




Bulletin 194 Line Control, Load, and Disconnect Switches Product Overview

Bulletin 194 Line Overview

			
	Bulletin 194E	Bulletin 194L	Bulletin 194R Next Generation
Product Type	Inductive load-rated load switch	Inductive load-rated control/load switch	Fused and non-fused rotary disconnects
Current Range	16...315 A	12...40 A	30 A, 60 A
Main Applications	<ul style="list-style-type: none"> UL, CSA ratings "suitable as at-motor disconnect" 	<ul style="list-style-type: none"> UL, CSA ratings "suitable as at-motor disconnect" 	<ul style="list-style-type: none"> UL 98 ratings "suitable as service entrance disconnecting means" UL 508, CSA ratings "suitable as at-motor disconnect"
Functionality	<ul style="list-style-type: none"> 3- or 6-pole switch configurations for OFF-ON or changeover applications (16...100 A switches) 3- or 4-pole switch configurations for OFF-ON or changeover applications (125...315 A switches) 	<ul style="list-style-type: none"> 1- to 6-pole multifunction switch control configurations for OFF-ON, changeover, Star-Delta (Wye-Delta), reversing, ammeter, voltmeter, and step switch applications Also available in custom control configurations up to 16 circuits for any unique control switching application. 	<ul style="list-style-type: none"> 3- or 4-pole fusible or non-fusible disconnect for standard OFF-ON or emergency stop in a main panel disconnect application 4th pole available as modular accessory Test mode switch position
Mounting Styles	Front/door or base/DIN Rail mounting	Front/door or base/DIN Rail mounting	Base/DIN Rail mounting
Handles	<ul style="list-style-type: none"> Handle colors in grey/black and red/yellow and padlockable versions Legend plates available in 0-I international markings and text styles 	<ul style="list-style-type: none"> Uniformly styled handles: selector knob, disk style, rectangular style, and key-operated versions (Type 1/12/3R, IP66) Handle colors in grey/black and red/yellow and padlockable versions Legend plates available in 0-I international markings and text styles 	<ul style="list-style-type: none"> Available in rotary styles, UL Type 1/3R/4/4X/12, IP66, standard, or test mode versions Handle colors in black and red/yellow and padlockable versions 30 A/60 A legend markers (optional) — uses Cat. No. 1492-MS6X12 markers
Open Switch or Enclosed	<ul style="list-style-type: none"> Open switch (large frame Bul. 194E — open style only) Enclosed: IP66 thermoplastic enclosure or UL/CSA rated enclosure 	<ul style="list-style-type: none"> Open switch 	<ul style="list-style-type: none"> Open switch Enclosed: UL/CSA rated enclosure
UL/CSA Electrical Ratings:			
Rated Voltage U_e	600V AC	600V AC	600V AC
Rated Current I_e	16...315 A @ 600V	12...40 A @ 600V	30 A, 60 A @ 600V
Rated Power P_e [FLA]	Varies w/ 1- or 3-phase switch, voltage	Varies w/ 1- or 3-phase switch, voltage	Varies w/ 1- or 3-phase switch, voltage
Short-Circuit Ratings	5 kA	5 kA	200 kA
Switching Rate [ops/h]	120	120	180
Mechanical Life [ops]	<ul style="list-style-type: none"> 0.2 million (16...100 A switches) 0.1 million (125 A and 160 A switches) 0.075 million (250 A and 315 A switches) 	<ul style="list-style-type: none"> 1 million 	<ul style="list-style-type: none"> 10 000
IEC Rated Current I_e			
AC-1	16...315 A @ 600V	12...40 A @ 600V	20...63 A @ 690V
AC-21A	16...315 A @ 600V	12...40 A @ 600V	Varies w/ 1- or 3-phase switch, voltage
AC-22A	16...315 A @ 600V	12...40 A @ 600V	Varies w/ 1- or 3-phase switch, voltage
Ambient Operational Temp.	-25...+60 °C (-13...+140 °F)	-25...+60 °C (-13...+140 °F)	-20...+60 °C (-4...+140 °F)
Ambient Enclosed Temp.	-20...+60 °C (-4...+140 °F)	-20...+60 °C (-4...+140 °F)	-20...+60 °C (-4...+140 °F)
Ambient Storage Temp.	-40...+80 °C (-40...+176 °F)	-40...+80 °C (-40...+176 °F)	-40...+65 °C (-40...+149 °F)
Protection class per IEC 529	<ul style="list-style-type: none"> Switch bodies: IP2 	<ul style="list-style-type: none"> Switch bodies: IP2 	<ul style="list-style-type: none"> Switch bodies: IP2 Fuse carriers: IP30
Optional Accessories	<ul style="list-style-type: none"> IP66 handles Multi-length shafts and shaft extension kits Terminal covers 	<ul style="list-style-type: none"> IP66 handles Multi-length shafts and shaft extension kits Terminal covers 	<ul style="list-style-type: none"> IP66 handles Multi-length shafts Auxiliary contacts Terminal covers NFPA 79 internal handle
Standards/Certifications	<ul style="list-style-type: none"> UL 508 CSA C22.2, No. 14 IEC 60947-3 Low Voltage Switchgear and Controlgear part 3 CE 	<ul style="list-style-type: none"> UL 508 CSA C22.2, No. 14 IEC 60947-3 Low Voltage Switchgear and Controlgear part 3 CE 	<ul style="list-style-type: none"> UL 98, UL 508 CSA C22.2, No. 14 IEC 60947-3 Low Voltage Switchgear and Controlgear part 3 CE
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Bulletin 194E
IEC Load Switches
 Overview

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Bulletin 194E IEC Load Switches

- Suitable as At-Motor Disconnect Switch (UL508)
- 16, 25, 32, 40, 63, 80, 100 A Inductive Load-Rated Switches
- IP66/ UL Type 1/3/3R/12 Operating Handles
- IP2LX Finger-Safe Terminals
- 3- and 6-Pole Versions; Add-on Accessory Poles to Make 4-, 5-, 7- and 8-Pole Units
- Front/Door or DIN/Base Mounting Configurations
- Available in OFF-ON and Changeover Configurations
- 3- and 6-Pole Enclosed Switches
- Optional Thermoplastic Enclosures
- Positive-Guided Actuation
- Padlockable Handles Available (up to 3 padlocks)

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Standards Compliance

IEC 60947-1
 IEC 60947-3 Low-voltage switchgear and control gear part 3
 UL 508
 CSA: C22.2 No. 14

Certifications

UL Listed (File No. E14841, Guide NLRV)
 CSA Certified (LR 13908)
 IEC, VDE and BS
 CE
 RINA — Italian Naval Registry

Description

Bulletin 194E load switches are designed for use as local motor isolation and disconnect switch applications. Available with 3- and 6-pole versions with add-on additional poles, grounding and neutral terminals and auxiliary contacts, Bulletin 194Es share the same 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, valves, magnetic starters, relays, and motors. Handles featuring marked legend plates are available in Selector-Knob, Disk-Style, Rectangular-Style and Key-Operated versions. Selector-Knob versions are available in three sizes. Most handles are available in colors of Grey/Black or Red/Yellow and have padlockable versions.

Cat. No. Explanation
 194E 16...100 A Small-Frame Switches (Handles listed on page 2-358)



3-Pole Base Mount



3-Pole Front Mount



6-Pole Base Mount



6-Pole Front Mount

194E - A 32 - 1753
 a b c

Installation Type	
Code	Description
A	Base/DIN Mounting
E	Front/Door Mounting

Load Size	
Code	Description
16	16 A
25	25 A
32	32 A
40	40 A
63	63 A
80	80 A
100	100 A

Function/Circuit Diagram Ref. #			
Code	Function	Description	Circuit Diagram Ref. #
1753	OFF/ON	3-Pole, 2-Position (90°)	1753
1756	OFF/ON	6-Pole, 2-Position (90°)	1756
1783	OFF/ON	3-Pole, 2-Position (90° - inverted)	1783
3753	Changeover	3-Pole, 3-Position (90°)	3753

Frequently Ordered* OFF-ON 3-Pole Switch (includes operating shaft) (Handles listed on page 2-358)

Function Switching Angle	No. of Circuits	Contact Target Configuration X = Contact Closed O = Contact Open		Rated Current [A]	AC23A Rated Power [kW] at 690V AC 50 Hz	Hp @ 480V AC 60 Hz 3 Ø	OFF-ON 3-Pole Switch (includes operating shaft)	
		Handle Position					Base-Mounted	Front-Mounted
		OFF/0	ON/1				Cat. No.	Cat. No.
	1	O	X	16	7.5	7.5	194E-A16-1753	194E-E16-1753
	2	O	X	25	11	10	194E-A25-1753	194E-E25-1753
	3	O	X	32	15	15	194E-A32-1753	194E-E32-1753
		O	X	40	18.5	20	194E-A40-1753	194E-E40-1753
		O	X	63	22	25	194E-A63-1753	194E-E63-1753
		O	X	80	37	40	194E-A80-1753	194E-E80-1753
		O	X	100	45	50	194E-A100-1753	194E-E100-1753







