

# DISCONNECT SWITCHES



**SPRINGER**  
controls company

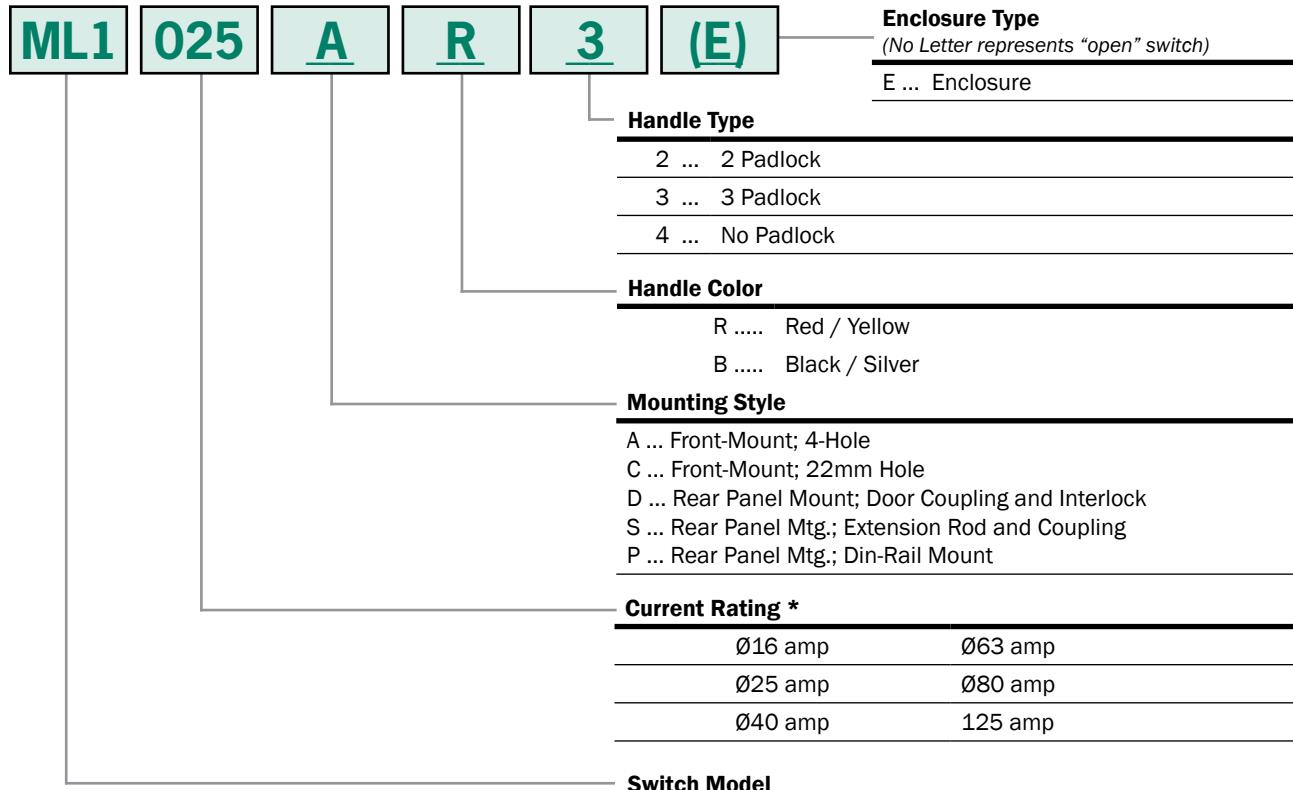
**Springer Controls** is partnered with **MERZ-PCE**, a world leader in the manufacturing of switch gears. We carry a complete line of UL approved, CSA listed, Disconnect Switches from 16A to 125A. Springer now offers larger disconnect switches rated up to 630 amps (consult factory for part number and pricing of switches greater than 125 amps.) Switches are available as an open type or in a polycarbonate enclosure (see page I-6.) Designed and tested to the most demanding standards, the switches will provide years of satisfied service under rated conditions. Switches meet IEC 947-3, EN60947-3, and DIN VDE Part 107. A complete line of Merz CAM SWITCHES can be found in section J of this catalog.

## DISCONNECT SWITCHES (16 TO 630 amp)

Product Numbering System / Model Ratings .....	I 2
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Front Panel Mounting Disconnects .....	I 4
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## PRODUCT NUMBERING SYSTEM



\*Consult factory for current ratings above 125 amp. (160A, 200A, 250A, 315A, 400A, 500A, 630A, rated switches available.)

## Model Ratings



<b>Switch Model</b>			<b>104</b>	<b>ML1</b>	<b>ML1</b>	<b>ML2</b>	<b>ML2</b>	<b>ML3</b>
General Purpose	3-phase	Amps Volts	16 600	25 600	40 600	63 600	80 600	125 600
Motor 3-phase	240V 480V 600V	hp	3 5 5	7.5 10 10	10 20 20	15 30 30	20 40 40	25 50 50
Motor 1-phase	125V 240V	hp	.5 1.5	1 2	1.5 3	3 7.5	4 10	6 15

**Notes:**

A full complement of accessories are available, additional power contacts, ground terminal, neutral terminals and auxiliary contacts. Finger protector terminal covers are available as well as legend plates. The shaft extension kits cover a complete range of panel depth up to 21.7 inches.

**HANDLE TYPES / MOUNTING STYLES**
**Operating Handle Types**


---



- Type #2**
- Lockout Handle
  - 1 or 2 Padlocks
  - Red / Yellow
  - Black / Silver



- Type #3**
- Lockout Handle
  - 3 Padlocks
  - Red / Yellow
  - Black / Silver



- Type #4**
- Handle Without Lockout
  - Red / Yellow
  - Black / Silver

**I 3**
**Mounting Styles**


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- Type A**
- 4- Hole Mounting
  - Terminal Screws on Rear of Base
  - Front Panel Mount



- Type C**
- 22.5 mm Hole Mounting
  - Terminal Screws on Rear of Base
  - Front Panel Mount



- Type D**
- Front Panel 4-Hole
  - Door Coupling and Door Interlock in "ON" Position
  - Terminal Screws on Front of Base
  - Rear Panel Din Mount



- Type S**
- Front Panel 4-Hole
  - Shaft Extender Required
  - Terminal Screws on Front of Base
  - Rear Panel Din Mount



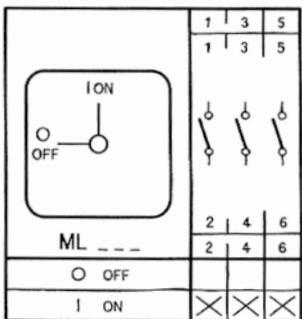
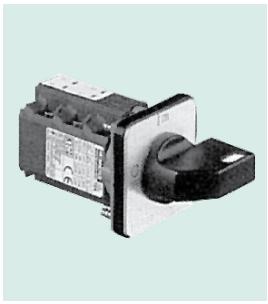
- Type P**
- Handle Mounted to Base
  - Terminal Screws on Front of Base
  - Rear Panel Din Mount

## FRONT PANEL MOUNTING DISCONNECTS

## Front Panel Mounting (4) Hole mounting "A"



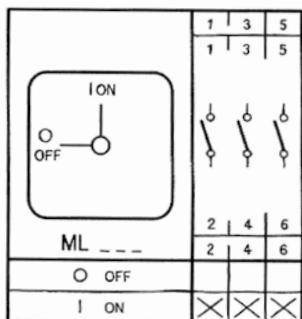
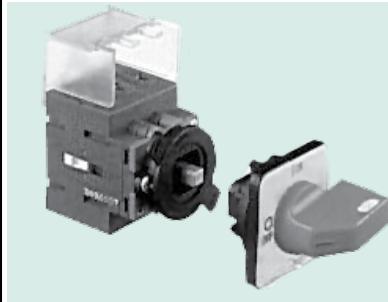
Thermal Rated Current @ 600V	HP			No Padlock Handle IP55	Price	Two Padlock Handle IP55	Price	Three Padlock Handle IP55	Price
	1 phase	3 phase							
16A	.5	1.5	3 5 5	A104-016-AB4	\$54.00	A104-016-A*2	\$54.00	A104-016-A*3	\$66.00
25A	1	3	7.5 10 10	ML1-025-AB4	\$64.00	ML1-025-A*2	\$68.00	ML1-025-A*3	\$74.00
40A	1.5	3	10 20 20	ML1-040-AB4	\$104.00	ML1-040-A*2	\$108.00	ML1-040-A*3	\$114.00
63A	3	7.5	15 30 30	ML2-063-AB4	\$124.00	--	--	ML2-063-A*3	\$134.00
80A	4	10	20 40 40	ML2-080-AB4	\$164.00	--	--	ML2-080-A*3	\$198.00
125A	6	15	25 50 50	ML3-125-AB4	\$230.00	--	--	ML3-125-A*3	\$240.00

Contact Diagram  
3-PoleDimension Fig.9,  
pg l11Dimension Fig.1,  
pg l9Dimension Fig.2,  
pg l9

## Front Panel Mounting (22.5mm) Hole Mounting "C"



Thermal Rated Current @ 600V	HP			Two Padlock Handle IP65	Price	Three Padlock Handle IP65	Price
	1 phase	3 phase					
16A	.5	1.5	3 5 5	A104-016-C*2	\$55.00	A104-016C*3	\$69.00
25A	1	3	7.5 10 10	ML1-025-C*2	\$73.00	ML1-025-C*3	\$76.00
40A	1.5	3	10 20 20	ML1-040-C*2	\$113.00	ML1-040-C*3	\$116.00
63A	3	7.5	15 30 30	--	--	--	--
80A	4	10	20 40 40	--	--	--	--
125A	6	15	25 50 50	--	--	--	--

Contact Diagram  
3-PoleDimension Fig.3,  
pg l9Dimension Fig.4,  
pg l10

\* R = Red/Yellow Handle / \* B = Black/Silver Handle

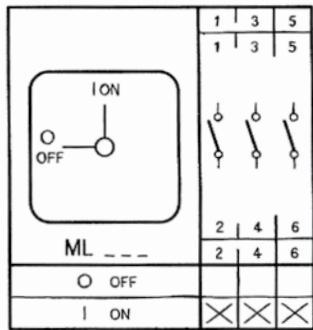
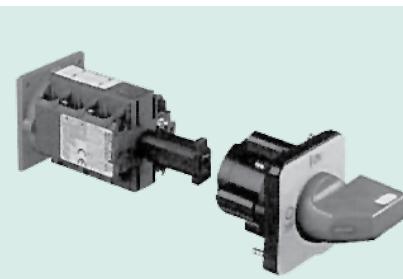
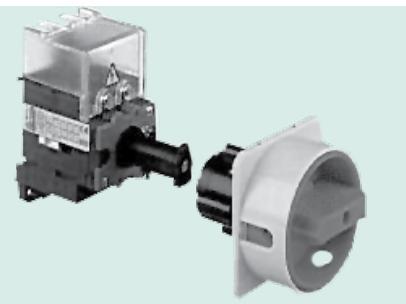
Discount Schedule SC-10

**REAR PANEL MOUNTING DISCONNECTS**
**Rear Panel Mounting, Door Coupling & Interlock (4) Hole Mounting "D"**


Thermal Rated Current @ 600V	HP			Two Padlock Handle IP55	Price	Three Padlock Handle IP55	Price	
	1 phase	240V	3 phase					
	120V	240V	480V	600V				
16A	.5	1.5	3	5	A104-016-D*2	\$72.00	A104-016-D*3	\$80.00
25A	1	3	7.5	10	ML1-025-D*2	\$86.00	ML1-025-D*3	\$94.00
40A	1.5	3	10	20	ML1-040-D*2	\$123.00	ML1-040-D*3	\$125.00
63A	3	7.5	15	30	ML2-063-D*3	\$150.00	ML2-063-D*3	\$150.00
80A	4	10	20	40	ML2-080-D*3	\$220.00	ML2-080-D*3	\$220.00
125A	6	15	25	50	ML3-125-D*3	\$260.00	ML3-125-D*3	\$260.00

**Contact Diagram**

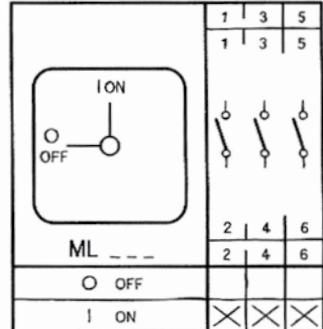
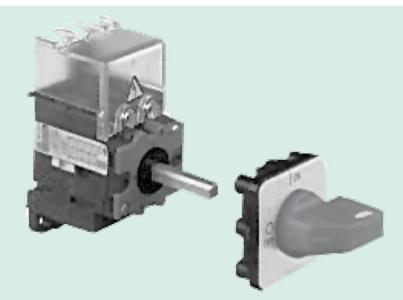
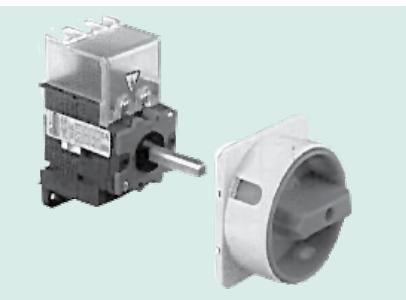
3-Pole


**Dimension Fig.5,**  
 pg I10

**Dimension Fig.6,**  
 pg I10

**Rear Panel Mounting, Extension Rod & Coupling (4) Hole Mounting "S"**


Thermal Rated Current @ 600V	HP			Two Padlock Handle IP55	Price	Three Padlock Handle IP55	Price	
	1 phase	240V	3 phase					
	120V	240V	480V	600V				
16A	.5	1.5	3	5	A104-016-S*2	\$70.00	A104-016-S*3	\$78.00
25A	1	3	7.5	10	ML1-025-S*2	\$86.00	ML1-025-S*3	\$94.00
40A	1.5	3	10	20	ML1-040-S*2	\$123.00	ML1-040-S*3	\$123.00
63A	3	7.5	15	30	ML2-063-S*3	\$148.00	ML2-063-S*3	\$148.00
80A	4	10	20	40	ML2-080-S*3	\$218.00	ML2-080-S*3	\$218.00
125A	6	15	25	50	ML3-125-S*3	\$258.00	ML3-125-S*3	\$258.00

**Contact Diagram**

3-Pole


**Dimension Fig.7,**  
 pg I11

**Dimension Fig.8,**  
 pg I11


\* R = Red/Yellow Handle / \* B = Black/Silver Handle

**Discount Schedule SC-10**

## REAR PANEL DISCONNECTS / ENCLOSED DISCONNECTS

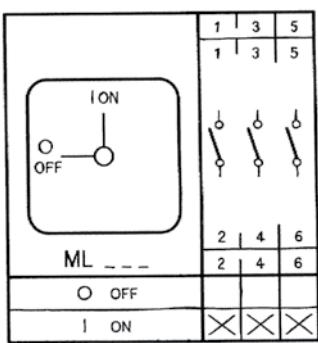
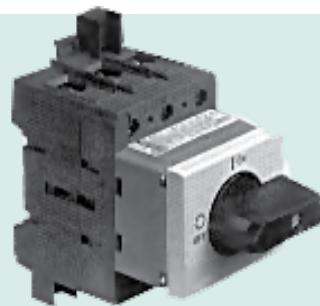
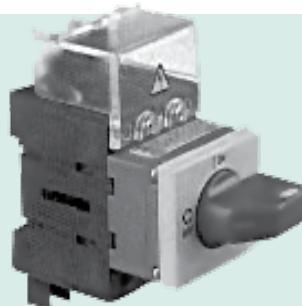
## Rear Panel Mounting Including Handle Din Rail Mounting "P"



Thermal Rated Current @ 600V	HP					No Padlock Handle IP30	Price	Two Padlock Handle IP30	Price				
	1 phase		3 phase										
	120V	240V	240V	480V	600V								
16A	.5	1.5	3	5	5	A104-016-PB4	\$60.00	A104-016-P*2	\$72.00				
25A	1	3	7.5	10	10	ML1-025-PB4	\$75.00	ML1-025-P*2	\$82.00				
40A	1.5	3	10	20	20	ML1-040-PB4	\$104.00	ML1-040-P*2	\$119.00				
63A	3	7.5	15	30	30	ML2-063-PB4	\$125.00	ML2-063-P*2	\$144.00				
80A	4	10	20	40	40	ML2-125-PB4	\$172.00	ML2-080-P*2	\$214.00				
125A	6	15	25	50	50	ML3-125-PB4	\$241.00	ML3-125-P*2	\$254.00				

## Contact Diagram

3-Pole

Dimension Fig.10,  
pg I12Dimension Fig.11,  
pg I12

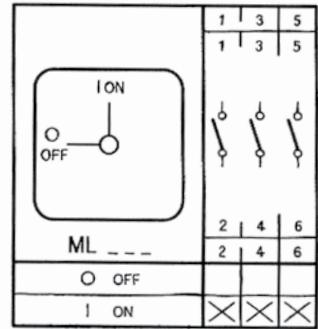
## Enclosed Disconnect Switches



Thermal Rated Current @ 600V	HP					Three Padlock Handle IP65	Price	Enclosure Size	Protection Class	See Page I13 for Encl. Dimensions					
	1 phase		3 phase												
	120V	240V	240V	480V	600V										
16A	.5	1.5	3	5	5	A105-016-A*3E	\$104.00	C12B	IP55						
25A	1	3	7.5	10	10	ML1-025-A*3E	\$141.00	E2	IP65						
32A	1.5	3	10	20	20	ML1-040-A*3E	\$209.00	E3	IP65						
50A	3	7.5	15	30	30	ML2-063-A*3E	\$237.00	E4	IP65						
63A	4	10	20	40	40	ML2-080-A*3E	\$294.00	E5	IP65						
100A	6	15	25	50	50	ML3-125-A*3E <sup>1</sup>	\$338.00	I7	IP65						

## Contact Diagram

3-Pole

Dimension Fig.12,  
pg I12

ML1-025-AR3E



ML2-063-AR3E

- Extra poles and auxiliaries available; consult factory.

\* R = Red/Yellow Handle / \* B = Black/Silver Handle

<sup>1</sup> ML3 - 125 - A\*3E comes with a transparent front cover (Enclosure #I7)

Discount Schedule SC-10

**ACCESSORIES**
**Extra Poles & Terminals**

Type	Front Mount	Din Base Mount	Switching Norm Open	Price	Ground Terminal	Price	Neutral Terminal	Price	Neutral Contact Early Make	Price
ML1-025, ML1-040	X		SK1-E	\$35.00	PE1-E	\$23.00	N1-E	\$23.00	NV1-E	\$35.00
ML1-025P, ML1-040P		X	SK1-V	\$35.00	PE1-V	\$23.00	N1-V	\$23.00	NV1-V	\$35.00
ML2-063, ML2-080	X		SK2-E	\$50.00	PE2-E	\$31.00	N2-E	\$31.00	NV2-E	\$50.00
ML2-063P, ML2-080P		X	SK2-V	\$50.00	PE2-V	\$31.00	N2-V	\$31.00	NV2-V	\$50.00
ML3-125	X		SK3-E	\$61.00	PE3-E	\$39.00	N3-E	\$39.00	NV3-E	\$60.00
ML3-125P		X	SK3-V	\$61.00	PE3-V	\$39.00	NE-V	\$39.00	NV3-V	\$60.00

The maximum amount of poles and auxiliary contacts used on switches:

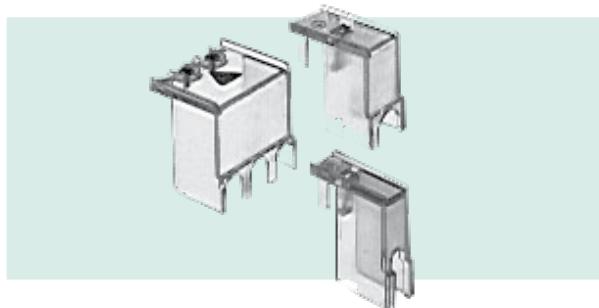
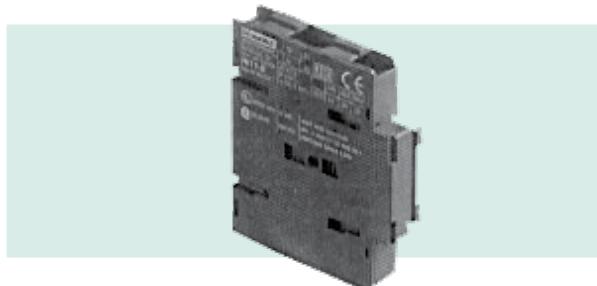
Type	SK or NV	HI 11 (auxiliary)
<b>ML1</b>	2	0
	2	1
	1	2
	2	2
<b>ML 2 / 3</b>	2	0
	2	1
	1	2
	0	3

**I 7**
**Auxiliary Contacts**

Type	Catalog No.	Price
Front Mount	HI11-E	\$42.00
Din Base Mount	HI11-V	\$42.00

**Notes:**

- 1 N.O., 1 N.C.
- Max. 3 Auxiliaries
- Snap on left or right side


**Terminal Covers**

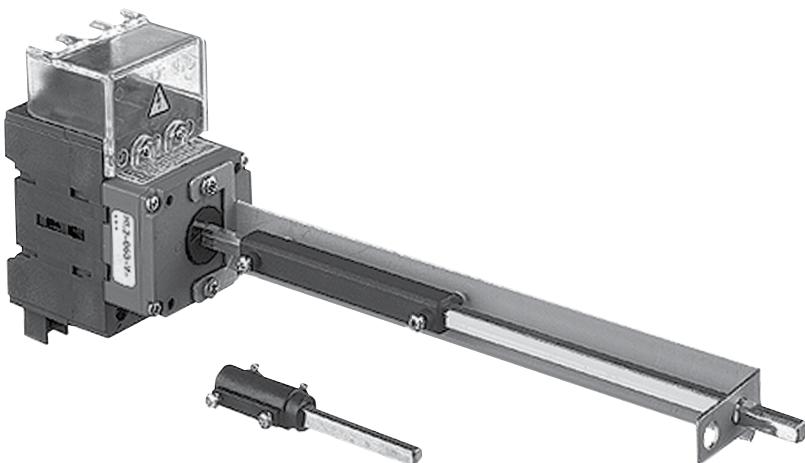
Type	Catalog No.	Price
ML1- 1 Pole	HS1-ML1	\$3.00
ML1- 3 Pole	HS3-ML1	\$7.00
ML2/3 -1 Pole	HS1-ML2/3	\$6.00
ML2- 3 Pole	HS3-ML2	\$9.00
ML3- 3 Pole	HS3-ML3	\$11.00

**Nameplates**

For 3 Padlock Style	Catalog No.	Price
Legend Plate w. Blank Insert	ALP	\$8.00
Legend Plate w. Engraved Insert	ALP-E	\$20.00


**Discount Schedule SC-10**

## ACCESSORIES

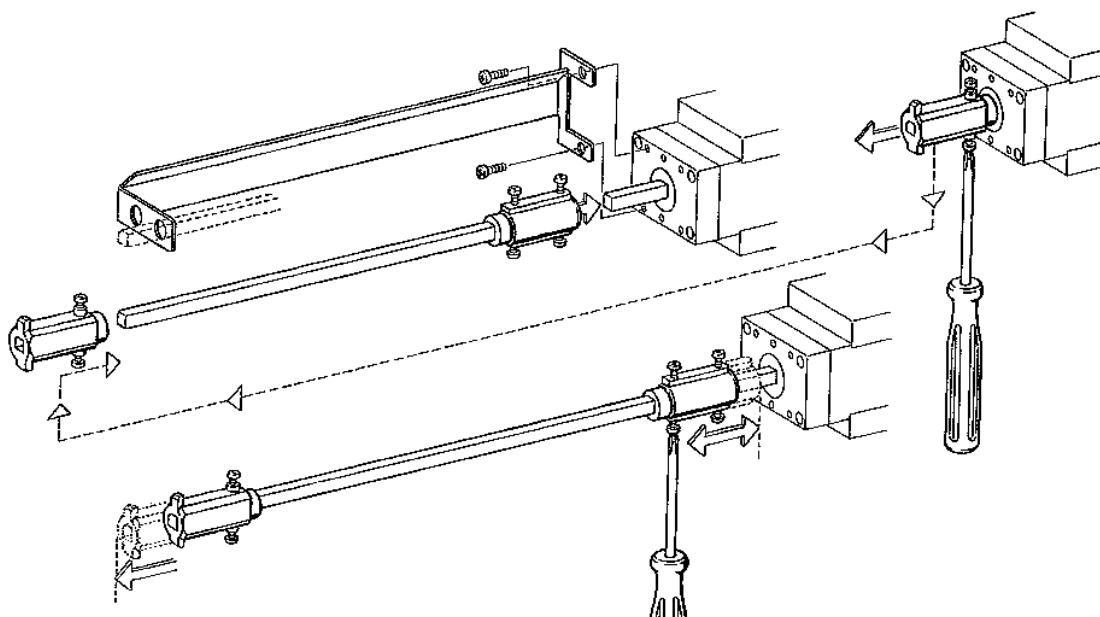
**Shaft Extension**

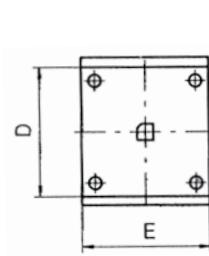
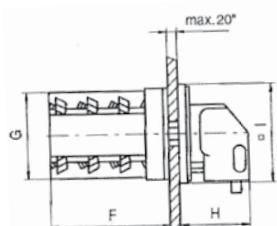
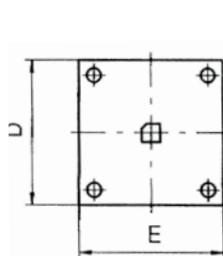
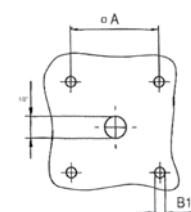
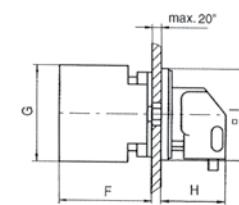
A104 & ML1	ML2 & ML3	Shaft Part No. Required	Price
4.13" - 5.31"	4.72" - 5.9"	None - Required	—
6.70" - 8.46"	7.28" - 9.06"	AL-65	\$25.00
10.43" - 13.19"	11.02" - 13.78"	AL-165	\$25.00
14.47" - 17.13"	14.96" - 17.72"	AL-265 <sup>1, 2</sup>	\$58.00
13.31" - 21.06"	18.90" - 21.65"	AL-365 <sup>1, 2</sup>	\$60.00
Extended Shaft Support Bracket		ALSS	\$60.00

**Notes:**

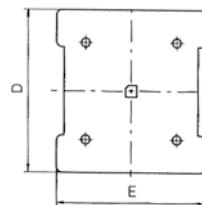
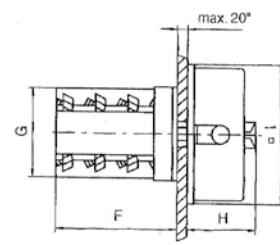
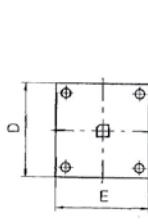
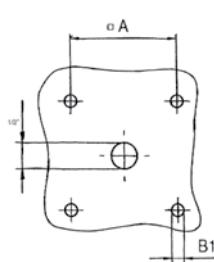
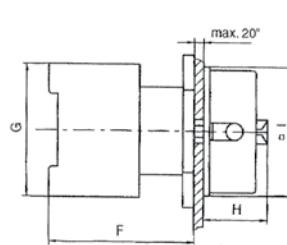
<sup>1</sup> Mounting depth is from outside of door to disconnect mounting plate. Shaft extension can be easily cut to size in the field.

