



# Series CMD24/CMA24

25-125Amp • 240 Vac • AC Output

- Zero Voltage and Random Turn-On Switching
- Panel Mount
- Status Indicating LED
- DC or AC Control
- Integrated Overvoltage Protection by Automatic Self Turn-On (Suffix P)

Featuring state-of-the-art Surface Mount Technology, these SPST-NO relays deliver proven reliability in the most demanding applications. Output consists of an SCR AC switch and is available in zero-cross or random turn-on versions.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS                                                             | CMD2425<br>CMA2425                             | CMD2450<br>CMA2450 | CMD2475<br>CMA2475 | CMD2490<br>CMA2490 | CMD24110<br>CMA24110 | CMD24125<br>CMA24125 |
|---------------------------------------------------------------------------|------------------------------------------------|--------------------|--------------------|--------------------|----------------------|----------------------|
| <b>OUTPUT SPECIFICATIONS</b> <sup>①</sup>                                 |                                                |                    |                    |                    |                      |                      |
| Operating Voltage (47-63 Hz) [Vrms]                                       | 24-280                                         | 24-280             | 24-280             | 24-280             | 24-280               | 24-280               |
| Max. Load Current <sup>③</sup> [Arms]                                     | 25                                             | 50                 | 75                 | 90                 | 110                  | 125                  |
| Min. Load Current, [Arms]                                                 | 0.15                                           | 0.15               | 0.25               | 0.25               | 0.25                 | 0.25                 |
| Transient Overvoltage [Vpk]                                               | 600                                            | 600                | 600                | 600                | 600                  | 600                  |
| Max. Surge Current, (16.6ms) [Apk]                                        | 250                                            | 625                | 1000               | 1200               | 1500                 | 1750                 |
| Max. On-State Voltage Drop @ Rated Current [Vpk]                          | 1.6                                            | 1.6                | 1.6                | 1.6                | 1.6                  | 1.6                  |
| Thermal Resistance Junction to Case ( $R_{\theta JC}$ ) [ $^{\circ}C/W$ ] | 1.02                                           | 0.63               | 0.31               | 0.28               | 0.25                 | 0.22                 |
| Maximum $I^2t$ for Fusing, (8.3 msec.) [ $A^2sec$ ]                       | 260                                            | 1620               | 4150               | 6000               | 9340                 | 12700                |
| Max. Off-State Leakage Current @ Rated Voltage [mArms]                    | 10                                             | 10                 | 10                 | 10                 | 10                   | 10                   |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/ $\mu sec$ ] <sup>②</sup>    | 500                                            | 500                | 500                | 500                | 500                  | 500                  |
| Max. Turn-On Time <sup>④</sup>                                            | 1/2 Cycle (DC Control), 10.0 msec (AC Control) |                    |                    |                    |                      |                      |
| Max. Turn-Off Time                                                        | 1/2 Cycle (DC Control), 40.0 msec (AC Control) |                    |                    |                    |                      |                      |
| Power Factor (Min.) with Max. Load                                        | 0.5                                            | 0.5                | 0.5                | 0.5                | 0.5                  | 0.5                  |

| INPUT SPECIFICATIONS  | DC CONTROL          | AC CONTROL      |
|-----------------------|---------------------|-----------------|
| Control Voltage Range | 3-32 Vdc            | 90-140 Vrms     |
| Max. Reverse Voltage  | 32 Vdc              | —               |
| Max. Turn-On Voltage  | 3.0 Vdc             | 90 Vrms         |
| Min. Turn-Off Voltage | 1.0 Vdc             | 10 Vrms         |
| Max. Input Current    | 30.0mA <sup>⑤</sup> | —               |
| Typical Input Current | 17mA @ 5 Vdc        | 15mA @ 120 Vrms |

## GENERAL NOTES

- <sup>①</sup> All parameters at 25°C unless otherwise specified.  
<sup>②</sup> Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1  
<sup>③</sup> HEAT SINKING REQUIRED, for derating curves see page 2.  
<sup>④</sup> Turn-on time for DC control random turn-on versions is 0.02msec.  
<sup>⑤</sup> Input circuitry incorporates active current limiter.

