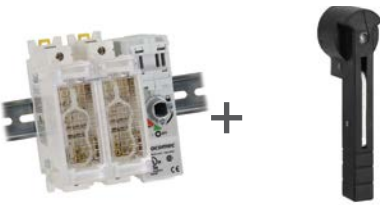


FUSERBLOC UL 98 Fusible Disconnect Switches

To assemble a switch, please select:

Direct Operation



Switch Body

Direct Handle

OR

External Operation



Switch Body

Shaft

External Handle

UL 98 Fusible Disconnect Switches

Part Number	Description	Switch Body Rating (A)	Frame Size	Number of Poles	Price
38612004	Front or side operated UL 98 Class J fusible switch, 600VAC, 250VDC	30	4	2	\$010y5:
38613004				3	\$010y9:
38616004				4	\$010yd:
38612005		60	4	2	\$010y6:
38613005				3	\$010ya:
38616005				4	\$010ye:
38612010		100	5	2	\$010y7:
38613010				3	\$010yb:
38616010				4	\$010yf:
38612020		200	6	2	\$010y8:
38613020				3	\$010yc:
38616020				4	\$010yg:
38513038		400	7	3	\$0010y4:
38503060		600	8	3	\$0010y3:

Front Operation Handles

Part Number	Description	Switch Body Rating (A)	Fits Frame	Handle Color	Handle Type	NEMA/UL Type	Test	Price		
36297910	Direct mount handle	30-400	4 - 7	Black	—	—	—	\$,0,z[:		
38596011		600	8	Black	—	—	—	\$,0,j1:		
141F2111	Front operation handle for UL 98 fusible disconnect switches	30-60	4	Black/Blue	S1	1, 3R, 12	I - O	\$,0,jf:		
141G2111				Red/Yellow				\$,0,jg:		
141D2111				Black/Blue	S1	4, 4X	I - O	\$,0,j7:		
141E2111				Red/Yellow				\$,0,jb:		
141D2115				Black/Blue	S1		I - O - Test	\$,0,j8:		
141E2115				Red/Yellow				\$,0,jc:		
142D2115				100-200	5, 6	Black/Blue	S2	4, 4X	I - O - Test	\$,0,jn:
142E2115						Red/Yellow				\$,0,jq:
142F2111		100-400	5, 6, 7	Black/Blue	S2	1, 3R, 12	I - O	\$,0,jt:		
142G2111				Red/Yellow				\$,0,ju:		
142D2111				Black/Blue		4, 4X	I - O	\$,0,jl:		
142E2111				Red/Yellow				\$,0,jp:		
143F3111		600	8	Black/Blue	S3	1, 3R, 12	I - O	\$,0,jl:		
143G3111				Red/Yellow				\$,0,j?:		
143D3111				Black/Blue		4, 4X	I - O	\$,0,jj[:		
143E3111				Red/Yellow				\$,0,j_:		
141D2911	Heavy duty front operation handle for UL 98 fusible disconnect switches	30-60	4	Black/Blue	S1	4, 4X	I - O	\$,0,j9:		
141E2911				Red/Yellow				\$,0,jd:		
142D2911		100-400	5, 6, 7	Black/Blue	S2	4, 4X	I - O	\$,0,jo:		
142E2911				Red/Yellow				\$,0,js:		
143D3911		600	8	Black/Blue	S3	4, 4X	I - O	\$,00,j[:		
143E3911				Red/Yellow				\$,00,j#:		



Direct Handle
[36297910](#)



S1 Handle
[142F2111](#)



S2 Handle
[142G2111](#)



S3 Handle
[143D3111](#)

FUSERBLOC UL 98 Fusible Disconnect Switches

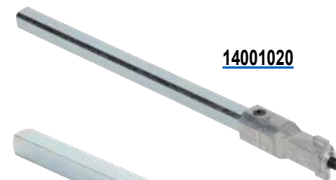


Right Side Operation Handles (No door interlocking)								
Part Number	Description	Switch Body Rating (A)	Fits Frame	Handle Color	Handle Type	NEMA/UL Type	Test	Price
141H6111	Side operation handle for UL 98 fusible disconnect switches	30-60	4	Black/Blue	S1	4, 4X	I - O	\$;0,jh:
141I6111				Red/Yellow				\$;:-0,jj:
142H6111		100-400	5, 6, 7	Black/Blue	S2			\$;0,jv:
142I6111				Red/Yellow				\$;0,jy:
141H6911	Heavy duty side operation handle for UL 98 fusible disconnect switches*	30-60	4	Black/Blue	S1			\$;:-0,ji:
141I6911				Red/Yellow				\$;0,jk:
142H6911		100-400	5, 6, 7	Black/Blue	S2			\$;00,jx:
142I6911				Red/Yellow				\$;00,jz:

[141H6111](#)

* Heavy duty handles have larger metal hasp to accommodate multiple locking devices.

