H-Series
Circuit Breaker

The H-Series hydraulic/magnetic circuit breaker provides dependable circuit protection in a low cost, compact package. By meeting the IEC spacing requirements, the H-Series is the ideal choice for international market applications. It also features a "trip-free" mechanism, which will open the contacts when a fault condition occurs, even if the handle is held in the ON position. Although a low cost option, the H-Series was designed for maximum performance and reliable equipment protection meeting Carling's stringent quality standards.

CURVED ROCKER ACTUATOR

Key Features & Benefits:

- Choice of actuator styles
- UL1077, CCC, CSA, C22.2 and EN60934 approvals
- Compact size
- Temperature stable operation -40°c to 80°c
- Choice of terminals, including PCB
- Single or multi-pole configurations

HANDLE ACTUATOR

FLAT WITH PUSH–TO–RESET ACTUATOR

CURVED ROCKER WITH GUARD

Carling Technologies®
Innovative Designs. Powerful Solutions.

Product Bulletin #139
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Electrical Tables

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

H SERIES - COMPONENT SUPPLEMENTARY PROTECTOR										
CIRCUIT CONFIGURATION	VOLTAGE			CURRENT		SHORT CIRCUIT CAPACITY (AMPS)			APPLICATION CODES	
						UL	CSA	TUV		
	MAX RATING	FREQ.	PHASE	FULL LOAD	MINIMUM POLES	WITHOUT BACKUP FUSE	WITHOUT BACKUP FUSE	WITHOUT BACKUP FUSE	UL	CSA
SERIES	65	DC	--	1 - 32	1	3000	3000	1500(PC1)	TC1, OL1, U1	TC1, OL1, U1
	65	DC	--	1 - 32	1	---	500	---	---	TC1, OL1, U3
	80	DC	--	1 - 25	1	1000	800	1000(PC1)	TC1, OL1, U1	TC1, OL1, U1
	80 [1]	DC	--	26 - 32	1	1000	1000	1000(PC1)	TC1, OL1, U3	TC1, OL1, U3
	250	50/60	1	1 - 32	1	1500	1500	1000(PC1)	TC1, OL1, U1	TC1, OL1, U1
	250	50/60	1	1 - 32	2	1500	1500	1000(PC1)	TC1, OL1, U3	TC1, OL1, U3
	250	50/60	3	1 - 32	3	1500	1500	1000(PC1)	TC1, OL0, U3	TC1, OL0, U3

1 - Polarity Sensitive

Electrical

Maximum Voltage	250VAC 50/60Hz 80 VDC
Current Rating	Standard current coils: 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 20.0, 25.0, 30.0, 32.0
Auxiliary Switch Rating	SPDT: 10.1A-250VAC, 1.0A-65VDC/0.5A-80VDC, 0.1A-125VAC (with gold contacts)

Mechanical

Endurance	10,000 ON-OFF operations @ 6 per minute; with rated current & voltage

Physical

Number of Poles	1-3
Weight	Approx. 48 grams/pole (1.7 oz)
Internal Circuit Config.	Series and Switch Only (with or without auxiliary switch)

Agency Approvals

UL Recognized under the Component Recognition Program as Protectors, Supplementary (Guide QVNU2 File E75596)
UL standard 1077

CCC certified, Certificate No. 2010010307447291

CSA Accepted Circuit Breaker, CSA standard C22.2 No. 235

TUV certified to EN60934, Certificate No. R50204086

Typical Protector Resistance

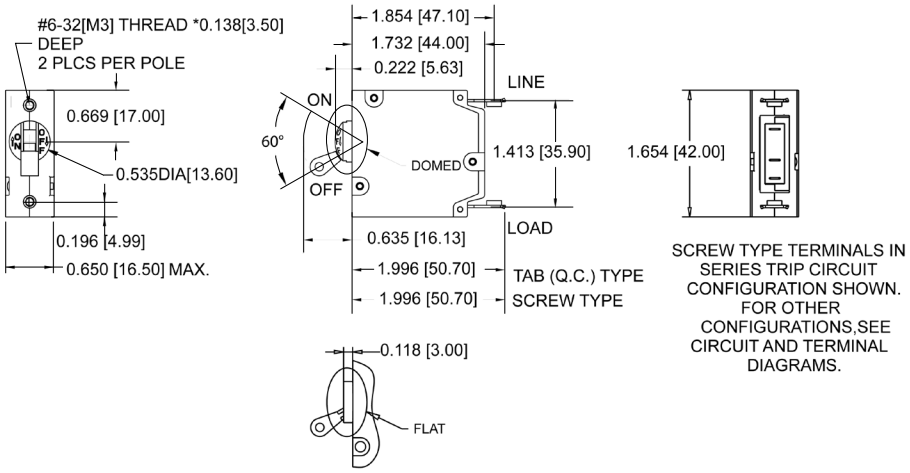
DCR and Impedance values are based on measurements by the voltmeter ammeter method. Rated current is applied for one hour and at a voltage not less than 20 volts. Ambient temperature: 25 °C; Tolerance: Below 10 amps +/- 25%; Above 10 amps +/-35%

Impedance Chart

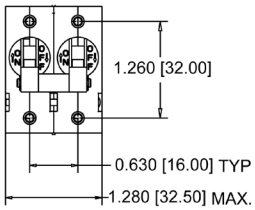
Current rating in amperes	Series	
	DC-Ohms	50/60Hz-Ohms
1	0.85	0.87
2.5	0.13	0.15
5	0.035	0.036
7.5	0.018	0.019
10	0.01	0.011
15	0.006	0.0061
20	0.005	0.0051
25	0.003	0.0035
30	0.0025	0.0026

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

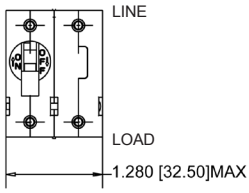
1-POLE
(HA1)



2-POLE
(HA2)



2-POLE
(HB2)



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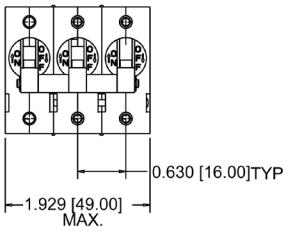
(HA3)



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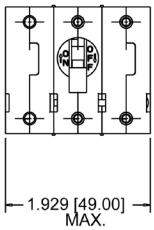
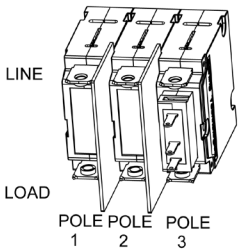
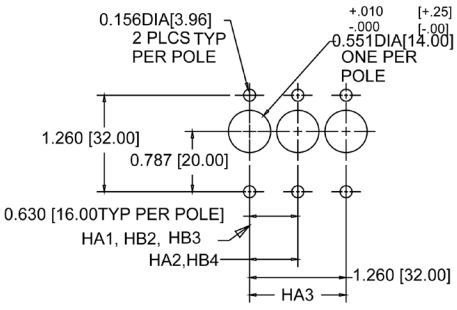
(HB3)