## GENERAL SPECIFICATIONS

|                                               |                     |
|-----------------------------------------------|---------------------|
| Dielectric Strength 50/60Hz Input/Output/Base | 4000 Vrms           |
| Insulation Resistance (Min.) @ 500 Vdc        | 10 <sup>9</sup> Ohm |
| Max. Capacitance Input/Output                 | 8 pF                |
| Ambient Operating Temperature Range           | -40 to 80°C         |
| Ambient Storage Temperature Range             | -40 to 125°C        |
| Status Indicating Display                     | Green LED           |

## MECHANICAL SPECIFICATIONS

|                                                                                     |                            |
|-------------------------------------------------------------------------------------|----------------------------|
| Weight: (typical)                                                                   | 3.0 oz. (86.5g)            |
| Encapsulation:                                                                      | Thermally Conductive Epoxy |
| Terminals:                                                                          | Cage Type                  |
| Maximum Wire Size- Output: AWG 8 (3.8mm) Input: AWG12 (2.5mm)                       |                            |
| Max. Terminal Screw Torque: Output: 8.9 in lb (1.0 Nm)<br>Input: 5.3 in lb (0.6 Nm) |                            |

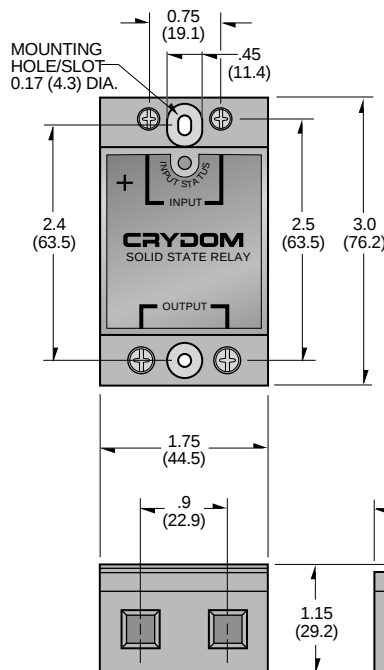
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# Series CMD24/CMA24

25-125Amp • 240 Vac • AC Output



## MECHANICAL SPECIFICATIONS

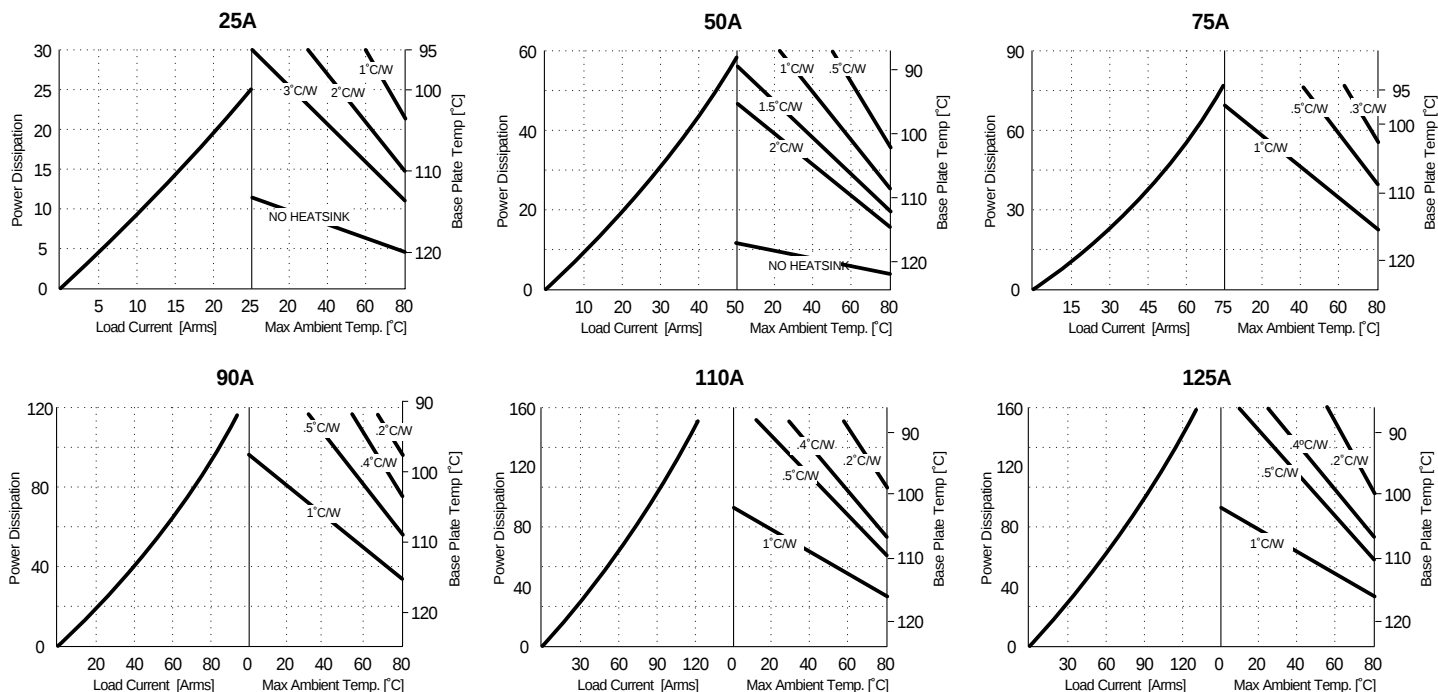
All dimensions are in inches (millimeters)

