



DISCONNECT SWITCHES



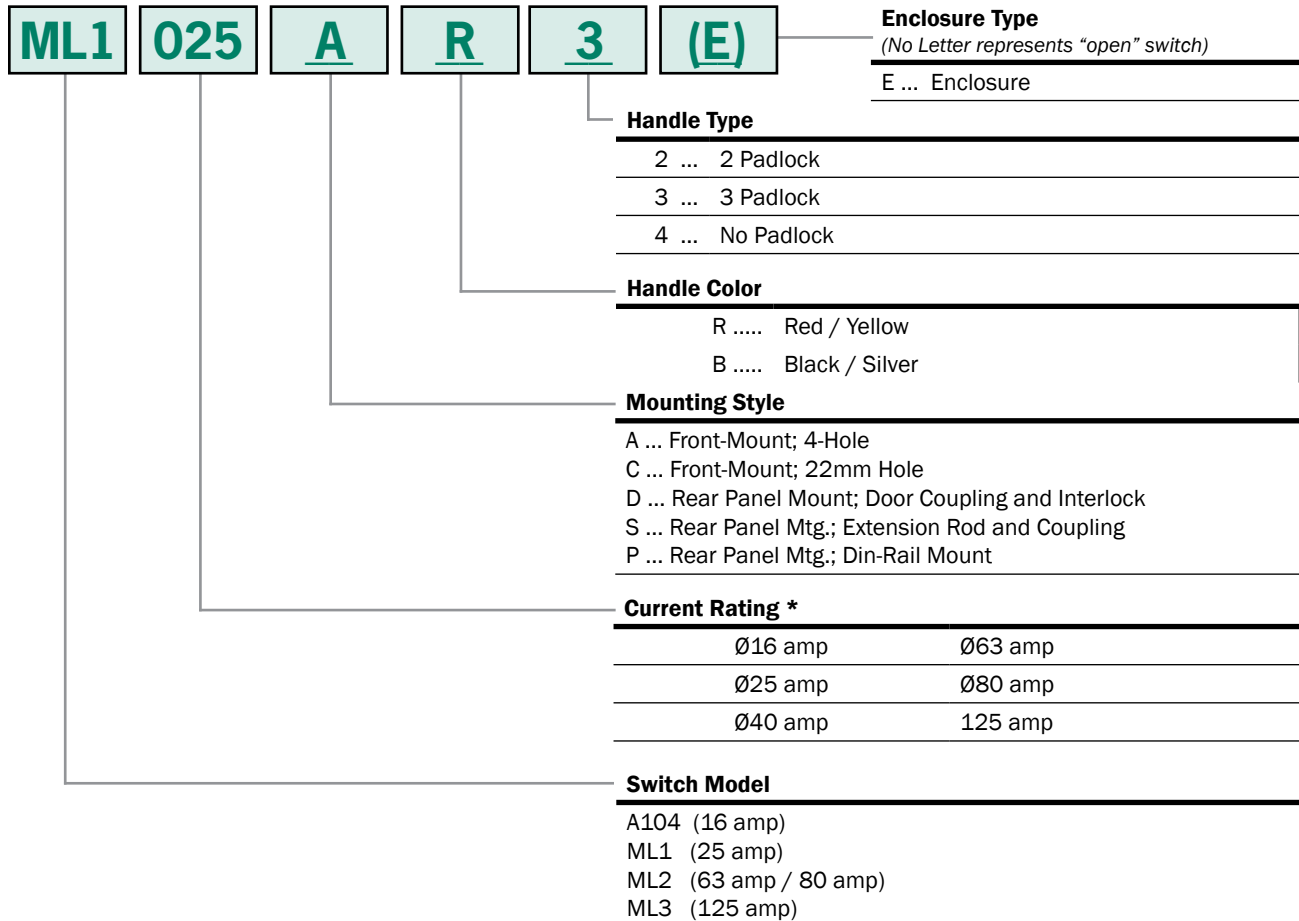
Springer Controls is partnered with **MERZ-PCE**, a world leader in the manufacturing of switch gears. We carry a complete line of UL approved, CSA listed, Disconnect Switches from 16A to 125A. Springer now offers larger disconnect switches rated up to 630 amps (consult factory for part number and pricing 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.

Index

DISCONNECT SWITCHES (16 TO 630 amp)

Product Numbering System / Model Ratings.....	I 2
Handle Types / Mounting Styles	I 3
Front Panel Mounting Disconnects	I 4
Rear Panel Mounting Disconnects.....	I 5, I 6
Enclosed Disconnect Switches	I 6
Accessories.....	I 7, I 8
Dimensions; Disconnect Switches.....	I 9 - I 12
Dimensions; Enclosures.....	I 13

PRODUCT NUMBERING SYSTEM



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

Model Ratings



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

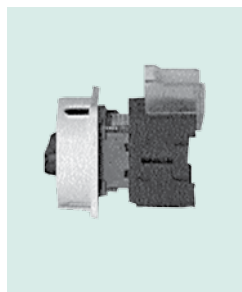


Type #4

- Handle Without Lockout
- Red / Yellow
- Black / Silver

13

Mounting Styles



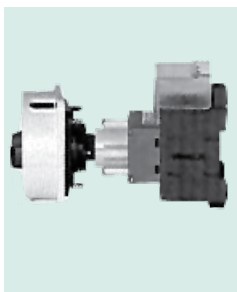
Type A

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



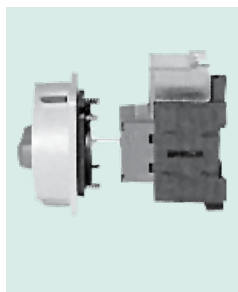
Type C

- 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

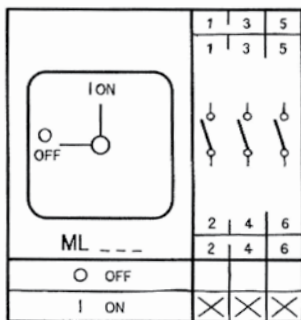
FRONT PANEL MOUNTING DISCONNECTS

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								
	120V	240V	240V	480V	600V						
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

