



Description

Bulletin 194E load switches are designed for use in North America as local motor isolation and for IEC disconnect switch applications outside of North America. Available in 3- and 4-pole versions with add-on grounding and neutral terminals and auxiliary contacts, Bulletin 194Es use similar operating handles as the Bulletin 194L Control and Load Switches.

Bulletin 194E switches are offered in two mounting styles, Front/Door and Base/DIN configurations, for a variety of installations. Switch body styles for Bulletin 194E base-mounted switches include standard interlock shaft; Bulletin 194E front-mounted switches include standard shaft.

Two-position OFF-ON switch is used to connect or disconnect a variety of inductive loads, including solenoids, actuators, valves, magnetic starters, relays, and motors up to 100 HP.

Features

- At-Motor Disconnect Switch
- 125, 160, 250, 315 A Versions of Inductive Load-Rated Switches
- IP65/Type 1/3/3R/12 Operating Handles
- IP2LX Finger-Safe Terminals
- 3- and 4-Pole Versions
- Front/Door or DIN/Base Mounting Configurations
- OFF-ON Configurations
- Box Lug and Bolt-on Terminals Available
- Switches Include Operating Shaft
- Suitable as Motor Disconnect

Conformity to Standards

- IEC 207
- IEC 947-1
- IEC 947-3 low-voltage switchgear and control gear part 3: switches, disconnecters, switch-disconnecters and fuse-combination units. CE
- UL 508: Industrial Control Equipment. CUL

Approvals

- UL listed (Box Lug Version)
- UR recognized (Bolt-on Version)
- CUL listed (Box Lug Version)
- CUR recognized (Bolt-on Version)
- Meets IEC, VDE and BS standard requirements
- IEC/CE marked for all applicable directives (per EN 60947-3)

Your order must include:

- Catalogue Number of switch body.
- Catalogue Number of actuator.
- If required, Catalogue Number of accessories.

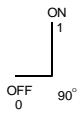

IEC Load Switches

Bulletin 194E

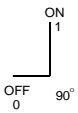
125 Amps to 315 Amps

Product Selection


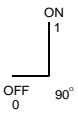
OFF-ON Base-Mounted Switch — with Box Lugs — UL Listed

Switch Body	Function Sw. Angle	No. of Poles	OFF/0	ON/1	Max. Load (Amps)	AC23 Rated kw 690V AC 50 Hz	Hp @ 480V AC 60 Hz 3 Ø	Catalogue Number
		3	0 0 0	X X X	125	37	60	194E-A125-1753
					160	37	60	194E-A160-1753
					250	45	75	194E-A250-1753
					315	45	100	194E-A315-1753
		4	0 0 0 0	X X X X	125	37	60	194E-A125-1754
					160	37	60	194E-A160-1754
					250	45	75	194E-A250-1754
					315	45	100	194E-A315-1754

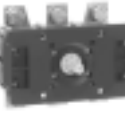


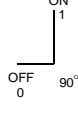
OFF-ON Base-Mounted Switch — with Bolt-on Wiring — UR Recognized

Switch Body	Function Sw. Angle	No. of Poles	OFF/0	ON/1	Max. Load (Amps)	AC23 Rated kw 690V AC 50 Hz	Hp @ 480V AC 60 Hz 3 Ø	Catalogue Number
		3	0 0 0	X X X	125	37	60	194E-B125-1753
					160	37	60	194E-B160-1753
					250	45	75	194E-B250-1753
					315	45	100	194E-B315-1753
		4	0 0 0 0	X X X X	125	37	60	194E-B125-1754
					160	37	60	194E-B160-1754
					250	45	75	194E-B250-1754
					315	45	100	194E-B315-1754

OFF-ON Front-Mounted Switch — with Box Lugs — UL-Listed

Switch Body	Function Sw. Angle	No. of Poles	OFF/0	ON/1	Max. Load (Amps)	AC23 Rated kw 690V AC 50 Hz	Hp @ 480V AC 60 Hz 3 Ø	Catalogue Number
		1	0	X	125	37	60	194E-E125-1753
		2	0	X	160	37	60	194E-E160-1753
		3	0	X	250	45	75	194E-E250-1753
					315	45	100	194E-E315-1753
		1	0	X	125	37	60	194E-E125-1754
		2	0	X	160	37	60	194E-E160-1754
		3	0	X	250	45	75	194E-E250-1754
		4	0	X	315	45	100	194E-E315-1754


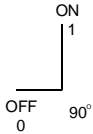



OFF-ON Front-Mounted Switch — with Bolt-on Wiring — UR-Recognized


Switch Body	Function Sw. Angle	No. of Poles	OFF/0	ON/1	Max. Load (Amps)	AC23 Rated kw 690V AC 50 Hz	Hp @ 480V AC 60 Hz 3 Ø	Catalogue Number
		1	0	X	125	37	60	194E-F125-1753
		2	0	X	160	37	60	194E-F160-1753
		3	0	X	250	45	75	194E-F250-1753
					315	45	100	194E-F315-1753
		1	0	X	125	37	60	194E-F125-1754
		2	0	X	160	37	60	194E-F160-1754
		3	0	X	250	45	75	194E-F250-1754
		4	0	X	315	45	100	194E-F315-1754