<sup>2</sup> Shaft support ALSS required for AL-265 and AL-365

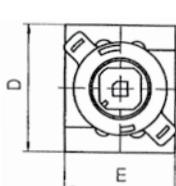
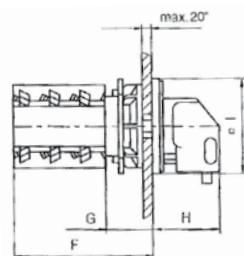
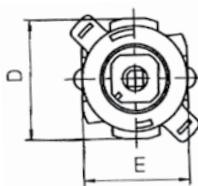
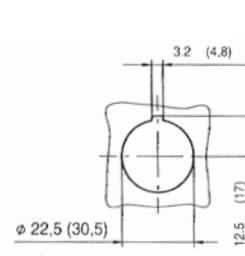
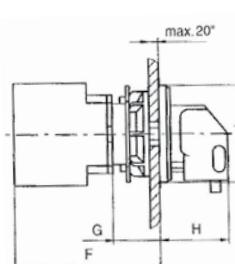
**Shaft Extension Diagram**
**Discount Schedule SC-10**

**DIMENSIONS; DISCONNECT SWITCHES**
**Figure 1**
**Series 104**

**Series ML**

**Dimensions (Inches)**

Type	A	B1	D	E	F	G	H	I
104	1.42	.177	1.75	1.75	2.24	1.69	1.38	1.89
ML1	1.42	.177	1.73	1.73	1.97	2.17	1.38	1.89

**Figure 2**
**Series 104**

**Series ML**

**Dimensions (Inches)**

Type	A	B1	D	E	F	G	H	I
104	1.42	.177	1.75	1.75	2.24	1.69	1.26	2.6
ML1	1.42	.177	1.73	1.73	1.97	2.17	1.26	2.6
ML2	1.89	.22	2.28	2.28	2.83	2.95	1.46	3.39
ML3	1.89	.22	3.07	3.07	2.83	3.15	1.46	3.39

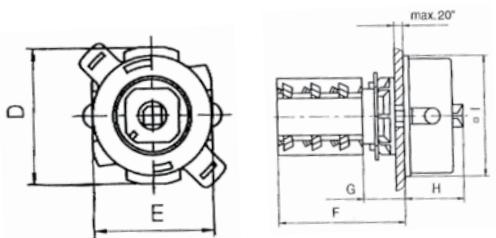
**Figure 3**
**Series 104**

**Series ML**

**Dimensions (Inches)**

Type	D	E	F	G	H	I
104	1.69	1.50	2.87	.98	1.38	1.89
ML1	2.17	1.77	2.95	.98	1.38	1.89

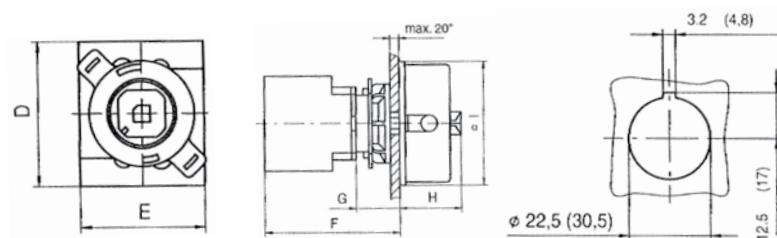
## DIMENSIONS; DISCONNECT SWITCHES

Figure 4

Series 104



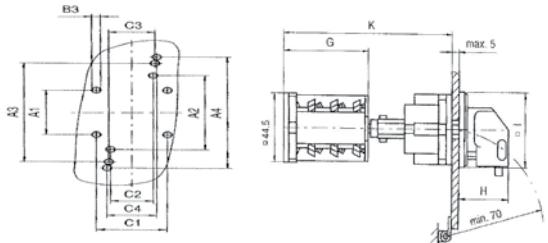
Series ML



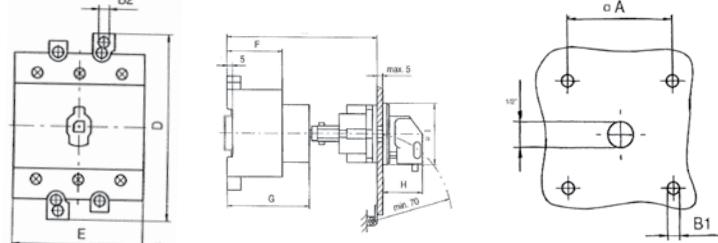
Type	Dimensions (Inches)					
	D	E	F	G	H	I
104	1.69	1.50	2.87	.98	1.26	2.60
ML1	2.17	1.77	2.95	.98	1.26	2.60

Figure 5

Series 104



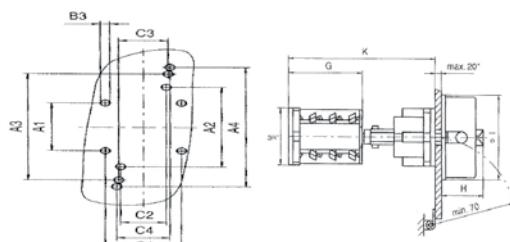
Series ML



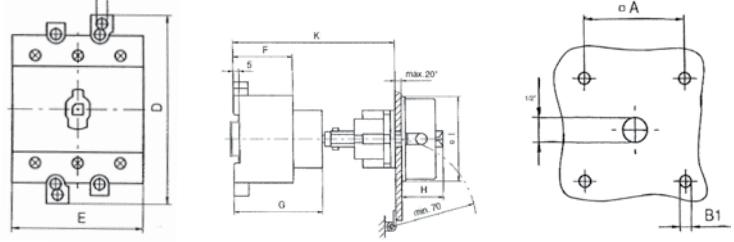
Type	Dimensions (Inches)																
	A	A1	A2	A3	A4	B1	C1	C2	C3	C4	D	E	F	G	H	I	K
104	1.42	1.42	--	--	--	.18	1.42	--	--	--	--	--	--	2.32	1.38	1.89	4.45-5.63
ML1	1.42	--	2.36	2.56	2.76	.18	--	.87	1.18	.98	3.07	1.77	1.65	2.17	1.38	1.89	4.13-5.31

Figure 6

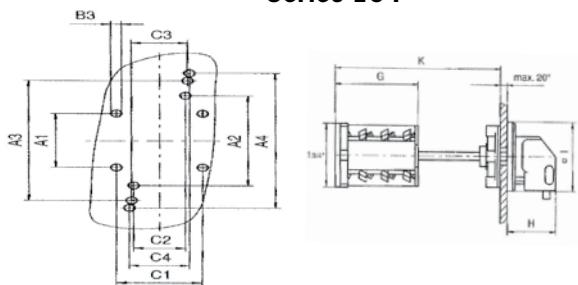
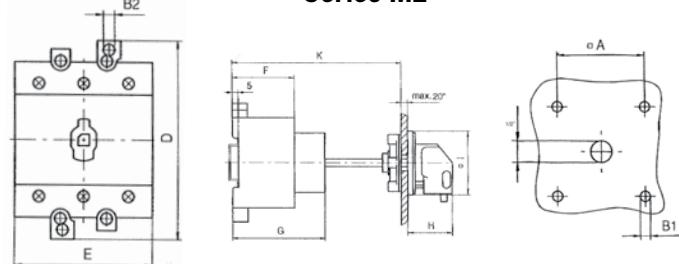
Series 104



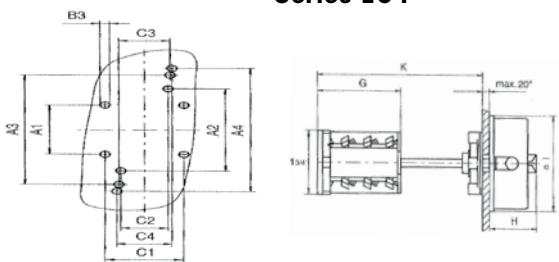
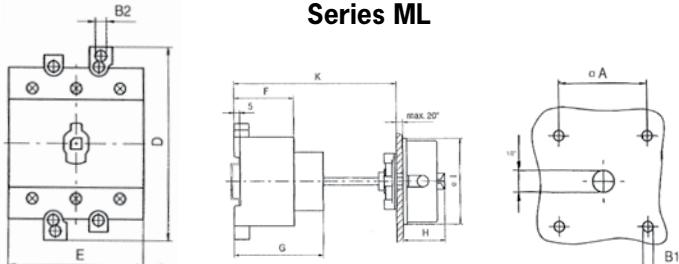
Series ML



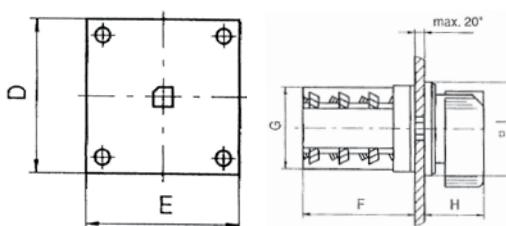
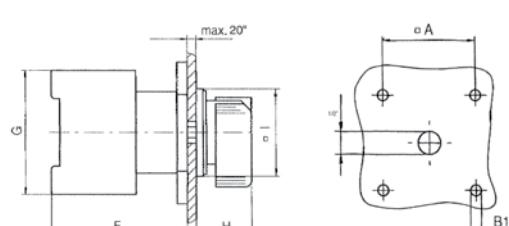
Type	Dimensions (Inches)																
	A	A1	A2	A3	A4	B1	C1	C2	C3	C4	D	E	F	G	H	I	K
104	1.42	1.42	--	--	--	.18	1.42	--	--	--	--	--	--	2.32	1.26	2.60	4.45-5.63
ML1	1.42	--	2.36	2.56	2.76	.18	--	.87	1.18	.98	3.07	1.77	1.65	2.17	1.26	2.60	4.13-5.31
ML2	1.89	--	--	3.15	3.54	.22	--	--	.93	.98	3.94	2.11	1.93	2.83	1.46	3.39	4.72-5.91
ML3	1.89	--	--	3.15	3.54	.22	--	--	.93	.98	3.94	2.76	1.93	2.83	1.46	3.39	4.72-5.91

**DIMENSIONS; DISCONNECT SWITCHES**
**Figure 7**
**Series 104**

**Series ML**

**Dimensions (Inches)**

Type	A	A1	A2	A3	A4	B1	C1	C2	C3	C4	D	E	F	G	H	I	K	
104	1.42	1.42	—	—	—	.18	1.42	—	—	—	—	—	—	—	2.32	1.38	1.89	3.46 - 3.86
ML1	1.42	—	2.36	2.56	2.76	.18	—	.87	1.18	.98	3.07	1.77	1.65	2.17	1.38	1.89	3.46 - 3.86	

**Figure 8**
**Series 104**

**Series ML**

**Dimensions (Inches)**

Type	A	A1	A2	A3	A4	B1	C1	C2	C3	C4	D	E	F	G	H	I	K	
104	1.42	1.42	—	—	—	.18	1.42	—	—	—	—	—	—	—	2.32	1.26	2.60	3.46 - 3.86
ML1	1.42	—	2.36	2.56	2.76	.18	—	.87	1.18	.98	3.07	1.77	1.65	2.17	1.26	2.60	3.46 - 3.86	
-ML2	1.89	—	—	3.54	3.54	.22	—	—	.93	.98	3.94	2.11	1.93	2.83	1.54	3.39	4.06 - 4.45	
ML3	1.89	—	—	3.54	3.54	.22	—	—	.93	.98	3.94	2.76	1.93	2.83	1.54	3.39	4.06 - 4.45	

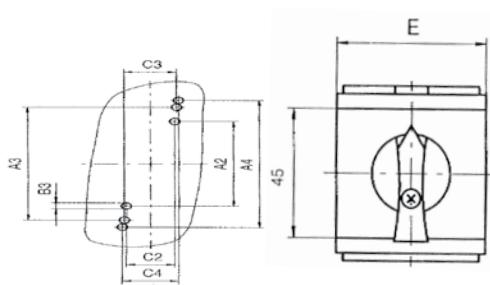
**Figure 9**
**Series 104**

**Series ML**

**Dimensions (Inches)**

Type	A	B1	D	E	F	G	H	I
104	1.42	.18	1.75	1.75	2.24	1.69	1.14	1.89
ML1	1.42	.18	1.73	1.73	1.97	2.17	1.14	1.89
ML2	1.89	.22	2.28	2.28	2.83	2.95	1.30	2.52
ML3	2.68	.22	3.07	3.07	2.83	3.15	1.38	3.46

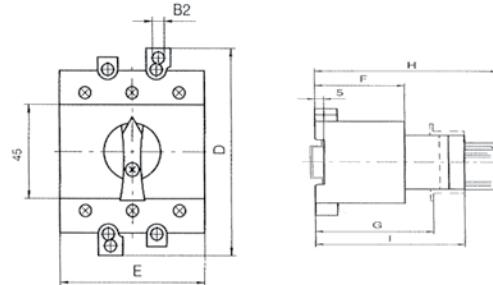
## DIMENSIONS; DISCONNECT SWITCHES

Figure 10

Series 104



Series ML



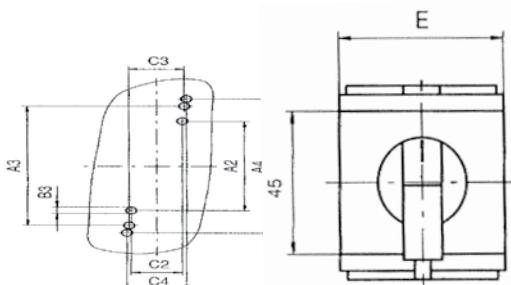
Dimensions (Inches)

Type	A2	A3	A4	B3	C2	C3	C4	D	E	F	G	H	I
104	--	--	--	--	--	--	--	2.36	2.07	--	1.85	3.39	2.6
ML1	2.36	2.56	2.76	.15	.87	1.18	.98	3.07	2.07	1.65	1.91	3.44	2.66
ML2	--	3.15	3.54	.20	--	.93	.98	3.94	2.11	1.93	--	3.94	3.11
ML3	--	3.15	3.54	.20	--	.93	.98	3.94	2.76	1.93	--	3.94	3.11

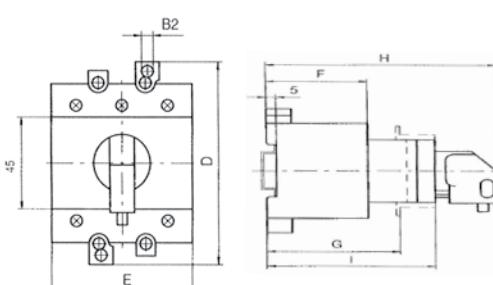
12

Figure 11

Series 104



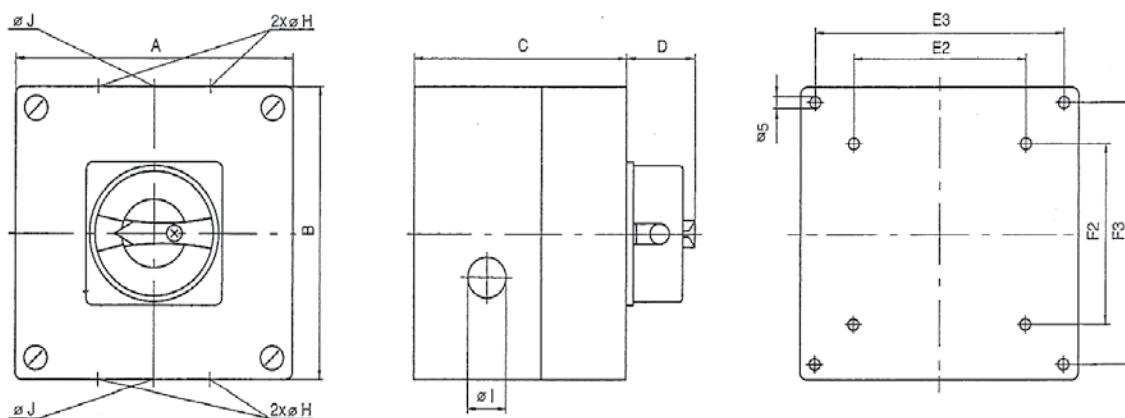
Series ML



Dimensions (Inches)

Type	A2	A3	A4	B3	C2	C3	C4	D	E	F	G	H	I
104	--	--	--	--	--	--	--	2.36	2.07	--	1.85	3.54	2.60
ML1	2.36	2.56	2.76	.15	.87	1.18	.98	3.07	2.07	1.65	1.91	3.60	2.66
ML2	--	3.15	3.54	.20	--	.93	.98	3.94	2.11	1.93	--	4.09	3.11
ML3	--	3.15	3.54	.20	--	.93	.98	3.94	2.76	1.93	--	4.09	3.11

**Enclosed Switches**

**Figure 12**
**I 13**


Type	Dimensions (Inches)							
	A	B	C	D	E2	E3	F2	F3
C12B	3.39	—	2.87	1.38	—	2.68	—	—
E2	3.70	5.12	3.19	1.26	—	3.11	—	4.53
E3	5.12	5.12	3.90	1.26	—	4.53	—	4.53
E4	4.33	7.09	4.37	1.26	1.97	3.74	4.72	6.50
E5	7.09	7.17	4.37	1.46	4.72	6.50	4.72	6.57
E6	7.09	10.00	4.37	1.46	4.72	6.50	7.76	9.41
I7	12.00	12.00	6.75	1.46	—	—	—	—

Notes: I7 enclosure comes with a transparent front cover (see above photo #ML3-125-AR3E)

## NOTES

| 14

# CAM SWITCHES



**SPRINGER**  
controls company

**Springer Controls** is partnered with **MERZ-PCE**, a world leader in the manufacturing of switch gears. We offer complete line of Cam Switches with as many as 24 switch contacts. Each contact has two fixed terminals and a moving contact bridge. All switches are designed with four switching angles, finger proof construction, captive screws and cable end stops, along with quality construction and excellent engineered design that surpasses the industry standards. UL, CSA, and VDE 0660 part 107 approvals as well as meeting IEC 947-3, EN60947-3 and CE all verify the excellence of the product. All MERZ products meet ROHS certification as well.

## CAM SWITCHES

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J

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Technical Data.....	J3
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Reversing Switches (Drum Switches).....	J11
Multi-Speed Switches.....	J12, J13
Wye-Delta Switches.....	J14
Step Switches (Tap Switches) with "0" Position.....	J15-J21
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## MODEL AND PRODUCT INFORMATION

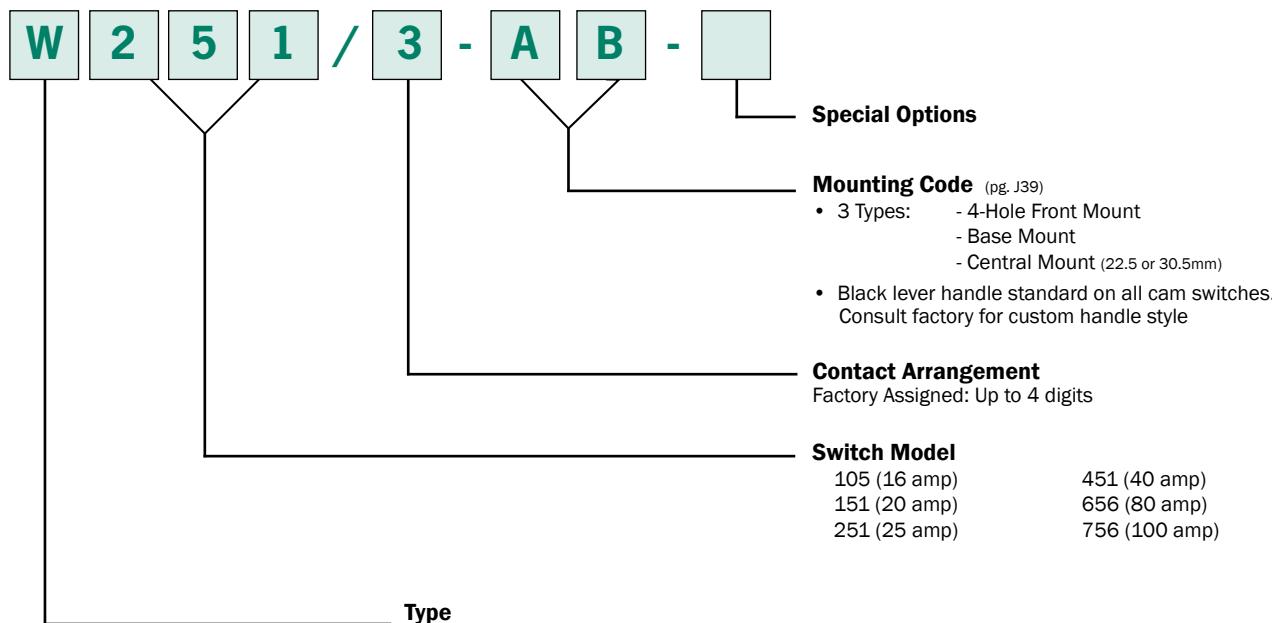
### Cam Switch Model Ratings



Switch Model	105	151	251	451	656	756
General Purpose 3-phase	A V	16 600	20 600	25 600	40 600	80 600
Motor 3-phase	240V 480V 600V	hp hp hp	3 5 5	5 10 10	7.5 15 20	10 25 30
Motor 1-phase	120V 240V	hp hp	.5 1.5	1 2.0	1.5 3	2 5.0
					7.5 50	10 60
					15	20

