

Ideally suited for higher amperage applications. Available with front and back mounting, screw terminals, stud terminals and heavy duty box wire connectors for solid wire or a pressure plate connector for stranded wire. Power selector device available, consult factory.

The E-Series is UL Listed and CSA Certified for Branch Circuit protection which does not require a fuse backup. It is also UL Recognized and CSA Certified as a Supplementary Protector and as a Manual Motor Controller.

1-6 poles, .1 - 100 amps, up to 600 VAC or 125 VDC, with choice of time delays and actuator colors.

Agency Certifications

UL Recognized

UL Standard 1077	Component Recognition Program as Protectors, Supplementary (Guide QVNU2, File E75596)
UL Standard 508	Component Recognition Program as Manual Motor Controls (Guide NLRV2, File E135367)
UL Standard 1500	Protectors, Supplementary for Marine Electrical & Fuel Systems (Guide PEQZ2, File E75596) Ignition Protection

UL Listed

UL Standard 489	Circuit Breakers, Molded Case (Guide DIVQ, File E129899)

CSA Accepted

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

CSA Certified

Circuit Breaker Molded Case (Class 1432 01, File 093910), CSA Standard C22.2 No. 5.1 - M

TUV Certified

EN60934 under License No. R72031056

VDE Certified

EN60934, VDE 0642 under File No. 10537

Electrical

Table A: Lists UL Listed (489) & CSA Certified (C22.2 No. 5) configurations & performance capabilities as a Molded Case Circuit Breaker.

E-SERIES TABLE A : UL489 LISTED BRANCH CIRCUIT BREAKERS

CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING	INTERRUPTING CAPACITY (AMPS)
	MAX. RATING	FREQUENCY	PHASE	FULL LOAD AMPS	WITHOUT BACKUP FUSE
SERIES	80	DC	---	0.10 - 125	50,000
	125	DC	---	0.10 - 125	10,000
	120	50 / 60	1	0.10 - 125	10,000
	120 / 240	50 / 60	1	0.10 - 125	10,000
	240	50 / 60	1 & 3	0.10 - 100	5,000

Electrical

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

E-SERIES TABLE B: COMPONENT SUPPLEMENTARY PROTECTORS

CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING	SHORT CIRCUIT CAPACITY (AMPS)			APPLICATION CODES		CONSTRUCTION NOTES
	MAX. RATING	FREQUENCY	PHASE	FULL LOAD AMPS	GENERAL PURPOSE AMPS	UL/CSA WITH BACKUP FUSE 1	UL/CSA WITHOUT BACKUP FUSE	UL	CSA	
SERIES & SHUNT	125	DC	---	0.02 - 120	---	---	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	---
				---	101 - 120	---	5,000	TC1,2, OL0,U1	TC1,2, OL0,U1	---
	160	DC	---	0.02 - 100	---	---	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	---
	150 / 300	DC	---	0.02 - 100	---	---	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	---
	120 / 240	50 / 60	1	0.02 - 100	---	---	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	---
	240	50 / 60	1	0.02 - 100	---	---	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	---
	250	50 / 60	1	0.02 - 100	---	10,000	---	TC1,2, OL1,C1	TC1,2, OL1,C1	---
	277	50 / 60	1	0.02 - 100	---	---	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	---
				0.02 - 100	---	10,000	---	TC1,2, OL1,C1	TC1,2, OL1,C1	---
	480	50 / 60	1 & 3	0.02 - 100	---	10,000	---	TC1,2, OL1,C1	TC1,2, OL1,C1	2 Poles Breaking Single Phase, 3 or 4 Poles Breaking Three Phase
	600	50 / 60	1 & 3	0.02 - 100	---	10,000	---	TC1,2, OL1,C1	TC1,2, OL1,C1	
SWITCH ONLY	125	DC	---	0.02 - 120						
	160	DC	---	0.02 - 100						
	240	50 / 60	1	0.02 - 100						
	277	50 / 60	1	0.02 - 100						
	480	50 / 60	1 & 3	0.02 - 100						
	600	50 / 60	1 & 3	0.02 - 100						

Notes for Table B:
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 amp rating and not to exceed 225 amps

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

E-SERIES TABLE C: COMPONENT SUPPLEMENTARY PROTECTORS

CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING	SHORT CIRCUIT CAPACITY (AMPS)			APPLICATION CODES		CONSTRUCTION NOTES
					UL/CSA		VDE (Icn) WITHOUT BACKUP FUSE			
	MAX. RATING	FREQUENCY	PHASE	FULL LOAD AMPS	WITH BACKUP FUSE 1	WITHOUT BACKUP FUSE		UL	CSA	
SERIES & SHUNT	125	DC	---	0.02 - 120	---	5,000	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	1 - 2 Pole
	240	50 / 60	1 & 3	0.02 - 100	---	5,000	5,000	TC1,2, OL1,U1	TC1,2, OL1,U1	1 - 5 Poles; Up to 4 Current Poles, 1 Voltage Pole
	415	50 / 60	1 & 3	0.02 - 100	10,000	---	4,000	TC1,2, OL1,C1	TC1,2, OL1,C1	2 - 5 Poles; Up to 4 Current Poles, 1 Voltage Pole
SWITCH ONLY	125	DC	---	0.02 - 120						
	240	50 / 60	1 & 3	0.02 - 100						
	415	50 / 60	1 & 3	0.02 - 100						

Notes for Table C:
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 amp rating and not to exceed 225 amps.