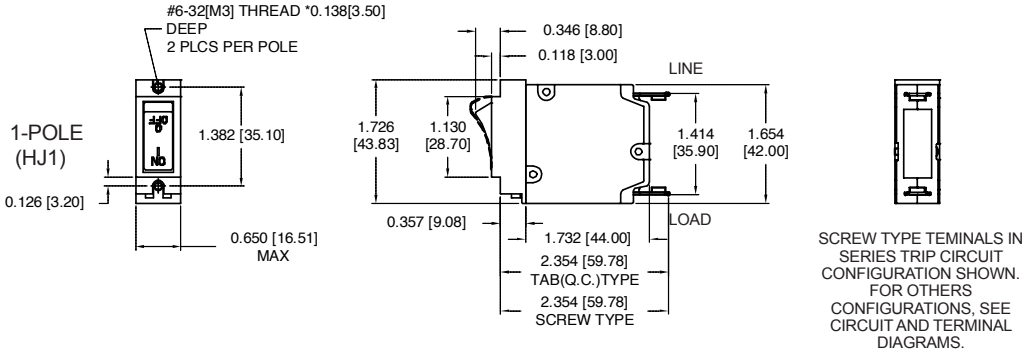


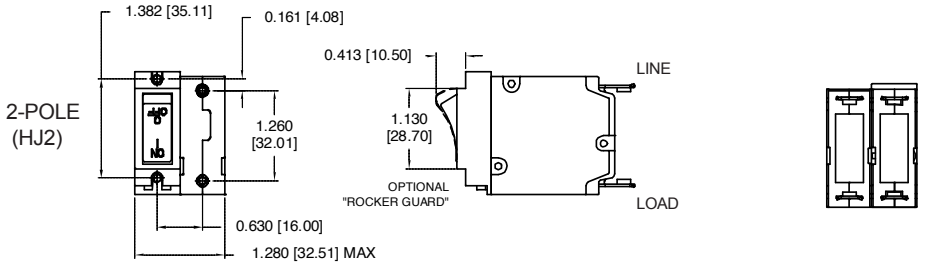
MULTI-POLE IDENTIFICATION SCHEME AS VIEWED FROM TERMINAL END OF BREAKER.

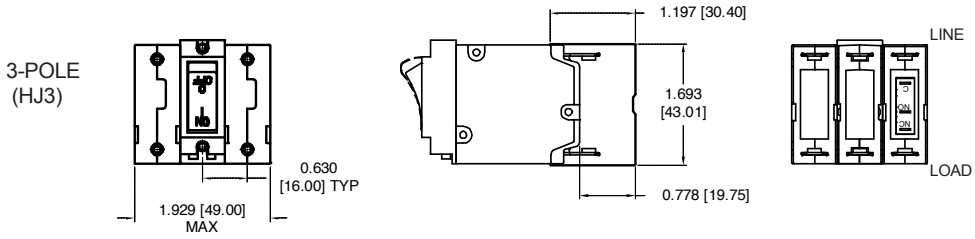


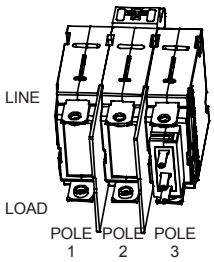
PANEL CUTOUT DETAIL
TOLERANCES ±.005
[±.12]
UNLESS OTHERWISE
SPECIFIED

1. ALL DIMENSIONS ARE IN INCHES [millimeters].
2. TOLERANCE ±.020 [.51] UNLESS OTHERWISE SPECIFIED.









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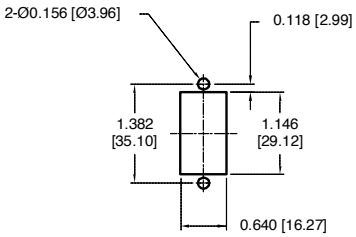

PANEL CUTOUT DETAIL
TOLERANCE ±.005[±.12]
UNLESS OTHERWISE SPECIFIED

NOTES:
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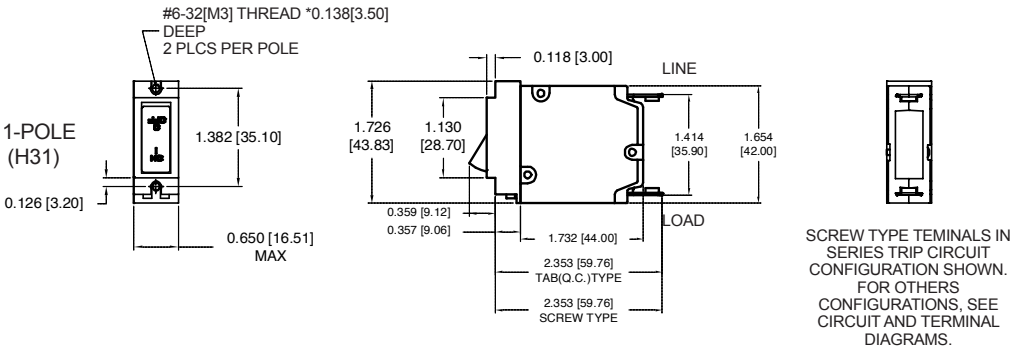
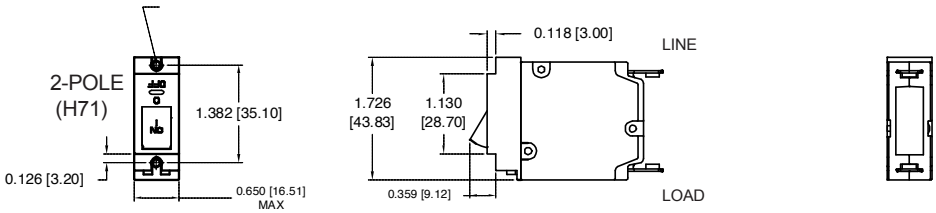
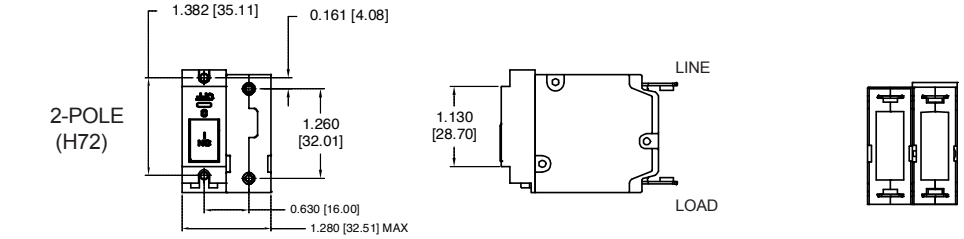
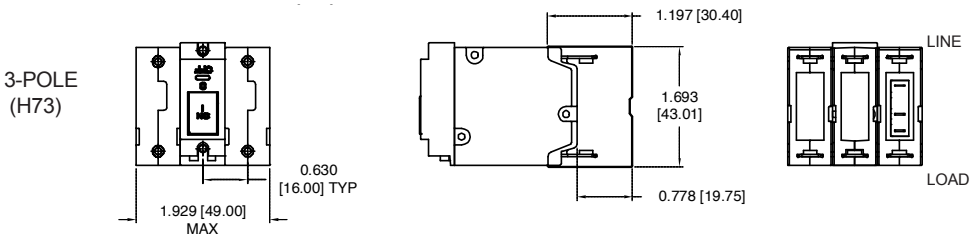
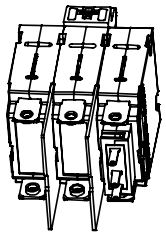
PUSH-TO-RESET ACTUATOR



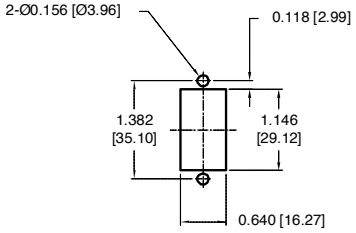








MULTI-POLE IDENTIFICATION SCHEME AS VIEWED FROM TERMINAL END OF BREAKER.



