

Design Features & Performance

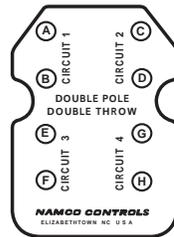
Snap-Lock switches have separate enclosures within a single housing for the electrical contacts and terminals on one side and latches, rockers and other parts of the operating mechanism on the other. The patented snap-lock action guarantees a quick-make and quick-break of contacts together with locking in either open or closed position.

These tough switches are heavy duty, machine tool type with double pole, double throw, butt type contacts.

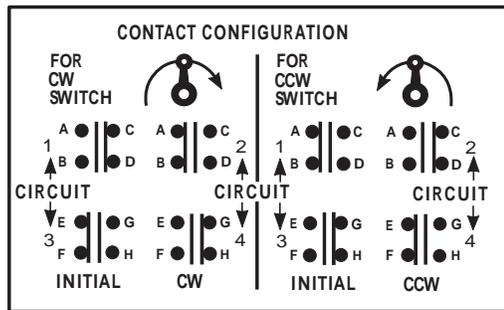
Enclosures are water, oil and dust tight and meet all NEMA Type 1, 4, and 13 requirements.

Provide Separate Enclosures for Mechanical and Electrical Sides

Electrical side



Mechanical Side



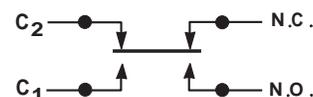
The electrical side, completely separated from the mechanical side, provides ample wiring space and readily accessible terminal screws in the molded contact blocks. The contact lever carries self-wiping silver-alloy contacts and is connected directly by a shaft to the latch bar on the mechanical side. Water, oil and dust-tight enclosures are guaranteed by the use of appropriate gasket materials.

The contacts are positively maintained until the latch is disengaged by the return travel of the lever to reset the switch. The return spring serves to reset the switch automatically to its original position when the force on the operating lever is removed, but with the spring removed the operating lever will remain in either position as actuated.

FORM Z

A Form Z contact arrangement is one which has single-pole double-throw contacts with four terminals, two for normally open and two for normally closed. The function of this arrangement is to open one circuit and close the other as needed.

NEMA Standard 11-12-1970



## Catalog Numbering System

### How to Read Part Numbers

Please order Switch and Operating Lever as SEPARATE ITEMS ONLY and use the Ordering Number listed. Refer to Series EL for Operating Levers.

EXAMPLE: To order a Standard Snap-Lock Switch and the operating lever considered as standard, use the catalog numbers as follows:

- 1 No. EA080-11100 Snap-Lock Switch
- 1 No. EL010-53420 Operating Lever Assembly

### EA170 Series Basic Switch



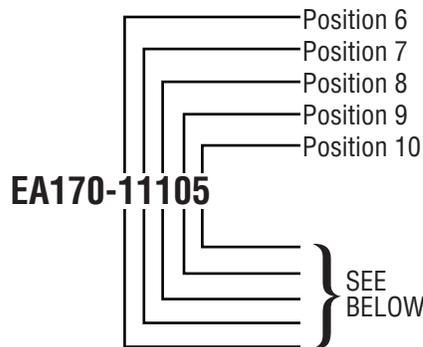
**Series EA170-11100**  
Standard



**Series EA170-14100**  
Short Travel



**Series EA170-41100**  
Reverse Shaft



### Position 6

- 1 Standard Mounting, Front Shaft
- 2 Wide Mounting, Front Shaft
- 3 Long Mounting, Front Shaft
- 4 Standard Mounting, Reverse Shaft
- 5 Wide Mounting, Reverse Shaft
- 6 Long Mounting, Reverse Shaft
- 7 Standard Mounting, Front and Back Shafts
- 8 Wide Mounting, Front and Back Shafts
- 9 Long Mounting, Front and Back Shaft
- 0 Special