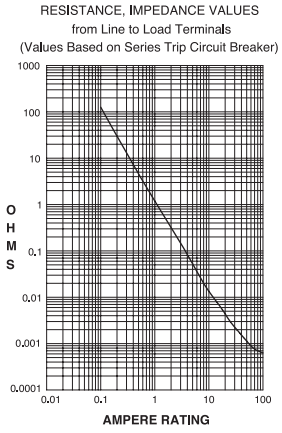
Table D: Lists UL Recognized, CSA Accepted configurations and performance capabilities as Protectors, Supplementary for Marine Electrical and Fuel Systems (Guide PEQZ2, File E75596). Ignition Protected per UL 1500. UL Classified Small Craft Electrical Devices, Marine in accordance with ISO 8846 (Guide UZMK, File MQ1515) as Marine Supplementary Protectors.

E-SERIES TABLE D: UL1500 (Marine Ignition Protected)

CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING	SHORT CIRCUIT CAPACITY (AMPS)	APPLICATION CODES	
	MAX. RATING	FREQUENCY	PHASE	FULL LOAD AMPS	WITHOUT BACKUP FUSE	UL	CSA
SERIES	65	DC	---	0.02 - 100	5000	TC1,2,OL1,U1	TC1,2,OL1,U1
	125	50 / 60	1	0.02 - 100	1500	TC1,2,OL1,U1	TC1,2,OL1,U1
	250	50 / 60	1	0.02 - 100	1500	TC1,2,OL1,U1	TC1,2,OL1,U1

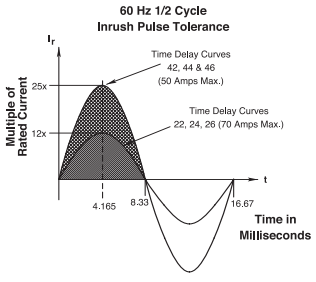
Electrical

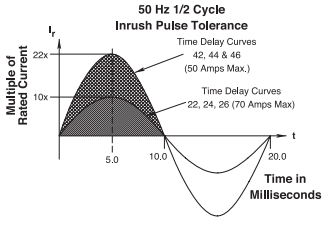
Maximum Voltage	600VAC 50/60 Hz, 125VDC (See Table A)
Current Ratings	Standard current coils: 0.100, 0.250, 0.500, 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 20.0, 25.0, 30.0, 50.0, 60.0, 70.0 & 100 Amp.
Auxiliary Switch Rating	SPDT; 10.1A 250VAC, 1.0A 65VDC; 0.5A 80VDC, 0.1A 125VAC (with gold contacts).
Insulation Resistance	Minimum of 100 Megohms at 500 VDC.
Dielectric Strength	UL, CSA: 2200 V 50/60 Hz for one minute between all electrically isolated terminals. E-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.



CURRENT (AMPS)	TOLERANCE (%)
0.10 - 5.0	± 15%
5.1 - 20.0	± 25%
20.1 - 125.0	± 35%

Pulse Tolerance Curves





Mechanical

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

Physical

Number of Poles	1 - 6
Mounting	A 3" minimum spacing must be provided between the circuit breaker arc venting area on back connected E-Series circuit breakers and grounded obstructions. E-Series circuit breakers must be mounted on a vertical surface.
Connectors, Box Type	Front connected E-Series circuit breakers are supplied with box type pressure connectors that accept copper or aluminum conductors as follows: 1/0-14 Copper, 1/0-12 Aluminum.
Internal Circuit Configuration	Series and Switch Only, (with or without auxiliary switch). Shunt with current coils.
Weight	Approximately 252 grams/pole (Approximately 9 ounces/pole)
Standard Colors	Housing-Black; Actuator - See Ordering Scheme.

Environmental

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

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

E	A	2	–	B	0	–	24	–	450	–	1	2	A	–	C	B
1 Series	2 Actuator	3 Poles		4 Circuit	5 Auxiliary Switch		6 Frequency & Delay		7 Current Rating		8 Terminal	9 Actuator Color	10 Mounting/ Barriers		11 Maximum Application Rating	12 Agency Approval

1 SERIES
E

2 ACTUATOR
Handle

A	Handle, one per pole

3 POLES [1]

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

4 CIRCUIT [2]

A[3]	Switch Only (No Coil)	**E**	Shunt Trip (Voltage)
B	Series Trip (Current)	**F**	Relay Trip (Current)
C	Series Trip (Voltage)	**G**	Relay Trip (Voltage)
D	Shunt Trip (Current)		

