| MCPC SERIES

CONTROL RELAYS

Features

- Microprocessor based proportional 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

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

SPECIFICATIONS

Output (Voltage)

Description	120 A	240 A	480 A
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

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Output (Current)

Control Voltage	25 A	50 A	90 A
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 I² t for Fusing (8.3 msec) [A²sec]	260	1620	6000

Input [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
PLV Range Option A [VDC][P4] [2]	0.8-5
PLV Range Option B [VDC][P4] [2]	1-7
PLV Range Option C [VDC][P4] [2]	2-10
PLV 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 Intermittenly
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

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Output Status functions

Dielectric Strength, Input/Output/Base (50/60Hz)	4000 VRMS
Minimum Insulation Resistance (@ 500 VDC)	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-Control	Barrier Strip Screw Terminals
Terminals-Power	Screws and Saddle Clamps Furnished, Unmounted
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
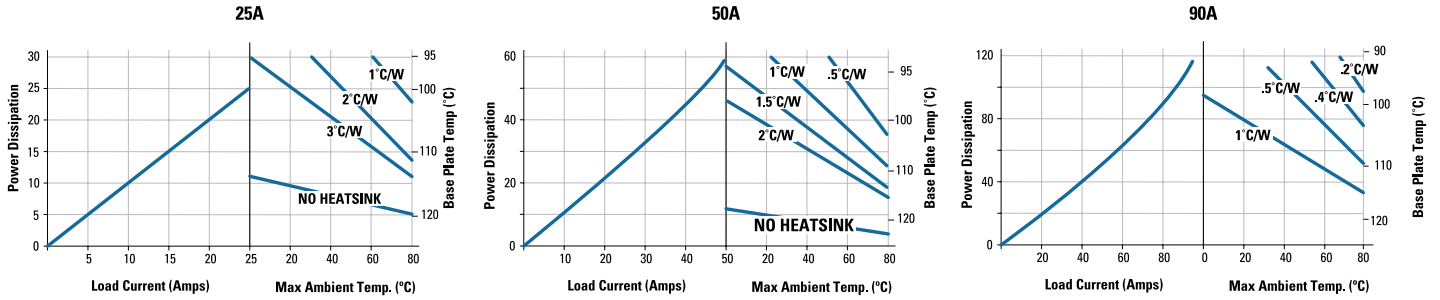[2] PLVI voltage can go up to max. supply voltage without damage
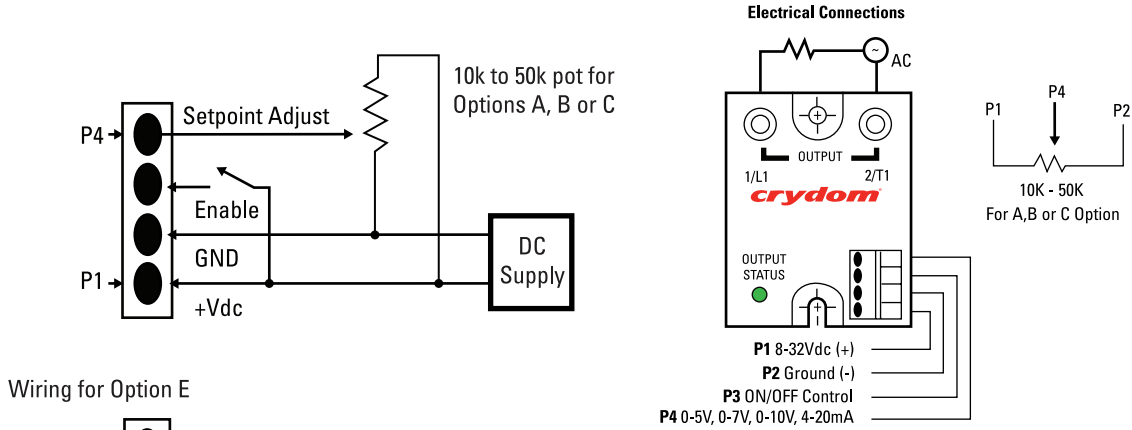
MECHANICAL SPECIFICATIONS
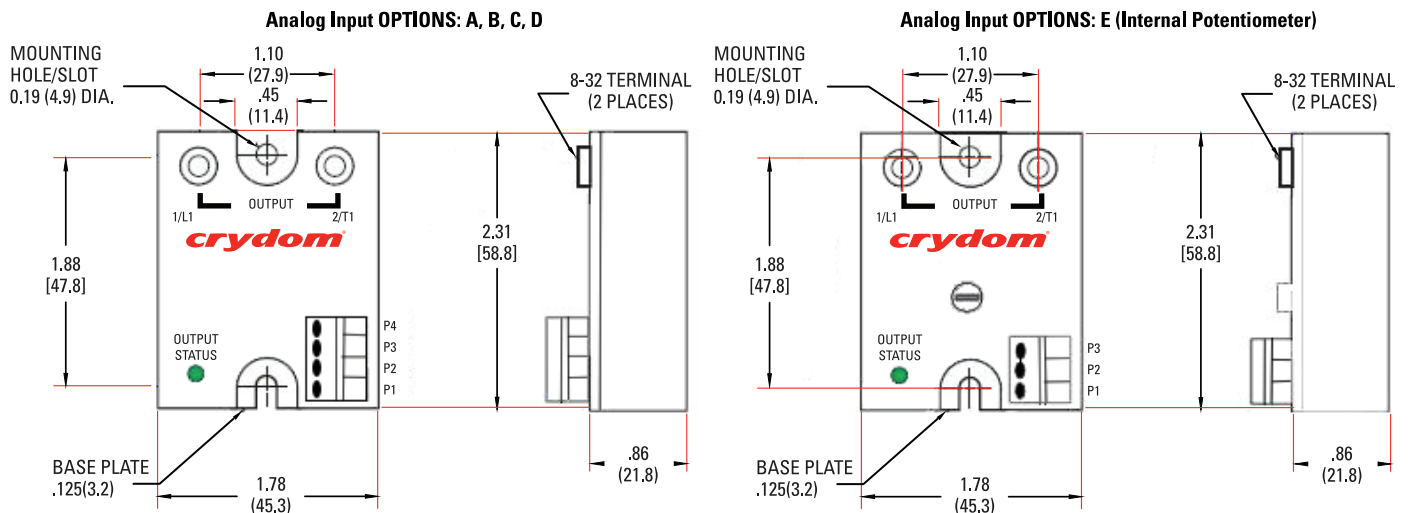
Analog Input OPTIONS: A, B, C, D