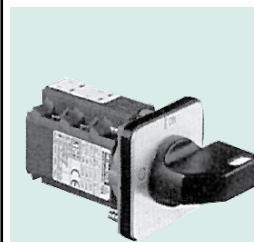
Contact Diagram
3-Pole



Dimension Fig.9,
pg 111



Dimension Fig.1,
pg 19



Dimension Fig.2,
pg 19

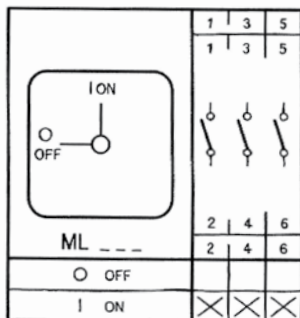


Front Panel Mounting (22.5mm) Hole Mounting "C"

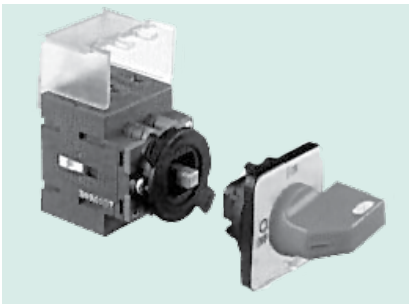


Thermal Rated Current @ 600V	HP					Two Padlock Handle IP65	Price	Three Padlock Handle IP65	Price
	1 phase		3 phase						
	120V	240V	240V	480V	600V				
16A	.5	1.5	3	5	5	A104-016-C*2	\$55.00	A104-016C*3	\$69.00
25A	1	3	7.5	10	10	ML1-025-C*2	\$73.00	ML1-025-C*3	\$76.00
40A	1.5	3	10	20	20	ML1-040-C*2	\$113.00	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	---	---	---	---

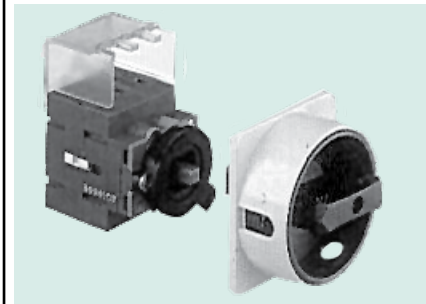
Contact Diagram
3-Pole



Dimension Fig.3,
pg 19



Dimension Fig.4,
pg 110



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

Discount Schedule SC-10

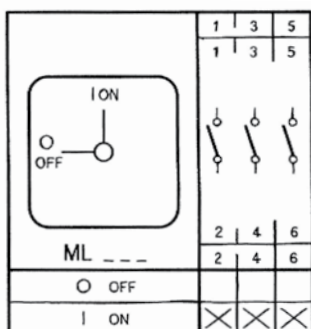
REAR PANEL MOUNTING DISCONNECTS

Rear Panel Mounting, Door Coupling & Interlock (4) Hole Mounting "D"

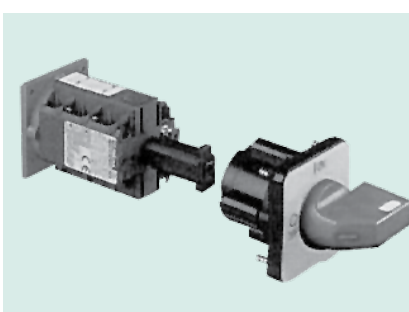


Thermal Rated Current @ 600V	HP					Two Padlock Handle IP55	Price	Three Padlock Handle IP55	Price
	1 phase		3 phase						
	120V	240V	240V	480V	600V				
16A	.5	1.5	3	5	5	A104-016-D*2	\$72.00	A104-016-D*3	\$80.00
25A	1	3	7.5	10	10	ML1-025-D*2	\$86.00	ML1-025-D*3	\$94.00
40A	1.5	3	10	20	20	ML1-040-D*2	\$123.00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

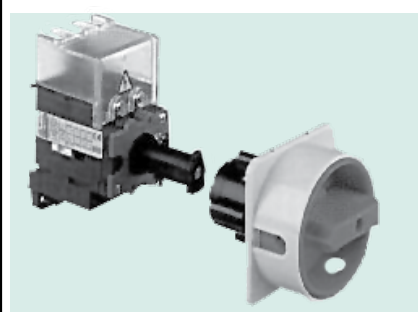
Contact Diagram
3-Pole



Dimension Fig. 5,
pg 110



Dimension Fig. 6,
pg 110



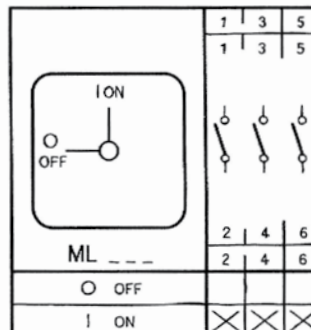
15

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

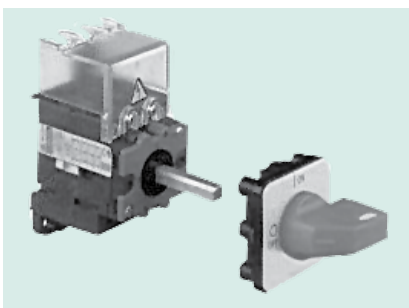


Thermal Rated Current @ 600V	HP					Two Padlock Handle IP55	Price	Three Padlock Handle IP55	Price
	1 phase		3 phase						
	120V	240V	240V	480V	600V				
16A	.5	1.5	3	5	5	A104-016-S*2	\$70.00	A104-016-S*3	\$78.00
25A	1	3	7.5	10	10	ML1-025-S*2	\$86.00	ML1-025-S*3	\$94.00
40A	1.5	3	10	20	20	ML1-040-S*2	\$123.00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

