

# 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
<a href="#">38612004</a>	Front or side operated UL 98 Class J fusible switch, 600VAC, 250VDC	30	4	2	\$108.00
<a href="#">38613004</a>				3	\$136.00
<a href="#">38616004</a>				4	\$162.00
<a href="#">38612005</a>				2	\$138.00
<a href="#">38613005</a>		3	\$171.00		
<a href="#">38616005</a>		4	\$214.00		
<a href="#">38612010</a>		100	5	2	\$185.00
<a href="#">38613010</a>				3	\$231.00
<a href="#">38616010</a>		200	6	4	\$295.00
<a href="#">38612020</a>				2	\$508.00
<a href="#">38613020</a>		400	7	3	\$624.00
<a href="#">38616020</a>				4	\$790.00
<a href="#">38513038</a>		600	8	3	\$859.00
<a href="#">38503060</a>				3	\$1,497.00

Front Operation Handles									
Part Number	Description	Switch Body Rating (A)	Fits Frame	Handle Color	Handle Type	NEMA/UL Type	Test	Price	
<a href="#">36297910</a>	Direct mount handle	30-400	4 - 7	Black	-	-	-	\$26.00	
<a href="#">38596011</a>		600	8	Black	-	-	-	\$46.50	
<a href="#">141F2111</a>	Front operation handle for UL 98 fusible disconnect switches	30-60	4	Black/Blue	S1	1, 3R, 12	I - O	\$31.50	
<a href="#">141G2111</a>				Red/Yellow				\$31.50	
<a href="#">141D2111</a>				Black/Blue	S1	4, 4X	I - O	\$40.00	
<a href="#">141E2111</a>				Red/Yellow				\$40.00	
<a href="#">141D2115</a>				Black/Blue	S1	4, 4X	I - O - Test	\$42.50	
<a href="#">141E2115</a>				Red/Yellow				\$42.50	
<a href="#">142D2115</a>		100-200	5, 6	5, 6, 7	Black/Blue	S2	4, 4X	I - O - Test	\$80.00
<a href="#">142E2115</a>					Red/Yellow				\$80.00
<a href="#">142F2111</a>		100-400	5, 6, 7	5, 6, 7	Black/Blue	S2	1, 3R, 12	I - O	\$45.50
<a href="#">142G2111</a>					Red/Yellow				\$45.50
<a href="#">142D2111</a>					Black/Blue	S2	4, 4X	I - O	\$63.00
<a href="#">142E2111</a>					Red/Yellow				\$63.00
<a href="#">143F3111</a>		600	8	8	Black/Blue	S3	1, 3R, 12	I - O	\$60.00
<a href="#">143G3111</a>					Red/Yellow				\$60.00
<a href="#">143D3111</a>					Black/Blue	S3	4, 4X	I - O	\$76.00
<a href="#">143E3111</a>					Red/Yellow				\$76.00
<a href="#">141D2911</a>	Heavy duty front operation handle for UL 98 fusible disconnect switches	30-60	4	Black/Blue	S1	4, 4X	I - O	\$46.50	
<a href="#">141E2911</a>				Red/Yellow				\$46.50	
<a href="#">142D2911</a>		100-400	5, 6, 7	Black/Blue	S2	4, 4X	I - O	\$80.00	
<a href="#">142E2911</a>				Red/Yellow				\$80.00	
<a href="#">143D3911</a>		600	8	Black/Blue	S3	4, 4X	I - O	\$105.00	
<a href="#">143E3911</a>				Red/Yellow				\$105.00	



Direct Handle  
[36297910](#)



S1 Handle  
[142F2111](#)



S2 Handle  
[142G2111](#)



S3 Handle  
[143D3111](#)

# FUSERBLOC UL 98 Fusible Disconnect Switches



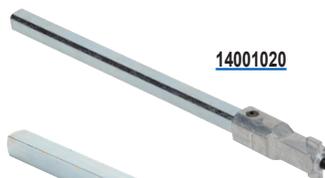
Right Side Operation Handles (No door interlocking)								
Part Number	Description	Switch Body Rating (A)	Fits Frame	Handle Color	Handle Type	NEMA/UL Type	Test	Price
<a href="#">141H6111</a>	Side operation handle for UL 98 fusible disconnect switches	30-60	4	Black/Blue	S1	4, 4X	I - O	\$40.50
<a href="#">141I6111</a>				Red/Yellow				\$40.50
<a href="#">142H6111</a>		100-400	5, 6, 7	Black/Blue	S2			\$60.00
<a href="#">142I6111</a>				Red/Yellow				\$60.00
<a href="#">141H6911</a>	Heavy duty side operation handle for UL 98 fusible disconnect switches*	30-60	4	Black/Blue	S1			\$81.00
<a href="#">141I6911</a>				Red/Yellow				\$81.00
<a href="#">142H6911</a>		100-400	5, 6, 7	Black/Blue	S2			\$100.00
<a href="#">142I6911</a>				Red/Yellow				\$100.00



