

## Solid State Relays - DIN Rail Mount: CMR



### Features

SCR output • 35-65Amp •  
240/480/660 Vrms • AC/DC Control •  
AC Switching • Integrated heatsink •  
LED status indicator • Box clamp  
terminals.

Product	INPUT SPECIFICATIONS		OUTPUT SPECIFICATIONS		
	Control Voltage Range	Load Current	Switching Voltage Type	Turn On	Load Voltage Range
<a href="#">CMRD2435</a>	3-32 Volts DC	0.15-35 Amps RMS	AC	Zero cross	24-280 Volts RMS
<a href="#">CMRD2435-10</a>	3-32 Volts DC	0.15-35 Amps RMS	AC	Random	24-280 Volts RMS
<a href="#">CMRD2445</a>	3-32 Volts DC	0.15-45 Amps RMS	AC	Zero cross	24-280 Volts RMS
<a href="#">CMRD2445-10</a>	3-32 Volts DC	0.15-45 Amps RMS	AC	Random	24-280 Volts RMS
<a href="#">CMRD2455</a>	3-32 Volts DC	0.25-55 Amps RMS	AC	Zero cross	24-280 Volts RMS
<a href="#">CMRD2455-10</a>	3-32 Volts DC	0.25-55 Amps RMS	AC	Random	24-280 Volts RMS
<a href="#">CMRD2465</a>	3-32 Volts DC	0.25-65 Amps RMS	AC	Zero cross	24-280 Volts RMS

<b>CMRA2435-10</b>	90-140 Volts RMS	0.15-35 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA2435E</b>	18-36 Volts RMS	0.15-35 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMRA2435E-10</b>	18-36 Volts RMS	0.15-35 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA2445</b>	90-140 Volts RMS	0.15-45 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMRA2445-10</b>	90-140 Volts RMS	0.15-45 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA2445E</b>	18-36 Volts RMS	0.15-45 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMRA2445E-10</b>	18-36 Volts RMS	0.15-45 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA2455</b>	90-140 Volts RMS	0.25-55 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMRA2455-10</b>	90-140 Volts RMS	0.25-55 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA2455E</b>	18-36 Volts RMS	0.25-55 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMRA2455E-10</b>	18-36 Volts RMS	0.25-55 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA2465</b>	90-140 Volts RMS	0.25-65 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMRA2465-10</b>	90-140 Volts RMS	0.25-65 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA2465E</b>	18-36 Volts RMS	0.25-65 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMRA2465E-10</b>	18-36 Volts RMS	0.25-65 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRA4835</b>	90-140 Volts RMS	0.15-35 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRA4835-10</b>	90-140 Volts RMS	0.15-35 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA4835E</b>	18-36 Volts RMS	0.15-35 Amps RMS	AC	Zero cross	48-530 Volts RMS

<b>CMRD2465-10</b>	3-32 Volts DC	0.25-65 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMRD4835</b>	4-32 Volts DC	0.15-35 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRD4835-10</b>	4-32 Volts DC	0.15-35 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRD4845</b>	4-32 Volts DC	0.15-45 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRD4845-10</b>	4-32 Volts DC	0.15-45 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRD4855</b>	4-32 Volts DC	0.25-55 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRD4855-10</b>	4-32 Volts DC	0.25-55 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRD4865</b>	4-32 Volts DC	0.25-65 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRD4865-10</b>	4-32 Volts DC	0.25-65 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRD6035</b>	4-32 Volts DC	0.15-35 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMRD6035-10</b>	4-32 Volts DC	0.15-35 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMRD6045</b>	4-32 Volts DC	0.15-45 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMRD6045-10</b>	4-32 Volts DC	0.15-45 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMRD6055</b>	4-32 Volts DC	0.25-55 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMRD6055-10</b>	4-32 Volts DC	0.25-55 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMRD6065</b>	4-32 Volts DC	0.25-65 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMRD6065-10</b>	4-32 Volts DC	0.25-65 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMRA2435</b>	90-140 Volts RMS	0.15-35 Amps RMS	AC	Zero cross	24-280 Volts RMS

