

# FUSERBLOC UL 489

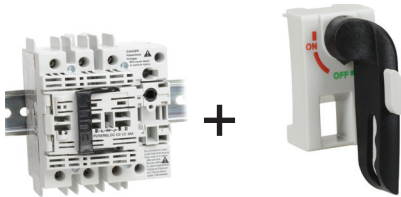
## Compact Fusible Disconnect Switches



To assemble a switch, please select:

Direct Operation

External Operation



OR



Switch Body

Direct Handle

Switch Body

Shaft

External Handle

### UL 498 Compact Fusible Disconnect Switches

Part Number	Description	Frame Size	Fuse Type	Price
<a href="#">37103003</a>	Compact UL 489 fusible front operated switch, 30A, 600VAC, 3-pole	1	Class CC	\$117.00
<a href="#">37104003</a>	Compact UL 489 fusible front operated switch, 30A, 600VAC, 3-pole with switched neutral			\$151.00
<a href="#">37105003</a>	Compact UL 489 fusible front operated switch, 30A, 600VAC, 3-pole with unswitched neutral			\$144.00
<a href="#">37103004</a>	Compact UL 489 fusible front operated switch, 30A, 600VAC, 3-pole	2	Class J	\$117.00
<a href="#">37104004</a>	Compact UL 489 fusible front operated switch, 30A, 600VAC, 3-pole with switched neutral			\$151.00
<a href="#">37105004</a>	Compact UL 489 fusible front operated switch, 30A, 600VAC, 3-pole with unswitched neutral			\$145.00

### Handles

Part Number	Description	Switch Body Rating (A)	Handle Color	Handle Type	NEMA/UL Type	Test	Price
<a href="#">37294012</a>	Direct handle for class CC disconnect switches*	30	Black	—	—	—	\$21.00
<a href="#">37294014</a>	Direct handle for class J disconnect switches*	30	Black	—	—	—	\$21.00
<a href="#">14930111</a>	Front operation handle for compact UL 489 fusible disconnect switches, defeatable and lockable	30	Black/Blue	S0	1, 3R, 12	I - O	\$24.00
<a href="#">14940111</a>		30	Red/Yellow	S0		I - O	\$24.00
<a href="#">149D0111</a>		30	Black/Blue	S0	4, 4X	I - O	\$29.50
<a href="#">149E0111</a>		30	Red/Yellow	S0		I - O	\$29.50
<a href="#">141F2111</a>		30	Black/Blue	S1	1, 3R, 12	I - O	\$32.50
<a href="#">141G2111</a>		30	Red/Yellow	S1		I - O	\$32.50
<a href="#">141D2111</a>		30	Black/Blue	S1	4, 4X	I - O	\$41.00
<a href="#">141E2111</a>		30	Red/Yellow	S1		I - O	\$41.00
<a href="#">141D2115</a>		30	Black/Blue	S1		I - O - Test	\$44.00
<a href="#">141E2115</a>		30	Red/Yellow	S1		I - O - Test	\$44.00
<a href="#">141D2911</a>	External heavy duty front handles, shaft required**	30	Black/Blue	S1	4, 4X	I - O	\$48.00
<a href="#">141E2911</a>		30	Red/Yellow	S1		I - O	\$48.00

\* Defeatable

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



Direct Handle  
[37294012](#)



S0 Handle  
[149D0111](#)



S1 Handle  
[141F2111](#)

### Shafts for External Handles

Part Number	Switch Body Rating (A)	Handle Type	Length		Price
			in	mm	
<a href="#">14050620</a>	30	S0	7.9	200	\$10.50
<a href="#">14050632</a>			12.6	320	\$13.00
<a href="#">14050640</a>			15.7	400	\$13.00
<a href="#">14010520</a>		S1	7.9	200	\$9.50
<a href="#">14010532</a>			12.6	320	\$11.00
<a href="#">14010540</a>			15.7	400	\$13.00



[14050620](#)



[14010520](#)

