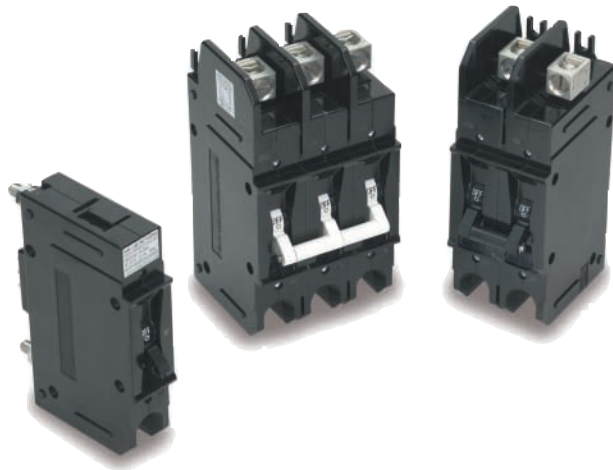




Ideally suited for higher amperage applications. Available with front and back mounting, screw terminals, stud terminals and heavy duty box wire connectors for solid wire or a pressure plate connector for stranded wire. Power selector device available, consult factory.

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)

CSA Certified



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

UL Standard 508



Component Recognition Program as Manual Motor Controls (Guide NLRV2, File E135367)

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

UL Standard 1500



Protectors, Supplementary for Marine Electrical & Fuel Systems (Guide PEQZ2, File E75596) Ignition Protection



VDE Certified

EN60934, VDE 0642 under File No. 10537

UL Listed

UL Standard 489



Circuit Breakers, Molded Case, (Guide DIVQ, File E129899)

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 PROTECTOR					
CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING	INTERRUPTING CAPACITY (AMPS)
	MAX RATING	FREQUENCY	PHASE	FULL LOAD AMPS	
SERIES	65	DC	---	0.10 - 100	25,000
	125	DC	---	0.10 - 100	5000
	120/240	50/60	1	0.10 - 100	5000
	240	50/60	1 & 3	0.10 - 100	5000

Electrical
Table B: Lists UL Recognized & CSA Certified configurations & performance capabilities as a Component Supplementary

E-SERIES TABLE B: COMPONENT SUPPLEMENTARY PROTECTOR							
CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING	INTERRUPTING CAPACITY (AMPS)		CONSTRUCTION NOTES
	MAX RATING	FREQUENCY	PHASE	FULL LOAD AMPS	UL / CSA		
					WITH BACKUP FUSE ¹	WITHOUT BACKUP FUSE	
SERIES & SHUNT	125	DC	---	0.10 - 120	---	5000	---
	160	DC	---	0.10 - 100	---	5000	---
	120/240	50/60	1	0.10 - 100	---	5000	---
	240	50/60	1 & 3	0.10 - 100	10,000	5000	---
	277	50/60	1	0.10 - 100	10,000	5000	---
	480	50/60	1 & 3	0.10 - 100	10,000	5000	2 Poles Breaking 1Ø; 3-4 Poles Breaking 3Ø
600	50/60	1 & 3	0.10 - 100	10,000	5000		
SWITCH ONLY	125	DC	---	0.10 - 125	Notes for Table B: 1 Requires branch circuit backup with a UL LISTED Type and no more than 4 times full load amp rating and no		
	160	DC	---	0.10 - 100			
	240	50/60	1 & 3	0.10 - 100			
	277	50/60	1	0.10 - 100			
	480	50/60	1 & 3	0.10 - 100			
	600	50/60	1 & 3	0.10 - 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 and VDE Certified configurations and performance capabilities as a Component Supplementary Protector.

