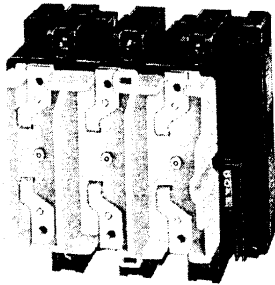


Bulletin 194R
Fused Disconnect Switch Line
Product Selection

BS88 Fused Disconnect Switch

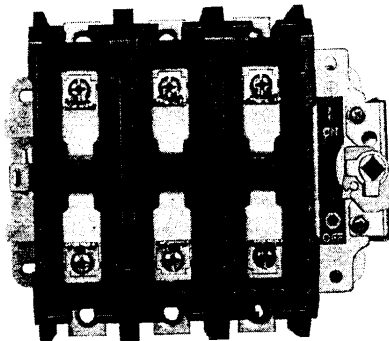


Ratings (AC-23)

Fuse Description	With fuse links					With shorting links					Dim. Ref.	Cat. No.
	Max. I_e [A]	3Ø maximum kW (50 Hz)				MAX. I_e [A]	3Ø maximum kW (50 Hz)					
		200/ 230V	380/ 400/ 415V	500V	660/ 690V		200/ 230V	380/ 400/ 415V	500V	660/ 690V		
BS88 A1	20 	3	7.5	7.5	—	32	7.5	15	18.5	11	A1	194R-NA100P3
BS88 A2	32	7.5	15	18.5	11	—	—	—	—	—	A1	194R-NA200P3
BS88 A3	60	11	30	30	30	63	11	30	30	30	B1	194R-NA300P3
BS88 A3	75	22	37	45	55	75	22	37	45	55	C1	194R-NA380P3
BS88 A4	138	37	75	90	110	138	37	75	90	110	D1	194R-NA400P3
BS88 B1, B2	245	75	132	160	160	245	75	132	160	160	E1	194R-NB200P3
BS88 B1, B2 B3, B4	300	90	160	200	200	300	90	160	200	200	F1	194R-NB300P3

① Maximum ampere rating is 32 A if shorting links (Cat. No. 194R-SLA1) are used. See page 10-85.

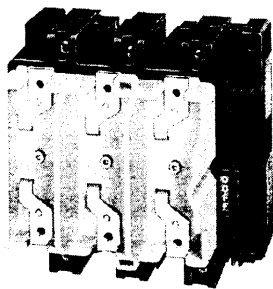
DIN Fused Disconnect Switches



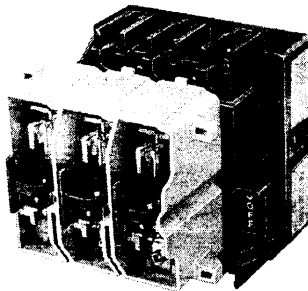
Ratings (AC-23)

Fuse Description	With Fuse Links					With Shorting Links					Dim. Ref.	Cat. No.
	Max. I_e [A]	3Ø maximum kW (50 Hz)				MAX. I_e [A]	3Ø maximum kW (50 Hz)					
		200/ 230V	380/ 400/ 415V	500V	660/ 690V		200/ 230V	380/ 400/ 415V	500V	660/ 690V		
DIN 00	75	22	37	45	55	75	22	37	45	55	C2	194R-ND072P3
DIN 0	138	37	75	90	110	138	37	75	90	110	D2	194R-ND138P3
DIN 1	245	75	132	160	160	245	75	132	160	160	E2	194R-ND250P3
DIN 1, 2	300	90	160	200	200	300	90	160	200	200	F1	194R-ND300P3

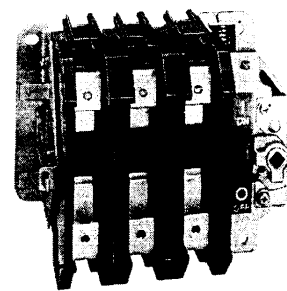
UL/CSA Fused Disconnect Switch



Cat. No. 194R-NA300P3



Cat. No. 194R-NC030P3



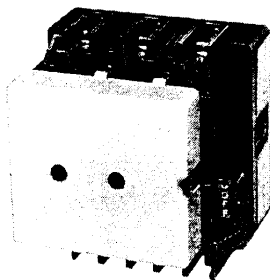
Cat. No. 194R-NJ100P3

Fuse Description	Ampere Rating [A]	Maximum Hp Ratings ①								Dim. Ref.	Cat. No.
		1 Ø (60 Hz)		3 Ø (60 Hz)				DC			
		115V	230V	200V	230V	460V	575V	125V	250V		
CSA HRCII-C FUSES											
30 A HRCII-C	30	2	3	7-1/2	7-1/2	15	20	—	—	A1	194R-NA200P3
60 A HRCII-C	60	3	10	15	15	30	30	—	—	B1	194R-NA300P3
100 A HRCII-C	100	—	15	25	30	60	75	—	—	D1	194R-NH100P3
200 A HRCII-C	200	—	30	50	60	125	150	—	—	E1	194R-NH200P3
400 A HRCII-C	400	—	50	100	125	250	300	—	—	F1	194R-NH400P3
UL Class CC & J AND CSA HRCI-J FUSES ②											
30 A CLASS CC	30	3/4	2	5	5	10	10	2	3	A1	194R-NC030P3
30 A CLASS J	30	2	3	7-1/2	7-1/2	15	20	3	5	A1	194R-NJ030P3
60 A CLASS J	60	3	10	15	15	30	50	5	10	B1	194R-NJ060P3
100 A CLASS J	100	7-1/2	15	25	30	60	75	—	20	C1	194R-NJ100P3
200 A CLASS J	200	—	25	50	60	125	150	—	40	D1	194R-NJ200P3
400 A CLASS J	400	—	50	100	125	250	300	—	50	F1	194R-NJ400P3

① Time delay fuses may be required to use the disconnect switch at the maximum horsepower rating.

② Only UL-Listed Class J and CC, as well as CSA-Certified HRCI-J fuses, are suitable for use with these disconnect switches.

UL/CSA Non-fused Disconnect Switches

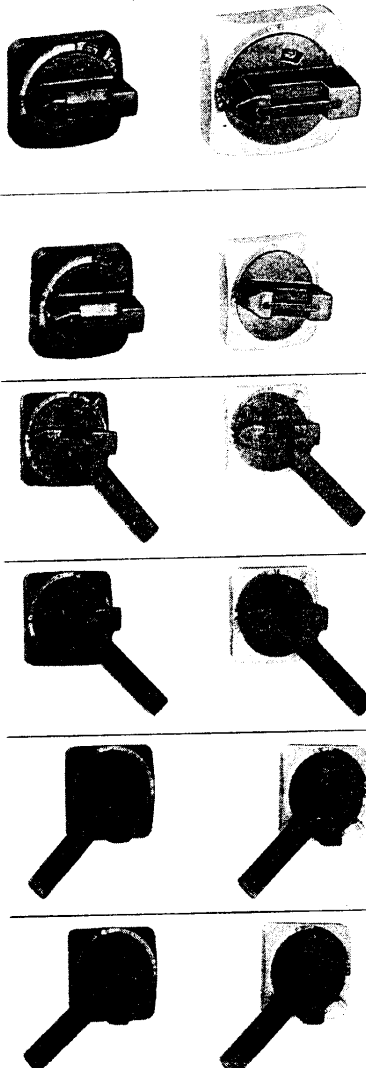
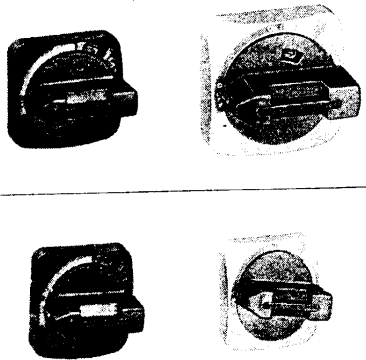
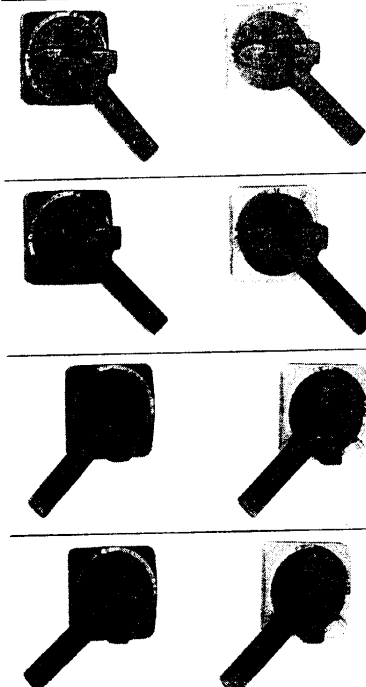


Non-fused											
Fuse Description	Ampere Rating [A]	Maximum Hp Rating								Dim. Ref.	Cat. No.
		1Ø (60 Hz)		3Ø (60 Hz)				DC			
		115V	230V	200V	230V	460V	575V	125V	250V		
③	30	2	3	7-1/2	7-1/2	15	20	3	5	A2	194R-NN030P3
	60	3	10	15	15	30	50	5	10	B2	194R-NN060P3
	100	7-1/2	15	25	30	60	75	—	20	C1	194R-NN100P3
	200	—	25	50	60	125	150	—	40	D1	194R-NN200P3
	400	—	—	100	125	250	300	—	50	F1	194R-NN400P3

③ Non-fused disconnect switches must be used with separately installed UL-Listed Class J, CC or T or CSA-Certified HRCI-J fuses.

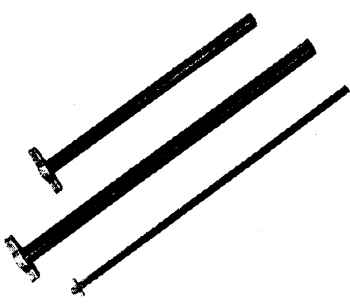
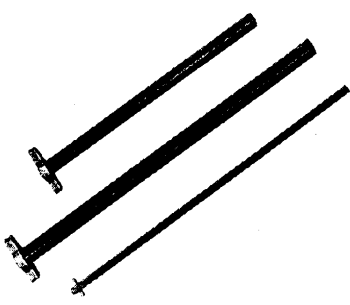
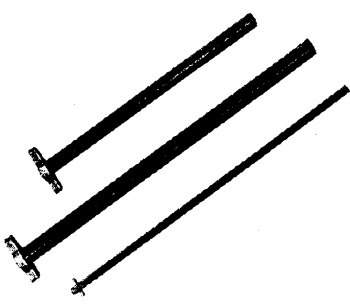
Bulletin 194R
Fused Disconnect Switch Line
Product Selection

Operating Handles

	Disconnect Switch	Description	Colour	Degree of Protection	Cat. No.
				Type 1 - IP42 Type 3R, 3, 12, 4, 4X - IP66	
	A1, A2 B1, B2	With Defeater	Black	Type 1 - IP42	194R-HS1
				Type 3R, 3, 12, 4, 4X - IP66	194R-HS4
			Red/Yellow	Type 1 - IP42	194R-HS1E
				Type 3R, 3, 12, 4, 4X - IP66	194R-HS4E
		Without Defeater	Black	Type 1 - IP42	194R-HS1-N2
				Type 3R, 3, 12, 4, 4X - IP66	194R-HS4-N2
	C1, C2 D1, D2 E1, E2 F1	Standard Orientation with Defeater	Black	Type 1 - IP42	194R-HM1
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4
			Red/Yellow	Type 1 - IP42	194R-HM1E
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4E
		Standard Orientation without Defeater	Black	Type 1 - IP42	194R-HM1-N2
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4-N2
			Red/Yellow	Type 1 - IP42	194R-HM1E-N2
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4E-N2
		90° Rotated Orientation with Defeater	Black	Type 1 - IP42	194R-HM1-N1
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4-N1
			Red/Yellow	Type 1 - IP42	194R-HM1E-N1
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4E-N1
		90° Rotated Orientation without Defeater	Black	Type 1 - IP42	194R-HM1-N3
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4-N3
			Red/Yellow	Type 1 - IP42	194R-HM1E-N3
				Type 3R, 3, 12, 4, 4X - IP66	194R-HM4E-N3

Operating Shafts

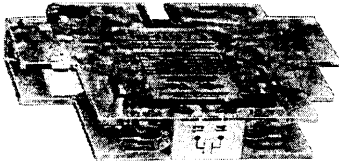
Dimensions in mm and (inches).