Frequently Ordered* OFF-ON 6-Pole Switch (includes operating shaft) (Handles listed on page 2-358)

Function Switching Angle	No. of Circuits	Contact Target Configuration X = Contact Closed O = Contact Open		Rated Current [A]	AC23A Rated Power [kW] at 690V AC 50 Hz	Hp @ 480V AC 60 Hz 3 Ø	OFF-ON 6-Pole Switch (includes operating shaft)	
		Handle Position					Base-Mounted	Front-Mounted
		OFF/0	ON/1				Cat. No.	Cat. No.
	1	O	X	16	7.5	7.5	194E-A16-1756	194E-E16-1756
	2	O	X	25	11	10	194E-A25-1756	194E-E25-1756
	3	O	X	32	15	15	194E-A32-1756	194E-E32-1756
	4	O	X	40	18.5	20	194E-A40-1756	194E-E40-1756
	5	O	X	63	22	25	194E-A63-1756	194E-E63-1756
	6	O	X	80	37	40	194E-A80-1756	194E-E80-1756
		O	X	100	45	50	194E-A100-1756	194E-E100-1756

* See Catalog No. Explanation for more load size and change-over switch options.

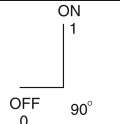

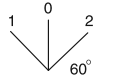
Bulletin 194E
IEC Load Switches
 Product Selection, Continued

Bulletin 194E/194L Handles (for use with Bulletin 194E Switches)

Color	Handles (Includes Legend Plate and Control Knob)			
Red/Yellow (Emergency Stop colors)	 Type I (IP66, UL Type 3/3R/12)	 Type L (IP66, UL Type 3/3R/12) With Locking For One Padlock (Padlock Not Included)	 Type N (IP66, UL Type 3/3R/12)	Bulletin 194L handles are available in both screw fixing and 22.5 mm mounting hole style.
Black/Grey (Standard Operation colors)	 Type A (IP66, UL Type 3/3R/12)	 Type E (IP66, UL Type 3/3R/12) With Locking For One Padlock (Padlock Not Included)	 Type G (IP66, UL Type 3/3R/12)	

Cat. No. Explanation

194L - HE 6 N - 175
 a b c d

a				c			d		
Code	Installation Type			Code	Legend Plate Type	Color	Code	Description	Legend Marking
HC	22.5 mm Mounting Hole Style Handle* (for use with front-mounted switches)			A	Square	Grey/Black	175	O-I	
HE	Screw-Mounting Handle (for use with front- and base-mounted switches)			I	Square	Red/Yellow	175I	OFF-ON	
4	A, E, I, L*	48 mm x 48 mm (1-57/64 in. x 1-57/64 in.)	194E-16...63 A	E	Square/Lockable	Grey/Black	350	1-0-2 (Reversing)	
	S	48 mm x 62 mm (1-57/64 in. x 2-7/16 in.)	194E-25...63 A	L	Square/Lockable	Red/Yellow		375	0-1-2 (90 degrees) (Changeover)
6	A, E, I, L	64 mm x 64 mm (2-33/64 in. x 2-33/64 in.)	194E-25...100 A	G	Disc/Lockable (up to 3 locks)	Grey/Black	178		O-I
	G, N*‡	67 mm x 67 mm (2-41/64 in. x 2-41/64 in.)	194E-25...100 A	N	Disc/Lockable (up to 3 locks)	Red/Yellow		178I	OFF-ON
8	A, I	64 mm x 78 mm (2-33/64 in. x 3-5/64 in.)	194E-25...100 A	S	Large Square with extra legend area	Grey/Black			
	G, N	88 mm x 88 mm (3-15/32 in. x 3-15/32 in.)	194E-40...100 A						
8	A, I	88 mm x 88 mm (3-15/32 in. x 3-15/32 in.)	194E-40...100 A						
	G, N	90 mm x 90 mm (3-35/64 in. x 3-35/64 in.)	194E-40...100 A						

* For 22.5 mm mounting hole style handle (code HC), select either handle type A, E, I, or L with 48 x 48 mm legend plate size (code 4) only or handle type G or N with 64 x 64 mm legend plate size (code 6) only.
 † Order 194E- 16A Type G and N handles as Cat. No. 194E-HE4N-175 or 194E-HE4G-175
 ‡ Use Type G and N with ON-OFF function only (selection "d", code -175)

Frequently Ordered 194L Handles — OFF-ON Base/Front-Mounted 3- and 6-Pole Switch Handles (Switch Body listed on page 2-357)

Handle Type	Degree of Protection	Handle Color	Bezel Plate Size	For Use With	Legend Plate Marking	Cat. No.
E	IP66 (UL Type 1) (UL Type 3/3R/12)	Black/Grey	48 mm x 48 mm (1-57/64 in. x 1-57/64 in.)	194E-16...63 A 194L-E12...40 A, -1753 194L-A12...40 A, -1753	0-1	194L-HE4E-175
					OFF-ON	194L-HE4E-175I
L	IP66 (UL Type 1) (UL Type 3/3R/12)	Red/Yellow	48 mm x 48 mm (1-57/64 in. x 1-57/64 in.)	194E-16...63 A 194L-E12...40 A, -1753 194L-A12...40 A, -1753	0-1	194L-HE4L-175
					OFF-ON	194L-HE4L-175I
G	IP66 (UL Type 3/3R/12)	Black/Grey	54 mm x 54 mm (2-1/8 in. x 2-1/8 in.)	194E-16 A	0-1 OFF-ON	194E-HE4G-175
			67 mm x 67 mm (2-41/64 in. x 2-41/64 in.)	194E-25...100 A 194L-E12...40 A, -1753 194L-A12...40 A, -1753	0-1 OFF-ON	194L-HE6G-175
			88 mm x 88 mm (3-15/32 in. x 3-15/32 in.)	194E-40...100 A	0-1 OFF-ON	194L-HE8G-175
N	IP66 (UL Type 3/3R/12)	Red/Yellow	54 mm x 54 mm (2-1/8 in. x 2-1/8 in.)	194E-16 A	0-1 OFF-ON	194E-HE4N-175
			67 mm x 67 mm (2-41/64 in. x 2-41/64 in.)	194E-25...100 A 194L-E12...40 A, -1753 194L-A12...40 A, -1753	0-1 OFF-ON	194L-HE6N-175
			88 mm x 88 mm (3-15/32 in. x 3-15/32 in.)	194E-40...100 A	0-1 OFF-ON	194L-HE8N-175
L	IP66 (UL Type 3/3R/12)	Red/Yellow	48 mm x 48 mm (1-57/64 in. x 1-57/64 in.)	194L-E12...40 A, -1753	0-1	194L-HC4L-175
					OFF-ON	194L-HC4L-175I

Bulletin 194E Open and Enclosed Switch Kits


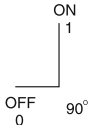

Cat. No. Explanation

194E - Y 32 - 1753 - 6N
 a b c d


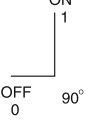
a		b		c		d	
Code	Installation Type	Code	Load Size	Code	Configuration	Code	Handle Style
A	Base/DIN Mounting, open type switch	16	16 A*	1753	3-Pole OFF/ON (90°)	4N	194E-HE4N-175 (use with 16 A Switch)
E	Front/Door Mounting, open type switch	25	25 A	1756	6-Pole OFF/ON (90°)	4G	194E-HE4G-175 (use with 16 A Switch)
Y	Enclosed Base Mounting Switch With Handle (Uses IP66 ABS thermoplastic enclosure)	32	32 A			4A	194L-HE4A-175 (use with 16...100 A Switch)
		40	40 A			6N	194L-HE6N-175 (use with 25...100 A Switch)
		63	63 A			6G	194L-HE6G-175 (use with 25...100 A Switch)
		80	80 A			6A	194L-HE6A-175 (use with 25...100 A Switch)
		100	100 A				

* For 16 A Enclosed Switch: use "16M" (3-pole enclosure has M16/20 knockouts, 6-pole 16 A enclosure has M25/32 knockouts). For 25/32 A Enclosed Switch with M20/25 metric knockouts: use "25M" or "32M".