### Position 7

- |                              |                               |
|------------------------------|-------------------------------|
| 1 CW, Standard Travel        | 5 CCW Spring and Short Travel |
| 2 CCW, Standard Travel       | 6 w/o Spring – Short Travel   |
| 3 w/o Spring Standard Travel | 7 Neutral Position            |
| 4 CW Spring and Short Travel | 9 Special                     |

### Position 8

- |                       |                                   |
|-----------------------|-----------------------------------|
| 1 Standard            | 4 Tandem                          |
| 2 Epoxy Sealed Switch | 5 Standard Housing, Plastic cover |
| 3 Extreme Environment | 9 Special                         |

### Position 9 & 10

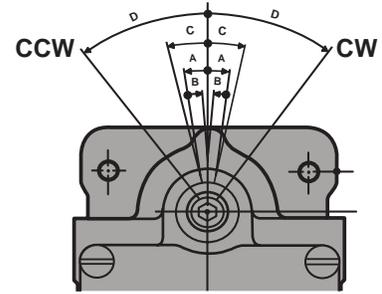
Denotes Product Variation

*Note: The above chart is designed to help identify an existing model number. It is not intended to be used to select a model number.*



Double pole, double break, double throw, heavy duty limit switch having mechanical travel of 10° to trip and with two normally open and two normally closed circuit.

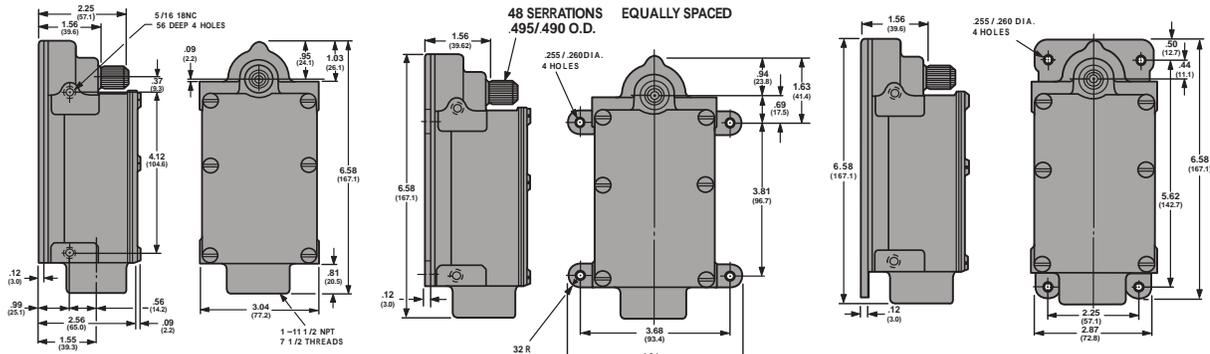
Can be supplied with standard, wide or long mounting.



**Direction of Rotation**

- A. Trip Travel ..... 10°
- B. Reset Travel ..... 8°
- C. Recommended Travel ..... 13°
- D. Total Travel ..... 37°
- E. Torque to Trip (Inch Lbs.) ..... 23°
- F. Weight: Approx. .... 3.5 Lbs.

**Dimensions and Mounting**



**Standard Mounting**

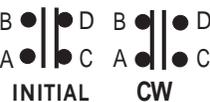
**Wide Mounting**

**Long Mounting**

All dimensions given in US & Metric: Inches (mm)

ORDERING INFO	ORDERING NUMBERS		
TYPE MOUNTING	ROTATION CW	ROTATION CCW	MAINTAINED (WITHOUT RETURN SPRING)
STANDARD MOUNTING	EA170-11100	EA170-12100	EA170-13100
WIDE MOUNTING	EA170-21100	EA170-22100	EA170-23100
LONG MOUNTING	EA170-31100	EA170-32100	EA170-33100

**Contact Configurations**



FOR CW SWITCH

FOR CCW SWITCH

**Specifications**

Heavy Duty, Machine Tool Type, Double Pole, Double Throw, Quick Make, Quick Break, Butt Type, NEMA Form "Z" Contacts.