<b>CMRA4835E-10</b>	18-36 Volts RMS	0.15-35 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA4845</b>	90-140 Volts RMS	0.15-45 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRA4845-10</b>	90-140 Volts RMS	0.15-45 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA4845E</b>	18-36 Volts RMS	0.15-45 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRA4845E-10</b>	18-36 Volts RMS	0.15-45 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA4855</b>	90-140 Volts RMS	0.25-55 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRA4855-10</b>	90-140 Volts RMS	0.25-55 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA4855E</b>	18-36 Volts RMS	0.25-55 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRA4855E-10</b>	18-36 Volts RMS	0.25-55 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA4865</b>	90-140 Volts RMS	0.25-65 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRA4865-10</b>	90-140 Volts RMS	0.25-65 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA4865E</b>	18-36 Volts RMS	0.25-65 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMRA4865E-10</b>	18-36 Volts RMS	0.25-65 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMRA6035</b>	90-140 Volts RMS	0.15-35 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMRA6035-10</b>	90-140 Volts RMS	0.15-35 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMRA6035E</b>	18-36 Volts RMS	0.15-35 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMRA6035E-10</b>	18-36 Volts RMS	0.15-35 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMRA6045</b>	90-140 Volts RMS	0.15-45 Amps RMS	AC	Zero cross	48-660 Volts RMS

- Zero Voltage and Random Turn-On Switching
- DIN Rail & 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	CMRD2435 CMRA2435	CMRD2445 CMRA2445	CMRD2455 CMRA2455	CMRD2465 CMRA2465
<b>OUTPUT SPECIFICATIONS</b> ①				
Operating Voltage (47-63 Hz) [Vrms]	24-280	24-280	24-280	24-280
Max. Load Current @ 25°C Ambient Temperature [Arms]	35	45	55	65
Min. Load Current, [Arms]	0.15	0.15	0.25	0.25
Transient Overvoltage [Vpk]	600	600	600	600
Max. Surge Current, (16.6ms) [A <sub>pk</sub> ]	250	625	1000	1200
Max. On-State Voltage Drop @ Rated Current [Vpk]	1.6	1.6	1.6	1.6
Thermal Resistance Junction to Case (R <sub>qJC</sub> ) [°C/W]	1.02	0.63	0.31	0.28
Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec]	260	1620	4150	6000
Max. Off-State Leakage Current @ Rated Voltage [mArms]	10	10	10	10
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] ②	500	500	500	500
Max. Turn-On Time ③	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

<b>INPUT SPECIFICATIONS</b> ①	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 ④	—
Typical Input Current	17mA @ 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 Turn-on time for DC control random turn-on versions is 0.02msec.  
 ④ Input circuitry incorporates active current limiter.