Analog Input OPTIONS: E (Internal Potentiometer)

THERMAL DERATE INFORMATION

25A

50A

90A

WIRING DIAGRAMS

10k to 50k pot for Options A, B or C

P4 → Setpoint Adjust

Enable

GND

P1 → +Vdc

DC Supply

Wiring for Option E

Enable

GND

P1 → +Vdc

DC Supply

Electrical Connections

~ AC

OUTPUT

1/L1   2/T1

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OUTPUT STATUS

P1 8-32Vdc (+)
P2 Ground (-)
P3 ON/OFF Control
P4 0-5V, 0-7V, 0-10V, 4-20mA

P1   P4   P2

10K - 50K
For A,B or C Option

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

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MC - **PC** - **24** - **25** - **C**

Family

MC		

Product Type

PC: Proportional Controller		

Line Voltage

12: 48-140 Vrms **24:** 180-280 Vrms **48:** 330-530 Vrms		

Rated Current

25: 25 Amps **50:** 50 Amps **90:** 90 Amps		

Analog Control Signal

A: 0-5 VDC **B:** 0-7 VDC **C:** 0-10 VDC **D:** 4-20 mA **E:** Internal Potentiometer		

— Required for valid part number
☐ For options only and not required for valid part number

AGENCY APPROVALS & CERTIFICATIONS

𝐑𝐔® E116949   RoHS   CE

WARNINGS

DANGER

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE
• The product's side panels may be hot, allow the product to cool before touching
• Follow proper mounting instructions including torque values
• Do not allow liquids or foreign objects to enter this product
Failure to follow these instructions can result in serious injury, or equipment damage.

**Danger
Electric shock risk**

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
• Disconnect all power before installing or working with this equipment
• Verify all connections and replace all covers before turning on power
Failure to follow these instructions will result in death or serious injury.

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1. Title of Datasheet(DS)

Most of DS have a model and a Series. Model should be separeted by a slash (|).

If only model or Series slash should be at the beginning (|)

2. Space between text box

10px separation between textboxes

20px separation when starting new section

Leave space of 10px from last element and page number

3. Section Order

DS Title

Introduction

Features

Application

Product Selection

Specifications

    Output (subsection)

    Input (subsection)

    General (subsection)

    Etc...

Equivalent Circuit block and Wiring Diagrams

Mechanical Specifications

Thermal Derate information

Ordering Option

*General Notes (**see section 7**)

Agency Aprovals & Certifications

Warnings

Footer

If DS have more sections besides mentioned, please add them between Thermal Derate Information and Ordering Options

If DS don't have the subsections mentioned, but do have different types of specifications, please add the name of the specification as a subtitle and not as another section example: Specifications (Name of the section) / Output (Name of the subsection)

4. Introduction

Please remove references to brands from the text. We are no longer including the brand names in the text of datasheets (logos on the bottom are ok).

5. Tables

Please avoid splitting tables, if necesary, just add next part in next page;It will not be necessary to title the table again

We have 2 different types of tables:

- **2 columns tables and one or mutiples rows** when we have just one value information all text must be align to the left. Left column must be Universe 67 bold condensed at 10pt; Right column must be Universe 47 light condensed at 9pt.
- Multiple columns tables and one or multiple rows when we have multiple values information all text must be centered. Left column must be left aligned and font Universe 67 bold condensed at 10pt; Right column must be Universe 47 light condensed at 9pt center align.

6. Ordering Options section

Example Stripe: This part is for the premade example the original DS have. the correct form to order a product

Dashes: This is just an element to separate the number,

Family: Model of the product.Don't change name of this section

Name of remaining sections may vary

7. Notes and General Notes

Every note should represented by a number in red and superscript; All notes should be group together in a section called

"General Notes". This section must be right after the last note added. *if we only have 1 or 2 notes, they can be added just below the part where the number was placed, for example under a table.If 3 or more. Please create a General Notes Section.

8. Agency Approvals & Certifications

Logos depends on original DS.If any question about this section highly recomend contact PM.

9. Warning

Universal warnings are placed in the template, this warnings where approved by the Legal deparment and should be added to every DS without a question. If PM asked for a different warning please request the logo and the necessary text previously approved by Legal.

10. Footer

Please be sure the copyright have the current year and the logo of the brand is added (logos are already organized in the layers)

Last Page footer:

Don't change legal disclamer.

Revision: Date of last update, i.e. Rev:mm/dd/yy. **DO NOT CHANGE**, IT WILL AUTOMATICALLY UPDATE WHEN EXPORTED TO PDF. Please add thefollowing text after the revision date "_**ECN 20395 FDE-07-01 Rev. B**".

The center of revision date must be align to the end of the disclamer.

Please use template page "Master – D" for the last page (see template). If there is no other content on the last page, the legal footer appears at the top.

For more info about the template Layout please send any question to **jacqueline.juarez@sensata.com**

For specific questions about the content please contact the PM or the approvers of the DS.