Littelfuse® | Carling Technologies®
A Littelfuse® Brand

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

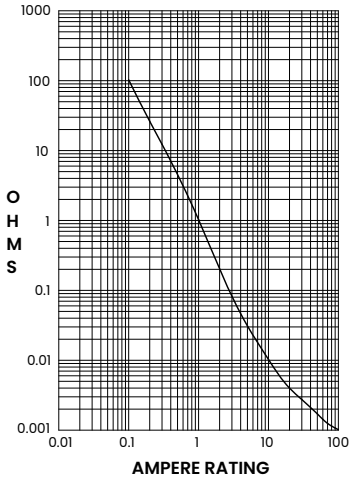
- Marine
- Datacom/Telecom
- Renewable Energy
- Generators & Welders
- Military
- Industrial Automation
- Commercial Food
- Medical Equipment

Tech Spec

Electrical

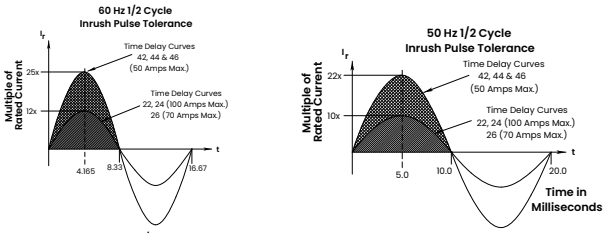
Maximum Voltage	AC, 480 WYE/277 VAC, 50/60 Hz (see Table A.) UL489: AC,240 VAC. (See Table D),50/60 Hz, 125 VDC
Current Ratings	Standard current coils: 0.100, 0.250, 0.500, 0.750, 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 25.0, 30.0, 35.0, 40.0, 50.0, 60.0, 70.0, 80.0, 90.0 and 100 amps. Other ratings available, 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 pernMethod 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

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

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
						UL / CSA				
	Max. Rating	Frequency	Phase	Full Load Amps	General Purpose Amps	With Backup Fuse	Without Backup Fuse	UL	CSA	
Series	32	DC	---	0.02 - 100	---	---	5,000	TC1, OL1, U2	TC1, OL1, U2	---
	48			110 - 150						
	65			0.02 - 70				TC1, 2, OL1, U1	TC1, 2, OL1, U1	
				-	71 - 100			TC1, 2, OL0, U1	TC1, 2, OL0, U1	
	80			0.02 - 70	---		7,500	TC1, 2, OL1, U1	TC1, 2, OL1, U1	
				---	71 - 100			TC1, 2, OL0, U1	TC1, 2, OL0, U1	
				0.02 - 70	---		10,000	TC1, 2, OL1, U1	TC1, 2, OL1, U1	Must have Agency "L"
				---	71 - 100			TC1, 2, OL0, U1	TC1, 2, OL0, U1	
	125			0.02 - 50	---		5,000	TC1, 2, OL1, U1	TC1, 2, OL1, U1	Must have Agency "L"
	125/250							TC1, 2, OL1, U1	TC1, 2, OL1, U1	Must have Agency "L"
	250							TC1, 2, OL1, U1	TC1, 2, OL1, U1	Must have Agency "L". 250 volts requires 2 pole
	125	50 / 60	1	0.02 - 100			3,000	TC1, OL1, U2	TC1, OL1, U2	Per pole rating
	150	DC	---	---	80 - 100		5,000	TC1, 2, OL1, U1	TC1, 2, OL1, U1	Must have Agency "L"
					101 - 175			TC1, 2, OL0, U3	---	Must have Agency "L"
										Must have Agency "L" parallel pole
	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			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	---
			3	---	0.02 - 100	---	3,000	TC1, 2, OL0, U2	TC1, 2, OL0, U2	
				0.02 - 70	---	5,000	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase
				---	0.02 - 90	---	5,000	TC1, 2, OL0, U1	TC1, 2, OL0, U1	Must have Agency "L"
	277		1	0.02 - 50				TC1, 2, OL1, C1	TC1, 2, OL1, C1	---
	480/277		3	0.02 - 30				TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase
				---		5,000	--	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
				---				TC1, 2, OL0, C1	TC1, 2, OL0, C1	---
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
						---	3,000	TC1, 2, OL1, U1	TC1, 2, OL1, U1	2 or 3 poles breaking single phase
	250		3				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	---
								TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase
Shunt	80	DC	---			---	7,500	TC1, 2, OL1, U1	TC1, 2, OL1, U1	---
	277	50 / 60	1			5,000	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	
	250		3					TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase
	480/277			0.02 - 30				TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase
				---	31 - 50			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
				---	31 - 50			TC1, 2, OL0, C1	TC1, 2, OL0, C1	
Relay	80	DC	---	0.02 - 50		---	7,500	TC1, 2, OL1, U1	TC1, 2, OL1, U1	---
	277	50 / 60	1			5,000	---	TC1, 2, OL1, C1	TC1, 2, OL1, C1	
	250		3					TC1, 2, OL1, C1	TC1, 2, OL1, C1	3 poles breaking 3 phase
Switch Only	65	DC	---	71 - 100		---	---	---	---	---

	80			71 - 100						
				---	---					
	125	50 / 60	1	0.02 - 100						
	125/250					---		---	---	2 or 3 poles breaking single phase
	250		3	0.02 - 70						---
	277		1	0.02 - 50						
	480/277		3	0.02 - 30						3 poles breaking 3 phase
				---	31 - 50					---

Notes:

1. 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]			0.02 - 20	3
			3		5
	277 [1]		1		3
	480 [2]		3		5

Notes:
1. 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.
2. 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
						UL / CSA		VDE		TUV			
	Max. Rating	Frequency	Phase	Full Load Amps	General Purpose Amps [1]	With Backup Fuse	Without Backup Fuse	(Inc) With Backup Fuse	(Icn) Without Backup Fuse	(Inc) With Backup Fuse	(Icn) Without Backup Fuse	UL / CSA	
Series	80	DC	---	0.10 - 70	---	---	7,500	---	5,000	5,000	1,500	TC1,2,OL1,U1	---
				71 - 100	71 - 100		10,000			---	5,000	TC1,2,OL0,U1	Agency F, H, J or R
	125			1 - 50	---		5,000		---			TC1,2,OL1,U1	Agency J or R
	250			0.10 - 50			5,000					TC1,2,OL1,U1	2P, Agency J or R
		50 / 60	1	0.10 - 70				3,000	1,500	3,000	1,500		---
				0.10 - 100				---	---	5,000	5,000		Agency J or R
			3	0.10 - 90									
	415			0.10 - 30		5,000 [2]	---	3,000	1,500	3,000	1,500	TC1,2,OL1,C1	Rocker
								5,000	2,500				Handle, Agency F, H, J or R
Dual Coil	80	DC	---	0.10 - 30	---	---	7,500	---	1,500	5,000	1,500	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		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
													Handle, Agency F, H, J or R

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

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			0.10 - 100	5,000	1 - 3 Poles
	125 / 250			0.10 - 50		1 or 2 Poles (2 poles required for 250 Volts)
	120	50 / 60	1		10,000	1 - 3 Poles
	120 / 240			51 - 70	5,000	2 or 3 Poles (1 pole of a 3 pole unit is neutral)
				0.10 - 50	10,000 [1]	
	240			0.10 - 30	5,000	1 Pole
	277			0.10 - 20	10,000	2 Poles
						1-2 Poles
Dual Coil	120			0.10 - 30		---

Notes:
1 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 PEQZ2, File E75596). Ignition Protected per UL 1500. UL Classified Small Craft Electrical Devices, Marine in accordance with ISO 8846 (Guide UZMK, File MQ1515) as Marine Supplementary Protectors.

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	TC1, 2, OL1, U1	TC1, 2, OL1, U1	---
				101 - 150				
	65			0.02 - 100	1,500	TC1, 2, OL0, U1	TC1, 2, OL0, U1	
	80			0.02 - 70		TC1, 2, OL1, U1	TC1, 2, OL1, U1	
	125	50 / 60	1		5,000	TC1, 2, OL1, U1	TC1, 2, OL1, U1	
				71 - 100	1,500			
	250			0.02 - 70		TC1, 2, OL1, U1	TC1, 2, OL1, U1	
				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 PEQZ2, 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
S	Mid-Trip Handle, one per pole
T	Mid-Trip Handle, one per pole & Alarm Switch

3. POLES [2]

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

4. CIRCUIT [3]

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

5. AUXILIARY / ALARM SWITCH [5]

0	without Aux Switch	**7**	S.P.S.T., 0.139 Solder Lug. (Gold Contacts)
2	S.P.D.T., 0.110 Q.C. Term.	**8**	S.P.S.T., 0.187 Q.C. Term.
3	S.P.D.T., 0.139 Solder Lug.	**9**	S.P.D.T., 0.187 Q.C. Term.
4	S.P.S.T., 0.093 Q.C. Term. (Gold Contacts)		

6. FREQUENCY & DELAY

03	DC 50/60Hz, Switch Only	**31**	DC, 50/60Hz Ultra Short
10	DC Instantaneous	**32**	DC, 50/60Hz Short
11	DC Ultra Short	**34**	DC, 50/60Hz Medium
12	DC Short	**36**	DC, 50/60Hz Long
14	DC Medium	**42** [8]	50/60Hz Short, High-inrush
16	DC Long	**44** [8]	50/60Hz Medium, High-inrush
20	50/60Hz Instantaneous	**46** [8]	50/60Hz Long, High-inrush
21	50/60Hz Ultra Short	**52** [8]	DC, Short, High-inrush
22	50/60Hz Short	**54** [8]	DC, Medium, High-inrush
24	50/60Hz Medium	**56**	DC, Long, High-inrush
26	50/60Hz Long		
30	DC, 50/60Hz Instantaneous		

Notes:

1 Actuator Code:
A: Handle tie pin spacer(s) and retainers provided assembled with multi-pole units. B: Handle location as viewed from front of breaker:
2 pole - left pole 3 pole - center pole 4 pole - two handles at center poles
5 pole - three handles at center poles 6 pole - four handles at center poles
S: Handle moves to mid-position only upon electrical trip of the breaker. Available with circuit codes B, C, D, E, F, G, H and K.
T: Handle moves to mid-position and alarm switch activates only upon electrical trip of the breaker. Available with circuit codes B & C.

2 Standard multipole units have all poles identical except when specifying auxiliary switch and/or mixed poles. 4 pole max with VDE. 5th pole available as Series Trip with Voltage Coil only.

3 Switch Only circuits, rated up to 50 amps and 6 poles, and only available with VDE Certification when tied to a protected pole (Circuit Code B, C, D or H.). For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650. For 55-70 amps, select Current Code 670. For 75-100 amps, select Current Code 810.

4 Circuit Codes D,E,F,G,H & K available with Terminal Codes 1,2,4 & 5 only. Circuit Codes D, F, H & K available up to 50 amps maximum Current Rating.

5 Consult factory for available Dual Coil options, as special catalog number is required. Dual Coil Voltage Coils with Shunt Trip Construction trip instantaneously on line voltage. Dual Coil Voltage Coils require 30VA minimum power to trip instantaneously and are rated for intermittent duty only.

6 Auxiliary Switch available with Series Trip & Switch Only circuits. On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.