5 AUXILIARY SWITCH [4]

0	without Auxiliary Switch	**6**	S.P.D.T. 0.110 Q.C. Terminals
2	S.P.D.T. 0.110 Q.C. Terminals	**7**	S.P.D.T. 0.110 Q.C. Terminals (Gold Contacts)
3	S.P.D.T. 0.139 Solder Lug	**8**	S.P.D.T. 0.187 Q.C. Terminals
4	S.P.D.T. 0.110 Q.C. Terminals (Gold Contacts)	**9**	S.P.D.T. 0.187 Q.C. Terminals

6 FREQUENCY & DELAY

03[3]	DC 50/60Hz, Switch Only	**34**	DC, 50/60Hz Medium
10[5]	DC Instantaneous	**36**	DC, 50/60Hz Long
12	DC Short	**62**	50/60Hz Short, Hi-Inrush
14	DC Medium	**64**	50/60Hz Medium, Hi-Inrush
16	DC Long	**66**	50/60Hz Long, Hi-Inrush
20[5]	50/60Hz Instantaneous	**72**	DC, Short,Hi-Inrush
22	50/60Hz Short	**74**	DC,Medium, Hi-Inrush
24	50/60Hz Medium	**76**	DC, Long, Hi-Inrush
26	50/60Hz Long	**92**[6]	DC, 50/60Hz Short, Hi-Inrush
30	DC, 50/60Hz Instantaneous	**94**[6]	DC, 50/60Hz Medium, Hi-Inrush
32	DC, 50/60Hz Short	**96**[6]	DC, 50/60Hz Long, Hi-Inrush

7 CURRENT RATING (AMPERES) [7]

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**	60.000
090	0.090	**512**	1.250	**610**	10.000	**670**	70.000
090	0.095	**415**	1.500	**710**	10.500	**680**	80.000
210	0.100	**517**	1.750	**611**	11.000	**690**	90.000
215	0.150	**420**	2.000	**711**	11.500	**810**	100.000
220	0.200	**522**	2.250	**612**	12.000	**811**	110.000
225	0.250	**425**	2.500	**712**	12.500	**812**	120.000
230	0.300	**527**	2.750	**613**	13.000	**912**[8]	125.000

OR **VOLTAGE COIL (MIN. TRIP RATING, VOLTS)**[5]

A06	6 DC, 5 DC	**A65**	65 DC, 55 DC	**J48**	48 AC, 40 AC
A12	12 DC, 10 DC	**B25**	125 DC, 100 DC	**J65**	65 AC, 55 AC
A18	18 DC, 15 DC	**J06**	6 AC, 5 AC	**K20**	120 AC, 65 AC
A24	24 DC, 20 DC	**J12**	12 AC, 10 AC	**L40**	240 AC, 130 AC
A32	32 DC, 25 DC	**J18**	18 AC, 15 AC		
A48	48 DC, 40 DC	**J24**	24 AC, 20 AC		

8 TERMINAL [12]

BACK CONNECTED (FRONT MOUNTED ONLY)		**MAX. RATING**
1[9]	10-32 Stud (All Terminals)	50 A
2[9]	1/4-20 Stud (All Terminals)	100 A
A[9]	M5 Stud (Line & Load)	50 A
B[9]	M6 Stud (Line & Load)	100 A
FRONT CONNECTED (BACK MOUNTED ONLY)		**MAX. RATING**
3[10]	Box Wire Connector (Line & Load)	100 A
C[11]	Box Wire Connector w/ Pressure Plate (Line & Load)	100 A
4	10-32 Screw (Line & Load)	50 A
D	M5 Screw (Line & Load)	50 A
5	10-32 "Bus-Type" Screw (Line), 10-32 Screw (Load)	50 A
E	M5 "Bus-Type" Screw (Line), 10-32 Screw (Load)	50 A
6[10]	10-32 "Bus-Type" Screw (Line), Box Wire Connector (Load)	100 A
F[11]	10-32 "Bus-Type" Screw (Line), Box Wire Connector w/ Pressure Plate (Load)	100 A
7	1/4-20 Screw (Line & Load)	100 A
G	M6 Screw (Line & Load)	100 A
8	1/4-20 "Bus-Type" Screw (Line), 1/4-20 Screw (Load)	100 A
H	M6 "Bus-Type" Screw (Line), M6 Screw (Load)	100 A
9[10]	1/4-20 "Bus-Type" Screw (Line), Box Wire Connector (Load)	100 A
J[11]	1/4-20 "Bus-Type" Screw (Line), Box Wire Connector w/ Pressure Plate (Load)	100 A

9 ACTUATOR COLOR & LEGEND [13]

Actuator Color	***Marking:***			***Marking Color:***
Color:	I-O	ON-OFF	Dual	
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
BACK CONNECTED (FRONT MOUNTED ONLY)

Mounting Inserts

A	6-32
B	ISO M3

FRONT CONNECTED (BACK MOUNTED ONLY) [14]

	Back Mounting Foot Type	***Front Mounting Inserts*** *(Optional Use)*
C	Short	6-32
D	Short	ISO M3
E	Long	6-32
F	Long	ISO M3