Frequently Ordered Switch Kits — OFF-ON Front- and Base-Mounted 3-Pole Switch With Cat. No. 194L-HE6N-175 Red/Yellow Handle

	Function Switching Angle	Rated Current [A]	AC23A Rated Power [kW] at 690V AC	HP @ 480V AC 60 Hz, 3 Ø	Base-Mounted Cat. No.	Front-Mounted Cat. No.
		25	7.5	10	194E-A25-1753-6N	194E-E25-1753-6N
		32	11	15	194E-A32-1753-6N	194E-E32-1753-6N
		63	18.5	25	194E-A63-1753-6N	194E-E63-1753-6N

Base-Mounting Distribution Switches (handles are pre-assembled to switch)

	Function Switching Angle	No. of Circuits	Contact Target		Handle Color	Legend Plate Marking	Lockable (One Padlock)	Rated Current [A]	AC23A Rated Power [kW] at 690V AC	Hp @ 480V AC 60 Hz, 3 Ø	Cat. No.
			OFF/0	ON/1							
		1 2 3	O O O	X X X	Red/Yellow	0-1	Yes	25	11	—	194E-A25-1753-R
					Black/Grey	0-1	No				194E-A25-1753-Q
					Red/Yellow	0-1	Yes	32	15	—	194E-A32-1753-R
					Black/Grey	0-1	No				194E-A32-1753-Q

Frequently Ordered Enclosures — 3- and 6-Pole Enclosed Switches With Cat. No. 194L-HE6N-175 Red/Yellow Operating Handles

	No. of Poles	Function Switching Angle	Rated Current [A]	Handle Color	Cat. No.
	3		16	Red/Yellow	194E-Y16-1753-4N
			25		194E-Y25-1753-6N
			32		194E-Y32-1753-6N
			40		194E-Y40-1753-6N
	6		25	Red/Yellow	194E-Y25-1756-6N

Uses Base-Mounted Switches

Bulletin 194E
IEC Load Switches
Product Selection, Continued

Bulletin 194E Enclosed Disconnect Load Switches with 194R Handles (with Defeater, suitable for 3 padlocks)



Cat. No. Explanation **

194E - FA 32 E - P11 - P11 - 6
a b c d d e

Code	Enclosure Type
FA	UL Type 3/4/12, IP66 Painted Steel, Hinged, for 16...100 A switches
GA	UL Type 3/4/12, IP66 Painted Steel, Hinged, in 6 x 6 x 4 in. size, for 16...32 A 3-pole switches ‡
CA	UL Type 4/4X, IP66 Stainless Steel, Hinged, for 16...100 A switches
DA	UL Type 4/4X, IP66 Stainless Steel, Hinged, in 6 x 6 x 4 in. size, for 16...32 A 3-pole switches ‡
KA	UL Type 3/4/4X, IP66 Non-Metallic, for 16...100 A switches
AA	UL Type 1, IP54 Painted Steel, Hinged, for 16...100 A switches (Same enclosure as FA without gasketing)

Code	Load Size
16	16 A
20	25 A
32	32 A
40	40 A
63	63 A
80	80 A
00	100 A

Code	Handle Color (194R-HS _ _)
Blank	Grey/Black
E	Red/Yellow

Code	Left Side + Right Side Modifications*
Blank	No Option
-P11	1 N.O. + 1 N.C. Auxiliary Contacts
-PL11	1 N.O. + 1 N.C.L.B. Auxiliary Contacts
-P22	2 N.O. + 2 N.C. Auxiliary Contacts
-PD10	1 N.O. E.B.
-NP	Additional Pole
-PE	Grounding Pole
-TN	Neutral Pole

Code	Switch Type
Blank	3-pole switch
-6	6 Pole switch§

* Modifications: Up to two suffix codes may be added to an enclosed disconnect load switch. See Guidelines, page 6-73. If only one accessory is chosen, it is mounted on the left side of the switch.
 ** To order the cat. no. 194E-FA40/FA63 or 194E-CA40/CA63 in the larger 80/100A sized enclosure, add an "X" after the handle color. For example, Cat. No. **194E-FA40E** becomes Cat. No. **194E-FA40EX**.
 ‡ GA and DA type enclosures: use with 3-pole 16...32 A switches only.
 § Special order; allow for longer delivery time.

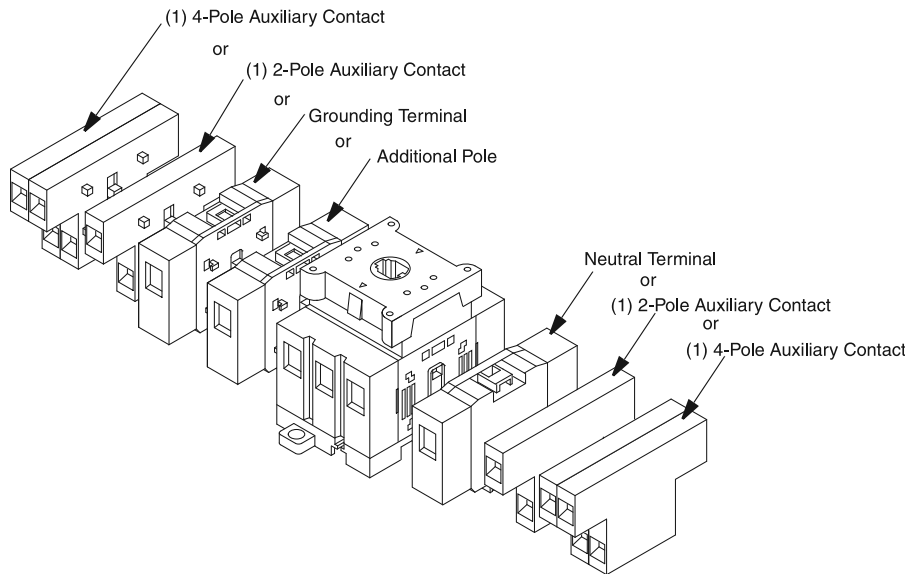
Frequently Ordered Bulletin 194E Enclosed Switches with Bulletin 194R Handle

Description	Rated Current (A)	Dimension Reference	Handle Color	Cat. No.*
Stainless steel enclosure, IP66/Type 4/4X	25	A1	Black	194E-CA20
			Red/Yellow	194E-CA20E
	32	A1	Black	194E-CA32
			Red/Yellow	194E-CA32E
	63	A1	Black	194E-CA63
			Red/Yellow	194E-CA63E
	25	A1	Black	194E-FA20
			Red/Yellow	194E-FA20E
	32	A1	Black	194E-FA32
			Red/Yellow	194E-FA32E
	40	A1	Black	194E-FA40
			Red/Yellow	194E-FA40E
	25	C1	Black	194E-KA20
			Red/Yellow	194E-KA20E

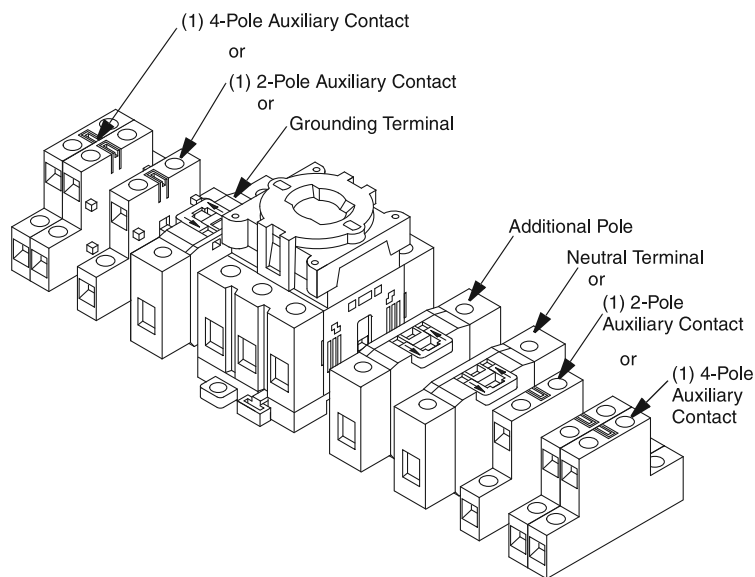
* Modifications: Up to two suffix codes may be added to an enclosed disconnect load switch. See Guidelines, page 2-361. If only one accessory is chosen, it is mounted on the left side of the switch.

IEC Load Switch Accessories

194E-E16...100 A, Front/Door Mounting



194E-A16...100 A, Base/DIN Rail Mounting




Accessory Configuration Guidelines


Accessory drawings represent modular, snap-on features of Bulletin 194E accessories. They are not suggesting possible accessory configurations. Use the following guidelines for choosing 194E accessory configurations.


- Up to two accessories may be added to the Bulletin 194E switch body.
- For the 194E 25, 32, 40, or 63 A switches, the early break auxiliary contact (-PD10) may only be used in the following configurations:
 - As a single unit on either side of the switch
 - As a single unit on a side when used with a switch + 4th pole (-NP)
 - As a single unit on a side when used with a switch + ground terminal (-PE)
 - As a single unit on a side when used with a switch + neutral terminal (-TN)
 - No other auxiliary contact may be used in combinations with an early break auxiliary contact (-PD10)
- Other combinations of auxiliary contacts are permissible.
- For the 194E 80 and 100 A switches, any combination of auxiliary contacts, 4th pole, ground terminal, neutral terminal, and -PD10 is permissible.