[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	
<a href="#">14001020</a>	30-400	S1, S2	7.9	200	\$11.50
<a href="#">14001032</a>			12.6	320	\$12.50
<a href="#">14001040</a>			15.7	400	\$14.00
<a href="#">14001220</a>	600	S3	7.9	200	\$15.00
<a href="#">14001232</a>			12.6	320	\$18.00
<a href="#">14001240</a>			15.7	400	\$20.50



[14001020](#)



[14001220](#)

Shaft Guide for External Handle			
Part Number	Description	Fits Handle Type	Price
<a href="#">14290000</a>	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	\$6.25



[14290000](#)

Auxiliary Contacts				
Part Number	Description	Body Switch Rating (A)	Contacts	Price
<a href="#">39990701</a>	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.  For 30 to 200A/J, maximum of 4 auxiliary contacts	30 - 600	1 NO	\$8.75
<a href="#">39990702</a>			1 NC	\$8.75
<a href="#">3999U041</a>	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	\$29.00
<a href="#">3999U042</a>			1NO / 1NC	\$56.00



[39990701](#)

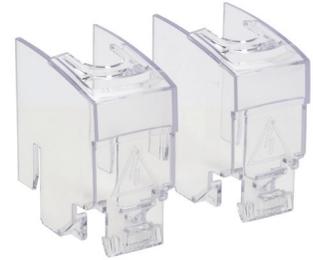


[3999U041](#)

# FUSERBLOC UL 98 Fusible Disconnect Switches



Terminal Shrouds				
Part Number	Description	Switch Body Rating (A)	Pcs/pk	Price
<a href="#">38982020</a>	Line or load protection against direct contact with terminals or connection parts, 1 pole	200	2	\$17.50
<a href="#">38983020</a>		200	3	\$25.00
<a href="#">38984020</a>		200	4	\$32.00
<a href="#">38983040</a>		400	3	\$31.50
<a href="#">38983080</a>		600	3	\$56.00



[38982020](#)

Terminal Lugs					
Part Number	Switch Body Rating (A)	Wire Range	Wires per lug	Lugs per Kit	Price
<a href="#">39542020</a>	200	#6 - 300MCM	1	2	\$17.00
<a href="#">39543020</a>				3	\$25.00
<a href="#">39544020</a>				4	\$32.50
<a href="#">39543040</a>	400	#2 - 600MCM	1	3	\$64.00
<a href="#">39543041</a>		2 x (#6 - 350MCM)	2	3	\$87.00
<a href="#">39543060</a>	600	2 x (#2 - 600MCM)	2	3	\$132.00



[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
<a href="#">37299002</a>	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	\$122.00
<a href="#">37299003</a>		30-200	-	Chrome plated	1, 3, 3R, 4, 4X, 12	\$328.00

Requires flange handle, cable operator and cable.



[37299002](#)

[37299003](#)

Cable Operator			
Part Number	Description	Switch Body Rating (A)	Price
<a href="#">37299903</a>	Cable flange mechanism links to flange handle and side-operated switches. Must also order flange handle.	30-200	\$126.00

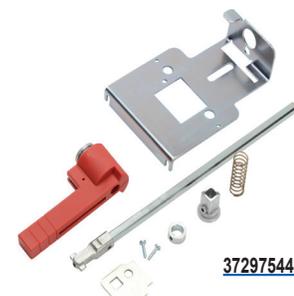
Cables			
Part Number	Cable Length (feet)	Cable Length (m)	Price
<a href="#">37299992</a>	3	1	\$148.00
<a href="#">37299993</a>	5	1.5	\$172.00



[37299992](#)

[37299903](#)

NFPA 79 "Through the Door" Kit					
Part Number	Description	Min Enclosure Depth	Switch Body Rating (A)	Fits Frame Size	Price
<a href="#">37297540</a>	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	\$55.00
<a href="#">37297544</a>		11.81 in (300mm)	400	7	\$80.00
<a href="#">37297552</a>		14.96 in (380mm)	600	8	\$167.00



[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
<a href="#">38991120</a>	FMD10	1	1 NO / 1 NC	120 - 260 VAC	0.35 (0.16)	\$135.00
<a href="#">38991380</a>				380 - 690 VAC		\$151.00
<a href="#">38993120</a>	FMD30	3	3A @ 230VAC/30VDC	120 - 260 VAC		\$169.00
<a href="#">38993380</a>				380 - 690 VAC		\$185.00



[38991120](#)

[38993120](#)