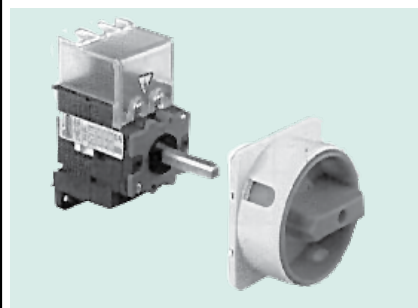
Contact Diagram
3-Pole



Dimension Fig. 7,
pg 111



Dimension Fig. 8,
pg 111



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

Discount Schedule SC-10

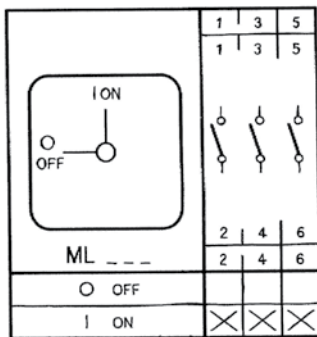
REAR PANEL DISCONNECTS / ENCLOSED DISCONNECTS

Rear Panel Mounting Including Handle Din Rail Mounting "P"

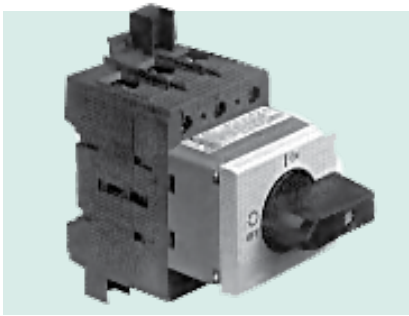


Thermal Rated Current @ 600V	HP					No Padlock Handle IP30	Price	Two Padlock Handle IP30	Price
	1 phase		3 phase						
	120V	240V	240V	480V	600V				
16A	.5	1.5	3	5	5	A104-016-PB4	\$78.00	A104-016-P*2	\$72.00
25A	1	3	7.5	10	10	ML1-025-PB4	\$90.00	ML1-025-P*2	\$82.00
40A	1.5	3	10	20	20	ML1-040-PB4	\$121.00	ML1-040-P*2	\$119.00
63A	3	7.5	15	30	30	ML2-063-PB4	\$146.00	ML2-063-P*2	\$144.00
80A	4	10	20	40	40	ML2-125-PB4	\$216.00	ML2-080-P*2	\$214.00
125A	6	15	25	50	50	ML3-125-PB4	\$256.00	ML3-125-P*2	\$254.00

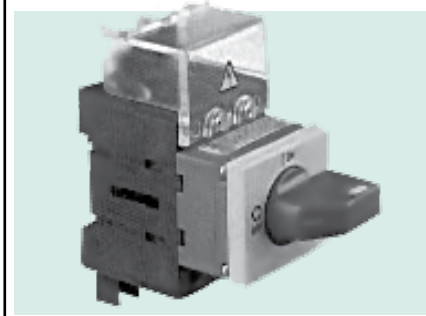
Contact Diagram
3-Pole



Dimension Fig.10,
pg I12



Dimension Fig.11,
pg I12

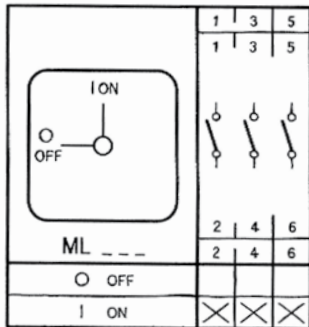


Enclosed Disconnect Switches



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 ¹	\$338.00	I7	IP65	

Contact Diagram
3-Pole



Dimension Fig.12,
pg I12



- Extra poles and auxiliaries available; consult factory.
- * R = Red/Yellow Handle / * B = Black/Silver Handle
- ¹ ML3-125-A*3E comes with a transparent front cover (Enclosure #I7)

Discount Schedule SC-10

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)
ML1	2	0
	2	1
	1	2
	2	2
ML 2 / 3	2	0
	2	1
	1	2
	0	3

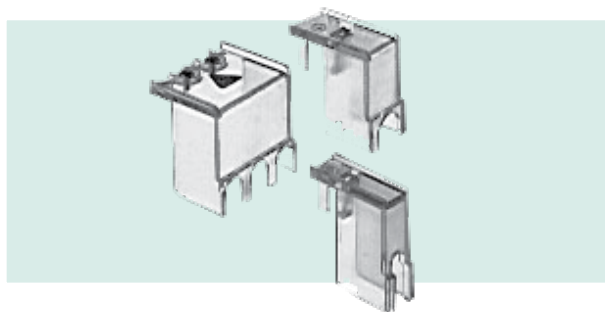
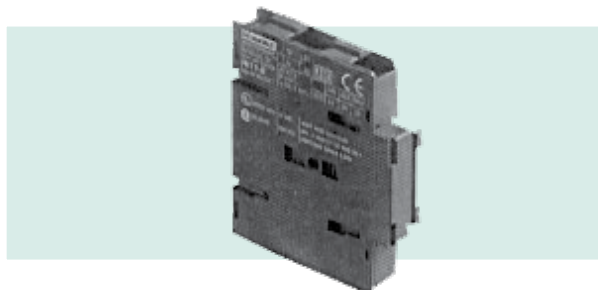
17

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

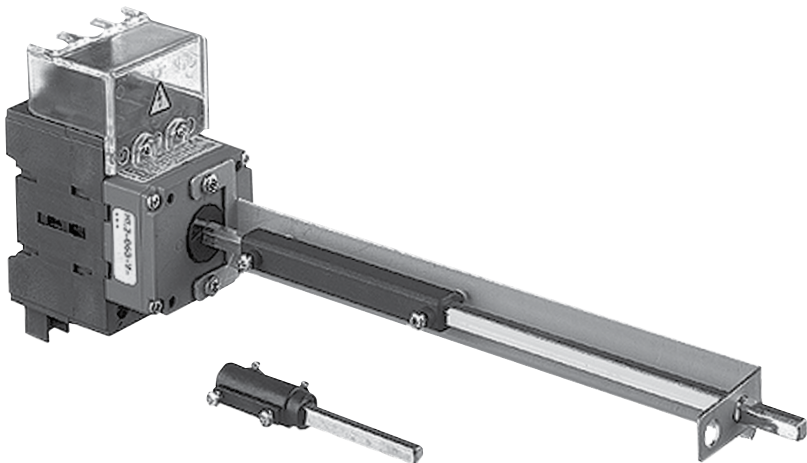
Type	Catalog No.	Price
ML1- 1 Pole	HS1-ML1	\$3.00
ML1- 3 Pole	HS3-ML1	\$7.00
ML2/3 -1 Pole	HS1-ML2/3	\$6.00
ML2- 3 Pole	HS3-ML2	\$9.00
ML3- 3 Pole	HS3-ML3	\$11.00

