

MCPC Series

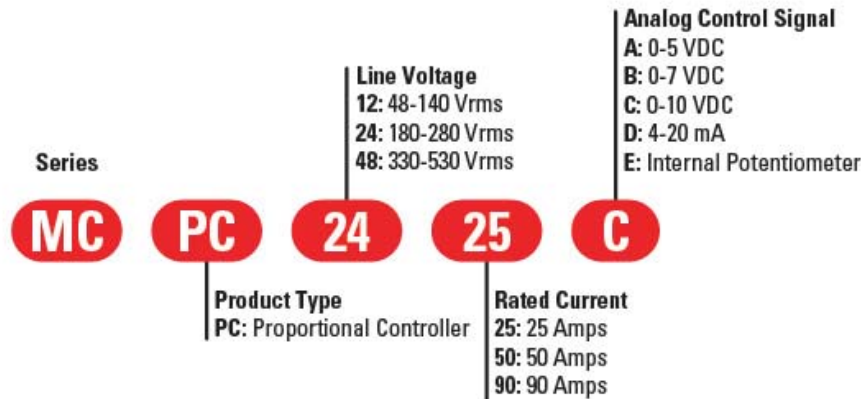


- Microprocessor based phase angle controller / SSR
- Ratings from 25A to 90A @ 48-530 VAC
- Low-voltage, current, or potentiometer control
- Output status indicator
- Separate output enable / disable control
- 0-100% Control Range
- For use with resistive loads only

PRODUCT SELECTION

| Description | 25 A | 50 A | 90 A |
|-------------|----------|----------|----------|
| 40-140 VAC | MCPC1225 | MCPC1250 | MCPC1290 |
| 180-280 VAC | MCPC2425 | MCPC2450 | MCPC2490 |
| 330-530 VAC | MCPC4825 | MCPC4850 | MCPC4890 |

AVAILABLE OPTIONS



OUTPUT SPECIFICATIONS (voltage)

| Description | 120 VAC | 240 VAC | 480 VAC |
|--|---------|---------|---------|
| Operating Voltage (47-63Hz) [Vrms] | 48-140 | 180-280 | 300-530 |
| Transient Overvoltage [Vpk] | 400 | 600 | 1200 |
| Maximum Off-State Leakage Current @ Rated Voltage [mArms] | 5 | 7 | 12 |
| Minimum Off-State dv/dt @ Maximum Rated Voltage [V/μsec] (2) | 200 | 200 | 200 |
| Minimum Power Factor (with Maximum Load) | 0.5 | 0.5 | 0.5 |

OUTPUT SPECIFICATIONS (current)

| Description | 25A | 50A | 90A |
|---|------|------|------|
| Maximum Load Current (3) [Arms] | 25 | 50 | 90 |
| Minimum Load Current [mArms] | 150 | 150 | 150 |
| Maximum Surge Current (16.6ms) [Apk] | 250 | 625 | 1200 |
| Maximum On-State Voltage Drop @ Rated Current [Vpk] | 1.6 | 1.6 | 1.6 |
| Thermal Resistance Junction to Case (Rjc) [°C/W] | 1.02 | 0.63 | 0.28 |
| Maximum I²t for Fusing (8.3 msec) [A²sec] | 260 | 1620 | 6000 |

crydom

Control Relays

Datasheet

INPUT SPECIFICATIONS (1)

| Description | DC Control |
|--|------------|
| Control Voltage Range (VDC) | 8-32 |
| Input Current Range [mA] [P1] | 28-30 |
| Nominal Input Impedance [Ohms] [P3] | 30K |
| Control Must Operate Voltage "On"[VDC][P3] | 5-32 |
| Control Must Release Voltage "Off" [VDC][P3] | 0-4 |
| Control Input Current [mA][P3] | 0-1.25 |
| PLVI Range Option A [VDC][P4] (2) | 0.8-5 |
| PLVI Range Option B [VDC][P4] (2) | 1-7 |
| PLVI Range Option C [VDC][P4] (2) | 2-10 |
| PLVI Range Option D [VDC][P4] (2) | 4-20 |
| Nominal Input Impedance Option A,B,C[ohms][P4] | 20K |
| Nominal Input Impedance Option D [ohms][P4] | 220 |

