crydom®

Solid State Relays & Contactors

The Global Expert in Solid State Switching Technology

Sensata Technologies

Crydom, global expert in solid state switching technology, combines technology and innovation to provide customers a wide range of standard Solid State Relays and Solid State Contactors, and specializes in custom designed solid state switching solutions for any load control application. Crydom is a brand of Sensata Technologies.

www.crydom.com

Sensata Technologies is one of the world's leading suppliers of sensing, electrical protection, control and power management solutions with operations and business centers in 13 countries. Sensata's products improve safety, efficiency and comfort for millions of people every day in automotive, appliance, aircraft, industrial, military, heavy vehicle, heating, air-conditioning and ventilation, data, telecommunications, recreational vehicle and marine applications. For more information please visit Sensata's website at:

www.sensata.com

About this catalog...

Products included in this catalog are only part of the Crydom offer of Solid State Relays and Contactors. To facilitate the use of this catalog, products have been categorized into 6 product groups mainly defined by mounting type.

The following conditions are applicable to product families where specifically noted:

A All dimensions in drawings are in inches [millimeters] and are for reference only.

B Dimensional drawings shown are for illustrative purposes only. They do not represent the complete variety of products within each series. For complete dimensional drawings for a particular Crydom product visit the CAD Drawings section in the Crydom website.

C Part Number Nomenclature is color coded as follows:
- Required for valid part number
- For options only and not required for valid part number

D Not all part number combinations are available. Contact Crydom Sales Support for information on the availability of a specific part number.

E Safety agency approvals for SSR/Heat Sink Assemblies may vary depending upon selected SSR. Heat sinks do not require safety agency approval.

F The standard Crydom SSR/Heat Sink Assemblies are either DIN Rail or Panel Mounted depending upon model selected and are available with either one, two or three single or dual SSRs, or one three-phase SSR.

G Installing a CN Series SSR in a socket that does not have matching input/output specifications may result in non-operation or damage to either the SSR, socket or both. See socket-relay compatibility table available in CN Series SSR datasheet.

H In addition to the possible combinations shown in the part number nomenclature, any standard Crydom PCB Mount SIP type SSR with similar pin centers can be offered as an assembly.

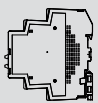
J Listed agency approvals may not apply to all part numbers available within a series. To determine agency approvals for a specific part number contact Crydom Technical Support.

K Required external heat sink for all ratings.

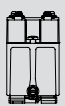
L Heat sink includes the necessary hardware to mount the relay(s) onto the heat sink. The number of hardware kits (HK1 or HKM1) included depends upon the number and type of SSRs possible to install on each heat sink.


Panel Mount Page 8 — AC DC


PCB Mount Page 35 — AC DC


DIN Rail Mount Page 47 — AC DC

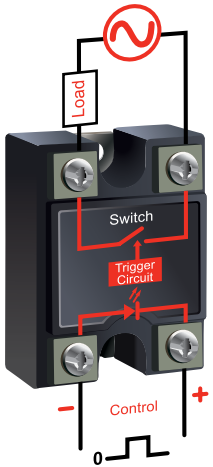

Plug-In Mount Page 66 — AC DC

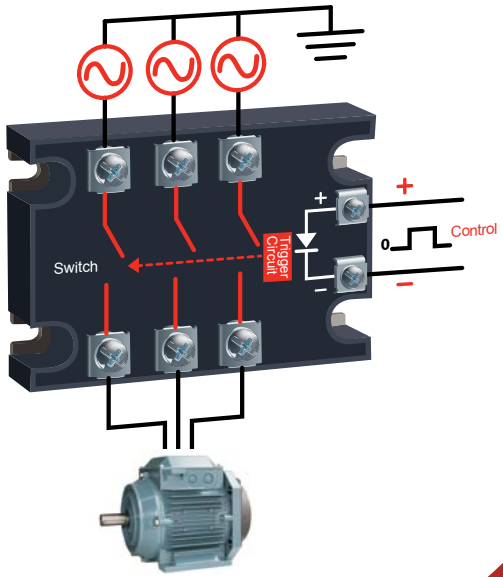

Assemblies Page 71


Accessories Page 73

What is a Solid State Relay/Contactor?

A Solid State Relay or Contactor (SSR or SSC) is an electronic component that switches Power (AC or DC current) to a load circuit and provides electrical isolation between an application's control circuit and load circuit. It is a competitive technology to Electromechanical Relays (EMRs) and other switching technologies such as Mercury Displacement Relays (MDRs) and discrete component assemblies.

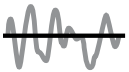




Why use Solid State Switching Technology?

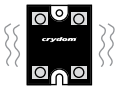
Long life

Quiet operation



Minimum electrical noise

Low power consumption



Shock & vibration resistant

Ideal for harsh environments

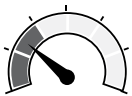
Compatibility with control systems

Fast switching

Position insensitive

Reduced weight

Magnetic noise immunity



Reduced energy cost

Applications

Although there are literally thousands of individual uses for Solid State Relays and Contactors, most can be categorized into the following applications:

Motion Control

Includes elevators, lifts, hoists, exercise equipment, conveyor systems, solar trackers, fans, solenoid and valve control.

Benefits: Endurance, shock & vibration resistance, Soft Start, reversing, no arcing, fast switching, long life, no maintenance, easy to interface, reduced parts count.

Heating Control

This encompasses the largest segment of solid state relay users. Applications include, but are not limited to: professional food equipment, plastic molding/extrusion machinery, HVAC&R and soldering equipment.

Benefits: Long life, no maintenance, safe product, easy to interface, as well as enabling temperature accuracy. Suitable for heater, fan, blower and valve control.

Power Control

Includes power supplies, transformers, regulators, inverters, converters, UPS systems, etc. as well as any load that is not specifically for heating, lighting or motion control.

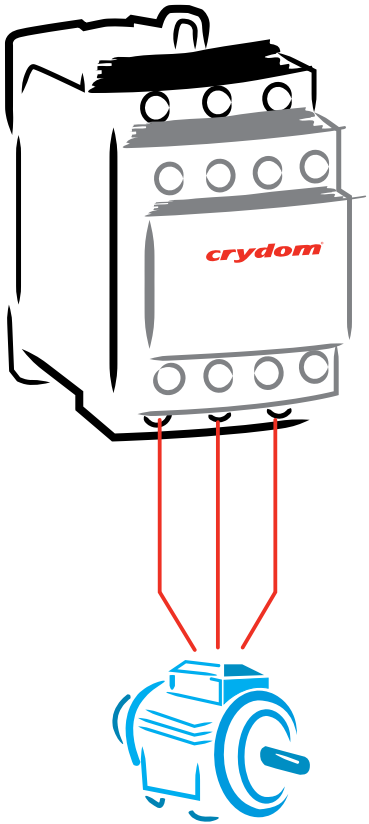
Benefits: Long life, silent operation, high speed switching, endurance, mechanical shock and vibration resistance, position insensitive, logic compatibility, arc and bounce free switching, and low electromagnetic emissions.

Lighting Control

These applications are usually broken down into three categories: theatrical, warehouse and commercial. Many of the products used in this segment are custom designed.

Benefits: Dimming, silent operation, fast switching, long life, no maintenance, safe product, easy to interface, reduced parts count.

Solid State **Relays** versus Solid State **Contactors**



Crydom has been well known for over 40 years as a supplier of Solid State Relays (SSRs). However, Crydom also designs, manufactures and markets Solid State Contactors (SSCs). **What is the difference between SSRs and SSCs?**

Remarkably, **there is very little actual difference**. They use similar power semiconductors and control circuits, and in some cases, even the same housings. SSRs, being considered as components, are applied in a large variety of applications and uses. SSCs, are generally applied in 3 phase AC heater and motor control applications although the SSCs themselves can be used successfully in almost any load control application. **Why then are they viewed and applied differently?**

There are two main reasons: **Tradition** and **Ratings**.

Tradition is that for most AC power control applications utilizing 3 phase AC power and some DC applications, traditional mechanical contactors are employed. (Note: mechanical contactors rated to switch AC loads are quite different from those rated for DC loads of similar currents due to the arcing and contact degradation associated with making and breaking a DC circuit). Therefore when the need arises to use solid state technology in these type applications rather than EMRs, engineers immediately think of Solid State "Contactors", not Solid State "Relays". So they are disposed to consider SSCs rather than SSRs despite the fact that **SSRs can perform exactly the same switching function as a Contactor**.

Ratings of contactors, whether Solid State or Mechanical, always include allowed motor load ratings and allowed resistive load ratings. The reason for this is again tradition because for most mechanical contactors, the switching capabilities and life expectancy vary significantly for each type of load. Further, motor control requires consideration of such aspects as Locked Rotor Rating, Full Load Current Ratings and Horse Power Rating, while resistive load ratings must account for significant inrush current that also degrades mechanical contacts. SSRs and SSCs don't suffer the same type degradation due to load characteristics as mechanical contacts do and therefore the motor and resistive load ratings are not as widely different. However the one significant differentiator is that **to be considered a contactor, the SSR or SSC must be evaluated to and carry ratings appropriate for motor control**.

So in summary, the major technical difference between an SSR and SSC has to do with the mandatory motor ratings required to be defined as a "Contactor".

Panel Mount

Crydom Panel Mount Solid State Relays and Contactors are designed to easily mount on panels or heat sinks for applications which require **single, dual or 3 phase output ratings** in the range of **5 to 125 Amps at 24 to 660 VAC** or **1 to 160 Amps at 1 to 1000 VDC**. Available inputs include 24 to 280 VAC, 3 to 32 VDC or analog control depending upon model.

Offered in several configurations including three industry standard size and mounting styles, Crydom Panel Mount SSRs and Contactors provide both an easy means to mechanically secure them in equipment and provide a reliable thermal path to dissipate thermal energy. Models and options include screw termination, quick connections, optional protective covers, input indicator LEDs and thermal interface pads, as well as heat sinks and SSR/Heat Sink Assemblies.

See the product pages for a summary of **available ratings, features and Safety Agency approvals**. Visit the SSR Accessories and Assemblies sections of the catalog or the Crydom website for additional information on Crydom SSRs, Contactors and available accessories for Panel Mount SSRs, Contactors and Assemblies.

AC Output

Page	Series	Description	Rating Amps: 5	10	12	15	18	20	25	40	50	75	90	110	125
		Solid State Relays													
9	Series 1	530 V		■					■	■	■	■	■	■	■
10	HA/HD	530 V			■				■		■	■	■	■	■
11	Series H1	690 V							■		■	■	■		■
12	CW	HD 660 V		■					■		■		■		■
13	CSW	HD 280 V		■					■		■	■	■		
14	CL	Econ 280 V	■	■											
15	EL	Mini 280 V	■	■				■							
16	EZ	Low Pro 660 V			■		■								
		Control Solid State Relays													
17	MCBC	Burst Ctrl							■		■		■		
18	MCPC	Phase Ctrl							■		■		■		
19	PCV	V in Phase Ctrl				■			■	■		■	■		
20	LPCV	Linear Ph Ctrl				■			■	■		■		■	
21	SMR-6	Monitoring							■		■		■		
		Solid State Dual Relays													
22	Evolution Duals	Screw Term							■		■				
23	Series 1 Duals	Quick Connect							■	■					
		Solid State Contactors													
24	53TP	3 Phase							■		■				
25	53RV	Reversing							■		■				

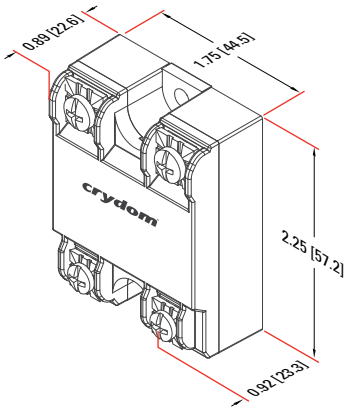
DC Output

Page	Series	Description	Rating Amps: 3	5	7	10	12	20	25	40	60	80	100	120	160
		Solid State Relays													
26	DC60	1 - 60 V	■	■	■										
27	D06D	Econ 1 - 60 V									■	■	■		
28	PowerPlus DC	1 - 500 V				■		■		■	■	■	■		
29	Series 1 DC	1 - 400 V			■	■	■	■		■	■	■	■		
30	EL	Mini 1 - 100 V		■		■		■							
31	SSC	1 - 1000 V							■						
32	LVD	Disconnect								■	■	■	■		
		Solid State Contactors													
33	DP	Reversing						■		■	■				
34	HDC	High Current												■	■

Series 1 • 10-125 Amps

- Crydom's Signature family of Solid State Relays
- Ratings from 10 to 125 Amps @ 24-280 VAC and from 25 to 90 Amps @ 80-530 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible 3-32 VDC, 18-36 VAC or 90-280 VAC Control Voltage
- Elective "ultra-low" input current draw (2-4 mAmps DC typical, "T" suffix option)
- Optional output R-C Snubber for additional dv/dt attenuation
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Elective Internal TVS ("P" suffix) eliminates the need for external Overvoltage Protection
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- Optional Normally Closed output ("-B" suffix option)
- UL 508 overload endurance rated and 100 kA Short Circuit Current Rating (SCCR)

Notes: A B C D J K



4 — **Output Frecuency**
Blank: 47-440 Hz
4: 400 Hz
(12 & 24 suffixes only)

A — **Control Voltage**
A: 90-280 VAC
D: 3-32 VDC (4-32 VDC for 48 suffix)
AxxxxE: 18-36 VAC (12 & 24 suffixes only)

12 — **Operating Voltage**
12: 24-140 VAC
24: 24-280 VAC
48: 48-530 VAC

10 — **Rated Load Current**
10: 10 Amp
(12 & 24 suffixes only)
25: 25 Amp
40: 40 Amp (12 suffix only)
50: 50 Amp
(24 & 48 suffixes only)
75: 75 Amp
(24 & 48 suffixes only)
90: 90 Amp (24 & 48 suffixes only)
110: 110 Amp (24 suffix only)
125: 125 Amp (24 suffix only)

E — **Termination**
Blank: Screw
F: Quick Connect
(Single pair
[up to 25 Amp]
Double pair [50 Amp])
K: Installed standoffs for
PC Board mounting

K — **Overvoltage Protection**
(12 & 24 suffixes only)
Blank: Not Included
P: Included

P — **Input Status LED**
(12 & 24 suffixes only)
Blank: Not Included
G: Included

G — **Snubber**
Blank: Not Included
S: Included
(Not needed with T suffix,
included as standard)

S — **Thermal Pad**
Blank: Not Included
H: Included

H — **Blank:** Phototriac
T: Low Current
Phototransistor
(Not needed with
-B suffix, included
as standard)

T — **Switching Type**
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On

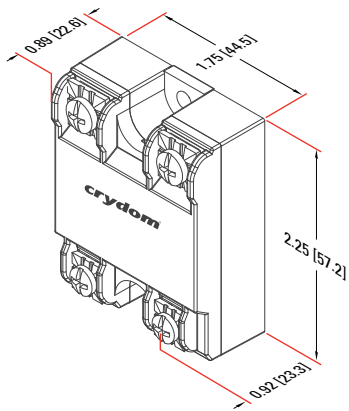
-10 — **Output Type**
Blank: Normally Open
-B: Normally Closed
(12 & 24 suffixes only.
Snubber included,
not available with -10 option)

-B

HA/HD Series • 12-125 Amps

- Solid State Relay with ratings from 12 to 125 Amps @ 48-660 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible 4-32 VDC, 18-36 VAC or 90-280 VAC Control Voltage
- Elective "ultra-low" input current draw (2-4 mAmps DC typical, "T" suffix option)
- R-C Snubber network for additional dv/dt attenuation (for HA48/HD48 models only)
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Elective Internal TVS ("P" suffix) eliminates the need for external Overvoltage Protection
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- UL 508 overload endurance rated and 100 kA Short Circuit Current Rating (SCCR)

Notes: A B C D J K



Series

Control Voltage
A: 90-280 VAC
D: 4-32 VDC
AxxxxE: 18-36 VAC

Overvoltage Protection
Blank: Not Included
P: Included

Snubber
Blank: Not Included
S: Included (Hx48xx and Hx48xxT only Not needed with T suffix, included as standard)

Trigger Circuit
Blank: Phototriac
T: Low Current Phototransistor

H **A** **48** **25** **E** **K** **P** **G** **S** **H** **T** **-10**

Operating Voltage
48: 48-530 VAC
60: 48-660 VAC

Rated Load Current
12: 12 Amp (48 suffix only)
25: 25 Amp
50: 50 Amp
75: 75 Amp (48 suffix only)
90: 90 Amp
110: 110 Amp (48 suffix only)
125: 125 Amp