	Disconnect Switch	Description	Operating Shaft Length mm (inches)	Enclosure Working Depth			Cat. No.
				Disconnect Switch Dim. Ref.	Minimum mm (inches)	Maximum mm (inches)	
	A1, A2 B1, B2	Standard length	263 (10.3)	A1, B1	148 (5.8)	260 (10.2)	194R-R1
				A2, B2	111 (4.4)	260 (10.2)	
		Extended Length	457 (18.0)	A1, B1	148 (5.8)	454 (17.8)	194R-R2
				A2, B2	111 (4.4)	454 (17.8)	
	C1, C2 D1, D2	Standard Length	200 (7.9)	C1, C2 D1, D2	183 (7.2)	254 (10.0)	194R-R3
		Extended Length	403 (15.9)		183 (7.2)	457 (18.0)	194R-R4
	E1, E2 F2	Standard Length	278 (10.9)	E1, E2, F1	243 (9.6)	356 (14.0)	194R-R5
		Extended Length	532 (20.9)		243 (9.6)	610 (24.0)	194R-R6

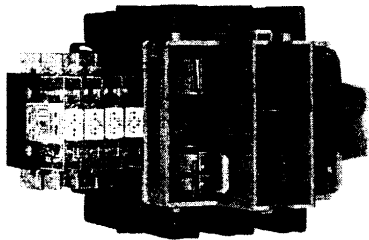
Auxiliary Contacts ①



Cat. No. 194R-AA



Cat. No. 195-GA10



Disconnect Switch Dim. Ref.	Description	Contact Configuration	Cat. No.
A1, A2 B1, B2	Auxiliary Contact	—	194R-AA
ALL A	Single Pole A	1 N.O.	195-GA10
		1 N.C.	195-GA01
ALL A	Two Pole A	1 N.O. - 1 N.C.	195-GA11
		2 N.O.	195-GA20
		2 N.C.	195-GA02
ALL	Auxiliary Support for 5-8 Circuits per Switch	—	194R-A1

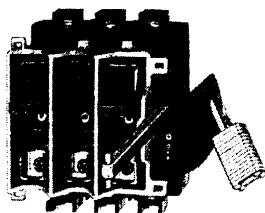
- ① See page 10-87 for contact ratings.
- Disconnect Switches with dimension ref. numbers A1, A2, B1 and B2 require one (1) auxiliary contact adapter (Cat. No. 194R-AA) for installation of auxiliary contacts.
- A maximum of four (4) contact blocks (8 auxiliary contacts) can be installed on each disconnect switch. When more than two (2) contact blocks are used, a support kit (Cat. No. 194R-A1) must be used.

Shorting Links



Disconnect Switch Dim. Ref.	Description	For use with No.	Cat. No.
A1	BS88 Size A1	194R-NA100P3	194R-SLA1
B1	BS88 Size A3	194R-NA300P3	194R-SLA3
C1		194R-NA380P3	
D1	BS88 Size A4	194R-NA400P3	194R-SLA4
E1	BS88 Size B1, B2	194R-NB200P3	194R-SLB2
F1	BS88 Size B3, B4	194R-NB300P3	

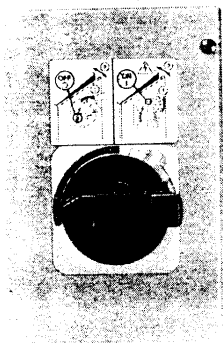
Disconnect Switch Padlocking Kit



Disconnect Switch Dim. Ref.	Conductor Range	Pkg. Qty.	Cat. No.
A1, A2 B1, B2	—	1	194R-P1

Bulletin 194R
Fused Disconnect Switch Line
Accessories

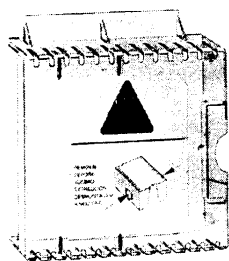
Operating Handle Instruction Label



Disconnect Switch Dim. Ref.	Conductor Range	Pkg. Qty.	Cat. No.
ALL	—	10	194R-L1

Fuse Covers

UL/CSA 30/60 A non-fused switches come with fuse covers as standard



Cat. No. 194R-FCA2

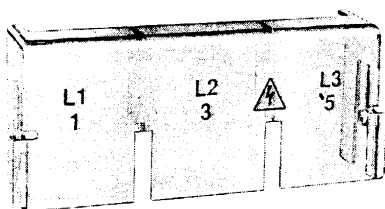


Cat. No. 194R-FCD1

Disconnect Switch Dim. Ref.	Qty. Required per Disconnect Switch	Cat. No.
A1, A2	1	194R-FCA2
B1, B2		194R-FCJ60
C1	3	194R-FCC1
C2		194R-FCC2
D1, D2		194R-FCD1
E1, E2		194R-FCE1
F1		194R-FCF1

Terminal Shields

UL/CSA switches come with line side shields as standard.

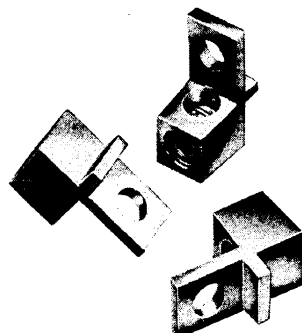


Disconnect Switch Dim. Ref.	Qty. Required per Disconnect Switch	Cat. No.
A1, A2	2	194R-LNC1
B1, B2		194R-LNC2
C1, C2		194R-LNC3
D1, D2		194R-LNC4
E1, E2		194R-LNC5
F1		194R-LNC6

- ❶ For use on line- or load-side of disconnect switch. Cat. Nos. **194R-NN**P3**, **194R-NJ**P3** and **194R-NC**P3** come with line side terminal covers as standard.

Terminal Lugs

10



Disconnect Switch Dim. Ref.	Conductor Range	Pkg. Qty.	Cat. No.
D1 (Cat. No. 194R-NH100P3 only)	10 mm ² ... 50 mm ² #8...1/0 AWG	3	199-LE1
D1 (Cat. No. 194R-NJ200P3, NN200P3, NA400P3) D2	16 mm ² ...120 mm ² #6...250 MCM AWG		199-LF1
E1, E2	25 mm ² ...240 mm ² #4... 500 MCM AWG		199-LG1
F1	two 50 mm ² ...150 mm ² two 1/0...350 MCM AWG		199-LH1

Complete UL/CSA Disconnect Switch Kits
 (includes disconnect switch, operating handle, and operating shaft)

Current Rating [A]	Max. Hp Rating ❶				Disconnect Switch ❷		Operating Shaft	Operating Handle		Cat. No.
	3Ø (60 Hz)				Fuse Carrier	Dim. Ref.	Type	Degree of Ingress Protection	Colour	
	200V	230V	460V	575V						
30	7.5	7.5	15	20	Non-fused	A2	Standard Length	Type 3R, 3, 12, 4, 4X-IP66	Black	194R-NN030P34R1
									Red/Yellow	194R-NN030P34ER1
	7.5	7.5	15	20	30 A Class J	A1			Black	194R-NJ030P34R1
									Red/Yellow	194R-NJ030P34ER1
	5	5	10	10	30 A Class CC	A1			Black	194R-NC030P34R1
									Red/Yellow	194R-NC030P34ER1
60	15	15	30	50	Non-fused	B2			Black	194R-NN060P34R1
									Red/Yellow	194R-NN060P34ER1
	15	15	30	50	60 A Class J	B1			Black	194R-NJ060P34R1
									Red/Yellow	194R-NJ060P34ER1
100	25	30	60	75	Non-fused	C1			Black	194R-NN100P34R3
									Red/Yellow	194R-NN100P34ER3
	25	30	60	75	100 A Class J	C1			Black	194R-NJ100P34R3
									Red/Yellow	194R-NJ100P34ER3
200	50	60	125	150	Non-fused	D1			Black	194R-NN200P34R3
									Red/Yellow	194R-NN200P34ER3
	50	60	125	150	200 A Class J	D1			Black	194R-NJ200P34R3
									Red/Yellow	194R-NJ200P34ER3
400	100	125	250	300	Non-fused	F1			Black	194R-NN400P34R5
									Red/Yellow	194R-NN400P34ER5
	100	125	250	300	400 A Class J	F1			Black	194R-NJ400P34R5
									Red/Yellow	194R-NJ400P34ER5

❶ Time delay fuses may be required to use the disconnect switch at its maximum Hp rating.

❷ Only UL Listed Class J and CC, as well as CSA Certified HRCI-J fuses are suitable for use with these disconnect switches.

Specifications

All Bulletin 194R Disconnect Switch Cat. Nos.

Environmental Data	
Ambient Temperature	
Open	°C (F)
Enclosed	°C (F)
Storage	°C (F)
Altitude (per IEC 947-1)	m
Relative Humidity (per IEC 947-1)	

Standards
 IEC 947-3, UL 1087, UL 98, CSA 22.2 No.4, BS EN60947-3, EN60947-3, VDE 0660

Approvals
 UL Listed, CSA Certified, ASTA Certified, LOVAG Certified

Auxiliary Contact Ratings for Cat. No. 195-GA

AC-11 Rating		DC-11 Rating	
U_e [V]	I_e [A]	U_e [V]	I_e [A]
12...120	6	28	5.0
220...240	3	110	1.25
380...480	1.5	220	0.62
500...600	1.2	440	0.27
		600	0.20

Thermal Current—10 Ampere. NEMA/EEMAC A600, P300.

IEC Isolation Voltage (U_i)—660V

Bulletin 194R
Fused Disconnect Switch Line
Specifications

Fused Disconnect Switches for BS88 Fuses

Note: Table continued on following page

Note: Table continued on following page

		Cat. No. 194R-NA100P3	Cat. No. 194R-NA200P3	Cat. No. 194R-NA300P3		
Electrical Design Specifications/Test Requirements						
Fuse Type	BS88 Dimension	A1	A2	A3		
Rated Isolation Voltage (U_i)	[V]	660	660	660		
Max. Short-Circuit Prospective Fault Current	[kA]	80	80	80		
Rated Operational Current AC-22 A (I_e)		Fuse Links	Shorting Links	Fuse Links	Shorting Links	
200/230V 50 Hz	[A]	20	32	32	63	63
380/400/415V 50 Hz	[A]	20	32	32	63	63
500V 50 Hz	[A]	20	32	32	63	63
660/690V 50 Hz	[A]	—	32	32	63	63
Rated Operational Current AC-23 A (I_e)						
200/230V 50 Hz	[A]	20	32	32	45	45
380/400/415V 50 Hz	[A]	20	32	32	60	63
500V 50 Hz	[A]	20	32	32	45	45
660/690V 50 Hz	[A]	—	18	18	37	37
Rated Thermal Current (I_{he})	[A]	20	32	32	63	63
Maximum kW, AC-23 A 3Ø						
200/230V 50 Hz	[kW]	3	7.5	7.5	11	11
380/400/415V 50 Hz	[kW]	7.5	15	15	30	30
500V 50 Hz	[kW]	7.5	18.5	18.5	30	30
660/690V 50 Hz	[kW]	—	11	11	30	30
Maximum Fuse Rating	[A]	20	—	32	63	—
Maximum Motor Circuit Fuse Link		20M32	—	32M63	63M100	—
Maximum Fuse Cut-Off Current ①	[kA]	7.5	7.5	7.5	10	10
Rated Short-time, 1 Second	[kA]	1	1	1	1	1

- ① Fuses must be selected with regard to the maximum prospective fault current of the system and the maximum cut-off current of the fuse when subjected to that maximum fault current. The maximum fuse cut-off current as specified for each disconnect switch must not be exceeded.