Shafts for External Handles					
Part Number	Switch Body Rating (A)	Handle Type	Length		Price
			in	mm	
14001020	30-400	S1, S2	7.9	200	\$;10]u:
14001032			12.6	320	\$;10]v:
14001040			15.7	400	\$;10]x:
14001220	600	S3	7.9	200	\$;10]y:
14001232			12.6	320	\$;10]z:
14001240			15.7	400	\$;10]]:

[14001020](#)[14001220](#)

Shaft Guide for External Handle			
Part Number	Description	Fits Handle Type	Price
14290000	This accessory makes alignment connections between the shaft and handle easier. Allows up to 15mm misalignment tolerance. Required for a shaft length longer than 300mm. Included with longer shafts.	S1, S2, S3	\$;10]s:

[14290000](#)

Auxiliary Contacts				
Part Number	Description	Body Switch Rating (A)	Contacts	Price
39990701	Front mount auxiliary contacts can be configured to be operated on standard and TEST position switches. Each slot can accommodate up to 2 interlocked auxiliary contacts. 3A @ 240VAC.	30 - 600	1 NO	\$;10zt:
39990702			1 NC	\$10zu:
	For 30 to 200A/J, maximum of 4 auxiliary contacts			
3999U041	Side operated auxiliary contacts for frame sizes 3 to 8 UL 98 fusible disconnect switches, position OFF and ON signalled by 1 to 4 NO + NC auxiliary contacts. 10A @ 600 VAC/DC. 2/pk	30-200	1 NO	\$10zy:
3999U042		30-200	1NO / 1NC	\$10zz:

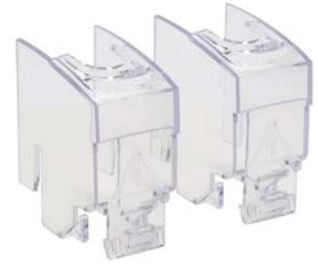
[39990701](#)[3999U041](#)

FUSERBLOC UL 98 Fusible Disconnect Switches



Terminal Shrouds

Part Number	Description	Switch Body Rating (A)	Pcs/pk	Price
38982020	Line or load protection against direct contact with terminals or connection parts, 1 pole	200	2	\$;10z,:
38983020		200	3	\$;10]0:
38984020		200	4	\$;10]3:
38983040		400	3	\$;10]1:
38983080		600	3	\$;10]2:

[38982020](#)

Terminal Lugs

Part Number	Switch Body Rating (A)	Wire Range	Wires per lug	Lugs per Kit	Price
39542020	200	#6 - 300MCM	1	2	\$;10]e:
39543020				3	\$;10]f:
39544020				4	\$;10]j:
39543040	400	#2 - 600MCM	1	3	\$;10]g:
39543041		2 x (#6 - 350MCM)	2	3	\$;010]h:
39543060	600	2 x (#2 - 600MCM)	2	3	\$;-010]i:

[39542020](#)

Note: Accept either copper or aluminum wires

NFPA 79 Accessories

Flange Handles

Part Number	Description	Switch Body Rating (A)	Handle Color	Handle Type	NEMA/UL Type	Price
37299002	Flange handle, meets UL 508A and NFPA 79 requirements. The handle will operate the switch by cable.	30-200	Gray	Standard	1, 3, 3R, 4, 12	\$;00,zz:
37299003		30-200	-	Chrome plated	1, 3, 3R, 4, 4X, 12	\$;00,z]:

Requires flange handle, cable operator and cable.

[37299002](#)[37299003](#)

Cable Operator

Part Number	Description	Switch Body Rating (A)	Price
37299903	Cable flange mechanism links to flange handle and side-operated switches. Must also order flange handle.	30-200	\$;010]t:

Cables

Part Number	Cable Length (feet)	Cable Length (m)	Price
37299992	3	1	\$;010]n:
37299993	5	1.5	\$;010]o:

[37299992](#)[37299903](#)

NFPA 79 "Through the Door" Kit

Part Number	Description	Min Enclosure Depth	Switch Body Rating (A)	Fits Frame Size	Price
37297540	Meets both UL 508A and NFPA 79 requirements. Order an S-type external handle separately (not S0).	11.14 in (238mm)	30-200	3, 4, 5, 6	\$;0,z?:
37297544		11.81 in (300mm)	400	7	\$;0,z,:
37297552		14.96 in (380mm)	600	8	\$;00,]0:

[37297544](#)

FUSERBLOC UL 98 Fusible Disconnect Switches



Blown Fuse Monitors

These fuse monitors detect fuse opening using a bistable (latching) relay and a signaling LED. They can be mounted on a 35mm DIN rail, a back plate, next to the disconnect switch or on the door, or can be mounted directly on the side of Fuserbloc (3861xxx) series switches.

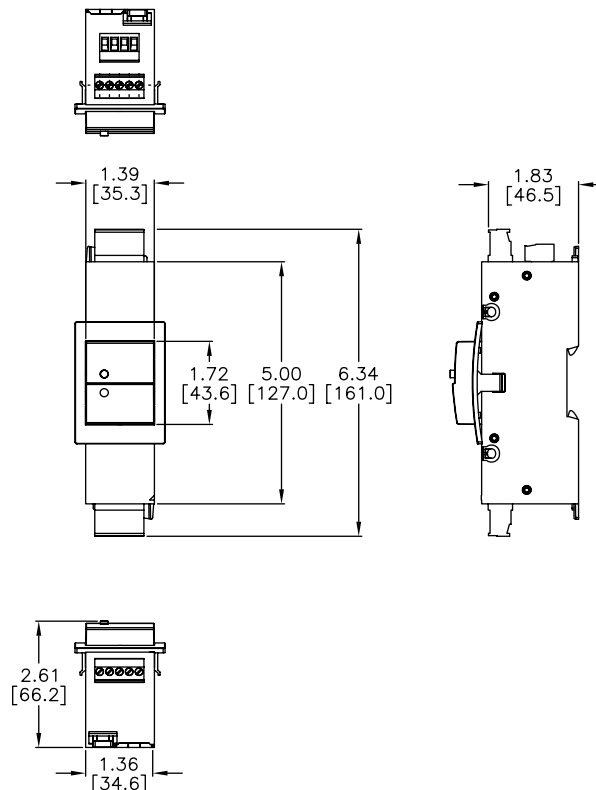
Blown Fuse Monitors for UL 98 Fusible Disconnect Switches						
Part Number	Model	# of LEDs	Auxiliary Contacts	Operating Voltage	Weight lb (kg)	Price
38991120	FMD10	1	1 NO / 1 NC	120 - 260 VAC	0.35 (0.16)	Retired
38991380				380 - 690 VAC		Retired
38993120	FMD30	3	3A @ 230VAC/30VDC	120 - 260 VAC		\$;010]c:
38993380				380 - 690 VAC		\$;010]d:

[38991120](#)[38993120](#)

Fuse Monitors Accessories			
Part Number	Description	Mounting	Price
38199120	Blown fuse monitor connection hardware	Standard	\$;10]k:
38299120	Blown fuse monitor door mounting and connection hardware	Door mounted	\$;-10]l:

[38199120](#)[38299120](#)

Dimensions [inches/mm]



Please see our website www.AutomationDirect.com for complete engineering drawings.

FUSERBLOC UL 98 Fusible Disconnect Switches



Technical Characteristics

Characteristics According to UL 98 / CSA 22.2 #4						
	<u>38612004</u> <u>38613004</u> <u>38616004</u>	<u>38612005</u> <u>38613005</u> <u>38616005</u>	<u>38612010</u> <u>38613010</u> <u>38616010</u>	<u>38612020</u> <u>38613020</u> <u>38616020</u>	<u>38513038</u>	<u>38503060</u>
General Use Rating (A)	30	60	100	200	400	600
Short circuit rating at 600VAC (kA)	200	100	200	200	200	200
Type of fuse	J	J	J	J	J	J
Max. fuse rating (A)	30	60	100	200	400	600
Operational Power (hp) / Current Max Operation 3-Phase (A)						
220-240 VAC	7.5 / 22	15 / 42	30 / 80	60 / 154	125 / 312	200 / 480
440-480 VAC	15 / 21	30 / 40	60 / 77	125 / 156	250 / 302	500 / 590
600VAC	20 / 22	50 / 52	75 / 77	150 / 144	350 / 336	500 / 475
125VDC ¹	3 / 25	5 / 40	7.5 / 58	15 / 112	20 / 148	–
250VDC ²	5 / 20	10 / 38	20 / 72	40 / 140	50 / 173	–
Mechanical Endurance						
Endurance (number of operating cycles)	10,000	10,000	10,000	8,000	6,000	5,000
Operating torque (lb·in / N·m)	4.1	8.7	9.7	10.2	17	66.2
Wire Type / Temperature	Cu / 75°C (167°F)			Cu/Al / 75°C (167°F)		
Product Weight – lb (kg)						
2-pole	3.0 (1.3)	3.1 (1.4)	4.07 (1.8)	5.7 (2.6)	–	–
3-pole	3.8 (1.7)	4.1 (1.8)	5.3 (2.4)	7.8 (3.5)	16.6 (7.6)	44.2 (20.1)
4-pole	4.7 (2.1)	4.8 (2.2)	6.49 (2.9)	10.8 (4.9)	–	–
Wire Range						
Solid (AWG)	#14-10	#14-10	#10-8	–	–	–
Torque – lb·in (N·m)	44.2 (5)	44.2 (5)	35.4 (4)	–	–	–
Solid (AWG)	(2) #10	(2) #10	–	–	–	–
Torque – lb·in (N·m)	44.2 (5)	44.2 (5)	–	–	–	–
Stranded (AWG)	#14-6	#14-6	#10-2 ⁴	#6-300MCM	#4-600MCM	(2) #2-600MCM
Torque – lb·in (N·m)	44.2 (5)	44.2 (5)	35.4 (4)	275 (31)	550 (62)	375 (42.4)
Stranded (AWG)	(2) #12-6	(2) #12-6	#1-2/0 ⁴	–	(2) 1/0-250MCM	–
Torque – lb·in (N·m)	44.2 (5)	44.2 (5)	44.2 (5)	–	550 (62)	–
Environmental – Switch Body						
Operating temperature ³	-20°C to 70°C (-4°F to +158°F)					
Flammability rating	UL 94-V0					
Mounting	35mm DIN rail or panel mount		Panel mount			
Agency Approvals						
UL file # E201138 (UL 98), CSA file # 112964 (C22.2 No. 4)						

¹ 2 poles in series² 3 poles in series³ Temperatures above 40°C, the current rating of the switch has to be de-rated 1% per °C over 40°C. Example: At 60°C a 100A switch is rated 80A.⁴ Stranded or compact stranded Cu

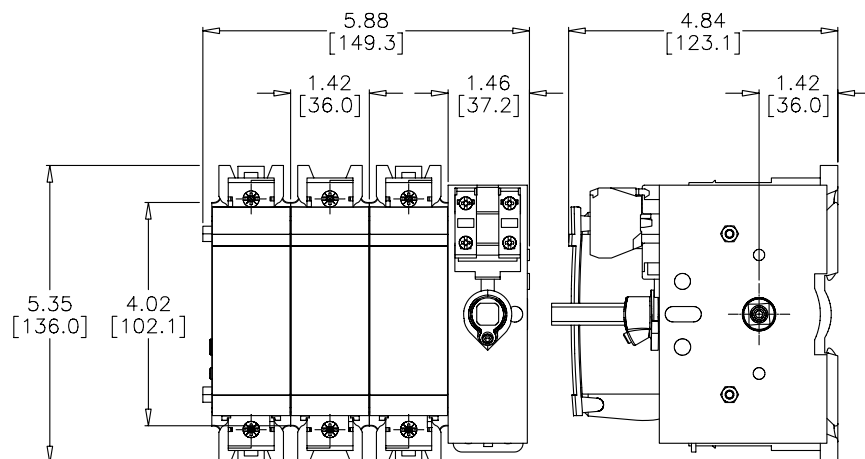
To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