### GENERAL SPECIFICATIONS

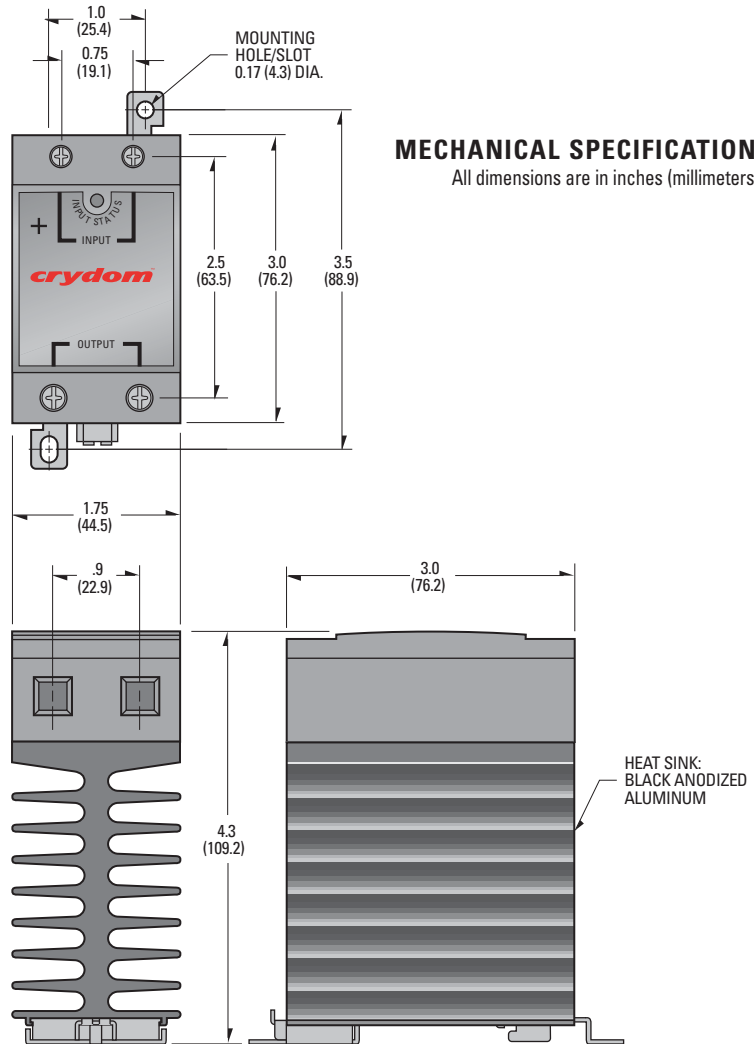
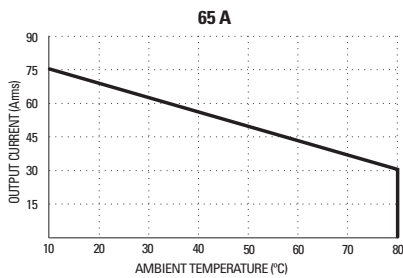
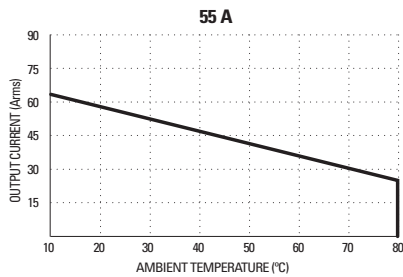
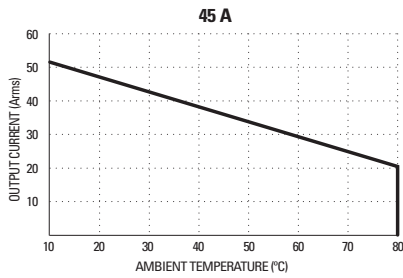
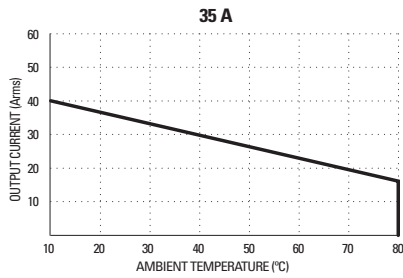
Dielectric Strength 50/60Hz Input/Output/Base	4000 Vrms
Insulation Resistance (Min.) @ 500 Vdc	10 <sup>9</sup> Ohm
Max. Capacitance Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Status Indicating Display	Green LED

### MECHANICAL SPECIFICATIONS

Weight: (typical)	16.8 oz. (476g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Cage Type
Maximum Wire Size- Output: AWG 8 (3.8mm) Input: AWG12 (2.5mm)	
Recommended Terminal Screw Torque Range:	
	Output: 10-15 in lb (1.1-1.7 Nm)
	Input: 5-6 in lb (0.6-0.7 Nm)

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### CURRENT DERATING CURVES



### AVAILABLE OPTIONS

- 10 Random Turn-On, Phase Controllable  
Example: **CMRD2435-10**
- E 24 Vac Input (18-36 Vac)  
Example: **CMRA2435E**
- P Internal Overvoltage Protection  
Relay Will Self Trigger Between  
450-600 Vpk. Not Suitable For Capacitive Loads.  
Example: **CMRD2435P**