**CMRD24/CMRA24** available with factory mounted heat sink and DIN rail mounting clip. Specifications available via FastFax, request document No. 171.

## AVAILABLE OPTIONS

- 10** Random Turn-On, Phase Controllable  
Example: **CMD2450-10**
- E** 24 Vac Input (18-36 Vac)  
Example: **CMA2450E**
- P** Internal Overvoltage Protection  
Relay Will Self Trigger Between 450-600 Vpk. Not Suitable For Capacitive Loads  
Example: **CMD2450P**

## CURRENT DERATING CURVES



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## APPROVALS

UL E116949  
CSA LR81689  
VDE 126921 UG

FastFax Document No. 170  
SERIES CMD/CMA.  
Rev. 012102  
PAGE 2 OF 6

For recommended applications and more information contact:

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**GERMANY:** +49 (0)180 3000 506



**CRYDOM***Control over power*

# Series CMD48/CMA48

25-125Amp • 480 Vac • AC Output

- Zero Voltage and Random Turn-On Switching
- Panel Mount
- Status Indicating LED
- DC or AC Control
- Integrated Overvoltage Protection by Automatic Self Turn-On (Suffix P)

Featuring state-of-the-art Surface Mount Technology, these SPST-NO relays deliver proven reliability in the most demanding applications. Output consists of an SCR AC switch and is available in zero-cross or random turn-on versions.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS                                                             | CMD4825<br>CMA4825                             | CMD4850<br>CMA4850 | CMD4875<br>CMA4875 | CMD4890<br>CMA4890 | CMD48110<br>CMA48110 | CMD48125<br>CMA48125 |
|---------------------------------------------------------------------------|------------------------------------------------|--------------------|--------------------|--------------------|----------------------|----------------------|
| <b>OUTPUT SPECIFICATIONS ①</b>                                            |                                                |                    |                    |                    |                      |                      |
| Operating Voltage (47-63 Hz) [Vrms]                                       | 48-530                                         | 48-530             | 48-530             | 48-530             | 48-530               | 48-530               |
| Max. Load Current ③ [Arms]                                                | 25                                             | 50                 | 75                 | 90                 | 110                  | 125                  |
| Min. Load Current, [Arms]                                                 | 0.15                                           | 0.15               | 0.25               | 0.25               | 0.25                 | 0.25                 |
| Transient Overvoltage [Vpk]                                               | 1200                                           | 1200               | 1200               | 1200               | 1200                 | 1200                 |
| Max. Surge Current, (16.6ms) [Apk]                                        | 250                                            | 625                | 1000               | 1200               | 1500                 | 1750                 |
| Max. On-State Voltage Drop @ Rated Current [Vpk]                          | 1.7                                            | 1.7                | 1.7                | 1.7                | 1.7                  | 1.7                  |
| Thermal Resistance Junction to Case ( $R_{\theta JC}$ ) [ $^{\circ}$ C/W] | 1.02                                           | 0.63               | 0.31               | 0.28               | 0.25                 | 0.22                 |
| Maximum $I^2 t$ for Fusing, (8.3 msec.) [ $A^2 sec$ ]                     | 260                                            | 1620               | 4150               | 6000               | 9340                 | 12700                |
| Max. Off-State Leakage Current @ Rated Voltage [mArms]                    | 10                                             | 10                 | 10                 | 10                 | 10                   | 10                   |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/ $\mu$ sec] ②                | 500                                            | 500                | 500                | 500                | 500                  | 500                  |
| Max. Turn-On Time ④                                                       | 1/2 Cycle (DC Control), 10.0 msec (AC Control) |                    |                    |                    |                      |                      |
| Max. Turn-Off Time                                                        | 1/2 Cycle (DC Control), 40.0 msec (AC Control) |                    |                    |                    |                      |                      |
| Power Factor (Min.) with Max. Load                                        | 0.5                                            | 0.5                | 0.5                | 0.5                | 0.5                  | 0.5                  |