E-SERIES TABLE C: COMPONENT SUPPLEMENTARY PROTECTOR								
CIRCUIT CONFIGURATION	VOLTAGE			CURRENT RATING	INTERRUPTING CAPACITY (AMPS)			CONSTRUCTION NOTES
	MAX RATING	FREQUENCY	PHASE		UL / CSA		VDE	
				FULL LOAD AMPS	WITH BACKUP FUSE ¹	WITHOUT BACKUP FUSE	(I _{cn}) WITHOUT BACKUP FUSE	
SERIES & SHUNT	125	DC	---	0.10 - 100	---	5000	5000	1-2 Pole
	240	50/60	1 & 3	0.10 - 100	---	5000	5000	1-5 Poles; Up to 4 Current Poles, 1 Voltage Pole
	415	50/60	1 & 3	0.10 - 100	10,000	5000	4000	2-5 Poles; Up to 4 Current Poles, 1 Voltage Pole
SWITCH ONLY	125	DC	---	0.10 - 125				
	240	50/60	1 & 3	0.10 - 100				
	415	50/60	1 & 3	0.10 - 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.

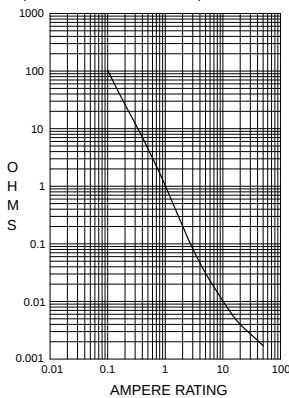
Table D: Lists UL Recognized, CSA Certified configurations and performance capabilities as Protectors, Supplementary for Marine Electrical and Fuel Systems (Guide PEQZ2, File E75596). Ignition Protected per UL 1500. UL Classified Small Craft Electrical Devices, Marine in accordance with ISO 8846 (Guide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

E-SERIES TABLE D: UL1500 (MARINE IGNITION PROTECTED)					
CIRCUIT CONFIGURATION	VOLTAGE			CURRENT	INTERUPPTING
	MAX RATING	FREQUENCY	PHASE	RATING	CAPACITY (AMPS)
				FULL LOAD AMPS	WITHOUT BACKUP FUSE
SERIES	65	D.C.	---	0.02 - 100	5000
	125	50 / 60	1Ø	0.02 - 100	1500
	250	50 / 60	1Ø	0.02 - 100	1500

Electrical

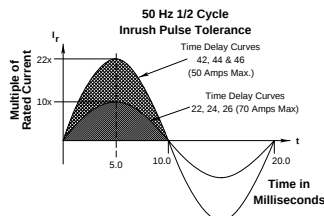
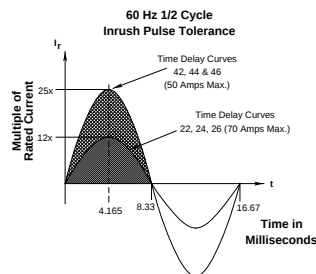
Maximum Voltage	600VAC 50/60 Hz, 125VDC (See Table A)
Current Ratings	Standard current coils: 0.100, 0.250, 0.500, 1.00, 2.50, 5.00, 7.50, 10.0, 15.0, 20.0, 25.0, 30.0, 50.0, 60.0, 70.0 & 100 Amp.
Auxiliary Switch Rating	SPDT; 10.1A 250VAC, 1.0A 65VDC; 0.5A 80VDC, 0.1A 125VAC (with gold contacts).
Insulation 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.

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 - 100.0	± 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.

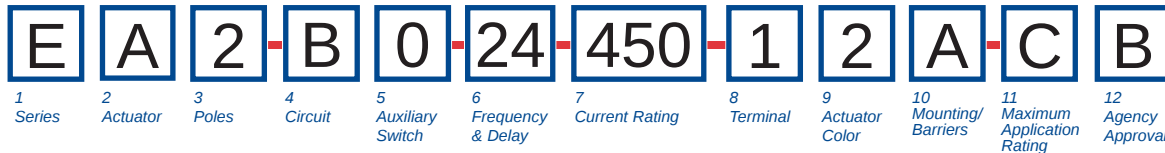
Physical

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



1 SERIES

E

2 ACTUATOR

Handle

A Handle, one per pole

3 POLES¹

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

4 CIRCUIT²

A³ 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 SWITCH⁴

0 without Auxiliary Switch	6 SPST 0.110 Q.C. Terminals
2 SPDT 0.110 Q.C. Terminals	7 SPST 0.110 Q.C. Terminals (Gold Contacts)
3 SPDT 0.139 Solder Lug	8 SPST 0.187 Q.C. Terminals
4 SPDT 0.110 Q.C. Terminals (Gold Contacts)	9 SPDT 0.187 Q.C. Terminals