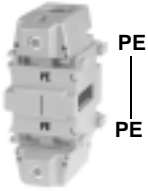
Accessories


Handles

Actuators 194E — 125...315 A

Actuators with Screw Fixing (Includes Legend Plate and Control Knob)	Rating	Colour	Legend Plate Size	Use with Catalogue Number	Legend Marking	Catalogue Number
 Type A	IP65 Type 3/3R/12	Black	88 mm x 88 mm 3-15/32 in. x 3-15/32 in.	194E-125...315A		194E-HE8A-175
			130 mm x 130 mm 5-1/8 in. x 5-1/8 in.			194E-HE13A-175
Red/Yellow		88 mm x 88 mm 3-15/32 in. x 3-15/32 in.	194E-HE8I-175			
		130 mm x 130 mm 5-1/8 in. x 5-1/8 in.	194E-HE13I-175			
 Type I		Black	90 mm x 90 mm 3-35/64 in. x 3-35/64 in.	194E-125...315A		194E-HE8G-175
			135 mm x 135 mm 5-5/16 in. x 5-5/16 in.			194E-HE13G-175
 Type G		Red/Yellow	90 mm x 90 mm 3-35/64 in. x 3-35/64 in.			194E-HE8N-175
			135 mm x 135 mm 5-5/16 in. x 5-5/16 in.			194E-HE13N-175
 Type N						

Auxiliary Contacts—2 N.O./1 N.C.	Use with	Catalogue Number
	194E-A125-160 194E-B125-160	194E-AB-P21-160
	194E-A250-315 194E-B250-315	194E-AB-P21-315
	194E-E125-160 194E-F125-160	194E-EF-P21-160
	194E-E250-315 194E-F250-315	194E-EF-P21-315


Earthing/Grounding Terminal	Use with	Catalogue Number
	194E-A135-160 194E-E135-160	194E-AE160-PE
	194E-A250-315 194E-E250-315	194E-AE315-PE
	194E-B135-160 194E-F135-160	194E-BF160-PE
	194E-B250 194E-F250	194E-BF250-PE
	194E-B315 194E-F315	194E-BF315-PE

Neutral Terminal	Use with	Catalogue Number
	194E-A125-160 194E-E125-160	194E-AE160-TN
	194E-A250-315 194E-E250-315	194E-AE315-TN
	194E-B125-160 194E-F125-160	194E-BF160-TN
	194E-B250 194E-F250	194E-BF250-TN
	194E-B315 194E-F315	194E-BF315-TN

IEC Load Switches
Bulletin 194E
 125 Amps to 315 Amps


Accessories

Handles (continued)

Terminal Cover	Use with	Catalogue Number
	194E-A125-160 194E-E125-160	2 covers per pole required 194E-AE125-C1
	194E-A250-315 194E-E250-315	2 covers per pole required 194E-AE250-C1
	194E-B125-160 194E-F125-160	2 covers per pole required 194E-BF125-C1
	194E-B250-315 194E-F250-315	2 covers per pole required 194E-BF250-C1

Legend

Additional Name Plate and Frame

	Colour	Legend Size	Use with	Legend Marking	Catalogue Number
 <p>10 per package</p>	Gray/Black	19.2 mm x 49 mm 3/4 in. x 1-59/64 in.	88 mm x 88 mm 90 mm x 90 mm 130 mm x 130 mm 135 mm x 135 mm legend frames (Size 8,13)	MAIN SWITCH	194L-G3515A
				HAUPTSCHALTER	194L-G3515B
				INTERR. PRINCIPALE	194L-G3515C
				INTERR. PRINCIPAL	194L-G3515D
				INTERR. PRINCIPAL	194L-G3515E
				HUVUDBRYTARE	194L-G3515F
	WAHLSCHALTER	194L-G3515G			
	Red/ Yellow			EMERGENCY OFF	194L-G3515H

Specifications

IEC Performance Data for 194E

			194E-125	194E-160	194E-250	194-315	
Rated insulation voltage U_i : ❶	[V]		1000	1000	1000	1000	
Rated impulse withstand voltage U_{imp}	[kV]		8	8	8	8	
Test voltage 1 min	[kV]		3.5	3.5	3.5	3.5	
Rated voltage U_e ❶❷	[V]		1000	1000	1000	1000	
Rated frequency	[Hz]		50/60	50/60	50/60	50/60	
Rated thermal current I_{th} open	[A]		125	160	250	315	
Rated thermal current I_{the} enclosed	[A]		125	160	250	315	
Rated current I_e							
AC-1 / Non inductive or slightly induct. load							
AC-21A Switching of resistive loads with slight overload	[A]		125	160	250	315	
Rated power P_e							
AC-23A Occasional switching of motor and other highly inductive loads	230V	[kW]	30	30	37	55	
	400V	[kW]	45	55	90	110	
	690V	[kW]	37	37	45	45	
AC-3 Squirrel-cage motors: starting and stopping of running motors	230V	[kW]	22	30	37	45	
	400V	[kW]	37	45	55	75	
	690V	[kW]	30	37	45	45	
Conditional rated short-circuit current	400/415V	[kA]	30	30	30	30	
Max. fuse rating of circuit (type g, G)		[A]	125	160	250	315	
Rated short-time current I_{CW} 1S		[A]	2500	3000	4600	5800	
Rated breaking capacity	230V	[A]	800	900	1600	1800	
	AC-23A (cos ϕ 0.45)	400V	[A]	750	850	1380	1650
		690V	[A]	340	340	400	400