### Product Numbering System

J2



W = Reversing Switches or Drum Switches

P = Multi-Speed Switches

S = Wye-Delta Switches

E = Single Phase Starter Switches

**Example:** Reversing Switch; 25amp, 3-pole maintained, 4-hole, front mount handle = Part# W251/3-AB

**TECHNICAL DATA**
**Technical Data**

acc. to IEC 947-3, EN 60947-3 (DIN VDE 0660 part 107), UL and CSA

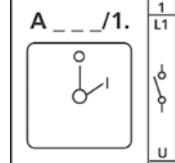
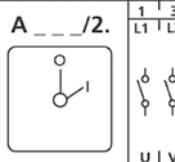
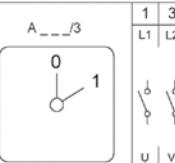
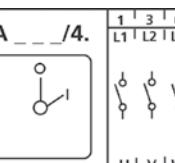
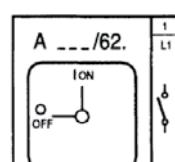
Series Type		105	151	251	451	656*	756*
<b>Rated Uninterrupted current (by max. cross section)</b>							
I <sub>u</sub> open - 1 <sub>th</sub>	A	20	32	40	63	80*	125*
I <sub>the</sub> encapsulated	A	16	25	40	63	80*	125*
Rated insulation voltage U <sub>i</sub> (III/3)	V	690	690	690	690	690	690
Rated impulse with stand. voltage U <sub>imp</sub> (III/3)	kV	6	6	6	6	6	6
Rated operational current I <sub>eAC-21 A</sub>	A	16	25	32	50	80*	125*
Rated operational voltage U <sub>e</sub>	A	690	690	690	690	690	690
<b>Making / Breaking capacity Utilization category AC-3</b>							
Motor switches for operational switching	3 x 230V <b>3 x 400V</b>	kW <b>kW</b>	3 <b>5,5</b>	5,5 <b>7,5</b>	7,5 <b>11</b>	11 <b>18,5</b>	22 <b>37</b>
<b>Single phase motor</b>	3 x 690V 1 x 230V <b>1 x 400V</b>	kW kW <b>kW</b>	5,5 2,2 <b>3</b>	11 3 <b>4</b>	15 4 <b>5,5</b>	22 11 <b>15</b>	45 11 <b>18,5</b>
<b>Utilization category AC-23 A</b>							
Motor switches (Main Switches Maintenance Switches)	3 x 230V <b>3 x 400V</b>	kW <b>kW</b>	4 <b>7,5</b>	7,5 <b>11</b>	11 <b>15</b>	15 <b>22</b>	22 <b>37</b>
<b>Rated breaking capacity AC-23 A</b>	3 x 690V <b>3 x 400V</b>	kW <b>kW</b>	7,5 <b>150</b>	15 <b>230</b>	18,5 <b>300</b>	30 <b>430</b>	45 <b>700</b>
	3 x 690V	A	90	170	210	330	490
<b>Utilization category AC-15</b>							
Control Switches	230V	A	6	10	12	16	20
Rated operational current I <sub>e</sub>	400V	A	4	6	10	12	16
<b>Short-circuit capacity</b>							
Max. fuse rating (gl-Char.)		A	25	35	50	63	125
Rated conditional short-circuit current		kA <sub>eff</sub>	4	6	6	6	-
Rated short-circuit making capacity I <sub>cm</sub>		kA	-	-	-	3,4	3,4
Rated short-time withstand I <sub>cw</sub> (1-s-current)		Aeff	240	30	400	60	1200
Isolating characteristics up to		V	500	500	690	690	690
Mechanical life – Operating cycles			10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>6</sup>
Terminal screws (Pozidrive)		M3	M3,5	M4	M5	M8	2 x M4
Screwdriver: Pozidrive		Size	1	2	2	2	2
Torque terminal scres		Nm	0,8	1,0	1,8	2,2	3,5
Cable cross section		min. mm <sup>2</sup>	1,0	1,0	1,0	1,5	1,5
Solid or multi-stranded		min. mm <sup>2</sup>	4,0	4,0	6,0	10,0	25,0
Flexible with ferrule		min. mm <sup>2</sup>	1,0	1,0	1,0	1,5	1,5
(DIN 46228)		max. mm <sup>2</sup>	2,5	2,5	4,0	6,0	16,0
*656 = 100 A, 756 = 160 A with usage of extension terminals. (non-UL rating)							

**UL Ratings:**

 	General Purpose 3-Phase	A	16	20	25	40	80	100
		V	600	600	600	600	600	600
Motor 3-Phase	240V	hp	3	5	7,5	10	25	30
	480V	hp	5	10	15	20	50	60
Motor 1-Phase (2 pole)	600V	hp	5	10	20	30	50	60
	120V	hp	0,5	1,0	1,5	2,0	7,5	10,0
Cable cross section		AWG-No	16-10	16-10	14-8	14-6	14-4	14-1

## TYPE: ON-OFF SWITCHES

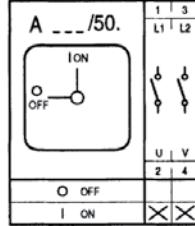
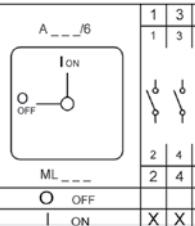
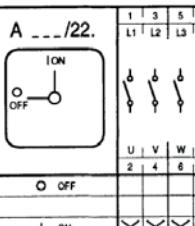
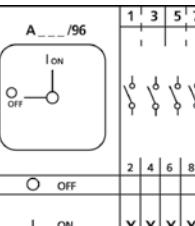
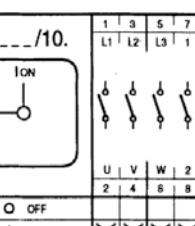
## ON-OFF SWITCHES

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram																																								
<b>1 Pole</b>	16	A105/1 -	XX	\$38.00	 <table border="1"> <tr><td>A</td><td>---</td><td>/1.</td><td>L1</td><td>1</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>U</td><td>2</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>I</td><td>X</td></tr> </table>	A	---	/1.	L1	1														U	2														I	X					
A	---	/1.	L1	1																																									
			U	2																																									
			I	X																																									
20	A151/1 -	XX	\$45.00																																										
25	A251/1 -	XX	\$61.00																																										
40	A451/1 -	XX	\$81.00																																										
80	A656/1 -	XX	\$119.00																																										
100	A756/1 -	XX	\$168.00																																										
<b>2 Pole</b>	16	A105/2 -	XX	\$46.00	 <table border="1"> <tr><td>A</td><td>---</td><td>/2.</td><td>L1 L2</td><td>1 2 3</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>U</td><td>4</td></tr> <tr><td> </td><td> </td><td> </td><td>V</td><td>5</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>I</td><td>X X</td></tr> </table>	A	---	/2.	L1 L2	1 2 3														U	4				V	5									I	X X					
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25	A251/2 -	XX	\$79.00																																										
40	A451/2 -	XX	\$110.00																																										
80	A656/2 -	XX	\$161.00																																										
100	A756/2 -	XX	\$220.00																																										
<b>3 Pole</b>	16	A105/3 -	XX	\$54.00	 <table border="1"> <tr><td>A</td><td>---</td><td>/3</td><td>L1 L2 L3</td><td>1 2 3 4 5</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>U</td><td>6</td></tr> <tr><td> </td><td> </td><td> </td><td>V</td><td>7</td></tr> <tr><td> </td><td> </td><td> </td><td>W</td><td>8</td></tr> <tr><td> </td><td> </td><td> </td><td>I</td><td>X X X X</td></tr> </table>	A	---	/3	L1 L2 L3	1 2 3 4 5														U	6				V	7				W	8				I	X X X X					
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			U	6																																									
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			W	8																																									
			I	X X X X																																									
20	A151/3 -	XX	\$72.00																																										
25	A251/3 -	XX	\$104.00																																										
40	A451/3 -	XX	\$149.00																																										
80	A656/3 -	XX	\$224.00																																										
100	A756/3 -	XX	\$277.00																																										
<b>4 Pole</b>	16	A105/4 -	XX	\$62.00	 <table border="1"> <tr><td>A</td><td>---</td><td>/4.</td><td>L1 L2 L3 L4</td><td>1 2 3 4 5 6 7</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>U</td><td>8</td></tr> <tr><td> </td><td> </td><td> </td><td>V</td><td>9</td></tr> <tr><td> </td><td> </td><td> </td><td>W</td><td>10</td></tr> <tr><td> </td><td> </td><td> </td><td>I</td><td>X X X X X X</td></tr> </table>	A	---	/4.	L1 L2 L3 L4	1 2 3 4 5 6 7														U	8				V	9				W	10				I	X X X X X X					
A	---	/4.	L1 L2 L3 L4	1 2 3 4 5 6 7																																									
			U	8																																									
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			W	10																																									
			I	X X X X X X																																									
20	A151/4 -	XX	\$80.00																																										
25	A251/4 -	XX	\$117.00																																										
40	A451/4 -	XX	\$172.00																																										
80	A656/4 -	XX	\$266.00																																										
100	A756/4 -	XX	\$334.00																																										
<b>1 Pole</b>	16	A105/62 -	XX	\$38.00	 <table border="1"> <tr><td>A</td><td>---</td><td>/62.</td><td>L1</td><td>1</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>U</td><td>2</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>I</td><td>X</td></tr> <tr><td> </td><td> </td><td> </td><td>OFF</td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td>ON</td><td> </td></tr> </table>	A	---	/62.	L1	1														U	2									I	X				OFF					ON	
A	---	/62.	L1	1																																									
			U	2																																									
			I	X																																									
			OFF																																										
			ON																																										
20	A151/62 -	XX	\$45.00																																										
25	A251/62 -	XX	\$61.00																																										
40	A451/62 -	XX	\$81.00																																										
80	A656/62 -	XX	\$119.00																																										
100	A756/62 -	XX	\$168.00																																										

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

**TYPE: ON-OFF SWITCHES**
**ON-OFF SWITCHES**

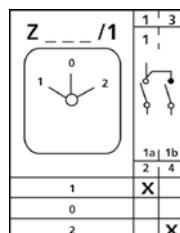
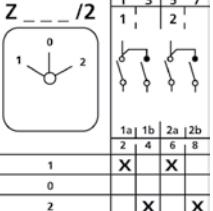
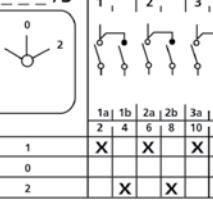
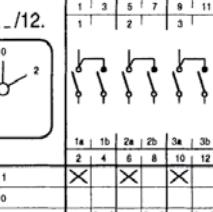
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram												
<b>2 Pole</b>	16	A105/50 -	XX	\$46.00	 <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <tr><td colspan="2">A --- /50.</td><td>1   3</td><td>L1   L2</td></tr> <tr><td colspan="2"></td><td>2   4</td><td>U   V</td></tr> <tr><td>OFF</td><td>ON</td><td>X</td><td>X</td></tr> </table>	A --- /50.		1   3	L1   L2			2   4	U   V	OFF	ON	X	X
A --- /50.		1   3	L1   L2														
		2   4	U   V														
OFF	ON	X	X														
20	A151/50 -	XX	\$55.00														
25	A251/50 -	XX	\$79.00														
40	A451/50 -	XX	\$110.00														
80	A656/50 -	XX	\$161.00														
100	A756/50 -	XX	\$220.00														
<b>3 Pole</b>	16	A105/6 -	XX	\$54.00	 <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <tr><td colspan="2">A --- /6</td><td>1   3   5</td><td>1   3   5</td></tr> <tr><td colspan="2"></td><td>2   4   6</td><td>2   4   6</td></tr> <tr><td>OFF</td><td>ON</td><td>X</td><td>X X X</td></tr> </table>	A --- /6		1   3   5	1   3   5			2   4   6	2   4   6	OFF	ON	X	X X X
A --- /6		1   3   5	1   3   5														
		2   4   6	2   4   6														
OFF	ON	X	X X X														
20	A151/6 -	XX	\$72.00														
25	A251/6 -	XX	\$104.00														
40	A451/6 -	XX	\$149.00														
80	A656/6 -	XX	\$224.00														
100	A756/6 -	XX	\$277.00														
<b>4 Pole 1-contact priority</b>	16	A105/22 -	XX	\$62.00	 <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <tr><td colspan="2">A --- /22.</td><td>1   3   5   7</td><td>L1   L2   L3   N</td></tr> <tr><td colspan="2"></td><td>2   4   6   8</td><td>U   V   W   N</td></tr> <tr><td>OFF</td><td>ON</td><td>X</td><td>X X X X</td></tr> </table>	A --- /22.		1   3   5   7	L1   L2   L3   N			2   4   6   8	U   V   W   N	OFF	ON	X	X X X X
A --- /22.		1   3   5   7	L1   L2   L3   N														
		2   4   6   8	U   V   W   N														
OFF	ON	X	X X X X														
20	A151/22 -	XX	\$80.00														
25	A251/22 -	XX	\$117.00														
40	A451/22 -	XX	\$172.00														
80	A656/22 -	XX	\$266.00														
100	A756/22 -	XX	\$334.00														
<b>5 Pole</b>	16	A105/96 -	XX	\$75.00	 <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <tr><td colspan="2">A --- /96</td><td>1   3   5   7   9</td><td>I   I   I   I   I</td></tr> <tr><td colspan="2"></td><td>2   4   6   8   10</td><td>U   V   W   Z   N</td></tr> <tr><td>OFF</td><td>ON</td><td>X</td><td>X X X X X</td></tr> </table>	A --- /96		1   3   5   7   9	I   I   I   I   I			2   4   6   8   10	U   V   W   Z   N	OFF	ON	X	X X X X X
A --- /96		1   3   5   7   9	I   I   I   I   I														
		2   4   6   8   10	U   V   W   Z   N														
OFF	ON	X	X X X X X														
20	A151/96 -	XX	\$98.00														
25	A251/96 -	XX	\$142.00														
40	A451/96 -	XX	\$209.00														
80	A656/96 -	XX	\$330.00														
100	A756/96 -	XX	\$405.00														
<b>6 Pole</b>	16	A105/10 -	XX	\$86.00	 <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <tr><td colspan="2">A --- /10.</td><td>1   3   5   7   9   11</td><td>L1   L2   L3   1   3   5</td></tr> <tr><td colspan="2"></td><td>2   4   6   8   10   12</td><td>U   V   W   2   4   6</td></tr> <tr><td>OFF</td><td>ON</td><td>X</td><td>X X X X X X</td></tr> </table>	A --- /10.		1   3   5   7   9   11	L1   L2   L3   1   3   5			2   4   6   8   10   12	U   V   W   2   4   6	OFF	ON	X	X X X X X X
A --- /10.		1   3   5   7   9   11	L1   L2   L3   1   3   5														
		2   4   6   8   10   12	U   V   W   2   4   6														
OFF	ON	X	X X X X X X														
20	A151/10 -	XX	\$106.00														
25	A251/10 -	XX	\$151.00														
40	A451/10 -	XX	\$224.00														
80	A656/10 -	XX	\$363.00														
100	A756/10 -	XX	\$448.00														

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

## TYPE: CHANGE-OVER SWITCHES WITH 0-POSITION

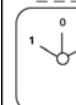
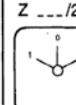
## CHANGE-OVER SWITCHES WITH 0-POSITION

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram																																																								
<b>1 Pole Maintained</b>	16	Z105/1 -	XX	\$43.00	 <table border="1" data-bbox="1166 813 1379 1024"> <tr><td>1</td><td>3</td></tr> <tr><td>1</td><td>1</td></tr> <tr><td>1a</td><td>1b</td></tr> <tr><td>2</td><td>4</td></tr> <tr><td>1</td><td>X</td></tr> <tr><td>0</td><td></td></tr> <tr><td>2</td><td>X</td></tr> </table>	1	3	1	1	1a	1b	2	4	1	X	0		2	X																																										
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2	X																																																												
20	Z151/1 -	XX	\$55.00																																																										
25	Z251/1 -	XX	\$79.00																																																										
40	Z451/1 -	XX	\$110.00																																																										
80	Z656/1 -	XX	\$161.00																																																										
100	Z756/1 -	XX	\$220.00																																																										
<b>2 Pole Maintained</b>	16	Z105/2 -	XX	\$53.00	 <table border="1" data-bbox="1166 1235 1379 1446"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td></tr> <tr><td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td></tr> <tr><td>1a</td><td>1b</td><td>2a</td><td>2b</td><td>3a</td><td>3b</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> <tr><td>1</td><td>X</td><td>X</td><td></td><td>X</td><td></td></tr> <tr><td>0</td><td></td><td></td><td>X</td><td>X</td><td>X</td></tr> <tr><td>2</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td></tr> </table>	1	3	5	7	9	11	1	1	2	1	3	1	1a	1b	2a	2b	3a	3b	2	4	6	8	10	12	1	X	X		X		0			X	X	X	2		X	X	X	X														
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1a	1b	2a	2b	3a	3b																																																								
2	4	6	8	10	12																																																								
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0			X	X	X																																																								
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20	Z151/2 -	XX	\$80.00																																																										
25	Z251/2 -	XX	\$117.00																																																										
40	Z451/2 -	XX	\$172.00																																																										
80	Z656/2 -	XX	\$266.00																																																										
100	Z756/2 -	XX	\$334.00																																																										
<b>3 Pole Maintained</b>	16	Z105/3 -	XX	\$74.00	 <table border="1" data-bbox="1166 411 1379 623"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td><td>13</td><td>15</td></tr> <tr><td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td><td>4</td><td>1</td></tr> <tr><td>1a</td><td>1b</td><td>2a</td><td>2b</td><td>3a</td><td>3b</td><td>4a</td><td>4b</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td></tr> <tr><td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> </table>	1	3	5	7	9	11	13	15	1	1	2	1	3	1	4	1	1a	1b	2a	2b	3a	3b	4a	4b	2	4	6	8	10	12	14	16	1	X	X	X	X	X	X		0								2		X	X	X	X	X	X
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20	Z151/3 -	XX	\$106.00																																																										
25	Z251/3 -	XX	\$151.00																																																										
40	Z451/3 -	XX	\$224.00																																																										
80	Z656/3 -	XX	\$363.00																																																										
100	Z756/3 -	XX	\$448.00																																																										
<b>4 Pole Maintained</b>	16	Z105/12 -	XX	\$83.00	 <table border="1" data-bbox="1166 411 1379 623"> <tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td><td>13</td><td>15</td></tr> <tr><td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td><td>4</td><td>1</td></tr> <tr><td>1a</td><td>1b</td><td>2a</td><td>2b</td><td>3a</td><td>3b</td><td>4a</td><td>4b</td></tr> <tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td></tr> <tr><td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> </table>	1	3	5	7	9	11	13	15	1	1	2	1	3	1	4	1	1a	1b	2a	2b	3a	3b	4a	4b	2	4	6	8	10	12	14	16	1	X	X	X	X	X	X		0								2		X	X	X	X	X	X
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20	Z151/12 -	XX	\$132.00																																																										
25	Z251/12 -	XX	\$184.00																																																										
40	Z451/12 -	XX	\$272.00																																																										
80	Z656/12 -	XX	\$448.00																																																										
100	Z756/12 -	XX	\$563.00																																																										

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

**TYPE: CHANGE-OVER SWITCHES WITH 0-POSITION**
**CHANGE-OVER SWITCHES WITH 0-POSITION**

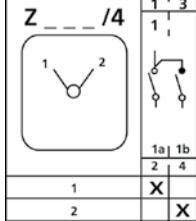
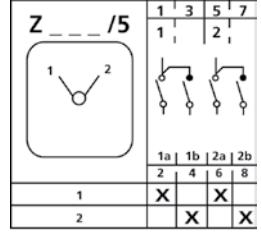
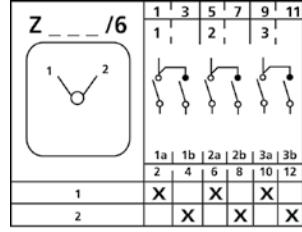
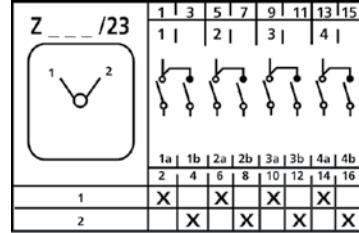
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Font Plate / Contact Diagram																																																																																																																																
<b>5 Pole Maintained</b>	16	Z105/9 -	XX	\$108.00	 <p><b>Z ____/9</b></p> <table border="1"> <tr> <td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td> </tr> <tr> <td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td><td>4</td><td>1</td><td>5</td><td>1</td> </tr> <tr> <td>1</td><td>2</td><td>1</td><td>3</td><td>2</td><td>1</td><td>4</td><td>2</td><td>3</td><td>1</td> </tr> <tr> <td>1a</td><td>1b</td><td>2a</td><td>2b</td><td>3a</td><td>3b</td><td>4a</td><td>4b</td><td>5a</td><td>5b</td> </tr> <tr> <td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td> </tr> <tr> <td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> <tr> <td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> </table>	1	3	5	7	9	11	13	15	17	19	1	1	2	1	3	1	4	1	5	1	1	2	1	3	2	1	4	2	3	1	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	2	4	6	8	10	12	14	16	18	20	1	X	X	X	X	X	X	X	X	X	0										2	X	X	X	X	X	X	X	X	X																																																
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25	Z251/9 -	XX	\$219.00																																																																																																																																		
40	Z451/9 -	XX	\$318.00																																																																																																																																		
80	Z656/9 -	XX	\$534.00																																																																																																																																		
100	Z756/9 -	XX	\$673.00																																																																																																																																		
<b>6 Pole Maintained</b>	16	Z105/26 -	XX	\$125.00	 <p><b>Z ____/26.</b></p> <table border="1"> <tr> <td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td><td>21</td><td>23</td> </tr> <tr> <td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td><td>4</td><td>1</td><td>5</td><td>1</td><td>6</td><td>1</td> </tr> <tr> <td>1</td><td>2</td><td>1</td><td>3</td><td>2</td><td>1</td><td>4</td><td>2</td><td>3</td><td>1</td><td>5</td><td>2</td> </tr> <tr> <td>1a</td><td>1b</td><td>2a</td><td>2b</td><td>3a</td><td>3b</td><td>4a</td><td>4b</td><td>5a</td><td>5b</td><td>6a</td><td>6b</td> </tr> <tr> <td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td><td>22</td><td>24</td> </tr> <tr> <td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> <tr> <td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> </table>	1	3	5	7	9	11	13	15	17	19	21	23	1	1	2	1	3	1	4	1	5	1	6	1	1	2	1	3	2	1	4	2	3	1	5	2	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	2	4	6	8	10	12	14	16	18	20	22	24	1	X	X	X	X	X	X	X	X	X	X	X	0												2	X	X	X	X	X	X	X	X	X	X	X																																
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80	Z656/26 -	XX	\$620.00																																																																																																																																		
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<b>7 Pole Maintained</b>	16	Z105/234 -	XX	\$135.00	 <p><b>Z ____/234</b></p> <table border="1"> <tr> <td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td><td>21</td><td>23</td><td>25</td><td>27</td> </tr> <tr> <td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td><td>4</td><td>1</td><td>5</td><td>1</td><td>6</td><td>1</td><td>7</td><td>1</td> </tr> <tr> <td>1</td><td>2</td><td>1</td><td>3</td><td>2</td><td>1</td><td>4</td><td>2</td><td>3</td><td>1</td><td>5</td><td>2</td><td>6</td><td>1</td> </tr> <tr> <td>1a</td><td>1b</td><td>2a</td><td>2b</td><td>3a</td><td>3b</td><td>4a</td><td>4b</td><td>5a</td><td>5b</td><td>6a</td><td>6b</td><td>7a</td><td>7b</td> </tr> <tr> <td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td><td>22</td><td>24</td><td>26</td><td>28</td> </tr> <tr> <td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> <tr> <td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> </table>	1	3	5	7	9	11	13	15	17	19	21	23	25	27	1	1	2	1	3	1	4	1	5	1	6	1	7	1	1	2	1	3	2	1	4	2	3	1	5	2	6	1	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	2	4	6	8	10	12	14	16	18	20	22	24	26	28	1	X	X	X	X	X	X	X	X	X	X	X	X	X	0														2	X	X	X	X	X	X	X	X	X	X	X	X	X																
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80	Z656/234 -	XX	\$707.00																																																																																																																																		
100	Z756/234 -	XX	\$908.00																																																																																																																																		
<b>8 Pole Maintained</b>	16	Z105/24 -	XX	\$145.00	 <p><b>Z ____/24.</b></p> <table border="1"> <tr> <td>1</td><td>3</td><td>5</td><td>7</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td><td>21</td><td>23</td><td>25</td><td>27</td><td>29</td><td>31</td> </tr> <tr> <td>1</td><td>1</td><td>2</td><td>1</td><td>3</td><td>1</td><td>4</td><td>1</td><td>5</td><td>1</td><td>6</td><td>1</td><td>7</td><td>1</td><td>8</td><td>1</td> </tr> <tr> <td>1</td><td>2</td><td>1</td><td>3</td><td>2</td><td>1</td><td>4</td><td>2</td><td>3</td><td>1</td><td>5</td><td>2</td><td>6</td><td>1</td><td>7</td><td>2</td> </tr> <tr> <td>1a</td><td>1b</td><td>2a</td><td>2b</td><td>3a</td><td>3b</td><td>4a</td><td>4b</td><td>5a</td><td>5b</td><td>6a</td><td>6b</td><td>7a</td><td>7b</td><td>8a</td><td>8b</td> </tr> <tr> <td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td><td>22</td><td>24</td><td>26</td><td>28</td><td>30</td><td>32</td> </tr> <tr> <td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> <tr> <td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> </table>	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	1	1	2	1	3	1	4	1	5	1	6	1	7	1	8	1	1	2	1	3	2	1	4	2	3	1	5	2	6	1	7	2	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0																2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
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25	Z251/24 -	XX	\$320.00																																																																																																																																		
40	Z451/24 -	XX	\$466.00																																																																																																																																		
80	Z656/24 -	XX	\$794.00																																																																																																																																		
100	Z756/24 -	XX	\$1025.00																																																																																																																																		