6 FREQUENCY & DELAY

03⁵ DC 50/60Hz, Switch Only	34 DC, 50/60Hz Medium
10⁵ 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
20⁶ 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	92⁶ DC, 50/60Hz Short, Hi-Inrush
30 DC, 50/60Hz Instantaneous	94⁶ DC, 50/60Hz Medium, Hi-Inrush
32 DC, 50/60Hz Short	96⁶ 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	912⁸ 125.000

OR VOLTAGE COIL (MIN. TRIP RATING, VOLTS)⁹

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 TERMINAL¹²

BACK CONNECTED (FRONT MOUNTED ONLY)

MAX. RATING

1⁹ 10-32 Stud (All Terminals)	50 A
2⁹ 1/4-20 Stud (All Terminals)	100 A
A⁹ M5 Stud (Line & Load)	50 A
B⁹ M6 Stud (Line & Load)	100 A

FRONT CONNECTED (BACK MOUNTED ONLY)

MAX. RATING

3¹⁰ Box Wire Connector (Line & Load)	100 A
C¹¹ Box Wire Connector w/ Pressure Plate (Line & Load)	100 A
D 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
6¹⁰ 10-32 "Bus-Type" Screw (Line), Box Wire Connector (Load)	100 A
F¹¹ 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
9¹⁰ 1/4-20 "Bus-Type" Screw (Line), Box Wire Connector (Load)	100 A
J¹¹ 1/4-20 "Bus-Type" Screw (Line), Box Wire Connector w/ Pressure Plate (Load)	100 A

9 ACTUATOR COLOR & LEGEND¹³

Actuator Color	Marking:	I-O	ON-OFF	Dual	Marking 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

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 RATING¹⁵

A 65 VDC, 120 A	G¹⁶ 600 VAC, 100 A
B 125 VDC, 120 A	H¹⁶ 480 VAC, 100 A
C 120/240 VAC, 100 A	J¹⁶ 415 VAC, 100 A
D 240 VAC, 100 A	L 160 VDC, 100 A
E¹⁶ 277/480 VAC, 100 A	T 125 VDC/240 VAC, 100 A
F 277 VAC, 100 A	W¹⁶ 125 VDC/415 VAC, 100 A

12 AGENCY APPROVAL

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

NOTES

- 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.
- 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.
- 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.
- 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 Auxiliary Switch Codes 0, 2, 3 & 4 only.

- 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.
- Frequency & Delay Codes 92, 94 & 96 are not VDE approved.
- Current Coil Ratings 0.100 - 100 amps are VDE approved.
- 125 A rating (Code 912) available as a Switch Only (Circuit Code A), rated 125 VDC (Code B). 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.
- Box Wire Connector will accept #14 through 0 AWG. copper wire or #12 through 0 AWG. aluminum wire.
- Box Wire Connector with Pressure Plate for stranded wire, consult factory for details.
- Terminal Codes A, B, D, E, G & H are not VDE approved.
- VDE approvals require Dual (I-O, ON-OFF) or I-O markings on all handles.
- 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.
- Application ratings B, D, J, T & W are available with VDE.
- 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 POLES¹

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

4 CIRCUIT²
B Series Trip (Current) **C³** Series Trip (Voltage)

5 AUXILIARY SWITCH⁴

0 without Auxiliary Switch	6 SPST 0.110 Q.C. Terminals
2 SPDT 0.110 Q.C. Terminals	7 SPST 0.110 Q.C. Terminals (Gold Contacts)
3 SPDT 0.139 Solder Lug	8 SPST 0.187 Q.C. Terminals
4 SPDT 0.110 Q.C. Terminals (Gold Contacts)	9 SPDT 0.187 Q.C. Terminals