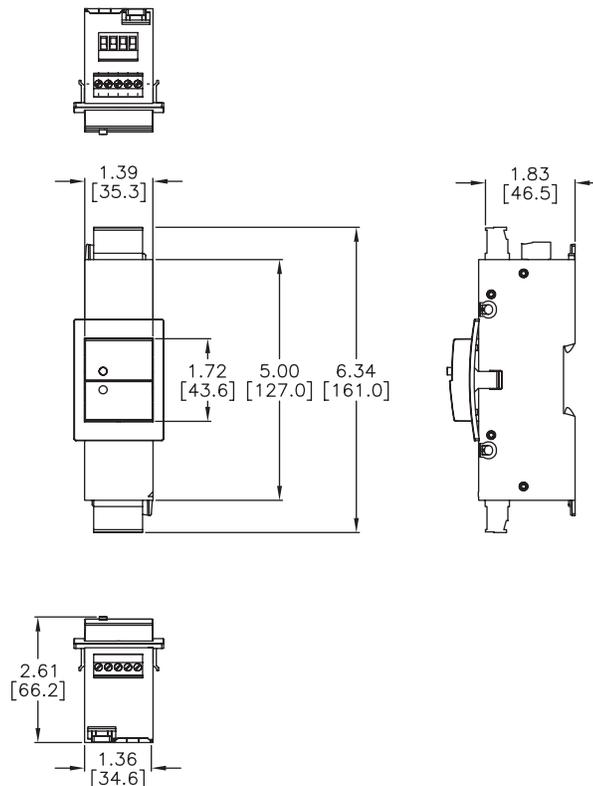
Fuse Monitors Accessories			
Part Number	Description	Mounting	Price
<a href="#">38199120</a>	Blown fuse monitor connection hardware	Standard	\$30.00
<a href="#">38299120</a>	Blown fuse monitor door mounting and connection hardware	Door mounted	\$56.00



[38199120](#)

[38299120](#)

## Dimensions [inches/mm]



Please see our website [www.AutomationDirect.com](http://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>
<b>General use rating (A)</b>	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
<b>Operational power (hp) / current max operation 3-phase (A)</b>						
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 <sup>1</sup>	3 / 25	5 / 40	7.5 / 58	15 / 112	20 / 148	–
250VDC <sup>2</sup>	5 / 20	10 / 38	20 / 72	40 / 140	50 / 173	–
<b>Mechanical endurance</b>						
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
<b>Wire type/temperature</b>	Cu / 75°C (167°F)			Cu/Al / 75°C (167°F)		
<b>Product weight – lb (kg)</b>						
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)	–	–
<b>Wire range</b>						
Solid (AWG)	#14-10	#14-10	#12-10	–	–	–
Torque – lb·in (N·m)	27 (3.1)	31 (3.5)	35.4 (4)	–	–	–
Stranded (AWG)	#14-6	#14-6	#12-1	#6-300MCM	#4-600MCM	(2) #2-600MCM
Torque – lb·in (N·m)	31 (3.5)	31 (3.5)	35.4 (4)	275 (31)	550 (62)	375 (42.4)
Stranded (AWG)	–	–	–	–	(2) 1/0-250MCM	–
Torque – lb·in (N·m)	–	–	–	–	550 (62)	–
<b>Environmental – switch body</b>						
Operating temperature <sup>3</sup>	-20°C to 70°C (-4°F to +158°F)					
Flammability rating	UL 94-V0					
<b>Mounting</b>	35mm DIN rail or panel mount			Panel mount		
<b>Agency Approvals</b>						
UL file # E201138 (UL 98), CSA file # 112964 (C22.2 No. 4)						

<sup>1</sup> 2 poles in series

<sup>2</sup> 3 poles in series

<sup>3</sup> 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

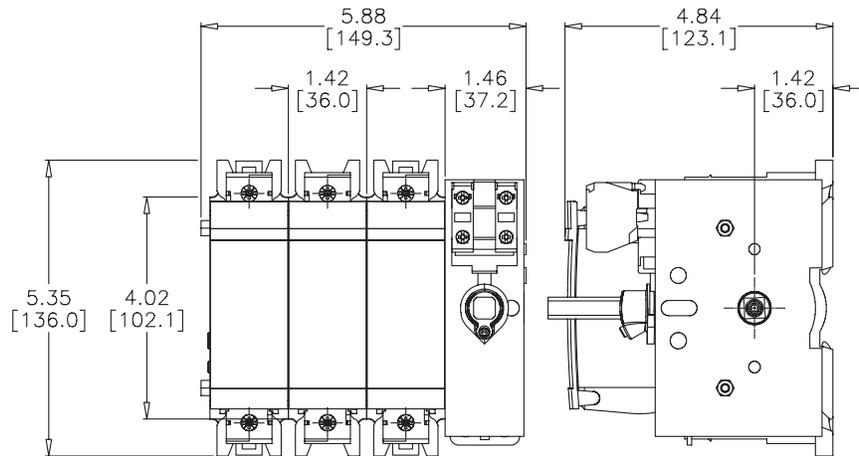
To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