Continuous Current Rating - Amperes

75-100% Power Factor

Enclosure is Water, Oil and Dust Tight. Meets (NEMA) 1, 4, & 13 Requirements.

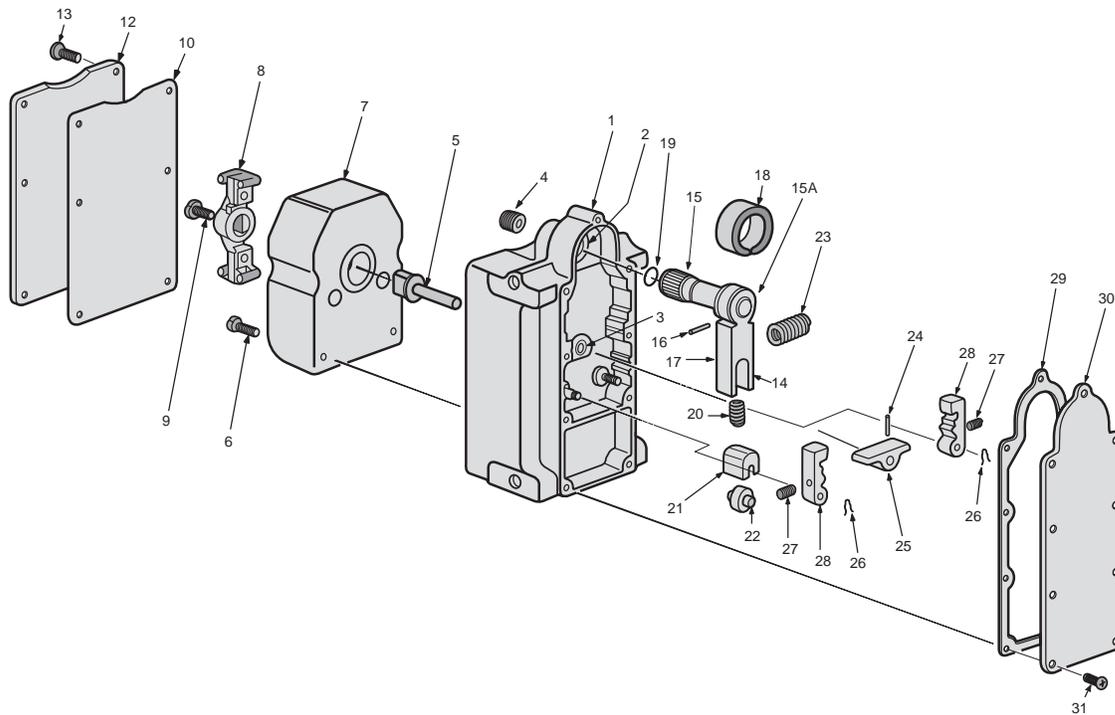
Volts	AC	DC
125	20	5
250	15	1.5
480	10	
600	5	

External Lever is Adjustable by 7°-30° Increments thru 167°

Torque Necessary for Operation of Switch 23 in. lb. (Without Return Spring, Item 23, 10 in. lb.)