Bulletin 194E
IEC Load Switches
Accessories, Continued

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Auxiliary Contacts	No. of Auxiliary Contacts	For Use With	Cat. No.*
	1 N.O. + 1 N.C.	194E-A16...100	194E-A-P11
		194E-E16...100	194E-E-P11
	1 N.O. + 1 N.C.L.B.	194E-A16...100	194E-A-PL11
		194E-E16...100	194E-E-PL11
	2 N.O. + 2 N.C.	194E-A16...100	194E-A-P22
		194E-E16...100	194E-E-P22
	1 N.O.E.B.	194E-A16	194E-A16-PD10
		194E-A25...100	194E-A-PD10
		194E-E16	194E-E16-PD10
			194E-E25...100


Additional Pole, 1 N.O.	For Use With	Cat. No.*
	194E-A16	194E-A16-NP
	194E-A25	194E-A25-NP
	194E-A32	194E-A32-NP
	194E-A40	194E-A40-NP
	194E-A63	194E-A63-NP
	194E-A80	194E-A80-NP
	194E-A100	194E-A100-NP
	194E-E16	194E-E16-NP
	194E-E25	194E-E25-NP
	194E-E32	194E-E32-NP
	194E-E40	194E-E40-NP
	194E-E63	194E-E63-NP
	194E-E80	194E-E80-NP
194E-E100	194E-E100-NP	


Earthing/Grounding Terminal	For Use With	Cat. No.*
	194E-A16	194E-A16-PE
	194E-A25/32	194E-A32-PE
	194E-A40/63	194E-A63-PE
	194E-A80/100	194E-A100-PE
	194E-E16	194E-E16-PE
	194E-E25/32	194E-E32-PE
	194E-E40/63	194E-E63-PE
	194E-E80/100	194E-E100-PE

Neutral Terminal	For Use With	Cat. No.*
	194E-A16	194E-A16-TN
	194E-A25/32	194E-A32-TN
	194E-A40/63	194E-A63-TN
	194E-A80/100	194E-A100-TN
	194E-E16	194E-E16-TN
	194E-E25/32	194E-E32-TN
	194E-E40/63	194E-E63-TN
	194E-E80/100	194E-E100-TN

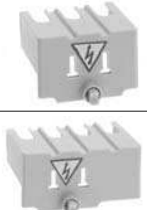
* A maximum of two side-mount accessories may be added to a 194E switch (one on each side).

6-Pole Mechanical Coupling**	For Use With	Cat. No.
	194E-16	194E-G3821
	194E-25/32	194E-G3660
	194E-40/63	194E-G3661
	194E-80/100	194E-G3662

ABS Thermoplastic Enclosure — IP66, For High-Impact Applications (grounding screw included)	No. of Poles	For Use With	Cat. No.
	3...4	194EA-25/32	194L-G3572
	3...4	194EA-40/63	194E-G3663
	6	194EA-25/32	
	6	194EA-40/63	194E-G3665
	3...4	194EA-80/100	

Noryl Thermoplastic Enclosures — IP66, For Corrosion-Prone Applications (grounding screw included)	No. of Poles	For Use With	Cat. No.
	3...4	194EA-25/32	194L-G3576
	6	194EA-25/32	194E-G3664
	3...4	194EA-40/63	
	6	194EA-40/63	194E-G3666
	3...4	194EA-80/100	

Description	For Use With	Pkg. Qty.	Cat. No.
Additional Earth/Ground and Neutral Terminals — For Thermoplastic Enclosure	194L-G3663, G3664, G3665, G3666	5	194E-G3673
	194L-G3572 and G3676	5	194E-G3653



Terminal Covers	No. of Poles	For Use With	Cat. No.
	1	194E-16	194E-16-C1
	3	194E-16	194E-16-C3
		194E-25/32	194E-25-C3
		194E-40/63	194E-40-C3
		194E-80/100	194E-80-C3
4	194E-25/32	194E-25-C4	
	194E-40/63	194E-40-C4	
	194E-80/100	194E-80-C4	

* User must order (2) Bulletin 194E 3-Pole Switches separately.

** Coupling for changeover switch not available. Changeover switch must be ordered as a factory-assembled device (e.g., 194E-A25-3753).

Bulletin 194E
IEC Load Switches
Accessories, Continued


Operating Shafts

	Length	Construction	Pkg. Qty.	Cat. No.
 Standard Shaft (for front-mount switches)	34 mm (1-11/32 in.)	Plastic	5	194L-G3380
		Metal		194E-G3688
 Interlock Shaft (for base-mount switches)	44 mm (1-47/64 in.) (Standard Length)	Plastic	5	194L-G2830
		Metal		194E-G3687
	52 mm (2-3/64 in.)	Plastic		194L-G3194
		Metal		194E-G3707
	57 mm (2-15/64 in.)	Plastic		194L-G3195


Bulletin 194E Load Switch Cat. No. Shaft Selection for use with 194E and 194L Thermoplastic Enclosures

Rated Current [A]	3-Pole Switches (-1753 suffix)		6-Pole Switches (-1756 suffix)		Changeover Switches (-3753 suffix)	
	194E-E...	194E-A...	194E-E...	194E-A...	194E-E...	194E-A...
16	plastic shaft (Cat. No. 194L-G3380)	plastic shaft (Cat. No. 194L-G2830)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)
25	plastic shaft (Cat. No. 194L-G3380)	plastic shaft (Cat. No. 194L-G2830)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)
32	plastic shaft (Cat. No. 194L-G3380)	plastic shaft (Cat. No. 194L-G2830)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)
40	plastic shaft (Cat. No. 194L-G3380)	plastic shaft (Cat. No. 194L-G2830)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)
63	plastic shaft (Cat. No. 194L-G3380)	plastic shaft (Cat. No. 194L-G2830)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)
80	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)
100	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)	metallic shaft (Cat. No. 194E-G3688)	metallic shaft (Cat. No. 194E-G3687)



Shaft Extension Kits

	Length	For Use With	Pkg. Qty.	Cat. No.
 Shaft Extension	24 mm (15/16 in.) Per Extension	194E-A...	10	194L-G2853

Metal Shaft Extensions — With Padlock Provision in OFF Position




	Length	For Use With	Pkg. Qty.	Cat. No.
	110...235 mm (4-21/64...9-1/4 in.)	194E-A...	1	194L-G3393
	230...350 mm (9-3/64...13-51/64 in.)			194L-G3394

Metal Shaft Adaptor Kits — For use with 194R Type 4/4X Handles



		For Use With	Pkg. Qty.	Cat. No.
	Metal shaft adaptor kits — for use with 194R Type 4/4X handles kit includes bezel adapter and 194R-R1 operating shaft. Operating handle (Cat. No. 194R-HS4) must be ordered separately.	194E-A...	1	194E-G3675
	Metal Shaft Extension For modification of Cat. No. 194L-G3393/ G3394 when used with any switches other than 2-position, 90° rotation.	194E-A...	10	194L-G3399




Other Accessories

194L/194E 22.5 mm Mounting Hole Style Handles (Type B, D) (For Front-Mounted Switches)

	Description	Cat. No.
 Type B	22.5 mm Mounting Hole Style Handles (IP65) Handle Style: Knob Lever with Latch (For Use With 194E-E25...100 A, -1753) or 194L-E12...40 A	194L-HCB-001
 Type D	22.5 mm Mounting Hole Style Handles Key Removal Position (Includes Latch) For Use With 194L-E 12...40 A, 194E-E16...63 A, -1753	 194L-HCDC-001
	22.5 mm Mounting Hole Style Handles Key Removal Position (Includes Latch) For Use With 194L-E 12...40 A, 194E-E16...63 A, -1753	 194L-HCDD-001
	22.5 mm Mounting Hole Style Handles Key Removal Position (Includes Latch) For Use With 194L-E 12...40 A, 194E-E16...63 A, -1753	 194L-HCDG-001

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Accessory Description	Pkg. Qty.	Cat. No.
 Locking Ring Wrench For 22.5 mm Mounting Hole Style Handles (For use with front-mounted switches)	1	800E-AW2
 Control Knob, Black, with Locking Facility (Use 1/4 in. max. hasp lock.) (Locks in 0°, 90°, 180°, and 270° positions)	10	194L-G2864N
Control Knob, Red, with Locking Facility (Use 1/4 in. max. hasp lock)		194L-G2864R

Accessory Description	Pkg. Qty.	Cat. No.
 Control Knob, Type P Control Knob, Black, 31 mm (1-7/32 in.) Diameter	5	194L-G2888N
Control Knobs, Type P Control Knob, Red, 31 mm (1-7/32 in.) Diameter		194L-G2888R
 Standard Black Control Knob	5	194L-G3154N
 Rectangular Front Frame		194L-G3155N
		194L-G3154R
		194L-G3155R
Rectangular front frame with blank nameplate L = 48 mm x 62 mm (1-57/64 in. x 2-7/16 in.)	10	194L-G3196
Rectangular front frame with blank nameplate L = 64 mm x 78 mm (2-33/64 in. x 3-5/64 in.)		194L-G3197