### APPROVALS

UL E116950  
CSA LR81689  
VDE 126921 UG



- Zero Voltage and Random Turn-On Switching
- DIN Rail & 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	CMRD4835 CMRA4835	CMRD4845 CMRA4845	CMRD4855 CMRA4855	CMRD4865 CMRA4865
<b>OUTPUT SPECIFICATIONS</b> ①				
Operating Voltage (47-63 Hz) [Vrms]	48-530	48-530	48-530	48-530
Max. Load Current @ 25°C Ambient Temperature [Arms]	35	45	55	65
Min. Load Current, [Arms]	0.15	0.15	0.25	0.25
Transient Overvoltage [Vpk]	1200	1200	1200	1200
Max. Surge Current, (16.6ms) [Apk]	250	625	1000	1200
Max. On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case (R <sub>qJC</sub> ) [° C/W]	1.02	0.63	0.31	0.28
Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec]	260	1620	4150	6000
Max. Off-State Leakage Current @ Rated Voltage [mArms]	10	10	10	10
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] ②	500	500	500	500
Max. Turn-On Time ③	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

<b>INPUT SPECIFICATIONS</b> 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 ④	—
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 Turn-on time for DC control random turn-on versions is 0.02msec.  
 ④ Input circuitry incorporates active current limiter.

## GENERAL SPECIFICATIONS

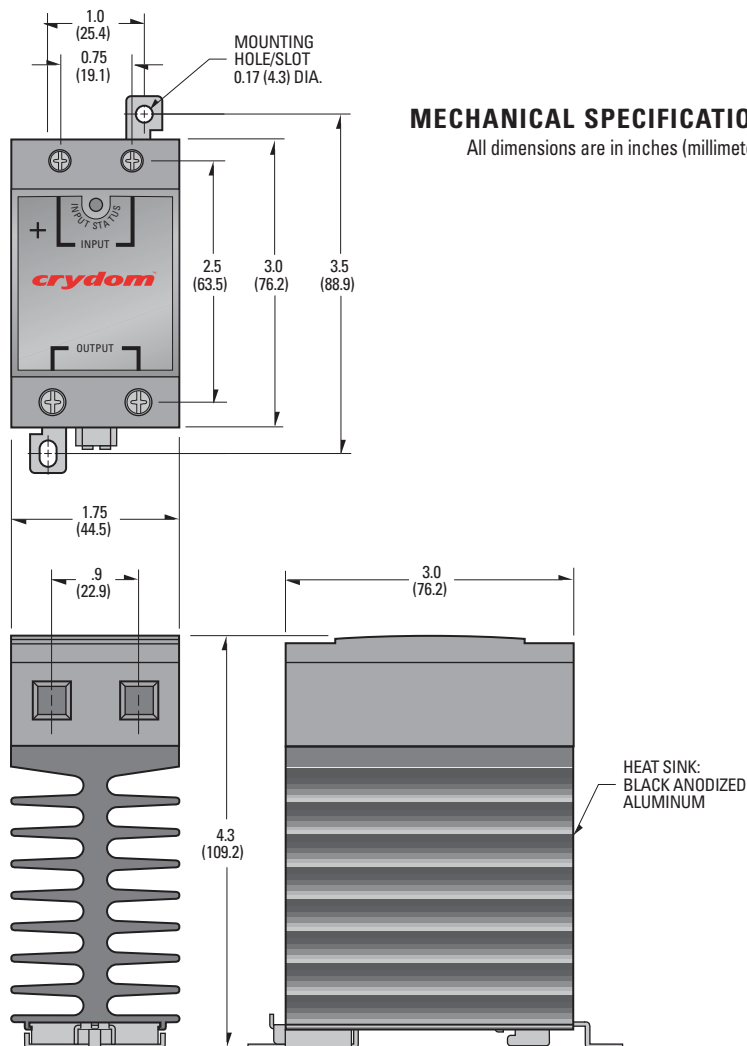
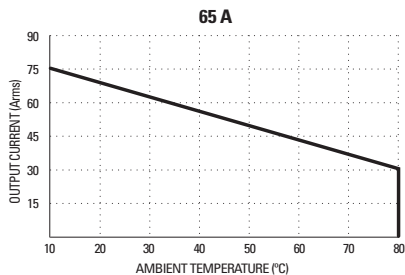
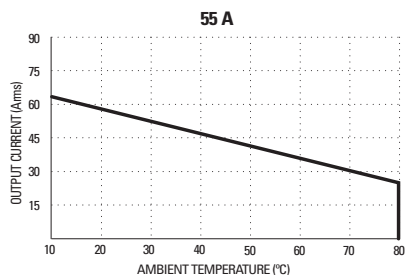
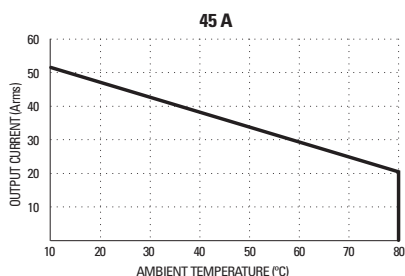
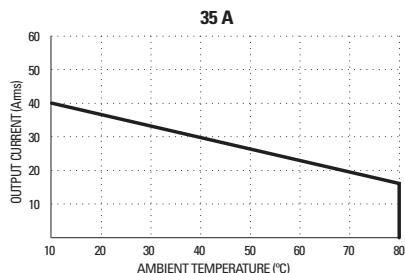
Dielectric Strength 50/60Hz Input/Output/Base	4000 Vrms
Insulation Resistance (Min.) @ 500 Vdc	10 <sup>9</sup> Ohm
Max. Capacitance Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Status Indicating Display	Green LED