11 MAXIMUM APPLICATION RATING [15]

A	65 VDC, 120 A	**G**[16]	600 VAC, 100 A
B	125 VDC, 120 A	**H**[16]	480 VAC, 100 A
C	120/240 VAC, 100 A	**J**[16]	415 VAC, 100 A
D	240 VAC, 100 A	**L**[16]	160 VDC, 100 A
E[16]	277/480 VAC, 100 A	**T**	125 VDC/240 VAC, 100 A
F	277 VAC, 100 A	**W**[16]	125 VDC/415 VAC, 100 A

12 AGENCY APPROVAL

B	UL 1077 / UL508 Recognized & CSA Accepted
D	UL 1077 Recognized, CSA Accepted, & VDE Certified

NOTES

1 VDE approval on 1-5 poles only. Standard multi-pole units identical poles except when specifying auxiliary switch - (see Note 4). For mixed ratings, consult factory.

2 Switch Only & Series Trip construction available w/either front or back connected terminals. Shunt construction available w/back connected terminals, (Terminal Codes 1 & 2) only. Circuit Codes B,C & D are VDE approved.

3 Switch Only construction: 30 amps or less select Current Rating Code 630; 31-70 amps, select Current Rating code 670; 71-100 amps, select Current Rating Code 810; 101-125 amps Select Current Rating Code 912. Switch Only is VDE approved only if tied to a protected pole.

4 Auxiliary Switch available on Switch Only and Series Trip units. On multi-pole units, only one auxiliary switch is normally supplied mounted in the extreme right pole. Back mounted units require special mounting provisions when auxiliary switch is specified. VDE approval on Auxilary Switch Codes 0,2,3 & 4 only.

5 Voltage Trip Coils are not rated for continuous duty. Available only with Frequency & Delay Codes 10 & 20. Series Trip construction with a voltage coil s VDE approved only if tied to a protected pole.

6 Frequency & Delay Codes 92,94 & 96 are not VDE Certified.

7 Current Coil Ratings 0.100 - 100 ams are VDE Certified.

8 125 A rating (Code 912) available as a Switch Only (Circuit Code A), rated 125 VDC (Code B).

9 An Anti-Flash Over Barrier is supplied between poles on multi-pole units with 10-32 (Terminal Code 1). 1/4-20 (Code 2), M5 (Code A), and M6 (Code B) terminals per UL requirement.

10 Box Wire Connector will accept #14 through 0 AWG. copper wire or #12 through 0 AWG. aluminum wire.

11 Box Wire Connector with Pressure Plate for stranded wire, consult factory for details.

12 Terminal Codes A,B,D,E,G & H are not VDE Certified.

13 VDE approvals require Dual (I-O, ON-OFF) or I-O markings on all handles.

14 Back Mounted breakers can also be front mounted by utilizing the proper front panel mounting inserts normally supplied. However, terminal connections must be made prior to mounting.

15 Application ratings B,D,J,T & W are available with VDE.

16 415, 480 & 600 VAC ratings require 3 or 4 pole break 3Ø and 2 pole break 1Ø.

E	A	2	–	B	0	–	24	450	–	1	2	A	–	C	C
1 Series	2 Actuator	3 Poles		4 Circuit	5 Auxiliary Switch		6 Frequency & Delay	7 Current Rating		8 Terminal	9 Actuator Color	10 Mounting/ Barriers		11 Maximum Application Rating	12 Agency Approval

1 SERIES
E

2 ACTUATOR
Handle

A	Handle, one per pole

3 POLES[1]

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

4 CIRCUIT[2]

B	Series Trip (Current)	**C**[3]	Series Trip (Voltage)

5 AUXILIARY SWITCH[4]

0	without Auxiliary Switch	**6**	S.P.D.T. 0.110 Q.C. Terminals
2	S.P.D.T. 0.110 Q.C. Terminals	**7**	S.P.D.T. 0.110 Q.C. Terminals (Gold Contacts)
3	S.P.D.T. 0.139 Solder Lug		
4	S.P.D.T. 0.110 Q.C. Terminals (Gold Contacts)	**8**	S.P.D.T. 0.187 Q.C. Terminals
		9	S.P.D.T. 0.187 Q.C. Terminals

6 FREQUENCY & DELAY

10[5]	DC Instantaneous	**62**	50/60Hz Short, Hi-Inrush
12	DC Short	**64**	50/60Hz Medium, Hi-Inrush
14	DC Medium	**66**	50/60Hz Long, Hi-Inrush
16	DC Long	**72**	DC, Short,Hi-Inrush
20[5]	50/60Hz Instantaneous	**74**	DC, Medium, Hi-Inrush
22	50/60Hz Short	**76**	DC, Long, Hi-Inrush
24	50/60Hz Medium	**92**[6]	DC, 50/60Hz Short, Hi-Inrush
26	50/60Hz Long	**94**[6]	DC, 50/60Hz Medium, Hi-Inrush
32	DC, 50/60Hz Short		
34	DC, 50/60Hz Medium	**96**[6]	DC, 50/60Hz Long, Hi-Inrush
36	DC, 50/60Hz Long		