Bulletin 194E
IEC Load Switches
 Other Accessories, Continued

Additional Legend Plates/Frames

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	Color	Legend Size	For Use With	Pkg. Quantity	Legend Plate Marking	
					Legend Plate Marking	Cat. No.
	Black/Grey	19.2 mm x 49 mm 3/4 in. x 1-59/64 in.	Size 6 Type G and N style handles, Cat. Nos. 194L-HE6G/N	5	(Blank)	194L-G3667
					MAIN SWITCH	194L-G3667A
					HAUPTSCHALTER	194L-G3667B
					INTERR. PRINCIPALE	194L-G3667C
					INTERR. PRINCIPAUX	194L-G3667D
					INTERR. PRINCIPAL	194L-G3667E
					HUVUDBRYTARE	194L-G3667F
					WAHLSCHALTER	194L-G3667G
					EMERGENCY OFF	194L-G3667H
						Black/Grey
MAIN SWITCH	194L-G3515A					
HAUPTSCHALTER	194L-G3515B					
INTERR. PRINCIPALE	194L-G3515C					
INTERR. PRINCIPAUX	194L-G3515D					
INTERR. PRINCIPAL	194L-G3515E					
HUVUDBRYTARE	194L-G3515F					
WAHLSCHALTER	194L-G3515G					
EMERGENCY OFF	194L-G3515H					

Legend Plates with Bezel	Legend Plate Color	Pkg. Quantity	Legend Plate Marking *		
			0-1	OFF-ON	Blank Legend Plate
			Cat. No.	Cat. No.	Cat. No.
	Silver	10	194L-A4-175	194L-A4-175I	194L-A4-000
			194L-A6-175	194L-A6-175I	194L-A6-000
			194L-A8-175	194L-A8-175I	194L-A8-000
	Yellow		194L-I4-175	194L-I4-175I	194L-I4-000
	194L-I6-175		194L-I6-175I	194L-I6-000	
	194L-I8-175		194L-I8-175I	194L-I8-000	

* Custom-Engraved legend plates available. To order, use publication 194L-PP002_-EN-P.

Shaft for Enclosures

Enclosure Type	Suitable For			Suitable For		
	194L (Base-Mounted Switches)	No. of Contacts	Shaft	Use with 194E Switch	No. of Poles	Shaft Required
194L-G3572	194L-A12(16)	1/2	194L-G3195	194E-A25(32)	3 and 4	194L-G3194
194L-G3576	194L-A12(16)	3/4	Standard			
(95 x 150 x 86 mm)	194L-A20(25)	1/2	194L-G3194			
	194L-A20(25)	3/4	Standard			
194L-G3573	194L-A12(16)	5/6	194L-G3195			
194L-G3577	194L-A12(16)	7/8	194L-G3194			
(95 x 150 x 111 mm)	194L-A12(16)	9/10	Standard	—	—	—
	194L-A20(25)	5/6	194L-G3194			
	194L-A20(25)	7/8	Standard			
194E-G3663				194E-A40(63)	3 and 4	194L-G3194
194E-G3664	—	—	—	194E-A25(32)	6	Standard
(125 x 180 x 105 mm)						
194E-G3665				194E-A80(100)	3 and 4	194E-G3707
194E-G3666	—	—	—	194E-A40(63)	6	Standard
(175 x 230 x 120 mm)						

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Accessory Combinations in Enclosure

Enclosure Type	Switch	No. of Poles	Shaft	Aux. Contacts (single or double)	Additional Pole Block	On Switch		On Enclosure	
						Neutral Terminal Block	Ground Terminal Block	Neutral Terminal Block	Ground Terminal Block
194L-G3572 (ABS) 194L-G3576 (Noryl)	194E-A25(32)	3	194L-G3194	X	X				
				X		X			
				X			X		
					X		X		
				X				X	
				X					X
									X
194E-G3663 (ABS) 194E-G3664 (Noryl)	194E-A40(63)	3	194L-G3194	X	X			X	X
				X		X		X	X
				X			X	X	X
					X		X	X	X
						X	X	X	X
					X		X	X	X
(125 x 180 x 105 mm)	194E-A25(32)	6	194E-G3707					X	X
								X	X
194E-G3665 (ABS) 194E-G3666 (Noryl)	194E-A80(100)	3	194E-G3707	X	X			X	X
				X		X		X	X
				X			X	X	X
					X		X	X	X
						X	X	X	X
					X		X	X	X
(175 x 230 x 120 mm)	194E-A40(63)	6	194E-G3707	1L+1R				X	X

Bulletin 194E
IEC Load Switches
Specifications

2

Electrical Ratings

Performance Data			16 A	25 A	32 A	40 A	63 A	80 A	100 A	Aux. Contacts			
IEC Applications													
Rated operational voltage (U_e): IEC*			[V]	690	690	690	690	690	690	690			
Rated operational voltage (U_e): UL, CSA			[V]	600	600	600	600	600	600	600			
Rated isolation voltage (U_i): IEC/UL, CSA			[V]	690/600	690/600	690/600	690/600	690/600	690/600	690/600			
Rated impulse voltage (U_{imp}): UL, CSA			[kV]	8	8	8	8	8	8	8			
Test voltage, (U_i) 1 minute			[kV]	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
Lost power per pole			[W]	0.58	1.0	1.5	1.6	2.4	3.6	5.5			
Rated frequency			[Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60			
Conventional free air thermal current I_{th} *			[A]	25	40	50	63	75	100	120			
Conventional enclosed thermal current I_e *			[A]	20	32	40	50	63	80	100			
Rated current I_e*													
AC-1/	Non-inductive or only slightly inductive loads	[A]	16	25	32	40	63	80	100	10			
AC-21A	Switching of resistive loads with slight overload												
Rated power P_e													
AC-23A	Occasional switching of 3 ϕ motors and other highly inductive loads (criterion for selecting main switches)	230V	[kW]	5.5	7.5	7.5	15	18.5	22	30	—		
		400V	[kW]	7.5	11	15	22	30	37	55	—		
		690V	[kW]	7.5	11	15	18.5	22	37	45	—		
AC-3	Squirrel-cage motors; starting and stopping of running motors	230V	[kW]	4	5.5	7.5	11	15	18.5	22	—		
		400V	[kW]	5.5	7.5	11	15	18.5	30	37	—		
		690V	[kW]	5.5	7.5	11	15	18.5	30	22	—		
Short circuit current (co-ordination type 2)			[kA]	20	20	15	20	15	30	25	—		
Rated conditional short-circuit current													
Maximum fuse rating of circuit (type g,G)			400/415V	[A]	20	25	35	50	63	80	100		
Rated short-time current I_{cw} (1 s)			[A]	800	900	900	1300	1300	2500	2500	—		
Rated breaking capacity AC23A (cosϕ 0.45)													
230V			[A]	156	296	296	484	484	780	780	—		
400V			[A]	120	256	256	504	504	800	800	—		
690V			[A]	70	136	136	196	196	376	376	—		
DC switching capacity													
Rated current I_e	1 pole	48V	[A]	20	25	32	40	63	80	100	—		
		110V	[A]	5	5	6	8	10	16	20			
		220V	[A]	1	1	1	1.5	1.5	3	3			
		440V	[A]	0.5	0.5	0.5	0.6	0.6	0.7	0.7			
DC-21A	For resistive loads, $T \leq 1$ ms U_e max = 660V	2 poles in series	96V	[A]	20	25	32	40	63	80	100	—	
			110V	[A]	20	23	25	32	50	70	80		
			220V	[A]	5	5	6	8	10	16	20		
			440V	[A]	1	1	1	1.5	1.5	3	3		
			600V	[A]	0.6	0.6	0.6	0.8	0.8	1	1		
Rated power P_e	DC-23A, DC-3, DC-5	For inductive loads, $T \leq 15$ ms	3 poles in series	110V	[A]	20	25	32	40	63	80	100	—
				220V	[A]	13	13	15	20	28	50	63	
				440V	[A]	2.2	2.2	2.2	3.6	3.6	6.5	6.5	
				600V	[A]	1.3	1.5	1.5	2	2	3	3	
90V			[kW]	1	1.3	1.5	2.9	4.1	5.1	7.2	—		
110V			[kW]	1	1.1	1.3	2.2	3.3	5.5	7			
220V			[kW]	0.8	0.9	1.1	1.7	2	3.5	4.4			
440V			[kW]	0.6	0.6	0.6	0.9	0.9	1.1	1.1			
600V			[kW]	0.4	0.4	0.4	0.5	0.5	0.9	0.9			

* See standards compliance listed on page 2-356.