6 FREQUENCY & DELAY

10⁵ 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
20⁵ 50/60Hz Instantaneous	74 DC, Medium, Hi-Inrush
22 50/60Hz Short	76 DC, Long, Hi-Inrush
24 50/60Hz Medium	92⁵ DC, 50/60Hz Short, Hi-Inrush
26 50/60Hz Long	94⁵ DC, 50/60Hz Medium, Hi-Inrush
32 DC, 50/60Hz Short	96⁵ DC, 50/60Hz Long, Hi-Inrush
34 DC, 50/60Hz Medium	
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	
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 TERMINAL⁷
BACK CONNECTED (FRONT MOUNTED ONLY)
MAX. RATING
1⁸ 10-32 Stud (All Terminals) 50 A

2⁸ 1/4-20 Stud (All Terminals) 100 A

FRONT CONNECTED (BACK MOUNTED ONLY)
MAX. RATING
3⁹ Box Wire Connector (Line & Load) 100 A

C¹⁰ 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

6⁹ 10-32 "Bus-Type" Screw (Line), Box Wire Connector (Load) 100 A

F¹⁰ 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

9⁹ 1/4-20 "Bus-Type" Screw (Line), Box Wire Connector (Load) 100 A

J¹⁰ 1/4-20 "Bus-Type" Screw (Line), Box Wire Connector w/ Pressure Plate (Load) 100 A

9 ACTUATOR COLOR & LEGEND¹²

<u>Actuator Color</u>	<u>Marking:</u>	<u>Marking Color:</u>
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

