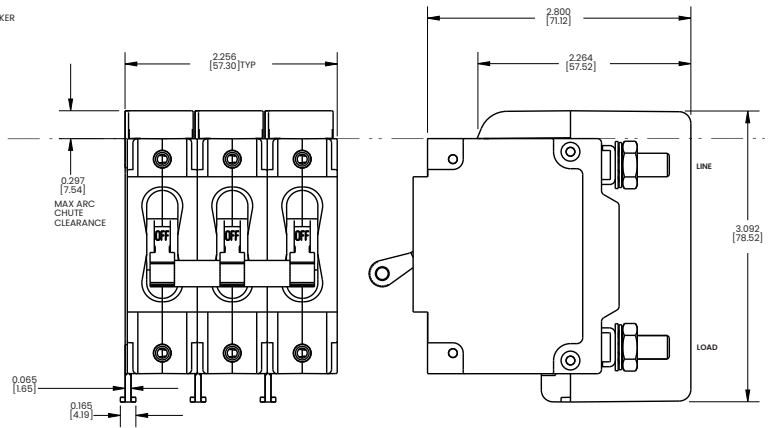
Arc Chute Barrier

inches [millimeters]

1-POLE (CA1)
W/ ARC CHUTE BARRIER

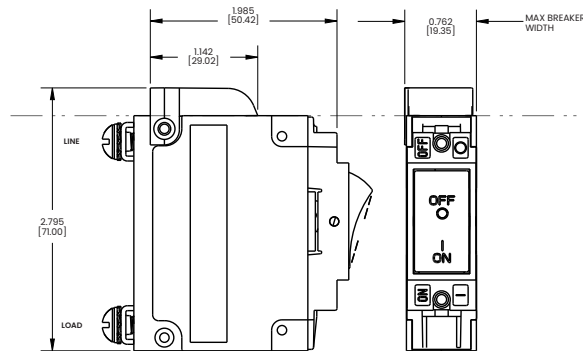


3-POLE (CA3)
W/ ARC CHUTE BARRIER

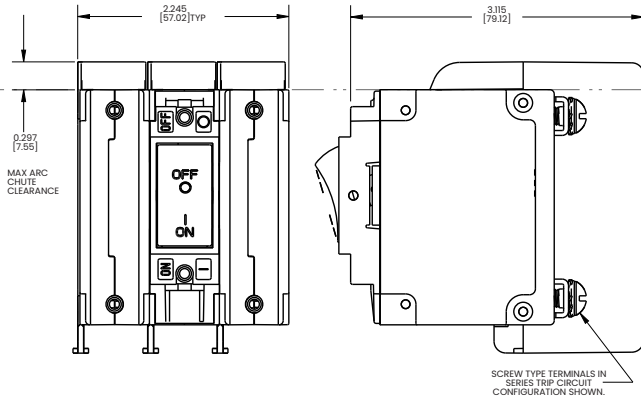


INDICATE "ON"

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

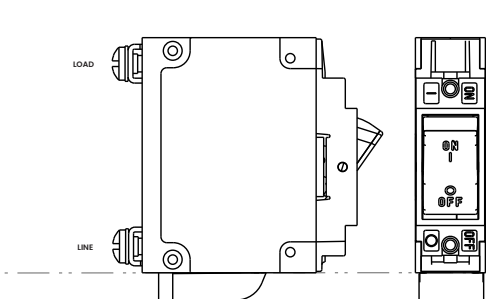


3-POLE (CC3, CD3)
W/ ARC CHUTE BARRIER

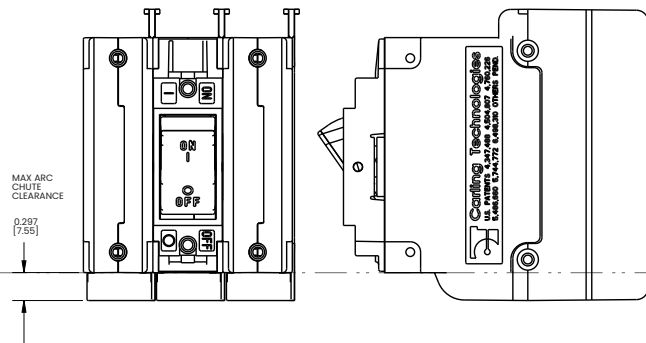


INDICATE "OFF" / SINGLE COLOR

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



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



Notes:

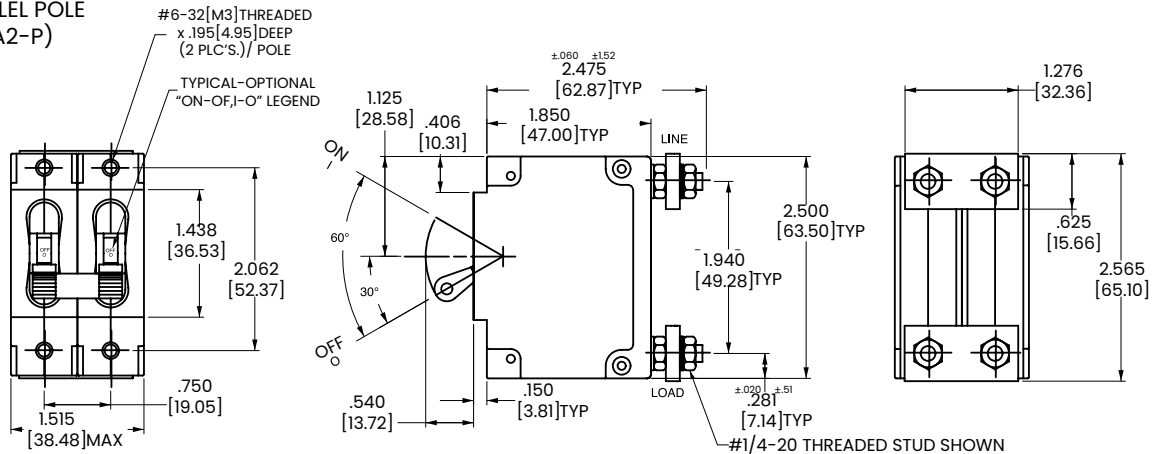
- 1 Only 1-pole and 3-pole configurations shown. Arc chute (without barrier) and arc chute barrier also available for 2-pole construction.
- 2 Dimensions apply to all variations shown.
- 3 Notice that line and load terminal orientation for indicate on and indicate off rocker circuit breakers are opposite.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

Dimensional Specs

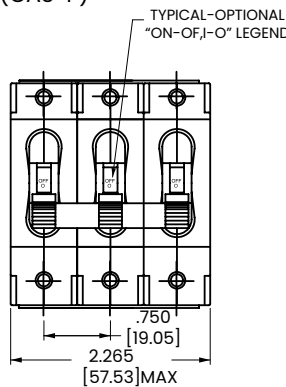
Parallel Pole

inches [millimeters]

PARALLEL POLE (CA2-P)

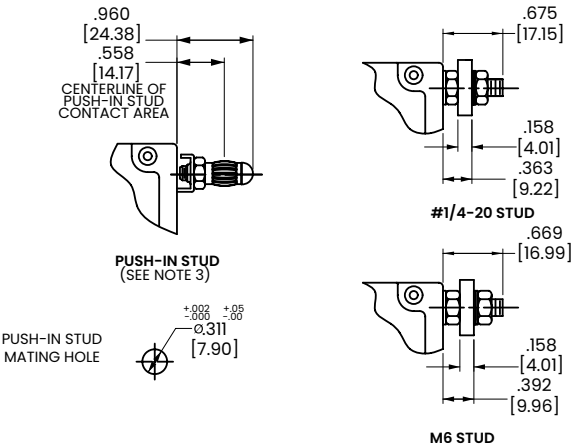


PARALLEL POLE (CA3-P)