* Suitable also for SEV 500.

Electrical Ratings, Continued

Performance Data		16 A	25 A	32 A	40 A	63 A	80 A	100 A	Aux. Contacts	
UL/CSA Applications										
Continuous current	[A]	16	25	32	40	63	80	100	—	
Heavy Pilot Duty	[AC]	A600	A600	A600	—	—	—	—	A600	
Standard Duty	[DC]	—	—	—	—	—	—	—	Q600	
Motor rating 60 Hz	120V, 1P	FLA	16	16	16	24	34	56	80	
		Hp	1	1	1	2	3	5	7.5	
Single-phase (2 poles)	240V, 1P	FLA	12	12	17	17	28	50	68	—
		Hp	2	2	3	3	5	10	15	
	480V, 1P	FLA	8.5	8.5	14	21	26	34	68	
		Hp	3	3	5	7.5	10	15	30	
	600V, 1P	FLA	11.2	11.2	11.2	16	20	27	44	
		Hp	5	5	5	7.5	10	15	25	
Three-phase	120V, 3P	FLA	13.6	13.6	19.2	30.4	40	56	84	—
		Hp	2	2	3	5	7.5	10	15	
	240V, 3P	FLA	9.6	15.2	22	28	42	68	80	
		Hp	3	5	7.5	10	15	25	30	
	480V, 3P	FLA	11	14	21	27	34	52	65	
		Hp	7.5	10	15	20	25	40	50	
600V, 3P	FLA	11	11	17	22	27	52	52		
	Hp	10	10	15	20	25	50	50		

Mechanical Data

Performance Data		16 A	25...32 A	40...63 A	80...100 A	Aux. Contacts	
Protection class according to IEC 529							
Motor rating 60 Hz							
handles		IP66	IP66	IP66	IP66	IP66	
switch bodies		IP20	IP20	IP20	IP20	IP20	
Mechanical life	[million operations]	0.2	0.2	0.2	0.2	0.2	
Max wire gauges							
Terminal size per IEC 947-1							
rigid wire	1/2 conductor	AWG	A4	A6	A7	A9	2xA2
		mm ²	(1)16...10/(2)16...12 (1)1...10/(2)1...4	(1)14...8/(2)14...10 (1)1.5...16/(2)1.5...6	(1)12...4/(2)12...8 (1)2.5...25/(2)2.5...16	(1)10...1/(2)10...4 (1)4...50/(2)4...25	18...14 0.75...2.5
fine strands	1/2 conductor	AWG	(1)16...8/(2)16...12 (1)1.5...6/(2)1.5...4	(1)14...8/(2)14...10 (1)1.5...10/(2)1...6	(1)12...4/(2)12...8 (1)2.5...16/(2)2.5...10	(1)10...1/(2)10...6 (1)4...35/(2)4...16	18...14 0.5...2.5
		mm ²					

Environmental Data

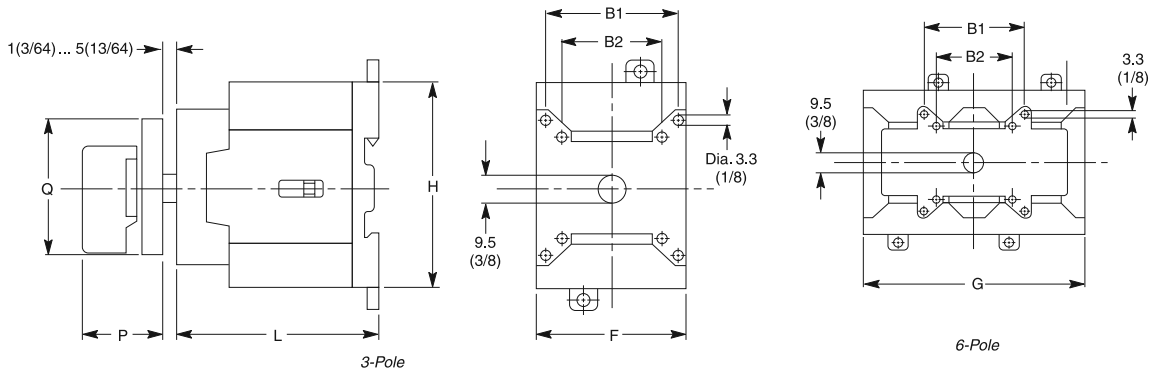
Storage	–40...+80 °C (–40...+176 °F)
Operation	–25...+60 °C (–13...+140 °F)

2

Bulletin 194E
IEC Load Switches
 Approximate Dimensions

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Front Installation Cat. No. 194E-E...



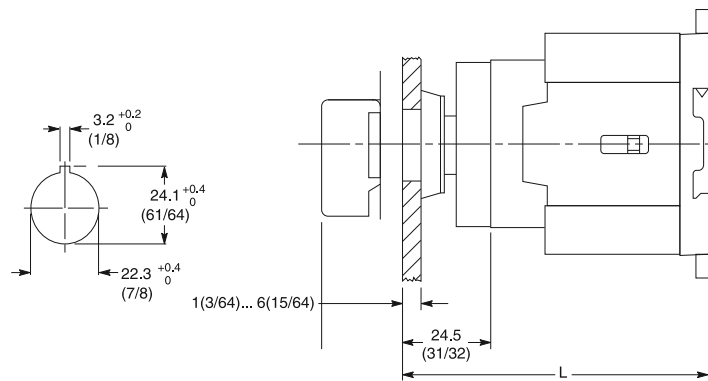
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Handles		
Cat. No.	P	Q
194L-HE4A	28 (1-7/64)	48 x 48 (1-57/64 x 1-57/64)
194L-HE4I	28 (1-7/64)	48 x 48 (1-57/64 x 1-57/64)
194L-HE4S	28 (1-7/64)	48 x 62 (1-57/64 x 2-7/16)
194E-HE4N	34 (1-11/32)	54 x 54 (2-1/8 x 2-1/8)
194E-HE4G	34 (1-11/32)	54 x 54 (2-1/8 x 2-1/8)
194L-HE6A	28 (1-7/64)	64 x 64 (2-33/64 x 3-5/64)
194L-HE6I	28 (1-7/64)	64 x 64 (2-33/64 x 3-5/64)
194L-HE6S	28 (1-7/64)	64 x 78 (2-33/64 x 3-5/64)
194L-HE6N	34 (1-11/32)	67 x 67 (2-41/64 x 2-41/64)
194L-HE6G	34 (1-11/32)	67 x 67 (2-41/64 x 2-41/64)

Switch Body						
Use with Cat. No.	B1*	B2	F	H	L*	G
194E-E16	28 (1-7/64)	N/A	36 (1-37/64)	63 (2-31/64)	51 (2)	90 (3-35/64)
194E-E25/32	36 (1-27/64)	N/A	45 (1-25/32)	64 (2-33/64)	60 (2-3/8)	90 (3-1/2)
194E-E40/63	48 (1-57/64)	36 (1-27/64)	54 (2-1/8)	72 (2-27/32)	74 (2-29/32)	108 (4-1/4)
194E-E80/100	48 (1-57/64)	36 (1-27/64)	72 (2-27/32)	90 (3-35/64)	90 (3-35/64)	144 (5-11/16)

* Does not apply to 194E-40/63A, 6-Pole Switches. Use B2 dimensions for 6-pole devices.
 * For 6-pole switches, add 1 in. to the "L" dimension.

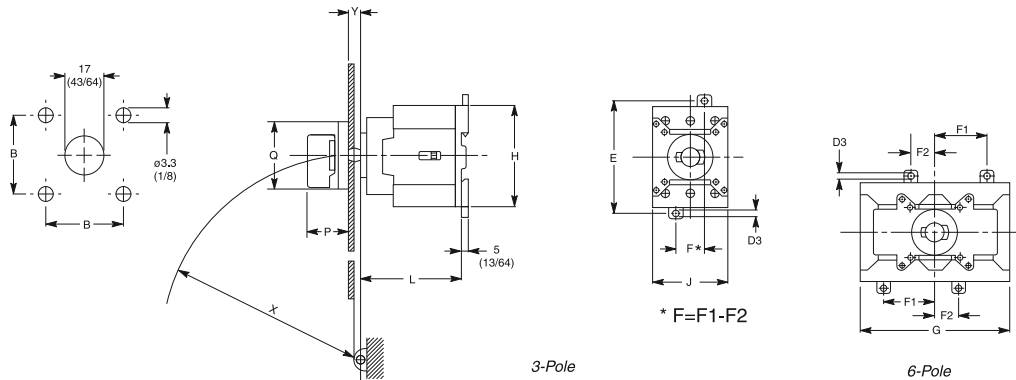
Cat. No. 194E-E Switch Body with Cat. No. 194L-HC4A Handle for 22.5 mm Hole Mounting Style



Type	L
194E-E16	76 (3)
194E-E25/32	84.5 (3-21/64)
194E-E40/63	98.5 (3-7/8)
194E-E80/100	114.5 (4-33/64)

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Base Mounting Cat. No. 194E-A...