Mechanical Design Specifications/Test Requirements

Mechanical Design Specifications Test Requirements			
Degree of Protection (per IEC 947)		IP00	IP00
Switch only		IP20	IP20
Switch with Terminal Shields & Fuse Cover(s)			
Mechanical Life ②	[Operations]	10 000	10 000
Operating Torque (Maximum)	[Nm.]	4	4
	[Lb.-In.]	35	35
Terminal Capacity			
Power Terminals	[mm²]	2.5...6	2.5...6
	[AWG]	#14...#8	#14...#8
Auxiliary Contact Terminals	[mm²]	2.5...4	2.5... 4
	[AWG]	#14...#12	#14...#12
Maximum No. of Auxiliary Contacts		8	8
Approximate Weight	[kg]	0.83	0.83
	[Lbs.]	1.84	1.84
Minimum Enclosure Size	Height	248 (9-3/4)	248 (9-3/4)
Dimensions in mm and (inches)	Width	171 (6-3/4)	197 (7-3/4)
	Depth	148 (5-13/16)	148 (5-13/16)
Switch Dimension Reference		A1	A1
(See dimension drawings on pages 10-102 and 10-103)			

- ② Based on Rockwell Automation tests performed in accordance with the requirements as defined in IEC 947-3.

Bulletin 194R
Fused Disconnect Switch Line
Specifications

Fused Disconnect Switches for BS88 Fuses, continued

		Cat. No. 194R-NA380P3		Cat. No. 194R-NA400P3		Cat. No. 194R-NB200P3		Cat. No. 194R-NB300P3	
Electrical Design Specifications/Test Requirements									
Fuse Type	BS88 Dimension	A3		A4		B1, B2		B1, B2, B3, B4	
Rated Isolation Voltage (U_i)	[V]	660		660		660		660	
Maximum Short-Circuit Prospective Fuse Current	[kA]	80		80		80		80	
Rated Operational Voltage AC-22 A (I_e)		Fuse Links	Shorting Links	Fuse Links	Shorting Links	Fuse Links	Shorting Links	Fuse Links	Shorting Links
200/230V 50 Hz	[A]	100	100	200	160	250	250	400	400
380/400/415V 50 Hz	[A]	100	100	200	160	250	250	400	400
500V 50 Hz	[A]	100	100	200	160	250	250	400	400
660/690V 50 Hz	[A]	100	100	200	160	250	250	400	400
Rated Operational Voltage AC-23 A (I_e)									
200/230V 50 Hz	[A]	75	75	130	130	240	240	300	300
380/400/415V 50 Hz	[A]	75	75	138	138	245	245	300	300
500V 50 Hz	[A]	65	65	130	130	220	220	290	290
660/690V 50 Hz	[A]	61	61	118	118	170	170	220	220
Rated Thermal Current (I_{the})	[A]	100	100	160	160	200	250	400	400
Maximum kW, AC-23 A 3Ø									
200/230V 50 Hz	[kW]	22	22	37	37	75	75	90	90
380/400/415V 50 Hz	[kW]	37	37	75	75	132	132	160	160
500V 50 Hz	[kW]	45	45	90	90	160	160	200	200
660/690V 50 Hz	[kW]	55	55	110	110	160	160	200	200
Maximum Fuse Rating	[A]	100	—	200	—	200	—	400	—
Maximum Motor Circuit Fuse Link		100M125	—	200M250	—	ED355	—	400M450	—
Maximum Fuse Cut-Off Current ①	[kA]	14	14	20	20	33	33	40	40
Rated Short Time Current, 1 Second	[kA]	2		4		7.5		12	

Mechanical Design Specifications/Test Requirements

Degree of Protection (per IEC 947)		IP00	IP00	IP00	IP00
Switch only		IP00	IP20	IP00	IP20
Switch with terminal shields & fuse cover(s)		IP20	IP20	IP20	IP20
Mechanical Life ②	[Operations]	10 000	8 000	8 000	8 000
Operating Torque (Maximum)	[Nm.]	17.5	20.3	31.4	31.4
	[Lb.-In.]	155	180	275	275
Terminal Capacity					
Power terminals	[mm ²]	2.5...35	16...120	25...240	Two 50...50
	[AWG]	#14...#2	#6...250MCM	#4...500MCM	Two 1/0...50MCM
Auxiliary contact ratings	[mm ²]	2.5...4	2.5...4	2.5...4	2.5...4
	[AWG]	#14...#12	#14...#12	#14...#12	#14...#12
Maximum No. of Auxiliary Contacts		8	8	8	8
Approximate Weight	[kg]	4.03	6.16	9.30	23.83
	[Lbs.]	8.88	13.59	20.50	30.50
Minimum Enclosure Size	Height	330 (13)	560 (22)	610 (24)	762 (30)
Dimensions in mm and (inches).	Width	301 (11-27/32)	344 (13-17/32)	394 (15-33/64)	424 (16-45/64)
	Depth	162 (6-3/8)	178 (7)	227 (8-15/16)	243 (9-9/16)
Switch Dimension Reference		C1	D1	E1	F1
(See dimension drawings on pages 10-104 and 10-105.)					

- ① Fuses must be selected with regard to the maximum prospective fault current of the system and the maximum cut-off current of the fuse when subjected to that maximum fault current. The maximum fuse cut-off current as specified for each disconnect switch must not be exceeded.
- ② Based on Rockwell Automation tests performed in accordance with the requirements as defined in IEC 947-3.

Bulletin 194R
Fused Disconnect Switch Line
Specifications

Fused Disconnect Switches for DIN Fuses

		Cat. No. 194R-ND072P3		Cat. No. 194R-ND138P3		Cat. No. 194R-ND250P3		Cat. No. 194R-ND300P3	
Electrical Design Specifications/Test Requirements									
Fuse Type	DIN Dimension	00		0		1		1, 2	
Rated Isolation Voltage (U _i)	[V]	660		660		660		660	
Maximum Short Circuit Prospective Fault Current	[kA]	100		100		100		100	
Rated Operation Current AC-22 A (I _e)		Fuse Links	Shorting Links	Fuse Links	Shorting Links	Fuse Links	Shorting Links	Fuse Links	Shorting Links
200/230V 50 Hz	[A]	85	85	160	160	250	250	400	400
380/400/415V 50 Hz	[A]	85	85	160	160	250	250	400	400
500V 50 Hz	[A]	85	85	160	160	250	250	400	400
660/690V 50 Hz	[A]	85	85	160	160	250	250	400	400
Rated Operation Current AC-23 A (I _e)									
200/230V 50 Hz	[A]	75	75	130	130	240	240	300	300
380/400/415V 50 Hz	[A]	72	72	138	138	245	245	300	300
500V 50 Hz	[A]	65	65	130	130	220	220	290	290
660/690V 50 Hz	[A]	61	61	118	118	170	170	220	220
Rated Thermal Current (I _{the})	[A]	85	85	160	160	250	250	400	400
Maximum kW, AC-23 A 3Ø									
200/230V 50 Hz	[kW]	22	22	37	37	75	75	90	90
380/400/415V 50 Hz	[kW]	37	37	75	75	132	132	160	160
500V 50 Hz	[kW]	45	45	90	90	160	160	200	200
660/690V 50 Hz	[kW]	55	55	110	110	160	160	200	200
Maximum Fuse Rating	[A]	100	—	200	—	250	—	400	—
Maximum Motor Circuit Fuse Link		100	—	200	—	250	—	400	—
Maximum Fuse Cut-off Current ①	[kA]	14	14	20	20	33	33	40	40
Rated Short Time Current, 1 Second	[kA]	2		4		7.5		12	

Mechanical Design Specifications/Test Requirements

Degree of Protection (per IEC 947)		IP00	IP00	IP00	IP00
Switch only		IP20	IP20	IP20	IP20
Switch with Terminal Shields & Fuse Cover(s)		IP20	IP20	IP20	IP20
Mechanical Life ②	[Operations]	10 000	8 000	8 000	8 000
Operation Torque (Maximum)	[Nm.]	17.5	20.3	31.4	31.4
	[Lb.-In.]	155	180	275	275
Terminal Capacity		2.5... 35	16...120	25 - 240	Two 50... 150
Power Terminals	[mm ²]	#14...#2	#6...250MCM	#4 - 500MCM	Two 1/0... 350MCM
	[AWG]				
Auxiliary Contact Terminals	[mm ²]	2.5...4	2.5...4	2.5...4	2.5...4
	[AWG]	#14...#12	#14...#12	#14...#12	#14...#12
Maximum No. of Auxiliary Contacts		8	8	8	8
Approximate Weight	[kg]	4.15	6.17	9.41	14.06
	[Lbs.]	9.16	13.61	20.75	31.00
Minimum Enclosure Size	Height	330 (13)	560 (22)	712 (28)	762 (30)
Dimensions in Millimetres (inches).	Width	301 (11-27/32)	344 (13-17/32)	394 (15-33/64)	424 (16-45/64)
	Depth	168 (6-5/8)	183 (7-7/32)	227 (8-15/16)	243 (9-9/16)
Switch Dimension Reference		C2	D2	E2	F1
(See dimension drawings on pages 10-102 and 10-104.)					

① Fuses must be selected with regard to the maximum prospective fault current of the system and the maximum cut-off current of the fuse when subjected to that maximum fault current. The maximum fuse cut-off current as specified for each disconnect switch must not be exceeded.

② Based on Rockwell Automation tests performed in accordance with the requirements as defined in IEC 947-3.