7 Voltage coils not rated for continuous duty. Available only with delay codes 10 & 20.

8 Available with Circuit Codes B & D only, and up to 50 amps maximum.

9 Current Ratings 60 - 70 are available up to four poles maximum. Ratings 71 - 100 are available up to two poles maximum.

10 Terminal Code 1 available to 60 amps maximum.

11 Terminal Codes 2, 4, 5 and C available to 50 amps maximum.

12 Terminal Codes 3, 6 & 9 available to 100 amps maximum.

13 Terminal Code 7 available to 25 amps maximum.

14 Terminal Code A available to 100 amps maximum.

15 Terminal Codes 7, 9 & C are not VDE approved.

16 No marking available. Consult factory. VDE/TUV Approval requires dual (I-O, ON-OFF) or I-O markings on all handles.

17 Single pole only.

18 VDE/TUV: 30 amps max.; UL/CSA: 50 amps max.; Available in 2 - 4 poles only and limited to AC Delays. "General Purpose amps" not rated for "full load amps" or to be used in applications with a motor.

7. CURRENT RATING (AMPERES)

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

OR VOLTAGE COIL (NORMAL RATED VOLTAGE) [7]

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

8 .TERMINAL [15]

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

9. ACTUATOR COLOR & LEGEND [16]

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

10. MOUNTING / BARRIERS

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

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 [1]

A	Handle, one per pole
S	Mid-Trip Handle, one per pole [1]
T	Mid-Trip, one per pole & Alarm Switch [1]

3. POLES [4]

1	One
2	Two
3	Three

4. CIRCUIT

P	Series Trip (parallel pole)

5 AUXILIARY/ALARM SWITCH [2]

0	without Aux Switch
2	S.P.D.T., 0.110 Q.C. Term.
3	S.P.D.T., 0.139 Solder Lug
4	S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)
5	S.P.S.T., N.O., 0.110 Q.C Term. (Gold Contacts)
6	S.P.S.T., 0.139 Solder Lug
7	S.P.S.T., 0.110 Q.C Term. (Gold Contacts)
8	S.P.S.T., 0.187 Q.C. Term.
9	S.P.D.T., 0.187 Q.C. Term.

6. FREQUENCY & DELAY

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

7. CURRENT RATING (AMPERES)

CODE	AMPERES						
810	100.00	**813**	130.00	**817**	170.00	**820**	200.00
811	110.00	**814**	140.00	**917**	175.00	**922**	225.00
812	120.00	**815**	150.00	**818**	180.00	**825**	250.00
912	125.00	**816**	160.00	**819**	190.00		

8. TERMINAL [4]

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

9 ACTUATOR COLOR & LEGEND

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

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

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:

1 Handle moves to Mid-Position only upon electrical trip of C/B when Actuator S is specified. When Actuator Code T is specified, handle moves to Mid Position and Alarm Switch actuates only upon electrical trip of C/B. Code T is only available with Circuit Code N.

2 Standard Handle colors are White, Black, Red & Yellow.

3 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.

4 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.

5 1 pole only available with terminal codes 3 and 6.

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

3. POLES [2]

1	One
2	Two
3	Three

4. CIRCUIT

B	Series Trip (Current)

5 AUXILIARY/ALARM SWITCH [2]

0	without Aux Switch
2	S.P.D.T., 0.110 Q.C. Term.
3	S.P.D.T., 0.139 Solder Lug
4	S.P.D.T., 0.110 Q.C. Term.
6	S.P.S.T., 0.139 Solder Lug
8	S.P.S.T., 0.187 Q.C. Term.
9	S.P.D.T., 0.187 Q.C. Term. (Gold Contacts)

6. FREQUENCY & DELAY

11	DC Ultra Short
12	DC Short
14	DC Medium
16	DC Long
21	50/60Hz Ultra Short
22	50/60Hz Short
24	50/60Hz Medium
26	50/60Hz Long
42 [4]	50/60Hz Short, High-inrush
44 [4]	50/60Hz Medium, High-inrush
46 [4]	50/60Hz Long, High-inrush
52 [4]	DC Short, High-inrush
54 [4]	DC Medium, High-inrush
56 [4]	DC Long, High-inrush

Notes:

1 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.
S: Handle moves to mid-position only upon electrical trip of the breaker.
T: Handle moves to mid-position and alarm switch activates only upon electrical trip of the breaker.

2 Standard multipole units have all poles identical except when specifying auxiliary switch and/or mixed poles. 2 & 3 pole circuit breakers required for 120/240 VAC (Maximum application rating code C) applications, have all poles identical except when specifying auxiliary /alarm switch which is normally supplied in extreme right pole per figure B. Terminal barriers are required on all multipole breakers. Third pole is for 120/240 VAC applications requiring neutral disconnect. The 3rd pole has the same construction as poles 1 & 2.

3 On multi-pole breakers, one auxiliary. switch is supplied, mounted in the extreme right pole.VDE approval on auxiliary switch codes 2, 3 & 4 only. Auxiliary / Alarm Switch with Independent Circuit ie: separate from breaker circuit, only available with circuit breakers rated 50 amp maximum at 80 VDC, 125 VDC, and 120 VAC. Auxiliary / Alarm Switch with Dependent Circuit ie: same as circuit breaker, is supplied from factory with common terminal of auxiliary / alarm switch connected to line terminal on 120/240 and 240 VAC ratings. Circuit breakers rated 120 VAC 50 amp maximum can be supplied with Auxiliary/Alarm switch common terminal connected to breaker line terminal. Consult factory for special catalog number.

4 Available up to 50 amps maximum.

5 Current ratings 71 - 100 with VDE approvals are available up to two poles maximum.

6 Terminal Codes 9 & C are not VDE approved.

7 Terminal Code 1 available to 60 amps maximum.

8 Terminal Codes 2, 4, 5 & C available to 50 amps maximum.

9 Terminal Codes 3, 6 & 9 available to 100 amps maximum.

10 Terminal Code A available to 100 amps maximum.

11 VDE and TUV approvals require Dual (I-O, ON-OFF) markings on all handles.

12 Barriers supplied on multi-pole units only.

Configure Complete Part Number >

Browse Standard Parts >

7. CURRENT RATING (AMPERES) [4]

CODE	AMPERES	CODE	AMPERES	CODE	AMPERES	CODE	AMPERES
210	0.100	**295**	0.950	**470**	7.000	**618**	18.000
215	0.150	**410**	1.000	**475**	7.500	**620**	20.000
220	0.200	**512**	1.250	**480**	8.000	**622**	22.000
225	0.250	**415**	1.500	**485**	8.500	**624**	24.000
230	0.300	**517**	1.750	**490**	9.000	**625**	25.000
235	0.350	**420**	2.000	**495**	9.500	**630**	30.000
240	0.400	**522**	2.250	**610**	10.000	**635**	35.000
245	0.450	**425**	2.500	**710**	10.500	**640**	40.000
250	0.500	**527**	2.750	**611**	11.000	**660**	60.000
255	0.550	430	3.000	**711**	11.500	**670**	70.000
260	0.600	**435**	3.500	**612**	12.000	**680**	80.000
265	0.650	**440**	4.000	**712**	12.500	**685**	85.000
270	0.700	**445**	4.500	**613**	13.000	**690**	90.000
275	0.750	**450**	5.000	**614**	14.000	**695**	95.000
280	0.800	**455**	5.500	**615**	15.000	**810**	100.00
285	0.850	**460**	6.000	**616**	16.000		
290	0.900	**465**	6.500	**617**	17.000		

8. TERMINAL [6]

1 [7]	Stud 10-32
2 [8]	Screw 10-32
3 [9]	Stud 1/4-20
4 [8]	Stud M5 x 0.8
5 [8]	Screw M5 x 0.8
6 [9]	Stud M6
9 [9]	7/16" Clip Terminal
A [10]	Plug-In Stud
C [8]	5/16" Clip Terminal

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
Blue	**L**	**5**	White
Yellow	**N**	**6**	Black
Gray	**Q**	**7**	Black
Orange	**S**	**8**	Black

10. MOUNTING

	MOUNTING STYLE **Threaded Insert**	BARRIERS [12]
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 [2]
D	240 AC
K	120 AC
F	277 AC
M	80 DC

12. AGENCY APPROVAL [11]

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

Circuit & Terminal Diagrams Handle

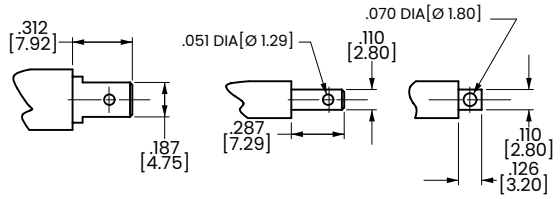
inches [millimeters]

TERMINAL			RATING(AMPS)
DESCRIPTION	CODE	DIMENSIONAL DETAIL	25 50 80 100
#10-32 STUD	1	.723 [18.36], .150 [3.81]	
M5 STUD	4	.688 [17.48], .150 [3.81]	
#1/4-20 STUD	3	.723 [18.36], .150 [3.81]	
M6 STUD	6		
#1/4-20 STUD	3	.675 [17.15], .235 [5.97]	
M6 MUD	6	.669 [16.99], .264 [6.71]	
#10-32 SCREW	2	±.015 ±.38 .150 [3.81]	
M-5 SCREW	5		

TERMINAL			RATING(AMPS)
DESCRIPTION	CODE	DIMENSIONAL DETAIL	25 50 80 100
.250 DOUBLE Q.C.	7	.400 [10.16], .820 [20.83], .320 [8.13], .173 [4.39], .250 [6.35]	
7/16" CLIP TERMINALS	9	.437 DIA [Ø11.10] COMPONENT DIA, .644 [16.36], .901 [22.89]	
PUSH-IN STUD	A	.960 [24.38], +.002 -.000 +.05 -.00 .311 DIA[Ø7.90], .558 [14.17], CENTERLINE OF PUSH-IN STUD CONTACT AREA, PUSH-IN STUD MATING HOLE	

NOTES: TOLERANCE ON STUD LENGTHS IS ±.031 [±.79] UNLESS OTHERWISE SPECIFIED.