| INPUT SPECIFICATIONS ① | DC CONTROL   | AC CONTROL      |
|------------------------|--------------|-----------------|
| Control Voltage Range  | 4-32 Vdc     | 90-140 Vrms     |
| Max. Reverse Voltage   | 32 Vdc       | —               |
| Max. Turn-On Voltage   | 4.0 Vdc      | 90 Vrms         |
| Min. Turn-Off Voltage  | 1.0 Vdc      | 10 Vrms         |
| Max. Input Current     | 30.0mA ⑤     | —               |
| Typical Input Current  | 14mA @ 5 Vdc | 15mA @ 120 Vrms |

## GENERAL NOTES

- ① All parameters at 25° C unless otherwise specified.  
 ② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1  
 ③ HEAT SINKING REQUIRED, for derating curves see page 2.  
 ④ Turn-on time for DC control random turn-on versions is 0.02msec.  
 ⑤ Input circuitry incorporates active current limiter.

## GENERAL SPECIFICATIONS

|                                               |                     |
|-----------------------------------------------|---------------------|
| Dielectric Strength 50/60Hz Input/Output/Base | 4000 Vrms           |
| Insulation Resistance (Min.) @ 500 Vdc        | 10 <sup>9</sup> Ohm |
| Max. Capacitance Input/Output                 | 8 pF                |
| Ambient Operating Temperature Range           | -40 to 80°C         |
| Ambient Storage Temperature Range             | -40 to 125°C        |
| Status Indicating Display                     | Green LED           |

## MECHANICAL SPECIFICATIONS

|                                                                                     |                            |
|-------------------------------------------------------------------------------------|----------------------------|
| Weight: (typical)                                                                   | 3.0 oz. (86.5g)            |
| Encapsulation:                                                                      | Thermally Conductive Epoxy |
| Terminals:                                                                          | Cage Type                  |
| Maximum Wire Size- Output: AWG 8 (3.8mm) Input: AWG12 (2.5mm)                       |                            |
| Max. Terminal Screw Torque: Output: 8.9 in lb (1.0 Nm)<br>Input: 5.3 in lb (0.6 Nm) |                            |

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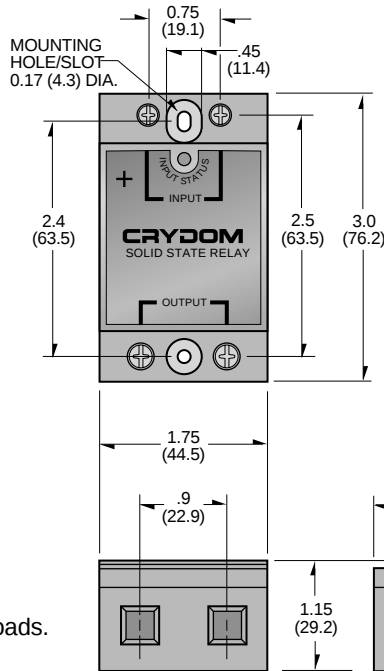
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**GERMANY:** +49 (0)180 3000 506