Bulletin 194R
Fused Disconnect Switch Line
Specifications

Fused Disconnect Switches for CSA HRCII-C Fuses

	Cat. No. 194R-NA200P3	Cat. No. 194R-NA300P3	Cat. No. 194R-NH100P3	Cat. No. 194R-NH200P3	Cat. No. 194R-NH400P3
Electrical Design Specifications/Test Requirements					
CSA Fuse Type	HRCII-C	HRCII-C	HRCII-C	HRCII-C	HRCII-C
Maximum Fuse Cartridge Size [A]	30	60	100	200	400
Maximum Voltage AC [V]	600	600	600	600	600
Ampere Rating [A]	30	60	100	200	400
Maximum Short Circuit Prospective Fault Current [kA]	100	100	100	100	100
Maximum Hp, 3ØAC	200V 60 Hz [Hp]	7.5	15	25	50
	230V 60 Hz [Hp]	7.5	15	30	60
	460V 60 Hz [Hp]	15	30	60	125
	575V 60 Hz [Hp]	20	50	75	150
Maximum Hp, 1ØAC	115V 60 Hz [Hp]	2	3	—	—
	230V 60 Hz [Hp]	3	10	15	30

Mechanical Design Specifications/Test Requirements					
Degree of Protection (per IEC 947)					
Switch only	IP00	IP00	IP00	IP00	IP00
Switch with Terminal Shields & Fuse Cover(s)	IP20	IP20	IP20	IP20	IP20
Mechanical Life ① [Operations]	10 000	10 000	10 000	8 000	8 000
Operating Torque (Maximum)	[Nm.]	4	4	20.3	31.4
	[Lb.-In.]	35	35	180	275
Terminal Capacity					
Power Terminals [mm ²]	2.5... 6	2.5...25	10...50	25... 240	Two 50... 150
[AWG]	#14...#8	#14...#4	#8...#1/0	#4... 500MCM	Two 1/0... 350MCM
Auxiliary Contact Terminals [mm ²]	2.5...4	2.5...4	2.5...4	2.5...4	2.5...4
[AWG]	#14...#12	#14...#12	#14...#12	#14...#2	#14...#12
Maximum No. of Auxiliary Contacts	8	8	8	8	8
Approximate Weight	[kg]	0.83	1.18	6.16	9.30
	[Lbs.]	1.84	2.60	13.59	20.50
Minimum Enclosure Size Dimensions in Millimetres (inches)	Height	248 (9-3/4)	248 (9-3/4)	384 (15-1/8)	610 (24)
	Width	171 (6-3/4)	197 (7-3/4)	344 (13-17/32)	394 (15-33/64)
	Depth	148 (5-13/16)	148 (5-13/16)	178 (7)	227 (8-15/16)
Switch Dimension Reference (See dimension drawings on pages 10-102... 10-105.)	A1	B1	D1	E1	F1

① Based on Rockwell Automation tests performed in accordance with the requirements as defined in CSA C22.2 No. 4 and IEC 947-3.

Bulletin 194R
Fused Disconnect Switch Line
Specifications

Fused Disconnect Switches for UL Class and CSA HRCI-J Fuses ①

	Cat. No. 194R-NC030P3	Cat. No. 194R-NJ030P3	Cat. No. 194R-NJ060P3	Cat. No. 194R-NJ100P3	Cat. No. 194R-NJ200P3	Cat. No. 194R-NJ400P3
Electrical Design Specifications/Test Requirements						
UL/CSA Fuse Type	Class CC / HRCI-MISC ②	Class J / HRCI-J	Class J / HRCI-J	Class J / HRCI-J	Class J / HRCI-J	Class J / HRCI-J
Max. Fuse Cartridge Size [A]	30	30	60	100	200	400
Maximum Voltage	AC [V]	600	600	600	600	600
	DC [V]	250	250	250	250	250
Ampere Rating [A]	30	30	60	100	200	400
Max. Short Circuit Prospective Fault Current [kA]	100	100	100	100	100	100
Fuse Operating Characteristics	Time Delay	Non Time Delay	Time Delay	Non Time Delay	Time Delay	Non Time Delay
Maximum Hp, 3ØAC						
200V 60 Hz [Hp]	5	3	7.5	3	15	7.5
230V 60 Hz [Hp]	5	3	7.5	3	15	7.5
460V 60 Hz [Hp]	10	5	15	5	30	15
575V 60 Hz [Hp]	10	7.5	20	7.5	50	15
Maximum Hp, 1 ØAC						
115V 60 Hz [Hp]	.75	.5	2	.5	3	1.5
230V 60 Hz [Hp]	2	1.5	3	1.5	10	3
Maximum Hp, DC						
125V DC [Hp]	2	2	3	2	5	5
250V DC [Hp]	3	3	5	5	10	10

Mechanical Design Specifications/Test Requirements					
Degree of Protection (per IEC 947)					
Switch only	IP00	IP00	IP00	IP00	IP00
Switch with Terminal Shields & Fuse Cover(s)	IP20	IP20	IP20	IP20	IP20
Mechanical Life ③ [Operations]	10 000	10 000	10 000	8 000	8 000
Operating Torque (Maximum) [Nm.]	4	4	17.5	20.3	31.4
	[Lb.-In.]	35	155	180	275
Terminal Capacity					
Power Terminals [mm²]	2.5...6	2.5...25	2.5...35	16...120	Two 50...150
[AWG]	#14...#8	#14...#4	#14...#2	#6...250MCM	Two 1/0...350MCM
Auxiliary Contact Terminals [mm²]	2.5...4	2.5...4	2.5...4	2.5...4	2.5...4
[AWG]	#14...#12	#14...#12	#14...#12	#14...#12	#14...#12
Maximum No. of Auxiliary Contacts	8	8	8	8	8
Approximate Weight [kg.]	0.92	1.32	4.12	6.16	13.83
	[Lbs.]	2.03	9.08	13.59	30.50
Minimum Enclosure Size					
Dimensions in Millimetres (inches)	248(9-3/4)	248(9-3/4)	330 (13)	560 (22)	762 (30)
Height	171 (6-3/4)	197 (7-3/4)	301 (11-27/32)	344 (13-17/32)	424 (16-45/64)
Width	148 (5-13/16)	148 (5-13/16)	162 (6-3/8)	178 (7)	243 (9-9/16)
Depth					
Switch Dimension Reference (See dimension drawings on pages 10-102...10-105.)	A1	B1	C1	D1	F1

- ① Only UL Listed Class J and CC fuses, as well as CSA Certified HRCI-J and HRCI-MISC fuses (also UL Listed as Class CC) are suitable for use with these disconnect switches.
- ② CSA HRCI-MISC fuses must also be UL Listed as Class CC.
- ③ Based on Rockwell Automation tests performed in accordance with the requirements as defined in UL 1087, UL 98, CSA C22.2 No. 4 and IEC 947-3.

Non-Fused Disconnect Switches for UL Class and CSA Applications ❶

	Cat. No. 194R-NN030P3	Cat. No. 194R-NN060P3	Cat. No. 194R-NN100P3	Cat. No. 194R-NN200P3	Cat. No. 194R-NN400P3
Electrical Design Specifications/Test Requirements					
Maximum Fuse Cartridge Size [A]	30 ❷	60 ❷	100 ❷	200 ❷	400 ❷
Maximum Voltage	AC [V]	600	600	600	600
	DC [V]	250	250	250	250
Ampere Rating [A]	30	60	100	200	400
Maximum Short Circuit Prospective Fuse Current [kA]	100	100	100	100	100
Fuse Operating Characteristics ❸	Time Delay	Non Time Delay	Time Delay	Non Time Delay	Time Delay
Maximum Hp, 3Ø AC	200V 60 Hz [Hp]	7.5	3	15	7.5
	230V 60 Hz [Hp]	7.5	3	15	7.5
	460V 60 Hz [Hp]	15	5	30	15
	575V 60 Hz [Hp]	20	7.5	50	15
Maximum Hp, 1Ø AC	115V 60 Hz [Hp]	2	.5	3	1.5
	230V 60 Hz [Hp]	3	1.5	10	3
Maximum Hp, DC	125V DC [Hp]	3	2	5	5
	250V DC [Hp]	5	5	10	10

Mechanical Design Specifications/Test Requirements					
Degree of Protection (per IEC 947)					
Switch only	IP20	IP20	IP00	IP00	IP00
Switch with terminal shields & fuse cover(s)	IP20	IP20	IP20	IP20	IP20
Mechanical Life ❹ [Operations]	10 000	10 000	10 000	8 000	8 000
Operating Torque (Maximum)	[Nm.]	4	4	17.5	31.4
	[Lb.-In.]	35	35	155	275
Terminal Capacity					
Power Terminals	[mm²]	2.5...6	2.5...25	2.5...35	16...120
	[AWG]	#14...#8	#14...#4	#14...#2	#6...250MCM
Auxiliary Contact Terminals	[mm²]	2.5...4	2.5...4	2.5...4	2.5...4
	[AWG]	#4...#12	#14...#12	#14...#12	#14...#12
Maximum No. of Auxiliary Contacts		8	8	8	8
Approximate Weight	[kg]	0.81	1.14	4.31	6.56
	[Lbs.]	1.78	2.52	9.50	14.47
Minimum Enclosure Size Dimensions in mm and (inches)	Height	248 (9-3/4)	248 (9-3/4)	330 (13)	560 (22)
	Width	171 (6-3/4)	197 (7-3/4)	301 (11-27/32)	344 (13-17/32)
	Depth	111 (4-3/8)	111 (4-3/8)	162 (6-3/8)	178 (7)
Switch Dimension Reference (See dimension drawings on pages 10-102... 10-105.)	A2	B2	C1	D1	F1

❶ Non-fused disconnect switches must be used with separately installed UL Listed Class J, CC or T fuses, or CSA Certified HRCI-J, HRCI-T or HRCI-MISC (also UL Listed as Class CC) fuses.

❷ When using UL Class J, CC or T fuses and CSA HRCI-J, HRCI-MISC (also UL Listed as Class CC) or HRCI-T fuses.

❸ Based on Rockwell Automation tests performed in accordance with the requirements as defined in UL 1087, UL 98, CSA C22.2 No. 4 and IEC 947-3.

Fused Disconnect Switch Line

Proper Selection of Disconnect Switches

Applications Outside of the United States and Canada

General

Disconnect switches designed to IEC Standards and used in applications outside of North America are selected based on the ampere, horsepower, or kilowatt rating of the disconnect switch, under various utilisation categories. Utilisation categories for disconnect switches are as follows:

Nature of Current	Utilisation Category		Typical Applications
	Frequent Operation	Infrequent Operation	
AC	AC-20A ❶	AC-20B ❶	Connecting and disconnecting under no-load conditions
	AC-21A	AC-21B	Switching of resistive loads including moderate overloads
	AC-22A	AC-22B	Switching of mixed resistive and inductive loads, including moderate overloads
	AC-23A	AC-23B	Switching of motor loads or other highly inductive loads

❶ The use of these utilisation categories is not permitted in the U.S.

For any application, the disconnect switch ampere, horsepower, or kilowatt rating must be greater than, or equal to, the application full-load current or power (HP or kW), in the appropriate utilisation category.

Example 1: For a 380V 50 Hz distribution application (AC-22 A), with a 63 A full load current, the disconnect switch must be rated at least 63 A at 380V 50 Hz for use in AC-22 A applications.

Example 2: For a 415V 50 Hz motor application (AC-23 A), with a 75 kW rating, the disconnect switch must be rated at least 75 kW at 415V 50 Hz for use in AC-23 A applications.

Renewal Parts

Hardware Kits (includes switch/fuse mounting hardware and operating rod cotter pin)

Disconnect Switch		Hardware Kit Part No.
Cat. No.	Dim. Ref.	
194R-NC030P3	A1, A2	41022-316-02
194R-NJ030P3		41022-316-02
194R-NN030P3		41022-316-02
194R-NA100P3		41022-316-02
194R-NA200P3		41022-316-02
194R-NJ060P3	B1, B2	41022-316-02
194R-NN060P3		41022-316-02
194R-NA300P3		41022-316-02
194R-NA380P3	C1, C2	41022-800-03
194R-NN100P3		41022-800-02
194R-NJ100P3		41022-800-01
194R-NA400P3	D1, D2	41022-800-07
194R-NN200P3		41022-800-06
194R-NJ200P3		41022-800-05
194R-ND072P3		41022-800-04

Disconnect Switch		Hardware Kit Part No.
Cat. No.	Dim. Ref.	
194R-NH200P3	E1, E2	41022-800-12
194R-ND250P3		41022-800-11
194R-NB200P3		41022-800-10
194R-NH100P3		41022-800-09
194R-ND138P3		41022-800-08
194R-NH400P3	F1	41022-800-17
194R-ND300P3		41022-800-16
194R-NB300P3		41022-800-15
194R-NN400P3		41022-800-14
194R-NJ400P3		41022-800-13

Fused Disconnect Switch Line

Proper Selection of Disconnect Switches, Continued

Applications Within the United States and Canada

General

The requirements for disconnect switches used in motor branch circuits rated 600V and less are defined in Article 430, Part H of the U.S. National Electrical Code (NEC), NFPA70. Canadian Electrical Code (CEC) requirements are very similar in the area of motor branch circuit disconnect requirements. For simplicity, we will treat the NEC and CEC requirements as being the same — and reference specific sections of the U.S. National Electrical Code.