AUXILIARY / ALARM SWITCH TERMINAL DETAIL[3]



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]

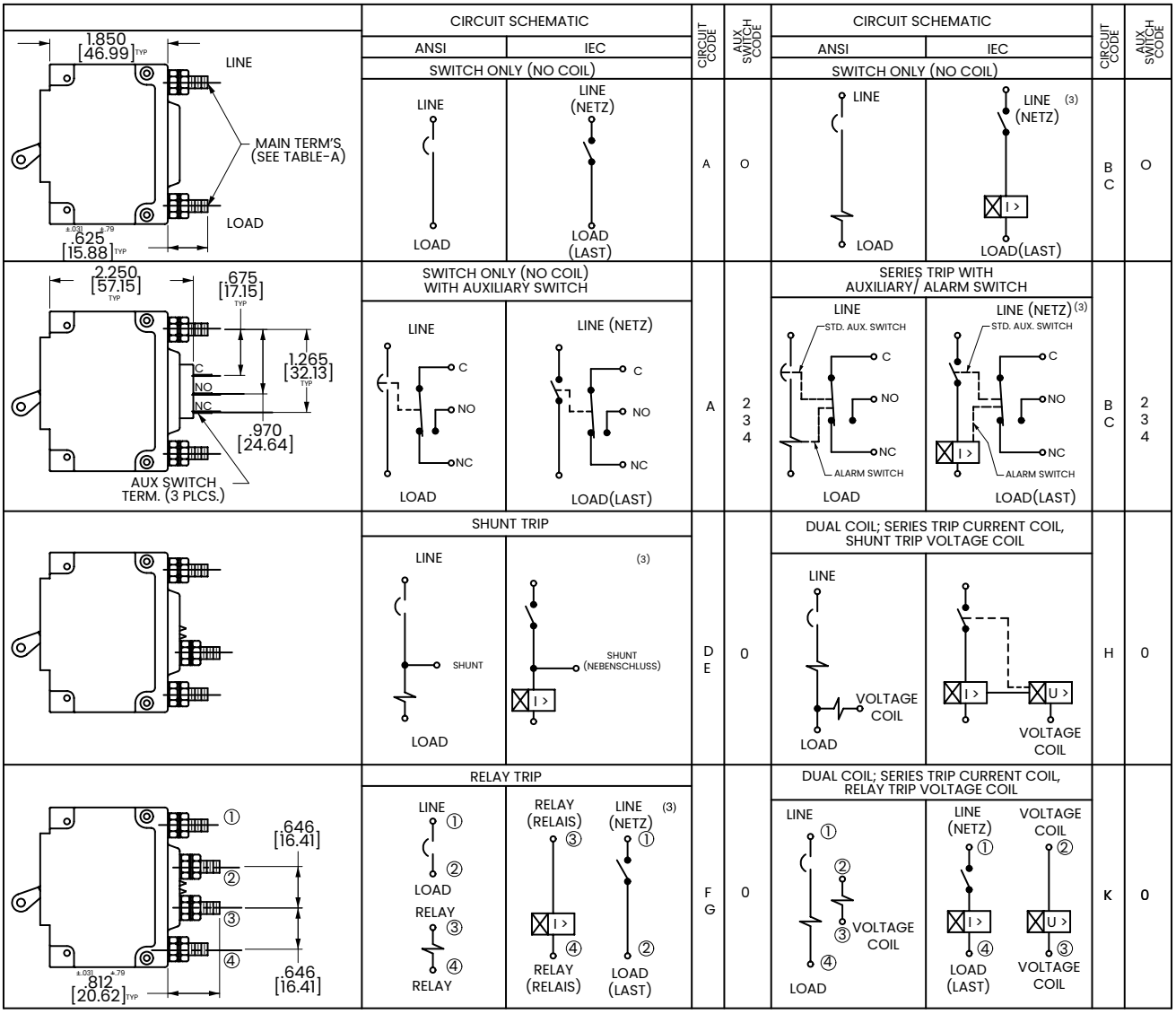
TERMINAL HARDWARE				
TERMINAL DESCRIPTION	CODE	AGENCY APPROVAL	AMPERE RATING	HARDWARE SUPPLIED
#10-32 STUD	1	ALL	.02-50	LOCK WASHER-FLAT WASHER-NUT
M5 STUD	4	ALL	.02-50	LOCK WASHER-FLAT WASHER-NUT
#1/4-20 STUD	3	ALL	.02-80	LOCK WASHER-FLAT WASHER-NUT
			81-100	LOCK WASHER-NUT-(2)FLAT WASHER-NUT
M6 STUD	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 ±.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 mulit-pole identification scheme.

Circuit & Terminal Diagrams Handle

inches [millimeters]



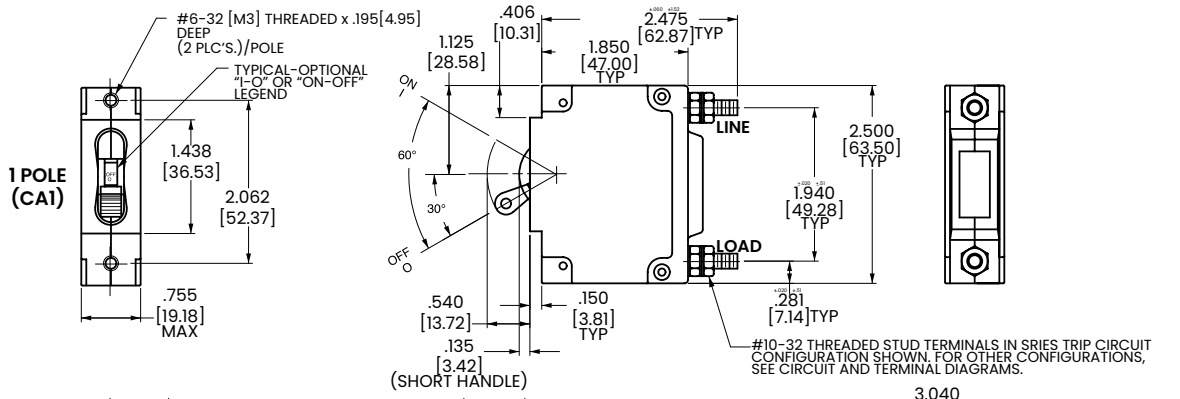
HANDLE POSITION VS. AUX/ALARM SWITCH MODE

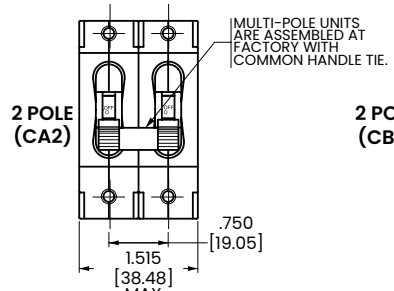
	STANDARD C/B		MID TRIP C/B		
CIRCUIT BREAKER MODE	HANDLE POSITION	AUX. SWITCH MODE	HANDLE POSITION	STANDARD ALARM SWITCH MODE	REVERSE ALARM SWITCH MODE 4
OFF	30° OFF O	NC NO C	30° OFF O	NC NO C	NC NO C
ON	ON 30°	NC NO C	ON 30°	NC NO C	NC NO C
ELECTRICAL TRIP	30° OFF O	NC NO C	90°	NC NO C	NC NO C

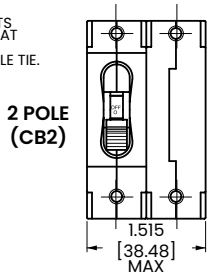
Notes:
1 Tolerance ±.020 [.51] unless otherwise specified.
2 Schematic shown represents current trip `circuits.
3 Available only as special catalog number.

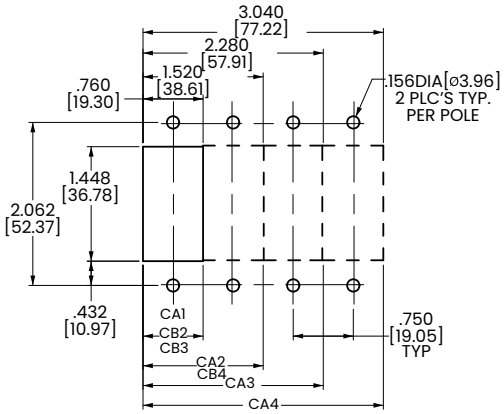
Dimensional Specs Handle

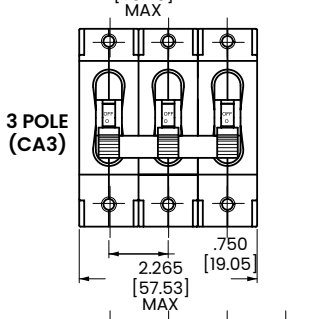
inches [millimeters]

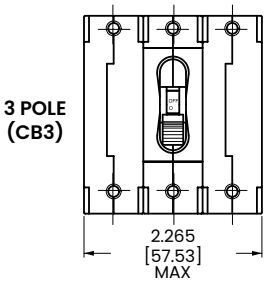






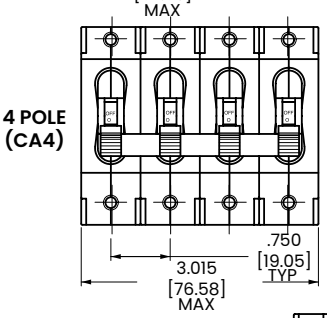


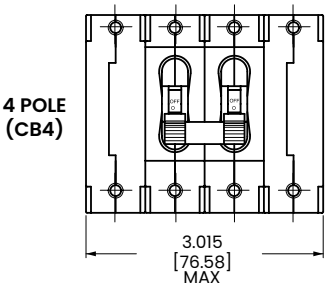


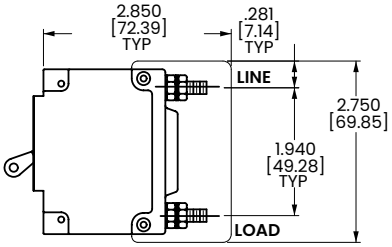


PANEL CUTOUT DETAIL

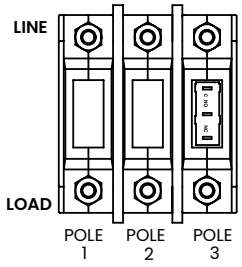
TOLERANCES ±.005[.12]



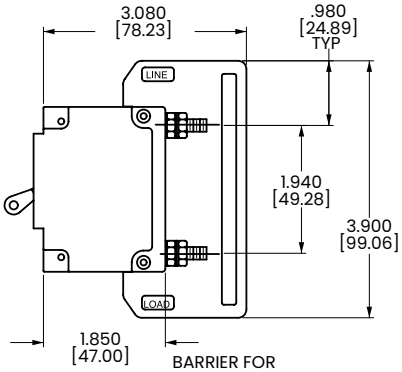




BARRIER FOR UL-RECOGNIZED MULTI-POLE BREAKERS



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



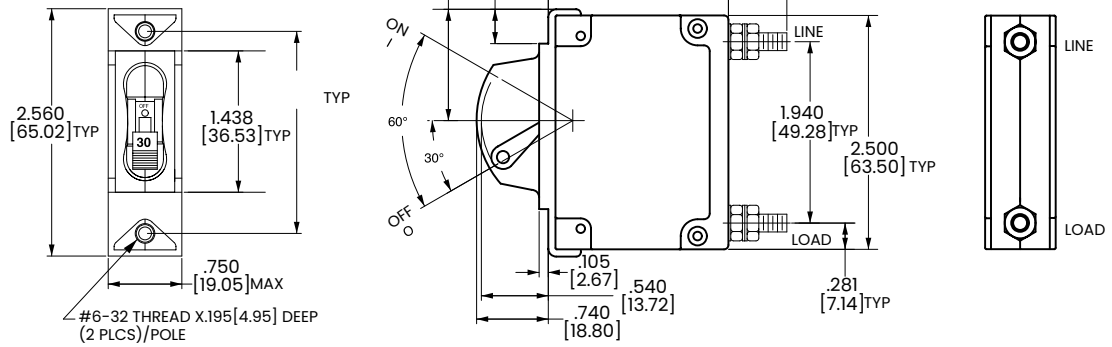
BARRIER FOR UL-489 LISTED MULTI-POLE BREAKERS

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

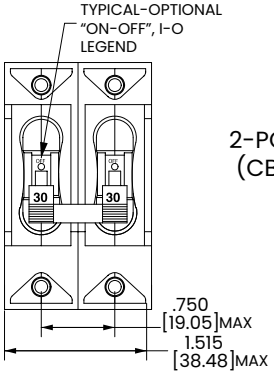
Dimensional Specs Handleguard

inches [millimeters]