Ambient Temperature: -20°C to + 90°C

**Parts List**

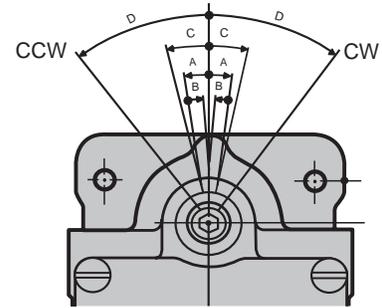


ITEM NO.	DESCRIPTION	QTY.	ITEM NO.	DESCRIPTION	QTY.
1	HOUSING ASSY.	1	17	LEVER (ONLY)	1
2	BUSHING	1	18	TORSION SPRING	1
3	BUSHING	1	19	"O"-RING	1
4	PIPE PLUG	1	20	SPRING	1
5	CONTACT LEVER SHAFT	1	21	ROLLER SLIDE	1
6	CONTACT BLOCK SCREW	4	22	ROLLER	1
7	CONTACT BLOCK ASSEMBLY	1	23	RETURN SPRING	1
8	LEVER	1	24	ROLL PIN	1
9	SEMS SCREW	1	25	ROCKER	1
10	TOP COVER GASKET	1	26	RETAINING CLIP	2
12	TOP COVER	1	27	LATCH SPRING	2
13	TOP COVER SCREW	6	28	LATCH	2
14	LEVER SHAFT ASSY. (INCLUDES ITEMS 15, 15A, 16, 17 & 18)	1	29	BOTTOM COVER GASKET	1
15	SHAFT	1	30	BOTTOM COVER	1
15A	SPRING LEVER	1			
16	ROLL PIN	1	31	BOTTOM COVER SCREW	9



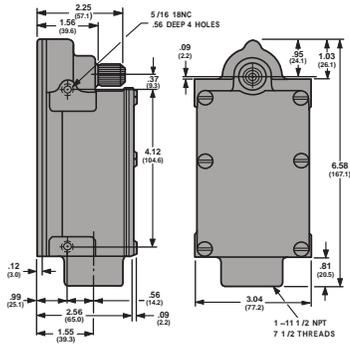
This heavy duty limit switch operates with two normally open and two normally closed circuits, with mechanical travel of less than 6½° required to trip.

Can be supplied with with standard, wide or long mounting as required.

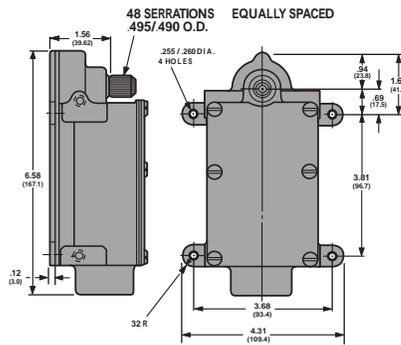


- A. Pre-Travel ..... 6°30"
- B. Differential Travel ..... 4°
- C. Recommended Travel ..... 7°
- D. Total Travel ..... 36°
- E. Max. Torque During Pre-Travel 32 Lb-In
- F. Max. Torque at Total Travel ..... 45 Lb-In
- G. Weight: Approx. .... 3.5 Lbs.

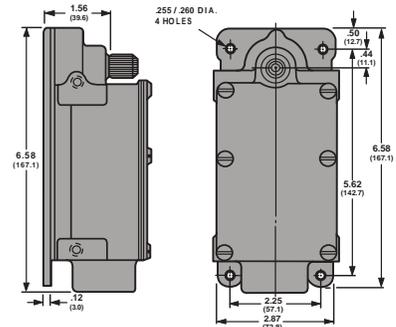
Dimensions and Mounting



Standard Mounting



Wide Mounting

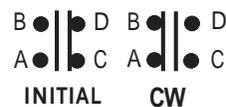


Long Mounting

All dimensions given in US & Metric: Inches (mm)

ORDERING INFO	ORDERING NUMBERS		
TYPE MOUNTING	ROTATION CW	ROTATION CCW	MAINTAINED (WITHOUT RETURN SPRING)
STANDARD MOUNTING	EA170-14100	EA170-15100	EA170-16100
WIDE MOUNTING	EA170-24100	EA170-25100	EA170-26100
LONG MOUNTING	EA170-34100	EA170-35100	EA170-36100

Contact Configurations



FOR CW SWITCH



FOR CCW SWITCH



## Specifications

Heavy Duty, Machine Tool Type, Double Pole, Double Throw, Quick Make, Quick Break, Butt Type, NEMA Form "Z" Contacts.