FUSERBLOC UL 98 Fusible Disconnect Switches



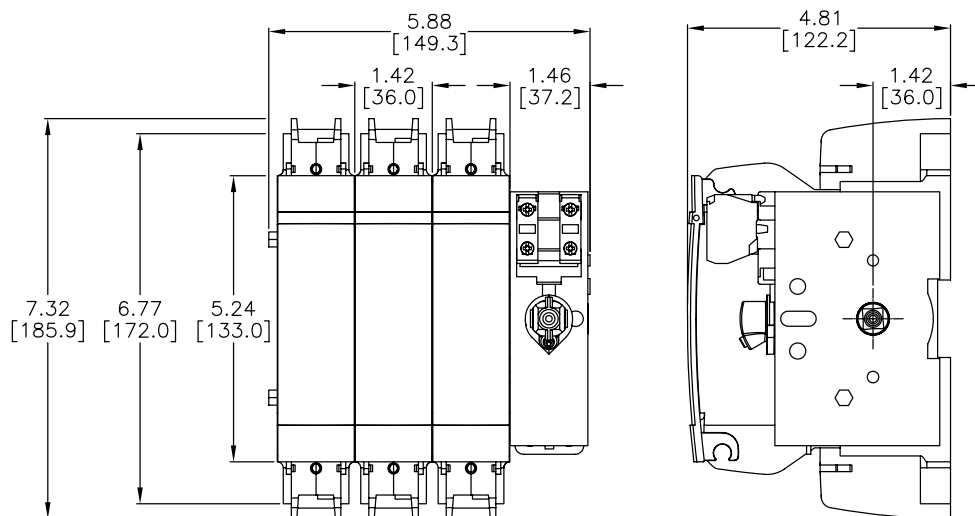
Dimensions [inches/mm]

30A to 60A - Frame Size 4



Note: For 2-pole decrease overall width by 36mm [1.42 in]. For 4-pole, increase overall width by 36mm [1.42 in].

100A - Frame Size 5



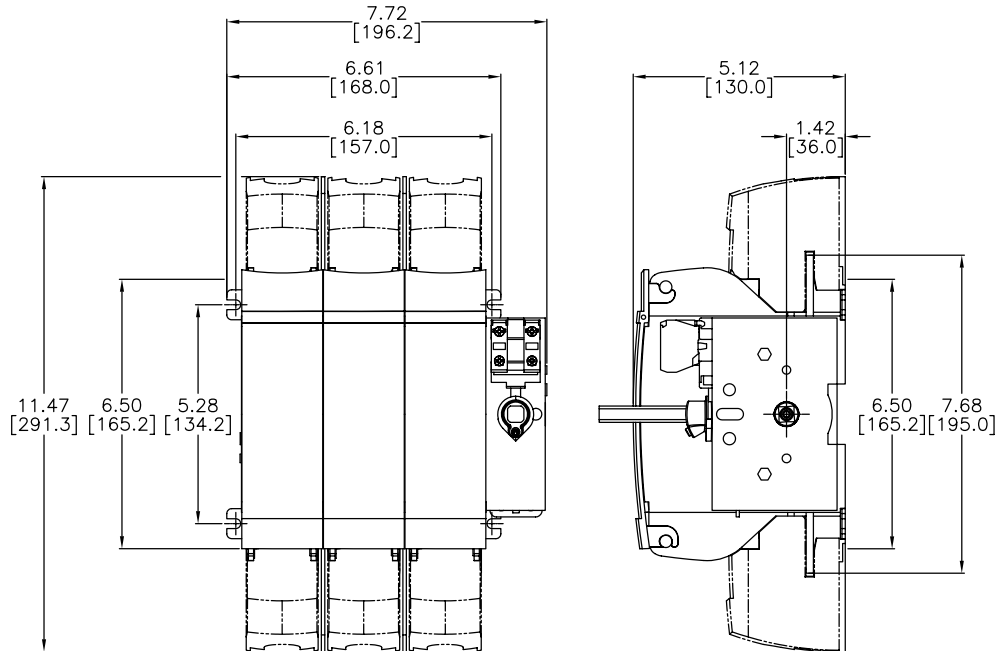
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FUSERBLOC UL 98 Fusible Disconnect Switches