❶ Valid for line with grounded common neutral termination, over voltage category III, pollution degree 3. Other values on request.

❷ Not suitable for load-switching applications (AC-20A) above 690V.

IEC Load Switches
Bulletin 194E
125 Amps to 315 Amps

Specifications

IEC Performance Data for 194E (continued)

DC Switching Capacity					194E-125	194E-160	194E-250	194E-315
Rated current I_e								
	Rated voltage [V]	No. Poles in series						
DC-21A	60	3	[A]	125	160	250	315	
For resistive loads $T \leq 1$ ms								
	110	3	[A]	110	140	220	280	
	220	3	[A]	45	55	85	110	
	Rated voltage [V]	No. Poles in series						
	110	4	[A]	125	160	250	315	
	220	4	[A]	80	100	150	200	
	440	4	[A]	16	20	32	40	
Rated power P_e								
	Rated voltage [V]	No. Poles in series						
DC-22A, DC-3	24	4	[kW]	3	3.8	6	7.5	
For Inductive loads $T \leq 2.5$ ms								
	48	4	[kW]	6	7.5	12	15	
	60	4	[kW]	7.5	9.5	15	19	
	110	4	[kW]	10	12.5	20	25	
	220	4	[kW]	4.5	5.5	8	10	
Rated Power P_e								
	Rated voltage [V]	No. Poles in series						
DC-23A, DC-5	24	4	[kW]	3	3.8	6	7.5	
For Inductive loads $T \leq 15$ ms								
	48	4	[kW]	6	7.5	12	15	
	60	4	[kW]	7.5	9.5	15	19	
	110	4	[kW]	8.8	11	17.5	22	
	220	4	[kW]	2.5	3.5	5.5	7	

UL CSA Performance Data for 194E

				194E-125	194E-160	194E-250	194E-315	
Rated Insulation Voltage				[V]	600	600	600	600
Rated voltage				[V]	600	600	600	600
Continuous current				[A]	150	200	250	300
Ampere rating for general use				[A]	150	200	250	300
Heavy Pilot Duty				[AC]				
Standard Duty				[DC]				
Motor rating 60Hz								
1-phase (2-poles)	120V, 1 P	[FLA]	80	100	135	180		
		[HP]	7.5	10	15	20		
	240V, 1 P	[FLA]	88	110	136	155		
		[HP]	20	25	30	35		
	480V, 1 P	[FLA]	78	88	99	108		
		[HP]	35	40	45	50		
	600V, 1 P	[FLA]	62	70	86	104		
		[HP]	35	40	50	60		
	3-Phase	120V, 3 P	[FLA]	84	108	160	208	
			[HP]	15	20	30	40	
240V, 3 P		[FLA]	8	104	154	192		
		[HP]	30	40	60	75		
480V, 3 P		[FLA]	77	77	96	124		
		[HP]	60	60	75	100		
600V, 3 P		[FLA]	62	62	77	99		
		[HP]	60	60	75	100		

Specifications

Mechanical Data

			194E-125	194E-160	194E-250	194E-315	
Actuators			IP65	IP65	IP65	IP65	
Protection class according to IEC 529			—	—	—	—	
Front side Front unit			IP65	IP65	IP65	IP65	
Box lugs ❶			IP20	IP20	IP20	IP20	
Bolt-on			IP20	IP20	IP20	IP20	
straight version ❶			—	—	—	—	
bent version			—	—	—	—	
Mechanical life			[Million operations]	0.1	0.1	0.075	0.075
Box lugs — max. wire gauges			—	—	—	—	
Terminal sizes according to IEC 947-1	Gauge	No.	B11	B11	B14	B14	
Fine strands, 1 conductor	Max.	mm ²	70	70	150	150	
	Min.	mm ²	16	16	25	25	
Rigid wire, 1 conductor	Max.	mm ²	95	95	185	185	
	Min.	mm ²	10	10	16	16	
Wire gauges according to UL / CSA	Max.	AWG	3/0	3/0	—	—	
		MCM	—	—	350	350	
		Min.	8	8	4	4	

❶ When provided with terminal covers.