Termination
Blank: Screw
F: Quick Connect (Single pair [up to 25 Amp] Double pair [50 Amp])
K: Installed standoffs for PC Board mounting

Input Status LED
Blank: Not Included
G: Included

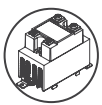
Thermal Pad
Blank: Not Included
H: Included

Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On

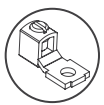
Series H1 • 25-125 Amps

- Solid State Relay with ratings from 25 to 125 Amps @ 48-690 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible 4-32 VDC Control Voltage
- Low output off-state leakage current (2WD & 6WD suffixes only, snubberless)
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Elective Internal TVS ("P" suffix) eliminates the need for external Overvoltage Protection (2D & 2WD suffixes only)
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- UL 508 overload endurance rated and 100 kA Short Circuit Current Rating (SCCR)

Notes: A B C D J K



Assemblies
Page 71



Compatible Accessories
Page 73

Series

H1

Transient Overvoltage
2D: 1200 Vpk (with Snubber)
2WD: 1200 Vpk (without Snubber)
6WD: 1600 Vpk (without Snubber)

2WD

Operating Voltage
48: 48-530 VAC (2D suffix only)
48-660 VAC (2WD suffix only)
60: 48-690 VAC (6WD suffix only)

48

Rated Load Current
25: 25 Amp
50: 50 Amp
75: 75 Amp
90: 90 Amp
125: 125 Amp
(2D & 2WD suffixes only)

25

Termination
Blank: Screw
F: Quick Connect
(Single pair [25 Amp]
Double pair [50 Amp])
K: Installed standoffs for PC Board mounting

K

Overvoltage Protection
(2D & 2WD suffixes only)
Blank: Not Included
P: Included

P

Input Status LED
Blank: Not Included
G: Included

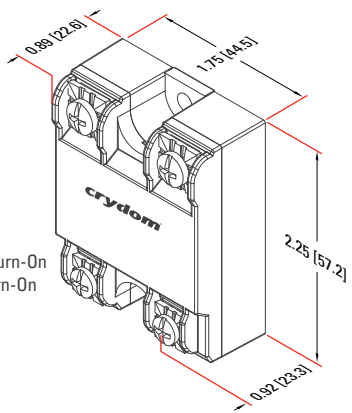
G

Thermal Pad
Blank: Not Included
H: Included

H

Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On

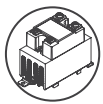
-10



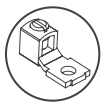
CW Series • 10-125 Amps

- Heavy duty Solid State Relay with ratings from 10 to 125 Amps @ 24-280 VAC or 48-660 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- EMC compliant (LEVEL 3) for reliable operation in harsh electrical environments
- Flexible 3-32 VDC, 18-36 VAC or 90-280 VAC Control Voltage and universal AC/DC control of 20-280 VAC and 20-48 VDC
- LED indicator for easy identification of control status
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- IP20 "touch safe" Cover provides additional user protection
- Elective Internal TVS ("P" suffix) eliminates the need for external Overvoltage Protection
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- UL 508 overload endurance rated and 100 kA Short Circuit Current Rating (SCCR)

Notes: A B C D J K



Assemblies
Page 71



Compatible Accessories
Page 73

Series

Control Voltage
A: 90-280 VAC
D: 3-32 VDC (4-32 VDC for 48 suffix)
U: 20-48 VDC or 20-280 VAC
AxxxxE: 18-36 VAC

Thermal Pad
Blank: Not Included
H: Included

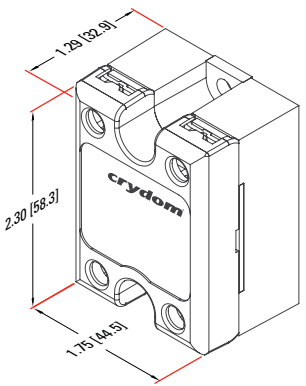
CW	U	48	50	E	P	H	-10

Operating Voltage
24: 24-280 VAC
48: 48-660 VAC

Rated Load Current
10: 10 Amps
25: 25 Amps
50: 50 Amps
90: 90 Amps
125: 125 Amps

Overvoltage Protection
Blank: Not Included
P: Included

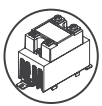
Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On



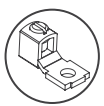
CSW Series • 10-90 Amps

- Heavy duty Solid State Relay with ratings from 10 to 90 Amps @ 24-280 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- EMC compliant (LEVEL 3) for reliable operation in harsh electrical environments
- Flexible 3-32 VDC Control Voltage
- Low output off-state leakage current (without option "S")
- Elective R-C Snubber network for additional dv/dt attenuation (option "S")
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase-control or inductive loads) output
- Elective Internal TVS ("P" suffix) eliminates the need for external Overvoltage Protection
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- UL 508 overload endurance rated and 100 kA Short Circuit Current Rating (SCCR)

Notes: A B C D J K



Assemblies
Page 71



Compatible Accessories
Page 73

Series
CSW

Operating Voltage
24: 24-280 VAC

Rated Load Current
10: 10 Amp
25: 25 Amp
50: 50 Amp
75: 75 Amp
90: 90 Amp

Termination
Blank: Screw
F: Quick Connect
(Single pair [up to 25 Amp]
Double pair [50 Amp])
K: Installed standoffs for PC Board mounting

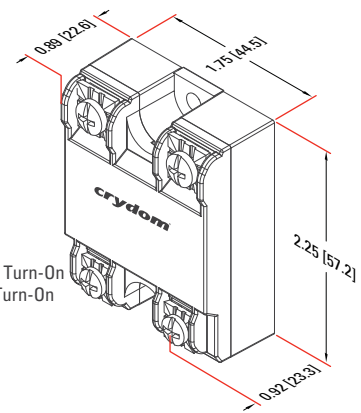
Overvoltage Protection
Blank: Not Included
P: Included

Input Status LED
Blank: Not Included
G: Included

Snubber
Blank: Not Included
S: Included

Thermal Pad
Blank: Not Included
H: Included

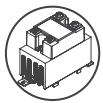
Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On



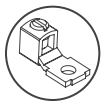
CL Series • 5-10 Amps

- Economical Solid State Relay with ratings of 5 or 10 Amps @ 24-280 VAC
- Optional IP20 "touch safe" Cover for additional user protection
- Economical Triac based construction
- LED indicator for easy identification of control status
- Regulated AC or DC Control Voltage
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output

Notes: A B C D J K



Assemblies
Page 71



Compatible Accessories
Page 73

Series

CL **240** **A** **10** **R** **C** **H**

Load Voltage
240: 24-280 VAC

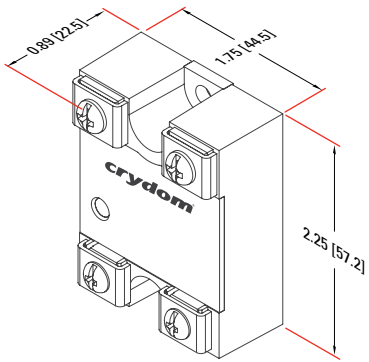
Control Voltage
A: 90-250 VAC
D: 3-32 VDC

Rated Load Current
05: 5 Amps
10: 10 Amps

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

Cover
Blank: Not Included (IP00)
C: Included (IP20)

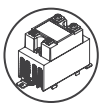
Thermal Pad
Blank: Not Included
H: Included



EL Series • 5-20 Amps

- Mini-puck Solid State Relay to maximize panel space
- Ratings up to 20 Amps @ 24-280 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Quick Connect control & output termination for easy installation
- 3.75k VAC optical isolation

Notes: A B C D J K



Assemblies
Page 71

Thermal Pad
Page 83

Series

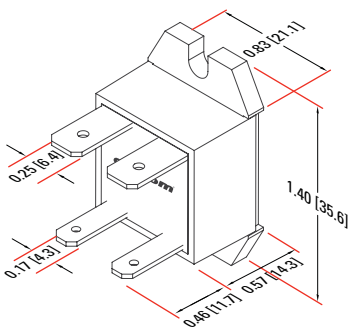
EL **240A** **5** **R** – **05**

Output Voltage
240 A: 24-280 VAC

Rated Load Current
5: 5 Amps
10: 10 Amps
20: 20 Amps

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

Control Voltage
05: 4-8 VDC
12: 10-14 VDC
24: 21-27 VDC



EZ Series • 5-18 Amps

crydom classics

- Low profile Solid State Relay
- Ratings from 5 to 18 Amps @ 24-280 VAC or 48-660 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Elective R-C Snubber network (240 VAC models) for additional dv/dt attenuation
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- AC or DC Control Voltage options
- Quick Connect control & output termination for easy installation

Notes: A B C D J K

Series

EZ E 240 A 12 S R

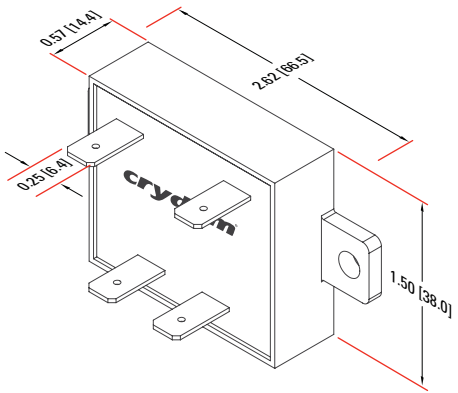
Control Voltage
D: 3-15 VDC
(4-15 for 480 suffix)
A: 90-140 VAC
ExxxA: 18-36 VAC
ExxxD: 15-32 VDC

Operating Voltage
240: 24-280 VAC
480: 48-660 VAC

Rated Load Current
5: 5 Amps
(EZ240D suffix only)
12: 12 Amps
18: 18 Amps

Snubber
Blank: Not Included
S: Included (240 suffix only)

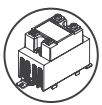
Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On



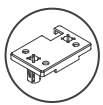
MCBC Series • 25-90 Amps

- Microprocessor based burst fire controller / SSR
- Ratings from 25 to 90 Amps @ 48-530 VAC
- R-C Snubber network for additional dv/dt attenuation
- Industry standard analogue input (voltage or current) or potentiometer control
- LED indicator for easy identification of output status
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Two time-base periods available (10 & 20 cycles)
- Designed to provide proportional AC power to a wide range of resistive loads

Notes: A B D J K



Assemblies
Page 71



Protective Cover
Page 74

Series

MC BC 24 25 C F

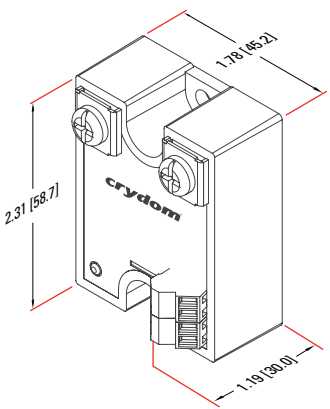
Line Voltage
12: 48-140 VAC
24: 180-280 VAC
48: 300-530 VAC

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

Product Type
BC: Burst Fire Controller

Rated Load Current
25: 25 Amps
50: 50 Amps
90: 90 Amps

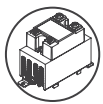
Time Base Period
F: 10 AC Cycles
L: 20 AC Cycles



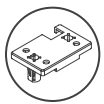
MCPC Series • 25-90 Amps

- Microprocessor based phase angle controller / SSR
- Ratings from 25 to 90 Amps @ 48-530 VAC
- R-C Snubber network for additional dv/dt attenuation
- Industry standard analogue input (voltage or current) or potentiometer control for setpoint
- LED indicator for easy identification of output status
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Designed to provide proportional AC power to a wide range of resistive loads

Notes: A B D J K



Assemblies
Page 71



Protective Cover
Page 74

Series

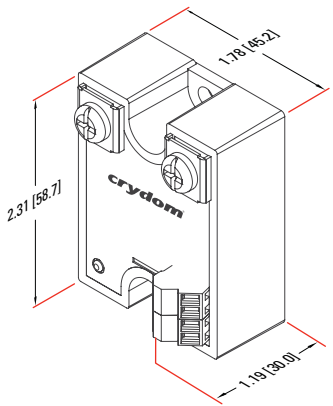
MC PC 24 25 C

Line Voltage
12: 48-140 VAC
24: 180-280 VAC
48: 300-530 VAC

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

Product Type
PC: Phase-Angle Controller

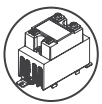
Rated Load Current
25: 25 Amps
50: 50 Amps
90: 90 Amps



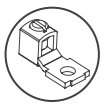
PCV Series • 15-90 Amps

- Easy to use proportional (phase angle) controller
- Ratings from 15 to 90 Amps @ 100-240 VAC
- Simple 2-7 VDC or 2-10 VDC analogue Control Voltage
- Designed to provide proportional AC power to a wide range of resistive loads

Notes: A B D J K



Assemblies
Page 71



Compatible Accessories
Page 73

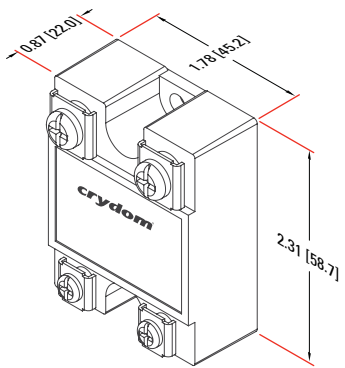
Series

Operating Voltage
24: 100-240 VAC

10 **PCV** **24** **25**

Control Voltage
7: 2-7 VDC
10: 2-10 VDC

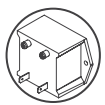
Rated Load Current
15: 15 Amps
25: 25 Amps
50: 50 Amps (10 prefix only)
75: 75 Amps (10 prefix only)
90: 90 Amps (10 prefix only)



LPCV Series • 15-110 Amps

- Easy to use linear proportional (phase angle) controller
- Ratings from 15 to 110 Amps @ 20-300 VAC
- Simple 0-5 VDC, 0-10 VDC or 4-20 mAmps analogue Control Voltage
- Included 12 VDC source for use with external potentiometer control
- Requires accessory power supply PS120 or PS240 to provide 20 VAC for internal logic circuit
- Designed to provide proportional AC power to a wide range of resistive loads

Notes: A B D J K



Compatible Accessories
Page 81

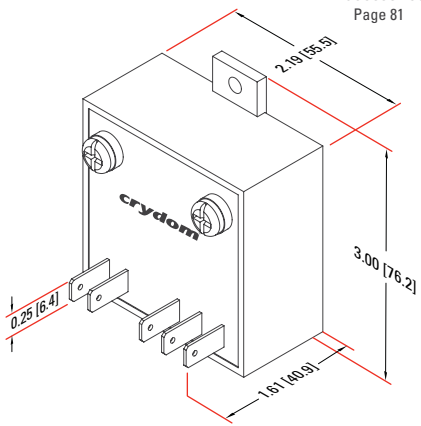
Series

Operating Voltage
24: 20-300 VAC

10 **LPCV** **24** **25**

Control Voltage
5: 0-5 VDC
10: 0-10 VDC
20: 4-20 mAmps

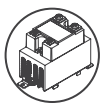
Rated Load Current
15: 15 Amps
25: 25 Amps
40: 40 Amps
75: 75 Amps
110: 110 Amps



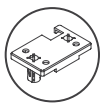
SMR-6 Series • 25-90 Amps

- Solid State Relay with built-in current monitoring & diagnostics circuit
- Ratings from 25 to 90 Amps @ 60-280 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Inverting or non-inverting Control Voltage (flexible 8-32 VDC)
- Normally Open or Normally Closed alarm output
- Wide range of built-in fault condition monitoring alarms
- Zero Voltage Turn-On (resistive loads) output
- UL 508 overload endurance rated

Notes: A B D J K



Assemblies
Page 71



Protective Cover
Page 74

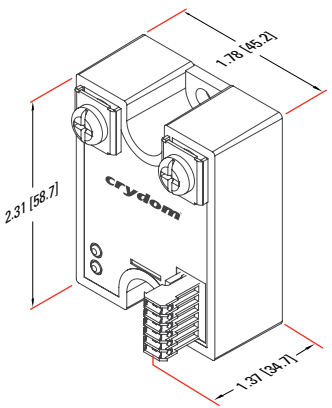
Series

SMR **24** **25** **-6**

Rated Load Current
25: 25 Amps
50: 50 Amps
90: 90 Amps

Operating Voltage
24: 60-280 VAC
48: 96-553 VAC

Features
Input: Inverting or Non Inverting
Alarm Output: Normally Open or Normally Closed

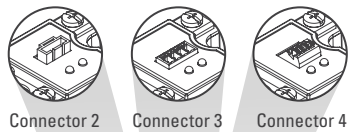


Evolution Dual Series • 25-50 Amps

- Independently controlled dual output Solid State Relay
- Ratings of 25 & 50 Amps @ 24-280 VAC or 48-600 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Optional IP20 “touch safe” Cover for additional user protection
- Flexible 4-32 VDC Control Voltage
- Three Input Connector options for additional assembly flexibility
- LED indicator for each output channel for easy identification of control status
- Zero Voltage Turn-On (resistive loads) output