7 CURRENT RATING (AMPERES)[7]

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**	60.000
090	0.090	**512**	1.250	**610**	10.000	**670**	70.000
090	0.095	**415**	1.500	**710**	10.500	**680**	80.000
210	0.100	**517**	1.750	**611**	11.000	**690**	90.000
215	0.150	**420**	2.000	**711**	11.500	**810**	100.000
220	0.200	**522**	2.250	**612**	12.000	**912**	125.000
225	0.250	**425**	2.500	**712**	12.500		
230	0.300	**527**	2.750	**613**	13.000		

OR VOLTAGE COIL (MIN. TRIP RATING, VOLTS)[5]

A06	6 DC, 5 DC	**A65**	65 DC, 55 DC	**J48**	48 AC, 40 AC
A12	12 DC, 10 DC	**B25**	125 DC, 100 DC	**J65**	65 AC, 55 AC
A18	18 DC, 15 DC	**J06**	6 AC, 5 AC	**K20**	120 AC, 65 AC
A24	24 DC, 20 DC	**J12**	12 AC, 10 AC	**L40**	240 AC, 130 AC
A32	32 DC, 25 DC	**J18**	18 AC, 15 AC		
A48	48 DC, 40 DC	**J24**	24 AC, 20 AC		

8 TERMINAL[7]

BACK CONNECTED (FRONT MOUNTED ONLY)		**MAX. RATING**
1[8]	10-32 Stud (All Terminals)	50 A
2[8]	1/4-20 Stud (All Terminals)	100 A
FRONT CONNECTED (BACK MOUNTED ONLY)		**MAX. RATING**
3[9]	Box Wire Connector (Line & Load)	100 A
C[10]	Box Wire Connector w/ Pressure Plate (Line & Load)	100 A
4	10-32 Screw (Line & Load)	50 A
5	10-32 "Bus-Type" Screw (Line), 10-32 Screw (Load)	50 A
6[9]	10-32 "Bus-Type" Screw (Line), Box Wire Connector (Load)	100 A
F[10]	10-32 "Bus-Type" Screw (Line), Box Wire Connector w/ Pressure Plate (Load)	100 A
7	1/4-20 Screw (Line & Load)	100 A
8	1/4-20 "Bus-Type" Screw (Line), 1/4-20 Screw (Load)	100 A
9[9]	1/4-20 "Bus-Type" Screw (Line), Box Wire Connector (Load)	100 A
J[10]	1/4-20 "Bus-Type" Screw (Line), Box Wire Connector w/ Pressure Plate (Load)	100 A

9 ACTUATOR COLOR & LEGEND[12]

Actuator Color :	***Marking:***		***Marking Color:***
Color:	ON-OFF	Dual	
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/BARRIERS
BACK CONNECTED (FRONT MOUNTED ONLY)

	Mounting Inserts
A	6-32
B	ISO M3

FRONT CONNECTED (BACK MOUNTED ONLY) [11]

	Back Mounting Foot Type	***Front Mounting Inserts*** *(Optional Use)*
C	Short	6-32
D	Short	ISO M3
E	Long	6-32
F	Long	ISO M3

11 MAXIMUM APPLICATION RATING

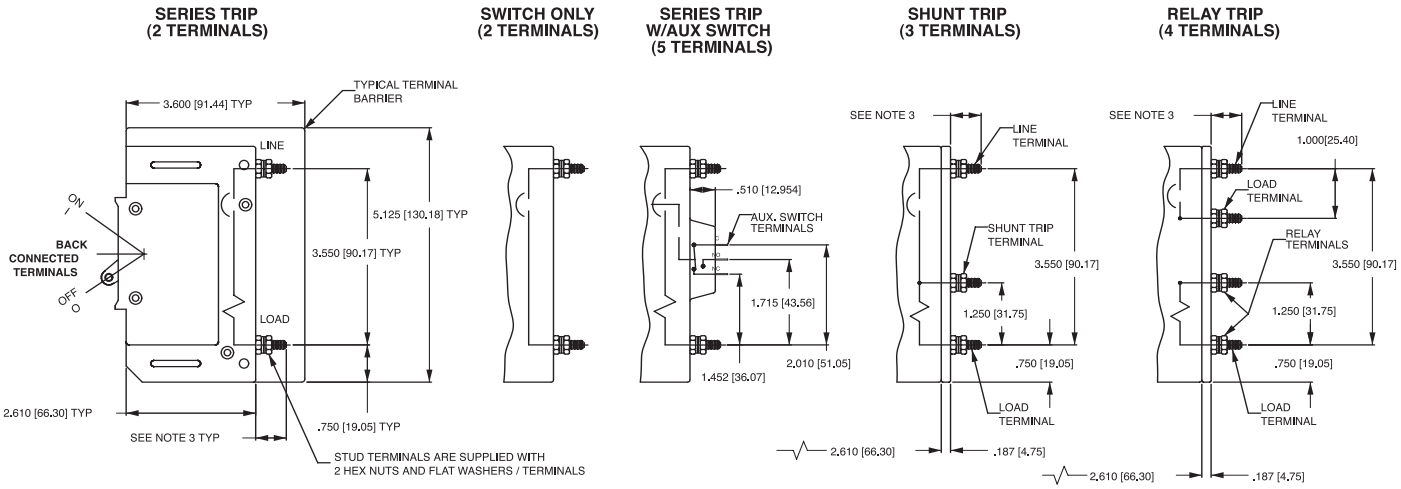
B	125 VDC, 100A
C[13]	120/240 VAC, 100A
D	240 VAC, 100A