Approvals

Catalogue No. or Designation		UL-Listed (marked w/UL)	UR-Recognized (marked w/UR)	UL-Listed for Canada (marked with cUL)	UR-Recognized for Canada (marked w/cUR)	CE
194E-A125	194E-E125	A	—	A	—	A
194E-A160	194E-E160	A	—	A	—	A
194E-A250	194E-E250	A	—	A	—	A
194E-A315	194E-E315	A	—	A	—	A
194E-B125	194E-F125	—	A	—	A	A
194E-B160	194E-F160	—	A	—	A	A
194E-B250	194E-F250	—	A	—	A	A
194E-B315	194E-F315	—	A	—	A	A
Aux. switch blocks		Z	Z	Z	Z	Z
Ground terminal		Z	Z	Z	Z	Z
Neutral terminal		Z	Z	Z	Z	Z

A = approved or test passed

Z = accessories are covered by the approval for the switch

IEC Load Switches

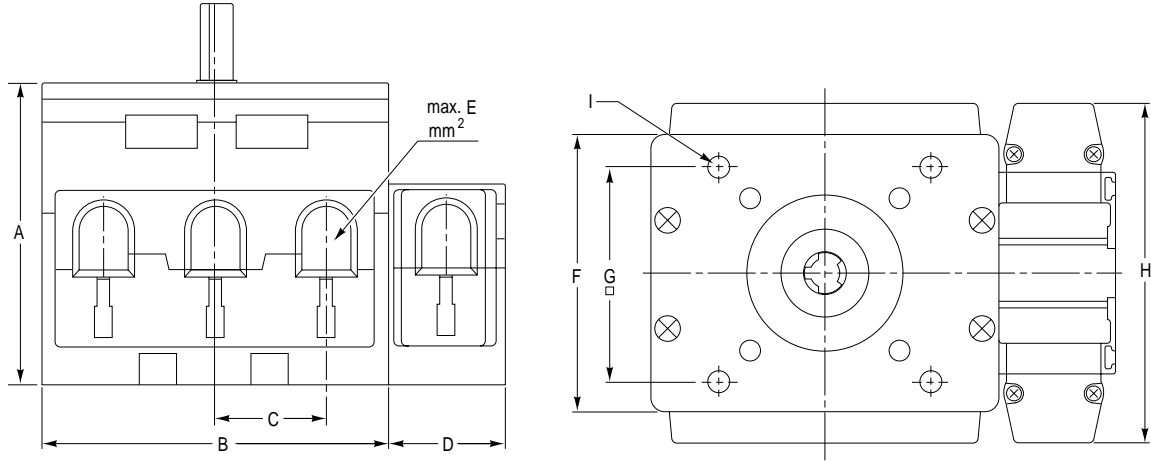
Bulletin 194E

125 Amps to 315 Amps

Approximate Dimensions—mm (inches)

Dimensions are not intended to be used for manufacturing purposes.

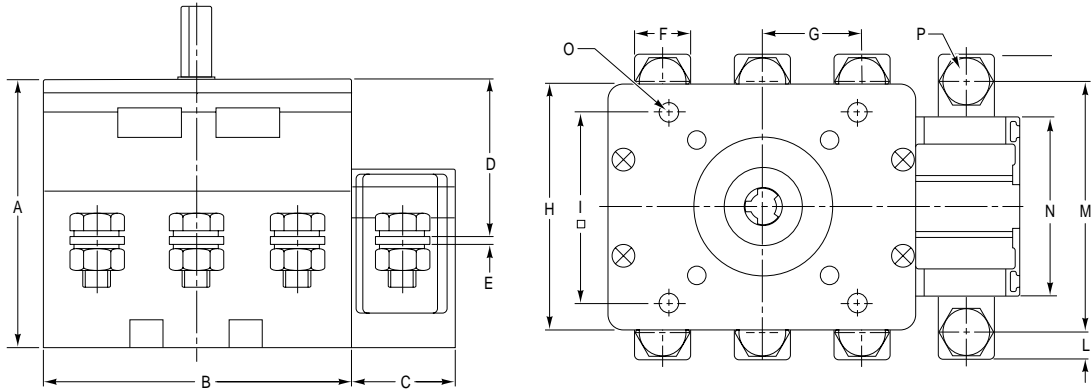
Front-Installation Box Lugs, 3- and 4-Pole



Switch Body 194E-E

[A]	A	B	C	D	E	F	G	H	I
125	91 (3-19/32)	112 (4-13/32)	36 (1-13/32)	38 (1-1/2)	95 (3-23/64)	88 (3-7/16)	68 (2-5/8)	108 (4-1/4)	M5 (3/16)
160	91 (3-19/32)	112 (4-13/32)	36 (1-13/32)	38 (1-1/2)	95 (3-23/64)	88 (3-7/16)	68 (2-5/8)	108 (4-1/4)	M5 (3/16)
250	103 (4-3/64)	145 (5-23/32)	44 (1-23/32)	52.5 (2-1/16)	185 (7-9/32)	88 (3-7/16)	68 (2-5/8)	120 (4-11/16)	M5 (3/16)
315	103 (4-3/64)	145 (5-23/32)	44 (1-23/32)	52.5 (2-1/16)	185 (7-9/32)	88 (3-7/16)	68 (2-5/8)	120 (4-11/16)	M5 (3/16)