# FUSERBLOC UL 98 Fusible Disconnect Switches



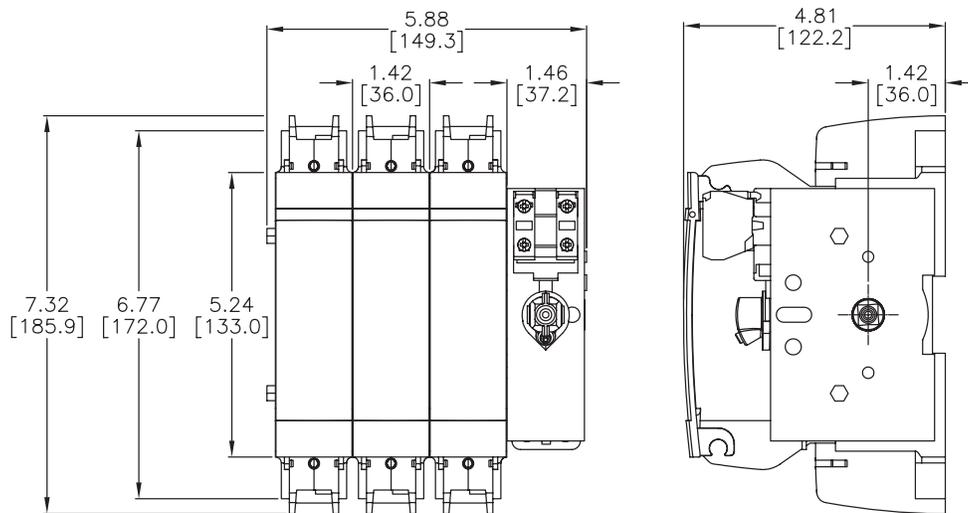
## Dimensions [inches/mm]

### 30A to 60A - Frame Size 4



Note: For 2-pole and 4-pole devices decrease overall width by 1.41 in / 36mm

### 100A - Frame Size 5



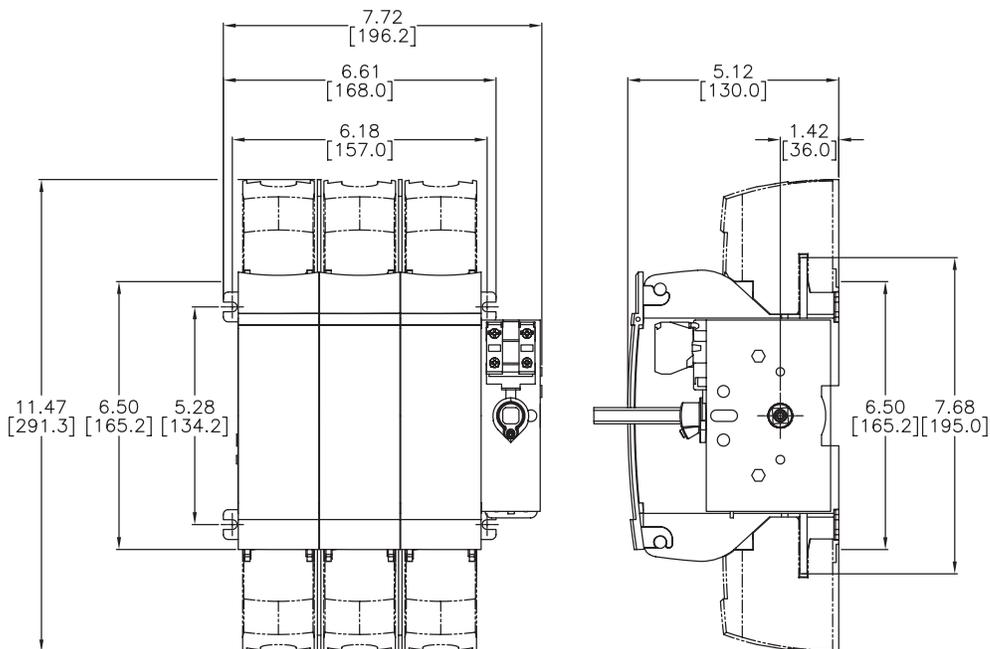
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# FUSERBLOC UL 98 Fusible Disconnect Switches



