

# AC/DC OVERCURRENT CAP SERIES



- ◆ Equivalent to LIRT and DIRT products from Crouzet
- ◆ Monitors for overcurrent conditions
- ◆ Each unit can monitor three current ranges for both AC & DC
- ◆ External CT can be used to extend ranges
- ◆ Adjustable Pick-up & Drop-out Setting
- ◆ Adjustable Sensing Delay on Power-up
- ◆ Non-Latching & Latching modes
- ◆ LED indicates relay status
- ◆ 11 Pin Plug-in socket can be DIN rail-mounted or panel-mounted
- ◆ 10A SPDT output contacts



Better. By Design.

**800.238.7474**

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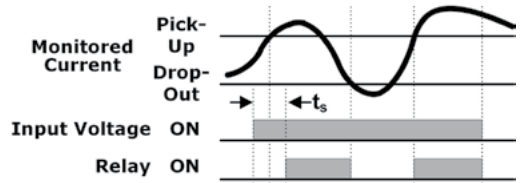
The CAP Series current sensing relay is used to detect an AC or DC overcurrent condition. It has two operating modes: non-latching or latching. Each relay has three top-mounted potentiometers: one for selecting the pick-up setting within the selected monitored current range (“Threshold”), one for selecting the drop-out setting of 5-50% below pick-up setting (“Hysteresis”), and one for setting the start-up sensing delay ( $t_s$ ). This delay, which is adjustable from 0.1 – 10 seconds, inhibits energization of the output relay during the start-up period.

CAP Series relays have three built-in current ranges (see right) to monitor both AC & DC current. Each one is easily selectable by connecting to the corresponding terminal and to the COM terminal (see Wiring Diagram below).

DC	AC
5 – 100mA	3.5 – 70.7mA
0.05 – 1A	0.035 – 0.707A
0.5 – 10A	0.35 – 7.07A

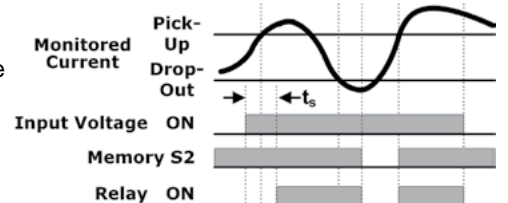
### Non-Latching Mode:

The unit will operate in the non-latching mode if no circuit is completed across pins 9 & 11. After input voltage is applied (LED is Green) and the start-up sensing delay ( $t_s$ ) of 0.1 – 10 seconds is completed, the relay will energize when the monitored current is above the adjustable pick-up setting (“Threshold”). The LED will be Red. It will de-energize when the monitored current goes below the adjustable drop-out setting (“Hysteresis”) by 5-50% of the selected pick-up setting or when input voltage is removed. The LED will be Green.



### Latching Mode:

The unit will operate in the latching mode if a N.C. contact (Memory S2) is connected across pins 9 & 11 (see Wiring Diagram). After input voltage is applied (LED is Green) and the start-up sensing delay ( $t_s$ ) of 0.1 – 10 seconds is completed, the relay will energize when the monitored current is above the adjustable pick-up setting (“Threshold”). The LED will be Red. It will de-energize when the monitored current goes below the adjustable drop-out setting (“Hysteresis”) by 5-50% of the selected pick-up setting and the N.C. contact (Memory S2) is opened, or when input voltage is removed. The LED will be Green. It is recommended to set the Hysteresis at 5% when in the latching mode.



INPUT VOLTAGE	CATALOG NUMBER	WIRING/SOCKET
24V AC	CAP10AD68	11 Pin <b>70170-D</b>  DIAGRAM 221
120V AC	CAP10AD62	

Sockets & Accessories available

# AC/DC OVERCURRENT CAP SERIES

## APPLICATION DATA

**Input Voltage Tolerance:** +10/-15% of nominal at 50/60 Hz.

**Load (Burden):** Less than 5VA

**Current Settings:**

Pick-up (Threshold): Adjustable throughout monitored current range  
Drop-out (Hysteresis): Adjustable from 5-50% below pick-up setting

**Monitored Current Ranges:**

DC	AC
5 – 100mA	3.5 – 70.7mA
0.05 – 1A	0.035 – 0.707A
0.5 – 10A	0.35 – 7.07A

**Response Times:**

Pick-up & Drop-out: Fixed 100ms  
Sensing delay on power-up ( $t_d$ ): 0.1 – 10 seconds

**Output Contacts:**

10A @ 240V AC/30V DC, 1/2HP @ 120/240V AC (N.O.), 1/3HP @ 120/240V AC (N.C.)