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

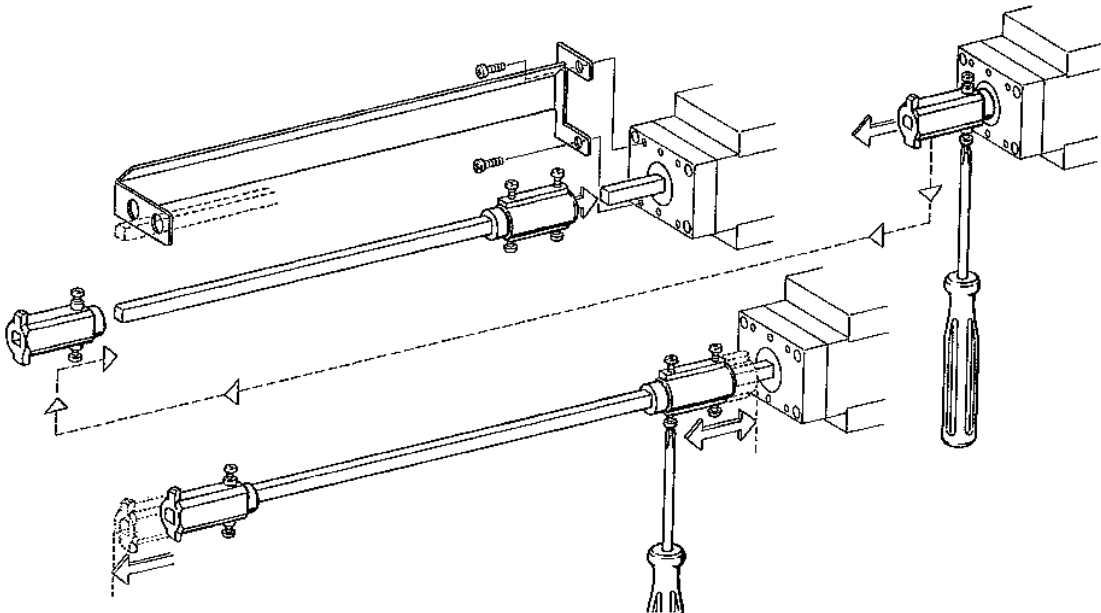
Mounting Depth Required ¹		Shaft Part No. Required	Price
A104 & ML1	ML2 & ML3		
4.13" - 5.31"	4.72" - 5.9"	None - Required	---
6.70" - 8.46"	7.28" - 9.06"	AL-65	\$25.00
10.43" - 13.19"	11.02" - 13.78"	AL-165	\$25.00
14.47" - 17.13"	14.96" - 17.72"	AL-265 ^{1, 2}	\$58.00
13.31" - 21.06"	18.90" - 21.65"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

Notes:

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

² Shaft support ALSS required for AL-265 and AL-365

Shaft Extension Diagram



Discount Schedule SC-10

DIMENSIONS; DISCONNECT SWITCHES

Figure 1

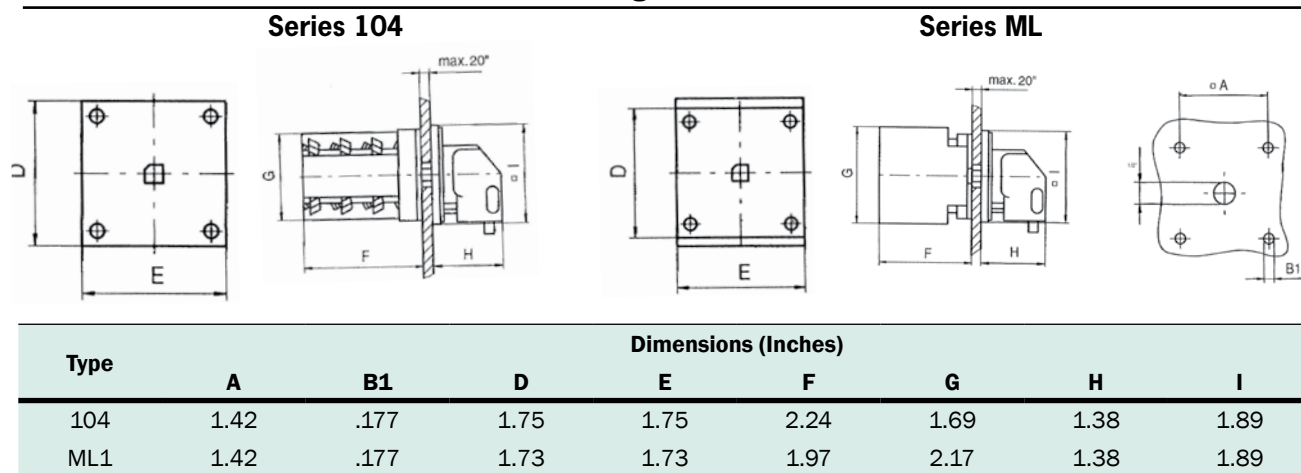


Figure 2

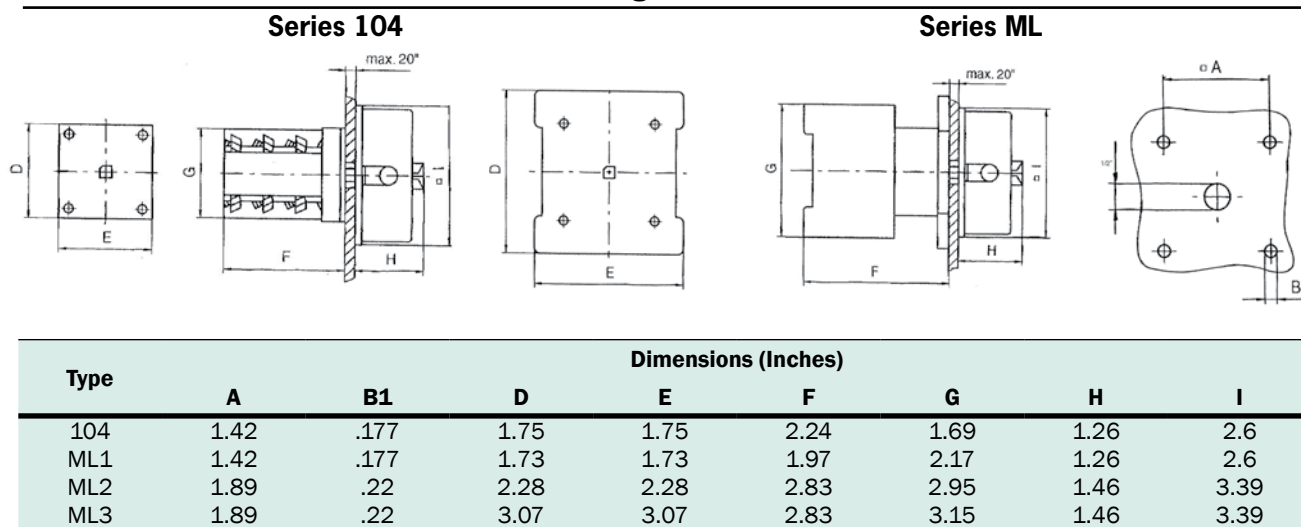
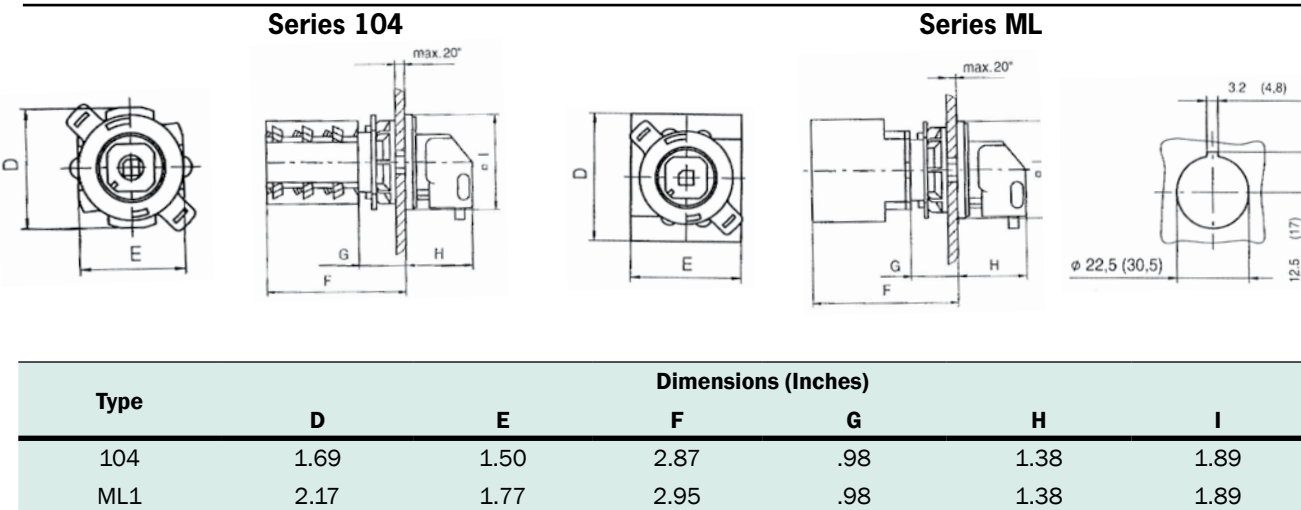