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

NOTES:
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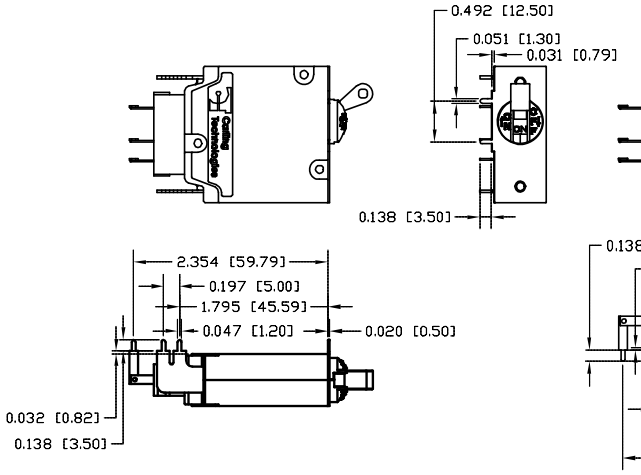
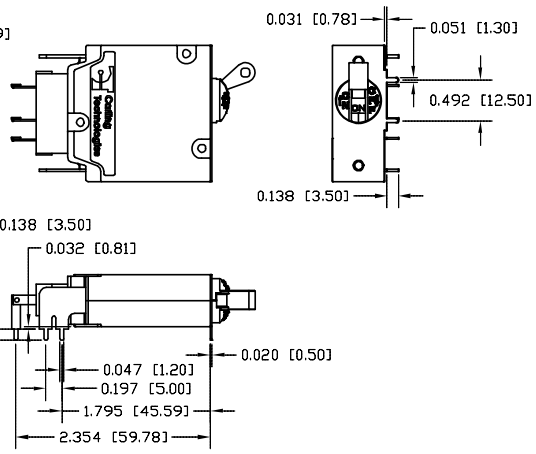
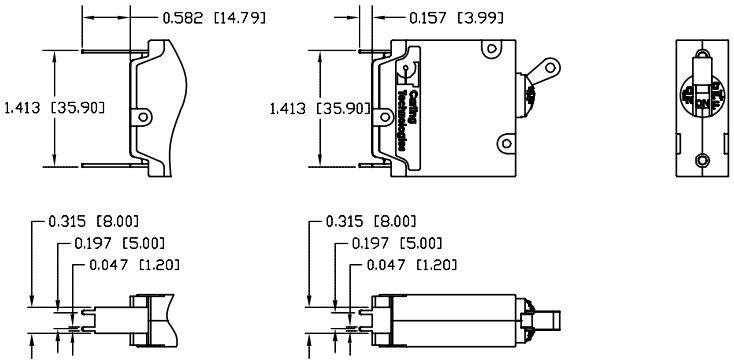
PRINTED CIRCUIT BOARD MOUNTING
TERMINAL CODE R



PRINTED CIRCUIT BOARD MOUNTING
TERMINAL CODE L



PRINTED CIRCUIT BOARD MOUNTING
TERMINAL CODE S & T



NOTES:
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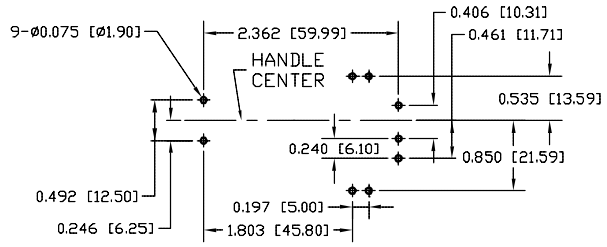
2. TOLERANCE ±.020 [.51] UNLESS OTHERWISE SPECIFIED.

P.C. FOOT PRINT
FOR TERMINAL CODE R



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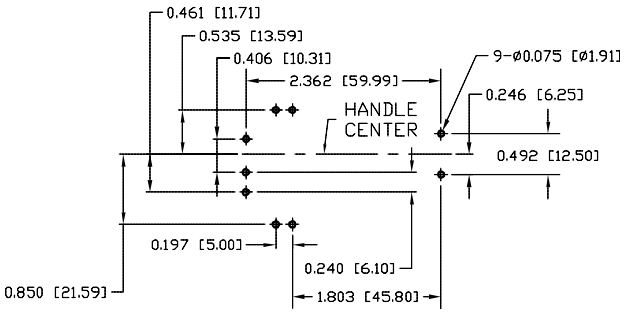

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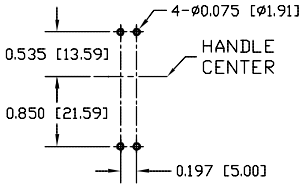

NOTES:
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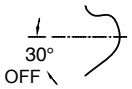
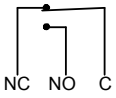
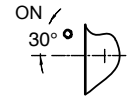
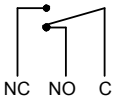
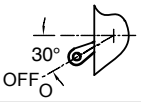
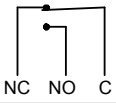
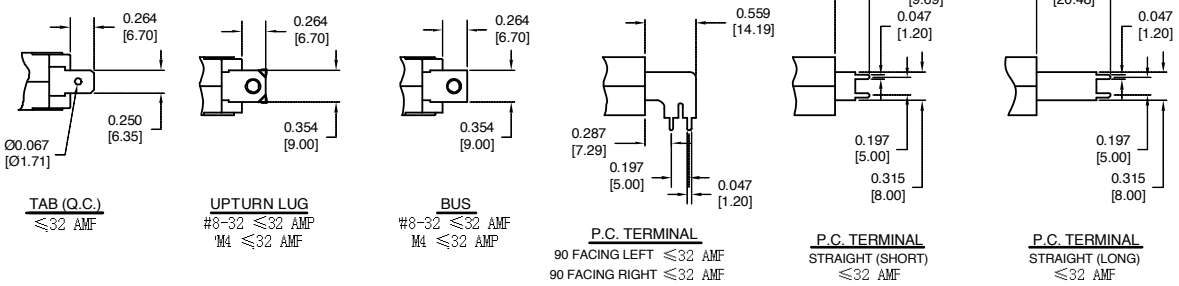
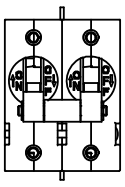
HANDLE POSITION VS. AUX SWITCH MODE

