

# 35 & 60 Series - Mercury Displacement Relay

## Up to 3PST, 35 or 60 Amp



E52197



The 35 & 60 series products are mercury displacement relays. Sealed tubes containing liquid mercury assure contact surfaces are freshly replenished with every contact movement. Contact resistance is among the lowest available for any electromechanical relay. The M35 series offers superior long life performance. Products are available with 1, 2, or 3 poles rated 35 amps. Contacts can be normally open or normally closed.

Optional DIN rail adaptors – 1 pole = 16-MDRDIN-1, 2 or 3 pole = 16-MDRDIN-2/3

### GENERAL SPECIFICATIONS (@ 25° C)

<b>Contacts:</b>	<b>35</b>	<b>60</b>
Contact Configuration	Up to 3PST	Up to 3PST
Contact Material	Liquid Mercury	Liquid Mercury
Contact Rating		
120 / 240VAC Resistive	35 Amp	60 Amp
28VDC Resistive	35 Amp	60 Amp
Motor 120VAC 1 Phase	5Hp	5Hp
Motor 240VAC 1 Phase	5Hp	10Hp
Contact Resistance, Initial	50 milliohms max @ 6VDC	50 milliohms max @ 6VDC

<b>Coil:</b>		
Coils Available	AC and DC	AC and DC
Nominal Coil Power	7 to 28VA    3 to 9W	7 to 28VA    3 to 9W
Input Voltage Tolerance - AC	85% to 110% of nominal	85% to 110% of nominal
Input Voltage Tolerance - DC	80% to 110% of nominal	80% to 110% of nominal
Drop-out voltage	10% of nominal	10% of nominal
Duty	Continuous	Continuous

<b>Timing:</b>		
Operate Time (max)	50ms	50ms
Release Time (max)	80ms	80ms

<b>Dielectric Strength:</b>		
Across Open Contacts	2650 VRMS	2650 VRMS
Between Mutually Insulated Points	2650 VRMS	2650 VRMS
Insulation Resistance	1000 megohms @ 500VAC	1000 megohms @ 500VAC

<b>Temperature:</b>		
Operating	-34 to 74°C (-30 to 165°F)	-34 to 74°C (-30 to 165°F)
Storage	-40 to 105°C (-40 to 221°F)	-40 to 105°C (-40 to 221°F)

<b>Life Expectancy:</b>		
Electrical (full load operations)	250,000	250,000
Mechanical (no load operations)	5,000,000	5,000,000

<b>Miscellaneous:</b>		
Mounting Position	Vertical within 10 degrees	Vertical within 10 degrees
Enclosure	Hermetically Sealed	Hermetically Sealed
Weight	Varies	Varies

\*Material safety data sheet available on request

\*Dispose of properly

# Power Relays

30 - 300 Amp

## 35 Series



## 60 Series



# 35 & 60 Series - Mercury Displacement Relay

## Up to 3PST, 35 or 60 Amp

**Ordering Code**    **M35**    **A**    **120VAC**

**Series**

M35 Series = 35 Amp  
M60 Series = 60 Amp

**Contact Arrangement**

A (1 N.O. tube)  
AA (2 N.O. tube)  
AAA (3 N.O. tube)  
B (1 N.C. tube)  
BB (2 N.C. tube)  
BBB (3 N.C. tube)

**Coil Voltage**

AC: 12, 24, 120, 240 (Add VAC)  
DC: 12, 24, 115-125, 250 (Add VDC)

### Contact Ratings for 35 Series

Voltage	Phase		HP		Motor Amp		Resistive Amp	Tungsten
	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø		
120VAC	1Ø	3Ø	3.0*	5.0*	34.0	30.0	35*	35*
240VAC	1Ø	3Ø	5.0*	7.5*	28.0	19.0	35*	17
480VAC	1Ø	3Ø	5.0*	10.0*	14.0	14.0	35*	9
600VAC	1Ø	3Ø	5.0 *	10.0*	11.2	11.0	25**	7
24VDC	DC		0.5		27.0		35*	35*
48VDC	DC		0.5		13.5		35*	35*
125VDC	DC		0.5		5.2		16*	16*
250VDC	DC		0.5		2.6		12*	12*

### Contact Ratings for 60 Series

Voltage	Phase		HP		Motor Amp		Resistive Amp	Tungsten	
	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø		Amp "A" (N.O.)	Amp "B" (N.C.)
120VAC	1Ø	3Ø	3.0*	5.0*	34.0	30.0	60*	60*	45*
240VAC	1Ø	3Ø	5.0*	7.5*	28.0	28.0	60*	30.0	22.5
480VAC	1Ø	3Ø	5.0*	10.0*	21.0	21.0	60*	15.0	11.2
600VAC	1Ø	3Ø	5.0 *	10.0*	16.0	17.0	50**	12.0	9.0
24VDC	DC		0.75		39.0		60*	50.0*	50.0*
48VDC	DC		0.75		19.5		60*	50.0*	50.0*
125VDC	DC		0.75		7.4		40*	40.0*	40.0*
250VDC	DC		0.75		3.7		20*	20.0*	20.0*