Notes: A B C D J K

Input Connector options



Series C

Operating Voltage D
24: 24-280 VAC
48: 48-660 VAC

Control Voltage 24
W: 4-32 VDC

Output Terminal Orientation W
U: A channel top, B channel bottom
V: A channel on left, B channel on right

25

2

V

H

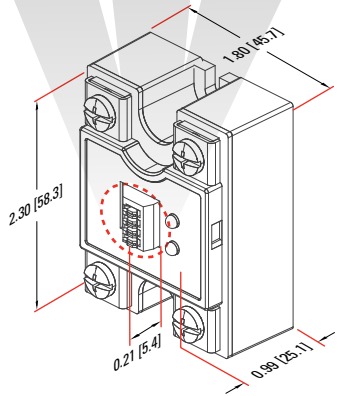
Cover
C: Included
D: Not Included

Rated Load Current
25: 25 Amps
50: 50 Amps

Input Connector
2: Key Locking Connector
3: 4 Pin Connector accepting Screw Terminals
4: 4 Pin Spring Terminal *

Thermal Pad
Blank: Not Included
H: Included

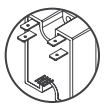
* Drawing shown on the right

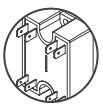


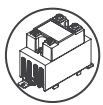
Series 1 Duals • 25-40 Amps

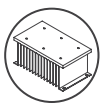
- Independently controlled dual output Solid State Relay
- Ratings of 25 Amps & 40 Amps @ 24-280 VAC or 48-530 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- 4-15 VDC or 15-32 VDC Control Voltage
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Quick Connect termination; 120/240 V models (D24) include pin control termination
- UL 508 overload endurance rated

Notes: A B C D J K


120/240 V Model (D24)


480 V Model (H12D48)


Assemblies Page 71


Heat Sinks & other Accessories Page 75

Series H12D48

Rated Load Current 25
25: 25 Amps
40: 40 Amps

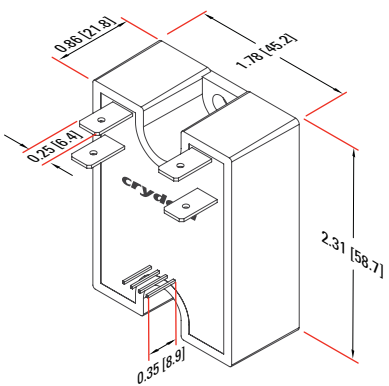
Thermal Pad H
Blank: Not Included
H: Included

-10

Operating Voltage
D24: 24-280 VAC
H12D48: 48-530 VAC

Control Voltage D
D: 4-15 VDC
DE: 15-32 VDC

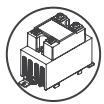
Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On

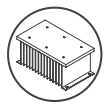


53TP Series • 25-50 Amps

- 3 Phase Solid State Contactor with ratings of 25 & 50 Amps per phase @ 48-530 VAC
- Up to 7.5 HP / 5.5 kW Motor Controller ratings
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- EMC compliant (LEVEL 3) for reliable operation in harsh electrical environments
- Direct Bond Copper (DBC) substrate for superior thermal performance
- R-C Snubber network for additional dv/dt attenuation
- Flexible 4-32 VDC, 18-36 VAC or 90-140 VAC / 180-280 VAC Control Voltage
- LED indicator for easy identification of control status
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Optional IP20 "touch safe" Cover (shown) provides additional user protection
- Internal TVS eliminates the need for external Overvoltage Protection
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- UL 508 overload endurance rated

Notes: A B C D J K


Assemblies
Page 71


Heat Sinks & other Accessories
Page 78

Series

Rated Load Current
25: 25 Amps
50: 50 Amps

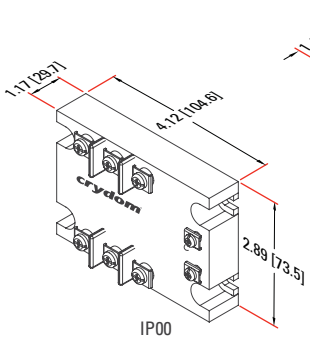
Thermal Pad
Blank: Not Included
H: Included

A	53TP	25	D	H	-10

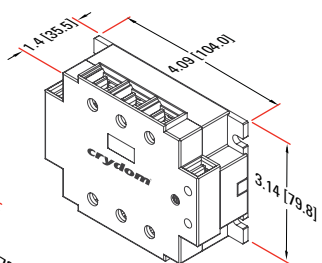
Control Voltage
A: 90-280 VAC (without IP20 cover)
B: 90-140 VAC (with IP20 cover)
C: 180-280 VAC (with IP20 cover)
D: 4-32 VDC
E: 18-36 VAC (with IP20 cover)

Cover
D: Not Included (IP00)
C: Included (IP20)

Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On



IP00

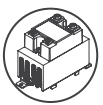


IP20

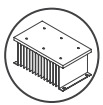
53RV Series • 25-50 Amps

- Motor Reversing Contactor with ratings of 25 & 50 Amps per phase @ 48-530 VAC
- Up to 7.5 HP / 5.5 kW Motor Controller ratings
- Built-in interlock circuit protects the relay/load if both Forward & Reverse inputs are simultaneously actuated
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- EMC compliant (LEVEL 3) for reliable operation in harsh electrical environments
- Direct Bond Copper (DBC) substrate for superior thermal performance
- R-C Snubber network for additional dv/dt attenuation
- Flexible 4-32 VDC Control Voltage
- LED indicators for easy identification of the Forward / Reverse control status
- IP20 "touch safe" Cover provides additional user protection
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- UL 508 overload endurance rated

Notes: A B C D J K



Assemblies
Page 71



Heat Sinks & other Accessories
Page 78

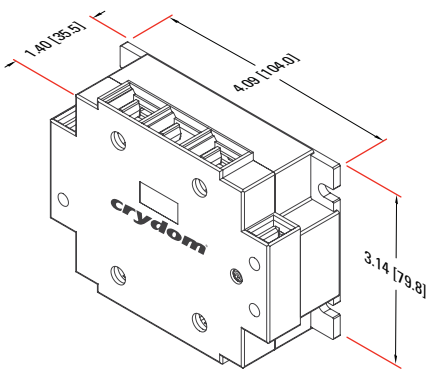
Series
D 53 — Control Voltage
D: 4-32 VDC

Type
RV: 3 Phase Motor Reversing SSR

25 — Rated Load Current/phase
25: 25 Amps
50: 50 Amps

Cover
C: Included

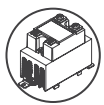
H — Thermal Pad
Blank: Not Included
H: Included



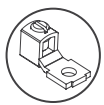
DC60 Series • 3-7 Amps

- Economical bipolar transistor output Solid State Relay
- Ratings up to 7 Amps @ 60 VDC
- Available with either a Normally Open (standard) or Normally Closed ("-B" option) output
- Flexible 3.5-32 VDC or 90-280 VAC/DC Control Voltage
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

Notes: A B C D J K



Assemblies
Page 71



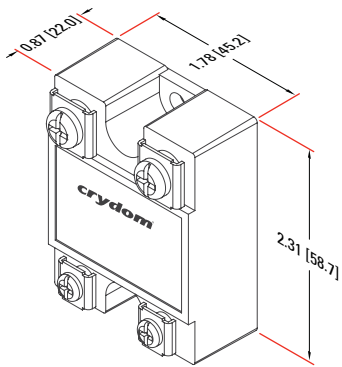
Compatible Accessories
Page 73

Series
DC60

Control Voltage
S: 3.5-32 VDC
SA: 90-280 VAC/DC
SA

Rated Load Current
3: 3 Amps
5: 5 Amps
7: 7 Amps
3

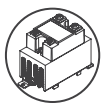
Output Type
Blank: Normally Open
-B: Normally Closed
-B



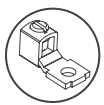
D06D Series • 60-100 Amps

- Solid State Relay with low impedance MOSFET output to minimize total power dissipation
- Ratings from 60 to 100 Amps @ 60 VDC
- Easily paralleled for high current applications
- Flexible 3.5-32 VDC Control Voltage
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

Notes: A B D J K



Assemblies
Page 71



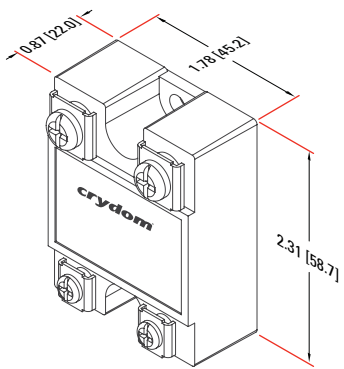
Compatible Accessories
Page 73

Series

Operating Voltage
06D: 0-60 VDC

D **06D** **60**

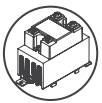
Rated Load Current
60: 60 Amps
80: 80 Amps
100: 100 Amps



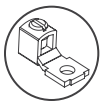
PowerPlus DC Series • 10-100 Amps

- Solid State Relay with ratings up to 100 Amps @ 60 VDC, 100 Amps @ 100 VDC, 60 Amps @ 200 VDC and 20 Amps @ 400 VDC
- Flexible 4-32 VDC or 90-140 VAC Control Voltage
- Optional IP20 "touch safe" Cover for additional user protection (option "C") & thermal interface pad (option "H")
- Optically isolated high speed trigger circuit for enhanced switching
- Easily paralleled for high current applications
- Low impedance MOSFET output minimizes total power dissipation
- LED indicator for easy identification of control status
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)
- UL General Use (resistive) ratings

Notes: A B C D J K



Assemblies
Page 71



Compatible Accessories
Page 73

Series DC

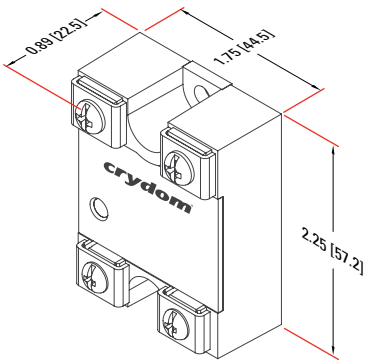
100 — **Operating Voltage**
60: 7-48 VDC
100: 7-72 VDC
200: 7-150 VDC
400: 7-300 VDC

A — **Control Voltage**
A: 90-140 VAC
D: 4-32 VDC

40 — **Rated Load Current**
10: 10 Amps
20: 20 Amps (Not valid with 400A suffix)
40: 40 Amps (Not valid with 400x suffixes)
60: 60 Amps (Not valid with 200A, 400x suffixes)
80: 80 Amps (60D & 100D suffixes only)
100: 100 Amps (60D & 100D suffixes only)

C — **Cover**
Blank: Not Included
C: Included

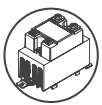
H — **Thermal Pad**
Blank: Not Included
H: Included



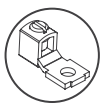
Series 1 DC • 7-100 Amps

- Solid State Relay with low impedance MOSFET output to minimize total power dissipation
- Ratings up to 100 Amps @ 100 VDC, 40 Amps @ 200 VDC, 12 Amps @ 400 VDC,and 10 Amps @ 500 VDC
- Easily paralleled for high current applications
- Flexible 3.5-32 VDC Control Voltage
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

Notes: A B D J K



Assemblies
Page 71



Compatible Accessories
Page 73

Series

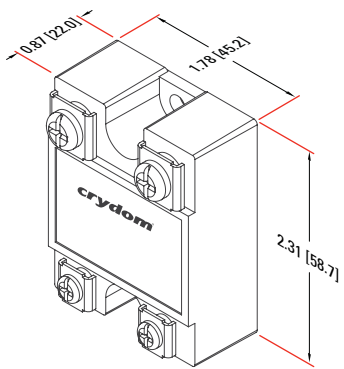
D

Operating Voltage
1D: 0-100 VDC
2D: 0-200 VDC
4D: 0-400 VDC
5D: 0-500 VDC

1D

Rated Load Current
07: 7 Amps
10: 10 Amps (500 VDC only)
12: 12 Amps (not for 500 VDC)
20: 20 Amps (100 VDC only)
40: 40 Amps (100 & 200 VDC only)
60: 60 Amps (100 VDC only)
80: 80 Amps (100 VDC only)
100: 100 Amps (100 VDC only)

07



EL Series • 5-10 Amps

- Mini-puck Solid State Relay to maximize panel space
- Ratings of 5 & 10 Amps @ 3-100 VDC
- Easily paralleled for high current applications
- Low impedance MOSFET output minimizes total power dissipation
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)
- Quick Connect control & output termination for easy installation

Notes: A B D J K

Assemblies
Page 71

Thermal Pad
Page 83

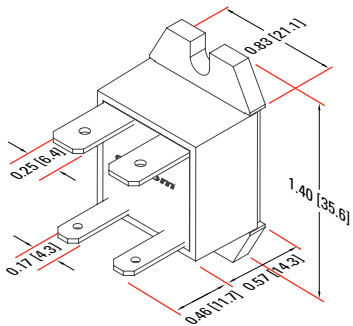
Series

EL **100D** **5** – **05**

Output Voltage
100D: 3-100 VDC

Rated Load Current
5: 5 Amps
10: 10 Amps

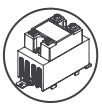
Control Voltage
05: 4-8 VDC
12: 10-14 VDC
24: 21-27 VDC



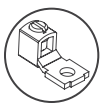
SSC Series • 25 Amps

- Solid State Relay with ratings of 25 Amps @ up to 1k VDC
- High voltage IGBT output
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

Notes: A B D J K



Assemblies
Page 71



Compatible Accessories
Page 73

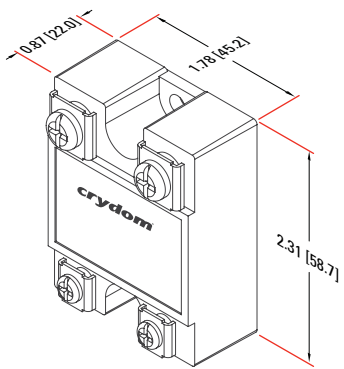
Series

SSC **1000** – **25** – **24**

Operating Voltage
1000: 0-1000 VDC

Rated Load Current
25: 25 Amps

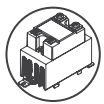
Control Voltage
12: 8-16 VDC
24: 20-28 VDC
36: 32-40 VDC



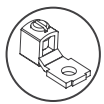
LVD Series • 40-100 Amps

- Low Voltage Disconnect with ratings up to 100 Amps @ 3-75 VDC
- Monitors and automatically disconnects battery systems from loads at low voltage conditions to prevent deep discharge of the batteries
- Low impedance MOSFET output minimizes total power dissipation
- Six DC control ranges available for a variety of 12 VDC and 24 VDC battery systems

Notes: A B C D J K



Assemblies
Page 71



Compatible Accessories
Page 73

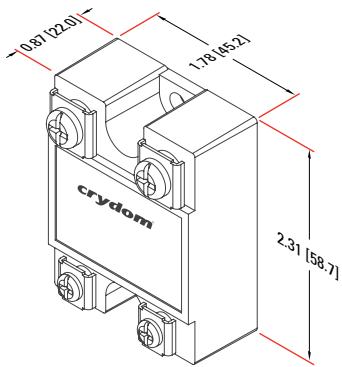
Series
LVD

Operating Voltage
75: 3-75 VDC

Control Voltage Code
A: 36 VDC max., Hysteresis 11.0-11.5 VDC
B: 36 VDC max., Hysteresis 11.5-12.0 VDC
C: 36 VDC max., Hysteresis 12.0-12.5 VDC
D: 36 VDC max., Hysteresis 23.0-24.0 VDC
E: 36 VDC max., Hysteresis 24.0-25.0 VDC
F: 36 VDC max., Hysteresis 25.6-26.6 VDC

Rated Load Current
40: 40 Amps
60: 60 Amps
80: 80 Amps
100:100 Amps

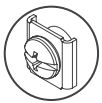
Thermal Pad
Blank: Not Included
H: Included

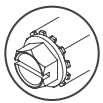


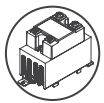
DP Series • 20-60 Amps

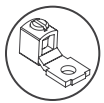
- Motor Reversing Contactor with ratings up to 60 Amps @ 48 VDC
- Low impedance MOSFET switches in an H-Bridge configuration for motor reversing
- Control features to combine Soft Start/Ramp Up, Soft Stop/Ramp Down & Braking functions on each polarity
- Built-in interlock circuit protects the relay/load if both Forward & Reverse inputs are simultaneously actuated
- UL & IEC General Use & Motor Controller ratings
- LED indicators for easy identification of the Forward / Reverse control status