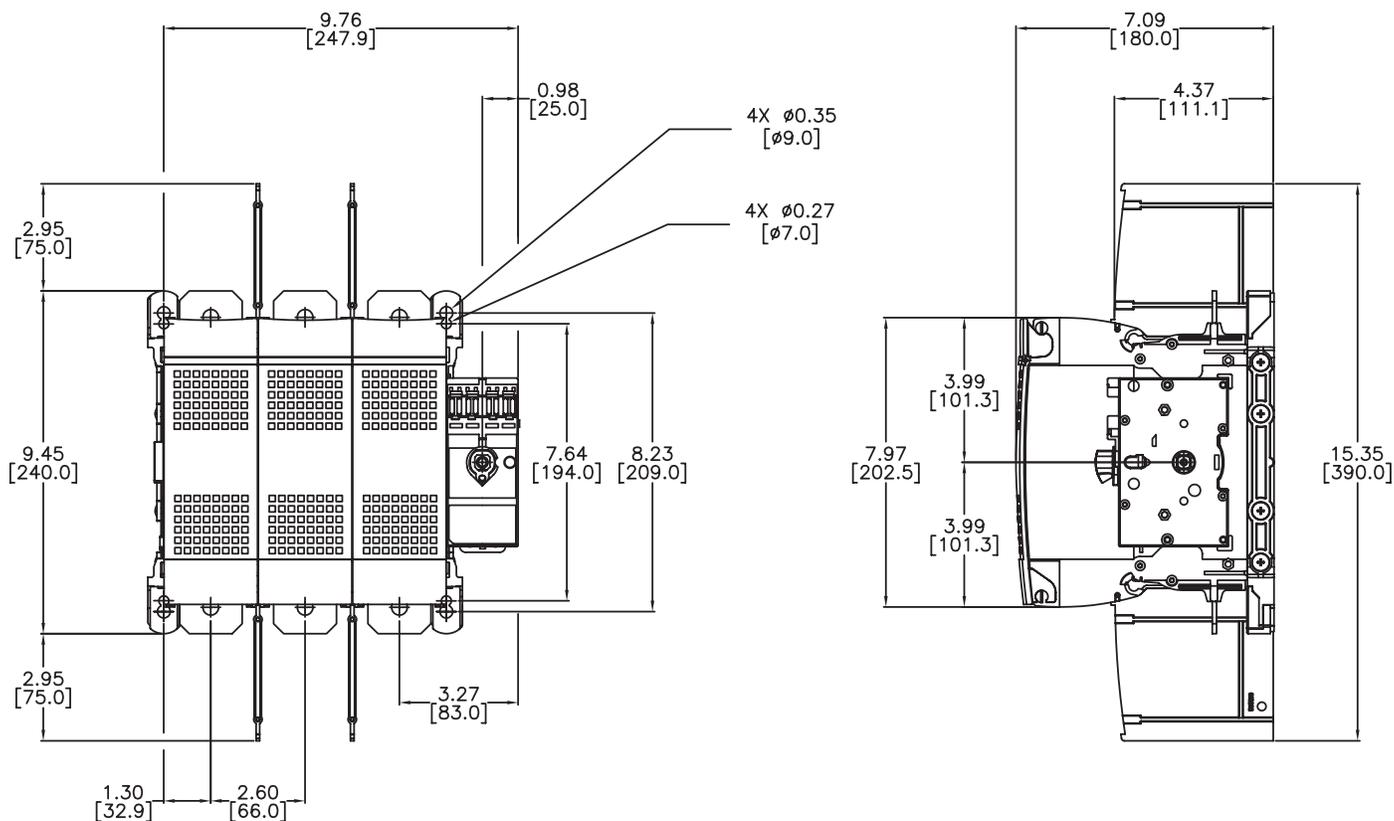
## Dimensions [inches/mm]