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

## TYPE: CHANGE-OVER SWITCHES WITH NO 0-POSITION

## CHANGE-OVER SWITCHES WITH NO 0-POSITION

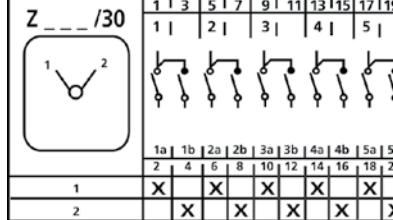
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole Maintained</b>	16	Z105/4 -	XX	\$43.00	
	20	Z151/4 -	XX	\$55.00	
	25	Z251/4 -	XX	\$79.00	
	40	Z451/4 -	XX	\$110.00	
	80	Z656/4 -	XX	\$161.00	
	100	Z756/4 -	XX	\$220.00	
<b>2 Pole Maintained</b>	16	Z105/5 -	XX	\$53.00	
	20	Z151/5 -	XX	\$80.00	
	25	Z251/5 -	XX	\$117.00	
	40	Z451/5 -	XX	\$172.00	
	80	Z656/5 -	XX	\$266.00	
	100	Z756/5 -	XX	\$334.00	
<b>3 Pole Maintained</b>	16	Z105/6 -	XX	\$74.00	
	20	Z151/6 -	XX	\$106.00	
	25	Z251/6 -	XX	\$151.00	
	40	Z451/6 -	XX	\$224.00	
	80	Z656/6 -	XX	\$363.00	
	100	Z756/6 -	XX	\$448.00	
<b>4 Pole Maintained</b>	16	Z105/23 -	XX	\$83.00	
	20	Z151/23 -	XX	\$132.00	
	25	Z251/23 -	XX	\$184.00	
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	80	Z656/23 -	XX	\$448.00	
	100	Z756/23 -	XX	\$563.00	

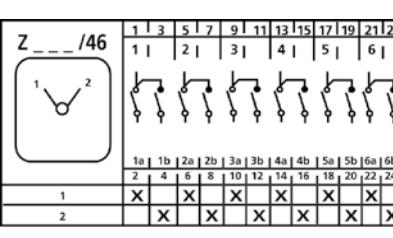
XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

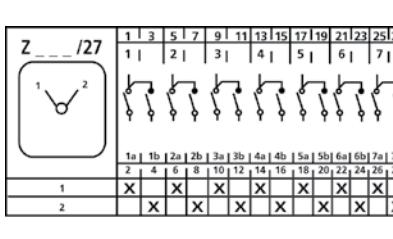
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**CHANGE-OVER SWITCHES WITH NO 0-POSITION**

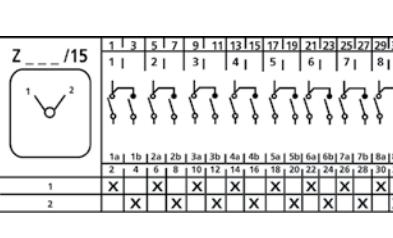
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
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<b>5 Pole Maintained</b>	16	Z105/30 -	XX	\$108.00	
	20	Z151/30 -	XX	\$159.00	
	25	Z251/30 -	XX	\$219.00	
	40	Z451/30 -	XX	\$238.00	
	80	Z656/30 -	XX	\$534.00	
	100	Z756/30 -	XX	\$673.00	

<b>6 Pole Maintained</b>	16	Z105/46 -	XX	\$125.00	
	20	Z151/46 -	XX	\$186.00	
	25	Z251/46 -	XX	\$252.00	
	40	Z451/46 -	XX	\$368.00	
	80	Z656/46 -	XX	\$620.00	
	100	Z756/46 -	XX	\$790.00	

**J9**

<b>7 Pole Maintained</b>	16	Z105/27 -	XX	\$135.00	
	20	Z151/27 -	XX	\$212.00	
	25	Z251/27 -	XX	\$286.00	
	40	Z451/27 -	XX	\$417.00	
	80	Z656/27 -	XX	\$707.00	
	100	Z756/27 -	XX	\$908.00	

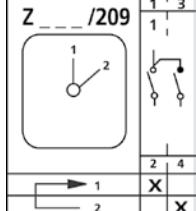
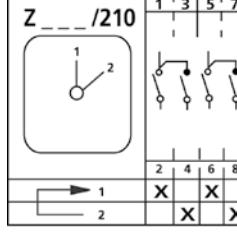
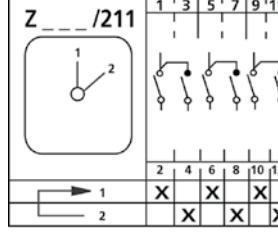
<b>8 Pole Maintained</b>	16	Z105/15 -	XX	\$145.00	
	20	Z151/15 -	XX	\$238.00	
	25	Z251/15 -	XX	\$320.00	
	40	Z451/15 -	XX	\$466.00	
	80	Z656/15 -	XX	\$794.00	
	100	Z756/15 -	XX	\$1025.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

## TYPE: CHANGE-OVER SWITCHES WITH NO 0-POSITION

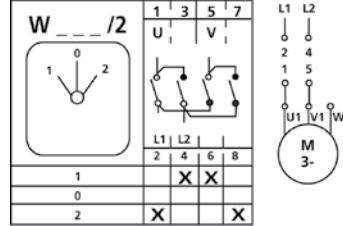
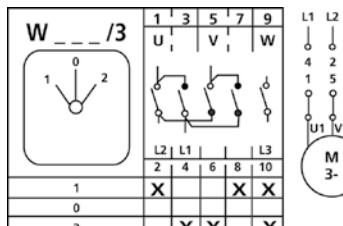
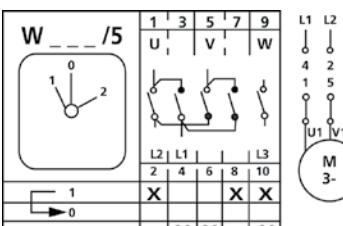
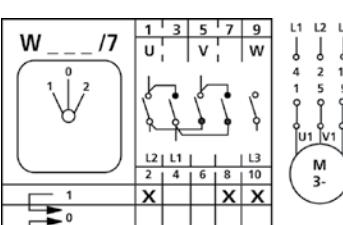
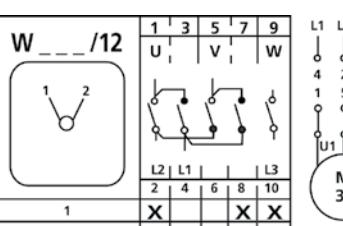
## CHANGE-OVER SWITCHES WITH NO 0-POSITION

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole Spring Return</b>	16	Z105/209 -	XX	\$43.00	
	20	Z151/209 -	XX	\$56.00	
	25	Z251/209 -	XX	\$79.00	
	40	Z451/209 -	XX	\$110.00	
	80	Z656/209 -	XX	\$161.00	
	100	Z756/209 -	XX	\$220.00	
<b>J 10 2 Pole Spring Return</b>	16	Z105/210 -	XX	\$53.00	
	20	Z151/210 -	XX	\$81.00	
	25	Z251/210 -	XX	\$117.00	
	40	Z451/210 -	XX	\$172.00	
	80	Z656/210 -	XX	\$266.00	
	100	Z756/210 -	XX	\$334.00	
<b>3 Pole Spring Return</b>	16	Z105/211 -	XX	\$74.00	
	20	Z151/211 -	XX	\$107.00	
	25	Z251/211 -	XX	\$151.00	
	40	Z451/211 -	XX	\$224.00	
	80	Z656/211 -	XX	\$361.00	
	100	Z756/211 -	XX	\$448.00	

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

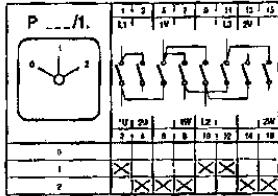
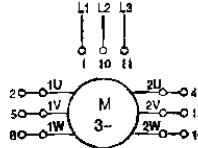
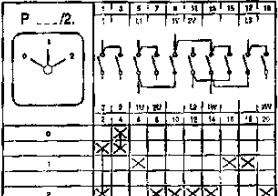
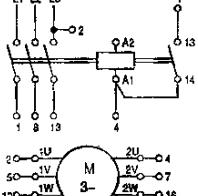
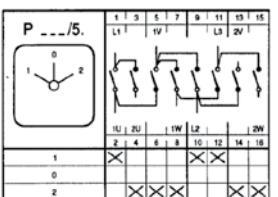
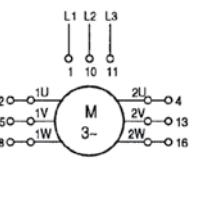
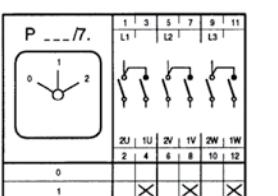
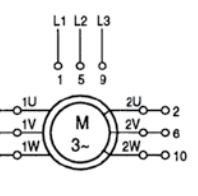
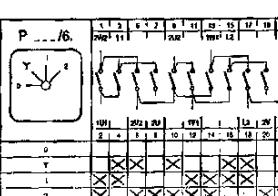
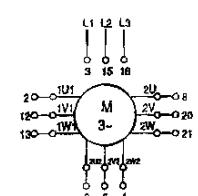
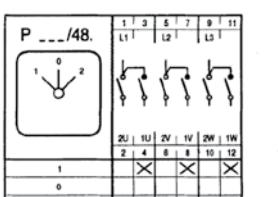
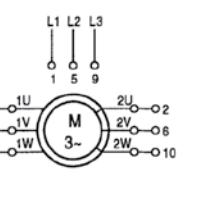
**TYPE: REVERSING SWITCHES**
**REVERSING SWITCHES**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>2 Pole Maintained</b>	16	W105/2 -	XX	\$53.00	
	20	W151/2 -	XX	\$80.00	
	25	W251/2 -	XX	\$117.00	
	40	W451/2 -	XX	\$172.00	
	80	W656/2 -	XX	\$266.00	
	100	W756/2 -	XX	\$334.00	
<b>3 Pole Maintained</b>	16	W105/3 -	XX	\$63.00	
	20	W151/3 -	XX	\$98.00	
	25	W251/3 -	XX	\$142.00	
	40	W451/3 -	XX	\$209.00	
	80	W656/3 -	XX	\$329.00	
	100	W756/3 -	XX	\$405.00	
<b>3 Pole with spring return from 1 - 0</b>	16	W105/5 -	XX	\$63.00	
	20	W151/5 -	XX	\$98.00	
	25	W251/5 -	XX	\$142.00	
	40	W451/5 -	XX	\$209.00	
	80	W656/5 -	XX	\$329.00	
	100	W756/5 -	XX	\$405.00	
<b>3 Pole with spring return both sides</b>	16	W105/7 -	XX	\$63.00	
	20	W151/7 -	XX	\$98.00	
	25	W251/7 -	XX	\$142.00	
	40	W451/7 -	XX	\$209.00	
	80	W656/7 -	XX	\$329.00	
	100	W756/7 -	XX	\$405.00	
<b>3 Pole without 0-Position Maintained</b>	16	W105/12 -	XX	\$63.00	
	20	W151/12 -	XX	\$98.00	
	25	W251/12 -	XX	\$142.00	
	40	W451/12 -	XX	\$209.00	
	80	W656/12 -	XX	\$329.00	
	100	W756/12 -	XX	\$405.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

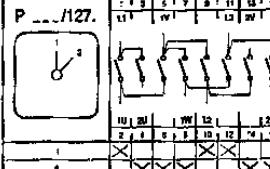
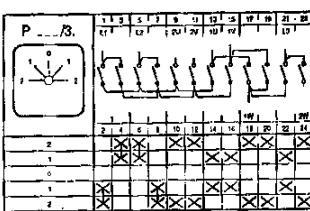
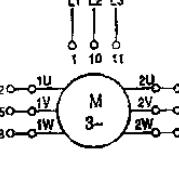
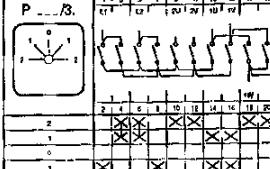
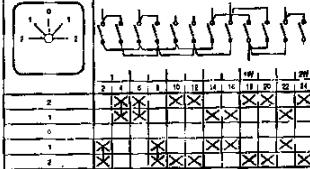
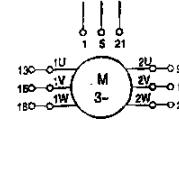
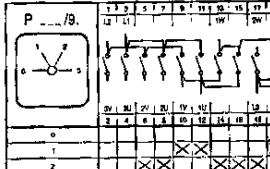
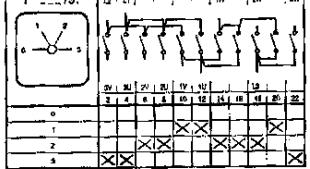
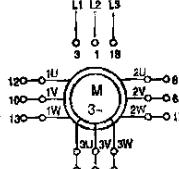
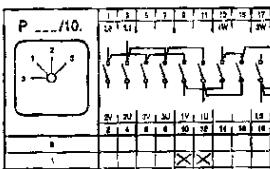
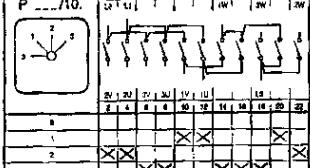
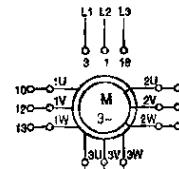
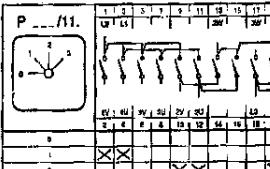
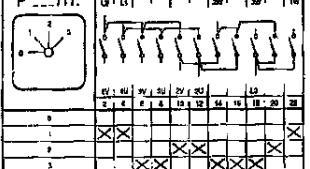
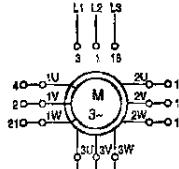
## TYPE: MULTI-SPEED SWITCHES

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>2-Speed Switches Tapped Windings</b>	16	P105/1 -	XX	\$83.00	
	20	P151/1 -	XX	\$132.00	
	25	P251/1 -	XX	\$184.00	
	40	P451/1 -	XX	\$272.00	
	80	P656/1 -	XX	\$448.00	
	100	P756/1 -	XX	\$563.00	
<b>2-Speed Switches Tapped Windings with 1 Contact</b>	16	P105/2 -	XX	\$107.00	
	20	P151/2 -	XX	\$159.00	
	25	P251/2 -	XX	\$218.00	
	40	P451/2 -	XX	\$320.00	
	80	P656/2 -	XX	\$534.00	
	100	P756/2 -	XX	\$677.00	
<b>2-Speed Switches Tapped Windings 0 Middle</b>	16	P105/5 -	XX	\$83.00	
	20	P151/5 -	XX	\$132.00	
	25	P251/5 -	XX	\$184.00	
	40	P451/5 -	XX	\$272.00	
	80	P656/5 -	XX	\$448.00	
	100	P756/5 -	XX	\$563.00	
<b>2-Speed Switches 2 Separate Windings</b>	16	P105/7 -	XX	\$74.00	
	20	P151/7 -	XX	\$106.00	
	25	P251/7 -	XX	\$151.00	
	40	P451/7 -	XX	\$224.00	
	80	P656/7 -	XX	\$363.00	
	100	P756/7 -	XX	\$448.00	
<b>2-Speed Switches With Starting Position</b>	16	P105/6 -	XX	\$118.00	
	20	P151/6 -	XX	\$176.00	
	25	P251/6 -	XX	\$240.00	
	40	P451/6 -	XX	\$352.00	
	80	P656/6 -	XX	\$590.00	
	100	P756/6 -	XX	\$747.00	
<b>2-Speed Switches 2 Separate Windings</b>	16	P105/48 -	XX	\$74.00	
	20	P151/48 -	XX	\$106.00	
	25	P251/48 -	XX	\$151.00	
	40	P451/48 -	XX	\$224.00	
	80	P656/48 -	XX	\$363.00	
	100	P756/48 -	XX	\$448.00	

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

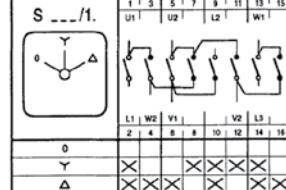
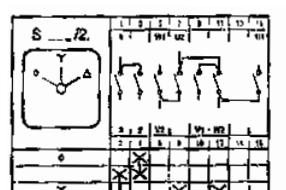
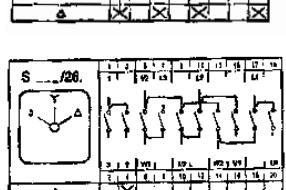
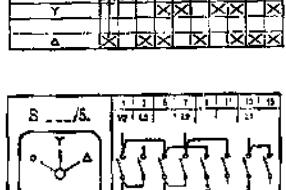
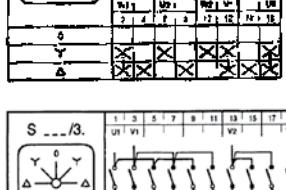
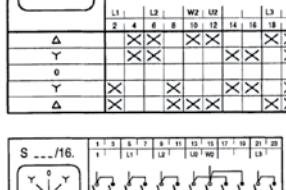
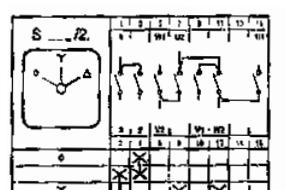
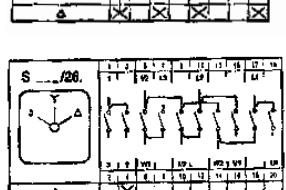
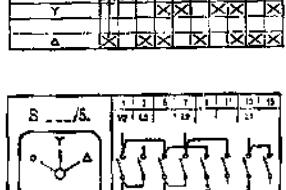
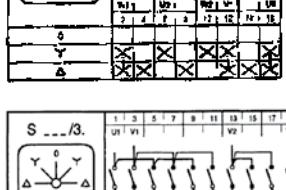
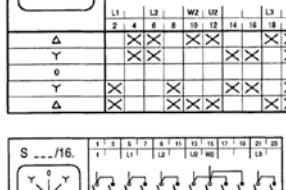
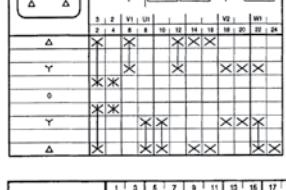
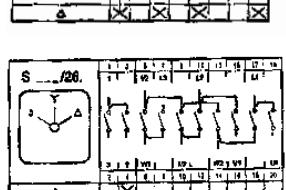
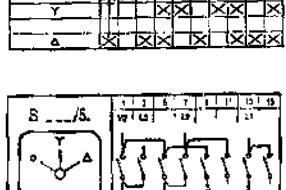
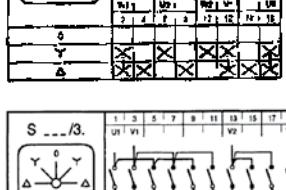
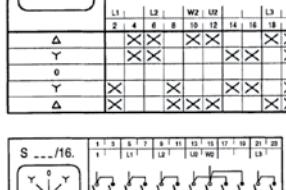
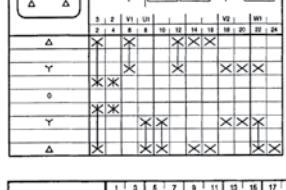
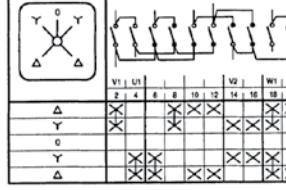
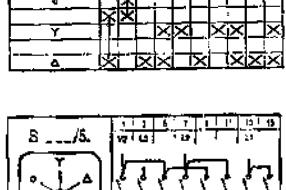
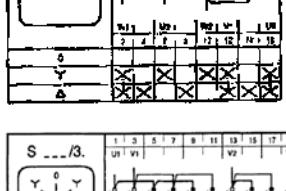
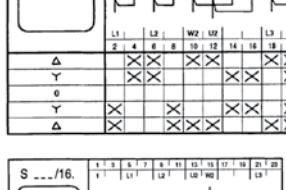
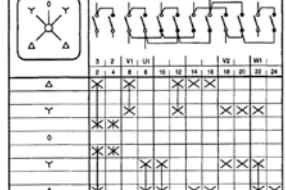
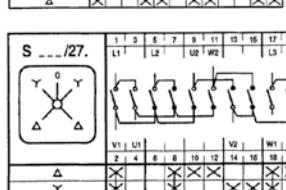
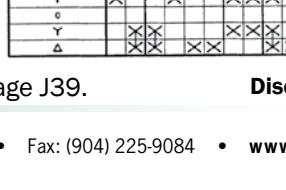
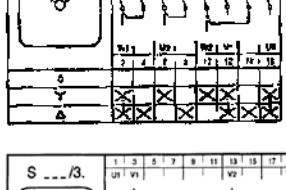
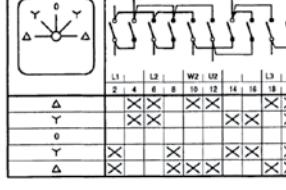
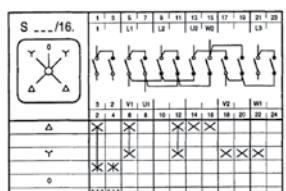
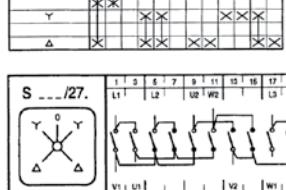
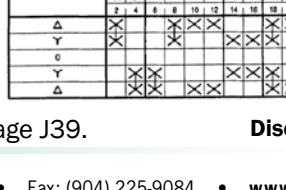
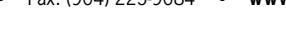
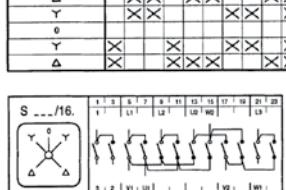
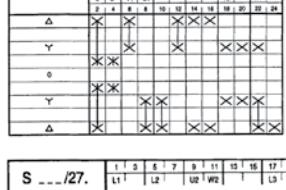
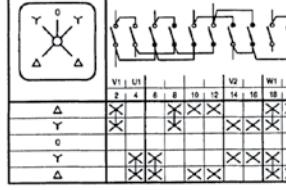
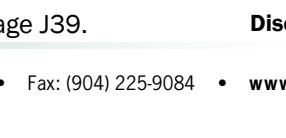
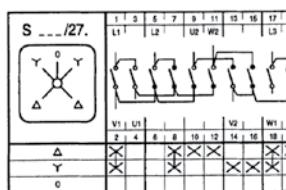
**TYPE: MULTI-SPEED SWITCHES**
**MULTI-SPEED SWITCHES**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>2-Speed Switches Tapped Wingings Without 0 Position</b>	16	P105/127 -	XX	\$83.00	  
	20	P151/127 -	XX	\$132.00	
	25	P251/127 -	XX	\$184.00	
	40	P451/127 -	XX	\$272.00	
	80	P656/127 -	XX	\$448.00	
	100	P756/127 -	XX	\$563.00	
<b>2-Speed Switches Tapped Windings 2 Reversing</b>	16	P105/3 -	XX	\$127.00	  
	20	P151/3 -	XX	\$186.00	
	25	P251/3 -	XX	\$251.00	
	40	P451/3 -	XX	\$368.00	
	80	P656/3 -	XX	\$620.00	
	100	P756/3 -	XX	\$791.00	
<b>3-Speed Tapped Windings 1 and 2</b>	16	P105/9 -	XX	\$118.00	  
	20	P151/9 -	XX	\$176.00	
	25	P251/9 -	XX	\$240.00	
	40	P451/9 -	XX	\$352.00	
	80	P656/9 -	XX	\$590.00	
	100	P756/9 -	XX	\$747.00	
<b>3-Speed Switches Tapped Windings 1 and 3</b>	16	P105/10 -	XX	\$118.00	  
	20	P151/10 -	XX	\$176.00	
	25	P251/10 -	XX	\$240.00	
	40	P451/10 -	XX	\$352.00	
	80	P656/10 -	XX	\$590.00	
	100	P756/10 -	XX	\$747.00	
<b>3-Speed Switches Tapped Windings 2 and 3</b>	16	P105/11 -	XX	\$118.00	  
	20	P151/11 -	XX	\$176.00	
	25	P251/11 -	XX	\$240.00	
	40	P451/11 -	XX	\$352.00	
	80	P656/11 -	XX	\$590.00	
	100	P756/11 -	XX	\$747.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**
**J13**