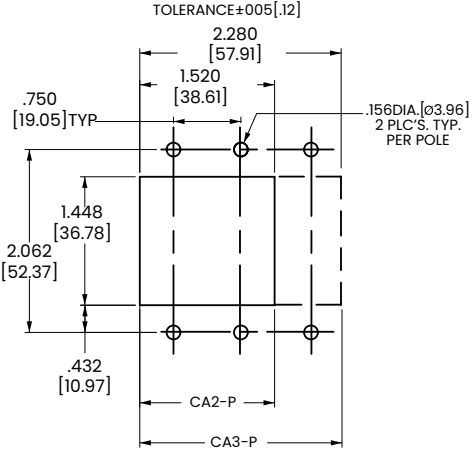


CIRCUIT BREAKER PROFILE		CIRCUIT SCHEMATIC (CA2-P SHOWN)		CIRCUIT CODE	SAFETY CODE
		ANSI	IEC		
		SWITCH TRIP		P	0
PUSH-IN STUD		SERIES TRIP WITH AUXILIARY SWITCH		P	2 3 4

TERMINAL DETAILS



PANEL CUT-OUT DETAIL



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

Ordering Scheme

Sealed Toggle - UL 1077 Recognized

Sample
Part Number

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

Selection

1

2

3

4

5

6

7

8

9

10

11

1. SERIES

C

2. ACTUATOR ¹

M Sealed Toggle, one per pole

3. POLES

1 One

2 Two

3 Three

4. CIRCUIT

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

5. AUXILIARY / ALARM SWITCH ²

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

6. FREQUENCY & DELAY

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

7. CURRENT RATING (AMPERES) ⁴

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

8. TERMINAL ⁵

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

9. LEGEND PLATE

0 No Legend

10. MOUNTING / BARRIERS

	MOUNTING STYLE	BARRIERS
1	Standard Hex Nut	no
A	Standard Hex Nut (multi-pole units only)	yes

11. AGENCY APPROVAL

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

Notes:

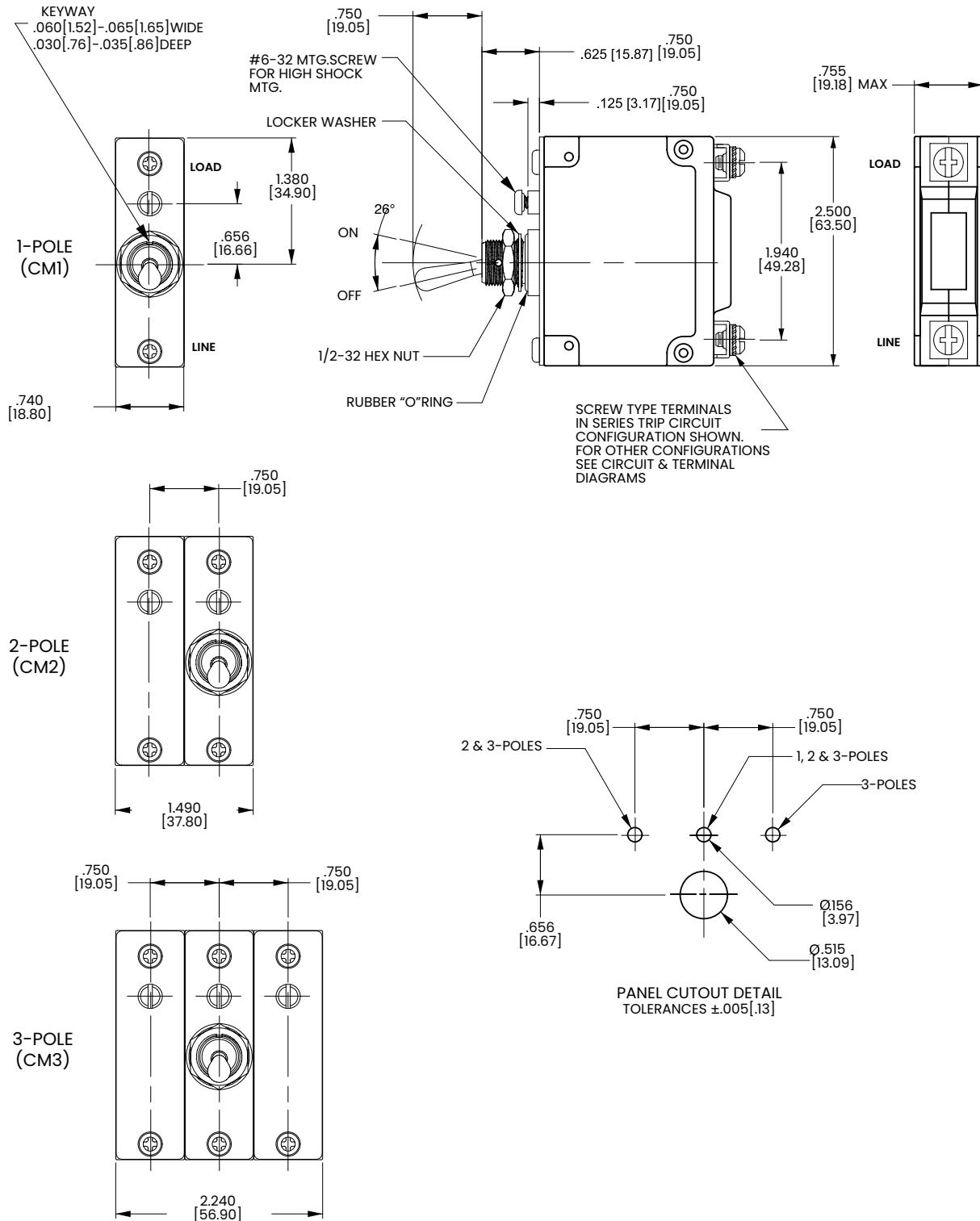
- Actuator Code M: Handle location as viewed from front of breaker:
2 pole - right pole 3 pole - center pole
- Auxiliary Switch available with Series Trip and Switch Only circuits. On multipole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
- Available with Circuit Code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

 [Configure Complete Part Number >](#)

 [Browse Standard Parts >](#)

Dimensional Specs Sealed Toggle

inches [millimeters]



Notes:

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

Ordering Scheme

Rocker - UL 1077 Recognized

Sample
Part Number

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

Selection

1

2

3

4

5

6

7

8

9

10

11

1. SERIES

C

2. ACTUATOR ¹

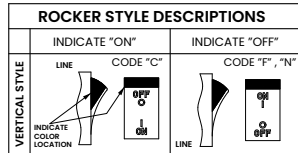
Two Color Visi-Rocker

C Indicate ON, vertical legend

F Indicate OFF, vertical legend

Push-To-Reset, Visi-Rocker

N Indicate OFF, vertical legend



3. POLES ²

1 One

2 Two

3 Three

4. CIRCUIT

A Switch Only (No Coil) ³

B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH ⁴

0 without Aux Switch

2 S.P.D.T., 0.110 Q.C. Term.

6. FREQUENCY & DELAY

03 DC 50/60Hz, Switch Only

10 DC Instantaneous

12 DC Short

14 DC Medium

16 DC Long

20 50/60Hz Instantaneous

22 50/60Hz Short

24 50/60Hz Medium

26 50/60Hz Long

30 DC 50/60Hz Instantaneous

32 DC 50/60Hz Short

34 DC 50/60Hz Medium

36 DC 50/60Hz Long

44 ⁵ 50/60Hz Medium, High-inrush

46 ⁵ 50/60Hz Long, High-inrush

54 ⁵ DC Medium, High-inrush

56 ⁵ DC Long, High-inrush

Notes:

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

7. CURRENT RATING (AMPERES) ⁶

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

8. TERMINAL ⁷

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

9. ACTUATOR COLOR & LEGEND ⁸

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

10 MOUNTING / BARRIERS

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

11 AGENCY APPROVAL

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

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Scheme

Rocker - UL 489A Listed / Parallel Pole

Sample
Part Number

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

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

1. SERIES

C

2. ACTUATOR

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

3. POLES

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

4. CIRCUIT

P Series Trip (parallel pole)

5 AUXILIARY/ALARM SWITCH

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

6. FREQUENCY & DELAY

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

7. CURRENT RATING (AMPERES) 1

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

8. TERMINAL 2, 3

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

9 ACTUATOR COLOR & LEGEND

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

10. MOUNTING

ROCKER / MOUNTING INSERT STYLE

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

11. MAXIMUM APPLICATION RATING

M 80 DC

12. AGENCY APPROVAL 4

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

Notes:

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

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Scheme Rocker - UL 489 Listed

Sample
Part Number

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

Selection

1

2

3

4

5

6

7

8

9

10

11

12

1. SERIES

C

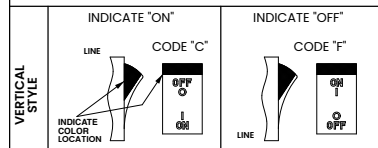
2. ACTUATOR ¹

Two Color Visi-Rocker

C Indicate ON, vertical legend

F Indicate OFF, vertical legend

ROCKER STYLE DESCRIPTIONS



3. POLES

1 One

2 Two

3 Three

4. CIRCUIT

B Series Trip (current)

5 AUXILIARY/ALARM SWITCH ²

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

6. FREQUENCY & DELAY

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

Notes:

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

7. CURRENT RATING (AMPERES) ⁴

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

8. TERMINAL ⁵

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

9. ACTUATOR COLOR & LEGEND ^{6, 7}

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

10. MOUNTING / BARRIERS ⁸

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

11. MAXIMUM APPLICATION RATING ⁹

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

12. AGENCY APPROVAL

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

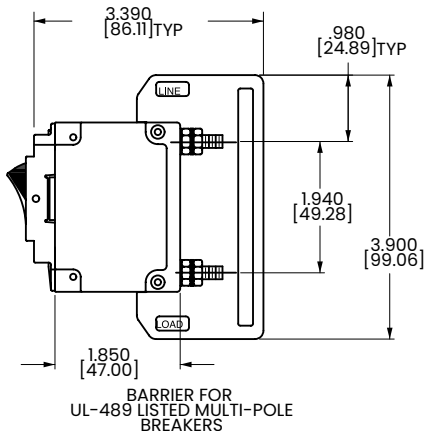
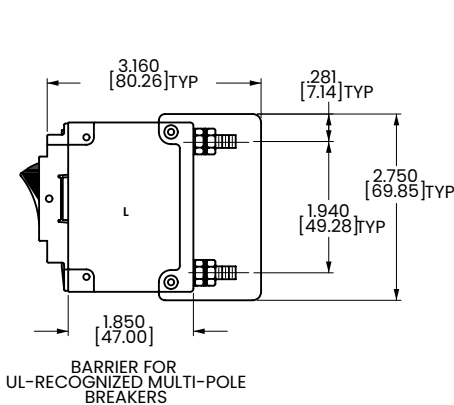
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Circuit & Terminal Diagrams Rocker

inches [millimeters]