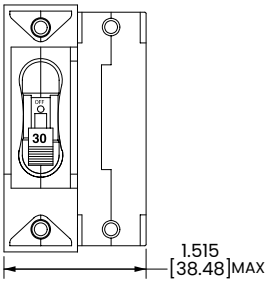
1-POLE
(CA1)

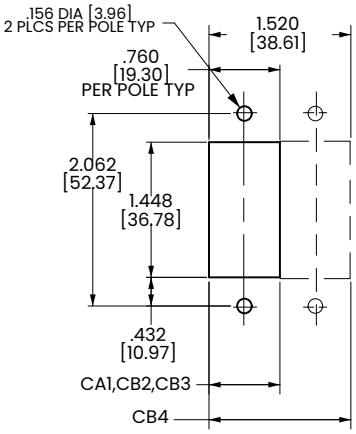


2-POLE
(CA2)



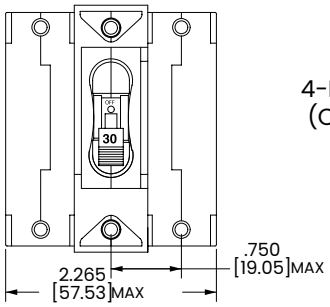
2-POLE
(CB2)



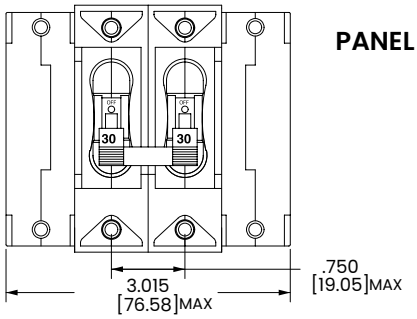


PANEL CUT-OUT DETAIL

3-POLE
(CB3)

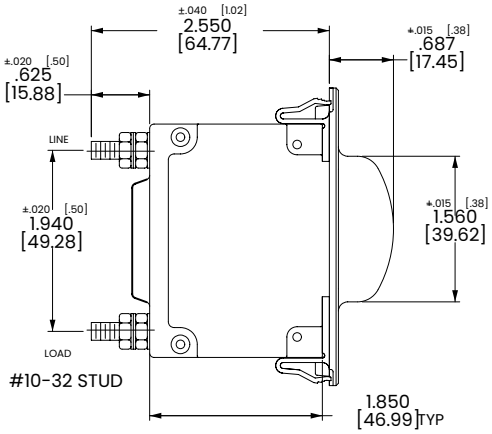


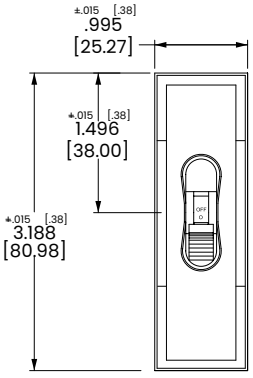
4-POLE
(CB4)

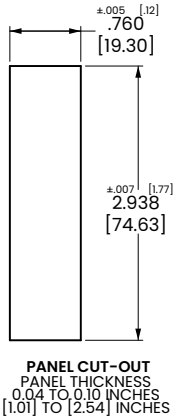


* Handleguard available as special catalog number only

SNAP-IN







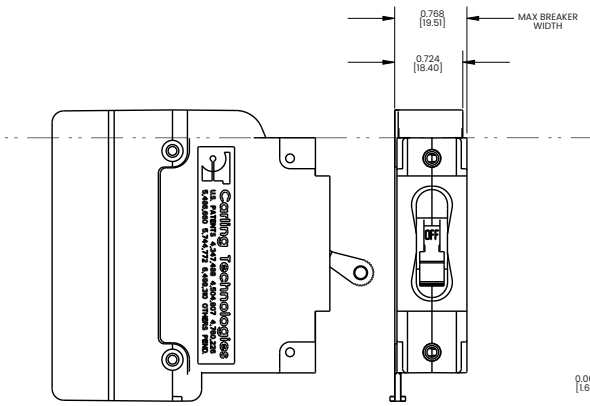
PANEL CUT-OUT
PANEL THICKNESS
0.04 TO 0.10 INCHES
[1.01] TO [2.54] INCHES

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

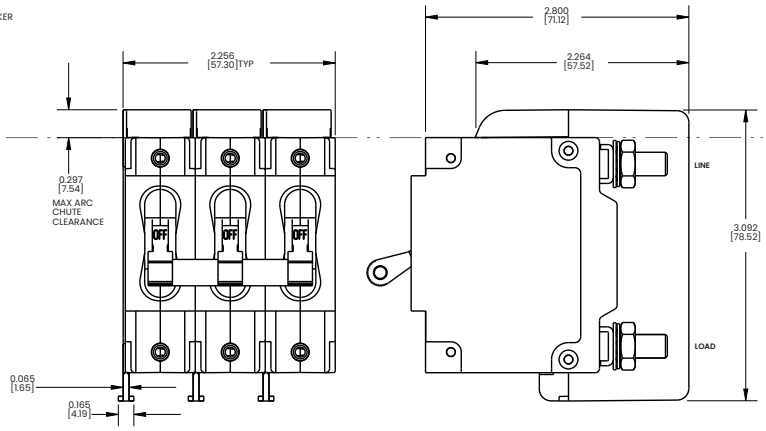
Dimensional Specs Arc Chute Barrier

inches [millimeters]

1-POLE (CA1)
W/ ARC CHUTE BARRIER

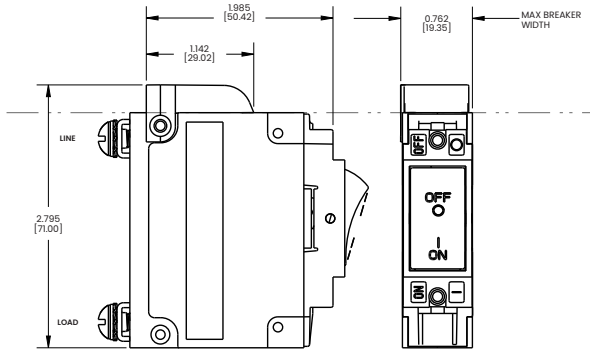


3-POLE (CA3)
W/ ARC CHUTE BARRIER

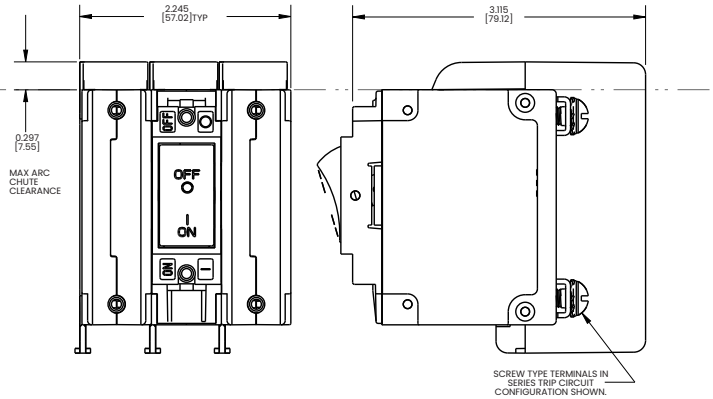


INDICATE "ON"

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

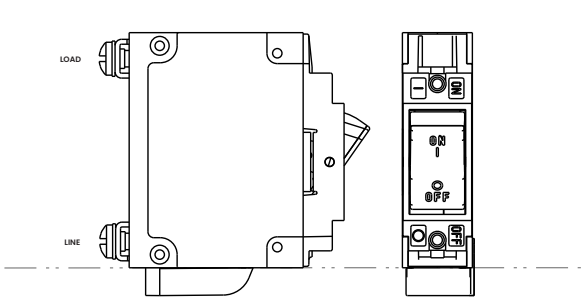


3-POLE (CC3, CD3)
W/ ARC CHUTE BARRIER

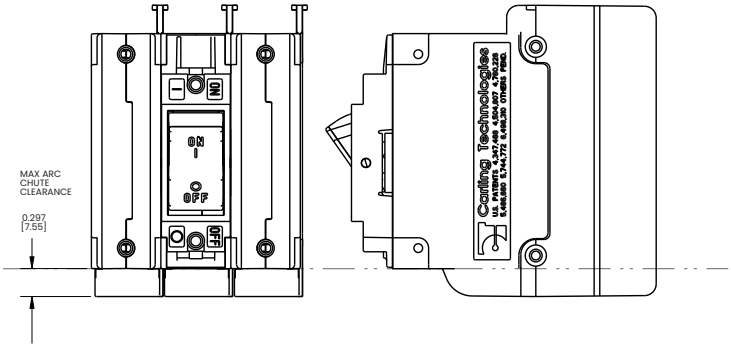


INDICATE "OFF"/ SINGLE COLOR

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



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

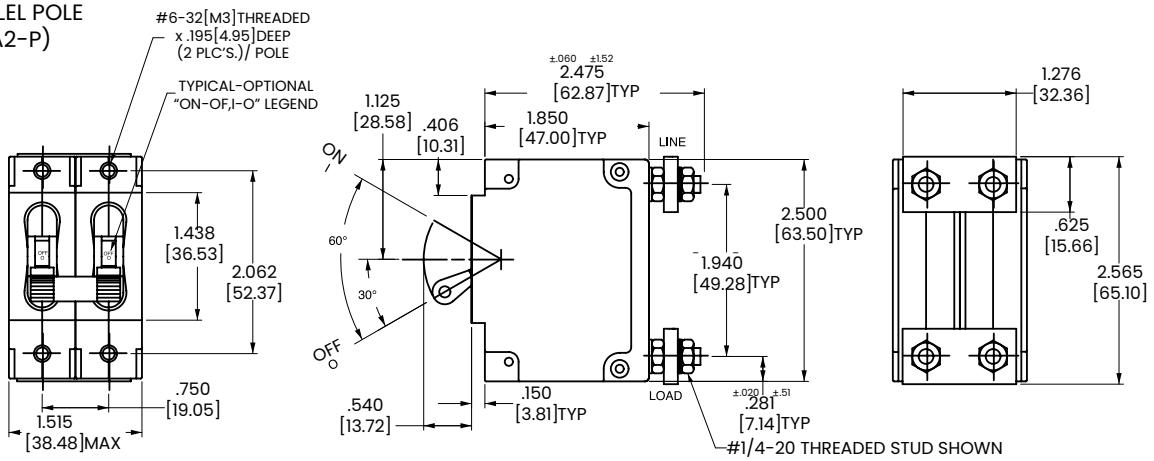


Notes:
1 Only 1-pole and 3-pole configurations shown. Arc chute (without barrier) and arc chute barrier also available for 2-pole construction.
2 Dimensions apply to all variations shown.
3 Notice that line and load terminal orientation for indicate on and indicate off rocker circuit breakers are opposite.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

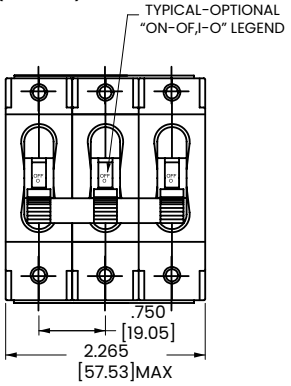
Dimensional Specs Parallel Pole

inches [millimeters]