Notes: A B C D J K


20 Amps Model


40 & 60 Amps Model


Assemblies
Page 71


Compatible Accessories
Page 73

Series

DP **4R** **SB** **60** **D** **40** **B** **H**

Start Mode
Blank: Instant Start
SA: Soft Start/Ramp Up, 0.2 sec
SB: Soft Start/Ramp Up, 0.5 sec
SC: Soft Start/Ramp Up, 1 sec

Control Voltage
D: 4.5-15 VDC
E: 18-32 VDC

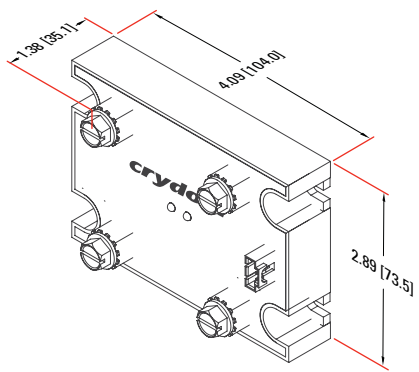
Stop Mode
Blank: Stop Mode matches Start Mode
B2: Dynamic Brake, 0.2 sec
B5: Dynamic Brake, 0.5 sec
B8: Dynamic Brake, 0.8 sec
B: Dynamic Brake, Continuous

Function
4R: 4 Channel DC Reversing

Operating Voltage
60: 48 VDC

Load Rated Current
20: 20 Amps
40: 40 Amps
60: 60 Amps

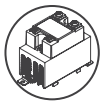
Thermal Pad
Blank: Not Included
H: Included



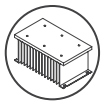
HDC Series • 120-160 Amps

- High current solid state contactor with rating up to 160 Amps @ 150 VDC
- Single Pole Single Throw Normally Open Operation (SPST/N.O.)
- Flexible 4.5-32 VDC or 90-140 VAC Control Voltage
- Low impedance MOSFET output minimizes total power dissipation
- LED Input Status indicator standard
- 5/16 inch diameter output terminal studs for large diameter wires and lugs
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)
- A pre-attached Thermal Pad can be ordered to eliminate the need for thermal compound using the "H" suffix
- UL 508 overload endurance rated

Notes: A B C D J K



Assemblies
Page 71



Heat Sinks & other Accessories
Page 78

Series
HDC

Operating Voltage
60: 7-48 VDC
100: 7-72 VDC
200: 7-150 VDC

100

Control Voltage
A: 90-140 VAC
D: 4.5-32 VDC

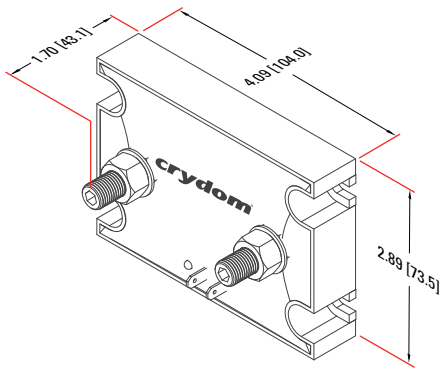
A

Rated Load Current
120: 120 Amps
160: 160 Amps

120

Thermal Pad
Blank: Not Included
H: Included

H



PCB Mount

Crydom offers an extensive line of PCB Mount Solid State Relays including the **popular industry standard footprint SIP, Mini SIP and DIP configurations** and most Crydom SIP type SSRs are also offered as DIN Rail mountable Assemblies.

Models are available for applications requiring ratings from **1 to 25 Amps at 24 to 660 VAC** or **1 to 20 Amps at 1 to 200 VDC**. Inputs are available covering 24 to 140 VAC or 3 to 32 VDC depending upon model. Excepting some AC output models rated greater than 10 Amps where forced air is used for improved output ratings (forced air is not required for DC output), all Crydom PCB Mount Relay output ratings are based upon free air and 40 °C ambient.

See the product pages for a summary of **available package size and pin out, ratings, features and Safety Agency approvals**. Visit the SSR Assemblies section of the catalog or the Crydom website for additional information on Crydom PCB Mount SSRs and Assemblies.

AC Output

Page	Series	Description	Rating Amps: Solid State Relays 1	1.5	2	3	4	5	8	12	25
36	ASO	Mini SIP		■	■						
37	MP	SIP				■	■				
38	CX	SIP						■			
39	MCX	SIP						■			
40	LS	SIP							■	■	
41	PF	SIP									■
42	DPA	DIP	■								
43	SDV	DIP		■							

DC Output

Page	Series	Description	Rating Amps: Solid State Relays 3	5	6	10	20
44	DMO	Mini SIP	■				
45	CMX	SIP	■	■	■	■	■
46	MP	SIP	■				

ASO Series • 1.5-2 Amps

- Compact design Solid State Relay ideally suited for high density PCB applications
- Ratings up to 2 Amps @ 12-280 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Solderable 0.015" x 0.030" [0.4 mm x 0.8 mm] pins can also plug fit SIP type IC socket

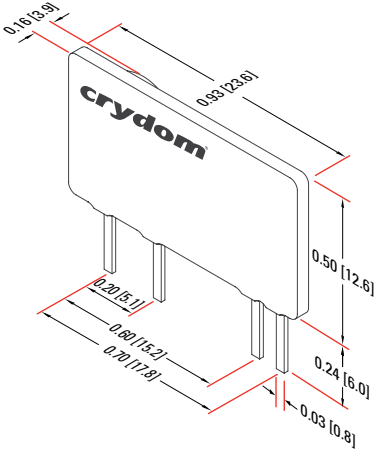
Notes: A B C D J

Series

Rated Load Current
241: 1.5 Amps
242: 2 Amps

ASO 241 R

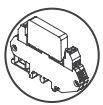
Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On



MP Series • 3-4 Amps

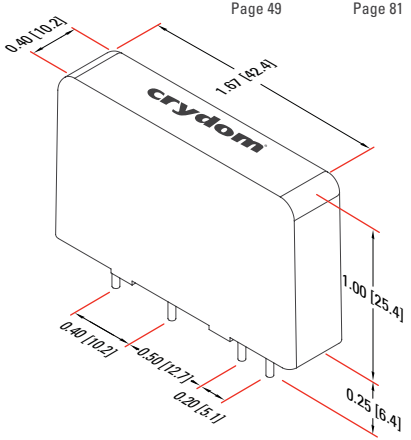
- SIP Solid State Relay ideally suited for high density PCB applications
- Ratings up to 4 Amps @ 24-280 VAC
- Control Voltage of 3-32 VDC
- 10 mm plastic housing allows for operation at -40ºC

Notes: A B D J



DIN Rail Model
Page 49

Sockets
Page 81



Series

MP

Operating Voltage
120: 12-140 VAC
240: 24-280 VAC

240

Control Voltage
D: 3-32 VDC

D

Rated Load Current
3: 3 Amps
4: 4 Amps (240 suffix only)

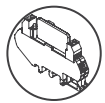
3

CX Series • 5 Amps

crydom classics

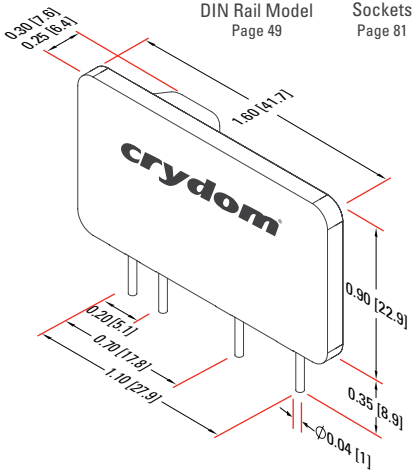
- SIP Solid State Relay ideally suited for high density PCB applications
- Ratings up to 5 Amps @ 48-660 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- High surge current rating
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- AC or DC Control Voltage options
- UL 508 overload endurance rated

Notes: A B C D J



DIN Rail Model
Page 49

Sockets
Page 81



Series

CX **E** **240** **D** **5** **R**

Operating Voltage
240: 12-280 VAC
380: 48-530 VAC
480: 48-660 VAC

Rated Load Current
5: 5 Amps

Control Voltage
Blank: 3-15 VDC
(240 & D suffix only)
4-15 VDC
(380/480 & D suffix only)
90-140 VAC (A suffix only)
E: 15-32 VDC (D suffix only)
18-36 VAC (A suffix only)

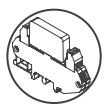
Control Input Type
D: DC Input
A: AC Input

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

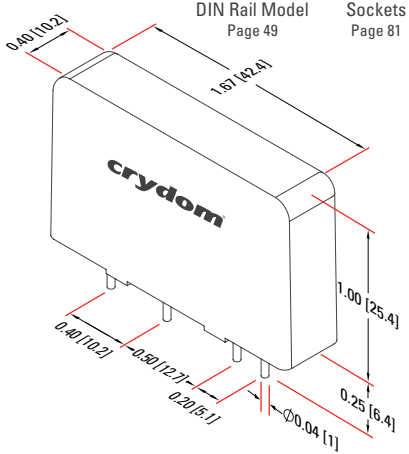
MCX Series • 5 Amps

- SIP Solid State Relay ideally suited for high density PCB applications
- Ratings up to 5 Amps @ 48-660 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- High surge current rating
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- AC or DC Control Voltage options
- 10 mm plastic housing allows for operation at -40°C

Notes: A B C D J


DIN Rail Model
Page 49


Sockets
Page 81



Series

MCX **E** **240** **D** **5** **R**

Control Voltage
Blank: 3-15 VDC
(240 & D suffix only)
4-15 VDC
(380/480 & D suffix only)
90-140 VAC (A suffix only)
E: 15-32 VDC (D suffix only)
18-36 VAC (A suffix only)

Operating Voltage
240: 12-280 VAC
380: 48-530 VAC
480: 48-660 VAC

Control Input Type
D: DC Input
A: AC Input

Rated Load Current
5: 5 Amps

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

LS Series • 8-12 Amps

- SIP Solid State Relay ideally suited for high density PCB applications
- Ratings up to 12 Amps @ 24-280 VAC with external heat sink
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output

Notes: A B C D J

Series

LS

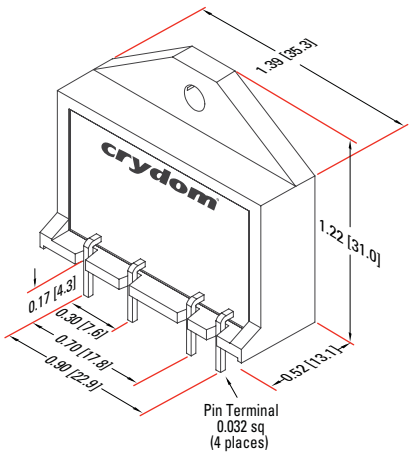
E — Control Voltage
Blank: 4-10 VDC
E: 20-28 VDC

240 — Operating Voltage
240: 24-280 VAC

D — Control Input Type
D: DC Input

12 — Rated Load Current
8: 8 Amps
12: 12 Amps

R — Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

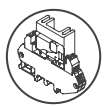


PF Series • 25 Amps

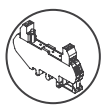
crydom classics

- SIP Solid State Relay ideally suited for high density PCB applications
- Ratings up to 10 Amps (convection) or 25 Amps (forced air flow) @ 48-660 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- AC or DC Control Voltage options

Notes: A B C D J



DIN Rail Model
Page 49



Sockets
Page 81

Series

PF **E** **240** **D** **25** **R**

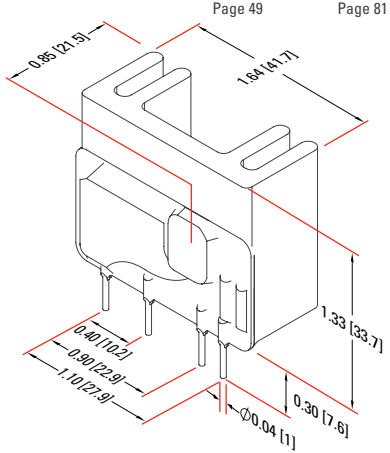
Operating Voltage
240: 12-280 VAC
380: 48-530 VAC
480: 48-660 VAC

Rated Load Current
25: 25 Amps

Control Voltage
Blank: 3-15 VDC
(240 & D suffix only)
4-15 VDC
(380/480 D suffix only)
90-140 VAC (A suffix only)
E: 15-32 VDC (D suffix only)
18-36 VAC (A suffix only)

Control Input Type
D: DC Input
A: AC Input

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On



DPA Series • 1 Amp

- DIP Solid State Relay ideally suited for high density PCB applications
- Ratings to 1 Amp @ 280 VAC
- Control options include 3.5-10 VDC or 10-35 mAmps DC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Solderable Pin layout fits IC grid pattern and pluggable IC DIP type sockets

Notes: A B D J

Series

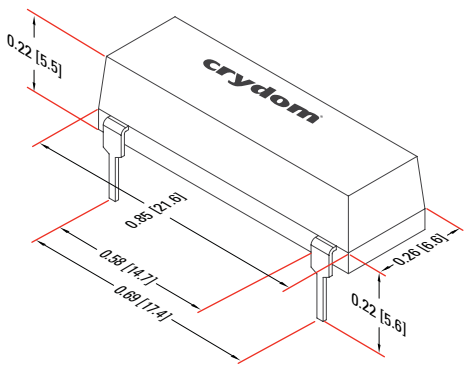
DPA

Operating Voltage
41: 20-140 VAC
61: 20-280 VAC

41

Control Voltage
11: 10-35 mA DC
19: 3.5-10 VDC

19



SDV Series • 1.5 Amps

- DIP Solid State Relay ideally suited for high density PCB applications
- Ratings to 1.5 Amps @ 280 VAC
- Control Voltage of 3.5-10 VDC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Solderable Pin layout fits IC grid pattern and pluggable IC DIP type sockets

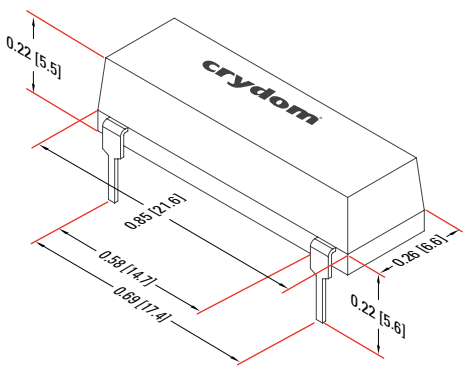
Notes: A B C D J

Series
SDV

Operating Voltage
24: 12-280 VAC

Rated Load Current
15: 1.5 Amps

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On



DMO Series • 3 Amps

- Compact design Solid State Relay ideally suited for high density PCB applications
- Ratings up to 3 Amps @ 60 VDC
- 3-10 VDC Control Voltage
- Low impedance MOSFET output minimizes total power dissipation
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)
- Solderable 0.015" x 0.030" [0.4 mm x 0.8 mm] pins can also plug fit SIP type IC socket
- Easily paralleled for high current applications

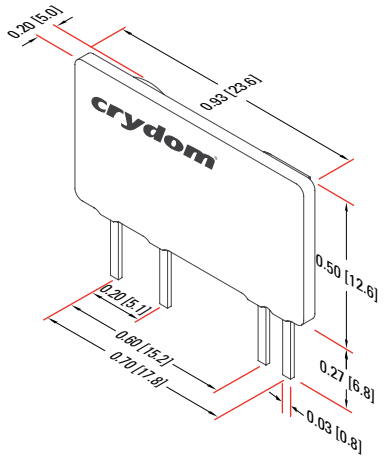
Notes: A B D J

Series

DMO

Rated Load Current

063: 3 Amps

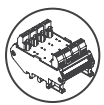


CMX Series • 3-20 Amps

- SIP Solid State Relay ideally suited for high density PCB applications
- Low impedance MOSFET output minimizes total power dissipation
- Ratings up to 20 Amps @ 60 VDC, 10 Amps @ 100 VDC or 3 Amps @ 200 VDC
- Easily paralleled for high current applications
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

Notes: A B C D J

DIN Rail Model
Page 61



Sockets
Page 81

Series

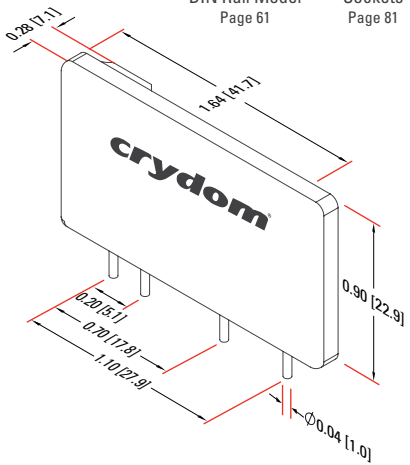
CMX **E** **200** **D** **5**

Operating Voltage
60: 0-60 VDC
100: 0-100 VDC
200: 0-200 VDC

Rated Load Current
3: 3 Amps (200 VDC only)
5: 5 Amps (60 VDC only)
6: 6 Amps (100 VDC only)
10: 10 Amps (60 & 100 VDC only)
20: 20 Amps (60 VDC only)

Control Voltage
Blank: 3-10 VDC
E: 20-28 VDC

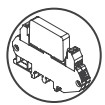
Control Input Type
D: DC Input



MP Series • 3 Amps

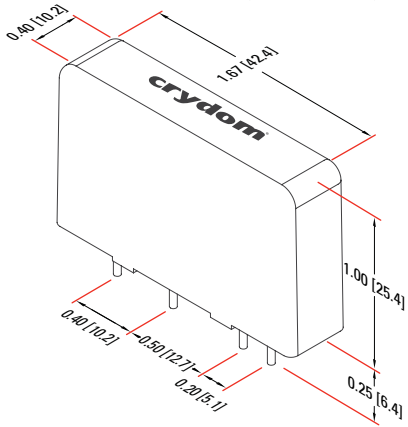
- SIP Solid State Relay ideally suited for high density PCB applications
- Ratings up to 3 Amps @ 60 VDC
- 10 mm plastic housing allows for operation at -40ºC
- Normally Closed version available ("-B" suffix option)
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

Notes: A B C D J



DIN Rail Model
Page 61

Sockets
Page 81



Series

Operating Voltage
DC: 3-60 VDC

Rated Load Current
3: 3 Amps

MP DC D 3 -B

Control Voltage
D: 3-32 VDC

Output Form
Blank: Normally Open
-B: Normally Closed

DIN Rail Mount

Crydom DIN Rail Mounted Solid State Relays and Contactors are available with single, dual and 3 phase outputs. Industry standard 22.5 mm and 45 mm single phase packages are available from **10 to 65 Amps**. Slim 6 to 18 mm high power density packages are available from **0.1 to 12 Amps** for space restricted panels. Inputs cover the range of **24 to 280 VAC or 3 to 32 VDC** and feature LED input status indicator.