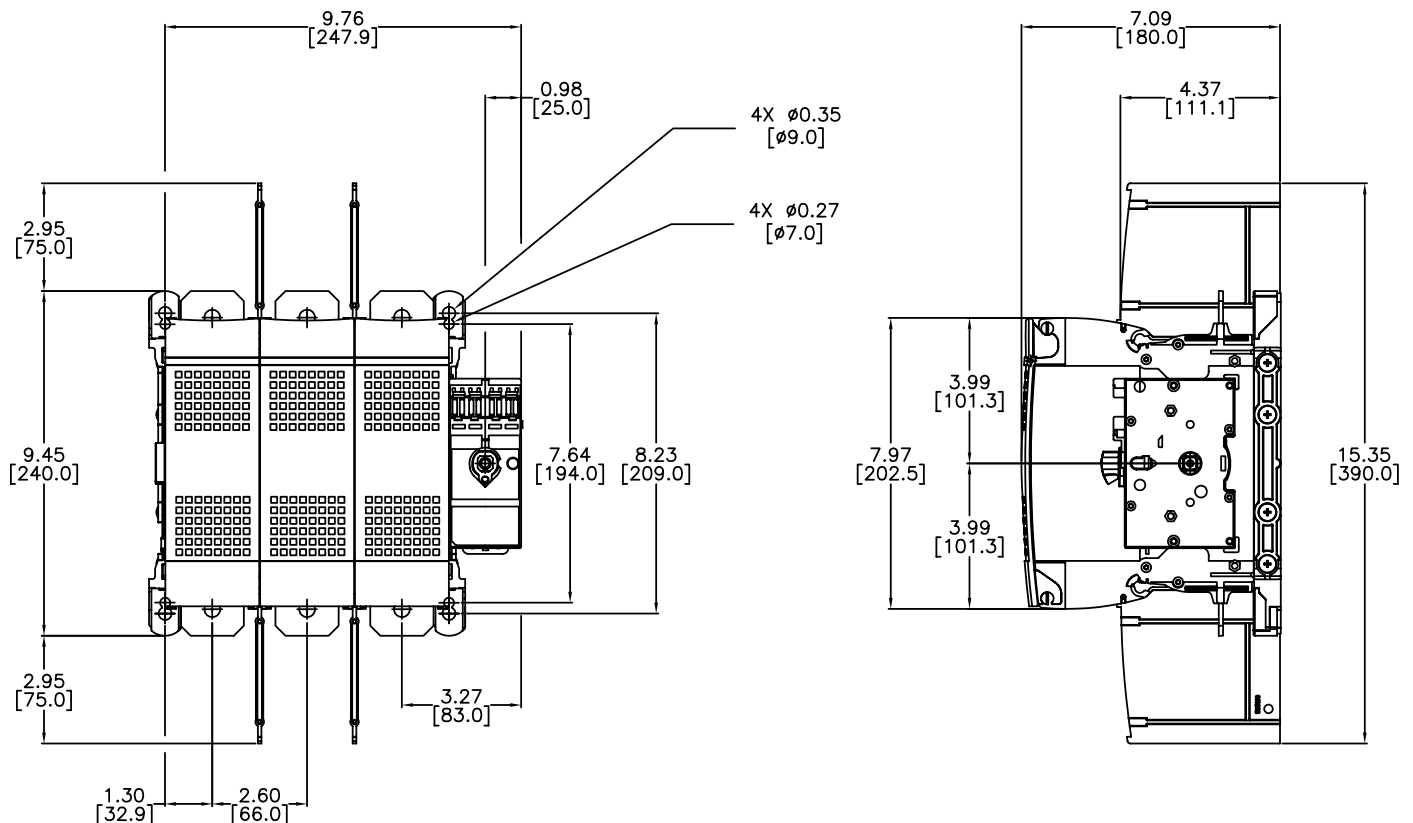
Dimensions [inches/mm]

200A - Frame Size 6



Note: For 2-pole decrease overall width by 36mm [1.42 in]. For 4-pole, increase overall width by 36mm [1.42 in].

400A - Frame Size 7



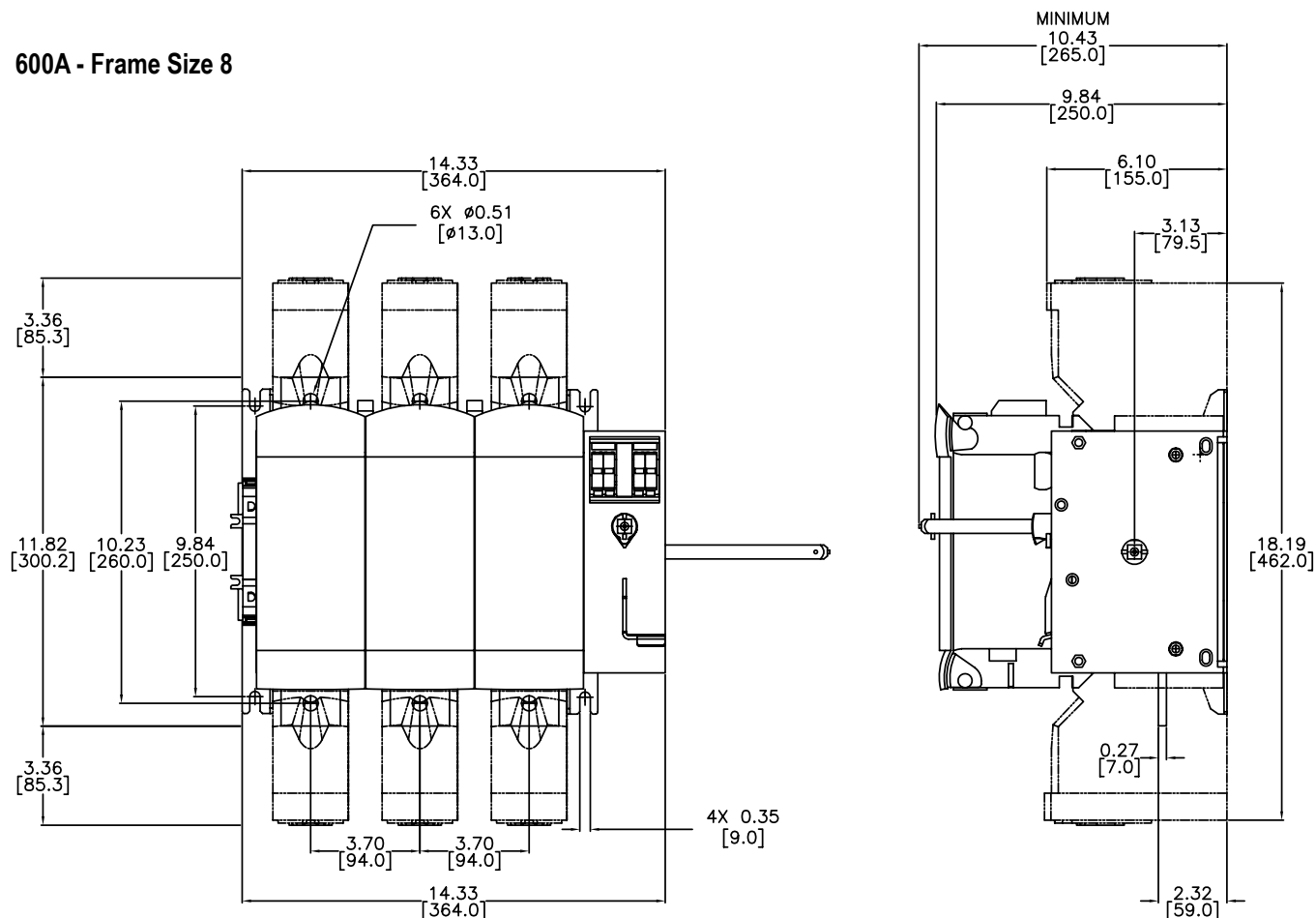
Please see our website www.AutomationDirect.com for complete engineering drawings.