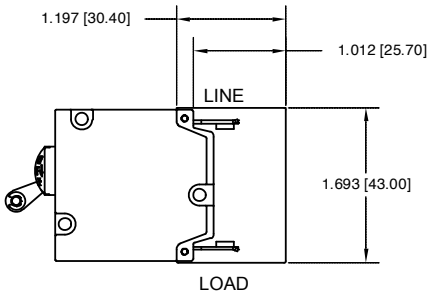
STANDARD C/B

CIRCUIT BREAKER MODE	HANDLE POSITION	AUX. SWITCH MODE
OFF		
ON		
ELECTRICAL TRIP		

TERMINAL DIMENSIONAL DETAIL & RATING







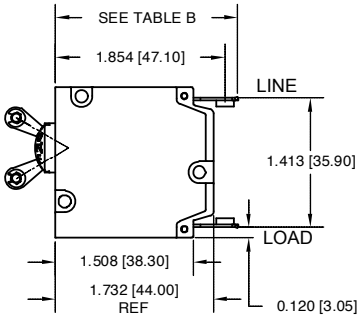
BARRIER FOR
UL-RECOGNIZED MULTI-POLE
BREAKERS

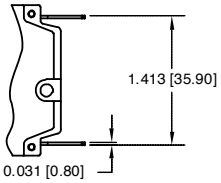
TABLE A
TIGHTENING TORQUE SPECIFICATIONS

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

TABLE B

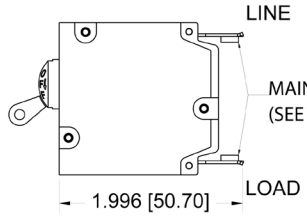
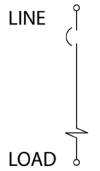
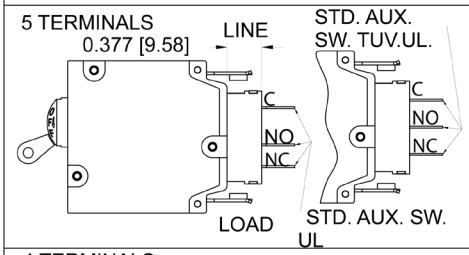
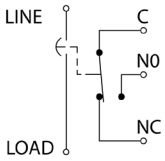
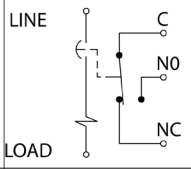
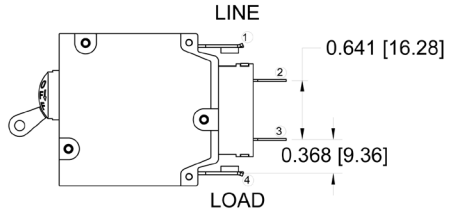
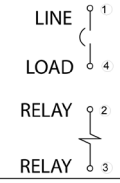
TERMINAL DESCRIPTION		DEPTH BEHIND PANEL
MAIN	TAB (Q.C.)	1.996 [50.70]
	SCREW TYPE	1.996 [50.70]
AUX. SWITCH*	.110 TAB (Q.C.)	2.467 [62.67]
	SOLDER TYPE	2.252 [57.19]



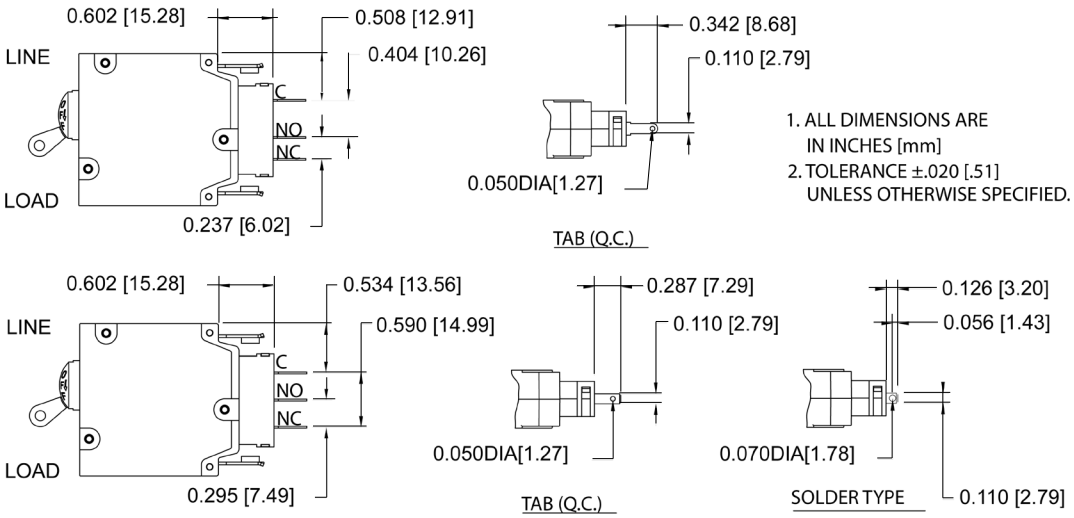


* AVAILABLE ON SERIES TRIP AND SWITCH ONLY CIRCUITS.
WHEN CALLED FOR ON MULTI-POLE UNITS, ONLY ONE AUX. SWITCH IS NORMALLY SUPPLIED, AS SHOWN IN MULTI-POLE IDENTIFICATION SCHEME.

1. ALL DIMENSIONS ARE IN INCHES [mm]
2. TOLERANCE ±.020 [.51] UNLESS OTHERWISE SPECIFIED.

CIRCUIT BREAKER PROFILE	CIRCUIT SCHEMATIC ANSI	CIRCUIT CODE	AUX SWITCH CODE	CIRCUIT SCHEMATIC ANSI	CIRCUIT CODE	AUX SWITCH CODE
2 TERMINALS 	SWITCH ONLY (NO COIL) 	A	0	SERIES TRIP 	B,C	0
5 TERMINALS 0.377 [9.58] 	SWITCH ONLY (NO COIL) WITH AUXILIARY SWITCH 	A	1 2 3	SERIES TRIP WITH AUXILIARY 	B,C	1 2 3
4 TERMINALS 	RELAY TRIP 	G	0			