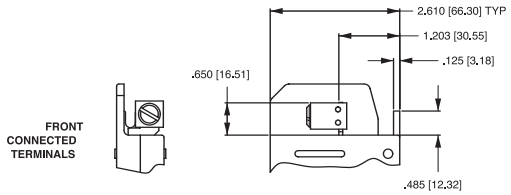
12 AGENCY APPROVAL

C	UL 489 Listed & CSA Certified
F	UL 489 Listed, CSA Certified, & VDE Certified

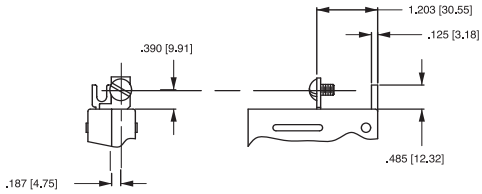
NOTES

1 Standard multi-pole units identical poles except when specifying auxiliary switch - (see Note 4). For mixed ratings, consult factory. VDE Certification on 1-5 poles only.
2 Series Trip construction available w/either front or back connected terminals.
3 Series Trip construction with a voltage coil is not available as a single pole unit and must be tied to a protected pole.
4 On multi-pole units, only one auxiliary switch is normally supplied mounted in the extreme right pole per Figure A. Back mounted units require special mounting provisions when auxiliary switch is specified. VDE Certification on auxilary switch codes 0, 2, 3 & 4 only.
5 Voltage Trip Coils are not rated for continuous duty. Available only with Frequency & Delay Codes 10 & 20.
6 Frequency & Delay Codes 92, 94 & 96 are not VDE Certified.
7 Current Ratings under 0.100 amps are not VDE Certified .
8 An Anti-Flash Over Barrier is supplied between poles on multi-pole units with 10-32 Stud (Terminal Code 1) or 1/4-20 Stud (Code 2) terminals per UL requirement.
9 Box Wire Connector will accept #14 through 0 AWG. copper wire or #12 through 0 AWG. aluminum wire.
10 Box Wire Connector with Pressure Plate for stranded wire, consult factory for details.
11 Back Mounted breakers can also be front mounted by utilizing the proper front panel mounting inserts normally supplied. However, terminal connections must be made prior to mounting.
12 VDE Certification requires dual (I-O , ON-OFF) markings on all handles.
13 Not available with VDE Certification.