FUSERBLOC UL 98 Fusible Disconnect Switches



Dimensions [inches/mm]

600A - Frame Size 8

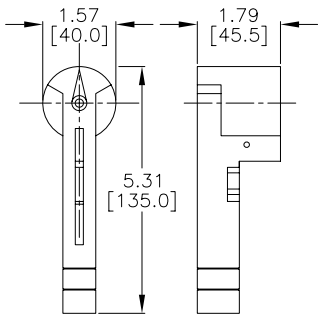
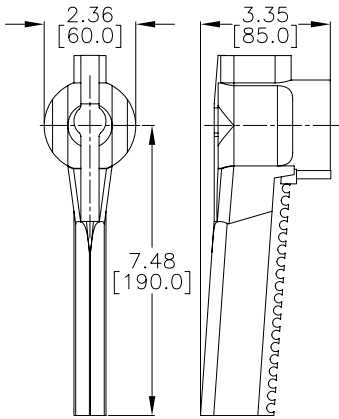


Please see our website www.AutomationDirect.com for complete engineering drawings.

Accessories Dimensions

Handles

[inches/mm]

Direct Handles for UL 98 Fusible Disconnect Switches	
36297910	38596011
Handle Dimensions	Handle Dimensions
	

External Handles for UL 98 Fusible Disconnect Switches

S1 Type			
Handle Dimensions	Direction of Operation		Door Drilling
3.07 [78.0] 2.76 [70.0] 1.73 [44.0]	90° 0 65° TEST EST POSITION INCLUDED ON CERTAIN MODELS ONLY AS INDICATED IN THE SELECTION TABLES	90° 0	0.27 [7.0] 1.46 [37.0] 1.57 [40.0] 1.10 [28.0]
S2 Type			
Handle Dimensions	Direction of Operation		Door Drilling
3.07 [78.0] 4.92 [125.0] 1.77 [45.0]	90° 0 65° TEST TEST POSITION INCLUDED ON CERTAIN MODELS ONLY AS INDICATED IN THE SELECTION TABLES	90° 0	4X 0.27 [7.0] 1.46 [37.0] 1.57 [40.0] 1.10 [28.0]
S3 Type			
Handle Dimensions	Direction of Operation		Door Drilling
3.07 [78.0] 8.27 [210.0] 2.36 [60.0]	90° 0 65° TEST TEST POSITION INCLUDED ON CERTAIN MODELS ONLY AS INDICATED IN THE SELECTION TABLES	90° 0	4X 0.27 [7.0] 1.46 [37.0] 1.57 [40.0] 1.10 [28.0]

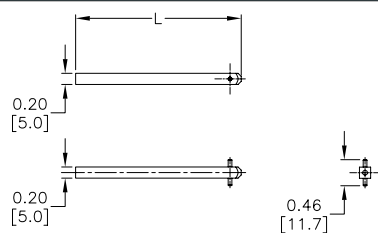
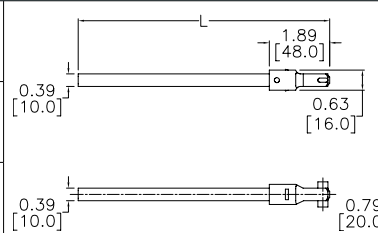
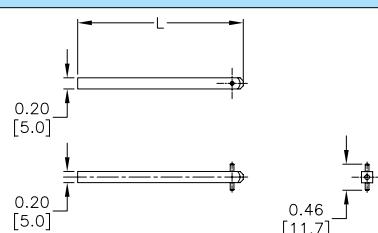
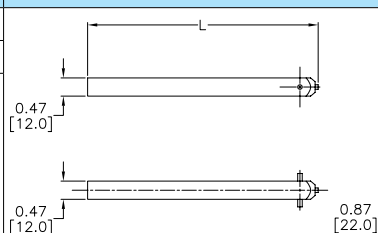
Note: Test position included on certain models only as indicated in the selection tables.

Please see our website www.AutomationDirect.com for complete engineering drawings.