Figure 3



DIMENSIONS; DISCONNECT SWITCHES

Figure 4

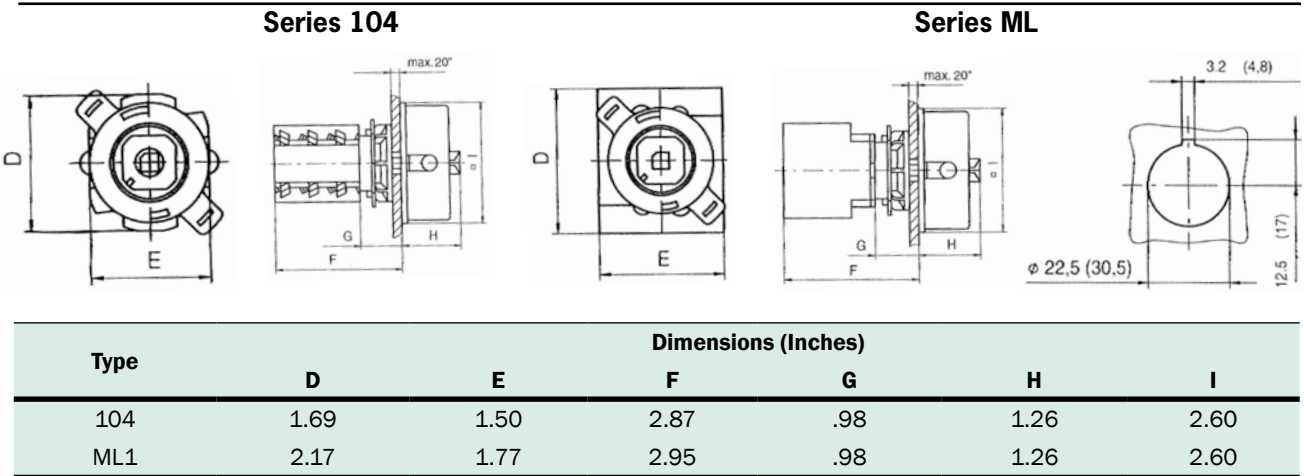


Figure 5

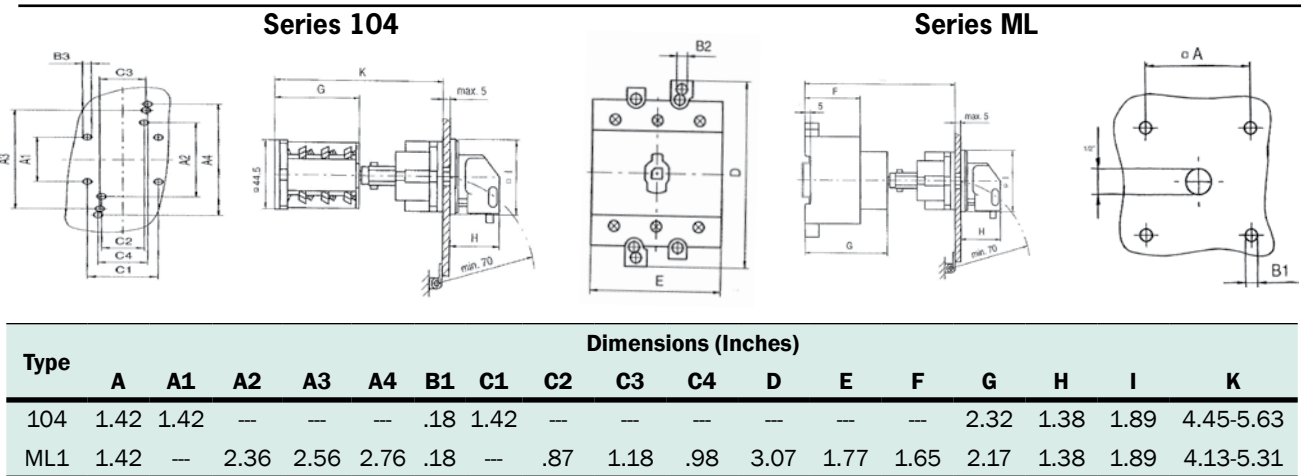