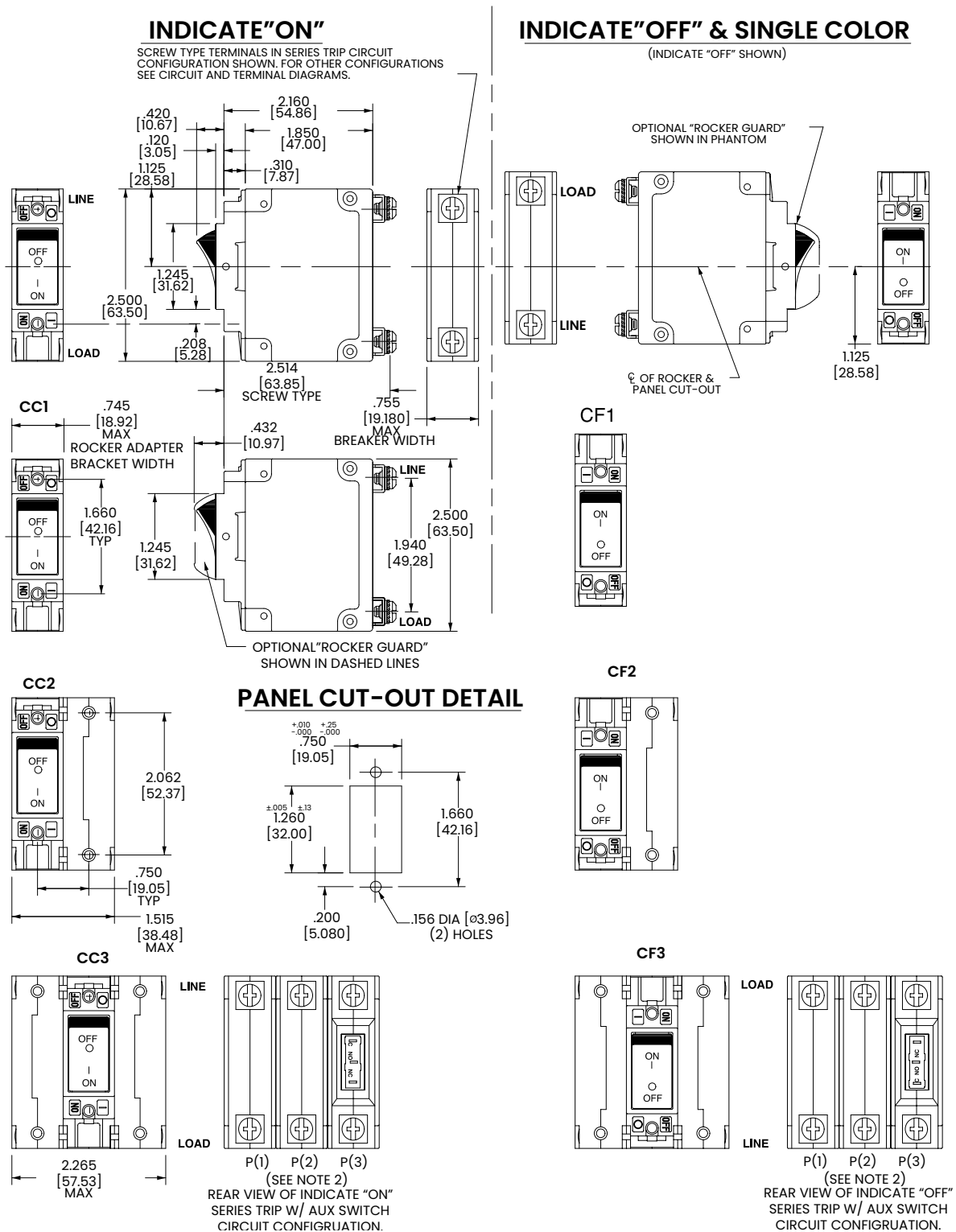
CIRCUIT BREAKER PROFILE	CIRCUIT SCHEMATIC		CIRCUIT CODE	AUX SWITCH CODE	CIRCUIT SCHEMATIC		CIRCUIT CODE	AUX SWITCH CODE
	ANSI	IEC			ANSI	IEC		
SERIES TRIP (2 TERM'S.) 2.160 [54.86] TYP 625 [5.88] TYP MAIN TERM'S. (SEE TABLE A) LOAD	SWITCH ONLY (NO COIL) LINE LOAD	LINE (NETZ) LOAD (LAST)	A	0	SWITCH TRIP LINE LOAD	LINE (NETZ) (3) LOAD (LAST)	BC	0
SERIES TRIP W/AUX. SWITCH (5 TERM'S.) 675 [17.15] TYP 970 [24.64] 1.265 [32.13] AUX. SWITCH TERM'S. (3 PLCS.)	SWITCH ONLY (NO COIL) WITH AUXILIARY SWITCH LINE LOAD	LINE (NETZ) LOAD (LAST)	A	2 3 4	SERIES TRIP WITH AUXILIARY SWITCH LINE LOAD	LINE (NETZ) (3) LOAD (LAST)	BC	2 3 4
SHUNT TRIP (3 TERM'S.)	SHUNT TRIP LINE LOAD	LINE (NETZ) (3) SHUNT (NEBENSCHLUSS) LOAD (LAST)	DE	0	DUAL COIL: SERIES TRIP CURRENT COIL, SHUNT TRIP VOLTAGE COIL LINE LOAD	LINE (NETZ) LOAD (LAST) VOLTAGE COIL	H	0
SHUNT TRIP (4 TERM'S.) 646 [16.41] 812 [20.62] TYP 646 [16.41] TYP	RELAY TRIP LINE LOAD RELAY	RELAY (RELAIS) LOAD (LAST)	FG	0	DUAL COIL: SERIES TRIP CURRENT COIL, RELAY TRIP VOLTAGE COIL LINE LOAD	LINE (NETZ) LOAD (LAST) VOLTAGE COIL	K	0