Accessories Dimensions

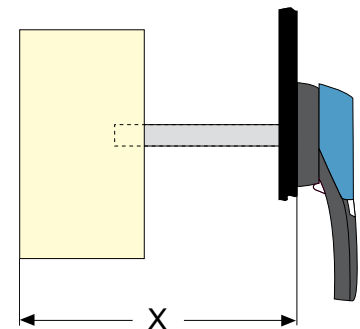
Shafts for Fusible Disconnect Switches

[inches/mm]

Shafts for Fusible Disconnect Switches									
Shafts for S0 Handle Type	Part Number	Body Switch Rating	Length		Shafts for S2 Handle Type	Part Number	Body Switch Rating	Length	
			in	mm				in	mm
	14050620	30A	7.9	200		14001020	30A to 400A	7.9	200
	14050632		12.6	320		14001032	30A to 200A	12.6	320
	14050640		15.7	400		14001040	30A to 400A	15.7	400
Shafts for S1 Handle Type	Part Number	Switch Body Rating	Length		Shafts for S3 Handle Type	Part Number	Switch Body Rating	Length	
			in	mm				in	mm
	14010520	30A	7.9	200		14001220	600A	7.9	200
	14010532		12.6	320		14001232		12.6	320
	14010540		15.7	400		14001240		15.7	400

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Shaft Length Minimum Dimensions						
Use standard lengths: - 7.9 in / 200mm - 12.6 in / 320mm - 15.7 in / 400mm						
Switch Body Rating (A)	Dimension X		Handle Type	Length		Part Number
	in	mm		in	mm	
30	4.02 - 9.65	102 - 245	S0	7.9	200	14050620
30	4.02 - 14.37	102 - 365	S0	12.6	320	14050632
30	4.02 - 17.52	102 - 445	S0	15.7	400	14050640
30	4.02 - 9.65	102 - 245	S1	7.9	200	14010520
30	4.02 - 14.37	102 - 365	S1	12.6	320	14010532
30	4.02 - 17.52	102 - 445	S1	15.7	400	14010540
30 - 100	5.3 - 9.06	135 - 230	S2	7.9	200	14001020
200	5.7 - 9.06	145 - 230	S2	7.9	200	14001020
400	7.87 - 10.24	200 - 260	S2	7.9	200	14001020
30 - 100	5.3 - 13.78	135 - 350	S1, S2	12.6	320	14001032
200	5.7 - 13.78	145 - 350	S2	12.6	320	14001032
400	7.87 - 14.96	200 - 380	S2	12.6	320	14001032
30 - 100	5.3 - 16.93	135 - 430	S1, S2	15.7	400	14001040
200	5.7 - 16.93	145 - 430	S2	15.7	400	14001040
400	7.87 - 18.1	200 - 460	S2	15.7	400	14001040
600 - 800	10.63 - 11.97	270 - 304	S3	7.9	200	14001220
600 - 800	10.63 - 16.69	270 - 424	S3	12.6	320	14001232
600 - 800	10.63 - 19.84	270 - 504	S3	15.7	400	14001240

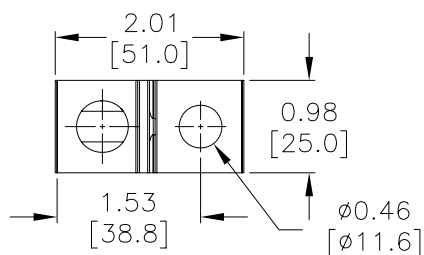


Accessories Dimensions

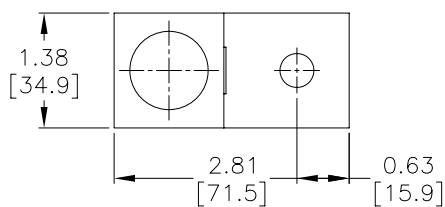


Lugs

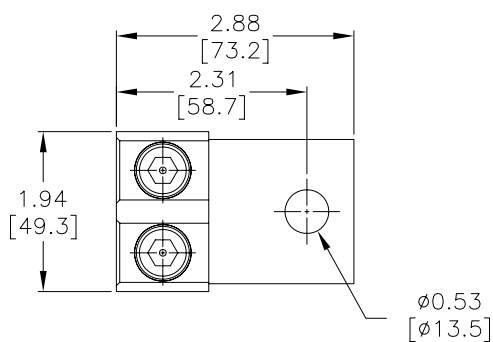
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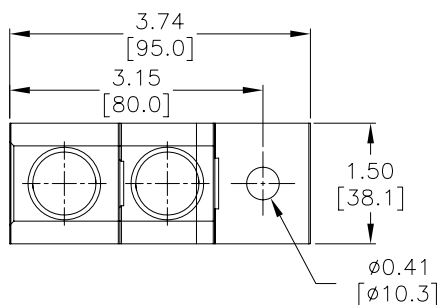
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39543040



39543041



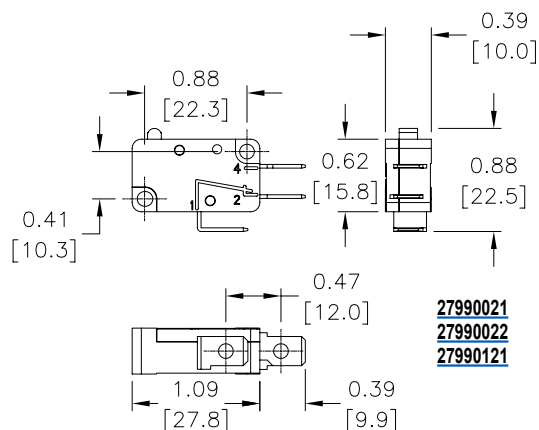
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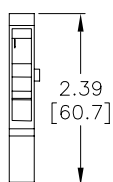
Accessories Dimensions