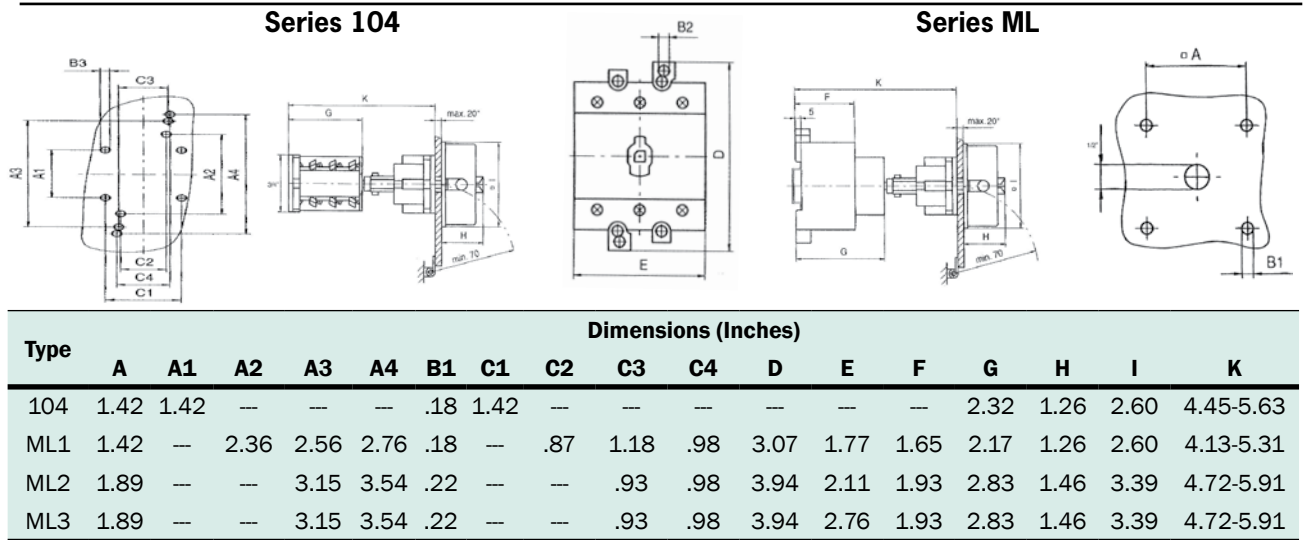
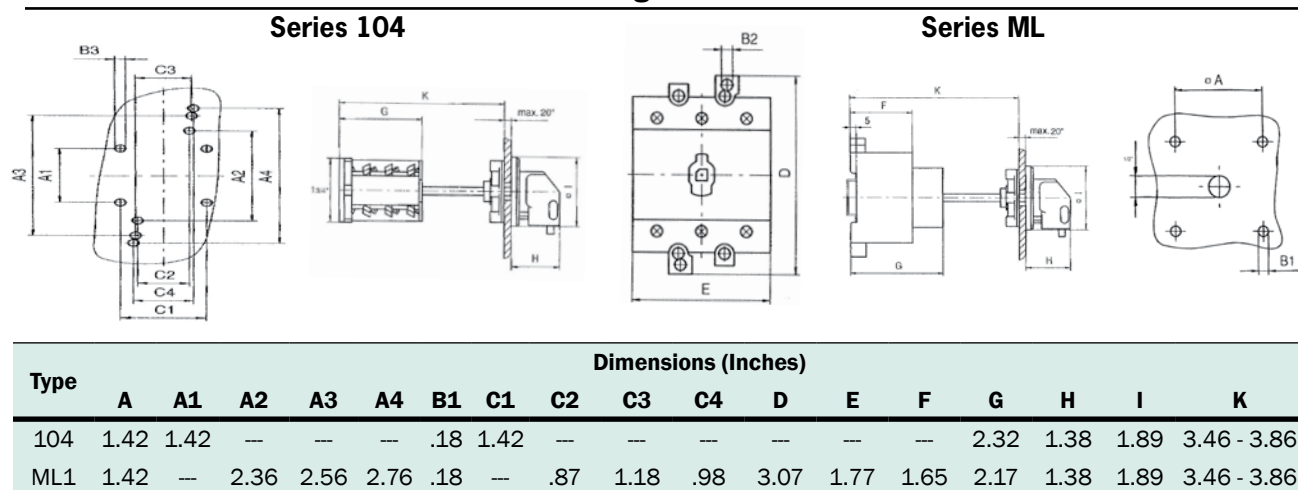
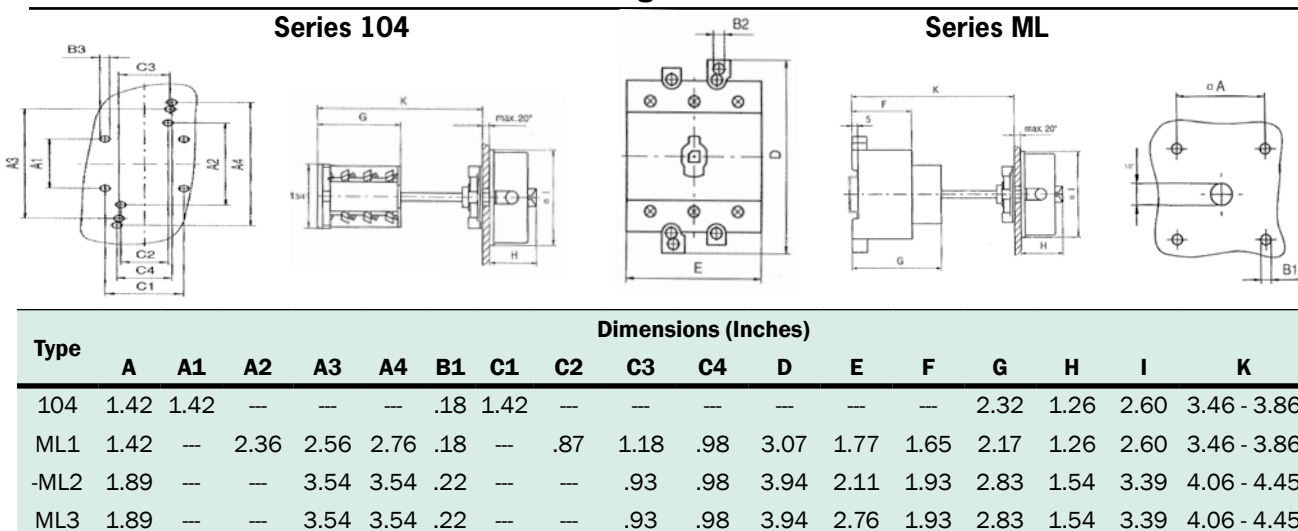
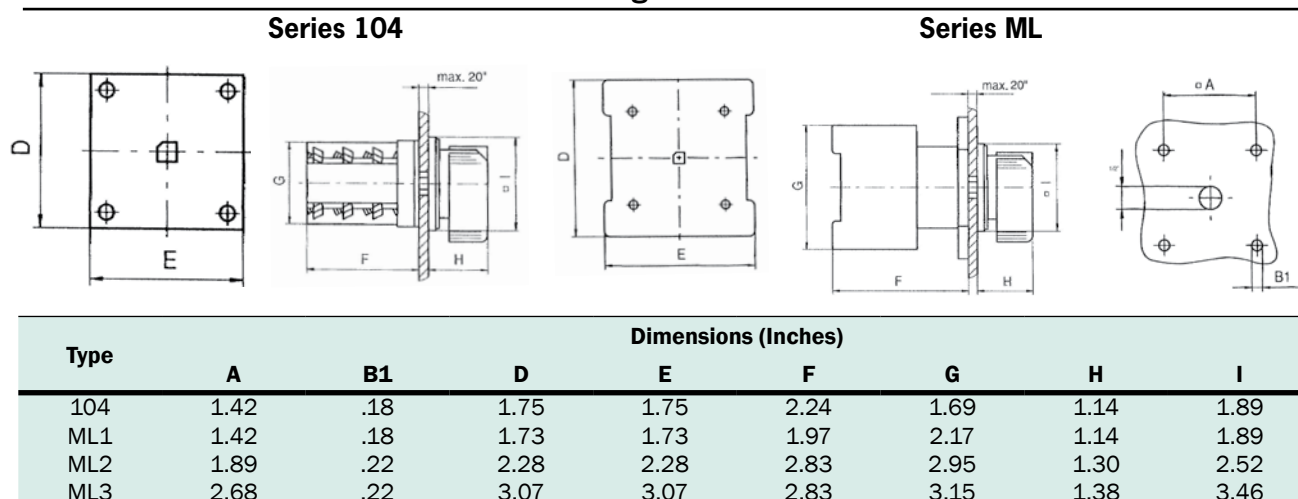