OUTPUT STATUS FUNCTIONS

| Conditions | LED |
|---|----------------------------|
| Initial Logic Supply On | Flash Once |
| Load Voltage Missing / Load Open (w/control disabled) | Flash Once Intermittently |
| Load Voltage Missing / Load Open (w/control enabled)) | Flash Twice Intermittently |
| Analog Input < Threshold | Off |
| Analog Input < Threshold < max | Varying Brightness |
| Analog Input > max | On, Bright |

GENERAL SPECIFICATIONS

| Description | Parameters |
|--|--|
| Dielectric Strength, Input/Output/Base (50/60Hz) | 4000 Vrms |
| Minimum Insulation Resistance (@ 500 V DC) | 10 ⁹ Ohm |
| Maximum Capacitance, Input/Output | 10 pF |
| Ambient Operating Temperature Range | -20 to 80°C |
| Ambient Storage Temperature Range | -40 to 125 °C |
| Weight (typical) | 3.0 oz (86.5g) |
| Encapsulation | Thermally conductive Epoxy |
| Terminals-Power | Screws and Saddle Clamps Furnished, Unmounted |
| Terminals-Control | Barrier Strip Screw Terminals |
| Recommended Terminal Screw Torque Range: | 8-32 Screws -20 in. lbs.(Screws dry without grase) |

GENERAL NOTES

- 1) Voltages are reference to GND (Ground = 0 VDC) P2
- 2) PLVI voltage can go up to max. supply voltage without damage