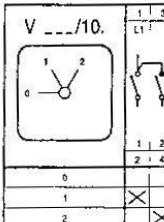
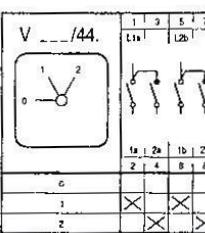
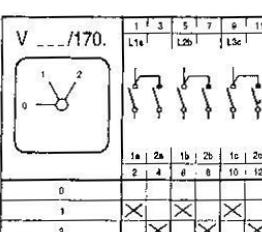
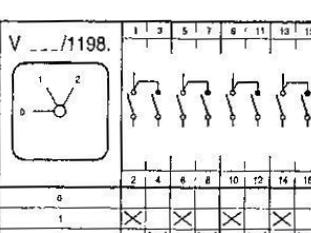
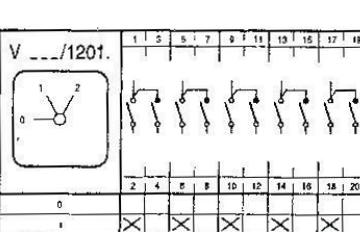
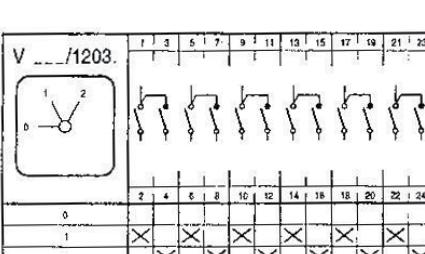
## TYPE: WYE-DELTA SWITCHES

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>Standard</b>	16	S105/1 -	XX	\$83.00	
	20	S151/1 -	XX	\$132.00	
	25	S251/1 -	XX	\$184.00	
	40	S451/1 -	XX	\$272.00	
	80	S656/1 -	XX	\$448.00	
	100	S756/1 -	XX	\$563.00	
<b>With 1 Contact without Main Contacts</b>	16	S105/2 -	XX	\$80.00	
	20	S151/2 -	XX	\$124.00	
	25	S251/2 -	XX	\$174.00	
	40	S451/2 -	XX	\$257.00	
	80	S656/2 -	XX	\$418.00	
	100	S756/2 -	XX	\$519.00	
<b>With 1 Contact</b>	16	S105/26 -	XX	\$107.00	
	20	S151/26 -	XX	\$159.00	
	25	S251/26 -	XX	\$218.00	
	40	S451/26 -	XX	\$320.00	
	80	S656/26 -	XX	\$534.00	
	100	S756/26 -	XX	\$677.00	
<b>For Individually Compensated Motors</b>	16	S105/5 -	XX	\$83.00	
	20	S151/5 -	XX	\$132.00	
	25	S251/5 -	XX	\$184.00	
	40	S451/5 -	XX	\$272.00	
	80	S656/5 -	XX	\$448.00	
	100	S756/5 -	XX	\$563.00	
<b>2 Reversing</b>	16	S105/3 -	XX	\$107.00	
	20	S151/3 -	XX	\$159.00	
	25	S251/3 -	XX	\$218.00	
	40	S451/3 -	XX	\$320.00	
	80	S656/3 -	XX	\$534.00	
	100	S756/3 -	XX	\$677.00	
<b>2 Reversing With Contact</b>	16	S105/16 -	XX	\$125.00	
	20	S151/16 -	XX	\$186.00	
	25	S251/16 -	XX	\$251.00	
	40	S451/16 -	XX	\$368.00	
	80	S656/16 -	XX	\$620.00	
	100	S756/16 -	XX	\$791.00	
<b>2 Reversing for Individually Compensated Motors</b>	16	S105/27 -	XX	\$107.00	
	20	S151/27 -	XX	\$159.00	
	25	S251/27 -	XX	\$218.00	
	40	S451/27 -	XX	\$320.00	
	80	S656/27 -	XX	\$534.00	
	100	S756/27 -	XX	\$677.00	

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

**TYPE: STEP SWITCHES WITH 0-POSITION 2 STEPS**

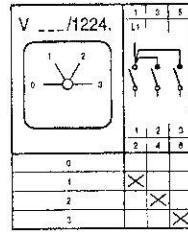
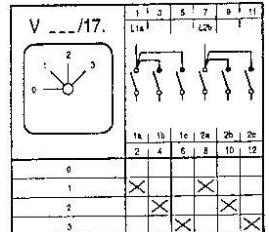
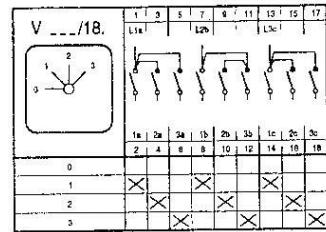
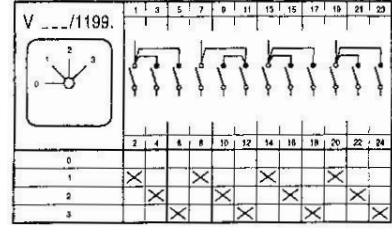
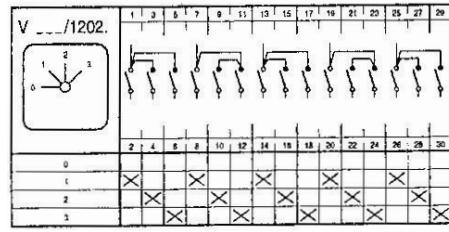
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/10 -	XX	\$43.00	
	20	V151/10 -	XX	\$56.00	
	25	V251/10 -	XX	\$80.00	
	40	V451/10 -	XX	\$111.00	
	80	V656/10 -	XX	\$161.00	
	100	V756/10 -	XX	\$220.00	
<b>2 Pole</b>	16	V105/44 -	XX	\$53.00	
	20	V151/44 -	XX	\$80.00	
	25	V251/44 -	XX	\$117.00	
	40	V451/44 -	XX	\$172.00	
	80	V656/44 -	XX	\$266.00	
	100	V756/44 -	XX	\$334.00	
<b>3 Pole</b>	16	V105/170 -	XX	\$74.00	
	20	V151/170 -	XX	\$106.00	
	25	V251/170 -	XX	\$151.00	
	40	V451/170 -	XX	\$224.00	
	80	V656/170 -	XX	\$363.00	
	100	V756/170 -	XX	\$448.00	
<b>4 Pole</b>	16	V105/1198 -	XX	\$84.00	
	20	V151/1198 -	XX	\$132.00	
	25	V251/1198 -	XX	\$185.00	
	40	V451/1198 -	XX	\$271.00	
	80	V656/1198 -	XX	\$448.00	
	100	V756/1198 -	XX	\$563.00	
<b>5 Pole</b>	16	V105/1201 -	XX	\$108.00	
	20	V151/1201 -	XX	\$159.00	
	25	V251/1201 -	XX	\$218.00	
	40	V451/1201 -	XX	\$317.00	
	80	V656/1201 -	XX	\$534.00	
	100	V756/1201 -	XX	\$677.00	
<b>6 Pole</b>	16	V105/1203 -	XX	\$124.00	
	20	V151/1203 -	XX	\$185.00	
	25	V251/1203 -	XX	\$252.00	
	40	V451/1203 -	XX	\$366.00	
	80	V656/1203 -	XX	\$620.00	
	100	V756/1203 -	XX	\$791.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**
**J15**

## TYPE: STEP SWITCHES WITH 0-POSITION 3 STEPS

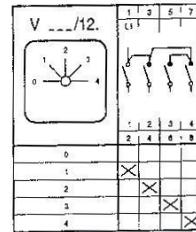
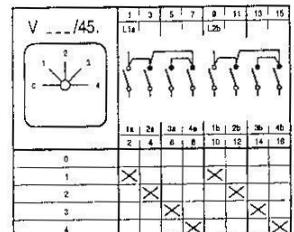
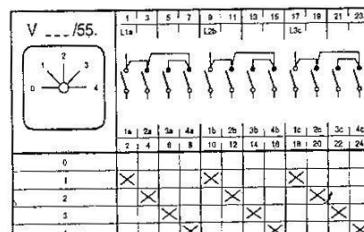
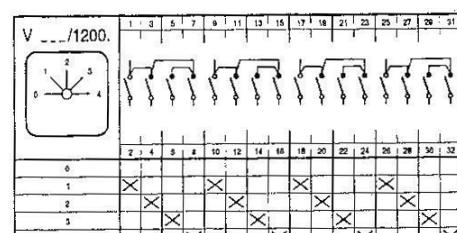
## STEP SWITCHES WITH 0-POSITION 3 STEPS

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/1224 -	XX	\$48.00	
	20	V151/1224 -	XX	\$72.00	
	25	V251/1224 -	XX	\$104.00	
	40	V451/1224 -	XX	\$149.00	
	80	V656/1224 -	XX	\$224.00	
	100	V756/1224 -	XX	\$277.00	
<b>2 Pole</b>	16	V105/17 -	XX	\$74.00	
	20	V151/17 -	XX	\$107.00	
	25	V251/17 -	XX	\$152.00	
	40	V451/17 -	XX	\$224.00	
	80	V656/17 -	XX	\$363.00	
	100	V756/17 -	XX	\$448.00	
<b>J 16</b> <b>3 Pole</b>	16	V105/18 -	XX	\$102.00	
	20	V151/18 -	XX	\$150.00	
	25	V251/18 -	XX	\$208.00	
	40	V451/18 -	XX	\$305.00	
	80	V656/18 -	XX	\$502.00	
	100	V756/18 -	XX	\$633.00	
<b>4 Pole</b>	16	V105/1199 -	XX	\$124.00	
	20	V151/1199 -	XX	\$185.00	
	25	V251/1199 -	XX	\$252.00	
	40	V451/1199 -	XX	\$366.00	
	80	V656/1199 -	XX	\$620.00	
	100	V756/1199 -	XX	\$791.00	
<b>5 Pole</b>	16	V105/1202 -	XX	\$140.00	
	20	V151/1202 -	XX	\$229.00	
	25	V251/1202 -	XX	\$308.00	
	40	V451/1202 -	XX	\$449.00	
	80	V656/1202 -	XX	\$761.00	
	100	V756/1202 -	XX	\$978.00	

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

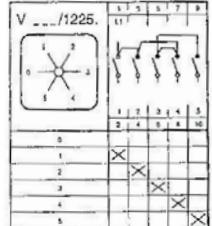
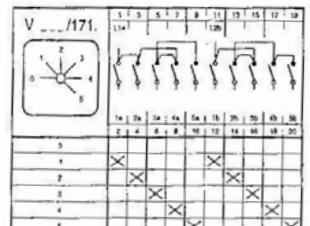
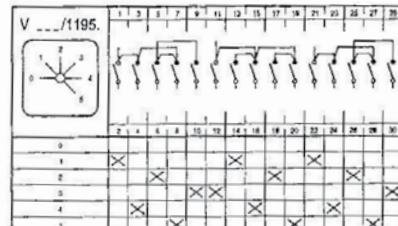
**TYPE: STEP SWITCHES WITH 0-POSITION 4 STEPS**
**STEP SWITCHES WITH 0-POSITION 4 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/12 -	XX	\$53.00	
	20	V151/12 -	XX	\$81.00	
	25	V251/12 -	XX	\$117.00	
	40	V451/12 -	XX	\$172.00	
	80	V656/12 -	XX	\$266.00	
	100	V756/12 -	XX	\$334.00	
<b>2 Pole</b>	16	V105/45 -	XX	\$84.00	
	20	V151/45 -	XX	\$132.00	
	25	V251/45 -	XX	\$185.00	
	40	V451/45 -	XX	\$271.00	
	80	V656/45 -	XX	\$448.00	
	100	V756/45 -	XX	\$563.00	
<b>3 Pole</b>	16	V105/55 -	XX	\$124.00	
	20	V151/55 -	XX	\$185.00	
	25	V251/55 -	XX	\$252.00	
	40	V451/55 -	XX	\$366.00	
	80	V656/55 -	XX	\$620.00	
	100	V756/55 -	XX	\$791.00	
<b>4 Pole</b>	16	V105/1200 -	XX	\$144.00	
	20	V151/1200 -	XX	\$237.00	
	25	V251/1200 -	XX	\$318.00	
	40	V451/1200 -	XX	\$465.00	
	80	V656/1200 -	XX	\$791.00	
	100	V756/1200 -	XX	\$1021.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

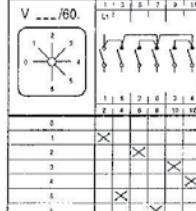
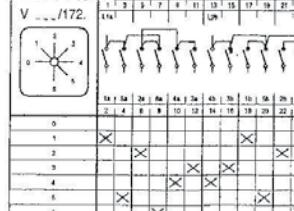
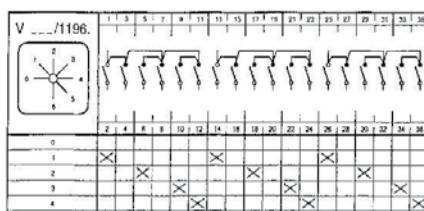
**TYPE: STEP SWITCHES WITH 0-POSITION 5 STEPS**
**STEP SWITCHES WITH 0-POSITION 5 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/1225 -	XX	\$70.00	
	20	V151/1225 -	XX	\$98.00	
	25	V251/1225 -	XX	\$141.00	
	40	V451/1225 -	XX	\$208.00	
	80	V656/1225 -	XX	\$329.00	
	100	V756/1225 -	XX	\$403.00	
<b>J 18</b> <b>2 Pole</b>	16	V105/171 -	XX	\$108.00	
	20	V151/171 -	XX	\$159.00	
	25	V251/171 -	XX	\$218.00	
	40	V451/171 -	XX	\$317.00	
	80	V656/171 -	XX	\$620.00	
	100	V756/171 -	XX	\$677.00	
<b>3 Pole</b>	16	V105/1195 -	XX	\$140.00	
	20	V151/1195 -	XX	\$229.00	
	25	V251/1195 -	XX	\$308.00	
	40	V451/1195 -	XX	\$449.00	
	80	V656/1195 -	XX	\$761.00	
	100	V756/1195 -	XX	\$978.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

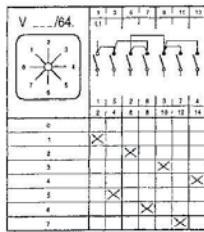
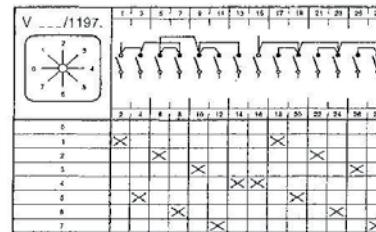
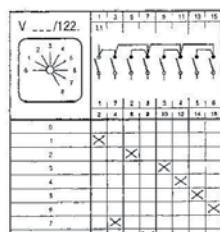
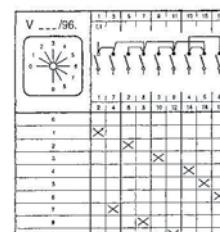
**TYPE: STEP SWITCHES WITH 0-POSITION 6 STEPS**
**STEP SWITCHES WITH 0-POSITION 6 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/60 -	XX	\$74.00	
	20	V151/60 -	XX	\$106.00	
	25	V251/60 -	XX	\$151.00	
	40	V451/60 -	XX	\$224.00	
	80	V656/60 -	XX	\$363.00	
	100	V756/60 -	XX	\$448.00	
<b>2 Pole</b>	16	V105/172 -	XX	\$125.00	
	20	V151/172 -	XX	\$186.00	
	25	V251/172 -	XX	\$251.00	
	40	V451/172 -	XX	\$368.00	
	80	V656/172 -	XX	\$620.00	
	100	V756/172 -	XX	\$791.00	
<b>3 Pole</b>	16	V105/1196 -	XX	\$155.00	
	20	V151/1196 -	XX	\$264.00	
	25	V251/1196 -	XX	\$352.00	
	40	V451/1196 -	XX	\$513.00	
	80	V656/1196 -	XX	\$877.00	
	100	V756/1196 -	XX	\$1138.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

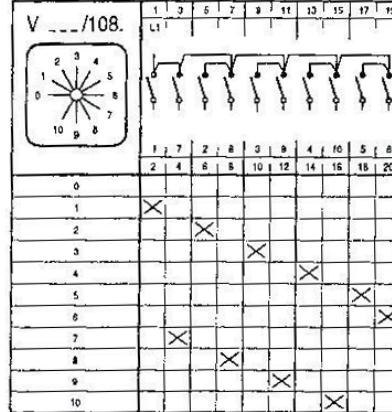
**TYPE: STEP SWITCHES WITH 0-POSITION 7/8/9 STEPS**
**STEP SWITCHES WITH 0-POSITINO 7/8/9 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
Step switches with 0-Position - 7 steps					
<b>1 Pole</b>	16	V105/64 -	XX	\$80.00	
	20	V151/64 -	XX	\$124.00	
	25	V251/64 -	XX	\$174.00	
	40	V451/64 -	XX	\$257.00	
	80	V656/64 -	XX	\$418.00	
	100	V756/64 -	XX	\$517.00	
<b>2 Pole</b>	16	V105/1197 -	XX	\$135.00	
	20	V151/1197 -	XX	\$211.00	
	25	V251/1197 -	XX	\$285.00	
	40	V451/1197 -	XX	\$415.00	
	80	V656/1197 -	XX	\$705.00	
	100	V756/1197 -	XX	\$905.00	
Step switches with 0-Position - 8 steps					
<b>1 Pole</b>	16	V105/122 -	XX	\$83.00	
	20	V151/122 -	XX	\$132.00	
	25	V251/122 -	XX	\$184.00	
	40	V451/122 -	XX	\$272.00	
	80	V656/122-	XX	\$448.00	
	100	V756/122-	XX	\$563.00	
Step switches with 0-Position - 9 steps					
<b>1 Pole</b>	16	V105/96-	XX	\$102.00	
	20	V151/96 -	XX	\$150.00	
	25	V251/96 -	XX	\$207.00	
	40	V451/96 -	XX	\$305.00	
	80	V656/96 -	XX	\$504.00	
	100	V756/96 -	XX	\$633.00	

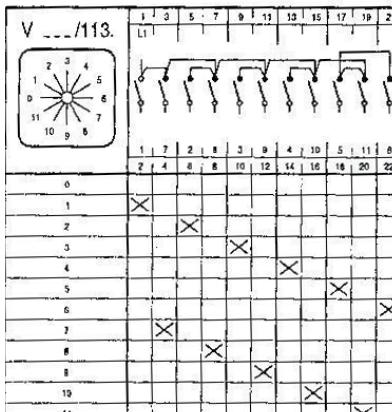
XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

**TYPE: STEP SWITCHES WITH 0-POSITION 10/11 STEPS**
**STEP SWITCHES WITH 0-POSITINO 10/11 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
Step switches with 0-Position - 10 steps					
<b>1 Pole</b>	16	V105/108 -	XX	\$107.00	
	20	V151/108 -	XX	\$159.00	
	25	V251/108 -	XX	\$218.00	
	40	V451/108 -	XX	\$320.00	
	80	V656/108 -	XX	\$534.00	
	100	V756/108 -	XX	\$677.00	

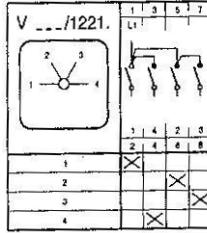
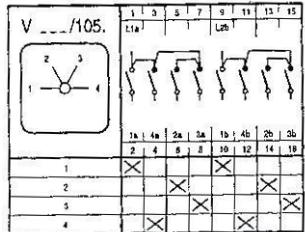
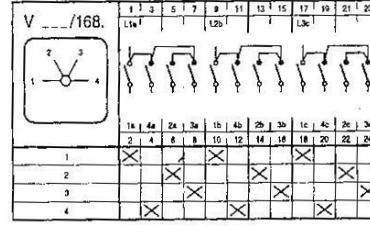
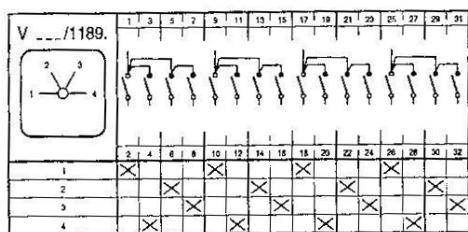
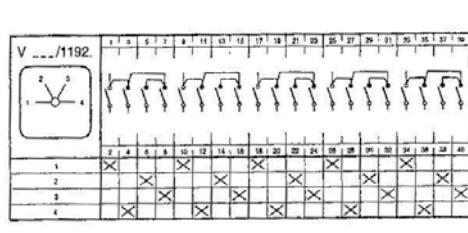
**J21**
**Step switches with 0-Position - 11 steps**

<b>2 Pole</b>	16	V105/113 -	XX	\$118.00	
	20	V151/113 -	XX	\$176.00	
	25	V251/113 -	XX	\$240.00	
	40	V451/113 -	XX	\$352.00	
	80	V656/113 -	XX	\$590.00	
	100	V756/113 -	XX	\$747.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

**TYPE: STEP SWITCHES WITH NO 0-POSITION 4 STEPS**
**STEP SWITCHES WITH NO 0-POSITION 4 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/1221 -	XX	\$53.00	
	20	V151/1221 -	XX	\$80.00	
	25	V251/1221 -	XX	\$117.00	
	40	V451/1221 -	XX	\$172.00	
	80	V656/1221 -	XX	\$266.00	
	100	V756/1221 -	XX	\$332.00	
<b>2 Pole</b>	16	V105/105 -	XX	\$83.00	
	20	V151/105 -	XX	\$132.00	
	25	V251/105 -	XX	\$184.00	
	40	V451/105 -	XX	\$272.00	
	80	V656/105 -	XX	\$448.00	
	100	V756/105 -	XX	\$563.00	
<b>3 Pole</b>	16	V105/168 -	XX	\$125.00	
	20	V151/168 -	XX	\$186.00	
	25	V251/168 -	XX	\$251.00	
	40	V451/168 -	XX	\$368.00	
	80	V656/168 -	XX	\$620.00	
	100	V756/168 -	XX	\$791.00	
<b>4 Pole</b>	16	V105/1189 -	XX	\$144.00	
	20	V151/1189 -	XX	\$237.00	
	25	V251/1189 -	XX	\$318.00	
	40	V451/1189 -	XX	\$465.00	
	80	V656/1189 -	XX	\$791.00	
	100	V756/1189 -	XX	\$1021.00	
<b>5 Pole</b>	16	V105/1192 -	XX	\$165.00	
	20	V151/1192 -	XX	\$290.00	
	25	V251/1192 -	XX	\$386.00	
	40	V451/1192 -	XX	\$563.00	
	80	V656/1192 -	XX	\$964.00	
	100	V756/1192 -	XX	\$1255.00	

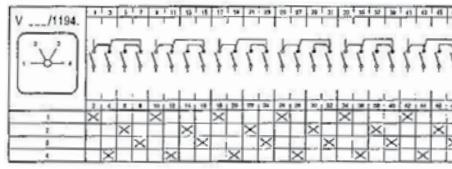
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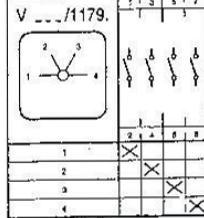
Discount Schedule SC-10

**TYPE: STEP SWITCHES WITH NO 0-POSITION 4 STEPS**
**STEP SWITCHES WITH NO 0-POSITION 4 STEPS**

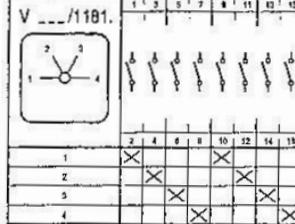

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Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
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<b>6 Pole</b>	16	V105/1194 -	XX	\$205.00	
	20	V151/1194 -	XX	\$342.00	
	25	V251/1194 -	XX	\$452.00	
	40	V451/1194 -	XX	\$658.00	
	80	V656/1194 -	XX	\$1136.00	
	100	V756/1194 -	XX	\$1482.00	

<b>1 Pole Separate Contacts</b>	16	V105/1179 -	XX	\$53.00	
	20	V151/1179 -	XX	\$81.00	
	25	V251/1179 -	XX	\$117.00	
	40	V451/1179 -	XX	\$172.00	
	80	V656/1179 -	XX	\$266.00	
	100	V756/1179 -	XX	\$332.00	

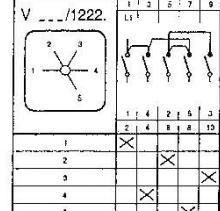
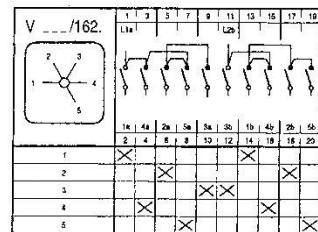
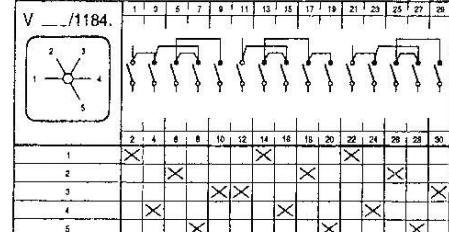
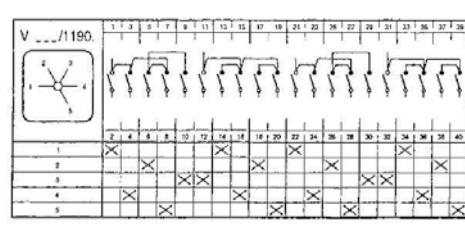
**J23**