PARALLEL POLE
(CA2-P)

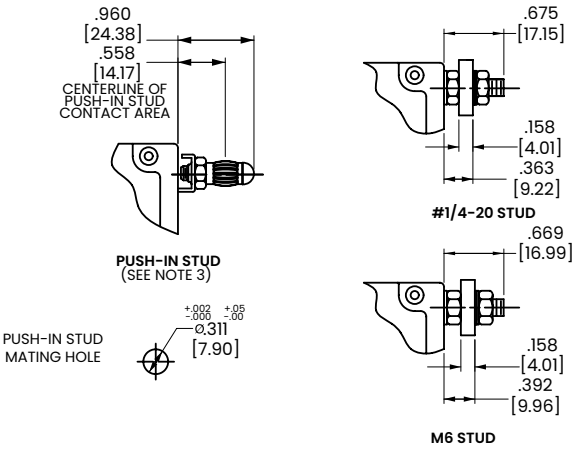


PARALLEL POLE
(CA3-P)



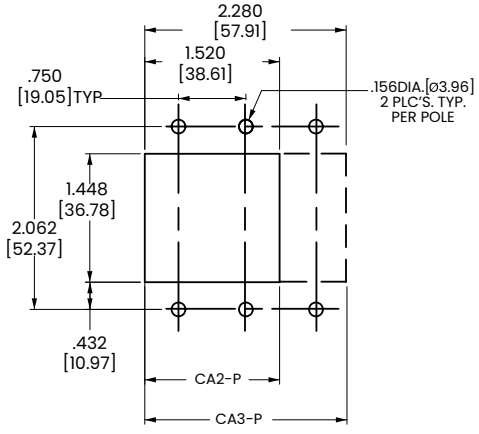
CIRCUIT BREAKER PROFILE	CIRCUIT SCHEMATIC (CA2-P SHOWN)		CIRCUIT CODE	AUX SWITCH CODE
	ANSI	IEC		
	SWITCH TRIP			
±.060 ±1.52 1.388 [47.00]TYP	LINE LOAD	LINE (NETZ) I> LOAD(LAST)	P	0
.400 [10.16] PUSH-IN STUD .255 [5.72]	SERIES TRIP WITH AUXILIARY SWITCH			
	LINE C NO NC LOAD	LINE(NETZ) C NO NC I> LOAD(LAST)	P	2 3 4

TERMINAL DETAILS



PANEL CUT-OUT DETAIL

TOLERANCE±005[.12]



Notes:
1 Tolerance ±.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 [2]	Switch Only (no coil)	**G** [3]	Relay Trip (voltage)
B	Series Trip (current)	**H** [3,4]	Dual Coil with Shunt Trip Voltage Coil
C	Series Trip (voltage)		
D [3]	Shunt Trip (current)	**K** [3,4]	Dual Coil with Relay Trip Voltage Coil
E [3]	Shunt Trip (voltage)		
F [3]	Relay Trip (current)		

5. AUXILIARY / ALARM SWITCH [5]

0	without Aux Switch	**6**	S.P.S.T., 0.139 Solder Lug
2	S.P.D.T., 0.110 Q.C. Term.	**8**	S.P.S.T., 0.187 Q.C. Term.
3	S.P.D.T., 0.139 Solder Lug	**9**	S.P.D.T., 0.187 Q.C. Term.
4	S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)		

6. FREQUENCY & DELAY

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

Notes:

1 Actuator Code M: Handle location as viewed from front of breaker:
2 pole - right pole 3 pole - center pole

2 Switch Only circuits, rated up to 50 amps and 3 poles, and only available with VDE. For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650. For 55-70 amps, select Current Code 670. For 75-100 amps, select Current Code 810.

3 Circuit Codes D,E,F,G,H & K available with Terminal Codes 1,2,4 & 5 only.

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

5 Auxiliary Switch available with Series Trip and Switch Only circuits. On multipole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.

6 Voltage coils not rated for continuous duty. Available only with delay codes 10 & 20.

7 Available with Circuit Codes B & D only, and up to 50 amps maximum.

8 Consult factory for current ratings 71-100, in three pole units, available as special catalog number only.

9 Terminal Code 1 available to 60 amps maximum.

10 Terminal Codes 2, 4, 5 and C available to 50 amps maximum.

11 Terminal Codes 3, 6 & 9 available to 100 amps maximum.

12 Terminal Code 7 available to 25 amps maximum.

13 Terminal Code A available to 100 amps maximum.

Configure Complete Part Number > | Browse Standard Parts >

7. CURRENT RATING (AMPERES) [9]

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

OR VOLTAGE COIL (NORMAL RATED VOLTAGE) [6]

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

8 .TERMINAL

1	Stud 10-32 [9]	**6**	Stud M6 [11]
2	Screw 10-32 [10]	**7**	0.250 Double Click Connect [12]
3	Stud 1/4-20 [11]	**9**	7/16" Clip Terminal [11]
4	Stud M5 x 0.8 [10]	**A**	Plug-In Stud [13]
5	Screw M5 x 0.8 [10]	**C**	5/16" Clip Terminal [10]

9. LEGEND PLATE

0	No Legend

10. MOUNTING / BARRIERS

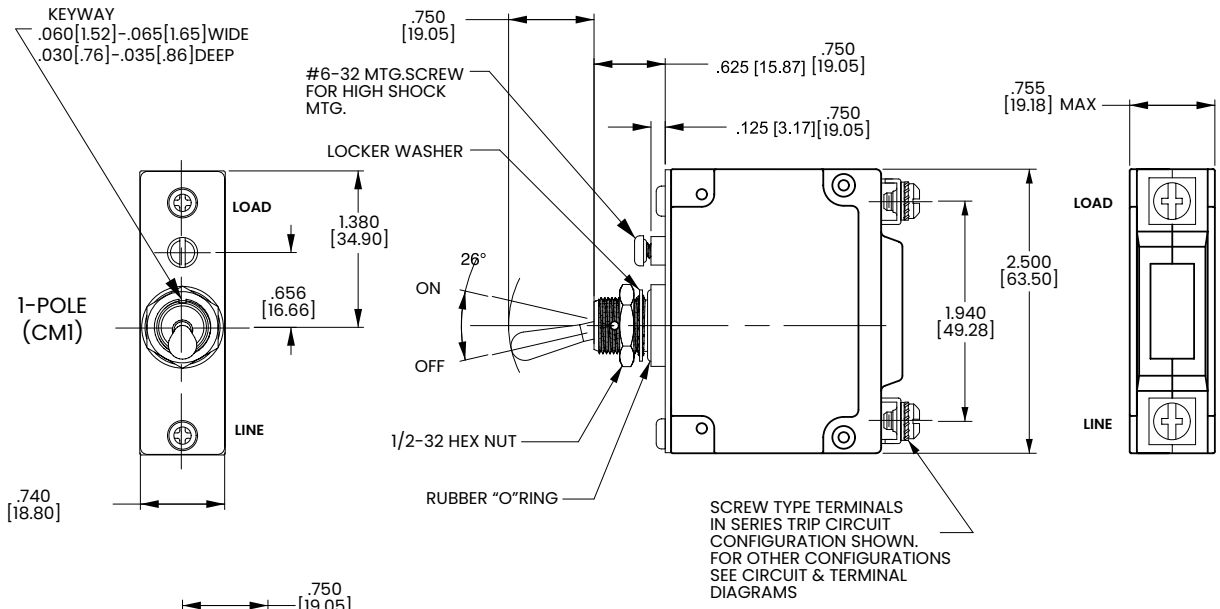
	MOUNTING STYLE	BARRIERS
1	Standard Hex Nut	no
A	Standard Hex Nut (multi-pole units only)	yes

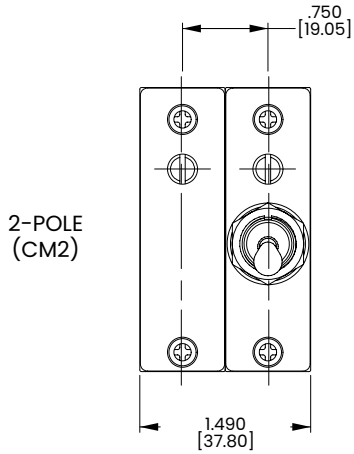
11 AGENCY APPROVAL

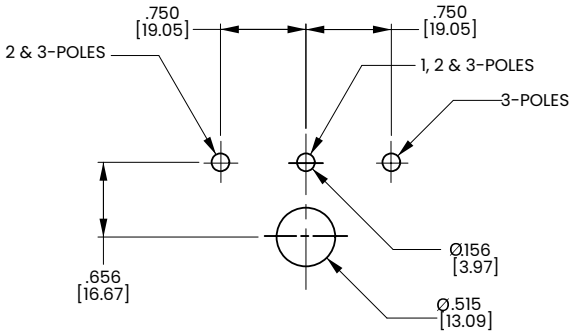
C	UL Recognized & CSA Accepted
I	UL Recognized & CSA Accepted, UL1500 ignition protection
L	UL Recognized & CSA Accepted with listed construction

Dimensional Specs Sealed Toggle

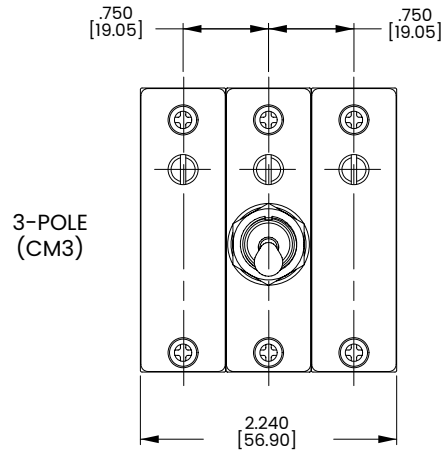
inches [millimeters]







PANEL CUTOUT DETAIL
TOLERANCES ±.005[.13]



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

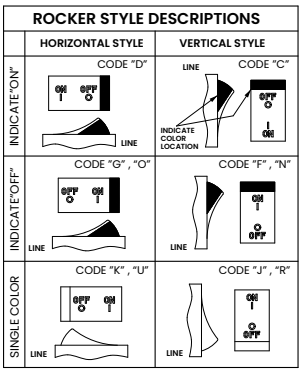
2. ACTUATOR [1]

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

Push-To-Reset, Visi-Rocker
- **N** Indicate OFF, vertical legend
- **O** Indicate OFF, horizontal legend
- **P** Indicate OFF, no legend

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

Push-To-Reset, Single color
- **R** Vertical legend
- **U** Horizontal legend
- **V** No legend



3. POLES [2]

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

4. CIRCUIT

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

5. AUXILIARY / ALARM SWITCH [6]

- **0** without Aux Switch
- **2** S.P.D.T., 0.110 Q.C. Term.
- **6** S.P.S.T., 0.139 Solder Lug
- **3** S.P.D.T., 0.139 Solder Lug
- **8** S.P.S.T., 0.187 Q.C. Term.
- **4** S.P.D.T., 0.110 Q.C. Term.
- **9** S.P.D.T., 0.187 Q.C. Term. (Gold Contacts)