# Series CMD48/CMA48

25-125Amp • 480 Vac • AC Output



## MECHANICAL SPECIFICATIONS

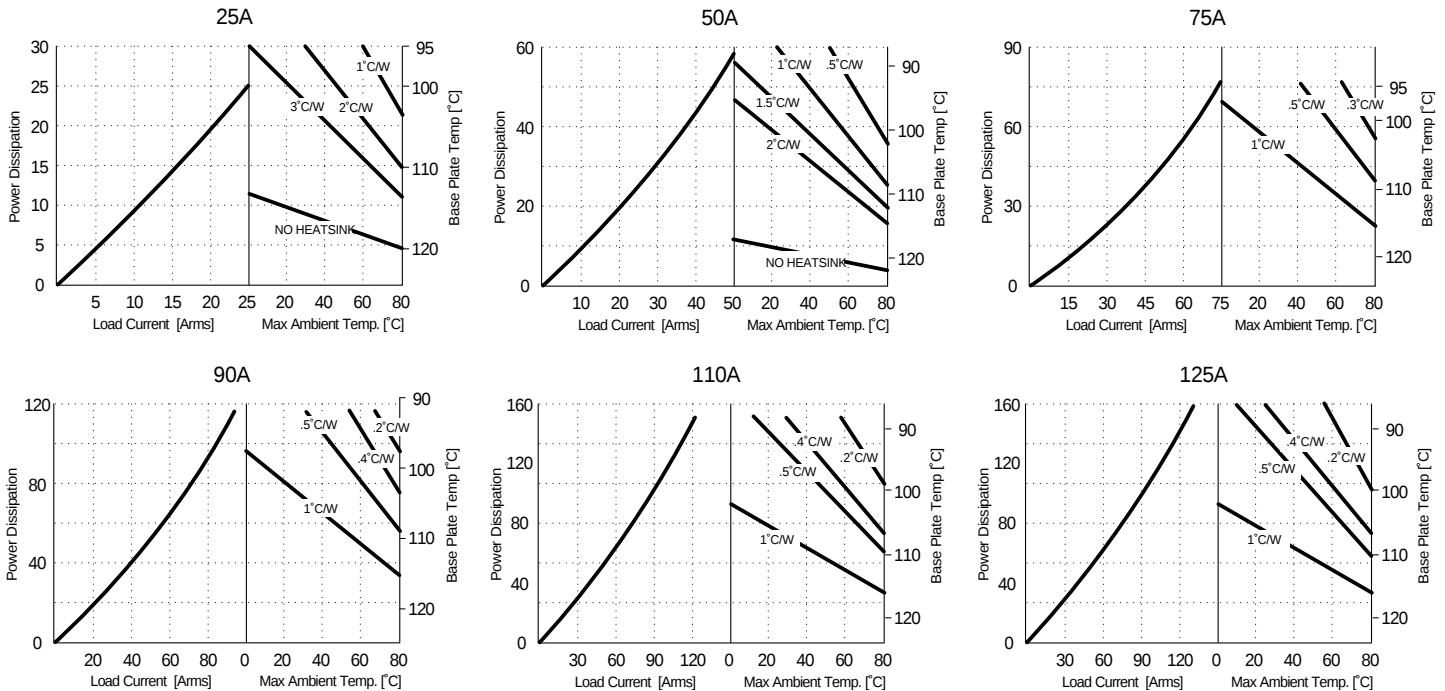
All dimensions are in inches (millimeters)

**CMRD48/CMRA48** available with factory mounted heat sink and DIN rail mounting clip. Specifications available via FastFax, request document No. 171.

## AVAILABLE OPTIONS

- 10** Random Turn-On, Phase Controllable  
Example: **CMD4850-10**
- E** 24 Vac Input (18-36 Vac)  
Example: **CMA4850E**
- P** Internal Overvoltage Protection.  
Relay Will Self Trigger Between 900-1200Vpk. Not suitable For Capacitive Loads.  
Example: **CMD4850P**

## CURRENT DERATING CURVES



## APPROVALS

UL E116949  
CSA LR81689  
VDE 126921 UG



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**GERMANY:** +49 (0)180 3000 506





# Series CMD60/CMA60

25-125Amp • 600 Vac • AC Output

- Zero Voltage and Random Turn-On Switching
- Panel Mount
- Status Indicating LED
- DC or AC Control
- Integrated Overvoltage Protection by Automatic Self Turn-On (Suffix P)