Handles		
Cat. No.	P	Q
194L-HE4A	28 (1-7/64)	48 x 48 (1-57/64 x 1-57/64)
194L-HE4I	28 (1-7/64)	48 x 48 (1-57/64 x 1-57/64)
194L-HE4S	28 (1-7/64)	48 x 62 (1-57/64 x 2-7/16)
194E-HE4N	34 (1-11/32)	54 x 54 (2-1/8 x 2-1/8)
194E-HE4G	34 (1-11/32)	54 x 54 (2-1/8 x 2-1/8)
194L-HE6A	28 (1-7/64)	64 x 64 (2-33/64 x 3-5/64)
194L-HE6I	28 (1-7/64)	64 x 64 (2-33/64 x 3-5/64)
194L-HE6S	28 (1-7/64)	64 x 78 (2-33/64 x 3-5/64)
194L-HE6N	34 (1-11/32)	67 x 67 (2-41/64 x 2-41/64)
194L-HE6G	34 (1-11/32)	67 x 67 (2-41/64 x 2-41/64)

Cover Requirements				
For Use With	Y min.	X ≥	Y max.	X ≥
194E-A16	5 (13/64)	142 (5-19/32)	9.5 (3/8)	90 (3-35/64)
194E-A25/32	5 (13/64)	142 (5-19/32)	9.5 (3/8)	90 (3-35/64)
194E-A40/63	2.5 (7/64)	150 (5-29/32)	9.5 (3/8)	90 (3-35/64)
194E-A80/100	2.5 (7/64)	150 (5-29/32)	9.5 (3/8)	90 (3-35/64)

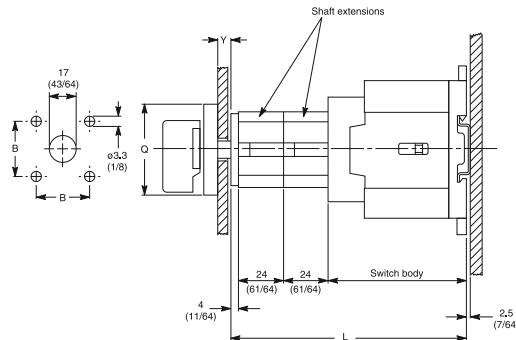
Switch Body								
Use With Cat. No.	D3	E	F1	F2	G	H	L *	J
194E-A16	4.5 (3/16)	70 (2-49/64)	45 (1-25/32)	12.5 (31/64)	90 (3-35/64)	63 (2-31/64)	80 (3-5/32)	36 (1-27/64)
194E-A25/32	4.5 (3/16)	70 (2-49/64)	30 (1-3/16)	15 (19/32)	90 (3-1/2)	64 (2-33/64)	59 (2-5/16)	45 (1-25/32)
194E-A40/63	4.5 (3/16)	80 (3-5/32)	37 (1-15/32)	17 (43/64)	108 (4-1/4)	72 (2-27/32)	73 (2-55/64)	54 (2-1/8)
194E-A80/100	5.6 (7/32)	95 (3-3/4)	48.5 (1-29/32)	23.5 (59/64)	144 (5-11/16)	90 (3-35/64)	89 (3-1/2)	72 (2-27/32)

* For 6-pole switches, add 1 in. to the "L" dimension.

Bulletin 194E
IEC Load Switches
 Approximate Dimensions, Continued

Base Mounting Cat. No. 194E-A...

Cat. No. 194E-A... Switch Body with Cat. No. 194L-G2853 Shaft Extension



Switch Body

L *	Cat. No.			
	194E-A 16	194E-A 25/32	194E-A 40/63	194E-A 80/100
With 1 shaft extension	79 (3-7/64)	88 (3-15/32)	102 (4-1/32)	118 (4-21/32)
With 2 shaft extensions	103 (4-37/64)	112 (4-27/64)	126 (4-31/32)	142 (5-19/32)
With 3 shaft extensions	127 (5)	136 (5-23/64)	150 (5-29/32)	166 (6-35/64)
With 4 shaft extensions	151 (6-61/64)	160 (6-5/16)	174 (6-55/64)	190 (7-31/64)
With 5 shaft extensions	175 (7-57/64)	184 (7-1/4)	198 (7-51/64)	214 (8-7/16)
With 6 shaft extensions	199 (8-27/32)	208 (8-13/64)	222 (8-3/4)	238 (9-3/8)

* For 6-pole switches, add 1 in. to the "L" dimension.

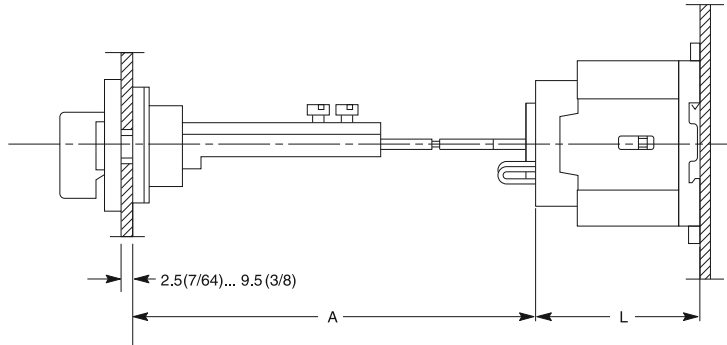
Shaft	Y
194L-G2830	2.5...9.5 (7/64...3/8)
194L-G3194	9...18 (23/64...23/32)
194L-G3195	14...23 (9/16)...(29/32)

Type	Handles		
	B	Q	P
194L-HE4A	36 (1-27/64)	48 x 48 (1-57/64 x 1-57/64)	28 (1-7/64)
194L-HE4I	36 (1-27/64)	48 x 48 (1-57/64 x 1-57/64)	28 (1-7/64)
194E-HE4G	28 (1-7/64)	54 x 54 (2-1/8 x 2-1/8)	34 (1-11/32)
194E-HE4N	28 (1-7/64)	54 x 54 (2-1/8 x 2-1/8)	34 (1-11/32)
194L-HE6A	48 (1-57/64)	64 x 64 (2-33/64 x 2-33/64)	28 (1-7/64)
194L-HE6I	48 (1-57/64)	64 x 64 (2-33/64 x 2-33/64)	28 (1-7/64)
194L-HE6N	48 (1-57/64)	67 x 67 (2-41/64 x 2-41/64)	34 (1-11/32)
194L-HE6G	48 (1-57/64)	67 x 67 (2-41/64 x 2-41/64)	34 (1-11/32)

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Base Installation Cat. No. 194E-A...

Cat. No. 194E-A Switch Body with Metal Shaft Extension



Cat. No.	A
194L-G3393	110...235 (4-11/32...9-1/4)
194L-G3394	230...350 (9-1/16...13-25/32)

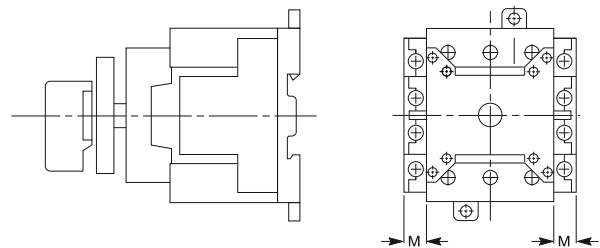
Cat. No.	L*
194E-A16	51 (2)
194E-A25/32	60 (2-3/8)
194E-A40/63	74 (2-59/64)
194E-A80/100	90 (3-35/64)

* For 6-pole switches, add 1 in. to the "L" dimension.