C¹³ 120/240 VAC, 100A

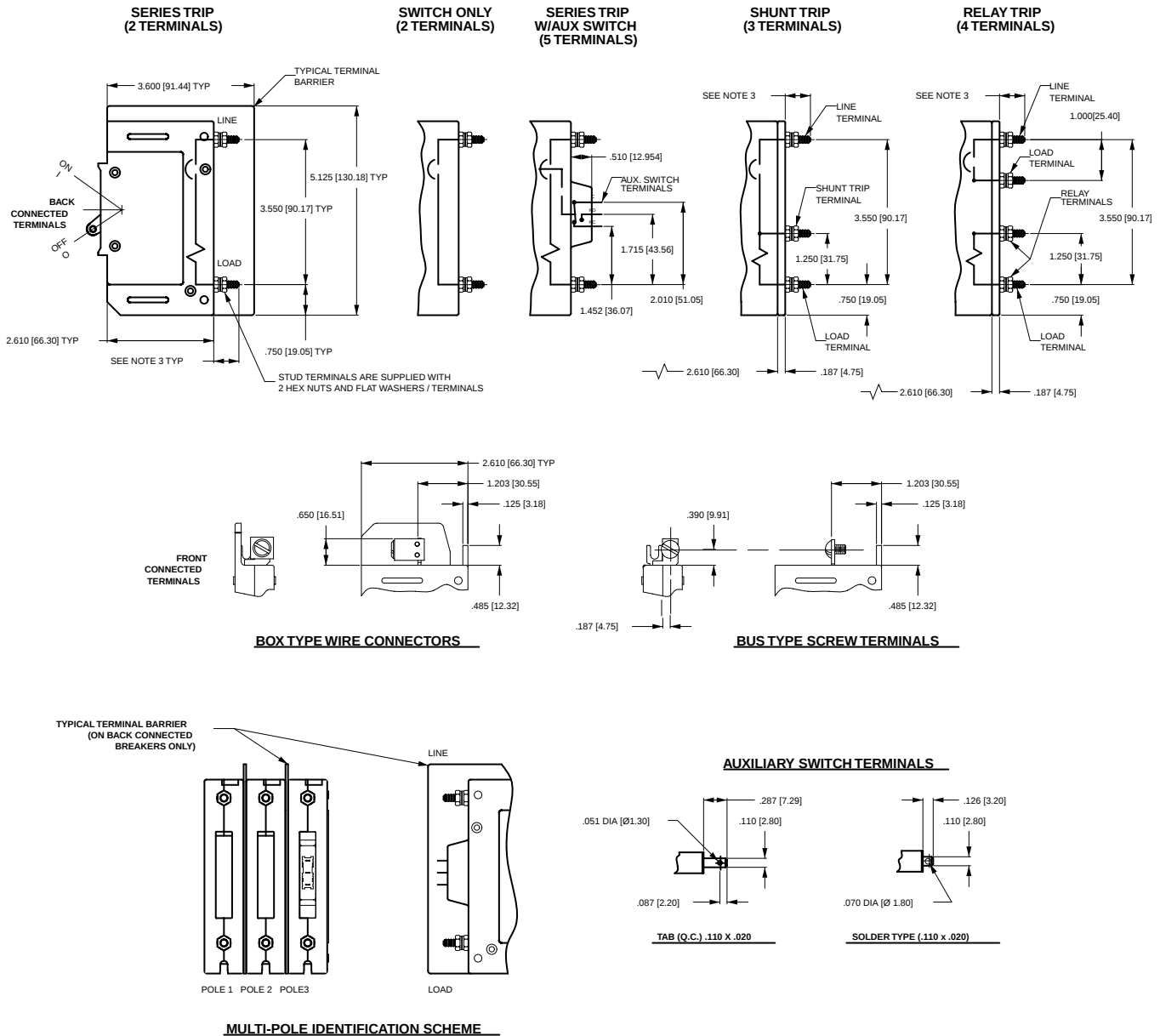
D 240 VAC, 100A

12 AGENCY APPROVAL
C UL 489 Listed & CSA Certified

F UL 489 Listed, CSA Certified, & VDE Certified

NOTES

- Standard multi-pole units identical poles except when specifying auxiliary switch - (see Note 4). For mixed ratings, consult factory. VDE approval on 1-5 poles only.
- Series Trip construction available w/ either front or back connected terminals.
- Series Trip construction with a voltage coil is not available as a single pole unit and must be tied to a protected pole.
- 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 approval on auxiliary switch codes 0, 2, 3 & 4 only.
- Voltage Trip Coils are not rated for continuous duty. Available only with Frequency & Delay Codes 10 & 20.
- Frequency & Delay Codes 92, 94 & 96 are not VDE approved.
- Current Ratings under 0.100 amps are not VDE approved.
- 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.
- Box Wire Connector will accept #14 through 0 AWG. copper wire or #12 through 0 AWG. aluminum wire.
- Box Wire Connector with Pressure Plate for stranded wire, consult factory for details.
- 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.
- VDE approval required dual (I-O , ON-OFF) markings on all handles.
- Not available with VDE approval.