# FUSERBLOC UL 489

## Compact Fusible Disconnect Switches



### Shaft Guide for External Handle

Part Number	Description	Fits Handle Type	Price
<a href="#"><u>14290000</u></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.	S01, S1, S2, S3	\$6.50
<a href="#"><u>14190000</u></a>		S00, S0	\$2.75

[14290000](#)

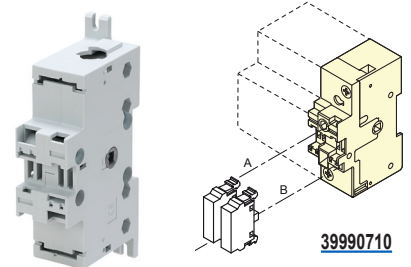
### Auxiliary Contacts

Auxiliary Contacts				
Part Number	Description	Switch Body Rating (A)	Contacts	Price
<a href="#"><u>39990701</u></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.	30 - 600	1 NO	\$9.00
<a href="#"><u>39990702</u></a>			1 NC	\$9.00
For 30 to 200A/J, maximum of 4 auxiliary contacts.				

[39990701](#)

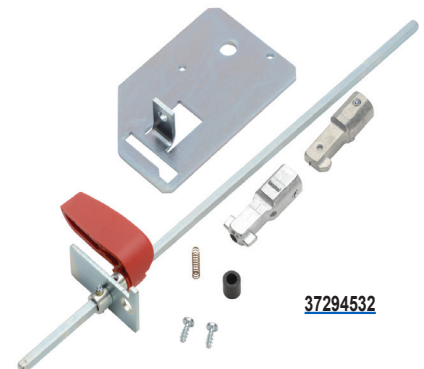
### Contact Holder for Additional Auxiliary Contacts

Part Number	Description	Switch Body Rating (A)	Fuse Types	Price
<a href="#"><u>39990710</u></a>	Additional auxiliary contact holder, side mount. For use with Class CC and J FUSERBLOC compact 30A fused switch bodies. Holds a maximum of 4 (2 wide x 2 high).	30	Class CC / J	\$14.00

[39990710](#)

### NFPA 79 "Through the Door" Kit

Part Number	Description	Switch Body Rating (A)	Frame Size	Price
<a href="#"><u>37294532</u></a>	Allows retrofit of installations for 30A ratings. Meets both UL 508A and NFPA 79 requirements. Order an S1-type external handle separately.	30	1, 2	\$45.00

[37294532](#)

# FUSERBLOC UL 489

## Compact Fusible Disconnect Switches



### Technical Characteristics

Characteristics According to UL 489 / CSA 22.2#5		
	<u>37103003, 37104003</u> <u>37105003</u>	<u>37103004, 37104004</u> <u>37105004</u>
General use rating (A)	30	30
Short circuit rating at 600VAC (kA)	100	100
Type of fuse	CC	J
Maximum fuse rating (A)	30	30
Operational power (hp) / current max operation 3-phase (A)		
220-240 VAC	7.5 / 22	7.5 / 22
440-480 VAC	15 / 21	15 / 21
600VAC	20 / 22	20 / 22
125VDC <sup>1</sup>	3 / 25	3 / 25
250VDC <sup>2</sup>	5 / 20	5 / 20
Product weight – lb (kg)	1.3 (0.6)	1.4 (0.6)
Environmental – switch body		
Operating temperature <sup>3</sup>	-20°C to 70°C (-4°F to +158°F)	
Flammability rating	UL 94-V0	
Mechanical endurance		
Endurance (number of operating cycles)	10,000	10,000
Operating torque – lb·in (N·m)	3.5 (0.4)	3.5 (0.4)
Mounting	35mm DIN rail or panel mount	
Connection		
Min. connection cross-section (AWG) <sup>2</sup>	#14	#14
Max. connection cross-section (AWG) <sup>2</sup>	#10	#10
Torque – lb·in (N·m)	27 (3)	27 (3)
Agency Approvals		
UL file # E255272 (UL 489, C22.2 No.5) Accessories UL file # 201138, CSA 112964		

<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 derated 1% per °C over 40°C. Example, at 60°C a 100A switch is rated 80A

Note: Short-circuit rating achieved when used with corresponding fuse type and max fuse rating.