Featuring state-of-the-art Surface Mount Technology, these SPST-NO relays deliver proven reliability in the most demanding applications. Output consists of an SCR AC switch and is available in zero-cross or random turn-on versions.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS<br>OUTPUT SPECIFICATIONS ①                       | CMD6025<br>CMA6025                             | CMD6050<br>CMA6050 | CMD6075<br>CMA6075 | CMD6090<br>CMA6090 | CMD60110<br>CMA60110 | CMD60125<br>CMA60125 |
|----------------------------------------------------------------|------------------------------------------------|--------------------|--------------------|--------------------|----------------------|----------------------|
| Nominal Line Voltage ( ±10%) [Vrms]                            | 600                                            | 600                | 600                | 600                | 600                  | 600                  |
| Operating Voltage (47-63 Hz) [Vrms]                            | 48-660                                         | 48-660             | 48-660             | 48-660             | 48-660               | 48-660               |
| Max. Load Current ③ [Arms]                                     | 25                                             | 50                 | 75                 | 90                 | 110                  | 125                  |
| Min. Load Current, [Arms]                                      | 0.15                                           | 0.15               | 0.25               | 0.25               | 0.25                 | 0.25                 |
| Transient Overvoltage [Vpk]                                    | 1200                                           | 1200               | 1200               | 1200               | 1200                 | 1200                 |
| Max. Surge Current, (16.6ms) [Apk]                             | 250                                            | 625                | 1000               | 1200               | 1500                 | 1750                 |
| Max. On-State Voltage Drop @ Rated Current [Vpk]               | 1.7                                            | 1.7                | 1.7                | 1.7                | 1.7                  | 1.7                  |
| Thermal Resistance Junction to Case ( $R_{\theta JC}$ ) [°C/W] | 1.02                                           | 0.63               | 0.31               | 0.28               | 0.25                 | 0.22                 |
| Maximum $I^2 t$ for Fusing, (8.3 msec.) [A <sup>2</sup> sec]   | 260                                            | 1620               | 4150               | 6000               | 9340                 | 12700                |
| Max. Off-State Leakage Current @ Rated Voltage [mArms]         | 1.0                                            | 1.0                | 1.0                | 1.0                | 1.0                  | 1.0                  |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/ $\mu$ sec] ②     | 500                                            | 500                | 500                | 500                | 500                  | 500                  |
| Max. Turn-On Time ④                                            | 1/2 Cycle (DC Control), 10.0 msec (AC Control) |                    |                    |                    |                      |                      |
| Max. Turn-Off Time                                             | 1/2 Cycle (DC Control), 40.0 msec (AC Control) |                    |                    |                    |                      |                      |
| Power Factor (Min.) with Max. Load                             | 0.5                                            | 0.5                | 0.5                | 0.5                | 0.5                  | 0.5                  |

| INPUT SPECIFICATIONS ① | DC CONTROL   | AC CONTROL      |
|------------------------|--------------|-----------------|
| Control Voltage Range  | 4-32 Vdc     | 90-140 Vrms     |
| Max. Reverse Voltage   | 32 Vdc       | —               |
| Max. Turn-On Voltage   | 4.0 Vdc      | 90 Vrms         |
| Min. Turn-Off Voltage  | 1.0 Vdc      | 10 Vrms         |
| Max. Input Current     | 30.0mA ⑤     | —               |
| Typical Input Current  | 14mA @ 5 Vdc | 15mA @ 120 Vrms |

## GENERAL NOTES

- ① All parameters at 25°C unless otherwise specified.  
② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1  
③ HEAT SINKING REQUIRED, for derating curves see page 2.  
④ Turn-on time for DC control random turn-on versions is 0.02msec.  
⑤ Input circuitry incorporates active current limiter.

## GENERAL SPECIFICATIONS

|                                               |                     |
|-----------------------------------------------|---------------------|
| Dielectric Strength 50/60Hz Input/Output/Base | 4000 Vrms           |
| Insulation Resistance (Min.) @ 500 Vdc        | 10 <sup>9</sup> Ohm |
| Max. Capacitance Input/Output                 | 8 pF                |
| Ambient Operating Temperature Range           | -40 to 80°C         |
| Ambient Storage Temperature Range             | -40 to 125°C        |
| Status Indicating Display                     | Green LED           |

## MECHANICAL SPECIFICATIONS

|                                                                                     |                            |
|-------------------------------------------------------------------------------------|----------------------------|
| Weight: (typical)                                                                   | 3.0 oz. (86.5g)            |
| Encapsulation:                                                                      | Thermally Conductive Epoxy |
| Terminals:                                                                          | Cage Type                  |
| Maximum Wire Size- Output: AWG 8 (3.8mm) Input: Awg12 (2.5mm)                       |                            |
| Max. Terminal Screw torque: Output: 8.9 in lb (1.0 Nm)<br>Input: 5.3 in lb (0.6 Nm) |                            |