AUXILIARY SWITCH TERMINAL DETAIL

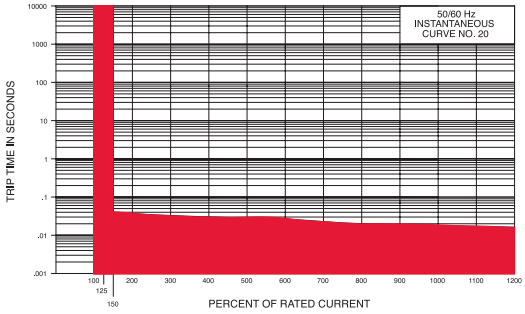


	PERCENT OF RATED CURRENT									
	DELAY	100%	125%	135%	150%	200%	400%	600%	800%	1000%	1200%
	10	No Trip	May Trip	---	.032 MAX	.024 MAX	.020 MAX	.018 MAX	.016 MAX	.015 MAX	.013 MAX
	11	No Trip	.013 - .125	---	.010 - .070	.008 - .032	.006 - .020	.005 - .020	.004 - .020	.004 - .020	.004 - .020
	12	No Trip	.500 - 6.50	---	.300 - 3.00	.130 - 1.20	.031 - .220	.011 - .120	.004 - .090	.004 - .060	.004 - .040
	14	No Trip	2.00 - 60.0	---	1.20 - 40.0	.600 - 20.0	.150 - 3.00	.030 - 1.30	.004 - .600	.004 - .100	.004 - .100
	16	No Trip	45.0 - 345	---	20.0 - 150	9.00 - 60.0	1.40 - 11.4	.150 - 5.80	.009 - 3.70	.005 - 1.70	.005 - .500
	20	No Trip	May Trip	---	.040 MAX	.035 MAX	.030 MAX	.025 MAX	.020 MAX	.017 MAX	.015 MAX
	21	No Trip	.014 - .150	---	.011 - .095	.008 - .055	.006 - .035	.005 - .027	.005 - .021	.004 - .018	.004 - .017
TRIP	22	No Trip	.700 - 12.0	---	.350 - 4.00	.130 - 1.30	.027 - .220	.008 - .130	.004 - .090	.004 - .045	.004 - .040
TIME	24	No Trip	10.0 - 160	---	6.00 - 60.0	2.20 - 20.0	.300 - 3.00	.050 - 1.30	.007 - .500	.005 - .060	.005 - .040
(SECONDS)	26	No Trip	50.0 - 700	---	32.0 - 350	10.0 - 90.0	1.50 - 15.0	.500 - 7.00	.020 - 3.00	.006 - 2.00	.005 - 1.00
	42	No Trip	.700 - 12.0	---	.400 - 6.00	.180 - 2.30	.050 - .600	.026 - .300	.018 - .200	.014 - .150	.012 - .130
	44	No Trip	7.00 - 100	---	3.00 - 50.0	1.10 - 18.0	.220 - 3.00	.120 - 1.70	.075 - 1.20	.050 - .850	.042 - .720
	46	No Trip	50.0 - 700	---	31.0 - 350	12.0 - 150	1.50 - 20.0	.700 - 10.0	.404 - 7.90	.260 - 6.50	.198 - 5.80
	52	No Trip	.500 - 6.50	---	.340 - 4.50	.180 - 2.30	.051 - .600	.030 - .320	.018 - .220	.014 - .200	.012 - .130
	54	No Trip	1.50 - 50.0	---	.750 - 35.0	.350 - 18.0	.110 - 3.00	.070 - 1.70	.045 - 1.40	.039 - 1.30	.035 - 1.30
	56	No Trip	45.0 - 345	---	19.0 - 170	8.50 - 100	1.24 - 15.0	.410 - 9.00	.256 - 8.00	.210 - 5.50	.198 - 2.90

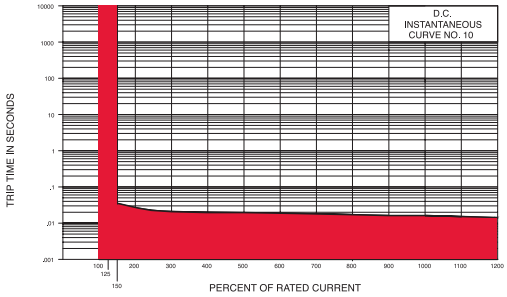
NOTES:
Delay Curves 11,12,14,16,21,22,24,26: Breakers to hold 100% and must trip at 125% of rated current and greater within the time limit shown in this curve.
Delay Curves 10,20: Breakers to hold 100% and must trip at 150% of rated current and greater within the time limit shown in this curve.
All Curves: Curve data shown represents breaker response at ambient temperature of 77°F (25°C) with no preloading. Breakers are mounted in standard wall-mount position.
The minimum inrush pulse tolerance handling capability is 12 times the rated current. These values are based on a 60 Hz 1/2 cycle, 8.33 ms pulse.