<b>2 Pole Separate Contacts</b>	16	V105/1181 -	XX	\$83.00	
	20	V151/1181 -	XX	\$132.00	
	25	V251/1181 -	XX	\$185.00	
	40	V451/1181 -	XX	\$271.00	
	80	V656/1181 -	XX	\$448.00	
	100	V756/1181 -	XX	\$563.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

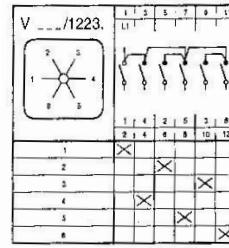
**TYPE: STEP SWITCHES WITH NO 0-POSITION 5 STEPS**
**STEP SWITCHES WITH NO 0-POSITION 5 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/1222 -	XX	\$70.00	
	20	V151/1222 -	XX	\$98.00	
	25	V251/1222 -	XX	\$142.00	
	40	V451/1222 -	XX	\$209.00	
	80	V656/1222 -	XX	\$329.00	
	100	V756/1222 -	XX	\$403.00	
<b>2 Pole</b>	16	V105/162 -	XX	\$107.00	
	20	V151/162 -	XX	\$159.00	
	25	V251/162 -	XX	\$218.00	
	40	V451/162 -	XX	\$320.00	
	80	V656/162 -	XX	\$532.00	
	100	V756/162 -	XX	\$677.00	
<b>3 Pole</b>	16	V105/1184 -	XX	\$140.00	
	20	V151/1184 -	XX	\$229.00	
	25	V251/1184-	XX	\$308.00	
	40	V451/1184 -	XX	\$449.00	
	80	V656/1184-	XX	\$761.00	
	100	V756/1184 -	XX	\$978.00	
<b>4 Pole</b>	16	V105/1190-	XX	\$165.00	
	20	V151/1190 -	XX	\$290.00	
	25	V251/1190 -	XX	\$386.00	
	40	V451/1190 -	XX	\$563.00	
	80	V656/1190 -	XX	\$964.00	
	100	V756/1190-	XX	\$1255.00	

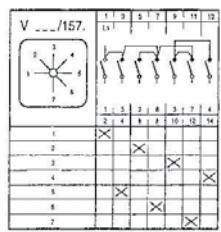
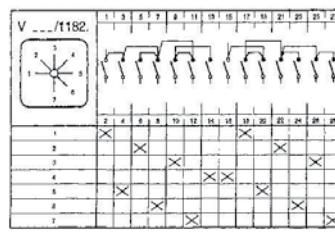
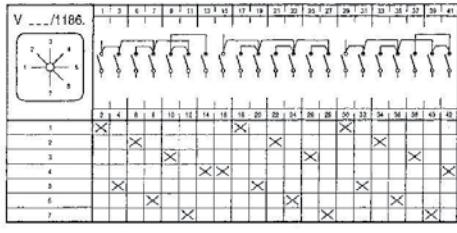
XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

**TYPE: STEP SWITCHES WITH NO 0-POSITION 6 STEPS**
**STEP SWITCHES WITH NO 0-POSITION 6 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/1223 -	XX	\$74.00	
	20	V151/1223 -	XX	\$106.00	
	25	V251/1223 -	XX	\$151.00	
	40	V451/1223 -	XX	\$224.00	
	80	V656/1223 -	XX	\$361.00	
	100	V756/1223 -	XX	\$448.00	
<b>2 Pole</b>	16	V105/163 -	XX	\$125.00	<img alt="Front plate and contact diagram for V105/163 2 Pole switch. The front plate shows a handle with positions 1 through 6. The contact diagram shows 29 contacts labeled 1 through 29. Contacts 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 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**TYPE: STEP SWITCHES WITH NO 0-POSITION 7 STEPS**
**STEP SWITCHES WITH NO 0-POSITION 7 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/157-	XX	\$80.00	
	20	V151/157 -	XX	\$124.00	
	25	V251/157 -	XX	\$174.00	
	40	V451/157 -	XX	\$257.00	
	80	V656/157 -	XX	\$418.00	
	100	V756/157 -	XX	\$517.00	
<b>J 26</b> <b>2 Pole</b>	16	V105/1182 -	XX	\$135.00	
	20	V151/1182 -	XX	\$211.00	
	25	V251/1182 -	XX	\$285.00	
	40	V451/1182 -	XX	\$415.00	
	80	V656/1182 -	XX	\$705.00	
	100	V756/1182 -	XX	\$908.00	
<b>3 Pole</b>	16	V105/1186 -	XX	\$171.00	
	20	V151/1186 -	XX	\$299.00	
	25	V251/1186 -	XX	\$419.00	
	40	V451/1186 -	XX	\$578.00	
	80	V656/1186-	XX	\$994.00	
	100	V756/1186 -	XX	\$1298.00	

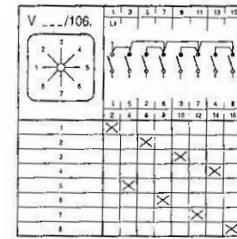
XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

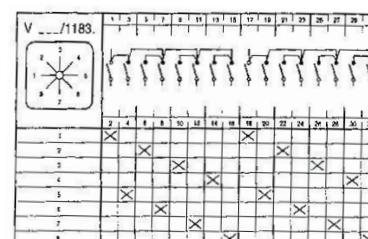
**TYPE: STEP SWITCHES WITH NO 0-POSITION 8 STEPS**
**STEP SWITCHES WITH NO 0-POSITION 8 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
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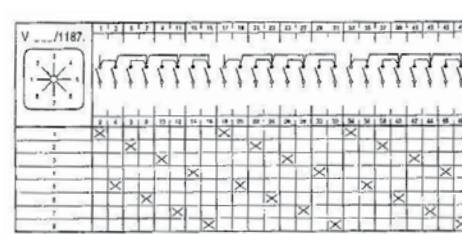
<b>1 Pole</b>	16	V105/106-	XX	\$83.00
	20	V151/106 -	XX	\$132.00
	25	V251/106 -	XX	\$184.00
	40	V451/106 -	XX	\$272.00
	80	V656/106 -	XX	\$448.00
	100	V756/106 -	XX	\$563.00



<b>2 Pole</b>	16	V105/1183 -	XX	\$144.00
	20	V151/1183 -	XX	\$237.00
	25	V251/1183 -	XX	\$318.00
	40	V451/1183 -	XX	\$464.00
	80	V656/1183 -	XX	\$791.00
	100	V756/1183 -	XX	\$1021.00


**J27**

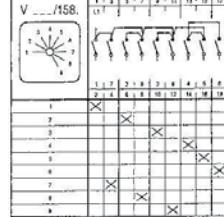
<b>3 Pole</b>	16	V105/1187 -	XX	\$205.00
	20	V151/1187 -	XX	\$342.00
	25	V251/1187 -	XX	\$452.00
	40	V451/1187 -	XX	\$658.00
	80	V656/1187-	XX	\$1136.00
	100	V756/1187 -	XX	\$1482.00



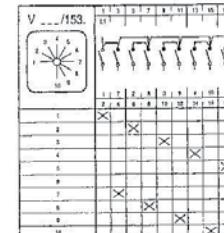
XX - Replace with Handle Suffix from page J39.

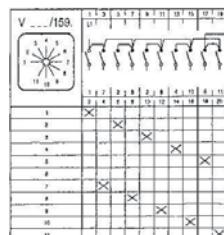
**Discount Schedule SC-10**

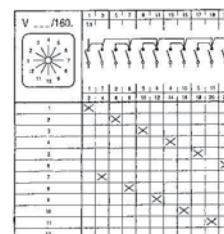
**TYPE: STEP SWITCHES WITH NO 0-POSITION 9/10/11 /12 STEPS**
**STEP SWITCHES WITH NO 0-POSITION 9/10/11/12 STEPS**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
Step Switches without 0-Position - 9 Steps					
<b>1 Pole</b>	16	V105/158 -	XX	\$102.00	
	20	V151/158 -	XX	\$150.00	
	25	V251/158 -	XX	\$207.00	
	40	V451/158 -	XX	\$305.00	
	80	V656/158 -	XX	\$502.00	
	100	V756/158 -	XX	\$633.00	

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Step Switches without 0-Position - 10 Steps					
<b>1 Pole</b>	16	V105/153 -	XX	\$107.00	
	20	V151/153 -	XX	\$159.00	
	25	V251/153 -	XX	\$218.00	
	40	V451/153 -	XX	\$320.00	
	80	V656/153 -	XX	\$534.00	
	100	V756/153 -	XX	\$677.00	

Step Switches without 0-Position - 11 Steps					
<b>1 Pole</b>	16	V105/159 -	XX	\$118.00	
	20	V151/159 -	XX	\$176.00	
	25	V251/159 -	XX	\$240.00	
	40	V451/159 -	XX	\$352.00	
	80	V656/159 -	XX	\$590.00	
	100	V756/159 -	XX	\$747.00	

Step Switches without 0-Position - 12 Steps					
<b>1 Pole</b>	16	V105/160 -	XX	\$125.00	
	20	V151/160 -	XX	\$186.00	
	25	V251/160 -	XX	\$251.00	
	40	V451/160 -	XX	\$368.00	
	80	V656/160 -	XX	\$620.00	
	100	V756/160 -	XX	\$791.00	

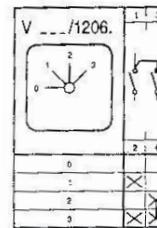
XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

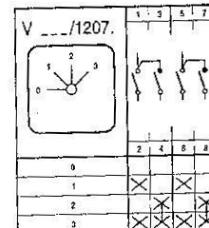
**TYPE: GROUP SWITCHES, 2 GROUPS IN SERIES**
**GROUP SWITCHES, 2 GROUPS IN SERIES**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
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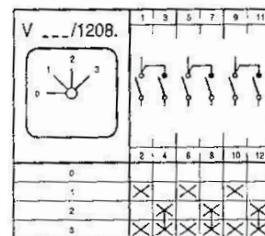
<b>1 Pole</b>	16	V105/1206-	XX	\$43.00
	20	V151/1206 -	XX	\$59.00
	25	V251/1206 -	XX	\$80.00
	40	V451/1206 -	XX	\$110.00
	80	V656/1206 -	XX	\$161.00
	100	V756/1206 -	XX	\$220.00



<b>2 Pole</b>	16	V105/1207 -	XX	\$53.00
	20	V151/1207 -	XX	\$81.00
	25	V251/1207-	XX	\$117.00
	40	V451/1207 -	XX	\$172.00
	80	V656/1207 -	XX	\$266.00
	100	V756/1207 -	XX	\$334.00


**J 29**

<b>3 Pole</b>	16	V105/1208 -	XX	\$74.00
	20	V151/1208 -	XX	\$107.00
	25	V251/1208 -	XX	\$152.00
	40	V451/1208 -	XX	\$223.00
	80	V656/1208-	XX	\$363.00
	100	V756/1208 -	XX	\$448.00

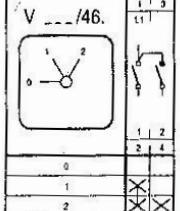
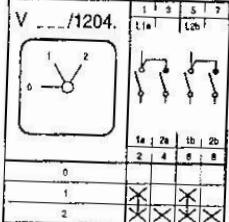
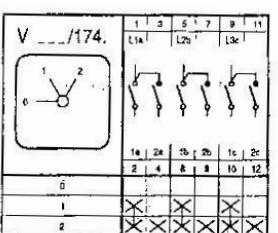


XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

## TYPE: GROUP SWITCHES, 2 GROUPS

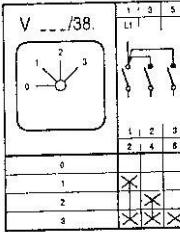
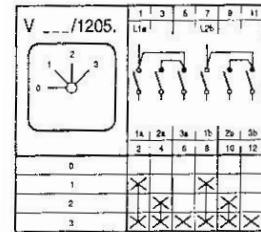
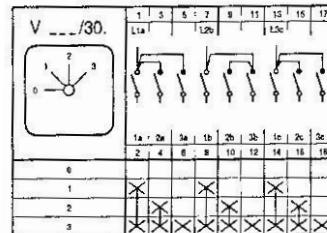
## GROUP SWITCHES, 2 GROUPS

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/46-	XX	\$43.00	
	20	V151/46 -	XX	\$55.00	
	25	V251/46 -	XX	\$79.00	
	40	V451/46 -	XX	\$110.00	
	80	V656/46 -	XX	\$161.00	
	100	V756/46 -	XX	\$220.00	
<b>J 30</b> <b>2 Pole</b>	16	V105/1204 -	XX	\$53.00	
	20	V151/1204 -	XX	\$81.00	
	25	V251/1204-	XX	\$117.00	
	40	V451/1204 -	XX	\$172.00	
	80	V656/1204 -	XX	\$266.00	
	100	V756/1204 -	XX	\$334.00	
<b>3 Pole</b>	16	V105/174-	XX	\$74.00	
	20	V151/174 -	XX	\$106.00	
	25	V251/174 -	XX	\$151.00	
	40	V451/174 -	XX	\$224.00	
	80	V656/174-	XX	\$363.00	
	100	V756/174 -	XX	\$448.00	

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

**TYPE: GROUP SWITCHES, 3 GROUPS**
**GROUP SWITCHES, 3 GROUPS**

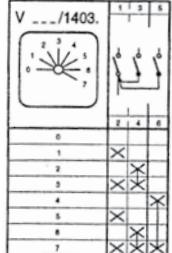
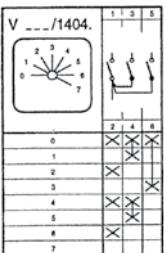
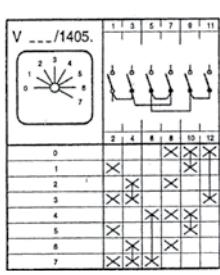
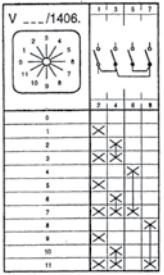
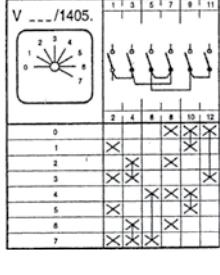
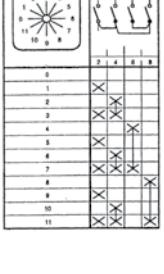
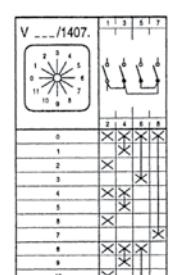
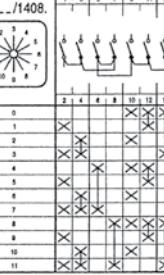
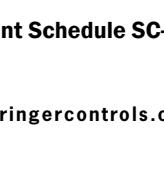
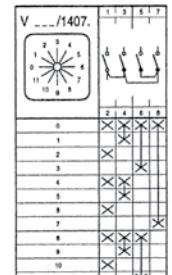
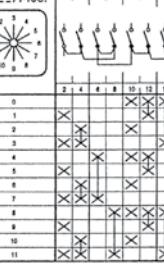
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole</b>	16	V105/38-	XX	\$48.00	
	20	V151/38 -	XX	\$\$72.00	
	25	V251/38 -	XX	\$104.00	
	40	V451/38 -	XX	\$149.00	
	80	V656/38 -	XX	\$224.00	
	100	V756/38 -	XX	\$277.00	
<b>2 Pole</b>	16	V105/1205 -	XX	\$74.00	
	20	V151/1205 -	XX	\$107.00	
	25	V251/1205-	XX	\$152.00	
	40	V451/1205 -	XX	\$223.00	
	80	V656/1205 -	XX	\$363.00	
	100	V756/1205 -	XX	\$448.00	
<b>3 Pole</b>	16	V105/30-	XX	\$102.00	
	20	V151/30 -	XX	\$205.00	
	25	V251/30 -	XX	\$305.00	
	40	V451/30 -	XX	\$353.00	
	80	V656/30-	XX	\$504.00	
	100	V756/30 -	XX	\$633.00	

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

## TYPE: CODE SWITCHES, BINARY CODE

## CODE SWITCHES, BINARY CODE

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>0-7</b>	16	V105/1403-	XX	\$48.00	
	20	V151/1403 -	XX	\$72.00	
	25	V251/1403 -	XX	\$104.00	
<b>0-7 Compliment</b>	16	V105/1404-	XX	\$48.00	
	20	V151/1404 -	XX	\$72.00	
	25	V251/1404 -	XX	\$104.00	
<b>0-7 + Compliment</b>	16	V105/1405-	XX	\$74.00	
	20	V151/1405 -	XX	\$107.00	
	25	V251/1405 -	XX	\$152.00	
<b>0-11</b>	16	V105/1406-	XX	\$53.00	
	20	V151/1406 -	XX	\$81.00	
	25	V251/1406 -	XX	\$117.00	
<b>0-11 Compliment</b>	16	V105/1407-	XX	\$53.00	
	20	V151/1407 -	XX	\$81.00	
	25	V251/1407 -	XX	\$117.00	
<b>0-11 + Compliment</b>	16	V105/1408-	XX	\$84.00	
	20	V151/1408 -	XX	\$132.00	
	25	V251/1408 -	XX	\$185.00	

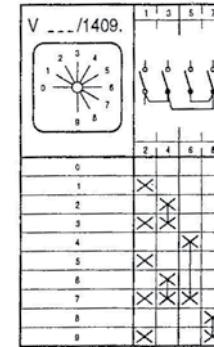
XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

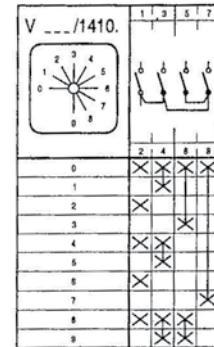
**TYPE: CODE SWITCHES, BCD CODE**
**CODE SWITCHES, BCD CODE**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
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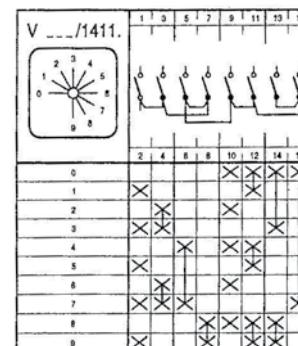
<b>0-9</b>	16	V105/1409-	XX	\$53.00
	20	V151/1409 -	XX	\$81.00
	25	V251/1409 -	XX	\$117.00



<b>0-9 Compliment</b>	16	V105/1410-	XX	\$53.00
	20	V151/1410 -	XX	\$81.00
	25	V251/1410 -	XX	\$117.00



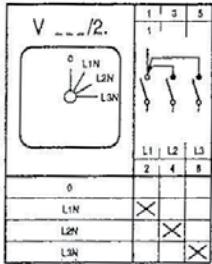
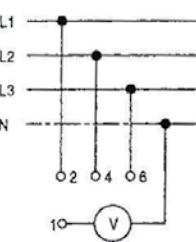
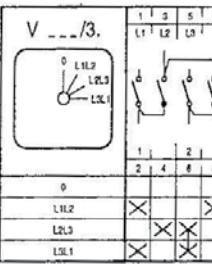
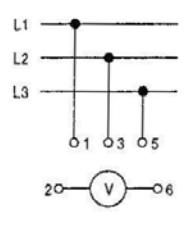
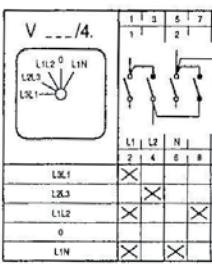
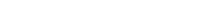
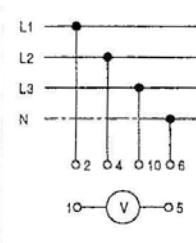
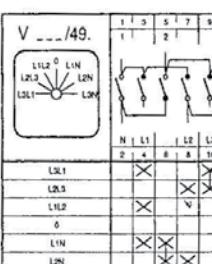
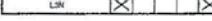
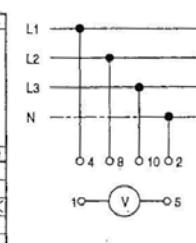
<b>0-9 + Compliment</b>	16	V105/1411-	XX	\$84.00
	20	V151/1411 -	XX	\$132.00
	25	V251/1411 -	XX	\$185.00


**J 33**

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

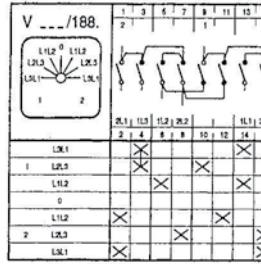
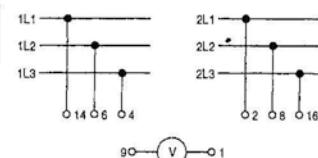
**TYPE: VOLTMETER SELECTOR****VOLTMETER SELECTOR**

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>3 Phases to N</b>	16	V105/2-	XX	\$48.00	  
<b>3 Line Voltages</b>	16	V105/3-	XX	\$53.00	  
<b>3 Line Voltages 1 Phase to N</b>	16	V105/4-	XX	\$70.00	  
<b>3 Line Voltages 3 Phases to N</b>	16	V105/49-	XX	\$74.00	  

XX - Replace with Handle Suffix from page J39.

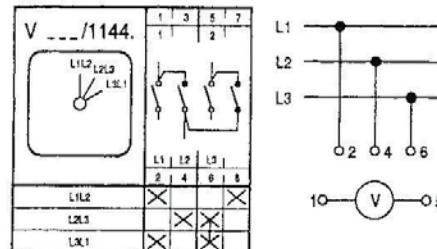
**Discount Schedule SC-10**

**TYPE: VOLTMETER SELECTOR**
**VOLTMETER SELECTOR**

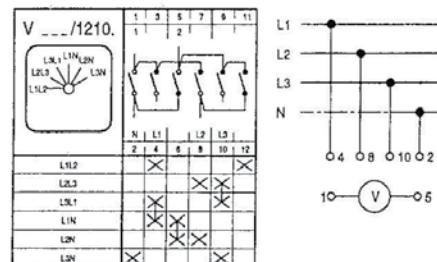
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>3 Line Voltages for 2 Mains</b>	16	V105/188-	XX	\$83.00	 

**J 35**

<b>3 Line Voltages</b>	16	V105/1144-	XX	\$53.00
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<b>3 Line Voltages 3 Phase to N</b>	16	V105/1210-	XX	\$74.00
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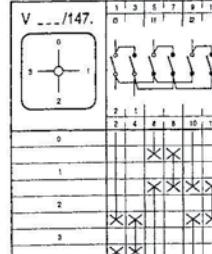
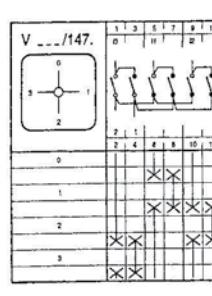
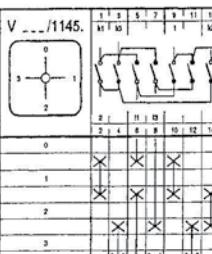
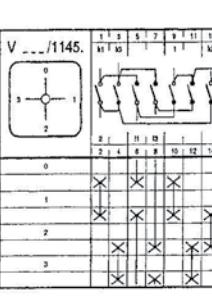
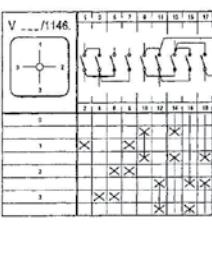
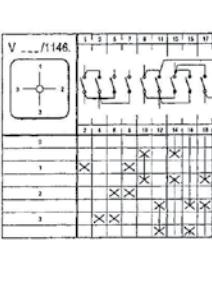
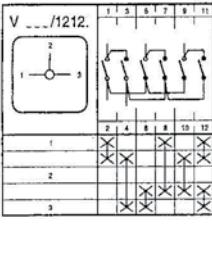
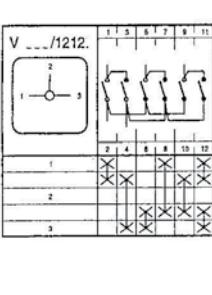


XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

## TYPE: AMMETER SELECTOR

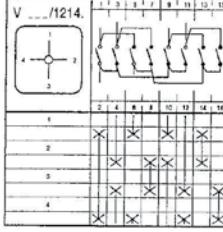
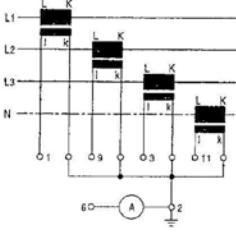
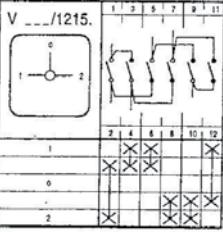
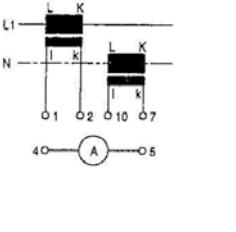
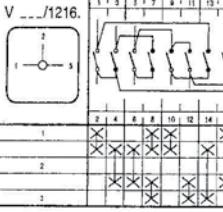
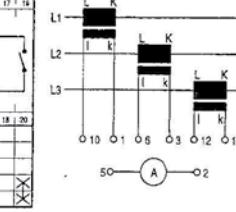
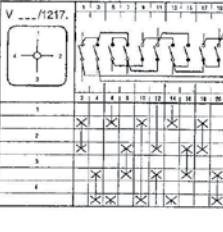
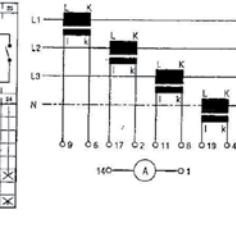
## AMMETER SELECTOR

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole 3 Transformer Circuits</b>	16	V105/147-	XX	\$74.00	 
<b>2 Pole 3 Transformer Circuits</b>	16	V105/1145-	XX	\$107.00	 
<b>3 Voltages 3 Currents</b>	16	V105/1146-	XX	\$107.00	 
<b>1 Pole 3 Transformer Circuits</b>	16	V105/1212-	XX	\$74.00	 

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

**TYPE: AMMETER SELECTOR**
**AMMETER SELECTOR**

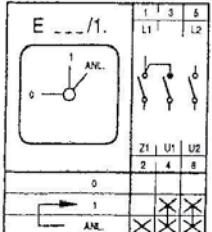
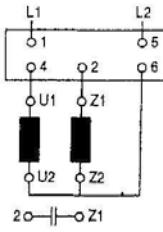
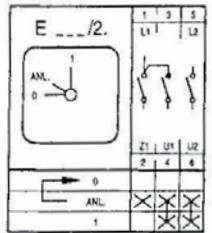
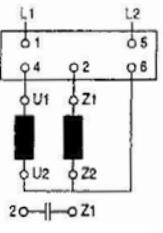
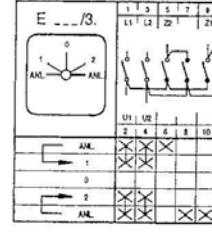
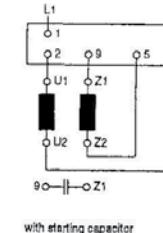
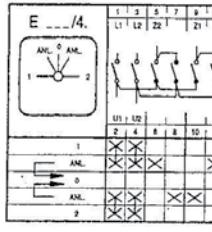
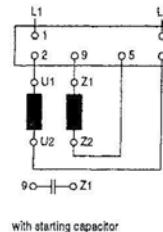
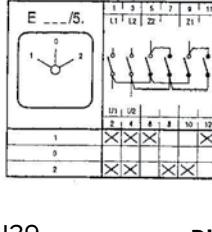
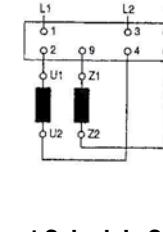
Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>1 Pole 4 Transformer Circuits</b>	16	V105/1214-	XX	\$83.00	 
<b>2 Pole 2 Transformer Circuits</b>	16	V105/1215-	XX	\$74.00	 
<b>2 Pole 3 Transformer Circuit</b>	16	V105/1216-	XX	\$107.00	 
<b>2 Pole</b>	16	V105/1217-	XX	\$125.00	 

XX - Replace with Handle Suffix from page J39.