Enclosure is Water, Oil and Dust Tight. Meets (NEMA) 1, 4, & 13 Requirements.

Torque Necessary for Operation of Switch 32 in. lb. (Without Return Spring, Item 23, 10.5 in lb.)

Ambient Temperature: -20°C to + 90°C

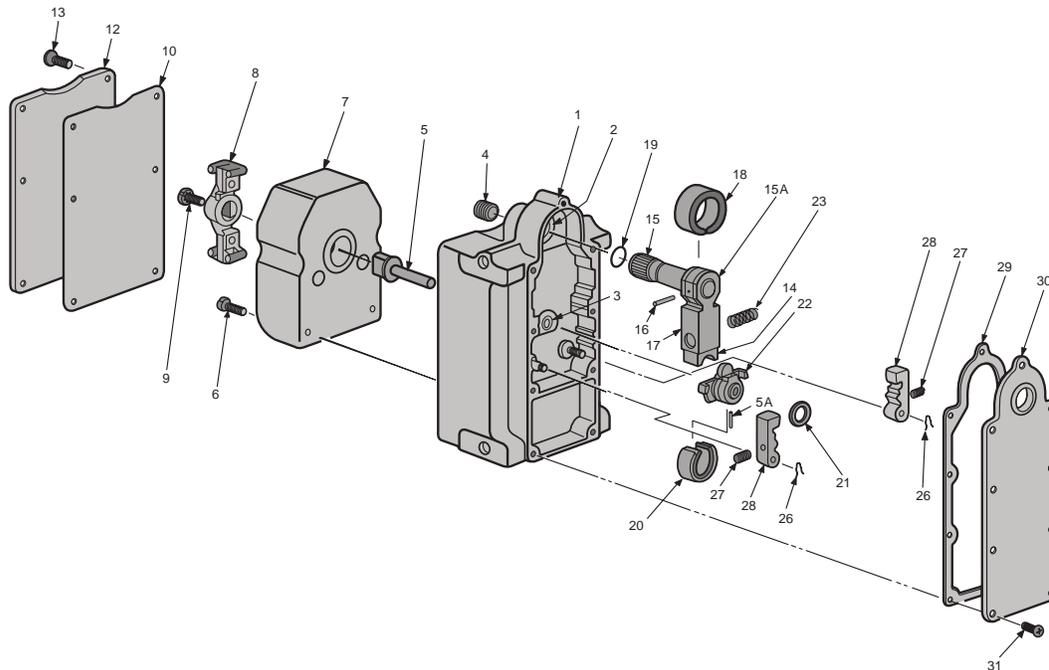
Continuous Current Rating - Amperes

75-100% Power Factor

External Lever is Adjustable by 7°30' Increments thru 167°

Volts	AC	DC
125	20	5
250	15	1.5
480	10	
600	5	

## Parts List

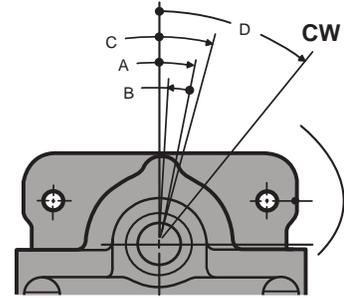


ITEM NO.	DESCRIPTION	QTY.	ITEM NO.	DESCRIPTION	QTY.
1	HOUSING ASSY.	1	16	ROLL PIN	1
2	BUSHING	1	17	LEVER	1
3	BUSHING	1	18	TORSION SPRING	1
4	PIPE PLUG	1	19	"O"-RING	1
5	CONTACT LEVER SHAFT	1	20	TORSION SPRING	1
5A	ROLL PIN	1	21	WASHER	1
6	CONTACT BLOCK SCREW	4	22	ROCKER & FLOATING LEVER ASSEMBLY	1
7	CONTACT BLOCK ASSEMBLY	1	23	RETURN SPRING	1
8	LEVER ASSEMBLY	1	26	REATAINING CLIP	2
9	SEMS SCREW	1	27	LATCH SPRING	2
10	TOP COVER GASKET	1	28	LATCH	2
12	TOP COVER	1	29	BOTTOM COVER GASKET	1
13	TOP COVER SCREW	6	30	BOTTOM COVER	1
14	LEVER SHAFT ASSY.	1			
15	LEVER SHAFT	1			
15A	SPRING LEVER	1	31	BOTTOM COVER SCREW	



Designed for applications where a reverse shaft is essential in operation. This series provides the same snap locking action of the other series of SNAP-LOCK Switches.