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

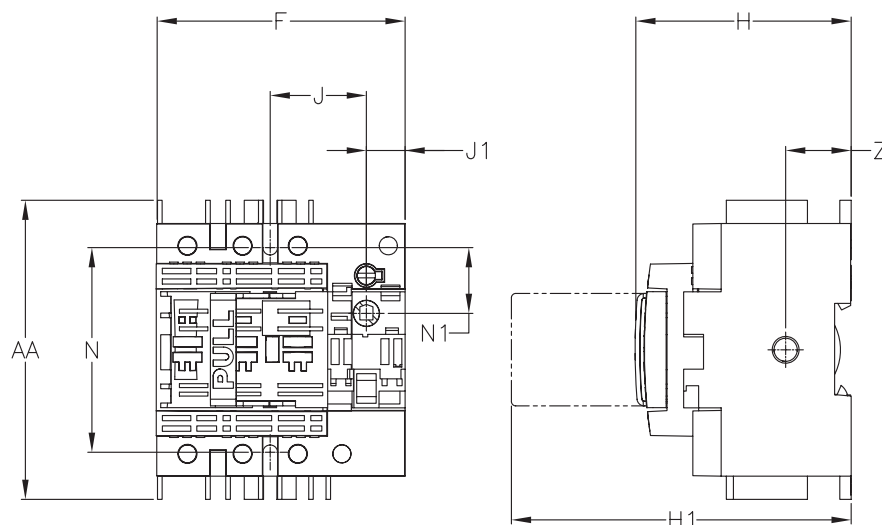
# FUSERBLOC UL 489

## Compact Fusible Disconnect Switches

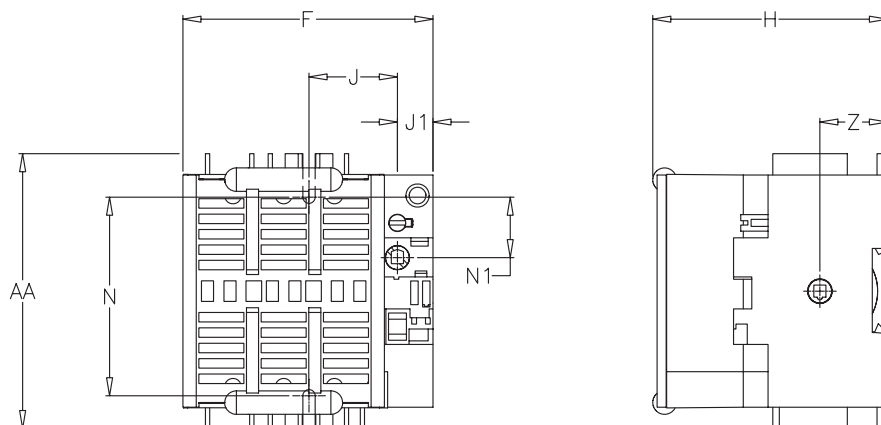


### Dimensions [inches/mm]

#### Class CC



#### Class J



Dimensions										
Switch Body Rating (A)	Unit	Switch Body					Switch Mounting		Connection	
		F	H	H1	J	J1	N	N1	AA	Z
30 Class CC	in	3.78	3.28	5.19	1.47	0.59	3.13	1	4.56	1.12
	mm	96	83.5	132	37.5	15	79.5	25.5	116	28.5
30 Class J	in	4.13	3.89	–	1.47	0.59	3.30	1	4.56	1.12
	mm	105	99	–	37.5	15	84	25.5	116	28.5