**Discount Schedule SC-10**

## TYPE: SINGLE-PHASE STARTER SWITCHES

## SINGLE-PHASE STARTER SWITCHES

Contact Arrangements	AMPS AC3	Model Number	Handle Code (see pg. J39)	Price	Front Plate / Contact Diagram
<b>With Starter Capacitor</b>	16	E105/1-	XX	\$48.00	
	20	E151/1-	XX	\$72.00	
	25	E251/1-	XX	\$104.00	
<b>With Starter Capacitor</b>	20	E151/2-	XX	\$107.00	
	25	E251/2-	XX	\$104.00	
<b>2 Reversing</b>	16	E105/3-	XX	\$74.00	
	20	E151/3-	XX	\$106.00	
	25	E251/3-	XX	\$152.00	
<b>2 Reversing</b>	20	E151/4-	XX	\$106.00	
	25	E251/4-	XX	\$152.00	
<b>With Running Capacitor</b>	16	E105/5-	XX	\$74.00	
	20	E151/5-	XX	\$106.00	
	25	E251/5-	XX	\$152.00	

XX - Replace with Handle Suffix from page J39.

Discount Schedule SC-10

## HANDLE & MOUNTING CODE - CAM SWITCHES

- 3 mounting styles available for cam switches (see below). Replace "XX" suffix from cam part number with letter suffix below. (Example: A251/6-AB, Front Mount 4-hole)
- Standard black lever handle used on all cam switches (custom handles are available on request.)
- Price of switch includes handle and mounting style.
- Cam switches available with enclosure; polycarbonate or aluminum. Consult factory.

### Front Mount; 4-hole\*



Model / Series	Suffix*
105, 151	AA
251, 451	AB
656, 756	AC

### Base Mount; Screw Fixing\*



Model / Series	Suffix*
105, 151	PB
251, 451	PC
656, 756	PD

### Central Mount; 1-Hole (22.5mm or 30.5mm)\*

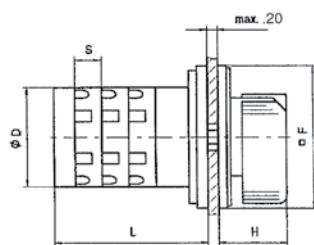
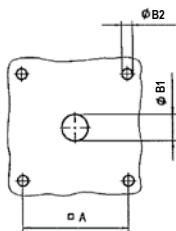


Model / Series	Suffix*
105, 151, 251	CA
451, 656, 756	Not Available

\* All cam handles Black/Grey in color. Consult factory for Red/Yellow. See page J40 for dimensions.

## HANDLE &amp; MOUNTING DIMENSIONS

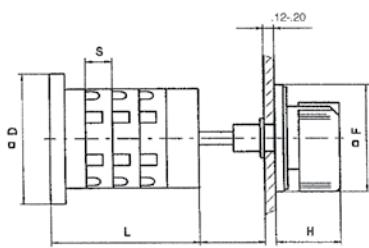
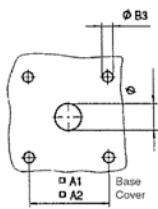
## Front Mount; 4-Hole Dimensions



Type	Dimension (Inches)							L By Switch Contacts			
	A	B1	B2	D	F	H	S	1-2	3-4	5-6	7-8
105	1.42	.47	.18	1.73	1.89	1.14	.49	1.34	1.83	2.32	2.81
151	1.42	.47	.18	1.93	1.89	1.14	.49	1.79	2.28	2.78	3.27
251	1.89	.47	.22	2.48	2.52	1.30	.49	1.93	2.42	2.91	3.41
451	1.89	.47	.22	2.83	2.52	1.30	.69	2.13	2.81	3.50	4.19
656	2.68	.59	.22	3.15	3.46	1.38	.63	2.13	2.76	3.39	4.02
756	2.68	.59	.22	3.39	3.46	1.38	1.04	2.52	3.56	4.61	5.65

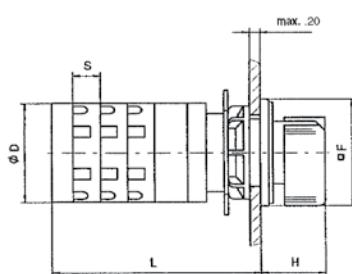
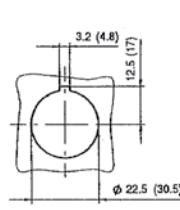
## Base Mount; Screw Fixing Dimensions

J 40



Type	Dimension (Inches)							L By Switch Contacts			
	A1	A2	B3	D	F	H	S	1-2	3-4	5-6	7-8
105	1.42	1.42	.18	1.73	1.89	1.14	.49	1.34	1.83	2.32	2.81
151	1.89	1.42	.18	2.40	1.89	1.14	.49	1.71	2.20	2.70	3.19
251	1.89	1.89	.20	2.40	2.52	1.30	.49	1.85	2.34	2.83	3.33
451	2.68	1.89	.20	3.62	2.52	1.30	.69	2.05	2.74	3.43	4.11
656	2.68	2.68	.22	3.62	3.46	1.38	.63	2.05	2.68	3.31	3.94
756	2.68	2.68	.22	3.62	3.46	1.38	1.04	2.44	3.48	4.53	5.57

## Central Mount; 1 Hole Dimensions (22.5mm or 30.5mm)



Type	Dimension (Inches)				L By Switch Contacts			
	D	F	H	S	1-2	3-4	5-6	7-8
105	1.73	1.89	1.14	.49	1.89	2.38	2.87	3.37
151	1.93	1.89	1.14	.49	2.70	3.19	3.68	4.17
251	2.48	2.52	1.30	.49	2.83	3.33	3.82	4.31

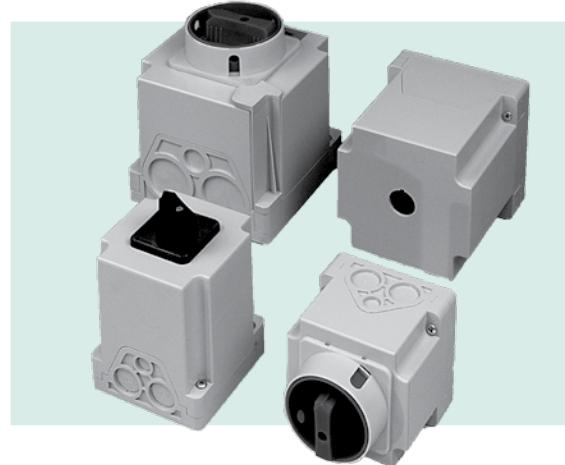
**CAM SWITCH ENCLOSURES**

All cam switches can be designated to an enclosure. Enclosures are available in polycarbonate or aluminum cast-iron. Consult factory for pricing of a complete enclosed switch.

**Dimensional Data**


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Dimensions are enclosure only; does not include the handle dimension.


**Polycarbonate (IP65 rated)**

Series	L x W x D (mm)	Mounting Hole to Hole	Enclosure Type
105	90.5 x 90.5 x 73	80 mm	I1 - D - NL4
105	90.5 x 90.5 x 110	80 mm	I1 - D - HL4
151, 251, ML1	115 x 115 x 98	100 mm	I2 - D - NL4
151, 251, ML1	115 x 115 x 125	100 mm	I2 - D - HL4
451, ML2	145 x 145 x 120	130 mm	I3 - D - NL4
451, ML2	145 x 145 x 150	130 mm	I3 - D - HL4
656*, 756*	300 x 300 x 170	271 mm	I7N
656*, 756*	300 x 300 x 214	271 mm	I7H

\* Clear polycarbonate cover face

**J41**
**Aluminum Cast-Iron (IP54 rated)**

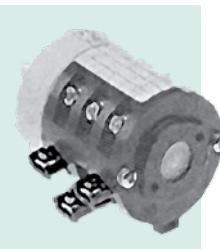
Series	L x W x D (mm)	Mounting Hole to Hole	Enclosure Type
105, 151	105 x 105 x 79	80 mm	A18
151, 251	121 x 121 x 92	80 mm	A19

\* Consult factory for additional sizes



## CAM SWITCH ACCESSORIES

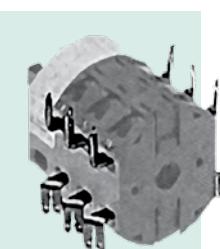
## Extension Terminal



Type	Catalog No.	Price
Extension Terminals	AS	*C.F.

\* C.F. - Consult Factory items will vary in price according to switch configuration.

## Blade Terminal



Type	Catalog No.	Price
Blade Terminals	F	*C.F.

\* C.F. - Consult Factory items will vary in price according to switch configuration.

## Auxiliaries



Type	Catalog No.	Price
PE Terminals	PE	\$11
N Terminals	N	\$11

## Protection Covers



Type	Catalog No.	Price
Protection Covers	DH	*C.F.

\* C.F. - Consult Factory items will vary in price according to switch configuration.

## Voltage Release - Loss of Voltage



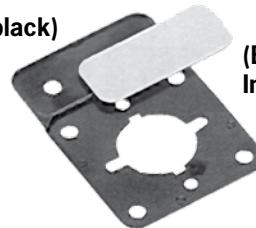
Type	Catalog No.	Price
Voltage Release	U	*C.F.

24V AC, 120V AC, 240V AC

\* C.F. - Consult Factory items will vary in price according to switch configuration.

## Front Plates For Central 2 &amp; 3 Hole Mounting

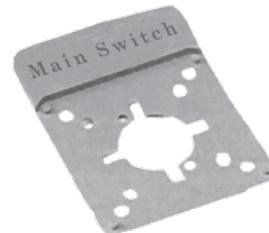
(A)  
Base Plate (black)



(B)  
Insert Plate (silver)

Type	Color	Size	Dimension	Catalog No.	Price
A	Black	0	30 x 51mm	EB91	\$3.00
A	Black	1	48 x 69mm	EB64	\$3.00
B	Silver	0		ES	\$3.00
B	Silver	1		ES1	\$3.00

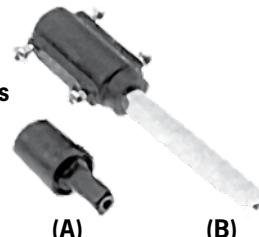
## Front Plates Size 1 &amp; Size 2



Color	Size	Dimension	Catalog No.	Price
Yellow	1	66 x 89mm	MSY	\$8.00
Grey	2	86 x 108mm	MSG	\$8.00

## Base &amp; Rear Mounting Up To Series 451

Extension Shafts



(A) (B)

Type	Size	Catalog No.	Price
A	18mm (max. 5 pcs.)	AL18	\$3.00
B	65 - 80mm	AL-65	\$16.00
B	165 - 205mm	AL165	\$19.00
B	265 - 305mm	AL265	\$23.00
B	365 - 405mm	AL365	\$31.00

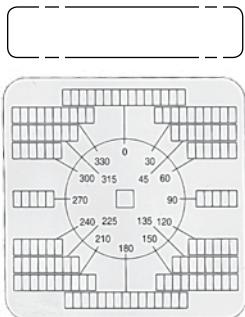
## Discount Schedule SC-10

**SPECIAL ORDER FORM**

**Name:** \_\_\_\_\_  
**Company:** \_\_\_\_\_  
**P.O. Box:** \_\_\_\_\_  
**Street Address:** \_\_\_\_\_  
**City, State, Zip:** \_\_\_\_\_  
**Telephone #:** \_\_\_\_\_  
**Fax #:** \_\_\_\_\_  
**e-mail address:** \_\_\_\_\_

*send to:*

**Springer Controls Co., Inc.**  
 96074 Chester Road  
 Yulee, Florida 32097  
 Phone: (904) 225-0575  
 Fax: (904) 225-9084  
[www.SpringerControls.com](http://www.SpringerControls.com)

Front Plate																																																																																				
Switching Angle <input checked="" type="radio"/> <input type="checkbox"/> Complete Rotation	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25px;"></td> </tr> </table>																																																																																			
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 Spring Return																																																																																				
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Application:																																																																																				
Quantity:																																																																																				
Date:	Writer:	Factory Type:																		Factory Order No.:																																																																

**NOTES**

**J 44**

# HAZARDOUS LOCATION SWITCHES



**SPRINGER**  
controls company

**Springer Controls** hazardous location switches, also known as oil immersed switches, are designed to provide dependable, heavy duty performance in indoor or outdoor locations; specifically where atmospheric conditions are dusty, corrosive or hazardous. Their positive action and heavy-duty construction make them suitable for the most rugged application. They are dependable under the most extreme operating conditions.

## HAZARDOUS LOCATION / OIL IMMERSSED SWITCHES

Index  
**K**

Description / Features .....	K2
Specifications .....	K3
Model # & Pricing .....	K4, K5
Accessories .....	K6, K7
Dimensions .....	K8

## DESCRIPTION / FEATURES



### Description

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**Springer Controls** hazardous location switches, also known as oil immersed switches, are designed to provide dependable heavy duty performance in indoor or outdoor locations; specifically where atmospheric conditions are dusty, corrosive or hazardous. Their positive action and heavy-duty construction make them suitable for the most rugged application. They are dependable under the most extreme operating conditions.

### Features

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Typical applications include: oil refineries, chemical plants, textile mills, paper mills, steel mills, food processing and any area where corrosive or hazardous conditions exist.

The standard enclosure consists of heavily constructed cast iron top and tank - a functional design that facilitates installation and provides a dust-tight, weather-resistant lever operator. The top casting has a provision to lock the operating lever in either the "on" or "off" position.

The operating mechanism consists of heavy duty contacts, a molded phenolic mounting panel and push-rod, wing-type cast iron operating lever, monel shaft, stainless steel bushings and washers.

All operator stations are designed with maximum flexibility of contact arrangement and access to operating parts for easy installation, maintenance and inspection.

The control of corrosion from atmospheric conditions and the elimination of exposed arcs are accomplished by the immersion of all operating parts in oil. The Type 675 has the Underwriters Laboratory (UL) approval for Hazardous Location, File #184636.



**SPECIFICATIONS**
**Specifications**

Type 675	c  US	Type 604
Type 675 Hazardous Locations Nema 3R, 7, 8, 9 Class I, Group B, C, D Class II, Group E, F, G		Type 604 Watertight, Corrosion Proof Nema 3, 4, 11, 12 Class I, Group D, Div. 2

**Specifications**

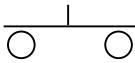
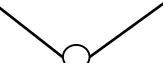
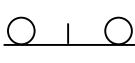
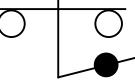
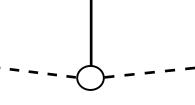
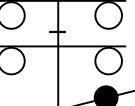
	675 Dim. 1	604 Dim. 1
Approx. Ship wt. Lbs.	18lb	17lb
Oil <sup>1</sup> Capacity Qts.	1	1
Hub Size (Two / Unit)	3/4"	3/4"
Dia. Mounting Holes	3/8"	3/8"

<sup>1</sup> All units shipped less oil

**Contact Rating - AC**  
**Air or Oil - NEMA A600**

6 Amps - 120V	Recommended switch oil or
3 Amps - 240V	transformer oil is
1.5 Amps - 480V	Chevron "Univolt N61".
1.2 Amps - 600V	(Not provided with switch)

**K3**
**Contact Configuration - Handle Lever Style**

	Indicates momentary make; spring return		Indicates common double lever
	Indicates momentary break; spring return		Indicates single lever
	Indicates maintained contact		Indicates 3 position selector
	Indicates maintained contact; two circuit		Indicates removable

## MODEL # AND PRICING



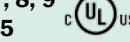
**Springer Controls** line of corrosive-hazardous location operators stations offer heavy duty construction and positive contact action. Internal contact assemblies are identical in each type of station.

Approved enclosures for Springer Controls Push Buttons are:  
 Type 604 - designed for use in NEMA 3, 4, 11, and 12.  
 Type 675 - designed for use in NEMA 3R, 7, 8, and 9.

For maximum protection against corrosion and elimination of exposed arcs, switch oil is recommended.

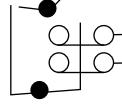
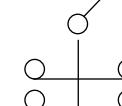
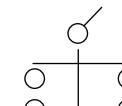
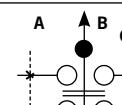
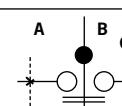
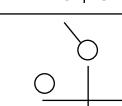
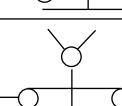
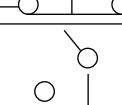
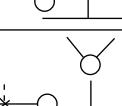
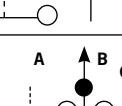
All **Type 675** stations are **UL** Listed and **cUL** Listed

K4

NEMA 3R, 7, 8, 9 Type 675 	NEMA 3, 4, 11, 12 Type 604		Contact Arrangement
2080-AF8 \$1085.00	2080-AF11	\$879.00	1 N.O. - 1 N.C. Momentary
2080-B8 \$1062.00	2080-B11	\$856.00	1 N.C. Maintained
2080-C8 \$1104.00	2080-C11	\$903.00	1 N.O. Momentary
2080-D8 \$1104.00	2080-D11	\$903.00	1 N.C. Momentary
2080-E8 \$1104.00	2080-E11	\$903.00	2 N.O. Momentary
2080-F8 \$1104.00	2080-F11	\$903.00	1 N.O. - 1 N.C. Momentary
2080-I8 \$1104.00	2080-I11	\$903.00	1 N.O. - 1 N.C. Maintained
2080-J8 \$1104.00	2080-J11	\$903.00	2 N.C. Maintained

Discount Schedule SC-81

**MODEL # AND PRICING**

NEMA 3R, 7, 8, 9 Type 675	c UL US	NEMA 3, 4, 11, 12 Type 604	Contact Arrangement	
2080-R8	\$1197	2080-R11	2 N.C. Maintained	
2080-S8	\$1163.00	2080-S11	2 N.C. Momentary	
2080-T8	\$1146.00	2080-T11	1 N.O. - 1 N.C. Momentary	
2080-TY8 (not UL)	\$1862.00	2080-TY11	Sel.Sw.; Left Spring Return, Maintained Right	
2080-VV8	\$1293.00	2080-VV11	Sel. Sw; Maintained Left, Center Right	
2080-WL8	\$1184.00	2080-WL11	2 N.O. Momentary	
2080-WS8	\$1184.00	2080-WS11	2 N.C. Momentary	
2080-Y08	\$1148.00	2080-Y011	2 N.O. Momentary	
2080-YT8	\$1092.00	2080-YT11	2 N.O. Momentary	
2080-ZQ8	\$1104.00	2080-ZQ11	Sel. Sw.; Left Spring Return, Maintained Right	

**K5**
**Discount Schedule SC-81**

## ACCESSORIES

**Springer Controls** can help you meet any requirement. Our custom built stations include special maintained and momentary contact arrangements, lever guards and special conduit hubs. Custom nameplate kits available as well.