Base and Front Installation

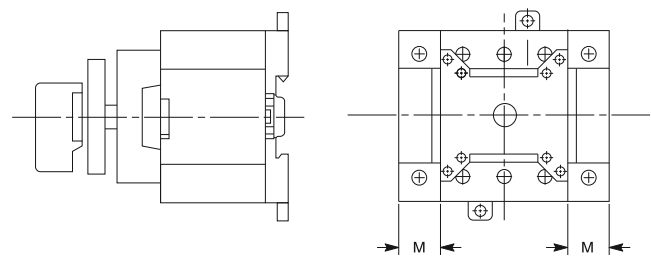
Cat. No. 194E... with Auxiliary Contact Block Installed

Contacts	M
1 N.O. + 1 N.C.	9 (23/64)
2 N.O. + 2 N.C.	18 (23/32)



Cat. No. 194E... with 4-Pole, Ground and Neutral Terminals

Cat. No.	M
194E-16	12.5 (31/64)
194E-25/32	14 (9/16)
194E-40/63	17.5 (11/16)
194E-80/100	22 (7/8)

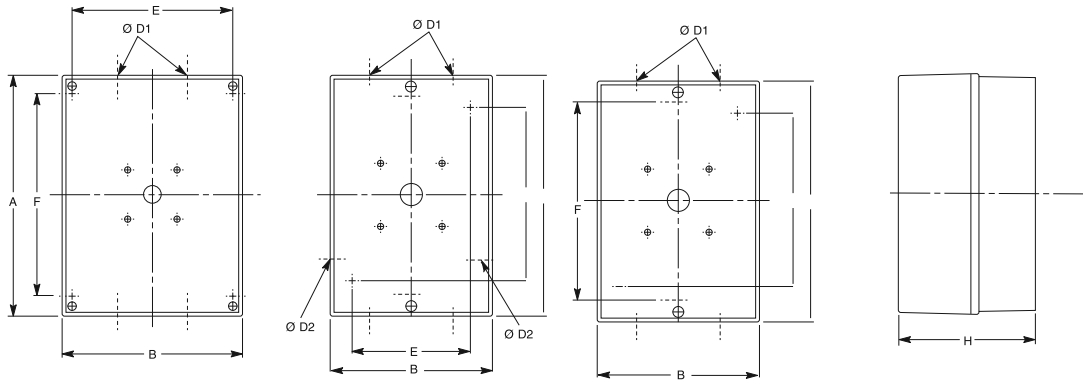


Bulletin 194E
IEC Load Switches
 Approximate Dimensions, Continued

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

Base Mounting Cat. No. 194E-A...

Thermoplastic Enclosures



Cat. No. 194L-3665

Cat. No. 194L-3572

Cat. No. 194L-3563

Enclosure Base View

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Complete Switches		Enclosures		Height A	Width B	Knockouts* ØD1		Mounting Holes‡		Depth H
Cat. No.	Poles	ABS Cat. No.	Noryl Cat. No.			E	F			
194E-Y16	3 and 4	*	*	118 (4-21/32)	66 (2-19/32)	M16/M20 16/20 mm	PG11/PG16 18.5/22.5 mm	50 (1-31/32)	105 (4-9/65)	70 (2-49/65)
	6	194E-G3663	194E-G3664	180 (7-3/32)	125 (4-59/64)	M25/M30 25/30 mm	PG21/PG29 28.5/37.5 mm	On Center	145 (5-23/32)	105 (4-1/8)
194E-Y25/32	3 and 4	194L-G3572	194L-G3576	150 (5-29/32)	95 (3-3/4)	PG16/PG21 22.5/28.5 mm		60 (2-3/8)	115 (4-17/32)	86 (3-3/8)
	6	194E-G3663	194E-G3664	180 (7-3/32)	125 (4-59/64)	PG21/PG29 28.5/37.5 mm		On Center	145 (5-23/32)	105 (4-1/8)
194E-Y40/63	3 and 4	194E-G3663	194E-G3664	180 (7-3/32)	125 (4-59/64)	PG21/PG29 28.5/37.5 mm		On Center	145 (5-23/32)	105 (4-1/8)
	6	194E-G3665	194E-G3666	230 (9-1/16)	175 (6-57/64)	PG29/PG36 37.5/47.5 mm		155 (6-3/32)	195 (4-11/16)	120 (4-47/64)
194E-Y80/100	3 and 4	194E-G3665	194E-G3666	230 (9-1/16)	175 (6-57/64)	PG29/PG36 37.5/47.5 mm		155 (6-3/32)	195 (4-11/16)	120 (4-47/64)

* Empty enclosures not available for purchase.

* Cat. No. 194E-A16 units have 1 knockout on each end, all others have 2 knockouts on each end. A letter "M" in the catalog number indicates metric knockouts; the unit is otherwise supplied with PG knockouts.

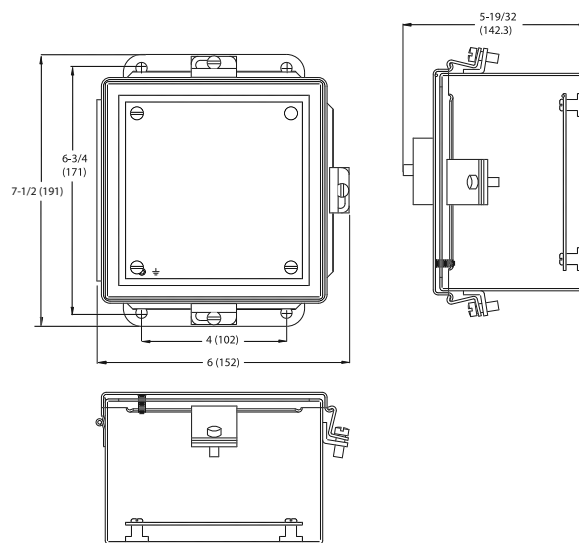
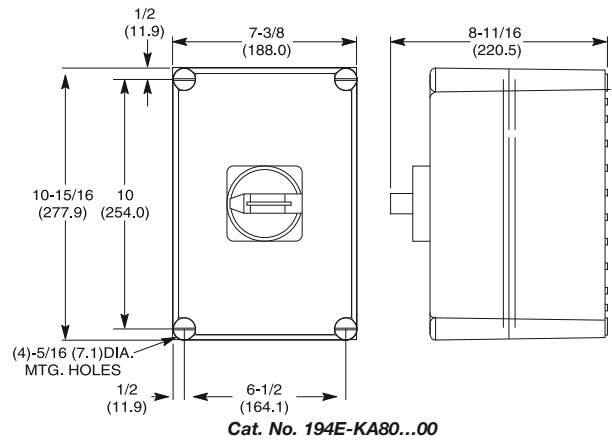
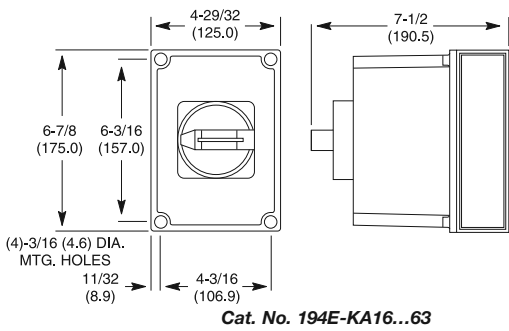
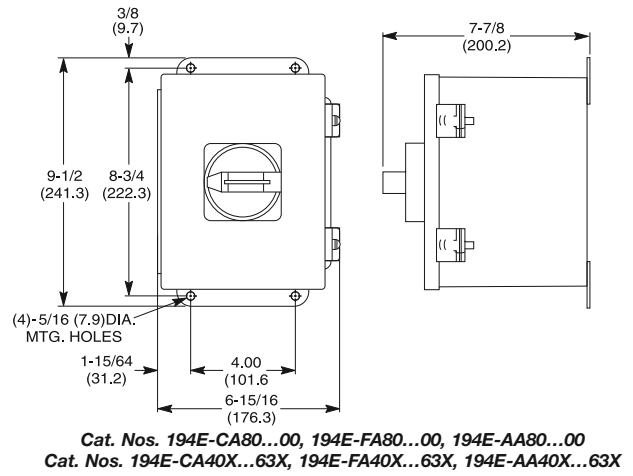
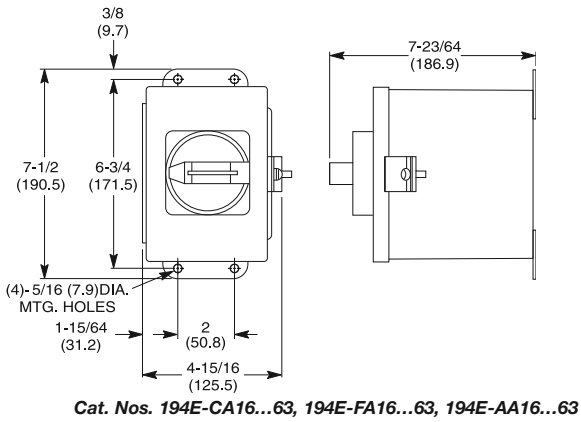
‡ All mounting holes have a 4.2 mm (5/32 in.) diameter.

No. of Extensions	Cat. No. 194E-A 20/32...	Cat. No. 194E-A 40/63...	Cat. No. 194E-A 80/00...
With 1 extension	96 (3-25/32)	107 (4-7/32)	114 (4-31/64)
With 2 extensions	120 (4-23/32)	131 (5-5/32)	138 (5-7/16)
With 3 extensions	144 (5-43/64)	155 (6-7/64)	162 (6-3/8)
With 4 * extensions	168 (6-39/64)	179 (7-3/64)	186 (7-21/64)
With 5 * extensions	192 (7-9/16)	203 (8)	210 (8-17/64)
With 6 * extensions	216 (8-1/2)	227 (8-15/16)	234 (9-7/32)

* When more than 4 modules are used, attach the first one to the switch body using the screws supplied with the extension (Cat. No. 194L-G2853).

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

194E Enclosed Switches with 194R Handles



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