### 200A - Frame Size 6



Note: For 2-pole and 4-pole devices decrease overall width by 1.96 in / 50mm

### 400A - Frame Size 7



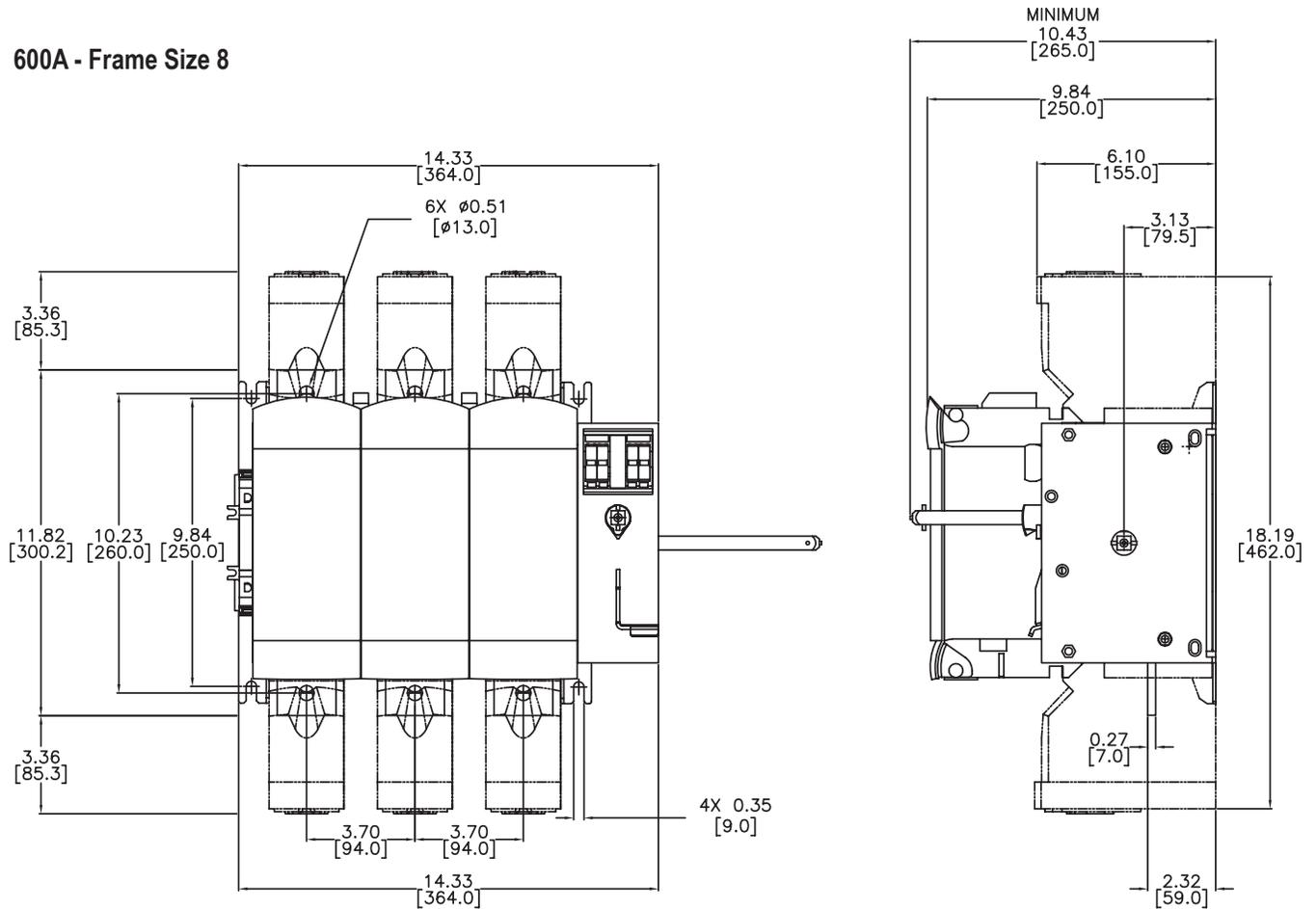
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# FUSERBLOC UL 98 Fusible Disconnect Switches



## Dimensions [inches/mm]

### 600A - Frame Size 8



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# 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
S2 Type			
Handle Dimensions	Direction of Operation		Door Drilling
S3 Type			
Handle Dimensions	Direction of Operation		Door Drilling

Note: Test position included on certain models only as indicated in the selection tables.  
Please see our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

# Accessories Dimensions



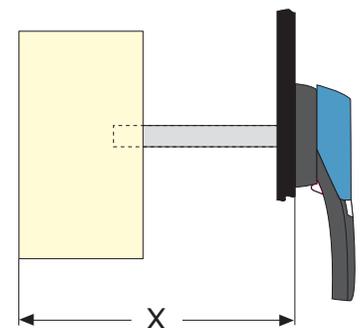
## Shafts for Fusible Disconnect Switches

[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
	<a href="#">14050620</a>	30A	7.9	200		<a href="#">14001020</a>	30A to 400A	7.9	200
	<a href="#">14050632</a>		12.6	320		<a href="#">14001032</a>	30A to 200A	12.6	320
	<a href="#">14050640</a>		15.7	400		<a href="#">14001040</a>	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
	<a href="#">14010520</a>	30A	7.9	200		<a href="#">14001220</a>	600A	7.9	200
	<a href="#">14010532</a>		12.6	320		<a href="#">14001232</a>		12.6	320
	<a href="#">14010540</a>		15.7	400		<a href="#">14001240</a>		15.7	400