### Custom Build - Suffix

Add the "catalog-suffix" to the switch part number to obtain factory built modifications.

ie. 2080-ZQ8-1...  
 Complete unit with operating lever guard installed

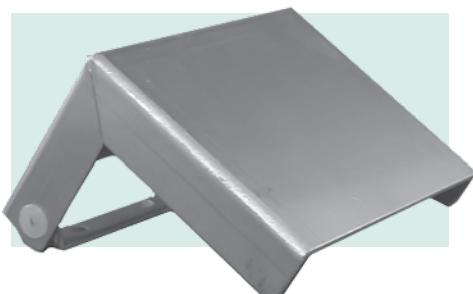
Factory Modification		Cat. Suffix	Price
Operating Lever Guard	LG 1	-1	\$84.00
Optional Hubs	1 Inch	-3	\$105.00
Optional Hubs	1 1/4 Inch	-4	\$168.00

### Contact Assemblies (Type 2080-604 & 2080-675)



Replacement Parts	Catalog No.	Price
Switch Rod	2090-14309	\$197.00
Push Button Contact Assembly - AF	2090-14342	\$273.00
Push Button Contact Assembly - B	2090-14440	\$273.00
Push Button Contact Assembly - C	2090-14441	\$273.00
Push Button Contact Assembly - D	2090-14442	\$273.00
Push Button Contact Assembly - I	2090-14567	\$273.00
Push Button Contact Assembly - ZQ	2090-14584	\$394.00
Push Button Contact Assembly - J	2090-14829	\$338.00
Push Button Contact Assembly - VV	2090-17574	\$478.00
Push Button Contact Assembly - TO	2090-24482	\$781.00
Push Button Contact Assembly - TY	2090-14522	\$583.00

### Field Kit: Operating Lever Guard



Accessories and Parts	Catalog No.	Price
Lever Guard - Single Tank	2080-LG1	\$84.00

**Discount Schedule SC-81**

**ACCESSORIES**
**Standard Nameplate Kits** (includes the rivets for field installation)

**● HANDS-OFF-AUTO ●**

2080-N5

**Nameplate specs.**

Width: 3/8"

Length: 3.25"

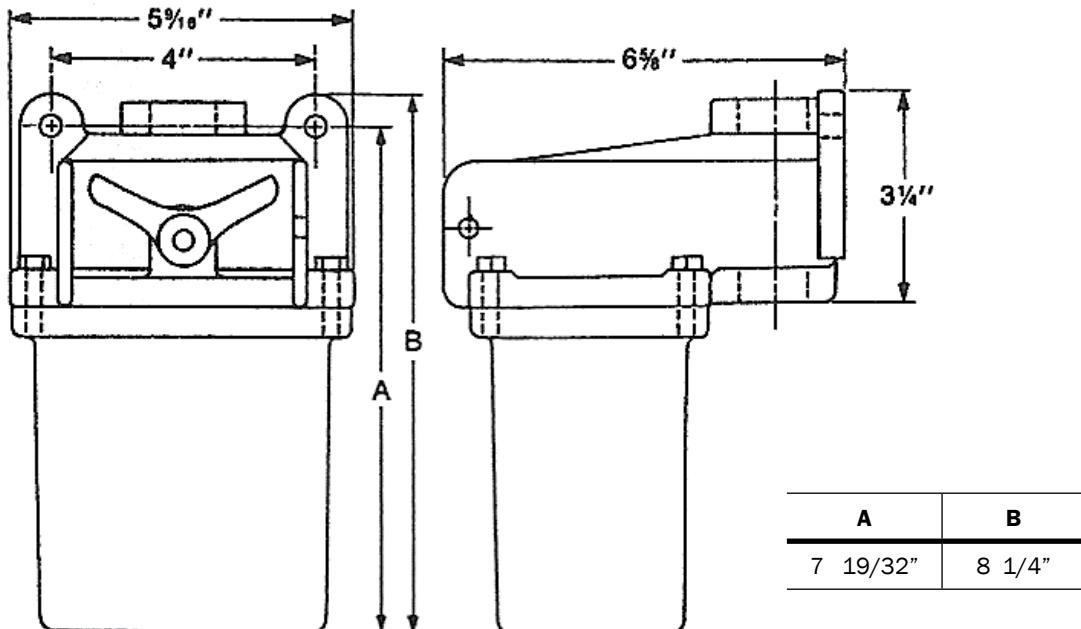
Hole Ø: 1/8" (Two holes)


 2080-ZQ11  
 with 2080-N5 Nameplate

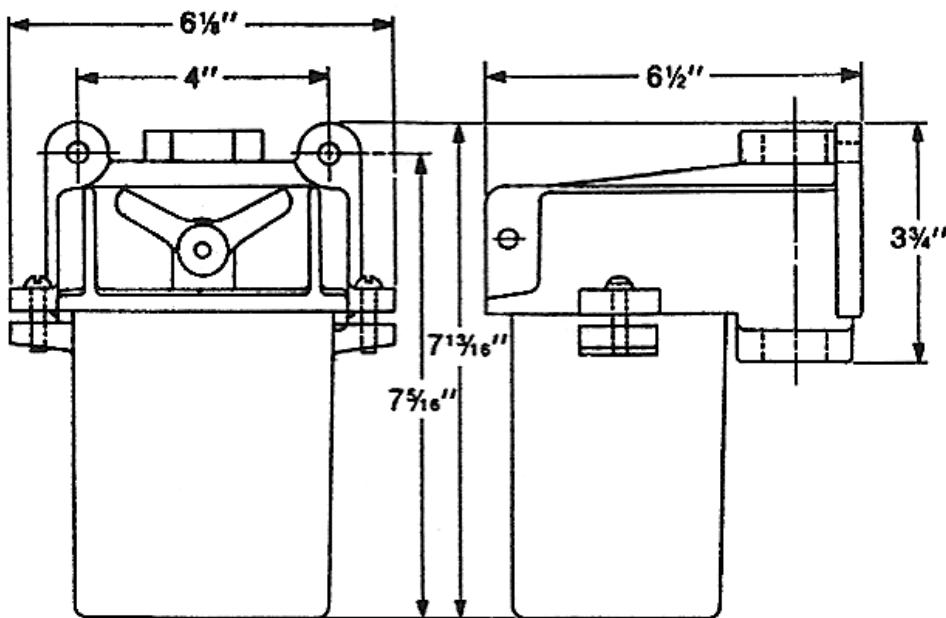
Nameplate	Catalog No.	Price
Nameplate "Start-Stop"	2080-N1	\$29.00
Nameplate "Start"	2080-N2	\$29.00
Nameplate "Stop"	2080-N3	\$29.00
Nameplate "Reset"	2080-N4	\$29.00
Nameplate "Hands-Off-Auto"	2080-N5	\$29.00
Nameplate "Automatic"	2080-N6	\$29.00
Nameplate "Down"	2080-N7	\$29.00
Nameplate "Emergency"	2080-N8	\$29.00
Nameplate "Fast-Off-Slow"	2080-N9	\$29.00
Nameplate "Forward-Off-Reverse"	2080-N10	\$29.00
Nameplate "Hand"	2080-N11	\$29.00
Nameplate "Hand-Auto-Off"	2080-N12	\$29.00
Nameplate "Reset-Stop-Start"	2080-N13	\$29.00
Nameplate "Jog"	2080-N14	\$29.00
Nameplate "Tower"	2080-N15	\$29.00
Nameplate "Off"	2080-N16	\$29.00
Nameplate "On"	2080-N17	\$29.00
Nameplate "Open"	2080-N18	\$29.00
Nameplate "Raise"	2080-N19	\$29.00
Nameplate "Reverse"	2080-N20	\$29.00
Nameplate "Run"	2080-N21	\$29.00
Nameplate "Start-On-Off"	2080-N22	\$29.00
Nameplate "Start-Run-Stop"	2080-N23	\$29.00
Nameplate "Test"	2080-N24	\$29.00
Nameplate "Up"	2080-N25	\$29.00
Nameplate "Trip"	2080-N26	\$29.00
Nameplate "Manual-Off-Auto"	2080-N27	\$29.00
Nameplate "Slow-Fast"	2080-N28	\$29.00
Nameplate "Run-Stop"	2080-N29	\$29.00
Nameplate "ON-Off"	2080-N30	\$29.00
Nameplate "Jog-Auto-Off"	2080-N31	\$29.00
Nameplate "Jog-Off-Auto"	2080-N32	\$29.00
Nameplate "Start-Auto-Off"	2080-N33	\$29.00
Nameplate "Fire-Shunt"	2080-N34	\$29.00

**K7**
**Discount Schedule SC-81**

## DIMENSIONS

Type 675

K8

Type 604

# CIRCUIT BREAKERS



**Springer Controls** carries a complete line of Techna Miniature Circuit Breakers rated from 0.5 amps through 63.0 amps. Applications include usage in UL508A panels, motor group installations, motor disconnects or whenever a circuit breaker is required in power or control circuitry.

## CIRCUIT BREAKERS

### Jtec UL (Motor Disconnect)

General Information .....	L2
Trip Curves & Dimensions .....	L3

### Jtec 489 (Branch Circuit Protection)

General Information .....	L4
Trip Curves & Dimensions .....	L5

Accessories.....	L6
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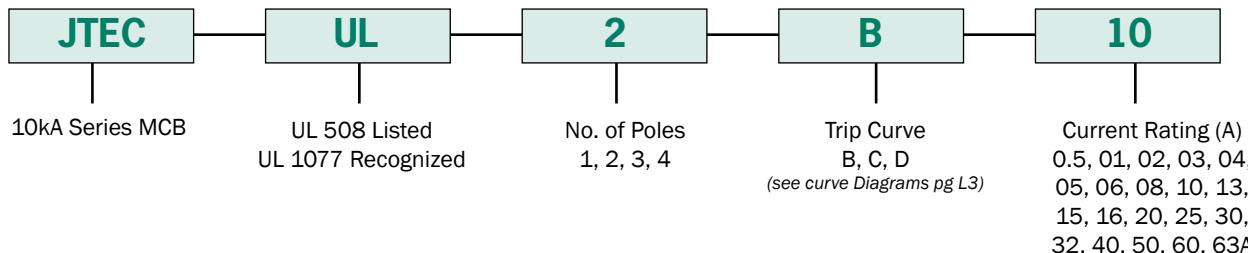
Technical Data .....	L7
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**JtecUL MOTOR DISCONNECT**

**Springer Controls** carries a complete line of Techna Miniature Circuit Breakers rated from 0.5 amps through 63.0 amps. Applications include usage in UL508A panels, motor group installations, motor disconnects or whenever a circuit breaker is required in power or control circuitry.

**JtecUL - General Information**

- 0.5 amp through 63.0 amps
- Rated as a manual motor controller switch suitable for motor disconnect. Separate switch not required.
- UL 1077 recognized, UL 508 listed
- 10kA, 480Y / 277 VAC
- 1,2,3,4 Poles

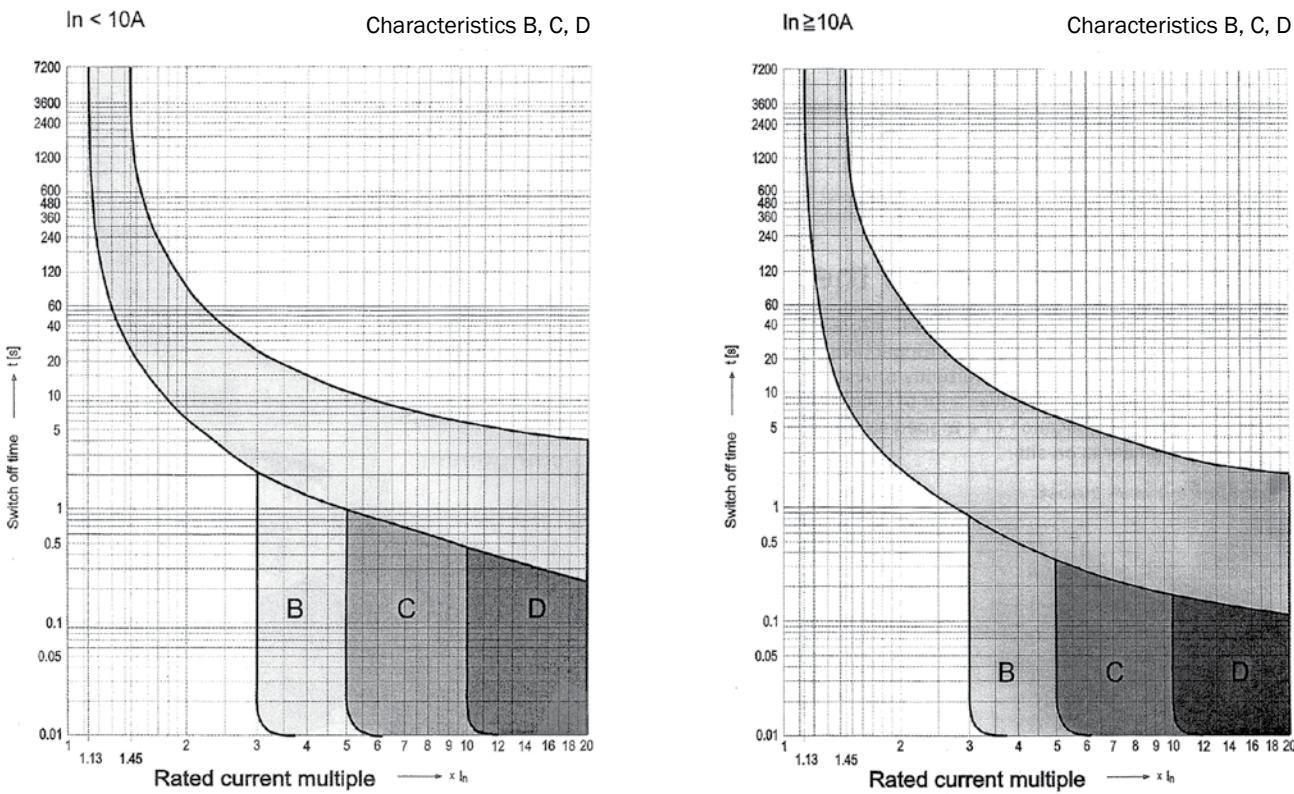
**JtecUL Nomenclature****JtecUL Part # and Pricing**

		<b>Model No.</b>	<b>0.5 - 32amp Price</b>	<b>40 - 63amp Price</b>
1-Pole	Curve B	JTECUL1B*	\$18.00	\$20.00
	Curve C	JTECUL1C*	\$18.00	\$20.00
	Curve D	JTECUL1D*	\$21.00	\$22.00
2-Pole	Curve B	JTECUL2B*	\$42.00	\$46.00
	Curve C	JTECUL2C*	\$42.00	\$46.00
	Curve D	JTECUL2D*	\$46.00	\$52.00
3-Pole	Curve B	JTECUL3B*	\$67.00	\$72.00
	Curve C	JTECUL3C*	\$67.00	\$72.00
	Curve D	JTECUL3D*	\$74.00	\$78.00
4-Pole	Curve B	JTECUL4B*	\$147.00	\$147.00
	Curve C	JTECUL4C*	\$147.00	\$147.00
	Curve D	JTECUL4D*	\$147.00	\$147.00

\* Amps.= 0.5, 1, 2, 3, 4, 5, 6, 8, 10, 13, 15, 16, 20, 25, 30, 32, 40, 50, 60, 63A  
(see curve diagram on page L3 for selection)

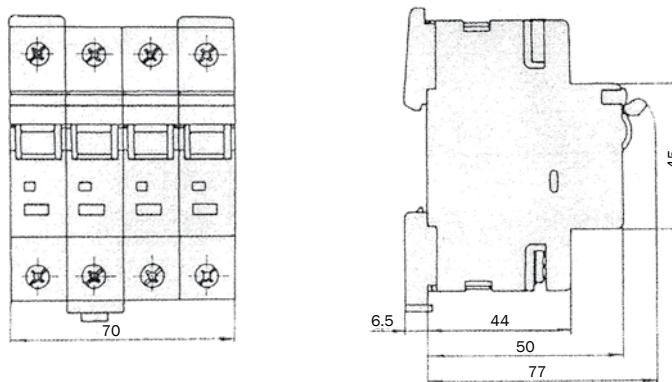
**Discount Schedule SC-45**

### JtecUL Trip Curves



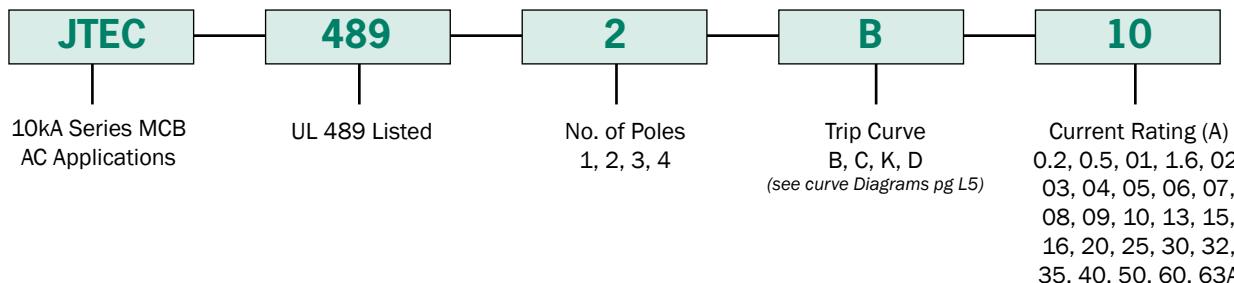
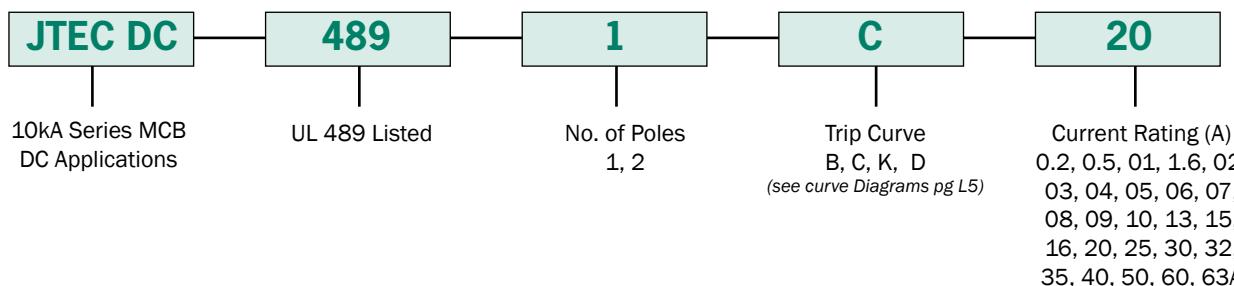
B= Shorter Trip, C= Medium Trip, D= Longer Trip

### JtecUL Dimensions (mm)



**JTEC 489; BRANCH CIRCUIT PROTECTION****Jtec 489 - General Information**

- 0.2 amp through 63.0 amps
- Rated as a branch circuit breaker able to be used to protect a branch circuit without a backup device.
- UL 489 listed
- 10kA, 480Y/277 VAC (up to 32 amps); 240 VAC (33 to 63 amps)  
10kA, 125 VDC 1 pole; 250VDC 2 poles
- 1,2,3,4 Poles (AC); 1, 2 Poles (DC)

**JTEC 489 Nomenclature****Ordering Code - AC****Ordering Code - DC**

\* special current ratings available on request

**Jtec 489 Part # and Pricing**

		<b>Model No.</b>	<b>0.5 - 32amp Price</b>	<b>40 - 63amp Price</b>
1-Pole	Curve B, C, K, D	JTEC489-1#*	\$41.00	\$45.00
2-Pole	Curve B, C, K, D	JTEC489-2#*	\$82.00	\$93.00
3-Pole	Curve B, C, K, D	JTEC489-3#*	\$122.00	\$134.00
4-Pole	Curve B, C, K, D	JTEC489-4#*	\$204.00	\$225.00

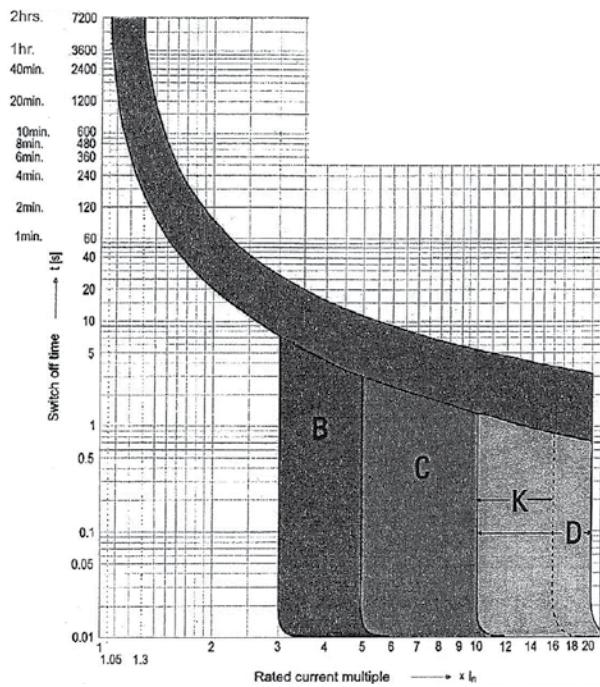
**# - Curve =    B - Quick,    C - Medium,    K - Motor,    D - Long**

\* Amps.= 0.2, 0.5, 1, 1.6, 2, 3, 4, 5, 6, 8, 10, 13, 15, 16, 20, 25, 30, 32, 40, 50, 60, 63A  
(see curve diagram on page L5)

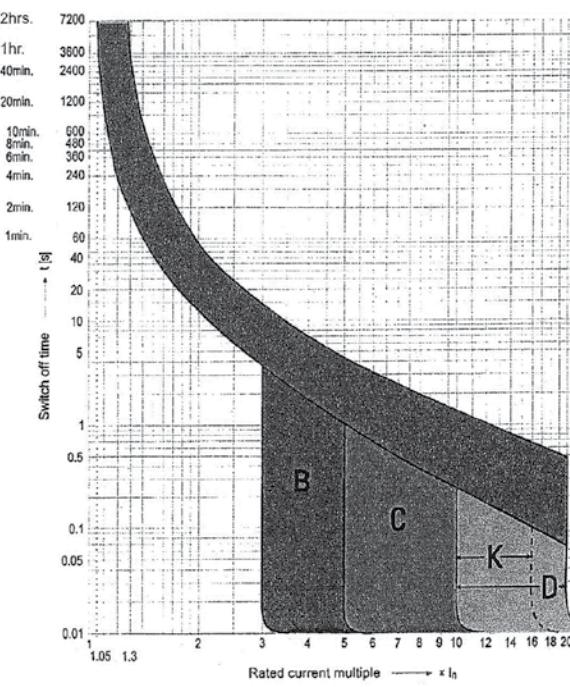
**Discount Schedule SC-45**

### Jtec 489 Trip Curves

**In ≤ 10A**

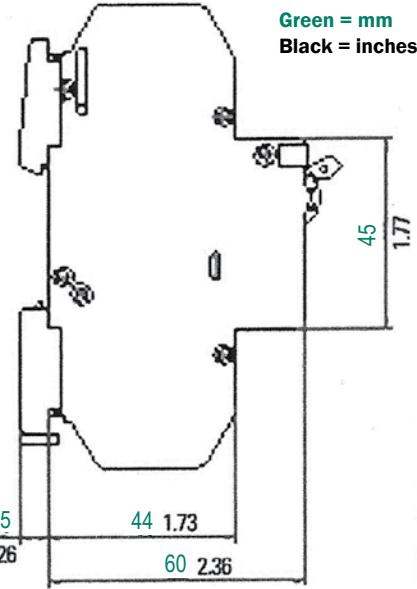
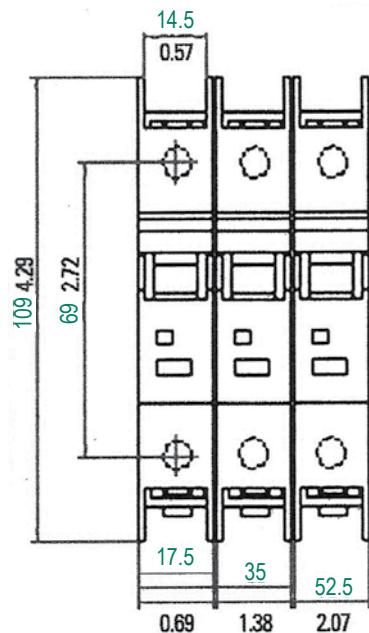


**In >10A**



**B= Short Trip, C= Medium Trip, K= Motor Trip, D= Longer Trip**

### Jtec 489 Dimensions



## Accessories for JtecUL and Jtec 489



Neutral Pole 489-N2



489LP1-B and 489LP1-Y

Description	JTEC UL Catalog No.	Price	JTEC 489 Catalog No.	Price
<b>Auxiliary &amp; Single Contacts:</b>				
1 Changeover	JTECULAUX1CO	\$40.00	JTEC489AUX1CO	\$40.00
2 Changeover	JTECULAUX2CO	\$46.00	JTEC489AUX2CO	\$46.00
1 Changeover + 1 Signal Changeover	JTECULAUXSCO	\$48.00	JTEC489AUXSCO	\$48.00
1 Changeover + 1 Signal + Test Button	JTECULAUXSTCO	\$48.00	JTEC489AUXSTCO	\$48.00
Neutral Pole	JTECN2	\$36.00	JTECN2	\$36.00

**Shunt - Trip - Release**

12V - AC	JTECULST12AC	\$60.00	JTEC489ST12AC	\$60.00
24V - AC	JTECULST24AC	\$60.00	JTEC489ST24AC	\$60.00
48V - AC	JTECULST48AC	\$60.00	JTEC489ST48AC	\$60.00
60V - AC	JTECULST60AC	\$60.00	JTEC489ST60AC	\$60.00
110V - AC	JTECULST110AC	\$60.00	JTEC489ST110AC	\$60.00
120V - AC	JTECULST120AC	\$60.00	JTEC489ST120AC	\$60.00
230V - AC	JTECULST230AC	\$60.00	JTEC489ST230AC	\$60.00
277V - AC	JTECULST277AC	\$60.00	JTEC489ST277AC	\$60.00
400V - AC	JTECULST400AC	\$60.00	JTEC489ST400AC	\$60.00
12V - DC	JTECULST12DC	\$60.00	JTEC489ST12DC	\$60.00
24V - DC	JTECULST24DC	\$60.00	JTEC489ST24DC	\$60.00
48V - DC	JTECULST48DC	\$60.00	JTEC489ST48DC	\$60.00
110V - DC	JTECULST110DC	\$60.00	JTEC489ST110DC	\$60.00

(Consult factory for under voltage release)

**Discount Schedule SC-45**

**Technical Data for JTECUL and JTEC489**

	<b>Jtec UL</b>		<b>Jtec 489</b>	
Current Ratings (A)	0.5, 1, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 60, 63A		0.2, 0.5, 1.0, 1.6, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 20, 25, 30, 32, 35, 40, 50, 60, 63A	
Number of Poles	1, 2, 3, 4, I+N, 3+N		1, 2, 3, 4, I+N, 3+N	
Trip Curves	B, C, D		B, C, K, D	
Rated Voltage	230/400V AC 277/480V AC 600V AC	(EN60898) (UL1077/508) (UL1077/508)	230/400V AC 480Y/277V AC 240V AC	(EN60898) (UL489, up to 32A) (UL489, up to 63A)
Rated Frequency	50/60 Hz		50/60 Hz	
Short Circuit Capacity	10kA		10kA	
UL Interrupt Rating	5kA (No back-up) 10kA (With back-up fuse)		10kA	
Electrical Life	6000 cycles on/off		6000 cycles on/off	
Mechanical Life	100,000 cycles on/off		100,000 cycles on/off	
Protection Degree	IP20 at Front		IP20 at Front	
Ambient Temp. Range	-13°F - 140°F		-13°F - 140°F	
Operational Position	In any Plane		In any Plane	
Compliance Standards	UL1077 / UL508 EN60898		UL489 / UL489A EN60898 / EN60947-2	
Vibration Resistance	3g (8 - 50 Hz)		3g (8 - 50 Hz)	
Resistance to Thermal Shocks	284°F		284°F	
Tightening Torque	(min) (max)	13 lb/inch 17.5 lb/inch	13 lb/inch 17.5 lb/inch	