Instantaneous

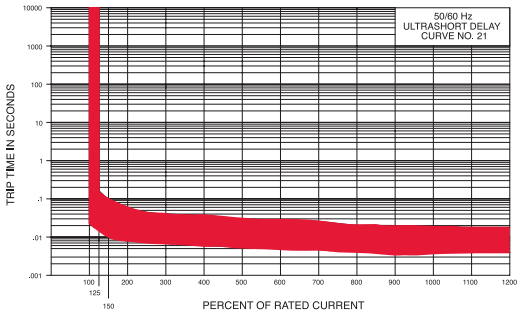
AC

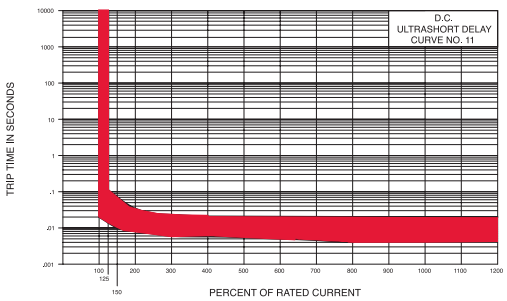


DC

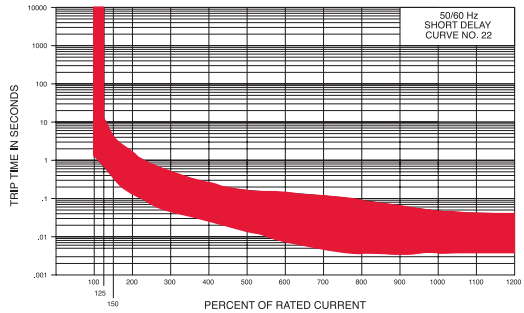


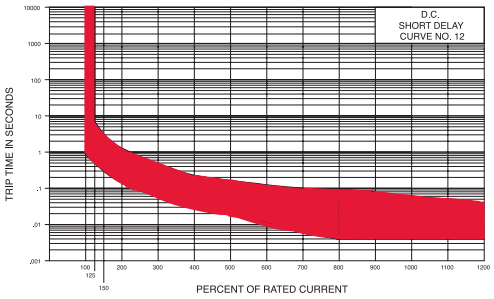
Ultrashort





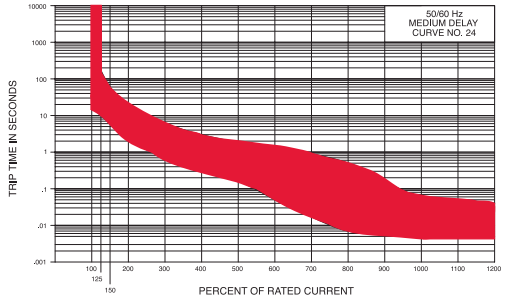
Short



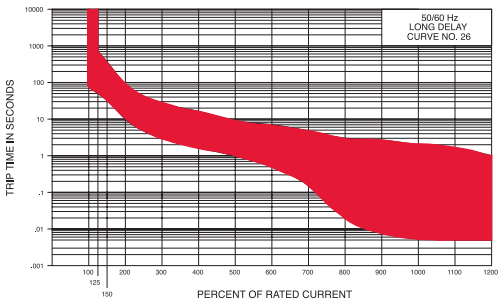


AC

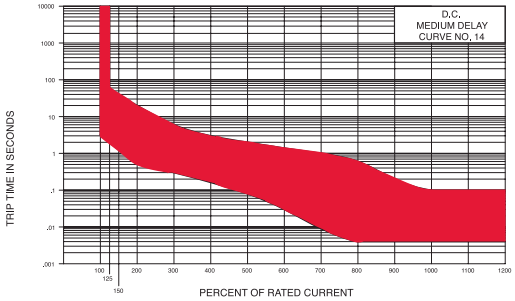
Medium

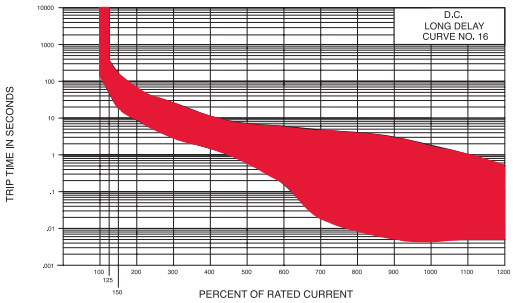


Long



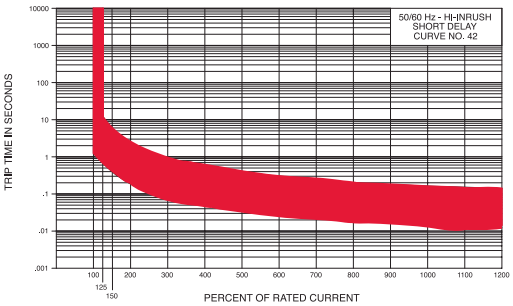
DC



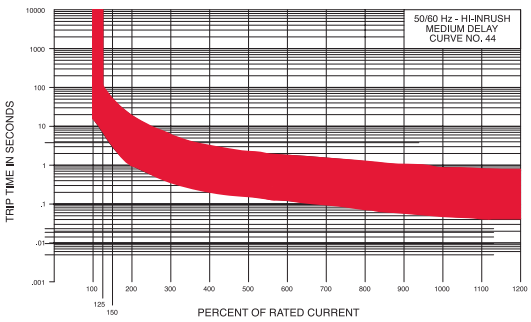


High Inrush AC

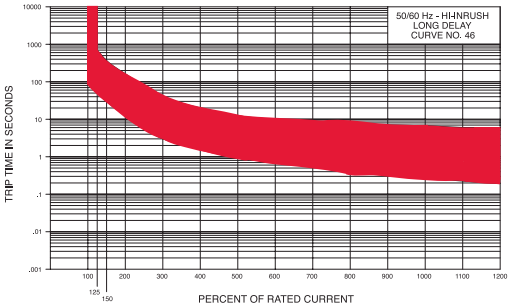
Short



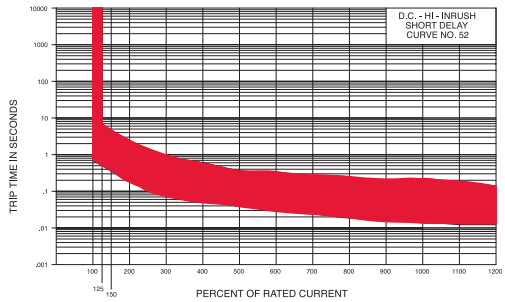
Medium

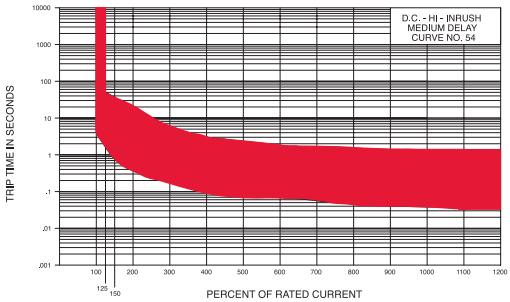


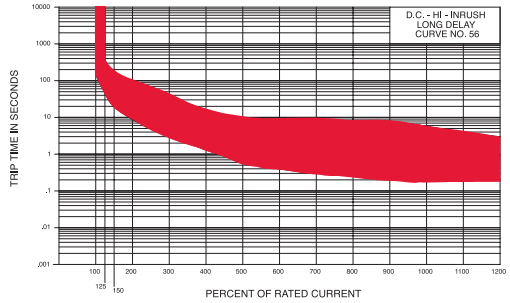
Long



High Inrush DC







H	A	3	–	B	0	–	24	–	450	–	1	B	1	–	D	C
1 Series	2 Actuator	3 Poles		4 Circuit	5 Aux/Alarm Switch		6 Frequency & Delay		7 Current Rating		8 Terminal	9 Actuator Color & Legend	10 Mounting Bezel/Barrier		11 Rating	12 Agency Approval

1 SERIES
H

2 ACTUATOR[1]
A	Handle, one per pole	**B**	Handle, one per unit

3 POLE[2]
1	One	**2**	Two	**3**	Three

4 CIRCUIT
A	Switch Only (no coil)	**C**[4]	Series Trip (voltage)
B	Series Trip (current)	**G**[4]	Relay Trip (voltage)

5 AUXILIARY/ALARM SWITCH
0	w/o Aux Switch	**3**[3]	0.110 Q.C. term w/ gold contacts
1[3]	0.110 Q.C. term	**4**[3]	0.110 PC term
2[3]	0.110 Solder Lug		

6 FREQUENCY & DELAY
03	DC 50/60Hz, Switch Only	**30**	DC, 50/60Hz, Instantaneous
10[4]	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**[4]	50/60Hz Short, Hi-Inrush
20[4]	50/60Hz Instantaneous	**44**[4]	50/60Hz Medium, Hi-Inrush
21	50/60Hz Ultra Short	**46**[4]	50/60Hz Long, Hi-Inrush
22	50/60Hz Short	**52**[4]	DC Short, Hi-Inrush
24	50/60Hz Medium	**54**[4]	DC Medium, Hi-Inrush
26	50/60Hz Long	**56**[4]	DC Long, Hi-Inrush

7 CURRENT RATING (AMPERES)[5]
CODE	AMPERES	CODE	AMPERES	CODE	AMPERES	CODE	AMPERES
410	1.000	**440**	4.000	**490**	9.000	**615**	15.000
512	1.250	**445**	4.500	**495**	9.500	**616**	16.000
415	1.500	**450**	5.000	**610**	10.000	**617**	17.000
517	1.750	**455**	5.500	**710**	10.500	**618**	18.000
420	2.000	**460**	6.000	**611**	11.000	**620**	20.000
522	2.250	**465**	6.500	**711**	11.500	**622**	22.000
425	2.500	**470**	7.000	**612**	12.000	**624**	24.000
527	2.750	**475**	7.500	**712**	12.500	**625**	25.000
430	3.000	**480**	8.000	**613**	13.000	**630**	30.000
435	3.500	**485**	8.500	**614**	14.000	**632**	32.000

VOLTAGE RATING
CODE	RATING	TRIP VOLTS	CODE	RATING	TRIP VOLTS	CODE	RATING	TRIP VOLTS
A06	6DC	5DC	**A65**	65DC	55DC	**J65**	65AC	55AC
A12	12DC	10DC	**J06**	6AC	5AC	**K20**	120AC	65AC
A18	18DC	15DC	**J12**	12AC	10AC	**L40**	240AC	130AC
A24	24DC	20DC	**J18**	18AC	15AC	**B10**	110DC	59DC
A32	32DC	25DC	**J24**	24AC	20AC	**B20**	120DC	65DC
A48	48DC	40DC	**J48**	48AC	40AC			