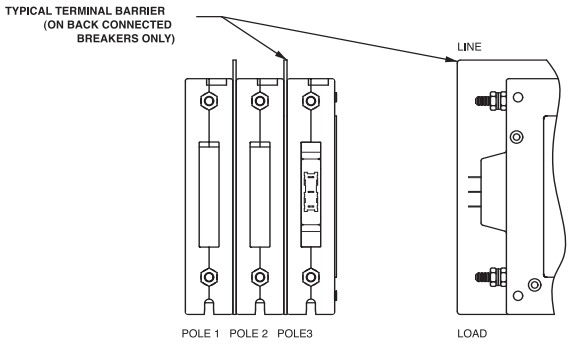




BOX TYPE WIRE CONNECTORS



BUS TYPE SCREW TERMINALS



MULTI-POLE IDENTIFICATION SCHEME

AUXILIARY SWITCH TERMINALS

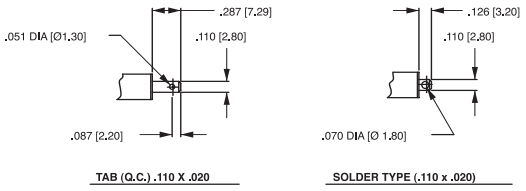
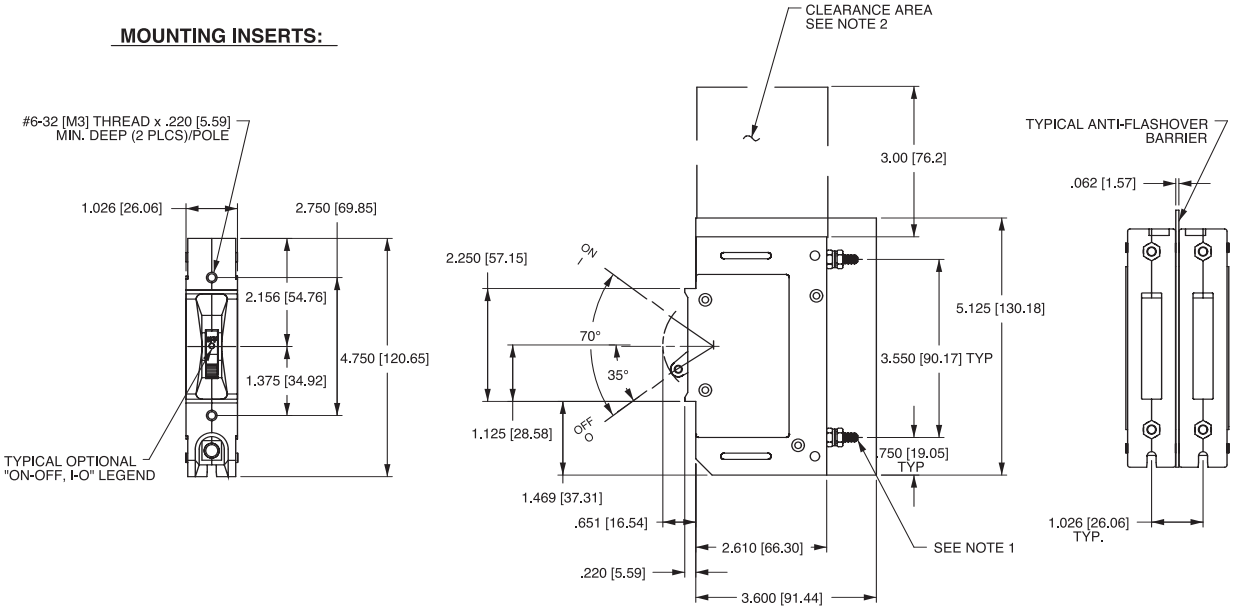


TABLE A
TIGHTENING TORQUE SPECIFICATIONS

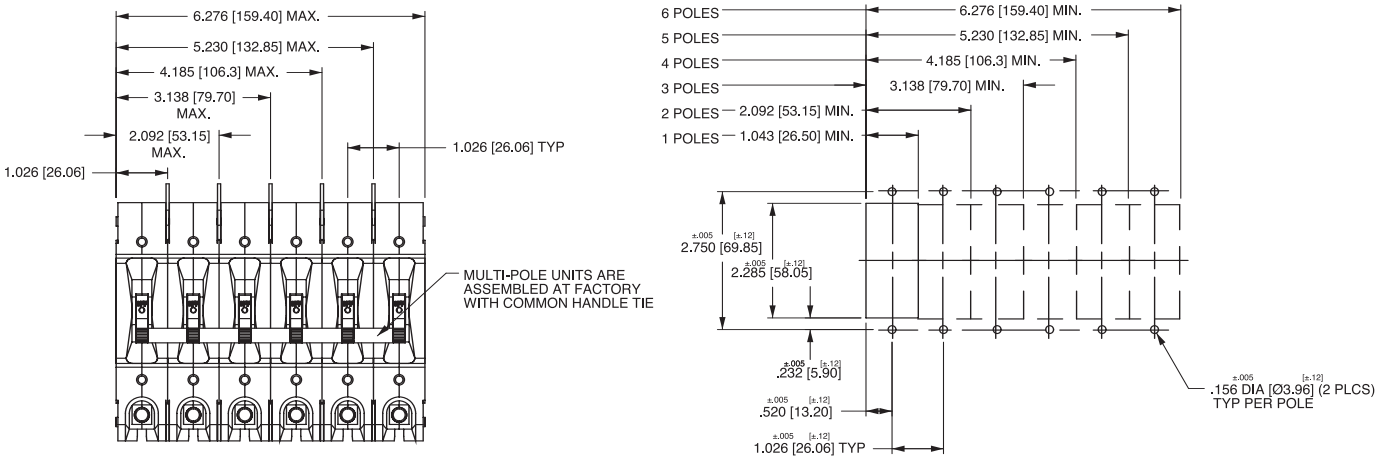
THREAD SIZE TERMINAL TYPE	WIRE SIZE	TORQUE
#6-32 [M3] HARDWARE	—	7-9 IN-LBS [0,8-1,0 NM]
#10-32 THD TERMINAL SCREW	ALL	15-20 IN-LBS [1,7-2,3 NM]
1/4-20 THD TERMINAL SCREW	ALL	30-35 IN-LBS [3,4-4,0 NM]
#10-32 STUDS	ALL	15-20 IN-LBS [1,7-2,3 NM]
1/4-20 STUDS	ALL	30-35 IN-LBS [3,4-4,0 NM]
BOX WIRE CONNECTOR	14-10 AWG	35 IN-LBS [4,0 NM]
	8 AWG	40 IN-LBS [4,5 NM]
	6-4 AWG	45 IN-LBS [5,1 NM]
	3-1/0 AWG	50 IN-LBS [5,7 NM]

Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance ±.020 [.51] unless otherwise specified.
3 0-50 amps: 10-32 & M5 Studs $.625^{\pm.062}/15.88^{\pm1.574}$ long.
51-120 amps: 1/4-20 & M6 Studs $.750^{\pm.062}/19.05^{\pm1.574}$ long.