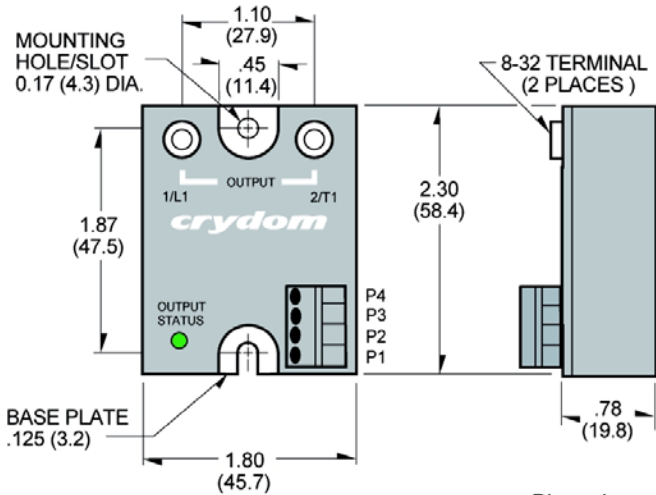


Control Relays

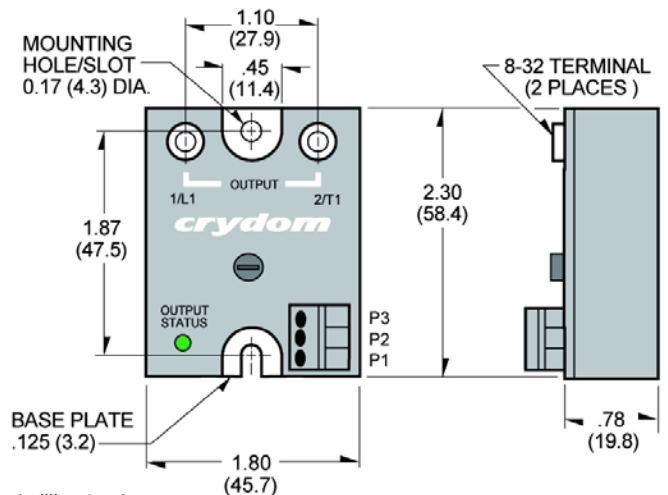
Datasheet

MECHANICAL SPECIFICATIONS

Analog Input OPTIONS: A,B,C,D

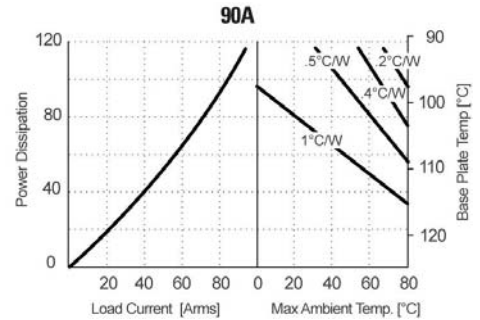
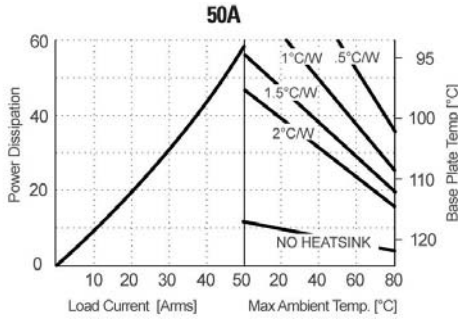
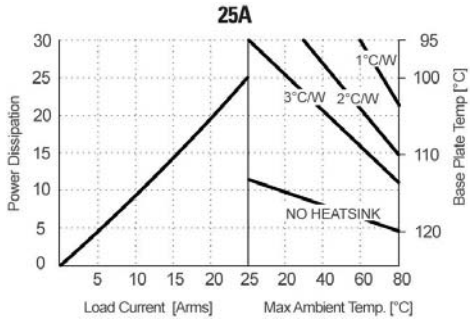


Analog Input Option: E (Internal Potentiometer)



Dimensions are in inches (millimeters)

THERMAL DERATE INFORMATION



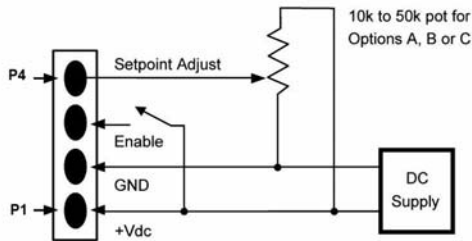


Control Relays

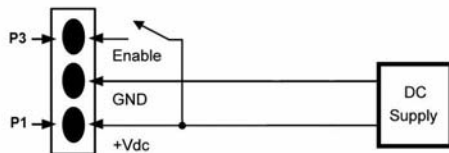
Datasheet

WIRING DIAGRAM

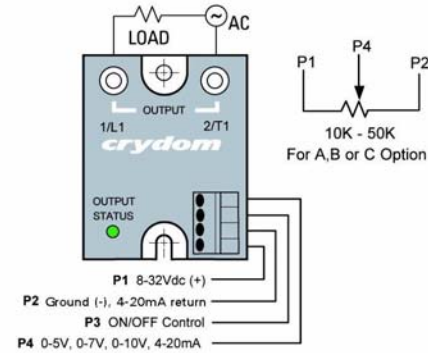
(for Options A, B or C using an external potentiometer)



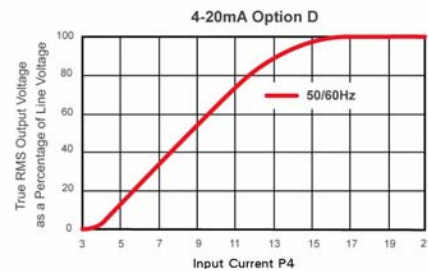
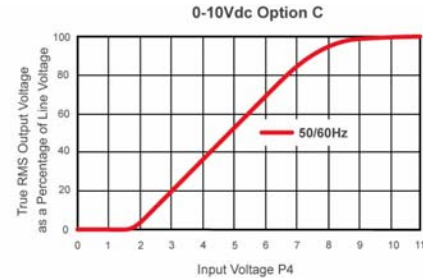
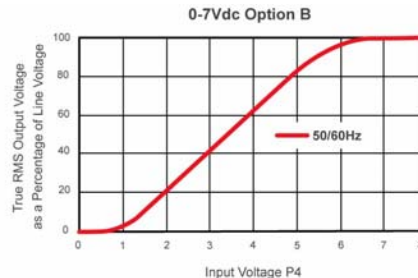
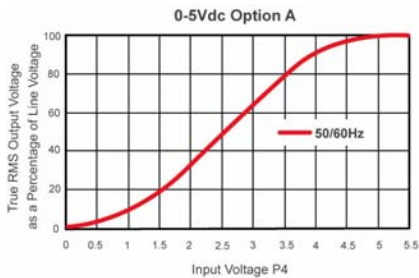
Wiring for Option E



Electrical Connections



OUTPUT VS ANALOG INPUT SIGNAL CURVES



AGENCY APPROVALS



Rev. 112311