Crydom DIN Rail mounted SSRs and Contactors are "ready-to-use" and carry Safety Agency approvals as noted on each catalog sheet. Visit the DIN Rail SSR and Contactors section of the catalog or Crydom website for additional information on Crydom DIN Rail Mount SSRs and Contactors.

AC Output

Page	Series	Description	Rating Amps: 2	2.4	3	4	4.2	4.8	5	6	7.6	8	10	12	20	25	30	35	45	55	65
Solid State Relays																					
48	DRA-CN	6 mm	■																		
49	DRA	10/54 mm	■		■	■			■			■									
50	SeriesOne DR	11 mm			■					■				■							
51	CKR	22.5 mm											■		■		■				
52	CMR	45 mm																■	■	■	■
53	SeriesOne DR Dual	18 mm								■											
Solid State Relay Timers																					
54	SeriesOne DR Timer	Timer								■											
Solid State Contactors																					
55	DRA3P	3 Phase		■			■														
56	DRA3R	Reversing		■			■														
57	CTR	3 Phase														■					
58	DRC3P	3 Phase						■			■										
59	DRC3R	Reversing									■										

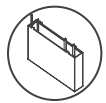
DC Output

Page	Series	Description	Rating Amps: 0.1	3	3.5	5	6	8	10	12	20	30
Solid State Relays												
60	DRA-CN	6 mm	■		■		■			■		
61	DRA	10/54 mm		■		■	■	■	■			
62	SeriesOne DR	11/18 mm		■			■			■		
63	CKM	22.5 mm							■		■	■
Solid State Relay Timers												
64	SeriesOne DR Timer	Timer					■					
Solid State Contactors												
65	DRA4D	Reversing					■			■		

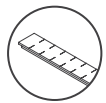
DRA-CN Series • 2 Amps

- Thin 6.2 mm DIN Rail mount Solid State Relay
- Replaceable CN Series SSR with ratings of 2 Amps @ 240 VAC
- LED indicator for easy identification of control status
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output

Notes: A B C D J



Plug-In Mount Relays
Page 67



ID Marker Strips
Page 80

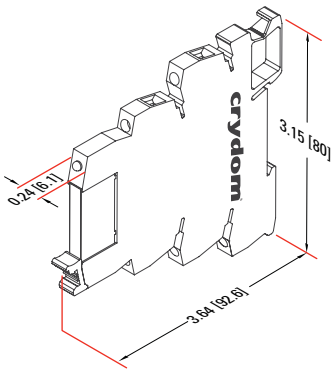
Series

Operating Voltage
240A: 24-250 VAC, 2 Amps

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

DRA-CN | 240A | 24 | R

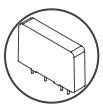
Assembly Input Voltage
05: 3-12 VDC
24: 15-30 VDC



DRA Series • 3-10 Amps

- Ready-to-use DIN Rail mountable Solid State Relays assemblies using standard Crydom SIP SSRs
- Slim 10 mm (single channel) & 54 mm (four channels) packages
- Ratings from 3 to 10 Amps
- Operating Voltage of 12-380 VAC with back-to-back SCR output for added reliability in commercial and heavy industrial applications
- Fits standard 35 mm DIN Rail profiles
- Cage style screw termination for easy and reliable wire connection
- AC & DC Control Voltage versions available depending upon selected SSR
- Available with Normally Closed output
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- LED indicator for easy identification of control status

Notes: A B D H J



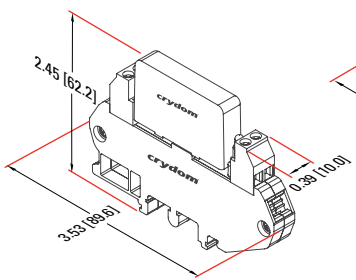
PCB Mount Relays
Page 35

Series

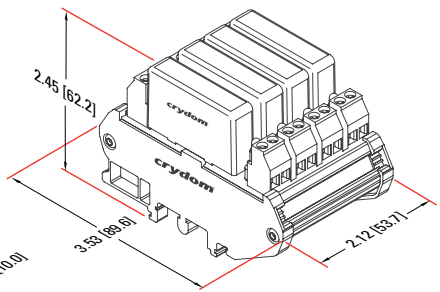
Number of Channels
1: One N.O. Channel
4: Four N.O. Channels

DRA **1** – **CXE240D5**

Standard Crydom SSR p/n
including the following series:
CX/CXE
MCX/MCXE
MP (One Channel only)
PF (One Channel only)



DRA1 with MP Series SSR
(One channel)

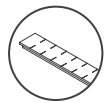


DRA4 with MP Series SSR
(Four channels)

SeriesOne DR • 3-12 Amps

- DIN Rail mount 11 mm (3 & 6 Amps) or 18 mm (12 Amps) wide Solid State Relay
- Operating Voltage of 24-280 VAC and 48-600 VAC
- Fits standard 35 mm DIN Rail profiles
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible Control Voltage of 4-32 VDC, 18-36 VAC, 90-140 VAC, 200-265 VAC
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- IP20 housing for greater safety
- LED indicator for easy identification of control status
- UL & cUL listed
- UL 508 overload endurance rated

Notes: A B C D J



ID Marker Strips
Page 80

Series

DR

Operating Voltage
24: 24-280 VAC
48: 48-600 VAC

24

Control Voltage
A: 200-265 VAC
B: 90-140 VAC
D: 4-32 VDC
E: 18-36 VAC

A

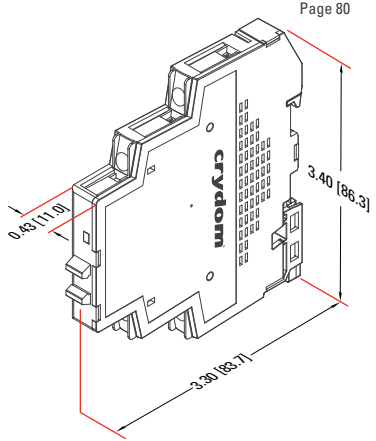
Rated Load Current
03: 3 Amps*
06: 6 Amps*
12: 12 Amps

12

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On
(D suffix only)

R

* Drawing shown on the right



CKR Series • 10-30 Amps

- Solid State Relay with ratings from 10 to 30 Amps
- Operating Voltage of 24-660 VAC
- Fits standard 35 mm DIN Rail profiles
- Slim 22.5 mm (width) package
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible Control Voltage of 4-32 VDC, 18-36 VAC, 90-140 VAC, 110-280 VAC
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- LED indicator for easy identification of control status
- Elective Internal TVS ("P" suffix) eliminates the need for external Overvoltage Protection
- Enhanced surge current ratings for the 30 Amps (facilitates the use of circuit breakers instead of fuse protection)

Notes: A B C D J

Series

CKR | **D** | **24** | **10** | **E** | **P** | **-10**

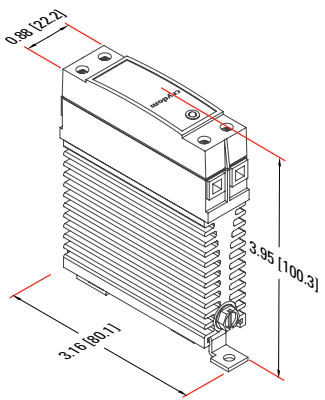
Control Voltage
D: 4-32 VDC
B: 90-140 VAC
A: 110-280 VAC
AxxxxE: 18-36 VAC

Operating Voltage
24: 24-280 VAC
48: 48-530 VAC
60: 48-660 VAC

Rated Load Current
10: 10 Amps
20: 20 Amps
30: 30 Amps

Overvoltage Protection
Blank: Not Included
P: Included

Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On



CMR Series • 35-65 Amps

crydom classics

- Solid State Relay with ratings from 35 to 65 Amps
- Operating Voltage of 24-660 VAC
- Fits standard 35 mm DIN Rail profiles
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible Control Voltage of 4-32 VDC, 18-36 VAC, 90-140 VAC
- Available with Zero Voltege Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- LED indicator for easy identification of control status
- Elective Internal TVS (“P” suffix) eliminates the need for external Overvoltage Protection

Notes: A B C D J

Series

CMR

Control Voltage
D: 4-32 VDC
A: 90-140 VAC
AxxxxE: 18-36 VAC

A

Operating Voltage
24: 24-280 VAC
48: 48-530 VAC
60: 48-660 VAC

24

Rated Load Current
35: 35 Amps
45: 45 Amps
55: 55 Amps
65: 65 Amps

35

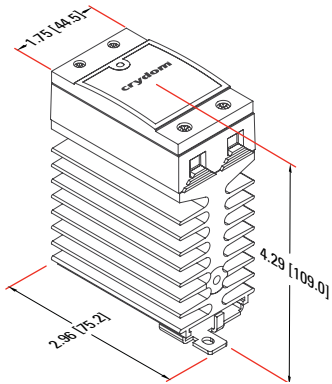
E

Overvoltage Protection
Blank: Not Included
P: Included

P

Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On

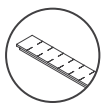
-10



SeriesOne DR Dual • 6 Amps

- DIN Rail mount 18 mm wide Solid State Dual Relay
- Two independent channels (6 Amps)
- Operating Voltage of 24-280 VAC and 48-600 VAC
- Fits standard 35 mm DIN Rail profiles
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible Control Voltage of 4-32 VDC
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- IP20 housing for greater safety
- LED indicator for easy identification of control status
- UL & cUL listed
- UL 508 overload endurance rated

Notes: A B C D J



ID Marker Strips
Page 80

Series DR

Operating Voltage
24: 24-280 VAC
48: 48-600 VAC

Rated Load Current
06: 6 Amps per channel

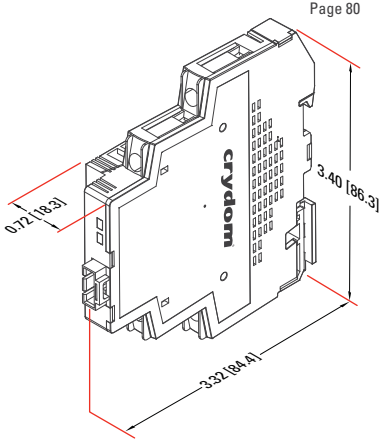
D — **Number of Channels**
D: Two N.O. Channels

24

D — **Control Voltage**
D: 4-32 VDC

06

R — **Switching Type**
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On



SeriesOne DR Timer • 6 Amps

- DIN Rail mount 11 mm (6 Amps) Solid State Relay Timer
- Operating Voltage of 24-280 VAC
- Fits standard 35 mm DIN Rail
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Universal Control Voltage of 12-24, 90-140 & 180-240 VAC/DC
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- IP20 housing for greater safety
- LED indicator for easy identification of control status
- UL listed & cUL recognized
- UL 508 overload endurance rated

Notes: A B C D J

Series

DRT **A** **24** **B** **06** **R**

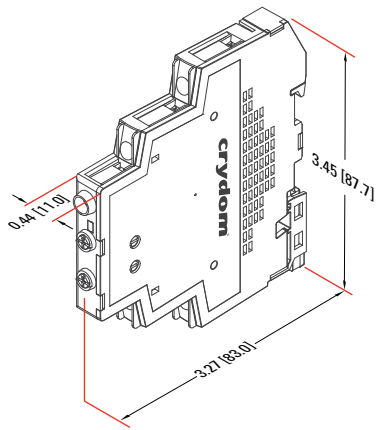
Timing Function
A: A/At, Delay on Make
B: Single Shot
C: Delay on Break
H: H/Ht, Interval
L: L/Li, Repeat Cycle
U: Multifunction (A/At, H/Ht, D/Di, B, C, Ac & Bw)

Operating Voltage
24: 24-280 VAC

Control Voltage
A: 180-240 VAC/DC
B: 90-140 VAC/DC
D: 12-24 VAC/DC

Rated Load Current
06: 6 Amps

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On



DRA3P Series • 2.4-4.2 Amps

- 2.4 & 4.2 Amp rated 3 phase Solid State Contactor
- Operating Voltage of 48-510 VAC, 3-Phase
- Fits standard 35 mm DIN Rail profiles
- No heat sink required & cage style screw terminals for easy installation & reliable wire connection
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Wide range of Control Voltage of 5 VDC, 24 VDC, 48 VAC, 115 VAC, 230 VAC
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- LED indicator for easy identification of control status
- Overvoltage Protection included
- HP & kW (IEC) rated
- UL 508 overload endurance rated

Notes: A B C D J

Series
DRA

Function
3P: 3 Phase

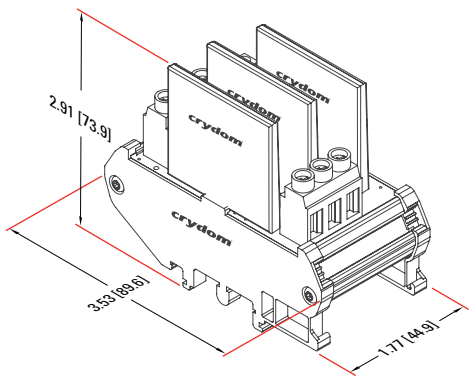
Operating Voltage
48: 48-510 VAC

Control Voltage
D: 4-6 VDC
E: 18-28 VDC
A: 200-265 VAC
B: 90-140 VAC
C: 36-60 VAC

Rated Load Current
2: 2.4 Amp/ 1HP @ 480 VAC
4: 4.2 Amp/ 2HP @ 480 VAC

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

Controlled Legs
Blank: 3 Legs
2: 2 Legs



DRA3R Series • 2.4-4.2 Amps

- 2.4 & 4.2 Amps rated Motor Reversing Solid State Contactor
- Operating Voltage 48-510 VAC, 3 phase
- Protective Forward/Reverse interlock built-in function
- Fits standard 35 mm DIN Rail profiles
- No heat sink required & cage style screw terminals for easy installation & reliable wire connection
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Wide range of Control Voltage of 5 VDC, 24 VDC, 48 VAC, 115 VAC, 230 VAC
- Input status LED, Forward (green), Reverse (yellow)
- Overvoltage Protection included
- HP & kW (IEC) rated
- UL 508 overload endurance rated

Notes: A B D J

Series

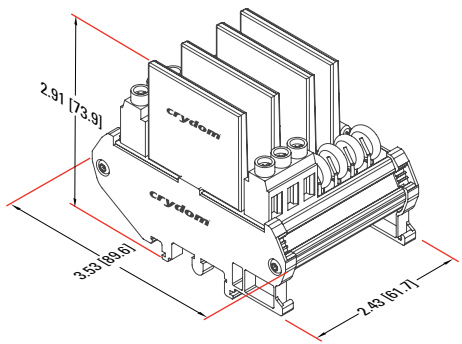
DRA **3R** **48** **D** **4**

Function
3R: Motor Reverser

Operating Voltage
40: 48-415 VAC
48: 48-510 VAC

Control Voltage
D: 4-6 VDC
E: 18-28 VDC
A: 200-265 VAC
B: 90-140 VAC
C: 36-60 VAC