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

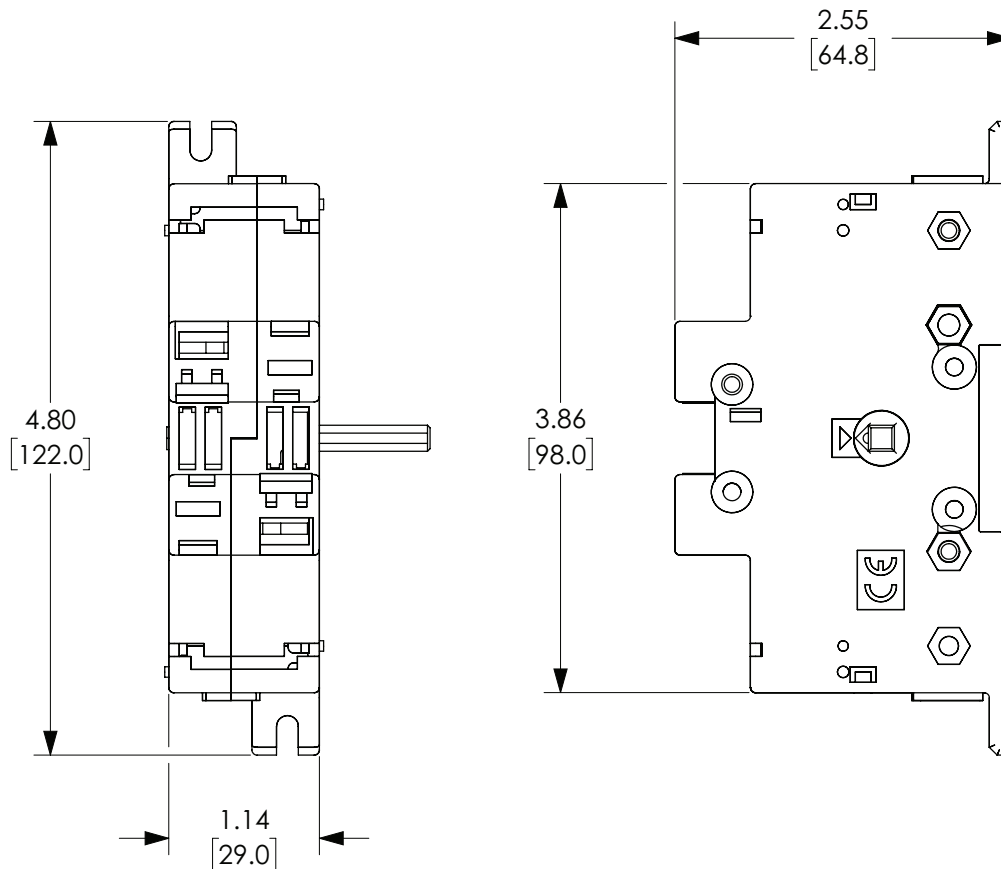
# FUSERBLOC UL 489

## Compact Fusible Disconnect Switches



### 39990710 Contact Holder for Additional Auxiliary Contacts

*Dimensions in inches [mm]*



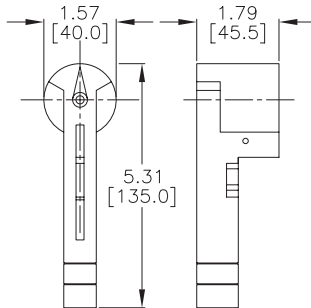
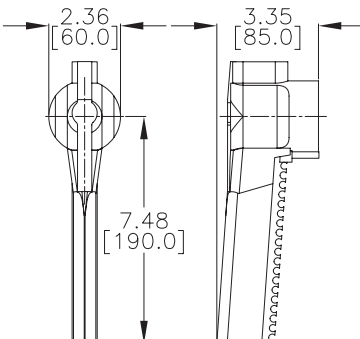
Please see our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings.

# Accessories Dimensions

## Handles

[inches/mm]

### Direct Handles for UL 489 Compact Fusible Disconnect Switches

26995052	37996012
Handle Dimensions	Handle Dimensions
	

### External Handles for UL 489 Compact Fusible Disconnect Switches

S0 Type			
Handle Dimensions	Direction of Operation	Door Drilling	
<p>3.07 [78.0]</p> <p>3.46 [88.0]</p> <p>1.46 [37.0]</p>	<p>90°</p>	<p>4X 0.27 [7.0]</p> <p>1.22 [31.0]</p> <p>0.12 [3.0]</p> <p>0.53 [13.5]</p> <p>1.10 [28.0]</p> <p>1.57 [40.0]</p> <p>0.89 [22.5]</p>	
S1 Type			
Handle Dimensions	Direction of Operation	Door Drilling	
<p>3.07 [78.0]</p> <p>2.76 [70.0]</p> <p>1.73 [44.0]</p>	<p>90°</p> <p>65°</p> <p>TEST</p> <p>TEST POSITION INCLUDED ON CERTAIN MODELS ONLY AS INDICATED IN THE SELECTION TABLES</p>	<p>0.27 [7.0]</p> <p>1.46 [37.0]</p> <p>1.57 [40.0]</p> <p>1.10 [28.0]</p> <p>1.46 [37.0]</p>	