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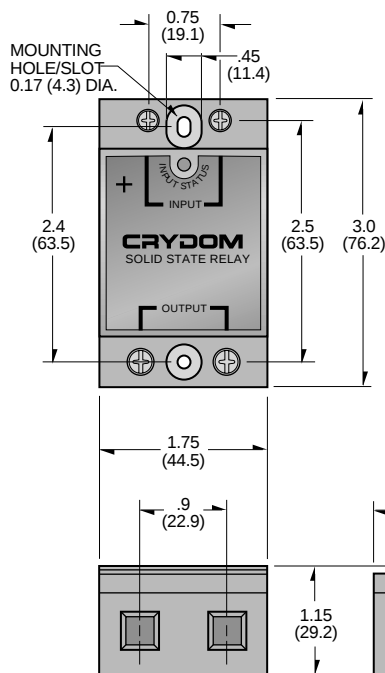




Control over power

# Series CMD60/CMA60

25-125Amp • 600 Vac • AC Output



## MECHANICAL DIMENSIONS

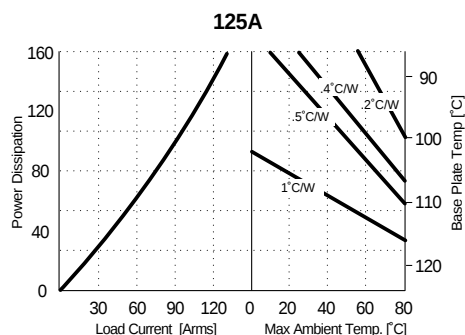
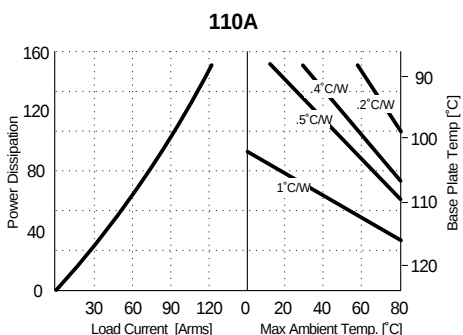
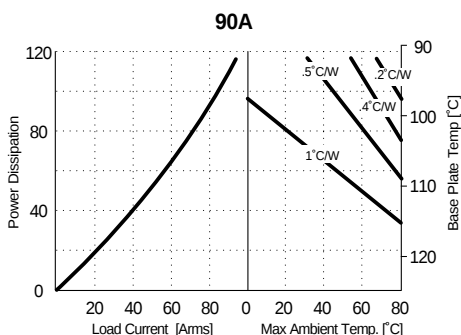
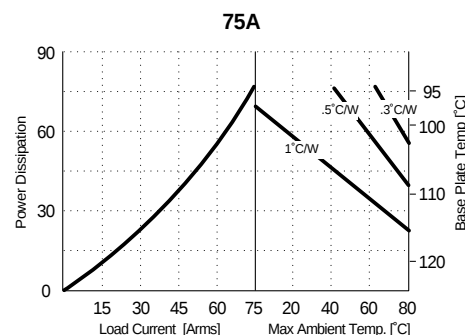
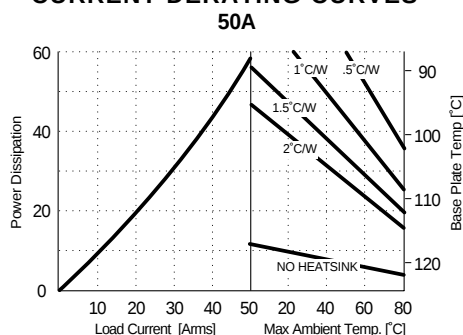
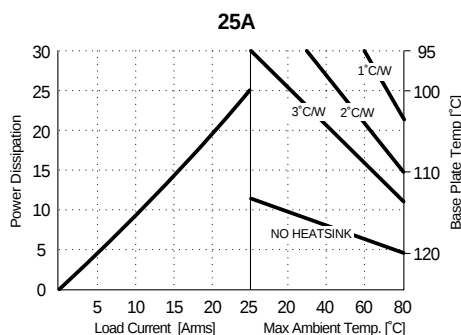
All dimensions are in inches (millimeters)

**CMD60/CMRA60** available with factory mounted heat sink and DIN rail mounting clip. Specifications available via FastFax, request document No. 171.

## AVAILABLE OPTIONS

- 10** Random Turn-On, Phase Controllable  
Example: **CMD6050-10**
- E** 24 Vac Input (18-36 Vac)  
Example: **CMA6050E**
- P** Internal Overvoltage Protection. Relay Will Self Trigger Between 900-1200Vpk. Not Suitable For Capacitive Loads.  
Example: **CMD6050P**

## CURRENT DERATING CURVES



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## APPROVALS

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