The requirements for properly sizing a disconnect switch are dependent on the type of application. The NEC refers to two types of applications: single motor and combination loads. A combination load consists of an application where two or more motors are used together or where one or more motors are used in combination with other loads, such as resistance heaters.

Single Motor Applications

Section 430-110 Paragraph (a) states that the disconnect switch must have an ampere rating of at least 115% of the full-load current rating of the motor.

Example 1: For a motor with a full-load current of 22 A, the disconnect switch must be rated at least 25.3 A (22×1.15)

If the disconnecting means under evaluation is rated in horsepower, the selection of the disconnect switch is even more straightforward; a disconnect switch must have a horsepower rating equal to or greater than the horsepower rating of the motor at the applicable voltage.

Example 2: For a motor with a 10 HP rating at 460V AC, the disconnect switch must be rated at least 10 HP at 460V AC.

If the disconnect switch is rated in horsepower and is UL Listed, UL Component Recognised, or CSA Certified, it will meet the requirements for the 115% full-load current rating stipulated by the NEC.

Combination Load Applications

Section 430-110 Paragraph (c) addresses the rating of the disconnecting means for combination loads. This paragraph essentially requires that the loads that “may be simultaneous on a single disconnecting means” be combined to provide equivalent full-load and locked-rotor currents for what is then to be considered as a single motor for the purpose of selecting the appropriate disconnecting means. This means that it is necessary to identify the particular combination of connected loads which can be operating simultaneously and will result in the maximum full-load and locked-rotor current sums.

The individual full-load current values are to be selected from Tables 430-148, 430-149, or 430-150 and the locked-rotor values are to be from Table 430-151.

The equivalent single motor full-load current is the sum of the simultaneously operating motor full-load currents and the rating in amperes of other loads operating at the same time. The equivalent locked-rotor current is the sum of the simultaneously started motors' locked-rotor currents and the full-load currents of the remaining operating motor and non-motor loads.

The disconnecting means shall have a current rating equal to or greater than 115% of the equivalent single motor full-load current and have a horsepower rating equal to or greater than the horsepower rating determined from the equivalent locked-rotor summation.

Consider the following 460V application:

Load	Hp	Full-load Current [A]
Motor 1	5	7.6 (simultaneous)
Motor 2	10	14.0 (not included) ^❶
Motor 3	15	21.0 (simultaneous)
Motor 4	20	27.0 (simultaneous)
Other		7.0 (simultaneous)
Total Equivalent		62.6 (simultaneous)

❶ **Note:** Motor 2 is not included in the total since it cannot operate simultaneously with the other motors; therefore, the disconnect switch must be rated at least 72 A (1.15×62.6).

Consider now the locked-rotor current analysis for the same application:

Load	Hp	Full-load Current [A]
Motor 1	5	(7.6 FLA) 45.6 (simultaneous)
Motor 2	10	84.0 (not included) ^❶
Motor 3	15	126.0 (simultaneous) ^❷
Motor 4	20	162.0 (simultaneous) ^❷
Other		7.0 (simultaneous)
Total Equivalent		302.6 (simultaneous)

❶ Note again that Motor 2 cannot operate simultaneously with the other loads.

❷ The largest equivalent locked-rotor current occurs when motors 3 and 4 start together while the other loads marked “simultaneous” are already operating. Since Motor 1 is not starting with Motors 3 and 4, its full-load current will be added to the total instead of its locked-rotor current.

Table 430-151, which provides the correlation between locked-rotor currents and HP ratings, shows that a 40 HP rating is the equivalent for 302.6 locked-rotor amperes.

Therefore, the disconnect selected for this application must have a current rating of at least 72 A and a HP rating of at least 40 HP. In this case a Bulletin 194R rated for 100 A and 60 HP at 460V would be an appropriate choice. What can be seen from this analysis is that, depending upon the number of motors that can start simultaneously, the actual size of the required disconnect is sometimes determined by the equivalent full load current (72 A) and other times by the equivalent horsepower determined from the locked-rotor analysis (40 HP).

Fused Disconnect Switch Line**Proper Selection of Disconnect Switches, continued****Applications Outside of the United States and Canada****General**

Disconnect switches designed to IEC Standards and used in applications outside of North America are selected based on the ampere, horsepower, or kilowatt rating of the disconnect switch, under various utilisation categories. Utilisation categories for disconnect switches are as follows:

Nature of Current	Utilisation Category		Typical Applications
	Frequent Operation	Infrequent Operation	
	AC-20A ❶	AC-20B ❶	Connecting and disconnecting under no-load conditions
	AC-21A	AC-21B	Switching of resistive loads including moderate overloads
AC	AC-22A	AC-22B	Switching of mixed resistive and inductive loads, including moderate overloads
	AC-23A	AC-23B	Switching of motor loads or other highly inductive loads

❶ The use of these utilisation categories is not permitted in the U.S.

For any application, the disconnect switch ampere, horsepower, or kilowatt rating must be greater than, or equal to, the application full-load current or power (HP or kW), in the appropriate utilisation category.

Example 1: For a 380V 50 Hz distribution application (AC-22 A), with a 63 A full load current, the disconnect switch must be rated at least 63 A at 380V 50 Hz for use in AC-22 A applications.

Example 2: For a 415V 50 Hz motor application (AC-23 A), with a 75 kW rating, the disconnect switch must be rated at least 75 kW at 415V 50 Hz for use in AC-23 A applications.

Renewal Parts**Hardware Kits (includes switch/fuse mounting hardware and operating rod cotter pin)**

Disconnect Switch		Hardware Kit Part No.
Cat. No.	Dim. Ref.	
194R-NC030P3	A1, A2	41022-316-02
194R-NJ030P3		41022-316-02
194R-NN030P3		41022-316-02
194R-NA100P3		41022-316-02
194R-NA200P3		41022-316-02
194R-NJ060P3	B1, B2	41022-316-02
194R-NN060P3		41022-316-02
194R-NA300P3		41022-316-02
194R-NA380P3	C1, C2	41022-800-03
194R-NN100P3		41022-800-02
194R-NJ100P3		41022-800-01
194R-NA400P3	D1, D2	41022-800-07
194R-NN200P3		41022-800-06
194R-NJ200P3		41022-800-05
194R-ND072P3		41022-800-04

Disconnect Switch		Hardware Kit Part No.
Cat. No.	Dim. Ref.	
194R-NH200P3	E1, E2	41022-800-12
194R-ND250P3		41022-800-11
194R-NB200P3		41022-800-10
194R-NH100P3		41022-800-09
194R-ND138P3		41022-800-08
194R-NH400P3	F1	41022-800-17
194R-ND300P3		41022-800-16
194R-NB300P3		41022-800-15
194R-NN400P3		41022-800-14
194R-NJ400P3		41022-800-13

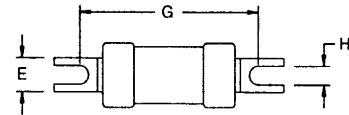
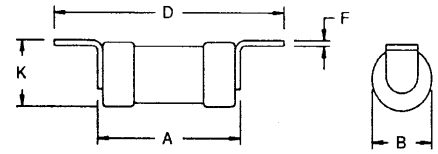
With Bulletin 194R Fused Disconnect Switches

Bulletin 194R Fused Disconnect Switches have been designed to accept a variety of fuses for worldwide application flexibility. Following is a brief summary of typical fuse specifications, where the fuses are typically used, and which Bulletin 194R disconnect switches will accommodate each fuse type. Fuse manufacturers should be contacted for more specific information about each fuse type. **Fuses are not available from Rockwell Automation.**

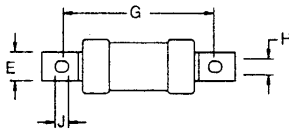
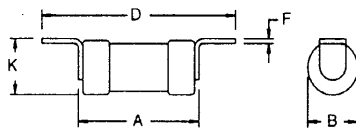
BS88 Fuses (63 A shown)

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

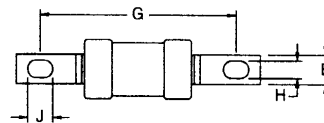
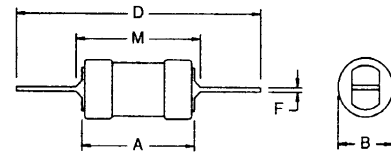
- IEC fuse type: Fuse-link for bolted connection
- Voltage rating: 660/690V AC
- Interrupting rating: 80 kA
- Standard cartridge sizes: A1, A2, A3, A4, B1, B2, B3, B4
- Typical ampere ratings: 2 A to 400 A
- Construction: Blade type for bolted connection
- Can be installed on Bulletin 194R disconnect switch **Cat. Nos: 194R-NA100P3, NA200P3, NA300P3, NA380P3, NA400P3, NB200P3, NB300P3**
- Where used: United Kingdom, Australia, New Zealand, Asia



Standard cartridge size A1



Standard cartridge sizes A2, A3, A4



Standard cartridge sizes B1, B2, B3, B4

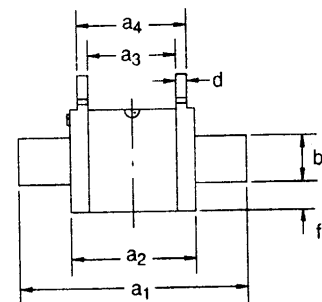
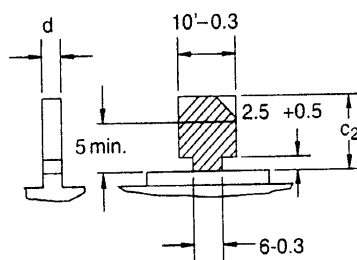
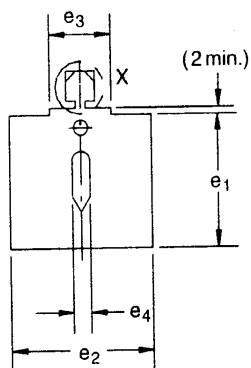
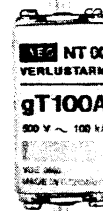
Dim. Ref.	Ampere Range (A)	A	B	D	E	F	G	H	K	
A1	2...20	36.50 (1-7/16)	13.90 (35/64)	55.60 (2-3/16)	11.10 (7/16)	0.80 (1/32)	4.50 (1-3/4)	4.40 (11/64)	14.30 (9/16)	
Dim. Ref.	Ampere Range (A)	A	B	D	E	F	G	H	J	K
A2	2...32	56.40 (2-7/32)	23.80 (15/16)	85.80 (3-3/8)	8.70 (11/32)	1.20 (3/64)	73.00 (2-7/8)	5.20 (13/64)	7.10 (9/32)	23.80 (15/16)
A3	35...63	56.40 (2-7/32)	23.80 (15/16)	85.80 (3-3/8)	8.70 (11/32)	1.20 (3/64)	73.00 (2-7/8)	5.20 (13/64)	7.10 (9/32)	23.80 (15/16)
A4	80...100	70.00 (2-3/4)	34.90 (1-3/8)	111.00 (4-3/8)	19.10 (3/4)	2.40 (3/32)	93.70 (3-11/16)	8.70 (11/32)	10.30 (13/32)	34.90 (1-3/8)
Dim. Ref.	Ampere Range (A)	A	B	D	E	F	G	H	J	M
B1	80...100	70.00 (2-3/4)	34.90 (1-3/8)	136.50 (5-3/8)	19.10 (3/4)	3.20 (1/8)	111.00 (4-3/8)	8.70 (11/32)	11.90 (15/32)	79.40 (3-1/8)
B2	125...200	77.00 (3-1/32)	41.30 (1-5/8)	136.50 (5-3/8)	19.10 (3/4)	3.20 (1/8)	111.00 (4-3/8)	8.70 (11/32)	11.90 (15/32)	79.40 (3-1/8)
B3	250...315	77.00 (3-1/32)	54.00 (2-1/8)	136.50 (5-3/8)	25.40 (1)	3.20 (1/8)	111.00 (4-3/8)	8.70 (11/32)	11.90 (15/32)	82.00 (3-1/4)
B4	355...400	83.00 (3-9/32)	61.10 (2-13/32)	136.50 (5-3/8)	25.40 (1)	6.30 (1/4)	111.00 (4-3/8)	8.70 (11/32)	11.90 (15/32)	85.80 (3-3/8)

Fused Disconnect Switch Line**Fuse Description, Continued****With Bulletin 194R Fused Disconnect Switches, Continued****DIN Fuses (100 A shown)**

Dimensions in mm only.