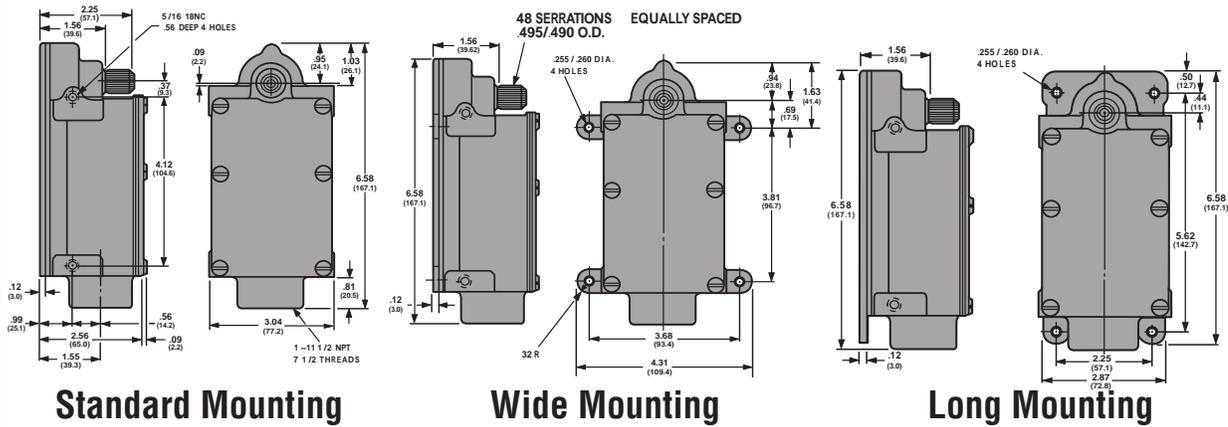
Can be supplied with standard, wide or long mounting.



(CW Operation Shown)  
Viewed From Top Cover  
Direction of Rotation

- A. Trip Travel ..... 10°
- B. Reset Travel ..... 8°
- C. Recommended Travel ..... 13°
- D. Total Travel ..... 37°
- E. Weight:..... Approx. 3.5 Lbs.

Dimensions and Mounting



All dimensions given in US & Metric: Inches (mm)

ORDERING INFO		ORDERING NUMBERS	
TYPE MOUNTING	ROTATION CW	ROTATION CCW	MAINTAINED (WITHOUT RETURN SPRING)
STANDARD MOUNTING	EA170-41100	EA170-42100	EA170-43100
WIDE MOUNTING	EA170-51100	EA170-52100	EA170-53100
LONG MOUNTING	EA170-61100	EA170-62100	EA17063100

Contact Configurations



FOR CW SWITCH



FOR CCW SWITCH



### Specifications

Heavy Duty, Machine Tool Type, Double Pole, Double Throw, Quick Make, Quick Break, Butt Type, NEMA Form "Z" Contacts.

Enclosure is Water, Oil and Dust Tight. Meets (NEMA) 1, 4, & 13 Requirements.

Torque Necessary for Operation of Switch 30 in. lb. (Without Return Spring, Item 23, 10 in lb.)