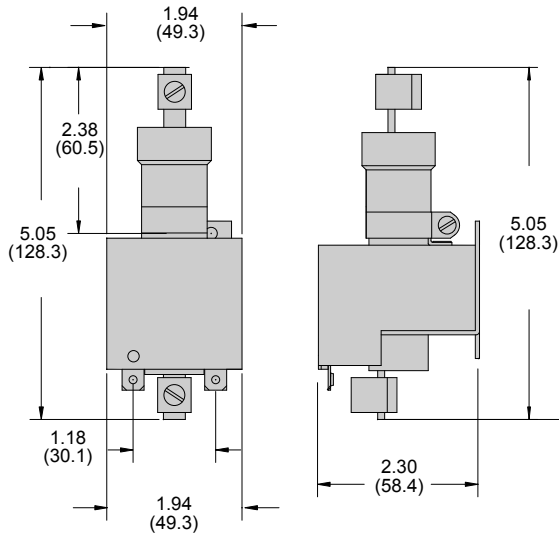
# Power Relays

30 - 300 Amp

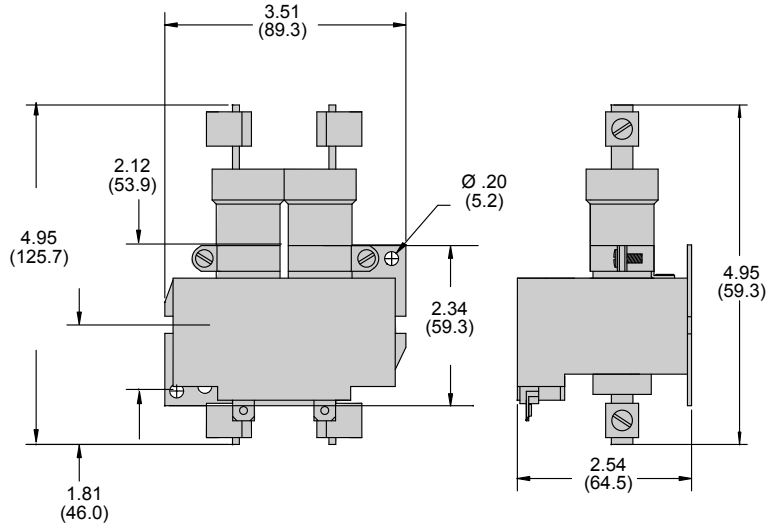
## Outline Dimensions

Dimensions shown in inches & (millimeters)

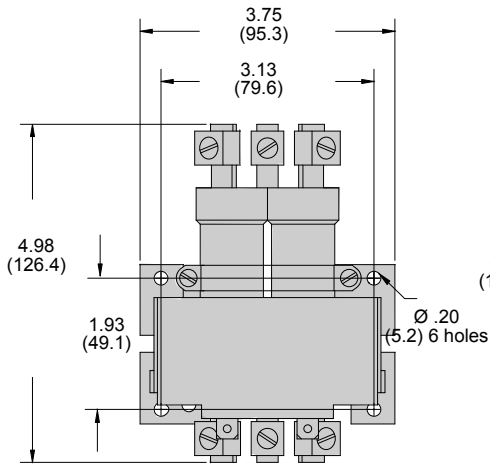
### 1 Pole



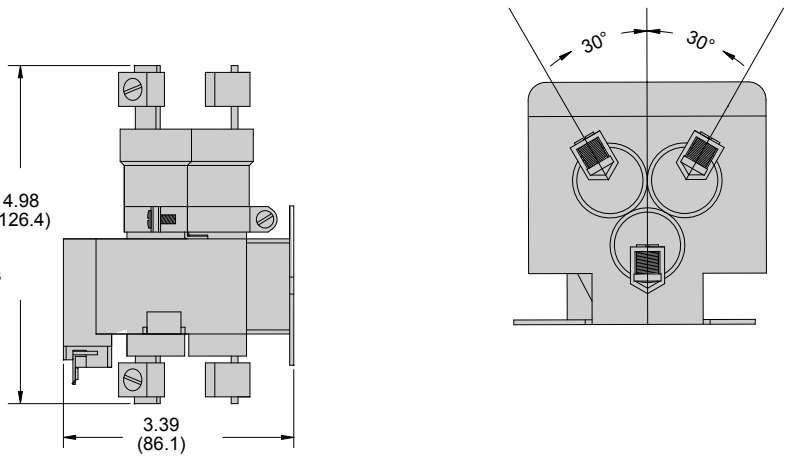
### 2 Pole



### 3 Pole



### 3 Pole Top View



\*Normally closed tubes (B style)  
sit lower in coil assemblies



Recommended  
Mounting Position  $\pm 10^\circ$