6. FREQUENCY & DELAY

- **03** DC 50/60Hz, Switch Only
- **10** [7] DC Instantaneous
- **11** DC Ultra Short
- **12** DC Short
- **14** DC Medium
- **16** DC Long
- **20** [7] 50/60Hz Instantaneous
- **21** 50/60Hz Ultra Short
- **22** 50/60Hz Short
- **24** 50/60Hz Medium
- **26** 50/60Hz Long
- **30** DC 50/60Hz Instantaneous
- **31** DC 50/60Hz Ultra Short
- **32** DC 50/60Hz Short
- **34** DC 50/60Hz Medium
- **36** DC 50/60Hz Long
- **42** [8] 50/60Hz Short, High-inrush
- **44** [8] 50/60Hz Medium, High-inrush
- **46** [8] 50/60Hz Long, High-inrush
- **52** [8] DC Short, High-inrush
- **54** [8] DC Medium, High-inrush
- **56** [8] DC Long, High-inrush

7. CURRENT RATING (AMPERES) [9]

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

OR VOLTAGE COIL (NORMAL RATED VOLTAGE) [7]

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

8. TERMINAL

- **1** Stud 10-32 [10]
- **2** Screw 10-32 [11]
- **3** Stud 1/4-20 [12]
- **4** Stud M5 x 0.8 [11]
- **5** Screw M5 x 0.8 [11]
- **6** Stud M6 [12]
- **7** 0.250 Double Click Connect [13]
- **9** 7/16" Clip Terminal
- **A** Plug-In Stud [14]
- **C** 5/16" Clip Terminal

9. ACTUATOR COLOR & LEGEND [16,17,18]

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

10 MOUNTING / BARRIERS [1]

	STANDARD ROCKER BEZEL	BARRIERS	VOLTAGE
1	6-32 x 0.195 inches	no	<300
2	6-32 x 0.195 inches	yes	<300
3 [19]	6-32 x 0.195 inches	yes	≥300
4	ISO M3 x 5mm	no	<300
5	ISO M3 x 5mm	yes	<300
6 [19]	ISO M3 x 5mm	yes	≥300
	ROCKERGUARD BEZEL		
A	6-32 x 0.195 inches	no	<300
C	6-32 x 0.195 inches	yes	<300
E [19]	6-32 x 0.195 inches	yes	≥300
G	ISO M3 x 5mm	no	<300
J	ISO M3 x 5mm	yes	<300
L [19]	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 [19]	6-32 x 0.195 inches	yes	≥300
H	ISO M3 x 5mm	no	<300
J	ISO M3 x 5mm	yes	<300
M [19]	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

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

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 [1]

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
G	Curved Rocker, Two Color Visi, Indicate Off, Horizontal Legend
J	Curved Rocker, Single Color, Vertical Legend
K	Curved Rocker, Single Color, Horizontal Legend
N	Curved Rocker, Push To Reset, Two Color Visi, Vertical Legend
O	Curved Rocker, Push To Reset, Two Color Visi, Horizontal Legend
1	Flat Rocker, Two Color Visi, Vertical Legend
2	Flat Rocker, Two Color Visi, Horizontal Legend
3	Flat Rocker, Single Color, Vertical Legend
4	Flat Rocker, Single Color, Horizontal Legend
5	Flat Rocker, Push To Reset, Two Color Visi, Vertical Legend
6	Flat Rocker, Push To Reset, Two Color Visi, Horizontal Legend
7	Flat Rocker, Push To Reset, Single Color, Vertical Legend
8	Flat Rocker, Push To Reset, Single Color, 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	**6**	S.P.S.T., 0.139 Solder Lug
2	S.P.D.T., 0.110 Q.C. Term.	**7**	S.P.S.T., 0.110 Q.C Term. (Gold Contacts)
3	S.P.D.T., 0.139 Solder Lug	**8**	S.P.S.T., 0.187 Q.C. Term.
4	S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)	**9**	S.P.D.T., 0.187 Q.C. Term.
5	S.P.S.T., N.O., 0.110 Q.C Term. (Gold Contacts)		

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	**813**	130.00	**817**	170.00	**820**	200.00
811	110.00	**814**	140.00	**917**	175.00	**922**	225.00
812	120.00	**815**	150.00	**818**	180.00	**825**	250.00
912	125.00	**816**	160.00	**819**	190.00		

8. TERMINAL [3]

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

9 ACTUATOR COLOR & LEGEND

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

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:

1 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.

2 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.

3 1 pole only available with terminal codes 3 and 6.

4 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

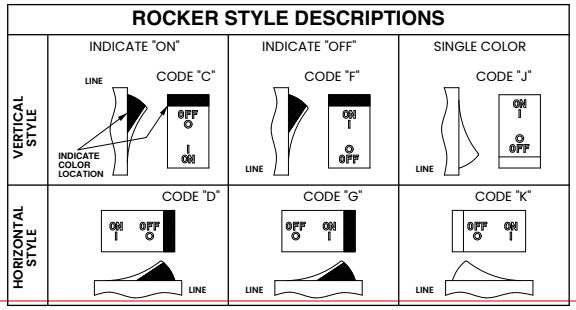
2. ACTUATOR [1]

Two Color Visi-Rocker

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

Single color

J	Vertical legend
K	Horizontal legend



3. POLES [1]

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

4. CIRCUIT

B Series Trip (current)

5 AUXILIARY/ALARM SWITCH [2]

0	without Aux Switch	**6**	S.P.S.T., 0.139 Solder Lug
2	S.P.D.T., 0.110 Q.C. Term.	**8**	S.P.S.T., 0.187 Q.C. Term.
3	S.P.D.T., 0.139 Solder Lug	**9**	S.P.D.T., 0.187 Q.C. Term. (Gold Contacts)
4	S.P.D.T., 0.110 Q.C. Term.		

6. FREQUENCY & DELAY

11	DC Ultra Short	**26**	50/60Hz Long
12	DC Short	**42** [8]	50/60Hz Short, High-inrush
14	DC Medium	**44** [8]	50/60Hz Medium, High-inrush
16	DC Long	**46** [8]	50/60Hz Long, High-inrush
21	50/60Hz Ultra Short	**52** [8]	DC Short, High-inrush
22	50/60Hz Short	**54** [8]	DC Medium, High-inrush
24	50/60Hz Medium	**56**	DC Long, High-inrush

Notes:

1. Multi-pole breakers have all breakers identical except when specifying Auxiliary switch and/or mixed poles, and have one rocker per breaker.
2. On multi-pole breakers, one auxiliary switch is supplied, mounted in the extreme right pole.
3. Available up to 50 amps maximum.
4. Current ratings 71 - 100 with VDE approvals are available up to two poles maximum.
5. Terminal Code 1 available to 60 amps maximum.
6. Terminal Codes 2, 4, 5 & C available to 50 amps maximum.
7. Terminal Codes 3, 6, 9 & A available to 100 amps maximum.
8. Terminal Codes 9 & C are not VDE approved.
9. Color shown is visi and legend with remainder of rocker black
10. Dual = ON-OFF/I-O legend on actuator.
11. VDE and TUV approval requires Dual (I-O, ON-OFF) markings on rocker.
12. Rockerguard available with all actuator codes.
13. Barriers supplied on multi-pole units only.
14. 2 & 3 pole circuit breakers required for 120/240 AC rating.

Configure Complete Part Number > | Browse Standard Parts >

7. CURRENT RATING (AMPERES) [2]

CODE	AMPERES	CODE	AMPERES	CODE	AMPERES	CODE	AMPERES
210	0.100	**295**	0.950	**470**	7.000	**618**	18.000
215	0.150	**410**	1.000	**475**	7.500	**620**	20.000
220	0.200	**512**	1.250	**480**	8.000	**622**	22.000
225	0.250	**415**	1.500	**485**	8.500	**624**	24.000
230	0.300	**517**	1.750	**490**	9.000	**625**	25.000
235	0.350	**420**	2.000	**495**	9.500	**630**	30.000
240	0.400	**522**	2.250	**610**	10.000	**635**	35.000
245	0.450	**425**	2.500	**710**	10.500	**640**	40.000
250	0.500	**527**	2.750	**611**	11.000	**650**	50.000
255	0.550	**430**	3.000	**711**	11.500	**660**	60.000
260	0.600	**435**	3.500	**612**	12.000	**670**	70.000
265	0.650	**440**	4.000	**712**	12.500	**680**	80.000
270	0.700	**445**	4.500	**613**	13.000	**685**	85.000
275	0.750	**450**	5.000	**614**	14.000	**690**	90.000
280	0.800	**455**	5.500	**615**	15.000	**695**	95.000
285	0.850	**460**	6.000	**616**	16.000	**810**	100.000
290	0.900	**465**	6.500	**617**	17.000		

8. TERMINAL [3]

1	Stud 10-32 [5]	**6**	Stud M6 [7]
2	Screw 10-32 with saddle [6]	**9**	7/16" Clip Terminal & washer clamps [7,8]
3	Stud 1/4-20 [7]	**A**	Plug-In Stud [7,8]
4	Stud M5 x 0.8 [6]	**C**	5/16" Clip Terminal [6,8]
5	Screw M5 x 0.8 with saddle & washer clamps [6]		

9. ACTUATOR COLOR & LEGEND

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

10. MOUNTING / BARRIERS [12]

	Standard Rocker Bezel Threaded Insert, 2 per pole	BARRIERS [13]
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

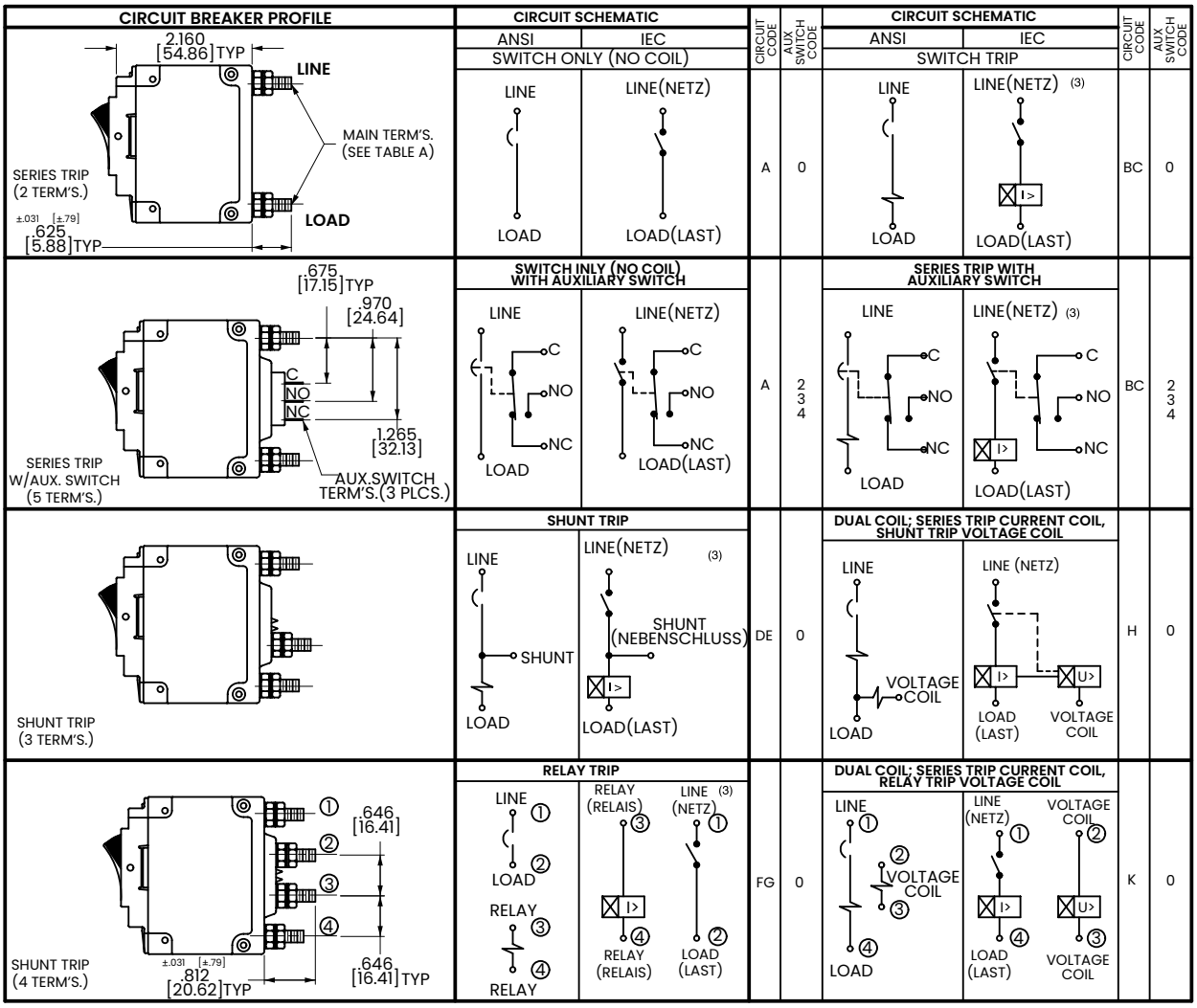
B	125 DC
C	120/240 AC [14]
D	240 AC
F	277 AC
K	120 AC
M	80 DC