**Life:**

Mechanical: 10,000,000 operations  
Full Load: 100,000 operations

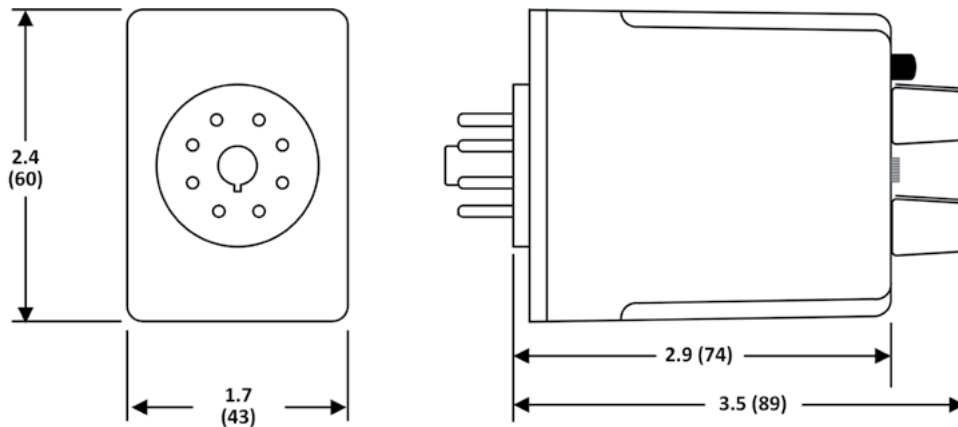
**Temperature:** Operating: -28° to 55° C (-18° to 131° F)  
Storage: -40° to 85° C (-40° to 185° F)

**Indicator LED:** Green when Input Voltage is applied; Red when Relay is energized

**Mounting:** Requires an 11 pin octal socket (Macromatic 70170-D) that can be mounted on 35mm DIN rail or panel-mounted with two screws

**Approvals:**    
File #E109466  
with Appropriate Macromatic Socket

## DIMENSIONS



All Dimensions in  
Inches (Millimeters)

# SOCKETS & ACCESSORIES

## 8 Pin Octal Socket- Surface or DIN Rail-Mounted

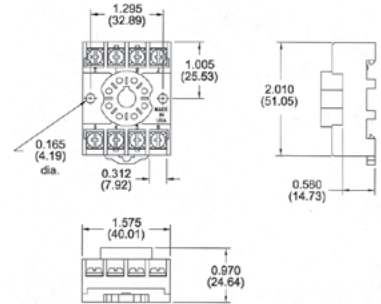
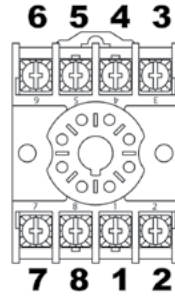
- ◆ 10A @ 600V
- ◆ 1 or 2 #12-20 AWG Wire
- ◆ Pressure Wire Clamp Terminations
- ◆ Recommended Tightening Torque  
12 in-lbs



File #E169693 File #LR701114



Catalog Number:  
70169-D



## 11 Pin Octal Socket Surface or DIN Rail-Mounted

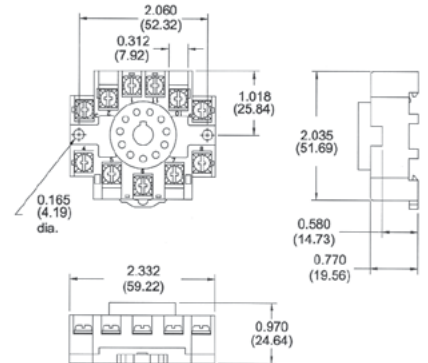
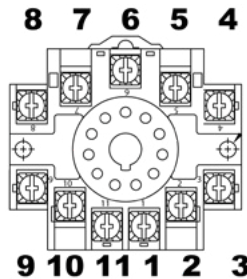
- ◆ 10A @ 300V
- ◆ 1 or 2 #12-20 AWG Wire
- ◆ Pressure Wire Clamp Terminations
- ◆ Recommended Tightening Torque  
12 in-lbs



File #E169693 File #LR701114



Catalog Number:  
70170-D



## Hold Down Spring Catalog Number 70166

Can be used for:

- ◆ Panel-Mounted Sockets
- ◆ Sockets Mounted to 35mm DIN Rail \*

\* Requires two #8, 3/4" length machine screws with washers & nuts--contact Macromatic or [www.macromatic.com/70166](http://www.macromatic.com/70166) for more information.