## MECHANICAL SPECIFICATIONS

Weight: (typical)	16.8 oz. (476g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Cage Type
Maximum Wire Size- Output: AWG 8 (3.8mm) Input: AWG12 (2.5mm)	
Recommended Terminal Screw Torque Range:	
	Output: 10-15 in lb (1.1-1.7 Nm)
	Input: 5-6 in lb (0.6-0.7 Nm)

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## CURRENT DERATING CURVES



## AVAILABLE OPTIONS

- 10 Random Turn-On, Phase Controllable  
Example: **CMRD4835-10**
- E 24 Vac Input (18-36 Vac)  
Example: **CMRA4835E**
- P Internal Overvoltage Protection.  
Relay Will Self Trigger Between  
900-1200Vpk. Not suitable For Capacitive Loads.  
Example: **CMRD4835P**

## APPROVALS

UL E116950  
CSA LR81689  
VDE 126921 UG





- Zero Voltage and Random Turn-On Switching
- DIN Rail & 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	CMRD6035 CMRA6035	CMRD6045 CMRA6045	CMRD6055 CMRA6055	CMRD6065 CMRA6065
<b>OUTPUT SPECIFICATIONS ①</b>				
Nominal Line Voltage ( $\pm 10\%$ ) [Vrms]	600	600	600	600
Operating Voltage (47-63 Hz) [Vrms]	48-660	48-660	48-660	48-660
Max. Load Current @ 25°C Ambient Temperature [Arms]	35	45	55	65
Min. Load Current, [Arms]	0.15	0.15	0.25	0.25
Transient Overvoltage [Vpk]	1200	1200	1200	1200
Max. Surge Current, (16.6ms) [Apk]	250	625	1000	1200
Max. On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case ( $R_{qJC}$ ) [°C/W]	1.02	0.63	0.31	0.28
Maximum $I^2 t$ for Fusing, (8.3 msec.) [ $A^2 \text{sec}$ ]	260	1620	4150	6000
Max. Off-State Leakage Current @ Rated Voltage [mArms]	1.0	1.0	1.0	1.0
Min. Off-State $dv/dt$ @ Max. Rated Voltage [ $V/\mu\text{sec}$ ] ②	500	500	500	500
Max. Turn-On Time ③	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

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 ④	—
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 Turn-on time for DC control random turn-on versions is 0.02msec.
- ④ Input circuitry incorporates active current limiter.