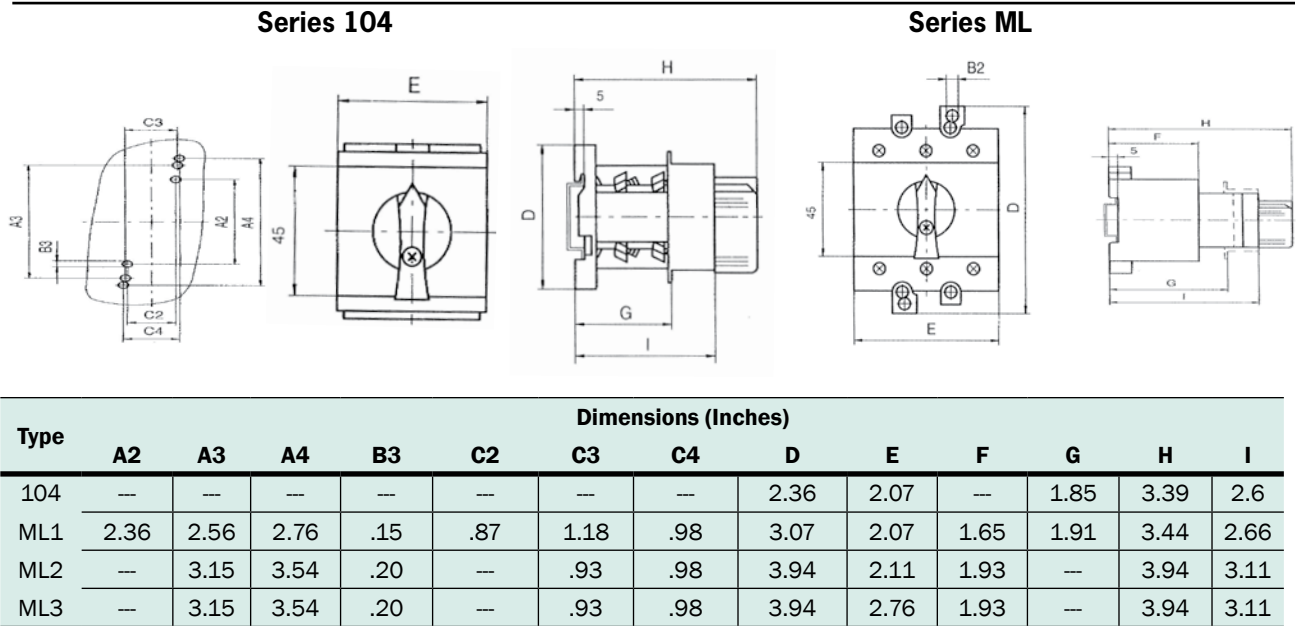
Figure 6



DIMENSIONS; DISCONNECT SWITCHES
Figure 7

Figure 8

Figure 9


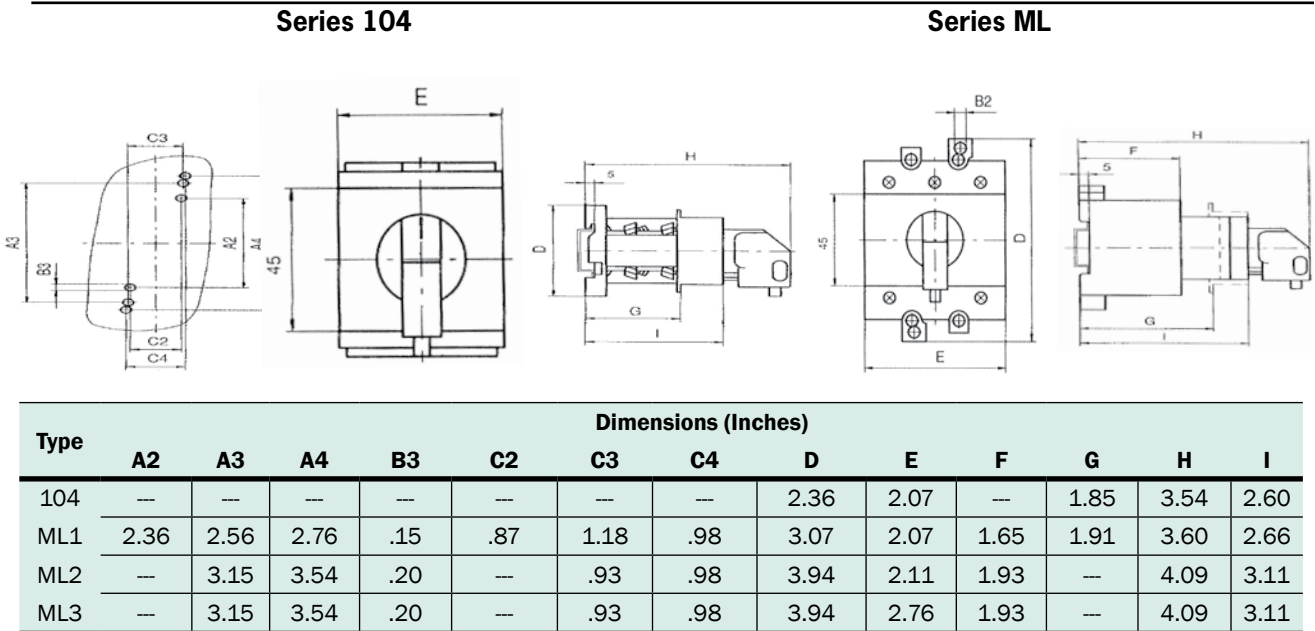
DIMENSIONS; DISCONNECT SWITCHES

Figure 10



12

Figure 11

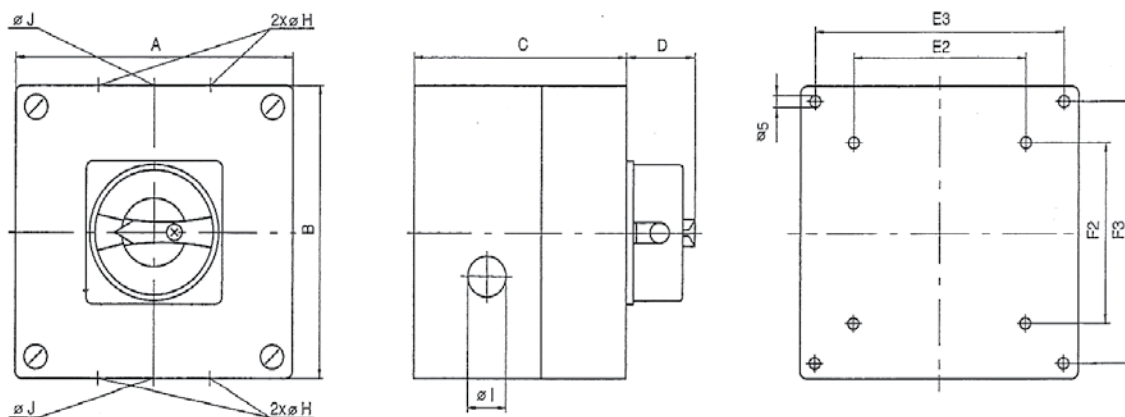


DIMENSIONS; ENCLOSURES

Enclosed Switches



Figure 12



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