Ambient Temperature: -20°C to + 90°C

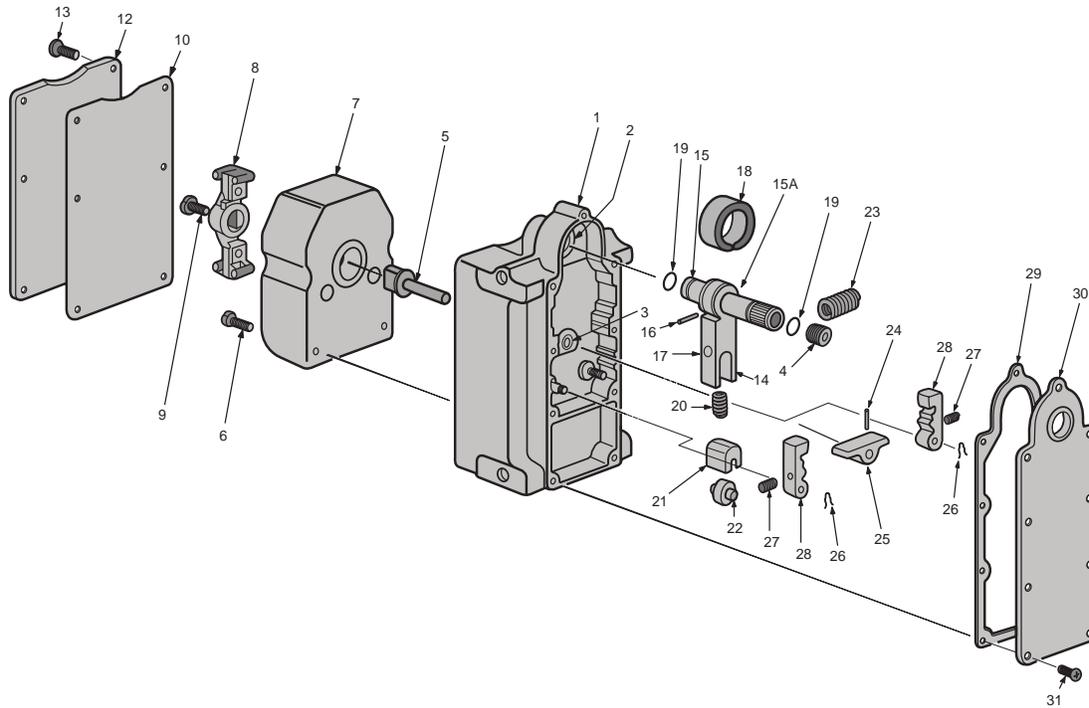
Continuous Current Rating - Amperes

75-100% Power Factor

External Lever is Adjustable by 7°30' Increments thru 360°

Volts	AC	DC
125	20	5
250	15	1.5
480	10	
600	5	

### Parts List



ITEM NO.	DESCRIPTION	QTY.	ITEM NO.	DESCRIPTION	QTY.
1	HOUSING ASSY.	1	17	LEVER (ONLY)	1
2	BUSHING	1	18	TORSION SPRING	1
3	BUSHING	1	19	"O"-RING	1
4	PIPE PLUG	1	20	SPRING	1
5	CONTACT LEVER SHAFT	1	21	ROLLER SLIDE	1
6	CONTACT BLOCK SCREW	4	22	ROLLER	1
7	CONTACT BLOCK ASSEMBLY	1	23	RETURN SPRING	1
8	LEVER	1	24	ROLL PIN	1
9	SEMS SCREW	1	25	ROCKER	1
10	TOP COVER GASKET	1	26	RETAINING CLIP	2
12	TOP COVER	1	27	LATCH SPRING	2
13	TOP COVER SCREW	6	28	LATCH	2
14	LEVER SHAFT ASSY. (INCLUDES ITEMS 15, 15A, 16, 17 & 18)	1	29	BOTTOM COVER GASKET	1
15	SHAFT	1	30	BOTTOM COVER	1
15A	SPRING LEVER	1			
16	ROLL PIN	1	31	BOTTOM COVER SCREW	9