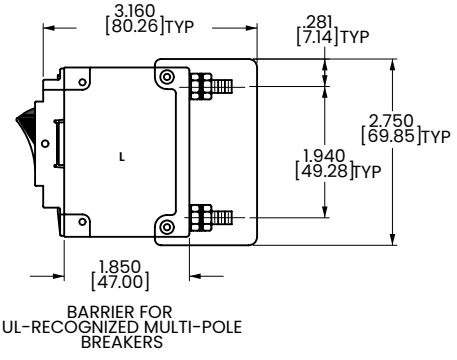
12. AGENCY APPROVAL

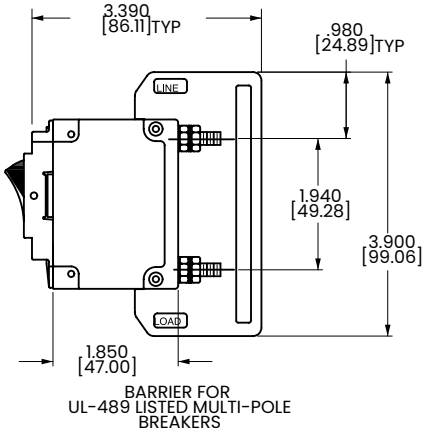
A	without approvals
F	UL 489 Listed, CSA Certified, & VDE Certified
G	UL 489 Listed & CSA Certified
J	UL 489 Listed, CSA Certified & TUV Certified

Circuit & Terminal Diagrams Rocker

inches [millimeters]



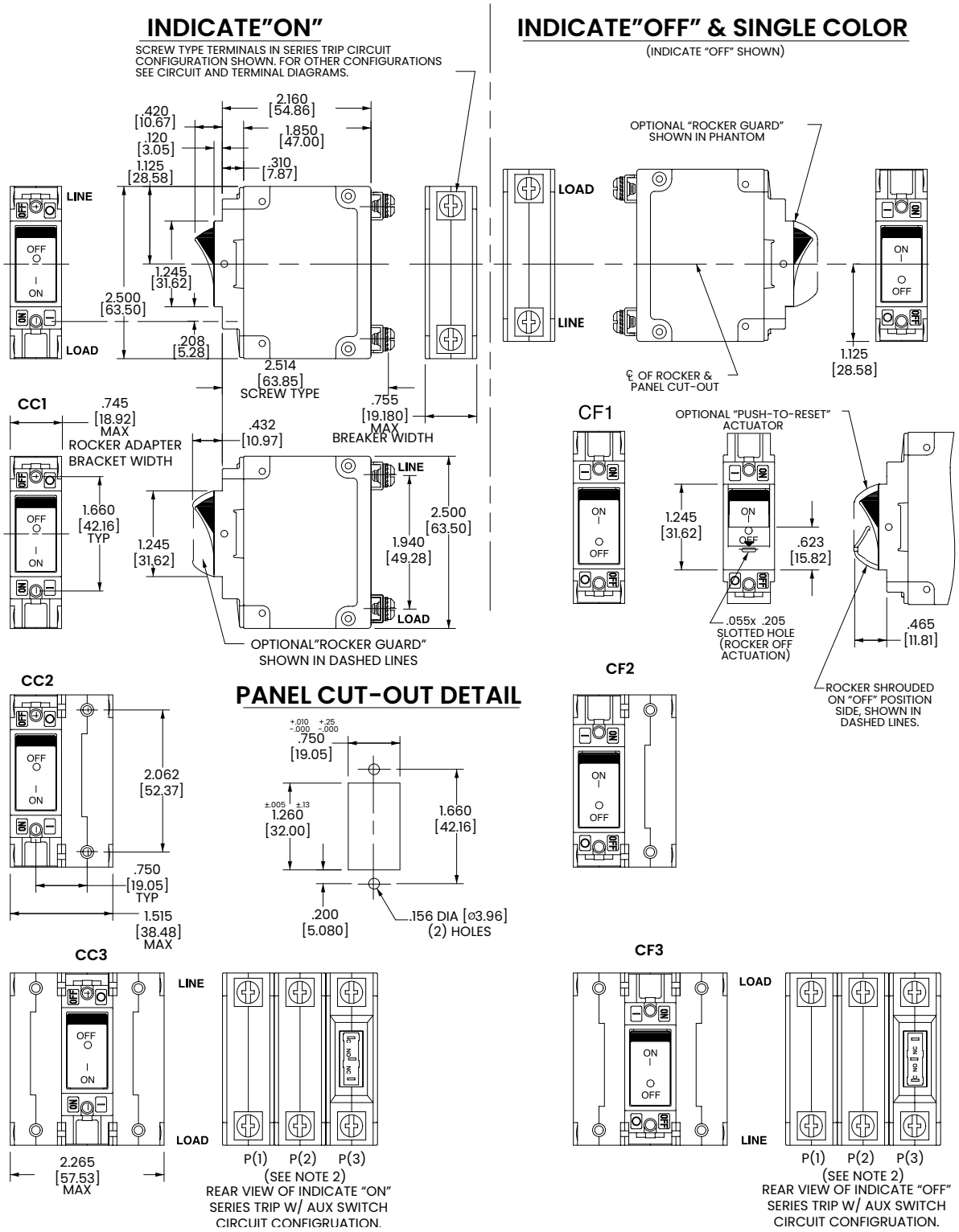




Notes:
1 Tolerance ±.020 [.51] unless otherwise specified.
2 Schematic shown represents current trip circuit.

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

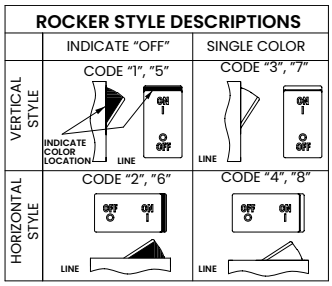
Sample Part Number	C	1	2	-	B	0	-	10	-	450	-	1	2	1	-	E
Selection	1	2	3		4	5		6		7		8	9	10		11

1. SERIES

C

2. ACTUATOR [1]

Two Color Visi-Rocker
1 Indicate OFF, vertical legend
2 Indicate OFF, horizontal legend
Single color
3 Vertical legend
4 Horizontal legend
Push-To-Reset, Visi-Rocker
5 Indicate OFF, vertical legend
6 Indicate OFF, horizontal legend
Push-To-Reset , Single color
7 Vertical legend
8 Horizontal legend



3. POLES [2]

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

4. CIRCUIT

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

5. AUXILIARY / ALARM SWITCH [6]

0 without Aux Switch
2 S.P.D.T., 0.110 Q.C. Term.
3 S.P.D.T., 0.139 Solder Lug
4 S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)
6 S.P.S.T., 0.139 Solder Lug
8 S.P.S.T., 0.187 Q.C. Term.
9 S.P.D.T., 0.187 Q.C. Term.

6. FREQUENCY & DELAY

03 DC 50/60Hz, Switch Only
10 [7] DC Instantaneous
11 DC Ultra Short
12 DC Short
14 DC Medium
16 DC Long
20 [7] 50/60Hz Instantaneous
21 50/60Hz Ultra Short
22 50/60Hz Short
24 50/60Hz Medium
26 50/60Hz Long
30 DC 50/60Hz Instantaneous
31 DC 50/60Hz Ultra Short
32 DC 50/60Hz Short
34 DC 50/60Hz Medium
36 DC 50/60Hz Long
42 [8] 50/60Hz Short, High-inrush
44 [8] 50/60Hz Medium, High-inrush
46 [8] 50/60Hz Long, High-inrush
52 [8] DC Short, High-inrush
54 [8] DC Medium, High-inrush
56 [8] 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, and only available with VDE Certification when tied to a protected pole (Circuit Code B, C, D or H). For .02 to 30 amps, select Current Code 630. For 35 - 50 amps, select Current Code 650. For 55-70 amps, select Current Code 670. For 75-100 amps, select Current Code 810.
4 Circuit Codes D,E,F,G,H & K available with Terminal Codes 1,2,4 & 5 only. Circuit Codes D,F,H & K available up to 50 amps maximum Current Rating.
5 Consult factory for available Dual Coil options, as special catalog number is required. Dual Coil Voltage Coils with Shunt Trip Construction trip instantaneously on line voltage. Dual Coil Voltage Coils require 30VA minimum power to trip instantaneously and are rated for intermittent duty only.
6 Auxiliary Switch available with Series Trip and Switch Only circuits. On multipole breakers, one auxiliary switch is supplied, mounted in the extreme right pole. Auxiliary switch codes 2, 3 & 4 are VDE approved.
7 Voltage coils not rated for continuous duty. Available only with delay codes 10 and 20.
8 Available with Circuit Codes B & D only, and up to 50 amps maximum.
9 Current ratings 60-70 are available up to four poles maximum. Current ratings 71 - 100 are available up to two poles maximum.
10 Terminal Code 1 available to 60 amps maximum.
11 Terminal Codes 2,4,5 & C available to 50 amps maximum.
12 Terminal Codes 3,6 & 9 available to 100 amps maximum.
13 Terminal Code 7 available to 25 amps maximum.
14 Terminal Code A available to 100 amps maximum.
15 Terminal Codes 7, 9 & C are not VDE approved.
16 Color shown is visi & legend with remainder of rocker black. Dual = ON-OFF/I-O legend.
17 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.
18 VDE/TUV approval requires Dual (I-O, ON-OFF) or I-O markings on rocker.
19 VDE/TUV: 30 amps max.; UL/CSA: 50 amps max.; Available in 2 & 3 poles only and limited to AC Delays. "General Purpose amps" not rated for "full load amps" or to be used in applications with a motor.
20 Recessed "OFF SIDE" available with actuator codes 1,2,3&4. Legends on rocker are available in ink stamping only.

