

- > Phase Angle Controller/SSR in One Package
- > Low Voltage, Current or Potentiometer Control
- > Output Status Indicator (Load Open, No Voltage)
- > 0-100% Control Range
- > Separate Output Enable/Disable Control
- > SCR Based Output Load Switching
- > Internal Snubber Network



GENERAL SPECIFICATIONS

| | |
|--|---------------------|
| Dielectric Strength 50/60Hz, Input/Output/Base | 4000 Vrms |
| Insulation Resistance (Min.) @ 500 Vdc | 10 ⁹ Ohm |
| Max. Capacitance Input/Output | 10 pF |
| Ambient Operating Temperature Range | -20 to 80°C |
| Ambient Storage Temperature Range | -40 to 125°C |

MECHANICAL SPECIFICATIONS

| | |
|-------------------|---|
| Weight: (typical) | 3.0 oz. (86.5g) |
| Encapsulation | Thermally Conductive Epoxy |
| Terminals - Power | Screws and Saddle Clamps Furnished, Unmounted |
| Control | Barrier Strip Screw Terminals |

OUTPUT SPECIFICATIONS

| | Voltage Suffix | | |
|---|----------------|---------|---------|
| | 12 | 24 | 48 |
| Operating Voltage (47-63 Hz) [Vrms] | 48-140 | 180-280 | 300-530 |
| Transient Overvoltage [Vpk] | 400 | 600 | 1200 |
| Max. Off-State Leakage Current @ Rated Voltage [mA] | 5 | 7 | 12 |
| Power Factor (Min.) with Max. Load | 0.5 | 0.5 | 0.5 |
| Maximum Voltage Drop (100% On) [Vpk] | 1.6 | 1.6 | 1.6 |
| Minimum Off-State dv/dt [V/μsec] | 200 | 200 | 200 |
| | Current Suffix | | |
| | 25 Amp | 50 Amp | 90 Amp |
| Max. Load Current [Arms] | 25 | 50 | 90 |
| Min. Load Current (mArms) | 150 | 150 | 150 |
| Max. Surge Current (16.6ms) [Apk] | 250 | 625 | 1200 |
| Thermal Resistance Junction to Case (R _{θJC}) [°C/W] | 1.02 | 0.63 | 0.28 |
| Maximum I ² t for Fusing, (8.3 msec.) [A ² s] | 260 | 1620 | 6000 |

INPUT SPECIFICATIONS*

| | Minimum | Typical | Maximum |
|---|---------|----------|---------|
| DC Voltage Supply Range [Vdc] [P1] | 8 | 12 or 24 | 32 |
| Input Current [mA] | 28 | | 30 |
| 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 |
| Control Nominal Input Impedance | | 30K | |
| PLVI Range Option A [Vdc][P4]** | 0.8 | | 5 |
| PLVI Range Option B [Vdc][P4]** | 1 | | 7 |
| PLVI Range Option C [Vdc][P4]** | 2 | | 10 |
| PLVI Range Option D [mA][P4] | 4 | | 20 |
| Nominal Input Impedance Option A,B,C [Ohms][P4] | | 20K | |
| Nominal Input Impedance Option D [Ohms][P4] | | 220 | |

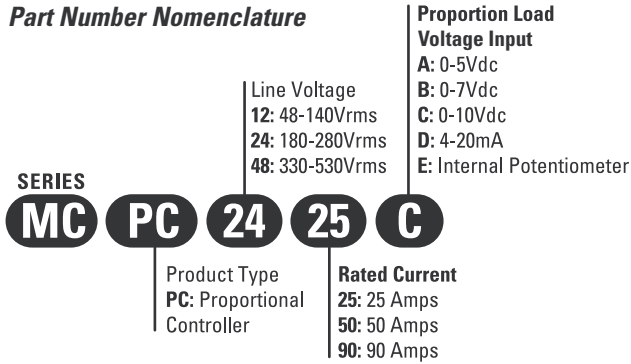
*Voltages are reference to GND (Ground = 0Vdc) P2.

**PLVI voltage can go up to max. supply voltage without damage.

The Crydom MCPC series of Proportional Controllers incorporate a complete phase-fired logic system and Solid State Relay in one small industry standard package. The MCPC uses microprocessor controlled logic, accepts a wide range input logic power supply, provides an output load status indicator, and five modes of analog control input along with an Enable/Disable control.

The MCPC does not require any calibration adjustment, is optically isolated to 4000Vrms, includes an internal snubber network, and is available in load ratings up to 90A and 530Vac. The Crydom MCPC series is particularly suited to applications such as tungsten lamp dimming, vibratory feeders, universal motor control, and resistive heating element control.

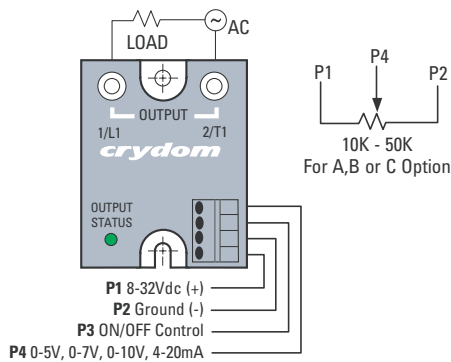
Part Number Nomenclature



Output Status Functions

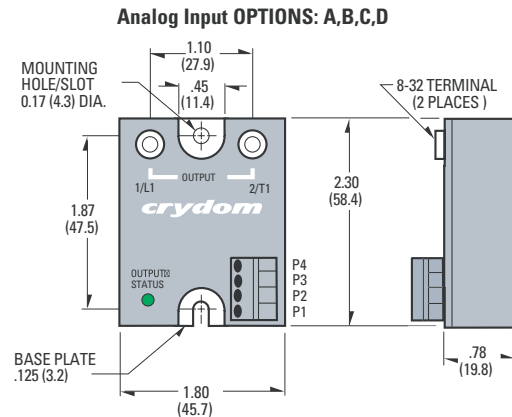
| CONDITIONS | LED |
|---|----------------------------|
| Initial Logic Supply On | Flash Once |
| Load Voltage Missing / Load Open (w/control disabled) | Flash Once Intermittently |
| Load Voltage Missing / Load Open (w/control enabled) | Flash Twice Intermittently |
| Analog Input < Threshold | Off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