MOUNTING INSERTS:

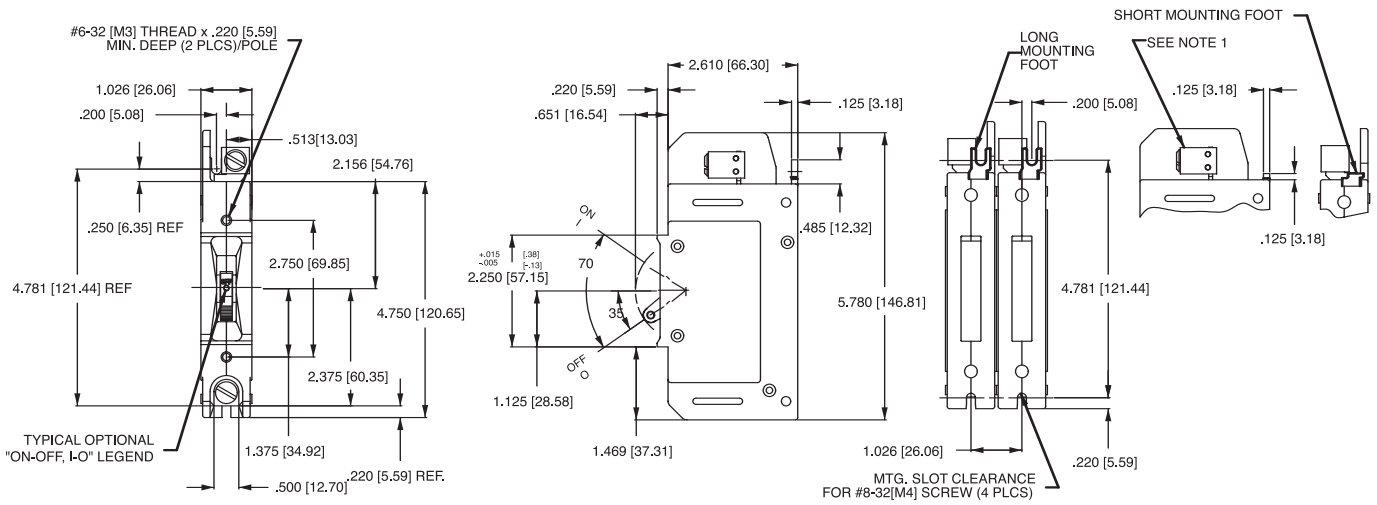


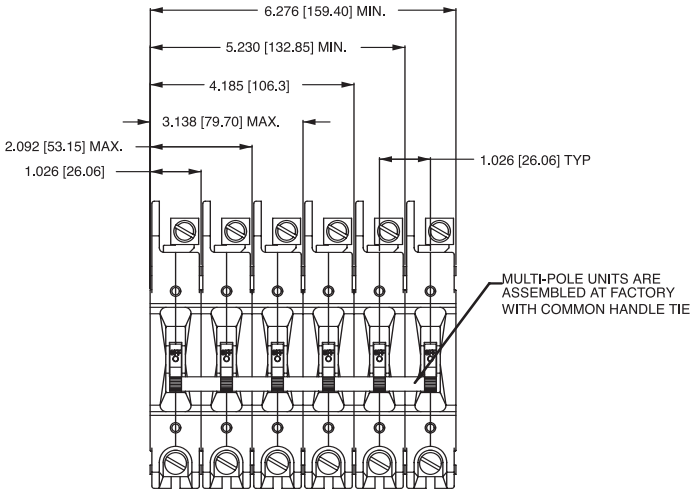
PANEL CUTOUT DETAIL



Notes:
1 1/4 -20 stud terminal in Series Trip circuit configuration shown.
2 A 3” min spacing must be provided between the circuit breaker arc venting area of back connected E-Series circuit breaker and grounded obstructions.
3 All dimensions are in inches [millimeters].
4 Tolerance ±.020 [.51] unless otherwise specified.
5 Circuit breakers must be mounted on vertical surface.

MOUNTING INSERTS:





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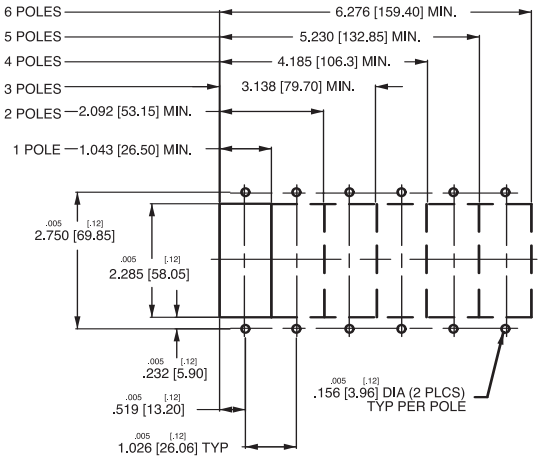

Notes:
1 All dimensions are in inches [millimeters].
2 Tolerance ±.020 [.51] unless otherwise specified.
3 Box wire connector terminal in Series Trip circuit configuration shown.
4 Circuit breakers must be mounted on vertical surface.