Rated Load Current
2: 2.4 Amps/1HP @ 480 VAC
4: 4.2 Amps/2HP @ 480 VAC



CTR Series • 25 Amps

- 3 Phase Solid State Contactor with ratings 25 Amps per phase @ 600 VAC
- Fits standard 35 mm DIN Rail profiles
- 90 mm width package
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Flexible Control Voltage of 4-32 VDC, 90-140 VAC, 180-280 VAC
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (inductive loads) output
- LED indicator for easy identification of control status
- Internal TVS eliminates the need for external Overvoltage Protection
- UL 508 overload endurance rated

Notes: A B C D J

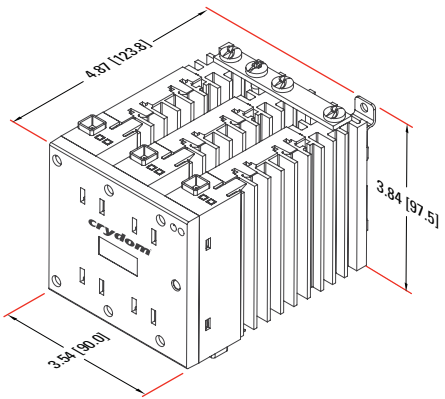
Series
CTR

Control Voltage
B: 90-140 VAC
C: 180-280 VAC
D: 4-32 VDC
D

Operating Voltage
60: 48-600 VAC
60

Rated Load Current
25: 25 Amps/phase
25

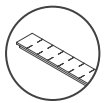
Switching Type
Blank: Zero Voltage Turn-On
-10: Instantaneous Turn-On (DC Control only)
-10



SOLICON DRC3P Series • 7.6 Amps

- 3 Phase Solid State Contactor with ratings of 4.8 & 7.6 Amps per phase @ 480 VAC
- Up to 5 HP / 3.7 kW Motor Controller ratings
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- EMC compliant (LEVEL 3) for reliable operation in harsh electrical environments
- Ultra-efficient thermal management design (Patented)
- Flexible 18-30 VAC/DC, 36-55 VAC/DC, 90-140 VAC or 208-265 VAC Control Voltage
- LED indicator for easy identification of control status
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- Internal TVS eliminates the need for external Overvoltage Protection

Notes: A B C D J



ID Marker Strips
Page 80

Series
DRC

Function
3P: Contactor

Operating Voltage
48: 480 VAC

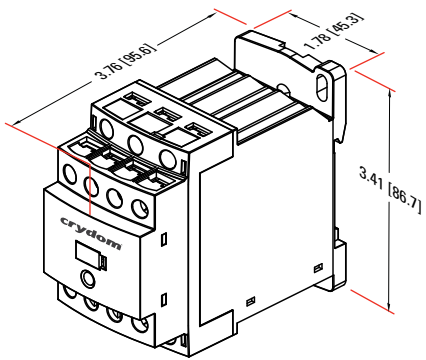
Control Voltage
A: 208-265 VAC
B: 90-140 VAC
C: 36-55 VAC/DC
D: 18-30 VAC/DC

Load Current per Phase / HP Ratings
4: 7.6 Amp FLA (x2 Controlled Legs); 4.8 Amp FLA (x3 Controlled Legs)

Auxiliary Contacts, N.O. - N.C.
00: Not included
11: 1 Solid State Auxiliary Contact, Normally Open; 1 Solid State Auxiliary Contact, Normally Closed
20: 2 Solid State Auxiliary Contacts, Normally Open

Switching Mode
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

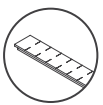
Controlled Legs
Blank: 3 Controlled Legs
2: 2 Controlled Legs



SOLICON DRC3R Series • 7.6 Amps

- Motor Reversing Contactor with rating of 7.6 Amps per phase @ 400-480 VAC
- Up to 5 HP / 3.7 kW Motor Controller ratings
- Built-in interlock circuit protects the relay/load if both Forward & Reverse inputs are simultaneously actuated
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- EMC compliant (LEVEL 3) for reliable operation in harsh electrical environments
- Ultra-efficient thermal management design (Patented)
- Flexible 18-30 VAC/DC, 36-55 VAC/DC, 90-140 VAC or 208-265 VAC Control Voltage
- LED indicator for easy identification of control status and direction (2 colors)

Notes: A B D J



ID Marker Strips
Page 80

Series DRC

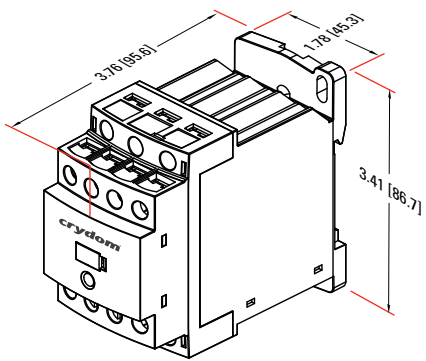
3R — **Function**
3R: Reversing Contactor

48 — **Operating Voltage**
40: 400 VAC
48: 480 VAC

D — **Control Voltage**
A: 208-265 VAC
B: 90-140 VAC
C: 36-55 VAC/DC
D: 18-30 VAC/DC

4 — **Load Current per Phase**
4: 7.6 Amp FLA

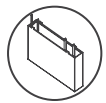
00 — **Auxiliary Contacts, N.O. - N.C.**
00: Not included
20: 2 Solid State Auxiliary Contacts, Normally Open (1 contact for each direction)



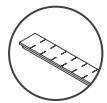
DRA-CN Series • 0.1-3.5 Amps

- Thin 6.2 mm DIN Rail mount Solid State Relay
- Replaceable CN Series SSR with ratings of 3.5 Amps @ 24 VDC or 100 mAmps @ 48 VDC available
- LED indicator for easy identification of control status
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

Notes: A B D J



Plug-In Mount Relays
Page 69



ID Marker Strips
Page 80

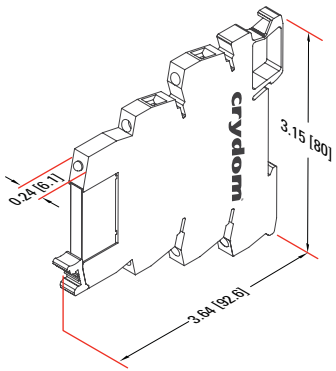
Series DRA-CN

Operating Voltage
024D: 0-24 VDC, 3.5 Amps
048D: 0-48 VDC, 0.1 Amps

024D

Assembly Input Voltage
05: 3-12 VDC
24: 15-30 VDC

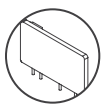
24



DRA Series • 3-10 Amps

- Ready-to-use DIN Rail mountable Solid State Relay assemblies using standard Crydom SIP SSRs
- Slim 10 mm (single channel) & 54 mm (four channels) packages
- Ratings from 3 to 10 Amps per channel
- Operating Voltage of 1-200 VDC with high efficiency FETs
- Fits standard 35 mm DIN Rail profiles
- Cage style screw termination for easy and reliable wire connection
- Available with Normally Closed output
- LED indicator for easy identification of control status

Notes: A B D H J



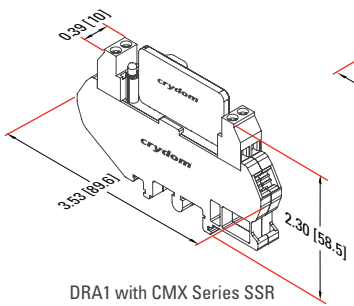
PCB Mount Relays
Page 35

Series

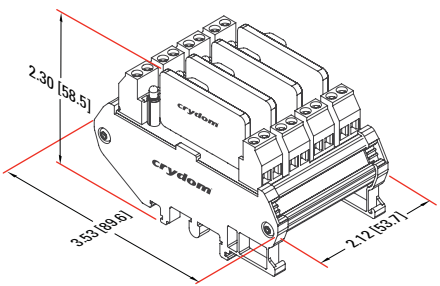
Number of Channels
1: One N.O. Channel
4: Four N.O. Channels

DRA **4** – **CMX100D10**

Standard Crydom SSR p/n
including the following series:
CMX/CMXE
MP (One Channel only)



DRA1 with CMX Series SSR
(One channel)

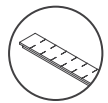


DRA4 with CMX Series SSR
(Four channels)

SeriesOne DR • 3-12 Amps

- DIN Rail mount 11 mm (3 & 6 Amps) or 18 mm (12 Amps) wide Solid State Relay
- 3, 6 & 12 Amps Rated Load Current
- Operating Voltage of 1-60 VDC and 1-100 VDC
- Fits standard 35 mm DIN Rail profiles
- MOSFET output provides added reliability in commercial and heavy industrial applications
- Flexible Control Voltage 4-32 VDC
- IP20 housing for greater safety
- LED indicator for easy identification of control status
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)
- UL & cUL listed including General Purpose & Motor Controller ratings
- UL 508 overload endurance rated

Notes: A B D J



ID Marker Strips
Page 80

Series DR

Operating Voltage
06: 1-60 VDC
10: 1-100 VDC

06

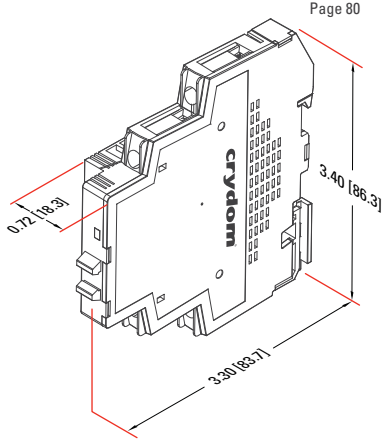
Control Voltage
D: 4-32 VDC

D

Rated Load Current
03: 3 Amps
06: 6 Amps
12: 12 Amps *

12

* Drawing shown on the right



CKM Series • 10-30 Amps

- Solid State Relay with ratings from 10 to 30 Amps @ 60 VDC
- Fits standard 35 mm DIN Rail profiles
- Slim 22.5 mm (width) package
- Low leakage MOSFET output provides added reliability in commercial and heavy industrial applications
- Flexible Control Voltage 4-32 VDC
- LED indicator for easy identification of control status
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)

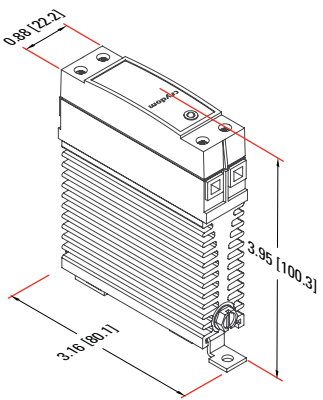
Notes: A B D J

Series

CKM **06** **10**

Operating Voltage
06: 0-60 VDC

Rated Load Current
10: 10 Amps
20: 20 Amps
30: 30 Amps



SeriesOne DR Timer • 6 Amps

- DIN Rail mount 11 mm (6 Amps) Solid State Relay Timer
- Operating Voltage of 1-60 VDC
- Fits standard 35 mm DIN Rail
- Power FET output provides added reliability in commercial and heavy industrial applications
- Universal Control Voltage of 12-24 VAC/DC
- IP20 housing for greater safety
- LED indicator for easy identification of control status
- UL listed & cUL recognized
- UL 508 overload endurance rated

Notes: A B C D J

Series

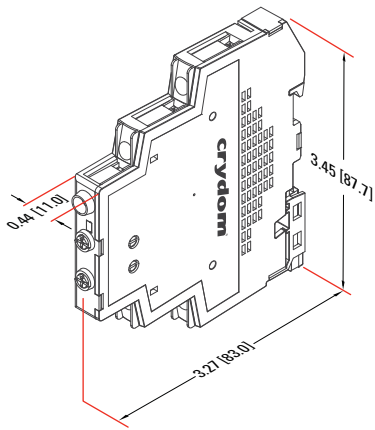
Operating Voltage
06: 60 VDC

Rated Load Current
06: 6 Amps

DRT | A | 06 | D | 06

Timing Function
A: A/At, Delay on Make
B: Single Shot
C: Delay on Break
H: H/Ht, Interval
L: L/Li, Repeat Cycle
U: Multifunction (A/At, H/Ht, D/Di, B, C, Ac & Bw)

Control Voltage
D: 12-24 VAC/DC



DRA4D Series • 6-12 Amps

- DC Motor/Polarity Reversing Solid State Contactor
- 6 & 12 Amps ratings
- Operating Voltage of 1-100 VDC & 1-250 VDC
- Protective Forward/Reverse interlock built-in function
- Fits standard 35 mm DIN Rail profiles
- No heat sink required & cage style screw terminals for easy installation & reliable wire connection
- Convenient FET switches in H-Bridge configuration
- DC Control Voltage options
- Input Status LED, Forward (green), Reverse (yellow)
- HP & kW (IEC) rated

Notes: A B D J

Series

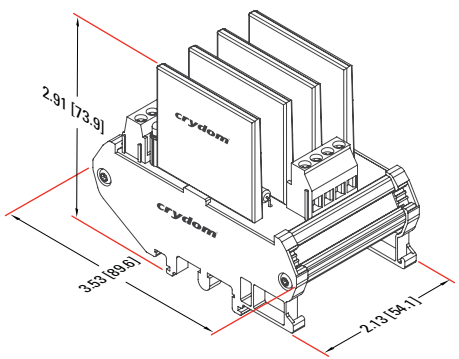
DRA | 4D | 100 | D | 6

Function
4D: Motor Reverser

Operating Voltage
100: 1-100 VDC
250: 1-250 VDC

Control Voltage
D: 5-15 VDC
E: 15-32 VDC

Rated Load Current
6: 6 Amps / 1/4 HP, 2 FLA @ 180 VDC
12: 12 Amps / 1/4 HP, 4 FLA @ 90 VDC



Plug-In Mount

Crydom Plug-In Relays are designed to install in industry standard relay sockets. They can also be soldered directly on PCB assemblies if so desired. Available for applications requiring from **2 to 5 Amps at 24 to 280 VAC** or **0.1 to 5 Amps at 1 to 100 VDC** with inputs covering the range of 24 to 140 VAC or 2 to 32 VDC, these Single Pole Single Throw Normally Open (SPST) relays offer the **speed and dependability of Solid State switching in a traditional mechanical relay format**. Visit the Accessories and Assemblies sections of the catalog for information on compatible sockets and "ready-to-use" Assemblies. Visit the Plug-In SSR section of the catalog or Crydom web site for additional information on Crydom Plug-In Mount SSRs.