Dimensions are not intended to be used for manufacturing purposes.

- IEC fuse type: Fuse-link with blade contacts
- Voltage rating: 660/690V AC
- Interrupting rating: 120,000 A
- Standard cartridge sizes: 00, 0, 1 and 2
- Typical ampere ratings: 2 A to 400 A
- Construction: Blade type
- Can be installed on Bulletin 194R disconnect switch Cat. Nos:
194R-ND072P3, ND138P3, ND250P3, ND300P3
- Where used: Europe, South America, Middle East and India



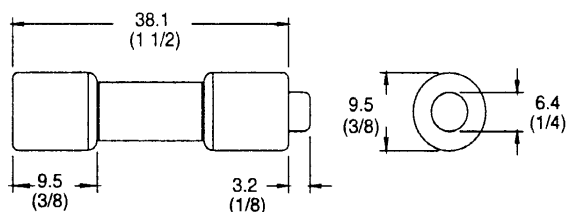
Size	Max. rated current (A)	a ₁	a ₂	a ₃	a ₄	b (min.)	d	e ₁ (max.)	e ₂ (max.)	e ₃	e ₄ ±0.2	f
00	100	78.5 ±1.5	53	45 ±1.5	49 ±1.5	15	2 ±0.5	48	30	20 ±5	6	12.5
0	160	125 ±2.5	67	62 +3 -1.5	68 +1.5 -3	15	2 +1.5 -0.5	48	40	20 ±5	6	11.5
1	250	135 ±2.5	71	62 ±2.5	68 ±2.5	20	2.5 +1.5 -0.5	53	52	20 +5 -2	6	10
2	400	150 ±2.5	72	62 ±2.5	68 ±2.5	25	2.5 +1.5 -0.5	61	60	20 +5 -2	6	10

With Bulletin 194R Fused Disconnect Switches, Continued

UL Class and CSA HRCI fuses (10 A shown)

Dimensions in mm and (inches). Dimensions are not intended to be used for manufacturing purposes.

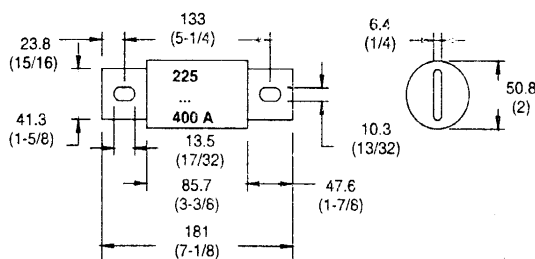
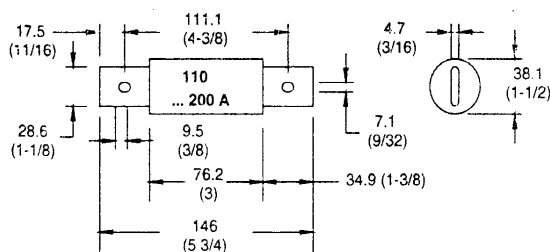
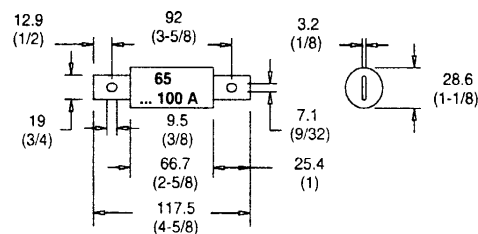
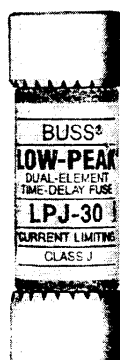
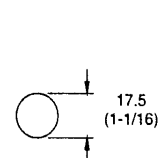
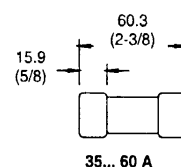
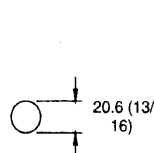
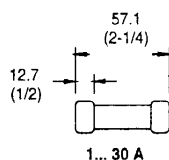
- UL fuse type: Class CC
- CSA fuse type: HRCI-MISC
- Rated voltage: 600V AC
- Interrupting rating: 200 000 A
- Standard cartridge size: 30 A
- Typical ampere ratings: 1...30 A
- Construction: Ferrule type
- Can be installed on Bulletin 194 disconnect switch **Cat. No. 194R-NC030P3**
- Where used: North America



UL Class and CSA HRCI Fuses (30 A shown)

Dimensions in mm and (inches). Dimensions are not intended to be used for manufacturing purposes.

- UL fuse type: Class J
- CSA fuse type: HRCI-J
- Rated voltage: 600V AC
- Interrupting rating: 200 000 A
- Standard cartridge sizes: 30 A, 60 A, 100 A, 200 A and 400 A
- Typical ampere rating: 1...400 A
- Construction: 0...60 A; Ferrule Type
61...600 A; Blade Type for bolted connection
- Can be installed on Bulletin 194R Disconnect Switch **Cat. No.: 194R-NJ030P3, NJ060P3, NJ100P3, NJ200P3, NJ400P3**
- Where used: North America



Bulletin 194R

Fused Disconnect Switch Line

Fuse Description

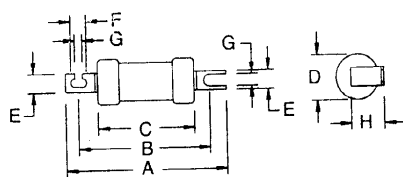
With Bulletin 194R Fused Disconnect Switches, Continued

CSA HRCII Fuses (100 A shown)

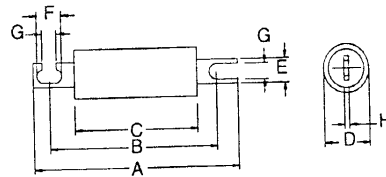
Dimensions in mm (inches).

Dimensions are not intended to be used for manufacturing purposes.

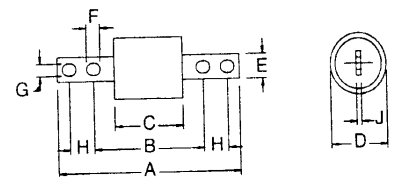
- CSA fuse type: HRCII-C
- Voltage rating: 600V AC
- Interrupting rating: 200 000 A
- Standard cartridge sizes: 30 A, 60 A, 100 A, 200 A and 400 A
- Typical ampere ratings: 1 A to 400 A
- Construction: Blade type for bolted connection
- Can be installed on Bulletin 194R disconnect switch
Cat. Nos: 194R-NA200P3, NA300P3, NH100P3, NH200P3, NH400P3
- Where used: Canada



Standard Cartridge Sizes 30 A and 60 A



Standard Cartridge Sizes 100 A, 200 A and 400 A

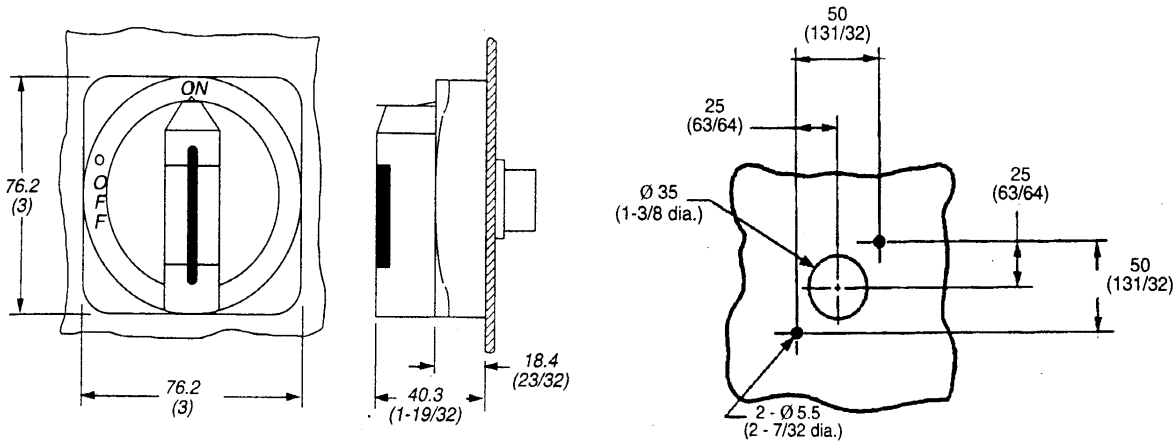


Range (A)	A	B	C	D	E	F	G	H	J
0...30	84.14 (3-5/16)	71.04 (2-51/64)	50.8 (2)	20.64 (13/16)	8.73 (11/32)	7.54 (19/64)	5.56 (7/32)	23.81 (15/16)	1.59 (1/16)
31...60	88.9 (3-1/2)	71.04 (2-51/64)	50.8 (2)	20.64 (13/16)	12.7 (1/2)	7.54 (19/64)	5.56 (7/32)	26.99 (1-1/16)	1.59 (1/16)
61...100	109.54 (4-5/16)	92.47 (3-41/64)	60.72 (2-25/64)	34.13 (1-11/32)	19.05 (3/4)	11.91 (15/32)	8.73 (11/32)	34.93 (1-3/8)	2.38 (3/32)
101...200	134.94 (5-5/16)	109.14 (4-19/64)	76.2 (3)	38.1 (1-1/2)	19.05 (3/4)	11.91 (15/32)	8.73 (11/32)	3.18 (1/8)	-
201...400	207.96 (8-3/16)	133.35 (5-1/4)	76.2 (3)	60.33 (2-3/8)	25.4 (1)	12.7 (1/2)	9.53 (3/8)	25.4 (1)	4.76 (3/16)
401...600	207.96 (8-3/16)	133.35 (5-1/4)	76.2 (3)	76.2 (3)	25.4 (1)	15.08 (19/32)	10.32 (13/32)	25.4 (1)	9.53 (3/8)