Front-Installation Bolt-on Terminals, 3- and 4-Pole



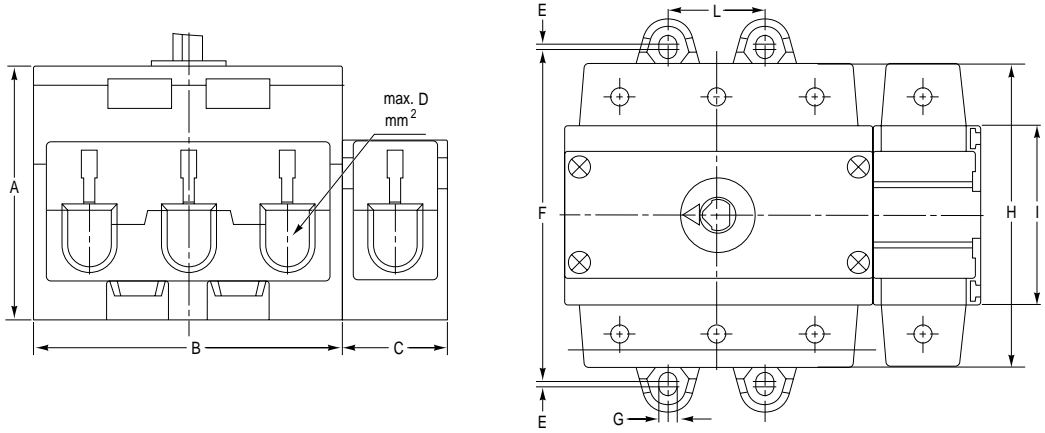
Switch Body 194E-F

[A]	A	B	C	D	E	F	G	H	I	L	M	N	O	P
125	91 (3-19/32)	112 (4-3/32)	38 (1-1/2)	65.5 (2-9/16)	3 (1/8)	2 (3/32)	36 (1-13/32)	88 (3-7/16)	68 (2-5/8)	10 (13/32)	90 (3-17/32)	64 (2-17/32)	M5 (3/16)	M10 (3/8)
160	91 (3-19/32)	112 (4-3/32)	38 (1-1/2)	65.5 (2-9/16)	3 (1/8)	2 (3/32)	36 (1-13/32)	88 (3-7/16)	68 (2-5/8)	10 (13/32)	90 (3-17/32)	64 (2-17/32)	M5 (3/16)	M10 (3/8)
250	103 (4-3/64)	145 (5-23/32)	52.5 (1-22/32)	60.4 (2-3/8)	4 (5/32)	2 (3/32)	44 (1-23/32)	88 (3-7/16)	68 (2-5/8)	13 (1/2)	100 (3-15/16)	70 (2-3/4)	M5 (3/16)	M12 (15/32)
315	103 (4-3/64)	145 (5-23/32)	52.5 (1-22/32)	60.4 (2-3/8)	4 (5/32)	2 (3/32)	52 (2-1/16)	88 (3-7/16)	68 (2-5/8)	13 (1/2)	100 (3-15/16)	70 (2-3/4)	M5 (3/16)	M12 (15/32)

Approximate Dimensions—mm (inches)

Dimensions are not intended to be used for manufacturing purposes.

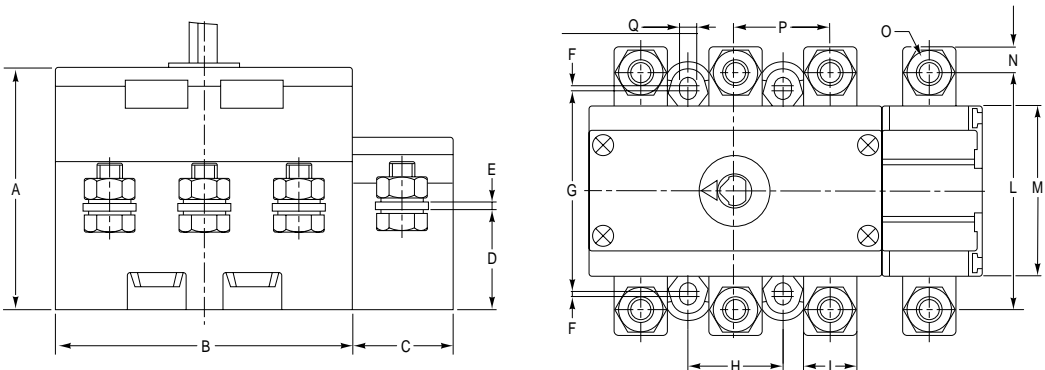
Base-Mounting Box Lugs, 3- and 4-Pole



Switch Body 194E-A

[A]	A	B	C	D	E	F	G	H	I	L
125	91 (3-19/32)	112 (4-13/32)	38 (1-1/2)	95 (3-23/64)	2 (3/32)	118 (4-5/8)	6.4 (1/4)	108 (4-1/4)	64 (2-17/32)	36 (1-13/32)
160	91 (3-19/32)	112 (4-13/32)	38 (1-1/2)	95 (3-23/64)	2 (3/32)	118 (4-5/8)	6.4 (1/4)	108 (4-1/4)	64 (2-17/32)	36 (1-13/32)
250	98 (3-27/32)	145 (5-23/32)	52.5 (1-23/32)	185 (7-9/32)	2 (3/32)	140 (5-1/2)	6.4 (1/4)	126 (4-15/16)	70 (2-3/4)	44 (2-1/16)
315	98 (3-27/32)	145 (5-23/32)	52.5 (1-23/32)	185 (7-9/32)	2 (3/32)	140 (5-1/2)	6.4 (1/4)	126 (4-15/16)	70 (2-3/4)	44 (2-1/16)