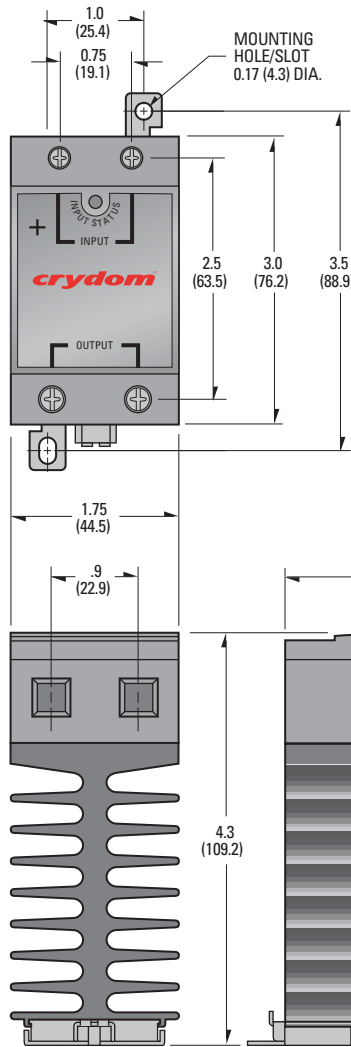
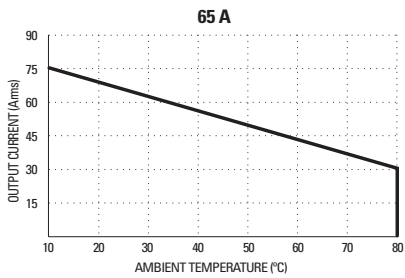
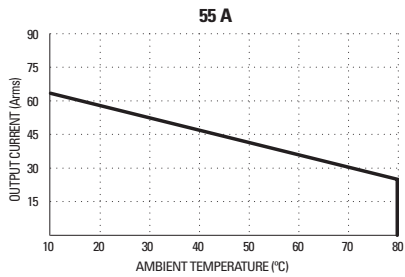
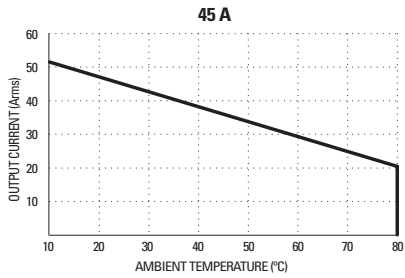
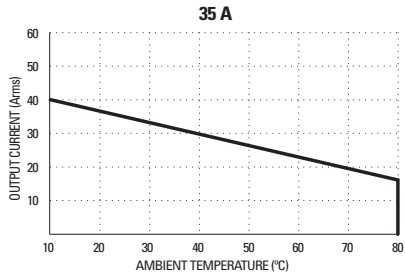
### GENERAL SPECIFICATIONS

Dielectric Strength 50/60Hz Input/Output/Base	4000 Vrms
Insulation Resistance (Min.) @ 500 Vdc	$10^9$ 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)	16.8 oz. (476g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Cage Type
Maximum Wire Size- Output: AWG 8 (3.8mm) Input: AWG12 (2.5mm)	
Recommended Terminal Screw Torque Range:	
Output: 10-15 in lb (1.1-1.7 Nm)	
Input: 5-6 in lb (0.6-0.7 Nm)	

### CURRENT DERATING CURVES



### MECHANICAL SPECIFICATIONS

All dimensions are in inches (millimeters)

HEAT SINK:  
BLACK ANODIZED  
ALUMINUM

### AVAILABLE OPTIONS

- 10 Random Turn-On, Phase Controllable  
Example: **CMRD6035-10**
- E 24 Vac Input (18-36 Vac)  
Example: **CMRA6035E**
- P Internal Overvoltage Protection.  
Relay Will Self Trigger Between  
900-1200Vpk. Not Suitable For Capacitive Loads.  
Example: **CMRD6035P**

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