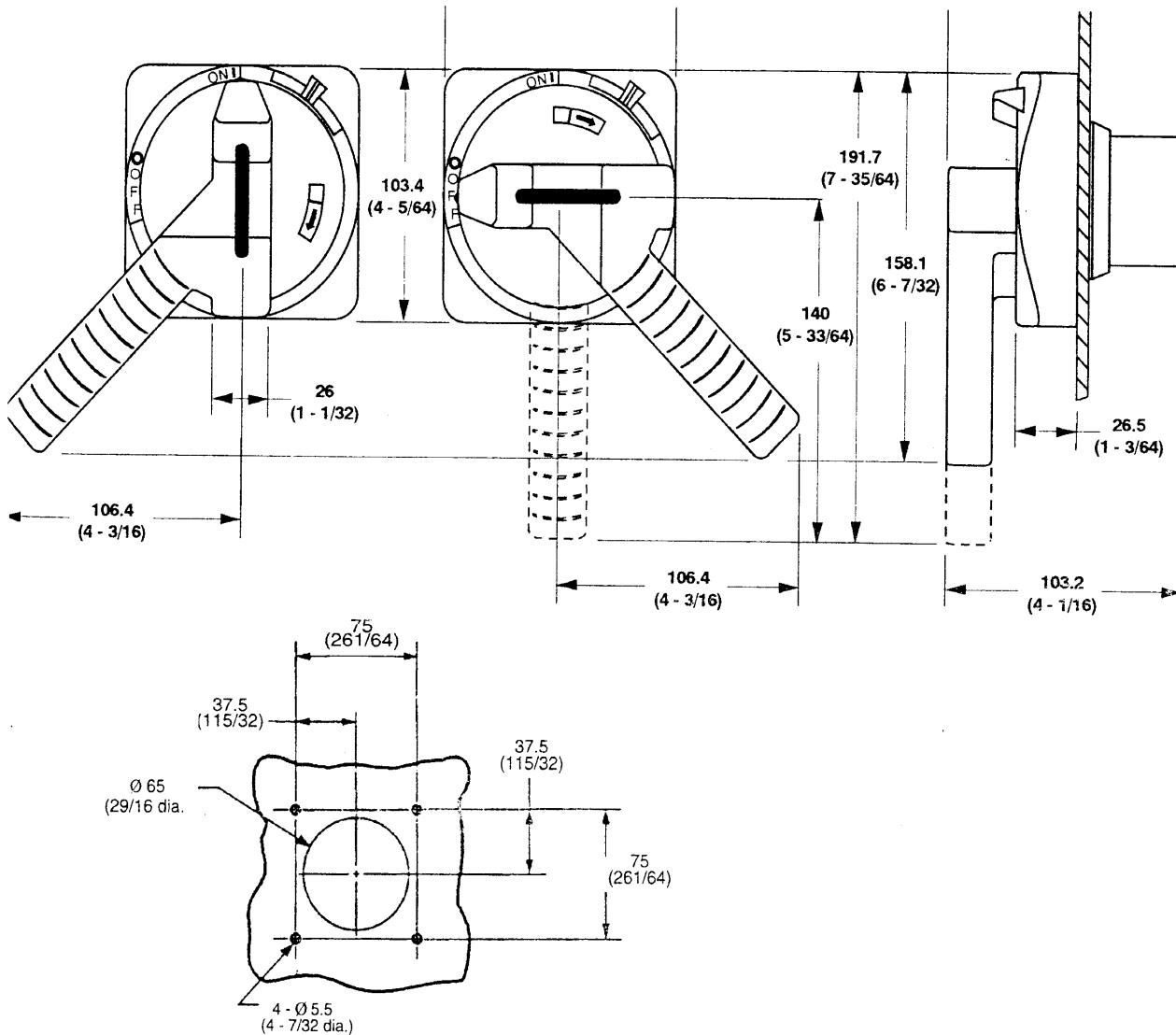
Dimensions

Dimensions in mm and (inches). Dimensions are not intended to be used for manufacturing purposes.

Operating Handle Cat. No. 194R-HS...



Operating Handle Cat. No. 194R-HM...



Bulletin 194R

Fused Disconnect Switch Line

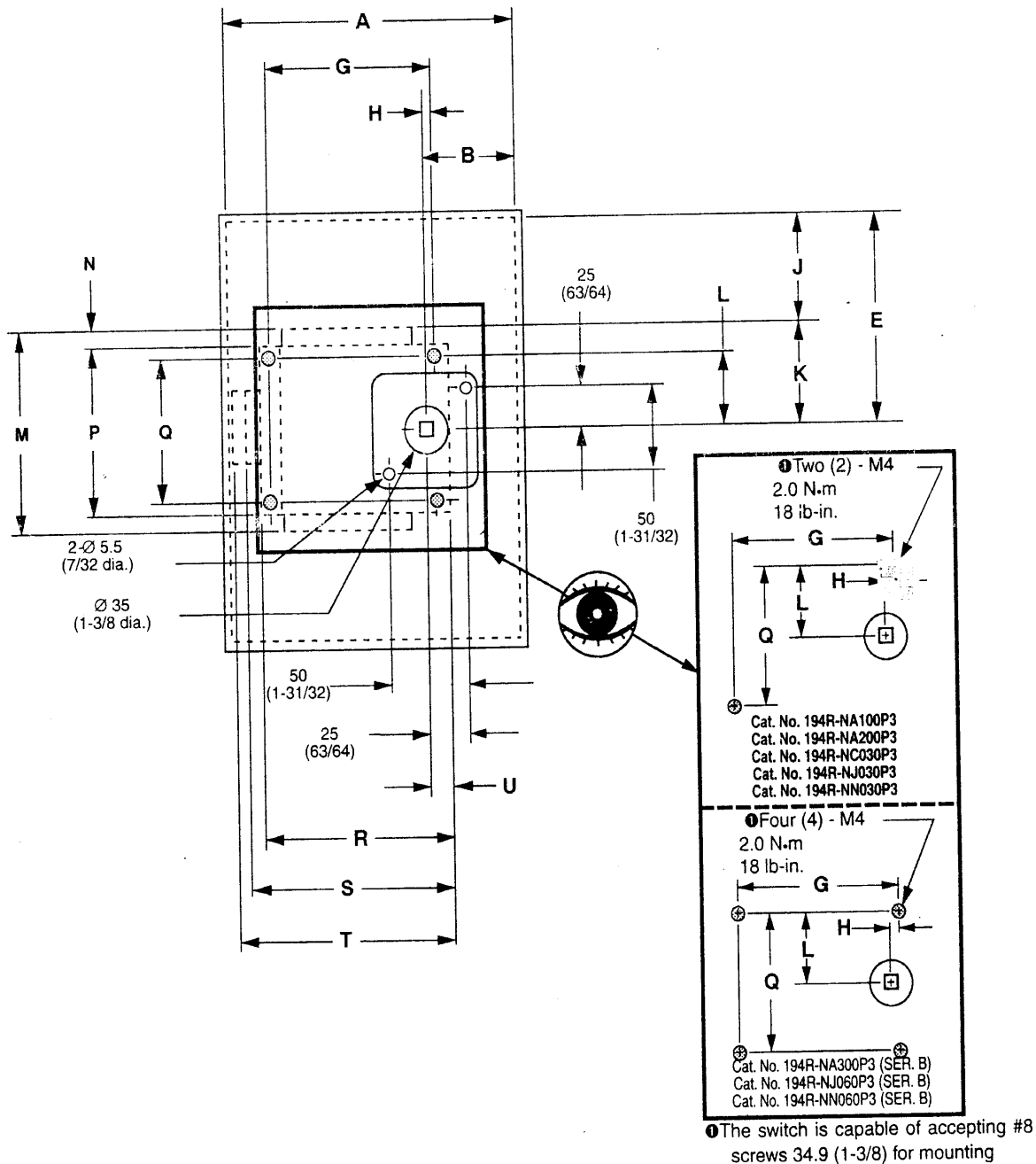
Dimensions

Dimensions

Dimensions in mm and (inches). Dimensions are not intended to be used for manufacturing purposes.

Disconnect Switch Dim. Ref.: A1, A2, B1, B2

Disconnect Switch and Operating Handle



10

Note: Enclosure Installation Dimensions A...F are listed on page 10-104.

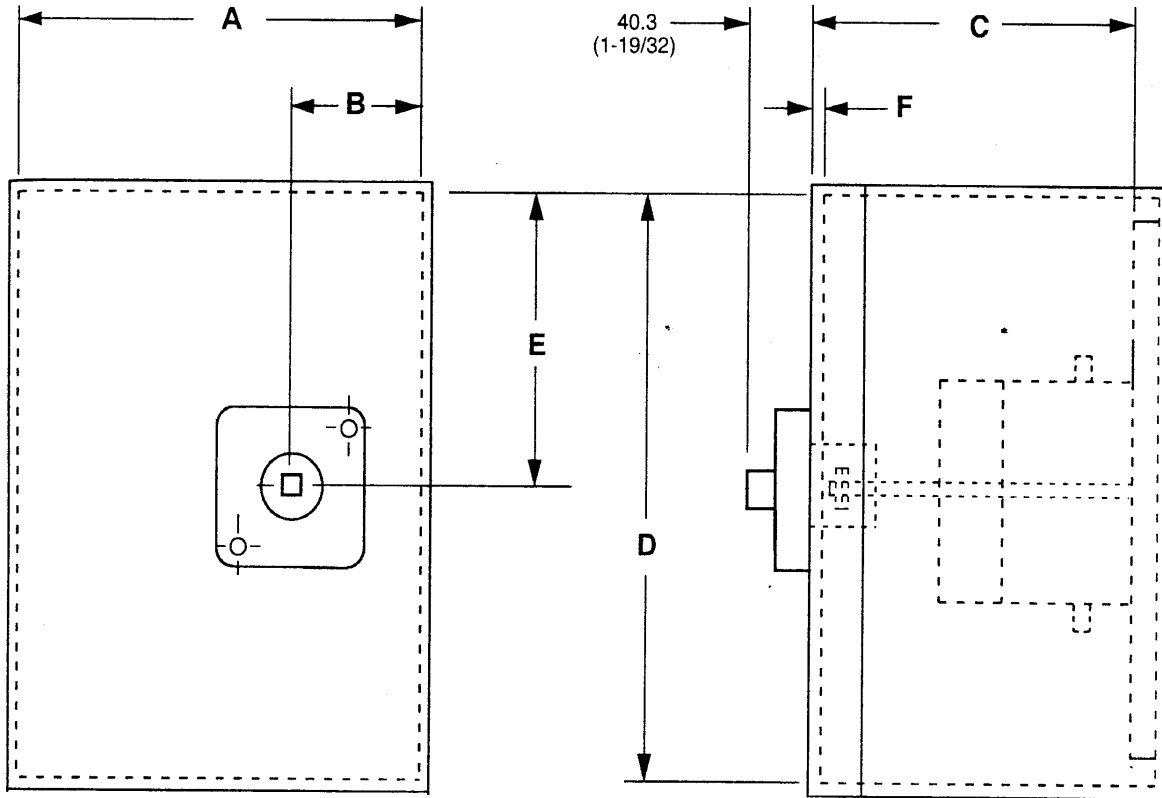
Cat. No.	Dim. Ref.	G	H	J	K	L	M	N	P	Q	R	S	T	U
194R-NA100P3 194R-NA200P3 194R-NC030P3 194R-NJ030P3 194R-NN030P3	A1, A2	85 (3-11/32)	7.5 (19/64)	24.2 (61/64)	64.8 (2-35/64)	41 (1-39/64)	129.6 (5-7/64)	11.8 (15/32)	106 (4-11/64)	82 (3-15/64)	102 (4-1/64)	114.1 (4-1/2)	126.2 (4-31/32)	12 (15/32)
194R-NA300P3 194R-NJ060P3 194R-NN060P3	B1, B2	120 (4-23/32)	10 (25/64)	28.5 (1-1/8)	76.5 (3-1/64)	50 (1-31/32)	153 (6-1/32)	17.5 (11/16)	118 (4-21/32)	100 (3-15/16)	134 (5-9/32)	146.1 (5-3/4)	158.2 (6-15/64)	16 (5/8)

Dimensions

Dimensions in mm and (inches). Dimensions are not intended for manufacturing purposes.