Base-Mounting Bolt-on Terminals, 3- and 4-Pole



Switch Body 194E-B

[A]	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
125	91 (3-19/32)	112 (4-13/32)	38 (1-1/2)	36.5 (1-7/16)	3 (1/8)	2 (3/32)	76 (3)	36 (1-13/32)	20 (3/4)	90 (3-17/32)	64 (2-17/32)	10 (13/32)	M10 (3/8)	36 (1-13/32)	6.4 (1/4)
160	91 (3-19/32)	112 (4-13/32)	38 (1-1/2)	36.5 (1-7/16)	3 (1/8)	2 (3/32)	76 (3)	36 (1-13/32)	20 (3/4)	90 (3-17/32)	64 (2-17/32)	10 (13/32)	M10 (3/8)	36 (1-13/32)	6.4 (1/4)
250	98 (3-27/64)	145 (5-23/32)	52.5 (1-23/32)	38.6 (1-1/2)	4 (5/32)	2 (3/32)	80 (3-1/8)	44 (1-23/32)	26 (1-1/64)	100 (3-15/16)	70 (2-3/4)	13 (1/2)	M12 (15/32)	44 (1-23/32)	6.4 (1/4)
315	98 (3-27/64)	145 (5-23/32)	52.5 (1-23/32)	38.6 (1-1/2)	4 (5/32)	2 (3/32)	80 (3-1/8)	44 (1-23/32)	26 (1-1/64)	100 (3-15/16)	70 (2-3/4)	13 (1/2)	M12 (15/32)	52 (2-1/16)	6.4 (1/4)

IEC Load Switches

Bulletin 194E

125 Amps to 315 Amps

Approximate Dimensions—mm (inches)

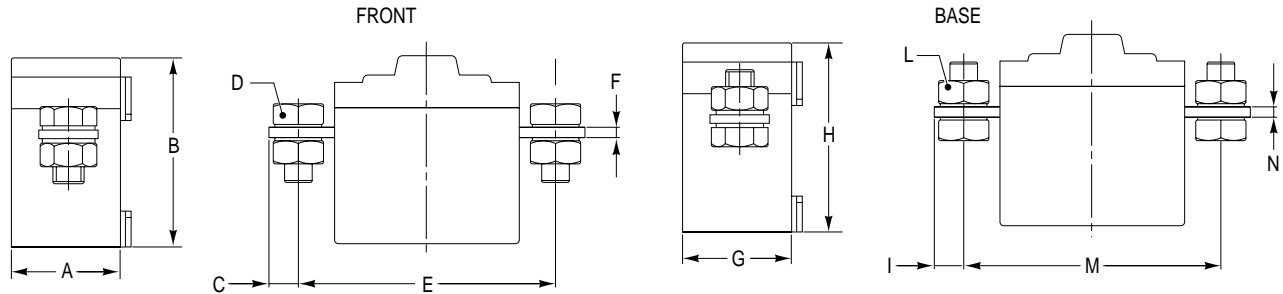
Dimensions are not intended to be used for manufacturing purposes.

Box Ground and Neutral Terminal

Switch Body 194E-F

[A]	A	B	C	D	E	F
125	37.8 (1-1/2)	64 (2-17/32)	108 (4-1/4)	37.8 (1-1/2)	64 (2-17/32)	108 (4-1/4)
160	37.8 (1-1/2)	64 (2-17/32)	108 (4-1/4)	37.8 (1-1/2)	64 (2-17/32)	108 (4-1/4)
250	52.3 (2-1/16)	71.1 (2-25/32)	126 (4-15/16)	52.3 (2-1/16)	80.6 (3-1/8)	126 (4-15/16)
315	52.3 (2-1/16)	71.1 (2-25/32)	126 (4-15/16)	52.3 (2-1/16)	80.6 (3-1/8)	126 (4-15/16)