AC Output

Page	Series	Description	Rating Amps 2	3	5
			Solid State Relays		
67	CN	280 V / 2 A	■		
68	ED	280 V / 5 A		■	■

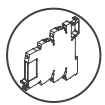
DC Output

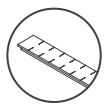
Page	Series	Description	Rating Amps 0.1	3.5	5
			Solid State Relays		
69	CN	1 - 60 V	■	■	
70	ED	1 - 100 V			■

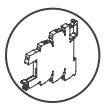
CN Series • 2 Amps

- Thin (5 mm) Solid State Relay ideally suited for high density PCB applications
- Ratings up to 2 Amps @ 24-280 VAC
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- R-C Snubber network for additional dv/dt attenuation
- Pluggable into industry standard relay sockets or solderable
- DIN Rail mountable using DRSCN series sockets
- UL 508 overload endurance rated
- UL pilot duty rated

Notes: A B C D G J


DIN Rail Model
Page 48


ID Marker Strips
Page 80

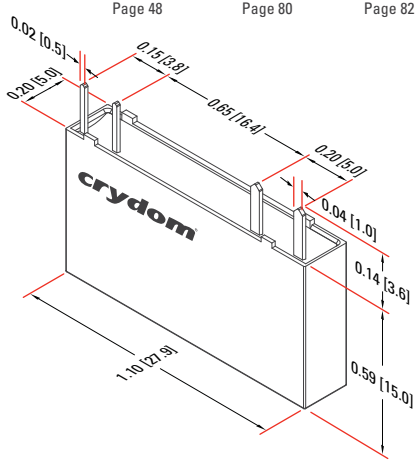

Sockets
Page 82

Series
CN

Operating Voltage
240A: 24-280 VAC, 2 Amps

Control Voltage
05: 3-12 VDC
24: 15-30 VDC
60: 38-72 VDC

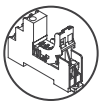
Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On



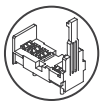
ED Series • 3-5 Amps

- AC Output Solid State Relay in an industry standard EMR plug-in package
- Ratings of 3 & 5 Amps
- Operating Voltage of 24-280 VAC
- No moving parts eliminates arcing & contact bounce, significantly increasing the life expectancy over equivalent rated electromechanical relays and contactors
- Back-to-back SCR output provides added reliability in commercial and heavy industrial applications
- Available with Zero Voltage Turn-On (resistive loads) or Instantaneous Turn-On (phase control or inductive loads) output
- LED indicator for easy identification of control status
- Wide range of AC or DC Control Voltage options
- Quick Connect termination for easy installation in sockets or on boards
- DIN Rail & PCB mountable sockets available
- Silent operation (no acoustical switching noise)
- UL & IEC General Use & Motor Controller Ratings available

Notes: A B C D J



DIN Rail Sockets
Page 82



PCB Sockets
Page 82

Series

Operating Voltage
24: 24-280 VAC

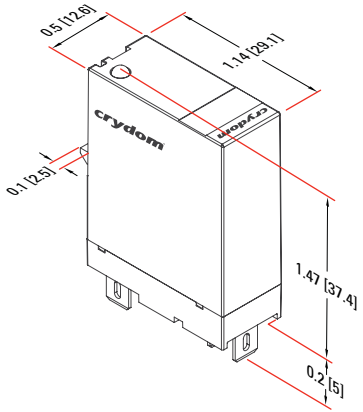
Rated Load Current
3: 3 Amps (not available with B & E suffixes)
5: 5 Amps*

ED **24** **C** **3** **R**

Control Voltage
B: 100-140 VAC
C: 18-32 VDC
D: 3-15 VDC
E: 18-36 VAC
F: 48-72 VDC

Switching Type
Blank: Zero Voltage Turn-On
R: Instantaneous Turn-On

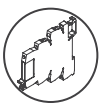
* Drawing shown on the right

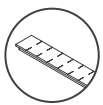


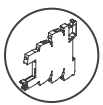
CN Series • 0.1-3.5 Amps

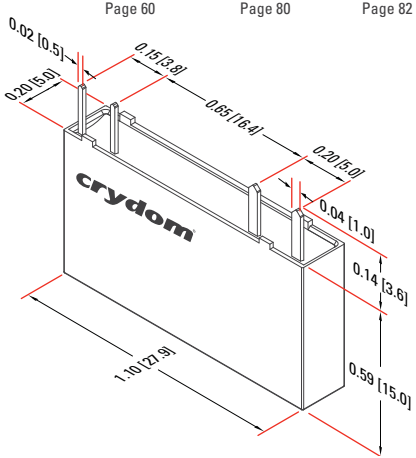
- Thin (5 mm) Solid State Relay ideally suited for high density PCB applications
- Ratings of 0.1 Amps @ 48 VDC or 3.5 Amps @ 48 VDC
- Pluggable into industry standard relay sockets or solderable
- DIN Rail mountable using DRSCN series sockets
- UL 508 overload endurance rated

Notes: A B D G J


DIN Rail Model
Page 60


ID Marker Strips
Page 80


Sockets
Page 82



Series: **CN**

Operating Voltage
024D: 0-24 VDC, 3.5 Amps
048D: 0-48 VDC, 0.1 Amps

024D

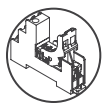
Control Voltage
05: 3-12 VDC
24: 15-30 VDC
60: 38-72 VDC

24

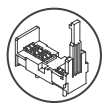
ED Series • 5 Amps

- DC output Solid State Relay in an Industry standard EMR plug-in package
- 5 Amps rated
- Operating Voltage of 1-48 VDC and 1-80 VDC
- No moving parts eliminates arcing & contact bounce, significantly increasing the life expectancy over equivalent rated electromechanical relays and contactors
- LED indicator for easy identification of control status
- Wide range of AC or DC Control Voltage options
- Quick Connect termination for easy installation in sockets or on boards
- DIN Rail & PCB mountable sockets available
- Silent operation (no acoustical switching noise)
- Ideally suited for both resistive and inductive loads (inductive loads such as motors and EMR/solenoid coils must be diode suppressed)
- UL & IEC General Use & Motor Controller Ratings available

Notes: A B D J



DIN Rail Sockets
Page 82



PCB Sockets
Page 82

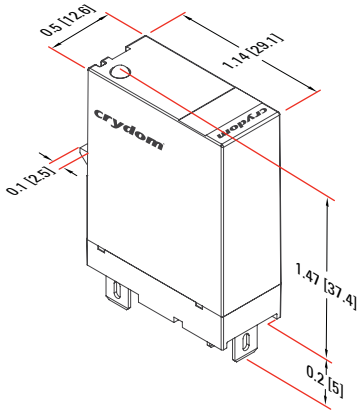
Series
ED

Operating Voltage
06: 1-48 VDC
10: 1-80 VDC

Control Voltage
B: 90-140 VAC *
C: 18-32 VDC
D: 5-15 VDC
E: 18-36 VAC *
F: 48-72 VDC

Rated Load Current
5: 5 Amps

* Drawing shown on the right



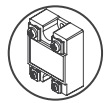
Assemblies

Crydom offers a **variety of "ready-to-use" assemblies** featuring proven Crydom Solid State Relays and Contactors installed in DIN Rail Sockets or on Panel or DIN Rail mounted Heat Sinks. Assemblies are **available for applications ranging from 1 to more than 80 Amps in both AC or DC output versions**. Any standard Crydom Panel Mount or SIP type PCB Mount SSR or Contactor can be offered as a "ready-to-use" Assembly. Contact the nearest Crydom Distributor, Representative or local Crydom Sales Office if you don't locate your exact needed Assembly in the catalog or in the Crydom website.

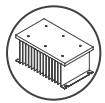
Heat Sink / SSR Assemblies

- Standard single, dual and 3 phase SSRs mounted on high efficiency HS Series heat sinks
- Ready-to-use assemblies with optimum SSR / thermal pad / heat sink combination simplifying selection, ordering and installation
- Thermal efficiency ratings from 5.0°C/W to 0.25°C/W @ 40°C ambient
- Full SSR assembly ratings up to 82.5 Amps (single phase) or 27.5 Amps per phase (three phase) in a 40°C ambient
- DIN Rail and Panel mountable versions available for both stand-alone heat sinks and SSR assemblies (most models)
- Customized solutions available using single, dual and 3 phase SSRs
- Wide variety of accessories available

Notes: A B C D E F



Panel Mount Relays
Page 8



Heat Sinks & other Accessories
Page 75

Series

Total Number of Accepted Standard SSRs
1: 1 SSR (50, 30, 25, 20, 15 & 10 suffix only)
2: 1 or 2 SSRs (20, 17, 12 & 07 suffix only)
3: 1-3 SSRs or one 3phase (10, 07, 05, 03 & 02 suffix only)

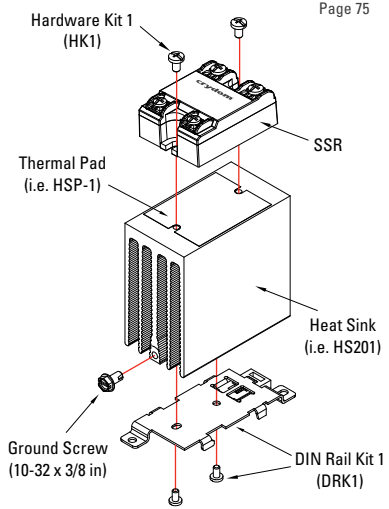
Standard Crydom SSR p/n

HS **17** **2** **DR** – **2** **D2450**

Thermal Resistance
50: 5.0 °C/W (DR suffix only)
30: 3.0 °C/W
25: 2.5 °C/W
20: 2.0 °C/W
17: 1.7 °C/W
15: 1.5 °C/W
12: 1.2 °C/W
10: 1.0 °C/W
07: 0.7 °C/W
05: 0.5 °C/W
03: 0.36 °C/W
02: 0.25 °C/W

DIN Rail Bracket
Blank: Not included
DR: Included (50, 30, 20, 15, 12 & 10 suffix only)

Number of Mounted SSRs
Blank: 1
2: 2
3: 3

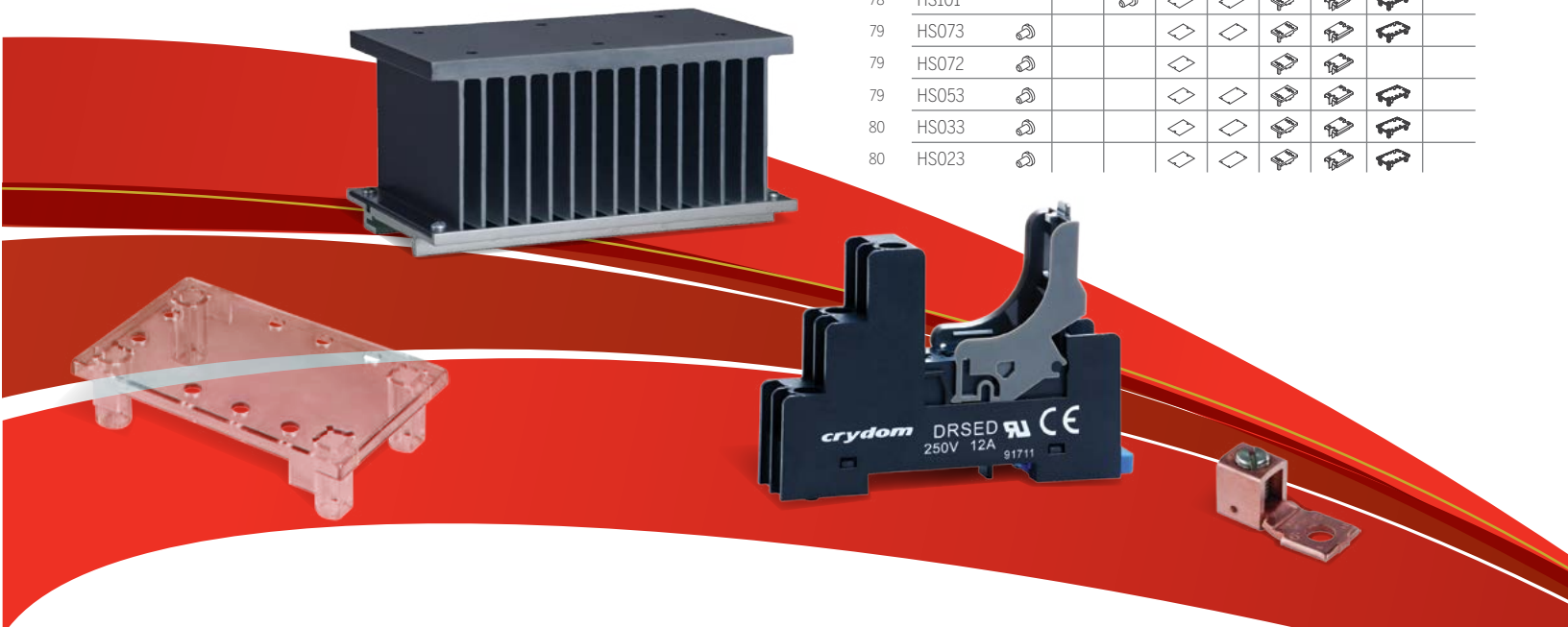


Accessories

Crydom supports its extensive SSR and Contactor product lines with a comprehensive offer of accessories including **Heat Sinks, Thermal Pads, Protective Covers, Sockets, Terminal Lugs, Hardware Kits, Marker Strips and DIN Rail Kits** to make it easy to employ Crydom SSRs and Contactors in any application. Crydom can also create **special configuration SSRs or Contactors** that include installed accessories if so desired. Visit the catalog or Crydom website for additional information on Crydom SSR accessories.

Heat Sink/Accessories Compatibility

Page	Part number	HK1	HK2	HKM1	HSP-1 HSP-2	HSP-3 HSP-5	KS100	KS101	KS300	DRK1
75	HS501DR			●	◇		◇	◇		
76	HS301	●	●		◇		◇	◇		◇
76	HS251	●			◇		◇	◇		
76	HS202	●	●		◇		◇	◇		◇
77	HS201	●	●		◇		◇	◇		◇
77	HS172	●	●		◇		◇	◇		
77	HS151	●	●		◇		◇	◇		◇
78	HS122	●	●		◇	◇	◇	◇	◇	◇
78	HS103	●			◇	◇	◇	◇	◇	
78	HS101			●	◇	◇	◇	◇	◇	
79	HS073	●			◇	◇	◇	◇	◇	
79	HS072	●			◇		◇	◇		
79	HS053	●			◇	◇	◇	◇	◇	
80	HS033	●			◇	◇	◇	◇	◇	
80	HS023	●			◇	◇	◇	◇	◇	

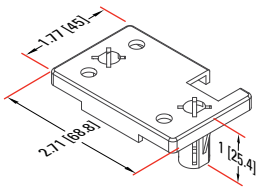


Covers • Hockey Puck

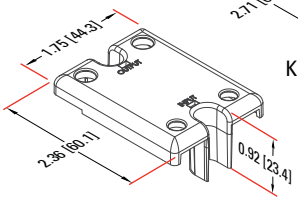
Part no.: KS100, KS100-SMR
Clear plastic cover for Generation 3 standard hockey puck package SSRs (2.25 x 1.75 in). Clear plastic cover with cut out window for SMR-6 and MC Series.

Part no.: KS101
Clear plastic cover for Generation 4 standard hockey puck package SSRs (2.25 x 1.75 in). Safety covers provide added protection from electric shock when installing or checking equipment.

Notes: A B J



KS100-SMR

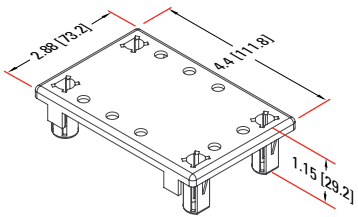


KS101

Covers • Large Puck

Part no.: KS300
Clear plastic cover large puck panel mount SSRs (4 x 2.9 in). Safety covers provide added protection from electric shock when installing or checking equipment.

Notes: A B J

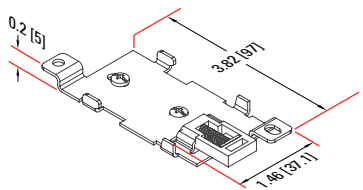


DIN Rail Bracket

DIN Rail Kit 1

Part no.: DRK1
Spring, retaining clip, 45 mm DIN Rail bracket and 2 screws 6-32 x 1/4 in.

Notes: A B J



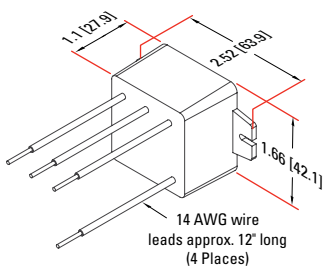
Filters • AC Filters

Part no.: 1F25
EMI noise suppression filter for SSR in AC single phase systems

Part no.: 3F20 (shown above)
EMI noise suppression filters for SSR in three phase systems

Part no.: 3F20-4 (shown below)
EMI noise suppression filters with neutral for SSR in three phase systems

Notes: A B J



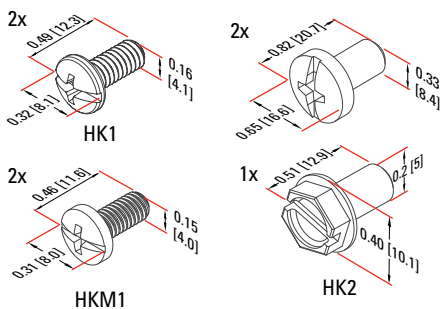
Hardware Kits

Part no.: HK1
Bag with 2 SSR mounting screws 8-32 x 3/8 in.

Part no.: HK2
Bag with 1 ground screw 10-32 x 3/8 in and 2 bracket screws 6-32 x 1/4 in.

Part no.: HKM1
Bag with 2 SSR mounting screws M4 x 9mm.