7. CURRENT RATING (AMPERES) [9]

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

OR VOLTAGE COIL (NORMAL RATED VOLTAGE) [7]

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

8. TERMINAL

1 Stud 10-32 [10]
2 Screw 10-32 with saddle [11]
3 Stud 1/4-20 [12]
4 Stud M5 x 0.8 [11]
5 Screw M5 x 0.8 [11]
6 Stud M6 [12]
9 7/16" Clip Terminal
7 0.250 Double Click Connect [13]
A Plug-In Stud [14]
C 5/16" Clip Terminal

9. ACTUATOR COLOR & LEGEND [16,17,18]

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

10 MOUNTING / BARRIERS [1]

STANDARD ROCKER BEZEL		BARRIERS	VOLTAGE
1	6-32 x 0.195 inches	no	<300
2	6-32 x 0.195 inches	yes	<300
3 [19]	6-32 x 0.195 inches	yes	≥300
4	ISO M3 x 5mm	no	<300
5	ISO M3 x 5mm	yes	<300
6 [19]	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 [19]	6-32 x 0.195 inches	yes	≥300
H	ISO M3 x 5mm	no	<300
J	ISO M3 x 5mm	yes	<300
M [19]	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

Configure Complete Part Number > | Browse Standard Parts >

Ordering Scheme

Flat Rocker - UL 489 Listed

Sample Part Number	C	1	2	-	B	0	-	24	-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]

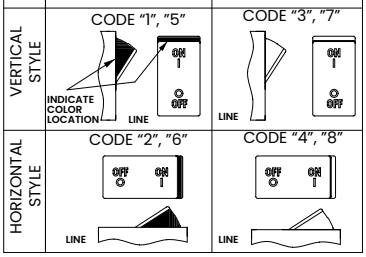
Two Color Visi-Rocker
1 Indicate OFF, vertical legend
2 Indicate OFF, horizontal legend

Single color
3 Vertical legend
4 Horizontal legend

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

Push-To-Reset , Single color
7 Vertical legend
8 Horizontal legend

ROCKER STYLE DESCRIPTIONS



3. POLES [2]

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

4. CIRCUIT

B Series Trip (current)

5 AUXILIARY/ALARM SWITCH [2]

0	without Aux Switch	**6**	S.P.S.T., 0.139 Solder Lug
2	S.P.D.T., 0.110 Q.C. Term.	**8**	S.P.S.T., 0.187 Q.C. Term.
3	S.P.D.T., 0.139 Solder Lug	**9**	S.P.D.T., 0.187 Q.C. Term.
4	S.P.D.T., 0.110 Q.C. Term. (Gold Contacts)		

6. FREQUENCY & DELAY

11	DC Ultra Short	**26**	50/60Hz Long
12	DC Short	**42** [4]	50/60Hz Short, High-inrush
14	DC Medium	**44** [4]	50/60Hz Medium, High-inrush
16	DC Long	**46** [4]	50/60Hz Long, High-inrush
21	50/60Hz Ultra Short	**52** [4]	DC Short, High-inrush
22	50/60Hz Short	**54** [4]	DC Medium, High-inrush
24	50/60Hz Medium	**56** [4]	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 71 - 100 with VDE approvals are available up to two poles maximum.
6 Terminal Code 1 available to 60 amps maximum.
7 Terminal Codes 2, 4, 5 & C available to 50 amps maximum.
8 Terminal Codes 3, 6, 9 & A available to 100 amps maximum.
9 Terminal Codes 9 & C are not VDE approved.
10 Color shown is visi and legend with remainder of rocker black
11 Dual = ON-OFF/I-O legend on actuator.
12 TUV approval requires Dual (I-O, ON-OFF) markings on rocker.
13 Legend on push-to-reset bezel/shroud is white when single color rocker is ordered. Legend on push-to-reset bezel/shroud matches visi-color of rocker with actuator codes 5 & 6.
14 Recessed "OFF-SIDE" available with actuator codes 1, 2, 3, & 4. Legends on rocker are available in ink stamping only.
15 Barriers supplied on multi-pole units only.
16 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	CODE	AMPERES	CODE	AMPERES	CODE	AMPERES
210	0.100	**295**	0.950	**470**	7.000	**618**	18.000
215	0.150	**410**	1.000	**475**	7.500	**620**	20.000
220	0.200	**512**	1.250	**480**	8.000	**622**	22.000
225	0.250	**415**	1.500	**485**	8.500	**624**	24.000
230	0.300	**517**	1.750	**490**	9.000	**625**	25.000
235	0.350	**420**	2.000	**495**	9.500	**630**	30.000
240	0.400	**522**	2.250	**610**	10.000	**635**	35.000
245	0.450	**425**	2.500	**710**	10.500	**640**	40.000
250	0.500	**527**	2.750	**611**	11.000	**650**	50.000
255	0.550	**430**	3.000	**711**	11.500	**660**	60.000
260	0.600	**435**	3.500	**612**	12.000	**670**	70.000
265	0.650	**440**	4.000	**712**	12.500	**680**	80.000
270	0.700	**445**	4.500	**613**	13.000	**685**	85.000
275	0.750	**450**	5.000	**614**	14.000	**690**	90.000
280	0.800	**455**	5.500	**615**	15.000	**695**	95.000
285	0.850	**460**	6.000	**616**	16.000	**810**	100.000
290	0.900	**465**	6.500	**617**	17.000		

8. TERMINAL

1	Stud 10-32 [6]	**6**	Stud M6 [8]
2	Screw 10-32 with saddle [7]	**9**	7/16" Clip Terminal [8,9]
3	Stud 1/4-208	**A**	Plug-In Stud [8]
4	Stud M5 x 0.8 [7]	**C**	5/16" Clip Terminal [7,9]
5	Screw M5 x 0.8 [7]		

9 ACTUATOR COLOR & LEGEND [10]

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

10. MOUNTING / BARRIERS

	STANDARD ROCKER BEZEL	BARRIERS [15]
	Threaded Insert, 2 per pole	
A	6-32 X 0.195 inches	yes
C	ISO M3 x 5mm	yes
	RECESSED OFF ROCKER [14]	
	Threaded Insert, 2 per pole	
E	6-32 x 0.195 inches	yes
F	ISO M3 x 5mm	yes
	PUSH-TO-RESET BEZEL [13]	
	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 [16]
D	240 AC
F	277 AC
K	120 AC
M	80 DC

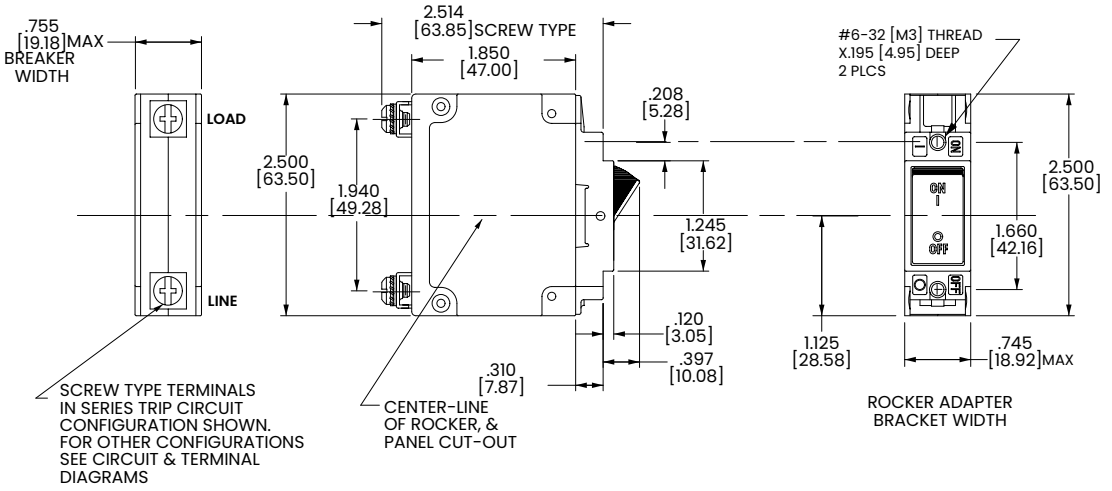
12. AGENCY APPROVAL [12]

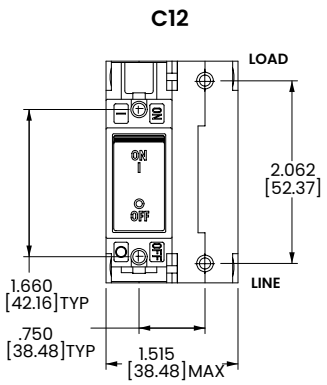
A	without approvals
G	UL 489 Listed & CSA Certified
J	UL489 Listed, CSA Certified & TUV Certified

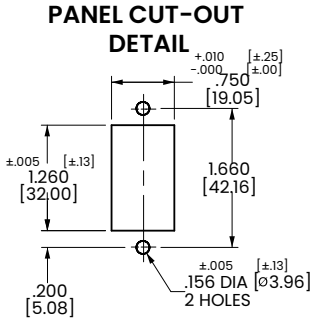
Dimensional Specs Flat Rocker

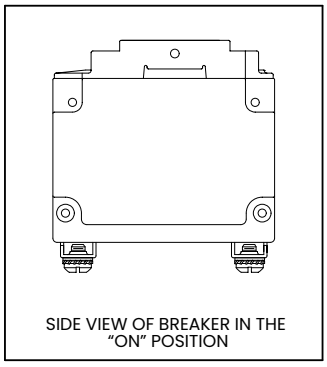
inches [millimeters]

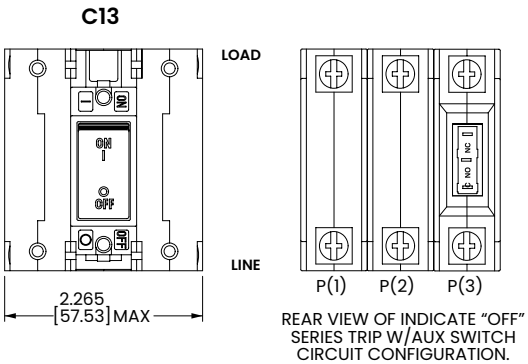
INDICATE"OFF" & SINGLE COLOR



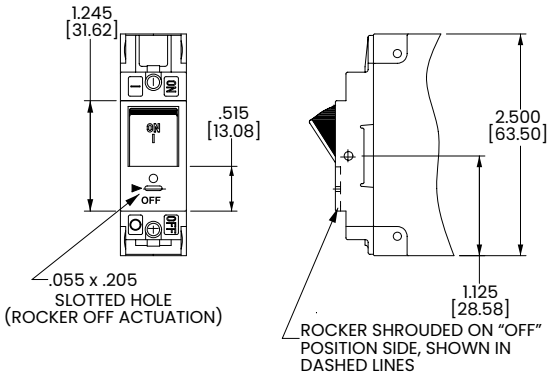


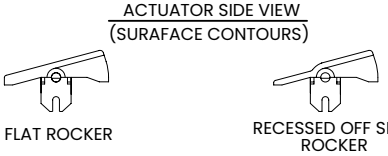






PUSH-TO-RESET ACTUATOR





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

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