Please see our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

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	<a href="#">14050620</a>
30	4.02 - 14.37	102 - 365	S0	12.6	320	<a href="#">14050632</a>
30	4.02 - 17.52	102 - 445	S0	15.7	400	<a href="#">14050640</a>
30	4.02 - 9.65	102 - 245	S1	7.9	200	<a href="#">14010520</a>
30	4.02 - 14.37	102 - 365	S1	12.6	320	<a href="#">14010532</a>
30	4.02 - 17.52	102 - 445	S1	15.7	400	<a href="#">14010540</a>
30 - 100	5.3 - 9.06	135 - 230	S2	7.9	200	<a href="#">14001020</a>
200	5.7 - 9.06	145 - 230	S2	7.9	200	<a href="#">14001020</a>
400	7.87 - 10.24	200 - 260	S2	7.9	200	<a href="#">14001020</a>
30 - 100	5.3 - 13.78	135 - 350	S1, S2	12.6	320	<a href="#">14001032</a>
200	5.7 - 13.78	145 - 350	S2	12.6	320	<a href="#">14001032</a>
400	7.87 - 14.96	200 - 380	S2	12.6	320	<a href="#">14001032</a>
30 - 100	5.3 - 16.93	135 - 430	S1, S2	15.7	400	<a href="#">14001040</a>
200	5.7 - 16.93	145 - 430	S2	15.7	400	<a href="#">14001040</a>
400	7.87 - 18.1	200 - 460	S2	15.7	400	<a href="#">14001040</a>
600 - 800	10.63 - 11.97	270 - 304	S3	7.9	200	<a href="#">14001220</a>
600 - 800	10.63 - 16.69	270 - 424	S3	12.6	320	<a href="#">14001232</a>
600 - 800	10.63 - 19.84	270 - 504	S3	15.7	400	<a href="#">14001240</a>

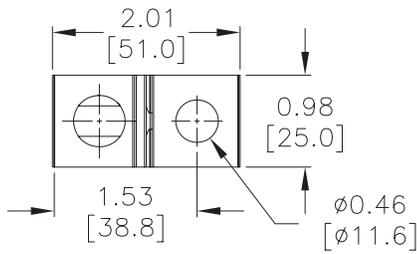


# Accessories Dimensions

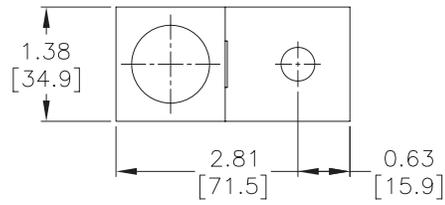


## Lugs

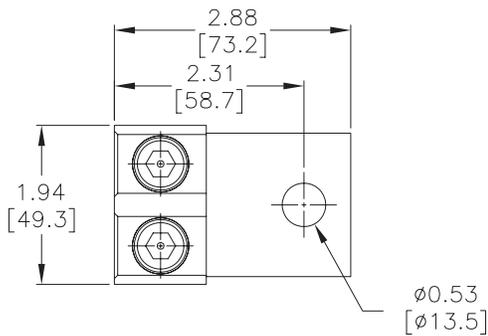
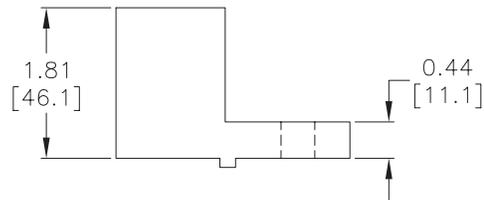
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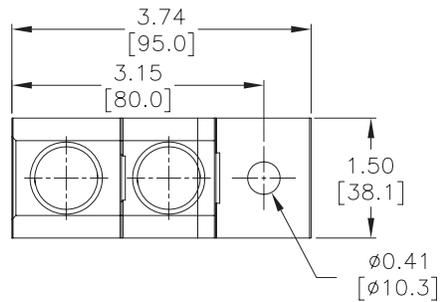
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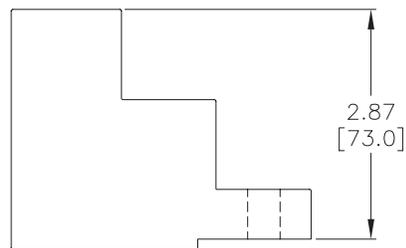
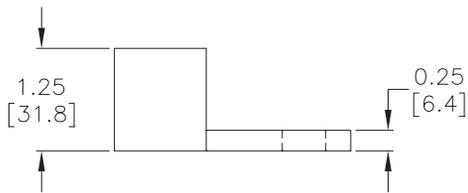
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**39543041**