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

Dimensional Specs Rocker

inches [millimeters]



Notes:

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

Ordering Scheme

Flat Rocker - UL 1077 Recognized

Sample
Part Number

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

Selection

1

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11

1. SERIES

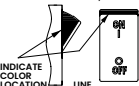
C

2. ACTUATOR 1

Two Color Visi-Rocker

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

ROCKER STYLE DESCRIPTIONS

	VERTICAL STYLE	HORIZONTAL STYLE
INDICATE "OFF"	CODE "1", "5" 	CODE "2", "6" 

3. POLES 2

- 1 One 2 Two 3 Three

4. CIRCUIT

- A Switch Only (No Coil) ³
B Series Trip (Current)

5. AUXILIARY / ALARM SWITCH 4

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

6. FREQUENCY & DELAY

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

Notes:

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

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

7. CURRENT RATING (AMPERES) 6

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

8. TERMINAL 7

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

9. ACTUATOR COLOR & LEGEND 8, 9

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

10 MOUNTING / BARRIERS

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

11 AGENCY APPROVAL

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

Ordering Scheme

Flat Rocker - UL 489 Listed

Sample
Part Number

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

Selection

1

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12

1. SERIES

C

2. ACTUATOR 1

Two Color Visi-Rocker

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

ROCKER STYLE DESCRIPTIONS

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

3. POLES 2

- 1 One
- 2 Two
- 3 Three

4. CIRCUIT

B Series Trip (current)

5 AUXILIARY/ALARM SWITCH 3

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

6. FREQUENCY & DELAY

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

Notes:

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

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

7. CURRENT RATING (AMPERES) 5

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

8. TERMINAL 6

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

9 ACTUATOR COLOR & LEGEND 7, 8

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

10. MOUNTING / BARRIERS 9

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

11. MAXIMUM APPLICATION RATING

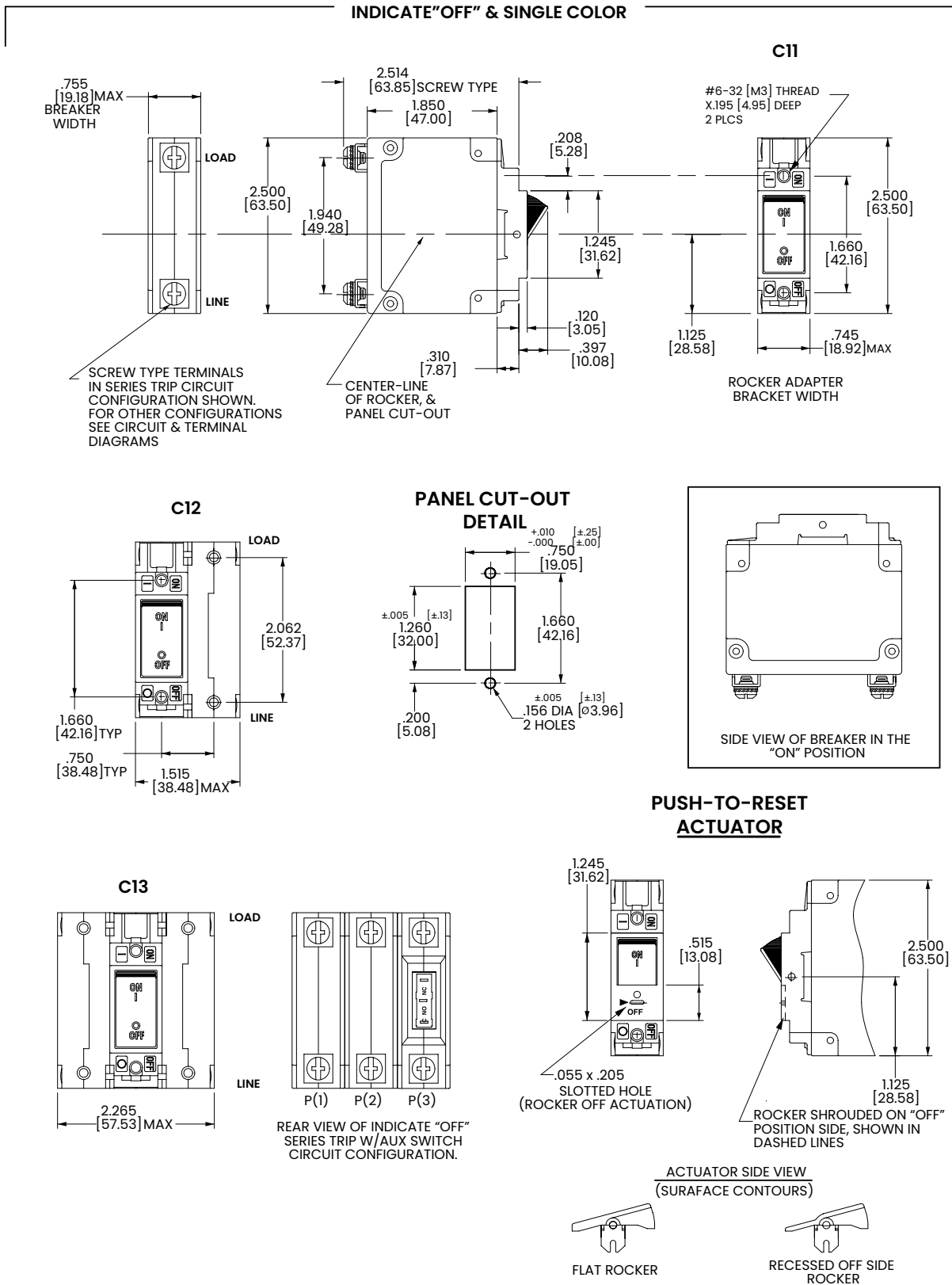
- B 125 DC
- C 120/240 AC
- D 240 AC
- F 277 AC
- K 120 AC
- M 80 DC

12. AGENCY APPROVAL 10

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

Dimensional Specs Flat Rocker

inches [millimeters]



Notes:

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