8 TERMINAL
1	Push ON 0.250 Tab (Q.C.)		***Printed Circuitboard Terminals***
2	Screw 8-32 w/upturned lugs	**L**	90 Facing Left
3	Screw 8-32 (bus type)	**R**	90 Facing Right
A	Screw M4 w/upturned lugs	**S**	Straight
B	Screw M4 (bus type)	**T**	Straight, Long

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

10 MOUNTING/BARRIERS
	MOUNTING STYLE	BARRIERS	BEZEL
	Threaded Insert		
1	6-32 x 0.195 inches	no	domed
A	6-32 x 0.195 inches	yes	domed
2	ISO M3 x 5mm	no	domed
B	ISO M3 x 5mm	yes	domed
3	6-32 x 0.195 inches	no	flat
C	6-32 x 0.195 inches	yes	flat
4	ISO M3 x 5mm	no	flat
D	ISO M3 x 5mm	yes	flat

11 MAX. APPLICATION RATING
A	65DC	**D**	240AC	**M**	80DC[6]	**4**	80VDC/250VAC[7]

12 AGENCY APPROVAL
A	Without approvals
C	UL Recognized, CSA Accepted, CCC Certified
E	UL Recognized, CSA Accepted, TUV Certified
5	UL Recognized, CSA Accepted, TUV Certified, CCC Certified

Notes:
1. Actuator Option A: handle tie pin, spacer & retainers provided unassembled on multipole units.
   Actuator Option B: Handle location as viewed from front of panel: 2 pole: left pole; 3 pole: center pole
2. Standard multipole units have all poles identical, except when specifying auxiliary switch
3. Auxiliary switch available on Series Trip and Switch Only circuits to 32A. On multipole units, only one aux. switch is normally supplied, mounted in extreme right pole.
4. Separate Pole Type Voltage Coils not rated for continuous duty. Available only with delay code 10 & 20. Only Available w/ Agency code C.
5. For other current ratings, consult factory.
6. 26-32A Polarity sensitive, only available as 1 pole unit.
7. Voltage code 4 available to 25A max.

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Email: sales@carlingtech.com • www.carlingtech.com

H	J	3	–	B	0	–	10	–	450	–	1	B	1	–	D	C
1 Series	2 Actuator	3 Poles		4 Circuit	5 Aux/Alarm Switch		6 Frequency & Delay		7 Current Rating		8 Terminal	9 Actuator Color & Legend	10 Mounting Bezel/Barrier		11 Rating	12 Agency Approval

1 SERIES (VISI ROCKER)

H

2 ACTUATOR[1]

J	Vertical - Indicate OFF	**K**	Vertical - Indicate ON

3 POLE[2]

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

4 CIRCUIT

A	Switch Only (no coil)	**C**[4]	Series Trip (voltage)
B	Series Trip (current)	**G**[4]	Relay Trip (voltage)

5 AUXILIARY/ALARM SWITCH

0	w/o Aux Switch	**3**[3]	0.110 Q.C. term w/ gold contacts
1[3]	0.110 Q.C. term	**4**[3]	0.110 PC term
2[3]	0.110 Solder Lug		

6 FREQUENCY & DELAY

03[3]	DC 50/60Hz, Switch Only	**30**	DC, 50/60Hz, Instantaneous
10	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**[4]	50/60Hz Short, Hi-Inrush
20	50/60Hz Instantaneous	**44**[4]	50/60Hz Medium, Hi-Inrush
21	50/60Hz Ultra Short	**46**[4]	50/60Hz Long, Hi-Inrush
22	50/60Hz Short	**52**[4]	DC Short, Hi-Inrush
24	50/60Hz Medium	**54**[4]	DC Medium, Hi-Inrush
26	50/60Hz Long	**56**[4]	DC Long, Hi-Inrush

7 CURRENT RATING (AMPERES)[5]

CODE	AMPERES						
410	1.000	**450**	5.000	**611**	11.000	**621**	21.000
512	1.250	**455**	5.500	**711**	11.500	**622**	22.000
415	1.500	**460**	6.000	**612**	12.000	**623**	23.000
517	1.750	**465**	6.500	**712**	12.500	**624**	24.000
420	2.000	**470**	7.000	**613**	13.000	**625**	25.000
522	2.250	**475**	7.500	**614**	14.000	**626**	26.000
425	2.500	**480**	8.000	**615**	15.000	**627**	27.000
527	2.750	**485**	8.500	**616**	16.000	**628**	28.000
430	3.000	**490**	9.000	**617**	17.000	**629**	29.000
435	3.500	**495**	9.500	**618**	18.000	**630**	30.000
440	4.000	**610**	10.000	**619**	19.000	**632**	32.000
445	4.500	**710**	10.500	**620**	20.000		

VOLTAGE RATING

CODE	RATING	TRIP VOLTS					
A06	6DC	5DC	**A65**	65DC	55DC	**J65**	65AC	55AC
A12	12DC	10DC	**J06**	6AC	5AC	**K20**	120AC	65AC
A18	18DC	15DC	**J12**	12AC	10AC	**L40**	240AC	130AC
A24	24DC	20DC	**J18**	18AC	15AC	**B10**	110DC	59DC
A32	32DC	25DC	**J24**	24AC	20AC	**B20**	120DC	65DC
A48	48DC	40DC	**J48**	48AC	40AC			

8 TERMINAL

1	Push ON 0.250 Tab (Q.C.)	*Printed Circuitboard Terminals*	
2	Screw 8-32 w/upturned lugs	**L**	90 Facing Left
3	Screw 8-32 (bus type)	**R**	90 Facing Right
A	Screw M4 w/upturned lugs	**S**	Straight
B	Screw M4 (bus type)	**T**	Straight, Long

9 ACTUATOR COLOR & LEGEND

Actuator Color	I-O	ON-OFF	Dual
White	**A**	**B**	**2**
Red	**F**	**G**	**3**
Green	**H**	**J**	**4**
Blue	**K**	**L**	**5**
Yellow	**M**	**N**	**6**
Gray	**P**	**Q**	**7**
Orange	**R**	**S**	**8**

10 MOUNTING/BARRIERS[6]

	MOUNTING STYLE *Threaded Insert*	BARRIERS	HALF ROCKER GUARD	BRACKET COLOR
1	6-32 x 0.195 inches	no	no	Black
A	6-32 x 0.195 inches	yes	no	Black
2	ISO M3 x 5mm	no	no	Black
B	ISO M3 x 5mm	yes	no	Black
3	6-32 x 0.195 inches	no	yes	Black
C	6-32 x 0.195 inches	yes	yes	Black
4	ISO M3 x 5mm	no	yes	Black
D	ISO M3 x 5mm	yes	yes	Black
5	6-32 x 0.195 inches	no	no	White
E	6-32 x 0.195 inches	yes	no	White
6	ISO M3 x 5mm	no	no	White
F	ISO M3 x 5mm	yes	no	White
7	6-32 x 0.195 inches	no	yes	White
G	6-32 x 0.195 inches	yes	yes	White
8	ISO M3 x 5mm	no	yes	White
H	ISO M3 x 5mm	yes	yes	White
9	6-32 x 0.195 inches	no	no	Gray
J	6-32 x 0.195 inches	yes	no	Gray
P	ISO M3 x 5mm	no	no	Gray
K	ISO M3 x 5mm	yes	no	Gray
Q	6-32 x 0.195 inches	no	yes	Gray
L	6-32 x 0.195 inches	yes	yes	Gray
U	ISO M3 x 5mm	no	yes	Gray
M	ISO M3 x 5mm	yes	yes	Gray