Disconnect Switch Dim. Ref.: A1, A2, B1, B2

Enclosure and Operating Handle



Enclosure Installation Dimensions

Cat. No.	Dim. Ref.	A	B	C		D	E	F	
		Maximum	Minimum	Minimum	Minimum	Maximum	Minimum	Minimum	Maximum
194R-NA100P3 194R-NA200P3 194R-NC030P3 194R-NJ030P3	A1	171 (6-3/4)	45 (1-49/64)	147.6 (5-13/16)	454 (17-7/8)	248 (9-3/4)	89 (3-1/2)	1.4 (1/16)	4.78 (3/16)
194R-NN030P3	A2	171 (6-3/4)	45 (1-49/64)	111 (4-3/8)	454 (17-7/8)	248 (9-3/4)	89 (3-1/2)	1.4 (1/16)	4.78 (3/16)
194R-NA300P3 194R-NJ060P3	B1	197 (7-3/4)	45 (1-49/64)	147.6 (5-13/16)	454 (17-7/8)	248 (9-3/4)	105 (4-9/64)	1.4 (1/16)	4.76 (3/16)
194R-NN050P3	B2	197 (7-3/4)	45 (1-49/64)	111 (4-3/8)	454 (17-7/8)	248 (9-3/4)	105 (4-9/64)	1.4 (1/16)	4.78 (3/16)

Bulletin 194R

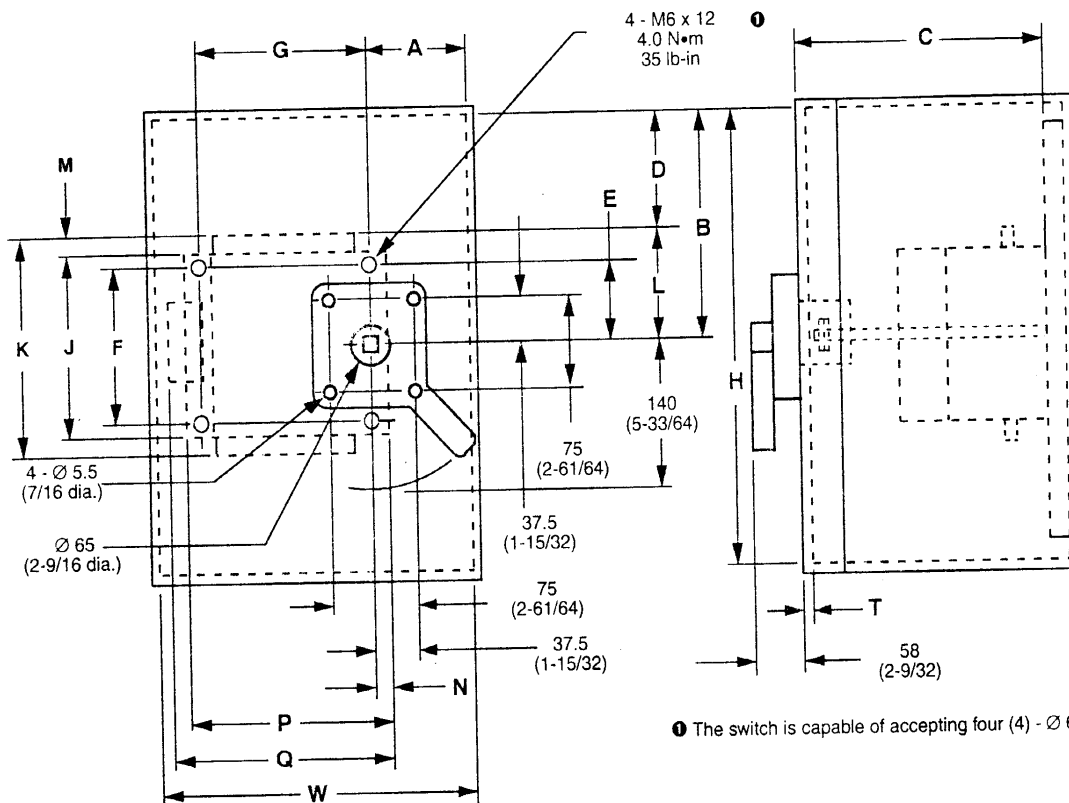
Fused Disconnect Switch Line

Dimensions

Dimensions

Dimensions in mm and (inches). Dimensions are not intended to be used for manufacturing purposes.

Disconnect Switch Dim. Ref.: C1, C2, D1, D2



① The switch is capable of accepting four (4) - Ø 6.4 (1/4 dia.) screws for mounting

Enclosure Installation Dimensions

Dimension Reference	A	B	C		H	T		W	
								Maximum	
								Single Pole Aux. Contact	Two Pole Aux. Contact
C1	108 (4-1/4)	162 (6-3/8)	162 (6-3/8)	457 (18)	330 (13)	1.6 (1/16)	4.8 (3/16)	301 (11-27/32)	313 (12-5/16)
C2	108 (4-1/4)	162 (6-3/8)	168 (6-5/8)	457 (18)	330 (13)	1.6 (1/16)	4.8 (3/16)	301 (11-27/32))	313 (12-5/16)
D1	108 (4-1/4)	280 (11)	178 (7)	457 (18)	560 (22)	1.6 (1/16)	4.8 (3/16)	344 (13-17/32)	356 (14)
D2	108 (4-1/4)	280 (11)	183 (7-7/32)	457 (18)	560 (22)	1.6 (1/16)	4.8 (3/16)	344 (13-17/32)	356 (14)

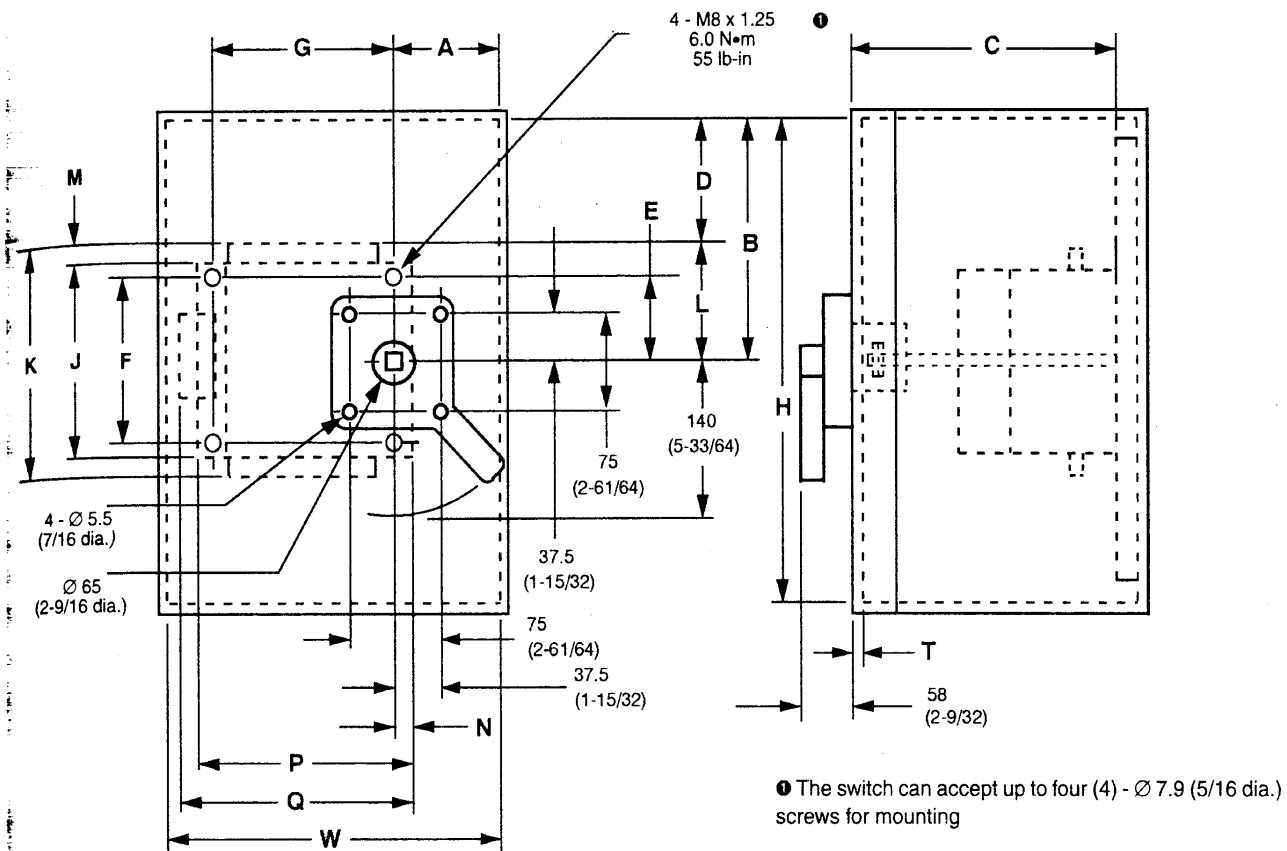
Disconnect Switch and Operating Handle Installation Dimensions

Dimension Reference	D	E	F	G	J	K	L	M	N	P	Q
C1, C2	74 (2-29/32)	53 (2-3/32)	106 (4-3/16)	170 (6-11/16)	148 (5-53/64)	176 (6-15/16)	88 (3-15/32)	13.5 (17/32)	12.7 (1/2)	194 (7-41/64)	206 (8-7/64)
D1, D2	162 (6-23/64)	53 (2-3/32)	106 (4-3/16)	212 (8-11/32)	184 (7-1/4)	236 (9-9/32)	118 (4-41/64)	26 (1-1/32)	12.7 (1/2)	236 (9-19/64)	248 (9-49/64)

Dimensions

Dimensions in mm and (inches). Dimensions are not intended to be used for manufacturing purposes.

Disconnect Switch Dim. Ref.: E1, E2, F1



Enclosure Installation Dimensions

Dimension Reference	A	B	C		H	T		W	
								Minimum	
	Minimum	Minimum	Minimum	Minimum	Maximum	Minimum	Minimum	Single Pole Aux. Contact	Two Pole Aux. Contact
E1	108 (4-1/4)	305 (12)	227 (8-15/16)	610 (24)	610 (24)	1.6 (1/16)	4.8 (3/16)	394 (15-33/64)	406 (16)
E2	108 (4-1/4)	356 (14)	227 (8-15/16)	610 (24)	712 (28)	1.6 (1/16)	4.8 (3/16)	394 (15-33/64)	406 (16)
F1	108 (4-1/4)	381 (15)	243 (9-9/16)	610 (24)	762 (30)	1.6 (1/16)	4.8 (3/16)	606 (23-7/8)	606 (23-7/8)

Disconnect Switch and Operating Handle Installation Dimensions

Dimension Reference	D	E	F	G	J	K	L	M	N	P	Q
E1	158 (6-7/32)	75 (2-61/64)	150 (5-28/32)	252 (9-59/64)	220 (8-21/32)	294 (11-37/64)	147 (5-25/32)	37 (1-29/64)	14 (35/64)	278 (10-15/16)	290 (11-13/32)
E2	209 (8-7/32)	75 (2-61/64)	150 (5-28/32)	252 (9-59/64)	220 (8-21/32)	294 (11-37/64)	147 (5-25/32)	37 (1-29/64)	14 (35/64)	278 (10-15/16)	290 (11-13/32)
F1	202 (7-61/64)	75 (2-61/64)	150 (5-28/32)	282 (11-7/64)	250 (9-27/32)	358 (14-3/32)	179 (7-3/64)	54 (2-1/8)	14 (35/64)	308 (12-1/8)	320 (12-19/32)