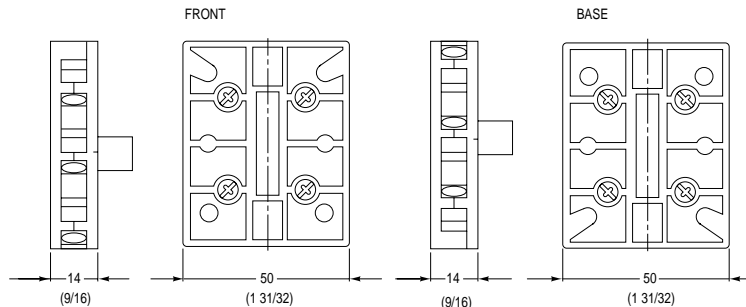
Bolt Ground and Neutral Terminal



Switch Body 194E-F

[A]	A	B	C	D	E	F	G	H	I	L	M	N
125	37.8 (1-1/2)	64 (2-17/32)	10 (13/32)	M10 (13/32)	90 (3-17/32)	3 (1/8)	37.8 (1-1/2)	64 (2-17/32)	10 (13/32)	M10 (13/32)	90 (3-17/32)	3 (1/8)
160	37.8 (1-1/2)	64 (2-17/32)	10 (13/32)	M10 (13/32)	90 (3-17/32)	3 (1/8)	37.8 (1-1/2)	64 (2-17/32)	10 (13/32)	M10 (13/32)	90 (3-17/32)	3 (1/8)
250	52.3 (2-1/16)	68 (2-21/32)	13 (1/2)	M12 (15/32)	100 (3-15/16)	4 (5/32)	52.3 (2-1/16)	68 (2-21/32)	13 (1/2)	M12 (15/32)	100 (3-15/16)	4 (5/32)
315	52.3 (2-1/16)	68 (2-21/32)	13 (1/2)	M12 (15/32)	100 (3-15/16)	4 (5/32)	52.3 (2-1/16)	68 (2-21/32)	13 (1/2)	M12 (15/32)	100 (3-15/16)	4 (5/32)

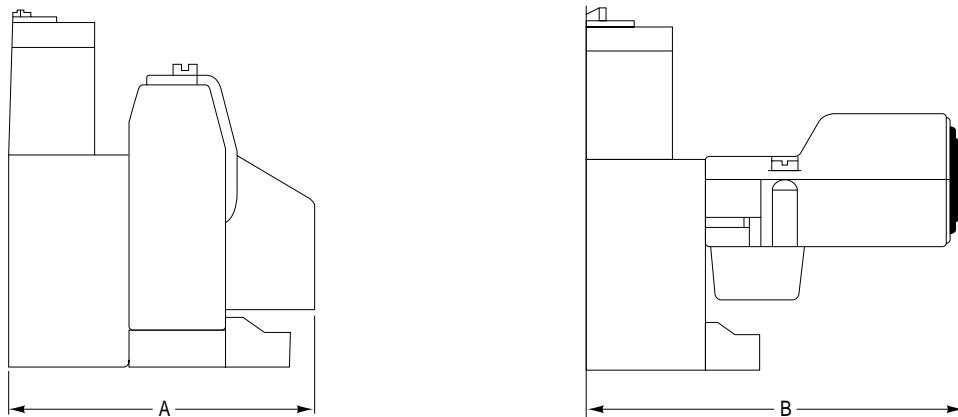
Auxiliary Contacts



Approximate Dimensions—mm (inches)

Dimensions are not intended to be used for manufacturing purposes.

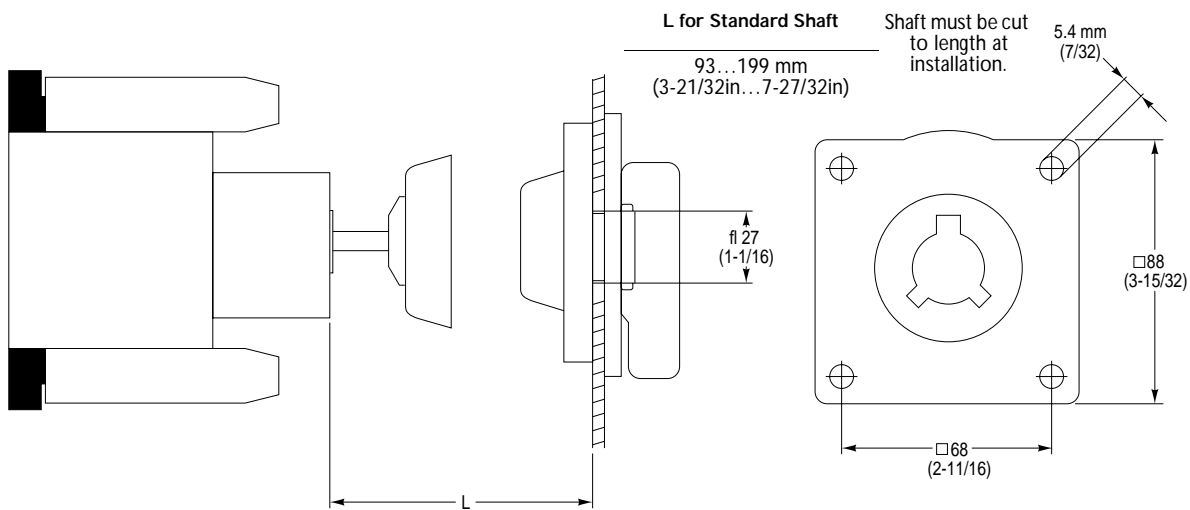
Terminal Cover



Switch Body 194E-F

	A	B
125	76.2 (3)	95 (3-3/4)
160	76.2 (3)	95 (3-3/4)
250	88 (3-15/32)	109.5 (4-5/16)
315	88 (3-15/32)	109.5 (4-5/16)