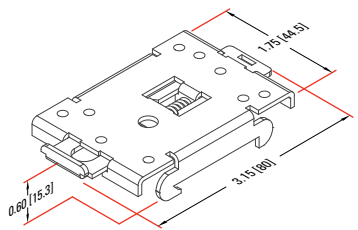
Notes: A B J



Heat Sinks • HS501DR

- 5.0°C/W Thermal resistance
- Suitable for 1 single or dual SSR
- DIN Rail mountable
- Heat sink material is steel with clear zinc plating surface finish

Notes: A B J L



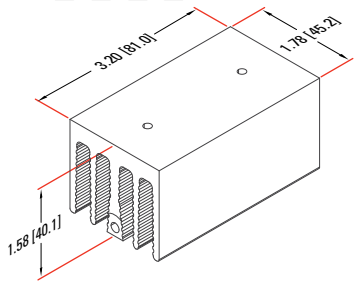
HS501DR includes

DIN Rail Mounting Bracket
M4 Mounting Screws
Latch Release

Heat Sinks • HS301

- 3.0°C/W Thermal resistance
- Suitable for 1 single or dual SSR
- Panel mountable or DIN Rail mountable version available as HS301DR
- Heat sink material is aluminum with black anodized finish

Notes: A B J L



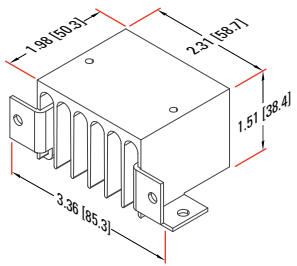
HS301DR includes

Ground Screw (10-32 x 3/8 in)
DIN Rail Kit 1 (DRK1)
Heat Sink (HS301)
One Hardware Kit 1 (HK1)

Heat Sinks • HS251

- 2.5°C/W Thermal resistance
- Suitable for 1 single or dual SSR
- Panel mountable
- Heat sink material is aluminum with natural finish

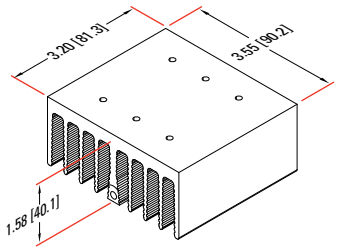
Notes: A B J L



Heat Sinks • HS202

- 2.0°C/W Thermal resistance
- Suitable for 1 or 2 single or dual SSR
- Panel mountable or DIN Rail mountable version available as HS202DR
- Heat sink material is aluminum with black anodized finish

Notes: A B J L



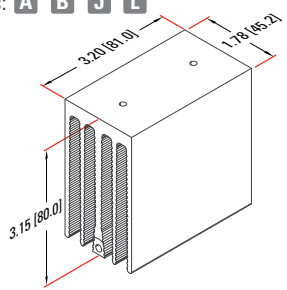
HS202DR includes

Ground Screw (10-32 x 3/8 in)
DIN Rail Kit 1 (DRK1)
Heat Sink (HS202)
One Hardware Kit 1 (HK1)

Heat Sinks • HS201

- 2.0°C/W Thermal resistance
- Suitable for 1 single or dual SSR
- Panel mountable or DIN Rail mountable version available as HS201DR
- Heat sink material is aluminum with black anodized finish

Notes: A B J L



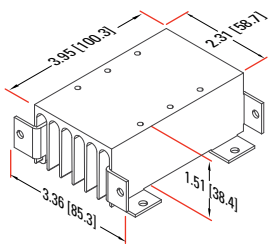
HS201DR includes

Ground Screw (10-32 x 3/8 in)
DIN Rail Kit 1 (DRK1)
Heat Sink (HS201)
One Hardware Kit 1 (HK1)

Heat Sinks • HS172

- 1.7°C/W Thermal resistance
- Suitable for 1 or 2 single or dual SSRs
- Panel mountable
- Heat sink material is aluminum with natural finish

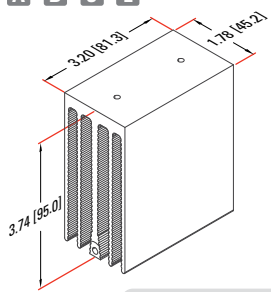
Notes: A B J L



Heat Sinks • HS151

- 1.5°C/W Thermal resistance
- Suitable for 1 single or dual SSR
- Panel mountable or DIN Rail mountable version available as HS151DR
- Heat sink material is aluminum with black anodized finish

Notes: A B J L



HS151DR includes

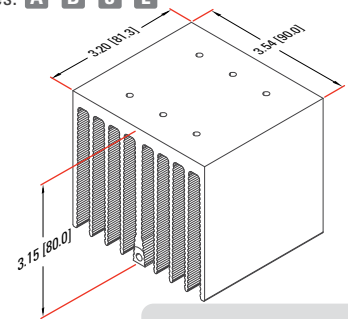
Ground Screw (10-32 x 3/8 in)
DIN Rail Kit 1 (DRK1)
Heat Sink (HS151)
One Hardware Kit 1 (HK1)

Heat Sinks • HS122

RoHS

- 1.2°C/W Thermal resistance
- Suitable for 1 or 2 single or dual SSRs
- Panel mountable or DIN Rail mountable version available as HS122DR
- Heat sink material is aluminum with black anodized finish

Notes: A B J L



HS122DR includes

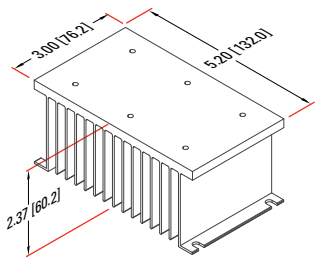
Ground Screw (10-32 x 3/8 in)
DIN Rail Kit 1 (DRK1)
Heat Sink (HS122)
Two Hardware Kits 1 (HK1)

Heat Sinks • HS103

RoHS

- 1.0°C/W Thermal resistance
- Suitable for 1, 2 or 3 single or dual SSRs; one 3 phase SSR
- Panel mountable or DIN Rail mountable version available as HS103DR
- Heat sink material is aluminum with black anodized finish

Notes: A B J L



HS103DR includes

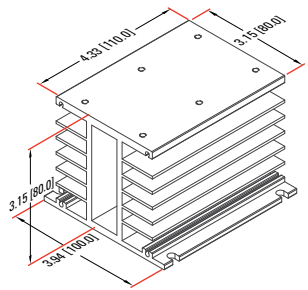
Heat Sink (HS103)
Extruded DIN Rail Bracket
Fasteners
Three Hardware Kits 1 (HK1)

Heat Sinks • HS101

RoHS

- 1.0°C/W Thermal resistance
- Suitable for 1 single or dual SSRs; one 3 phase SSR
- Panel mountable
- Heat sink material is aluminum with black anodized finish

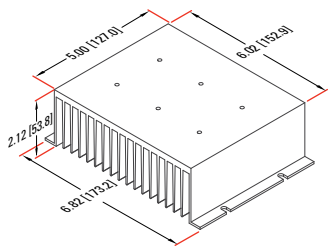
Notes: A B J L



Heat Sinks • HS073

- 0.7°C/W Thermal resistance
- Suitable for 1, 2 or 3 single or dual SSRs; one 3 phase SSR
- Panel mountable
- Heat sink material is aluminum with black anodized finish

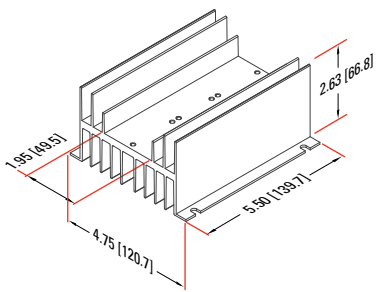
Notes: A B J L



Heat Sinks • HS072

- 0.7°C/W Thermal resistance
- Suitable for 1 or 2 single or dual SSRs
- Panel mountable
- Heat sink material is aluminum with natural finish

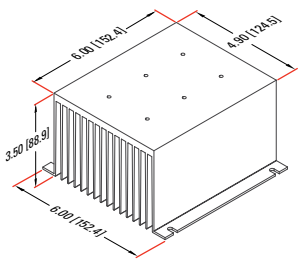
Notes: A B J L



Heat Sinks • HS053

- 0.5°C/W Thermal resistance
- Suitable for 1, 2 or 3 single or dual SSRs; one 3 phase SSR
- Panel mountable
- Heat sink material is aluminum with black anodized finish

Notes: A B J L

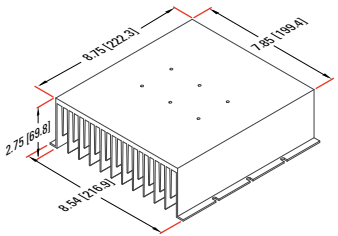


Heat Sinks • HS033

RoHS

- 0.36°C/W Thermal resistance
- Suitable for 1, 2 or 3 single or dual SSRs; one 3 phase SSR
- Panel mountable
- Heat sink material is aluminum with black anodized finish

Notes: A B J L

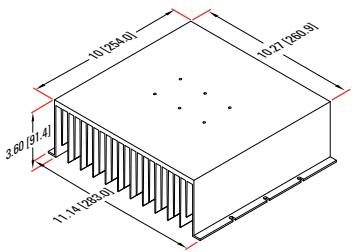


Heat Sinks • HS023

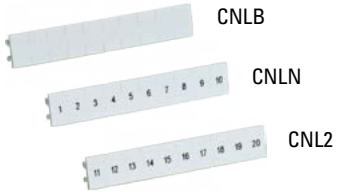
RoHS

- 0.25°C/W Thermal resistance
- Suitable for 1, 2 or 3 single or dual SSRs; one 3 phase SSR
- Panel mountable
- Heat sink material is aluminum with black anodized finish

Notes: A B J L



ID Marker Strips



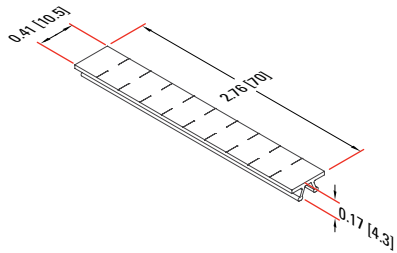
RoHS

Part no.: CNLB
A package of 10 plastic strips comprising 10 individual unprinted markers.

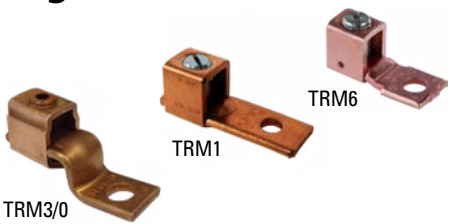
Part no.: CNLN
A package of 10 plastic strips comprising 10 markers printed individually from 1 to 10.

Part no.: CNL2
A package of 10 plastic strips comprising 10 markers printed individually from 11 to 20.

Notes: A B J



Lug Terminals

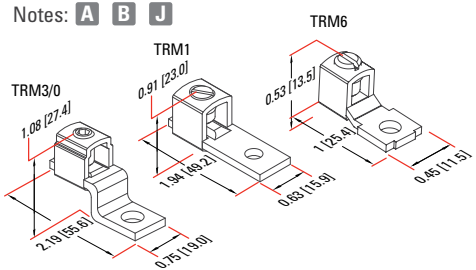


Part no.: TRM3/0
Copper wire lug for AWG 4 (21.2 mm²) to AWG 3/0 (85 mm²) wire size. Mounts with 3/8" bolt/stud.

Part no.: TRM1
Copper wire lug for AWG 6 (13.3 mm²) to AWG 0 (53.5 mm²) wire size. Mounts with #8, #10, M4 or M5 screws. (Not compatible with IP20 covers)

Part no.: TRM6
Copper wire lug for AWG 14 (2.1 mm²) to AWG 6 (13.3 mm²) wire size. Mounts with #8, #10, M4 or M5 screws.

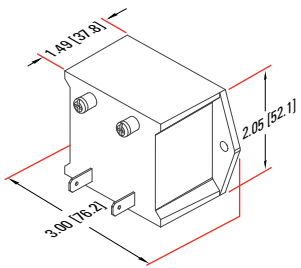
Notes: A B J



Power Supply • 20 VAC

Part no.: PS120, PS240
The PS120 and PS240 power supplies are specifically designed to supply the 20 VAC supply voltage used by the Crydom LPCV series linear proportional controls, from a 120 or 240 VAC 50/60 Hz nominal AC voltage main supply.

Notes: A B J



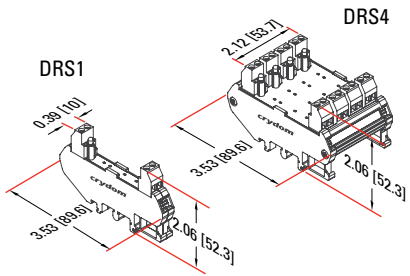
Sockets • DRS Socket

DRS Series DIN Rail Mountable Sockets

Part no.: DRS1
10 mm single channel DIN Rail mountable socket to mount 1 Crydom PCB mount relay onto standard 35 mm DIN Rail profiles.

Part no.: DRS4
54 mm four channel DIN Rail mountable socket to mount up to 4 Crydom PCB mount relays onto standard 35 mm DIN Rail profiles.

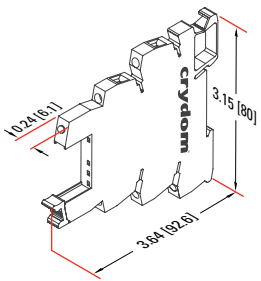
Notes: A B J



Sockets • DRS-CN Sockets

CN Series DIN Rail Mountable Sockets
Part no.: DRSCN05, DRSCN24
DIN Rail mountable socket to mount CN Series relays onto standard 35 mm DIN Rail profiles. Maximum output rating for DRSCN sockets is 250 V, 6 Amps regardless of selected SSR. DRS-CN sockets are 6 mm wide and include input status LED.

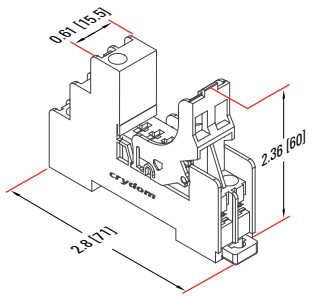
Notes: A B G J



Sockets • DRSED Socket

ED Series DIN Rail Mountable Socket
Part no.: DRSED
Finger safe IP10 DIN Rail mountable socket to mount ED Series relays onto standard 35 mm DIN Rail profiles. Rated at 250 V AC/DC, 12 Amps. The DRSED includes M3 Combo screws.

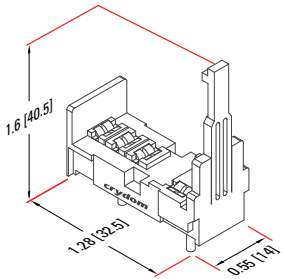
Notes: A B J



Sockets • PCBSED Socket

ED Series PCB Mountable Socket
Part no.: PCBSED
PC Board mountable socket for ED series relays. Rated at 250 V AC/DC, 12 Amps. Suggested Pin-out hole diameter: 1.0 mm

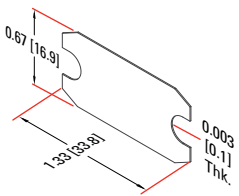
Notes: A B J



Thermal Pads • Mini-Puck

Part no.: HSP-6
Thermal pad for mini-puck panel mount SSRs. Includes adhesive on one side.

Notes: A B J

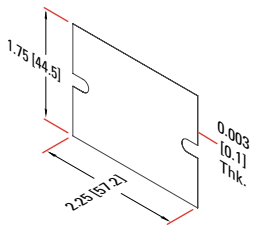


Thermal Pads • Hockey Puck

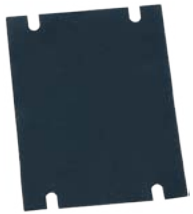
Part no.: HSP-1
25 pack of non-adhesive thermal pads for standard hockey puck package SSRs (2.25 x 1.75 in).

Part no.: HSP-2 (shown above)
Thermal pad for standard hockey puck package SSRs (2.25 x 1.75 in). Includes adhesive on one side.

Notes: A B J



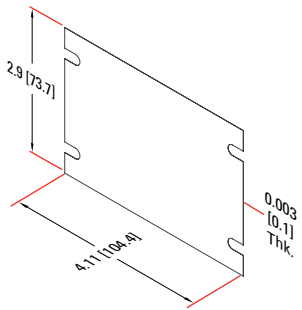
Thermal Pads • Large Puck



Part no.: HSP-3
Thermal pad for large puck panel mount SSRs (4 x 2.9 in).

Part no.: HSP-5 (shown above)
Thermal pad for large puck panel mount SSRs (4 x 2.9 in). Includes adhesive on one side.

Notes: A B J



crydom®

AMERICAS

SENSATA TECHNOLOGIES INC.
529 Pleasant Street,
Attleboro, MA 02703
USA

+1 (877) 502 5500 – Option 2 – Option 3
sales.crydom@sensata.com

EUROPE, MIDDLE EAST & AFRICA

SENSATA TECHNOLOGIES HOLLAND B.V.
Jan Tinbergenstraat 80
7559 SP Hengelo
The Netherlands

+44 (1202) 416170
ssr-info.eu@sensata.com

ASIA

SENSATA TECHNOLOGIES CHINA CO., LTD.

30th Floor, InterContinental Center,
100 Yu Tong Rd, Jing An District,
200070 Shanghai, China

China
+86 (21) 2306 1500
sales.isasia@list.sensata.com

Japan
+81 (45) 277 7117
sales.isasia@list.sensata.com

Korea
+82 (31) 601 2004
sales.isasia@list.sensata.com

India
+91 (80) 67920890
sales.isasia@list.sensata.com

Rest of Asia
+886 (2) 27602006 ext 2808
sales.isasia@list.sensata.com

CAT/CR/SF/EN

Distributed by :

06/2014
Rev. 040317