**39543060**



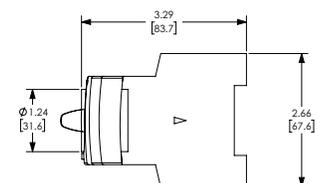
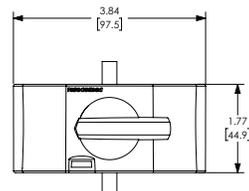
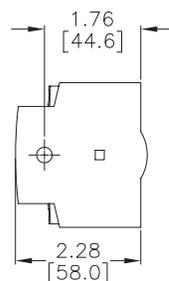
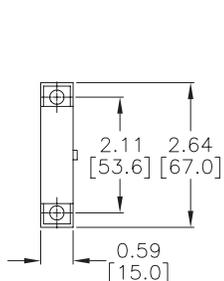
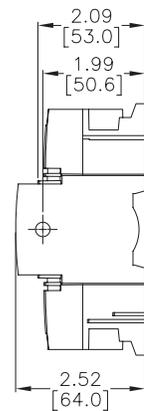
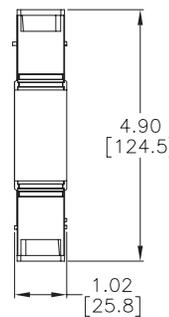
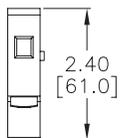
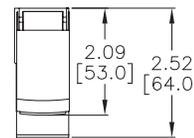
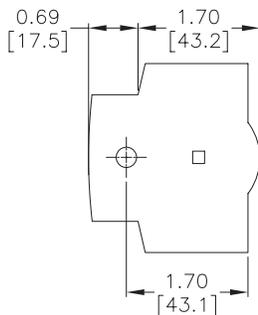
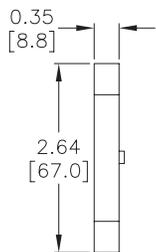
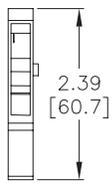
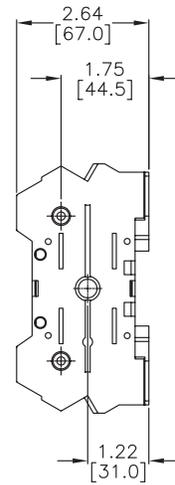
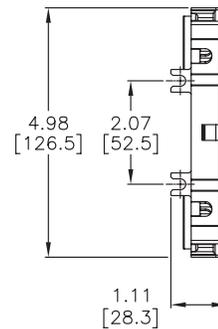
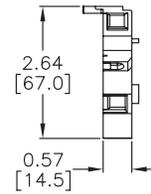
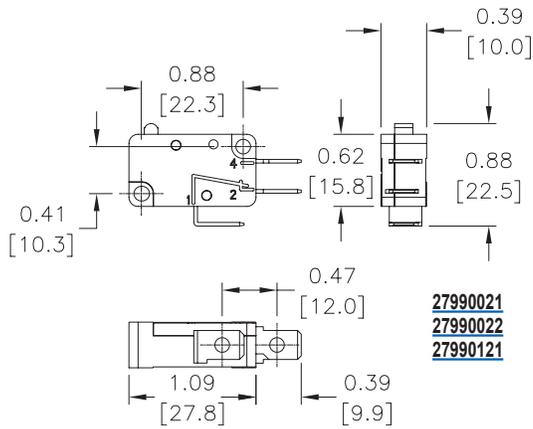
Please see our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

# Accessories Dimensions



## Auxiliary Contacts and Additional Poles

[inches/mm]



Please see our website [www.AutomationDirect.com](http://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

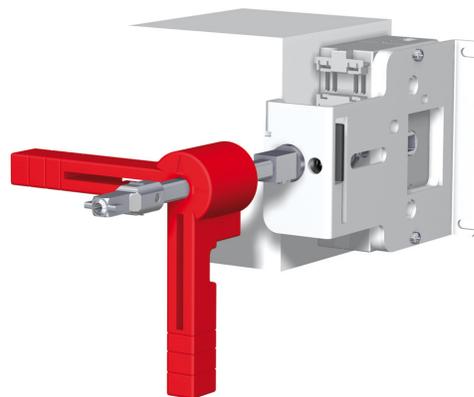
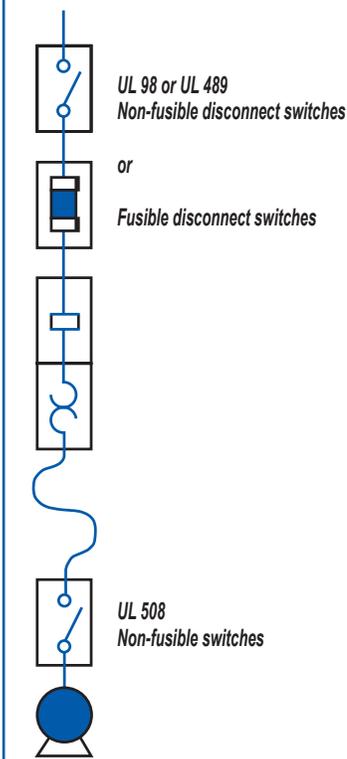
### **UL® Standards for Electrical Machinery**

#### **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.