Door Clutches



IEC Load Switches

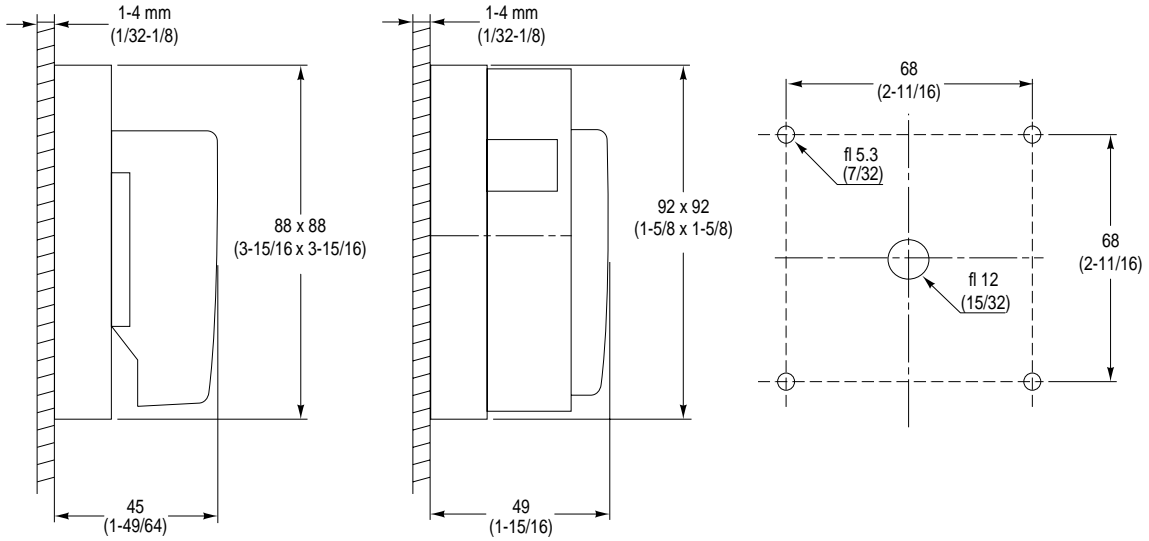
Bulletin 194E

125 Amps to 315 Amps

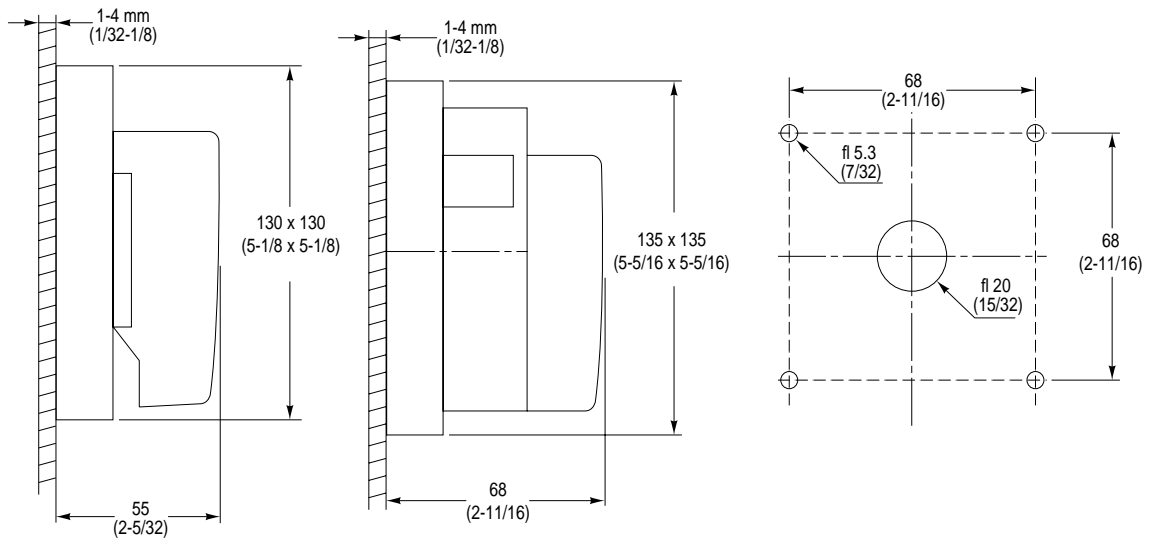
Approximate Dimensions—mm (inches)

Dimensions are not intended to be used for manufacturing purposes.

Actuators (Type 194E-HE-8A-8I-8G-8N)



Actuators (Type 194E-HE-13A-13I-13G-13N)



Additional Name Plate

Frame and legend snaps on to actuator bezel. Fits size 8 and 13 actuators.