11 MAX. APPLICATION RATING

A	65DC	**D**	240AC	**M**	80DC[7]	**4**	80VDC/250VAC[8]

12 AGENCY APPROVAL

A	Without approvals
C	UL Recognized, CSA Accepted
E	UL Recognized, CSA Accepted, TUV Certified
5	UL Recognized, CSA Accepted, TUV Certified, CCC Certified

Notes:
1. Half guard construction have OFF protection for actuator
2. Standard multipole units have all poles identical, except when specifying auxiliary switch
3. Auxiliary switch available on Series Trip and Switch Only circuits to 32A. On multipole units, only one aux. switch is normally supplied, mounted in extreme right pole.
4. Separate Pole Type Voltage Coils not rated for continuous duty. Available only with delay code 10 & 20. Only Available w/ Agency code C.
5. For other current ratings, consult factory.
6. On Visi-Rocker,Visi portion of rocker cannot be the same color as the bezel. Remainder of rocker same color as bezel.
7. 26-32A Polarity sensitive, only available as 1 pole unit.
8. Voltage code 4 available to 25A max.

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H	3	3	–	B	0	–	10	–	450	–	1	B	1	–	D	C
1 Series	2 Actuator	3 Poles		4 Circuit	5 Aux/Alarm Switch		6 Frequency & Delay		7 Current Rating		8 Terminal	9 Actuator Color & Legend	10 Mounting Bezel/Barrier		11 Rating	12 Agency Approval

1 SERIES
H

2 ACTUATOR[1]
3	Single Color Vertical	**7**	Push–to–Reset, Single Color Vertical
4	Single Color Horizontal	**8**	Push–to–Reset, Single Color Horizontal

3 POLE[2]
1	One	**2**	Two	**3**	Three

4 CIRCUIT
A	Switch Only (no coil)	**C**[4]	Series Trip (voltage)
B	Series Trip (current)	**G**[4]	Relay Trip (voltage)

5 AUXILIARY/ALARM SWITCH
0	w/o Aux Switch	**3**[3]	0.110 Q.C. term w/ gold contacts
1[3]	0.110 Q.C. term	**4**[3]	0.110 PC term
2[3]	0.110 Solder Lug		

6 FREQUENCY & DELAY
03[3]	DC 50/60Hz, Switch Only	**30**	DC, 50/60Hz, Instantaneous
10	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**[4]	50/60Hz Short, Hi-Inrush
20	50/60Hz Instantaneous	**44**[4]	50/60Hz Medium, Hi-Inrush
21	50/60Hz Ultra Short	**46**[4]	50/60Hz Long, Hi-Inrush
22	50/60Hz Short	**52**[4]	DC Short, Hi-Inrush
24	50/60Hz Medium	**54**[4]	DC Medium, Hi-Inrush
26	50/60Hz Long	**56**[4]	DC Long, Hi-Inrush

7 CURRENT RATING (AMPERES)[5]
CODE	AMPERES	CODE	AMPERES	CODE	AMPERES	CODE	AMPERES
410	1.000	**450**	5.000	**611**	11.000	**621**	21.000
512	1.250	**455**	5.500	**711**	11.500	**622**	22.000
415	1.500	**460**	6.000	**612**	12.000	**623**	23.000
517	1.750	**465**	6.500	**712**	12.500	**624**	24.000
420	2.000	**470**	7.000	**613**	13.000	**625**	25.000
522	2.250	**475**	7.500	**614**	14.000	**626**	26.000
425	2.500	**480**	8.000	**615**	15.000	**627**	27.000
527	2.750	**485**	8.500	**616**	16.000	**628**	28.000
430	3.000	**490**	9.000	**617**	17.000	**629**	29.000
435	3.500	**495**	9.500	**618**	18.000	**630**	30.000
440	4.000	**610**	10.000	**619**	19.000	**632**	32.000
445	4.500	**710**	10.500	**620**	20.000		

VOLTAGE RATING
CODE	RATING	TRIP VOLTS	CODE	RATING	TRIP VOLTS	CODE	RATING	TRIP VOLTS
A06	6DC	5DC	**A65**	65DC	55DC	**J65**	65AC	55AC
A12	12DC	10DC	**J06**	6AC	5AC	**K20**	120AC	65AC
A18	18DC	15DC	**J12**	12AC	10AC	**L40**	240AC	130AC
A24	24DC	20DC	**J18**	18AC	15AC	**B10**	110DC	59DC
A32	32DC	25DC	**J24**	24AC	20AC	**B20**	120DC	65DC
A48	48DC	40DC	**J48**	48AC	40AC	**X01**	65AC	*special catalog #*

8 TERMINAL
			Printed Circuitboard Terminals
1	Push ON 0.250 Tab (Q.C.)		
2	Screw 8-32 w/upturned lugs	**L**	90 Facing Left
3	Screw 8-32 (bus type)	**R**	90 Facing Right
A	Screw M4 w/upturned lugs	**S**	Straight
B	Screw M4 (bus type)	**T**	Straight, Long

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

10 MOUNTING/BARRIERS[6]
	MOUNTING STYLE ***Threaded Insert***	BARRIERS	PUSH-TO-RESET	BRACKET COLOR
1	6-32 x 0.195 inches	no	no	Black
A	6-32 x 0.195 inches	yes	no	Black
2	ISO M3 x 5mm	no	no	Black
B	ISO M3 x 5mm	yes	no	Black
3	6-32 x 0.195 inches	no	yes	Black
C	6-32 x 0.195 inches	yes	yes	Black
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9	6-32 x 0.195 inches	no	no	Gray
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P	ISO M3 x 5mm	no	no	Gray
K	ISO M3 x 5mm	yes	no	Gray
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L	6-32 x 0.195 inches	yes	yes	Gray
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M	ISO M3 x 5mm	yes	yes	Gray

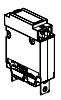
FIG.B

FIG. C

11 MAX. APPLICATION RATING
A	65DC	**D**	240AC	**M**	80DC[7]	**4**	80VDC/250VAC[8]

12 AGENCY APPROVAL
A	Without approvals
C	UL Recognized, CSA Accepted, CCC Certified
E	UL Recognized, CSA Accepted, TUV Certified
5	UL Recognized, CSA Accepted, TUV Certified, CCC Certified

Notes:
1. Push-To-Reset actuator shave OFF portion of rocker shrounded
2. Standard multipole units have all poles identical, except when specifying auxiliary switch
3. Auxiliary switch available on Series Trip and Switch Only circuits to 32A. On multipole units, only one aux. switch is normally supplied, mounted in extreme right pole.
4. Separate Pole Type Voltage Coils not rated for continuous duty. Available only with delay code 10 & 20. Only Available w/ Agency code C.
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