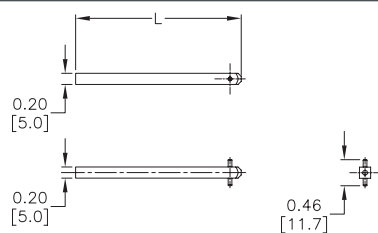
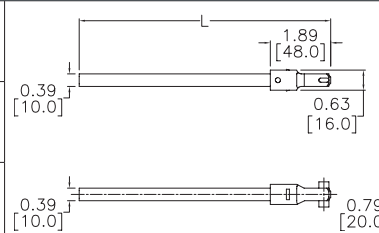
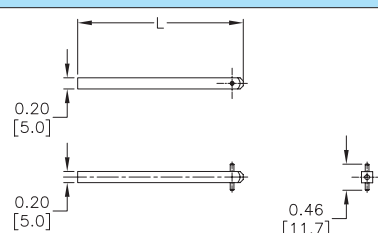
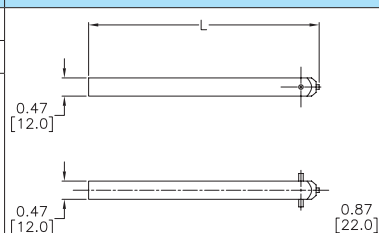
Note: Test position included on certain models only as indicated in the selection tables.

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

# Accessories Dimensions

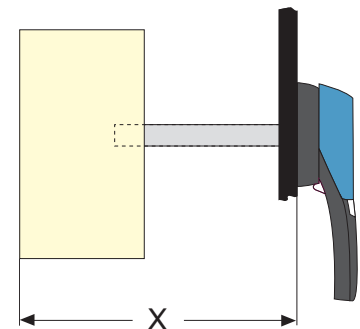
## Shafts for Fusible Disconnect Switches

[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

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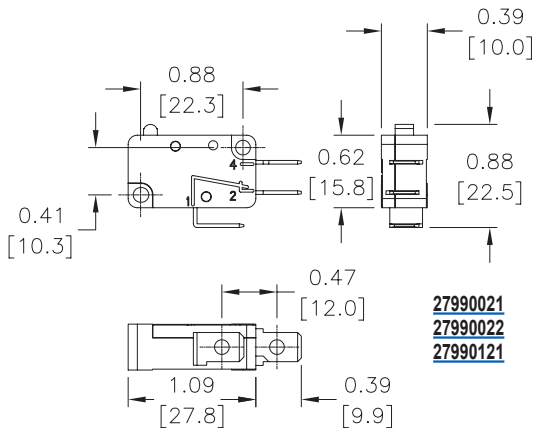
Shaft Length Minimum Dimensions						
Use standard lengths: - 7.9 in / 200mm - 12.6 in / 320mm - 15.7 in / 400mm						
Switch Body Rating (A)	Dimension X		Handle Type	Length		Part Number
	in	mm		in	mm	
30	4.02 - 9.65	102 - 245	S0	7.9	200	<a href="#">14050620</a>
30	4.02 - 14.37	102 - 365	S0	12.6	320	<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>



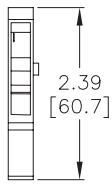
# Accessories Dimensions

## Auxiliary Contacts and Additional Poles

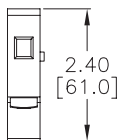
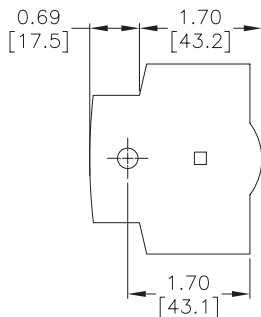
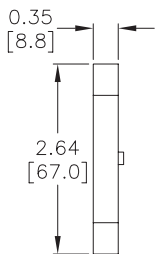
[inches/mm]