Electrical Connections



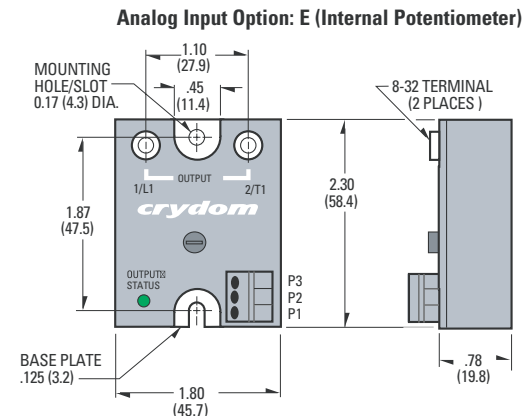
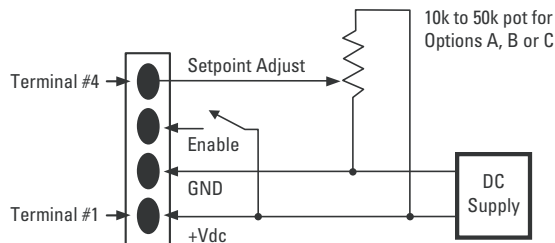
Mechanical

Dimensions are in inches (millimeters)



Wiring Example

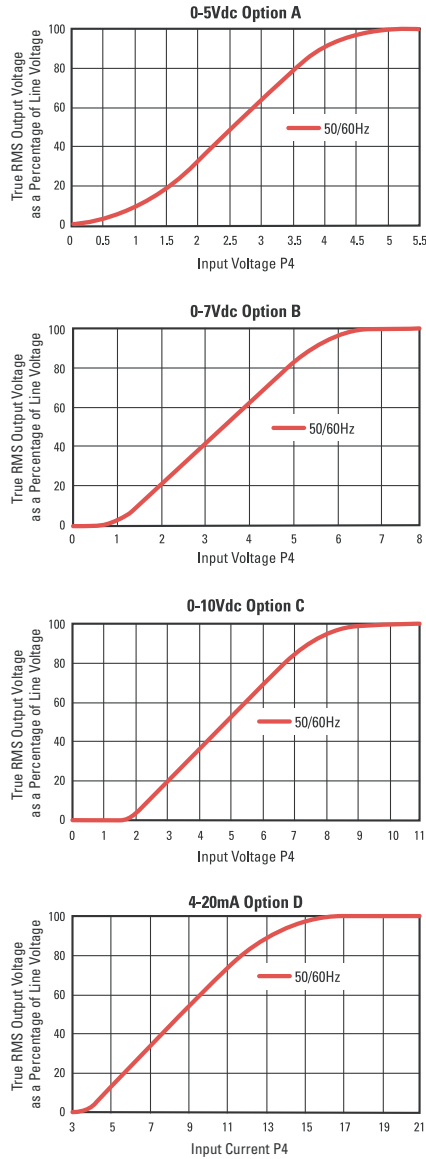
(for Options A, B or C using an external potentiometer)



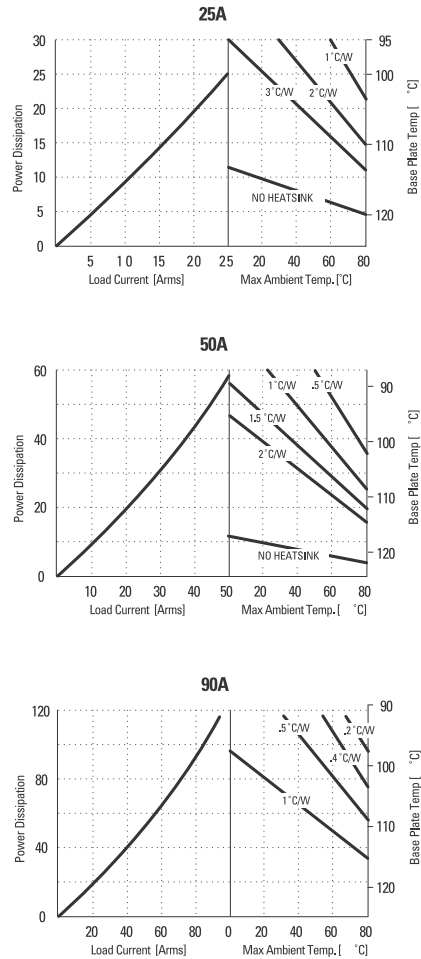
Screw Torque Requirements:

8-32 Screws - 20in. lbs. (Screws dry without grease.)
Input Connections via Screw Type Barrier Strip

Output vs. Analog Input Signal Curves



Current Derating Curves



ISO9001 Certified

Approvals

UL - Pending

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