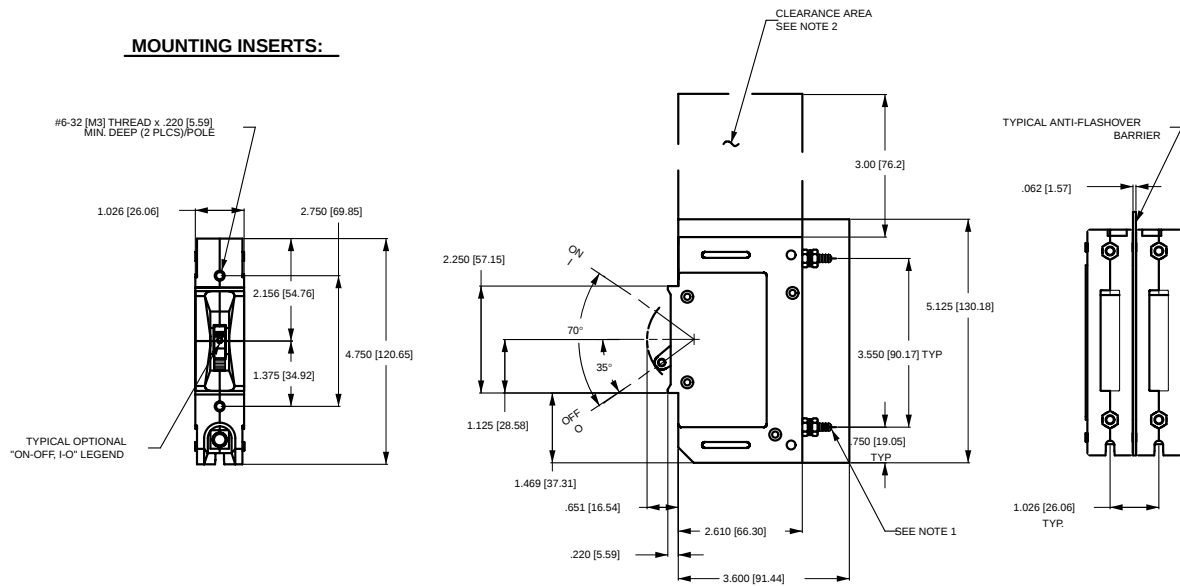


Notes:

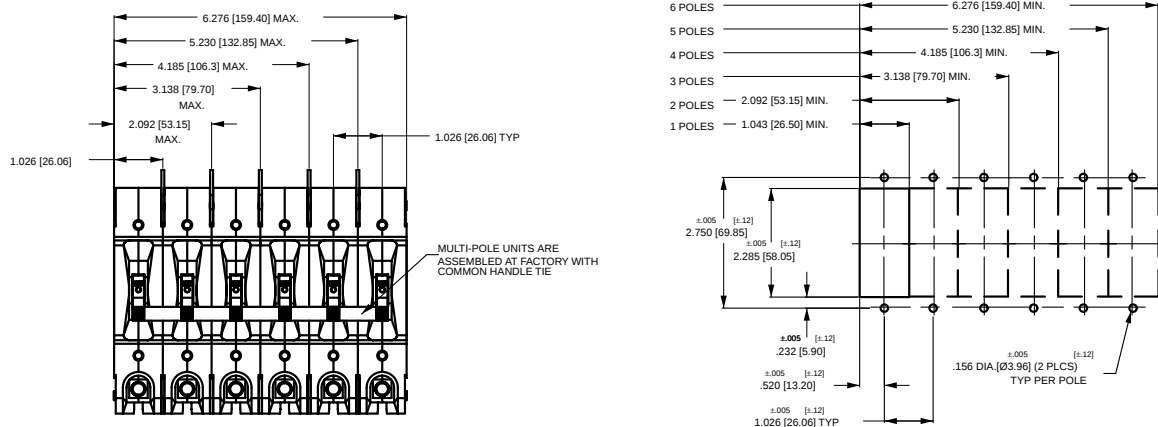
- 1 All dimensions are in inches [millimeters].
- 2 Tolerance ± 0.015 [.38] unless otherwise specified.
- 3 0-50 amps: 10-32 & M5 Studs .625^{+0.002}/_{15.88}^{+0.514} long.
51-120 amps: 1/4-20 & M6 Studs .750^{+0.002}/_{19.05}^{+0.514} long.

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)
	3-10 AWG	50 IN-LBS (5.7 NM)

MOUNTING INSERTS:



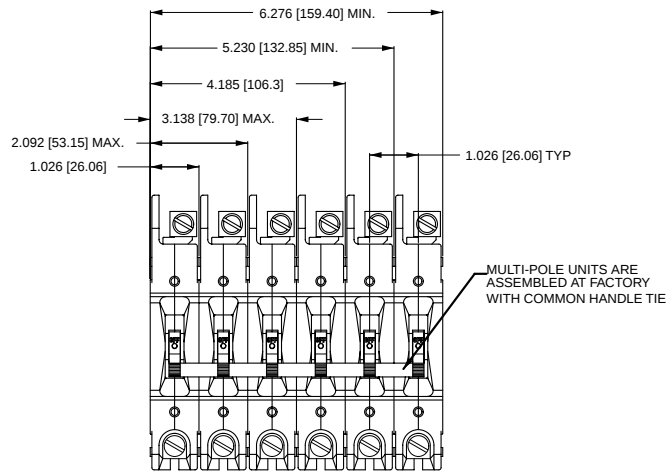
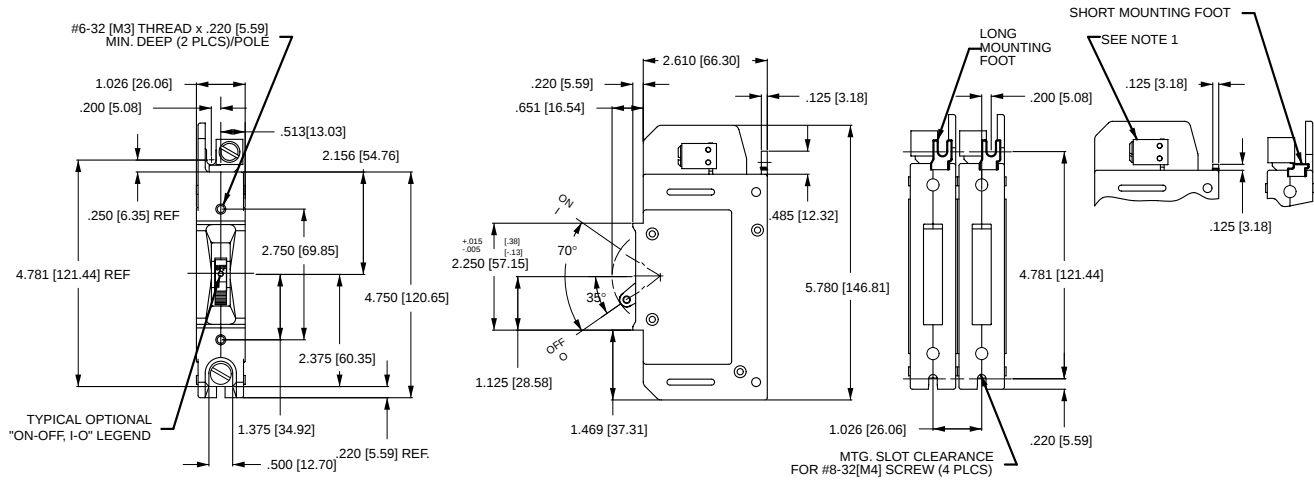
PANEL CUTOUT DETAIL



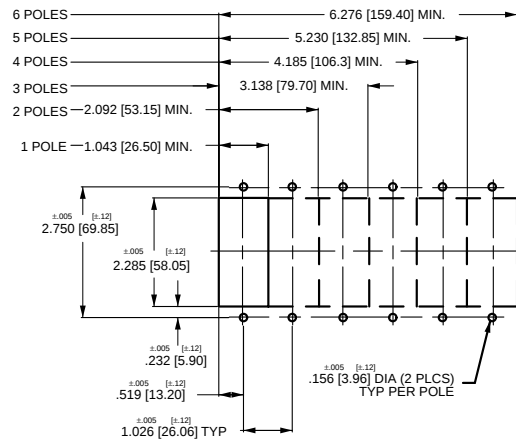
Notes:

- 1/4 -20 stud terminal in Series Trip circuit configuration shown.
- A 3" min spacing must be provided between the circuit breaker arc venting area of back connected E-Series circuit breaker and grounded obstructions.
- All dimensions are in inches [millimeters].
- Tolerance ± 0.020 [.51] unless otherwise specified.
- Circuit breakers must be mounted on vertical surface.

MOUNTING INSERTS:



PANEL CUTOUT DETAIL



Notes:

- 1 All dimensions are in inches [millimeters].
- 2 Tolerance ± 0.020 [.51] unless otherwise specified.
- 3 Box wire connector terminal in Series Trip circuit configuration shown.
- 4 Circuit breakers must be mounted on vertical surface.