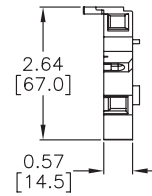
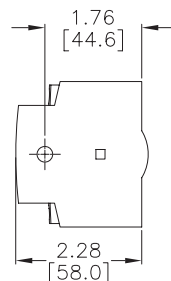
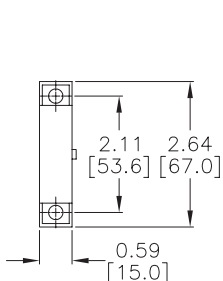
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**27990022**  
**27990121**



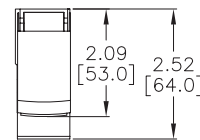
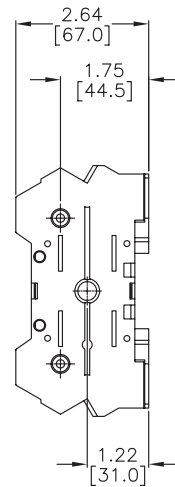
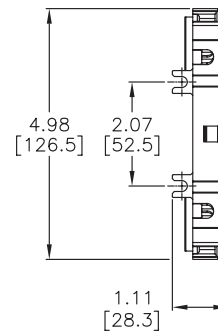
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**39990702**



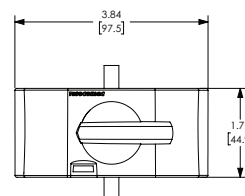
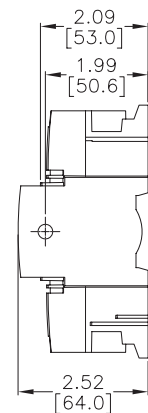
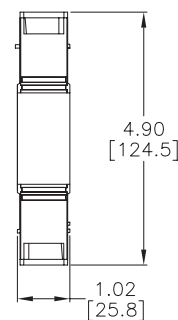
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**22001004**



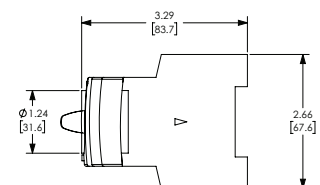
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**3999U042**



**22011003**  
**22011006**  
**22001010**  
**22005011**  
**22009011**



**22696009**



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

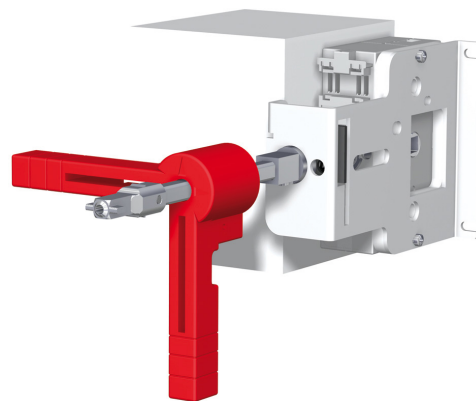
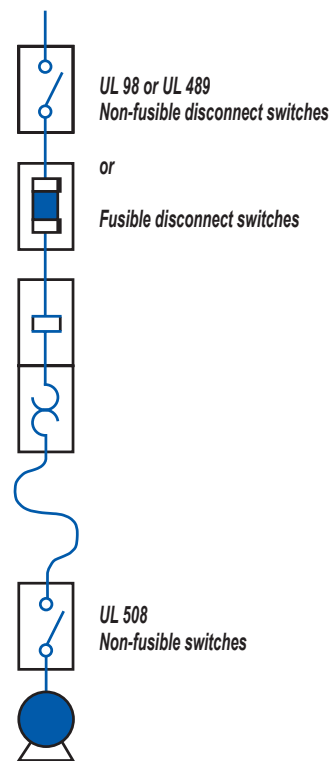
### **UL® Standards for Electrical Machinery**

#### **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.