Auxiliary Contacts and Additional Poles

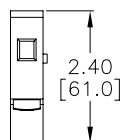
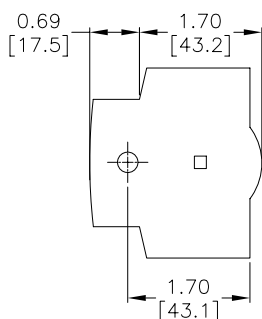
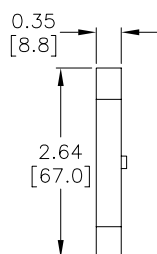
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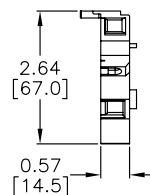
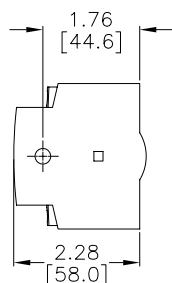
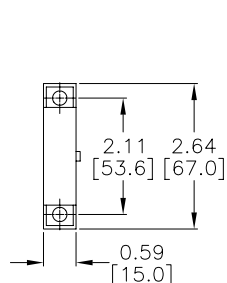
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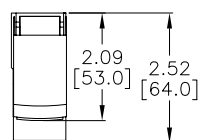
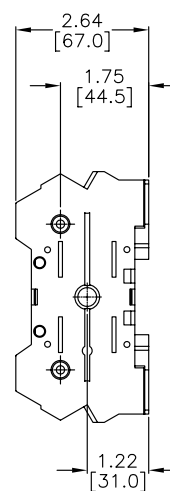
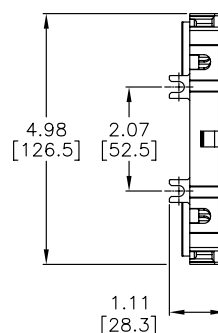
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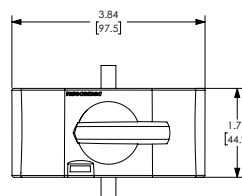
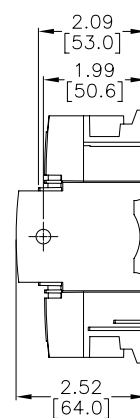
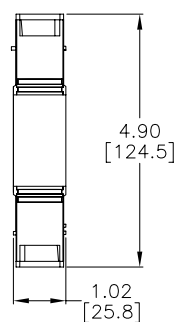
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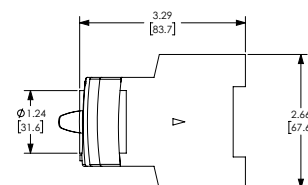
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22696009



Please see our website www.AutomationDirect.com for complete engineering drawings.

Disconnect Switches

Introduction

UL®/CSA® Standards for Disconnect Switches

UL 98 – Enclosed and Deadfront Switches (CSA C22.2 No. 4)

These requirements cover enclosed or deadfront switches, with or without provision for fuses, at 600V or less. These products are used as disconnecting means without restrictions; they are heavy-duty products requiring 2 inches (50mm) minimum of creepage distance between phases, which gives maximum safety for users and installation. The short-circuit withstand of these products goes up to 200kA.

UL 489 – Molded Case Switches (CSA C22.22 No. 5)

These requirements cover molded case circuit breakers, molded case switches and fused molded case switches, rated at 600V or less and 6000A or less.

NFPA® 79 Electrical Standard for Industrial Machinery

The following types of machines are identified as industrial machinery:

- Metalworking machine tools, including machines that cut or form metal
- Plastics machinery
- Wood machinery, including woodworking, laminating and sawmill machines
- Assembly machines
- Material handling machines, including industrial robots and transfer machines
- Inspection and testing machines, including coordinate measuring and in-process gauging machines

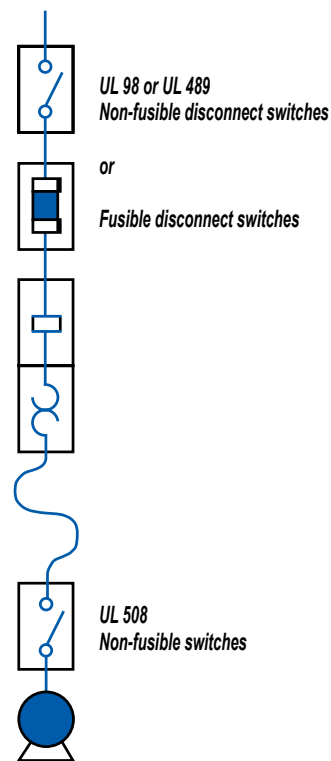
UL® Standards for Electrical Machinery

UL 508 – Industrial Control Equipment (CSA C22.2 No. 14)

These requirements cover manual, magnetic and solidstate starters and controllers, overload relays, pushbuttons, selector switches and control lights. These products are smaller, requiring only a creepage distance between phases of 0.50 inch (12.7 mm). Their use as a disconnecting means is limited to local disconnection of motors. These products can be used as a disconnect means only when they have been additionally tested "suitable as motor disconnect." This additional testing ensures that the switch has a proper closing capacity on a short circuit.

UL 508 devices **cannot** be used as main disconnect of an electrical panel, e.g., at the entrance of control panels. A manual motor controller marked "suitable as motor disconnect" shall be installed only on the load side of the branch circuit protective device [UL 508A 30.3.3 and NEC 430.109 (6)].

Typical Control Panel



Meeting the requirements of UL508A and NFPA79

The disconnect shall be operable independent of the door position.

The disconnect must be operable, by qualified persons, independent of the door position without the use of accessory tools or devices.

Note: NFPA 79; Paragraph 5.3.3.1 (5).

An operating mechanism for the disconnecting means shall be operable independent of the door position without the use of accessory tools or devices.

Note: UL 508A; Paragraph 66.6.3 c.