



## DR45 SERIES

### AC SINGLE PHASE OUTPUT DIN RAIL MOUNT SSRs



Sensata | Crydom DR45 Series Solid State Relays were developed to offer the advantages of semiconductor switching technology in a standard 45 mm industrial package. Quick and easy installation is coupled with low drive power requirements and an efficient and reliable power SCR output. This compact new design offers up to 60 Amps in ambient temperatures of 40°C. Read all installation instructions before using your DIN Rail Mount Solid State Relay (SSR) and refer to the product datasheet for more information. For assistance, please contact Tech Support.

## INSTALLATION INSTRUCTIONS (A)

### Mounting on DIN Rail

- Locate rail and align with non moveable end of DR45 DIN clip.
- Using reasonable force, push DR45 in the direction of the arrow (as shown in fig.1).
- For removal pull release tag in direction of arrow using blade of screwdriver and pull it away from DIN rail.

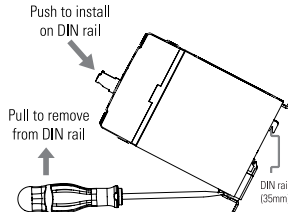


fig. 1 SSR mounted on DIN rail

### Mounting on Panel

- Locate the panel section on which the DR45 SSR will be mounted on (as shown in fig.2)
- DIN clip includes tabs for this type of mounting. Tab holes have a diameter of 4.5 mm. You will need three screws (not included) no larger than that to mount the SSR onto panel.
- Align SSR tabs with panel surface and screw both top and bottom sides. Recommended torque is 12 in-lbs (1.36 Nm).

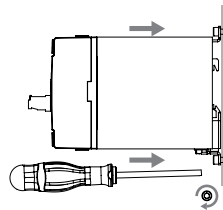


fig. 2 SSR mounted on Panel Mount

### Wiring Instructions

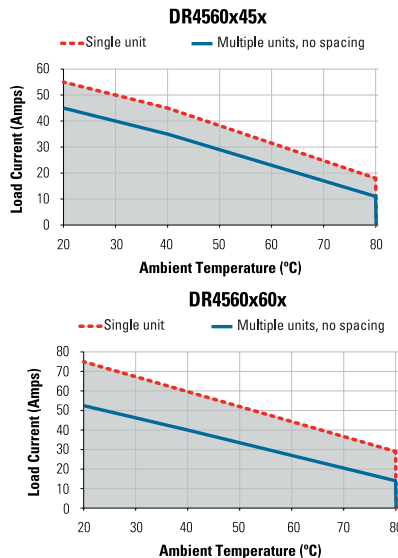
- Recommended wire sizes as shown in TABLE 1
- Maximum terminal screw torque input terminal 5 lb-in (0.5 Nm) (screw terminal only)
- Maximum terminal screw torque load terminal 18-20 lb-in (2.0-2.2 Nm)
- If multiple units are installed be sure to follow derating curves

**WARNING! Latching system could be damaged if product is removed incorrectly out of the DIN rail.**

TABLE 1. Wire Size & Pull Out Strength			
Terminal Type	Recommended Wire Size (Solid / Stranded)	Wire Pull-Out Strength (lb)[N]*	
Output	1 x 18 AWG (1 mm2) [minimum]	20 [88]	
	1 x 8 AWG (10 mm2) [maximum]	90 [400]	
	2 x 8 AWG (10 mm2) [maximum]	80 [355]	
	1 x 3 AWG (26.67 mm2) [maximum]	90 [400]	
Input	Screw	30 AWG (0.05 mm2) [minimum]	4.5 [20]
		12 AWG (3.3 mm2) [maximum]	30 [133]
	Spring	26 AWG (0.13 mm2) [minimum]	5 [22]
		12 AWG (3.3 mm2) [maximum]	5 [22]

\* Tests performed on Stranded wire

## DERATING CURVES



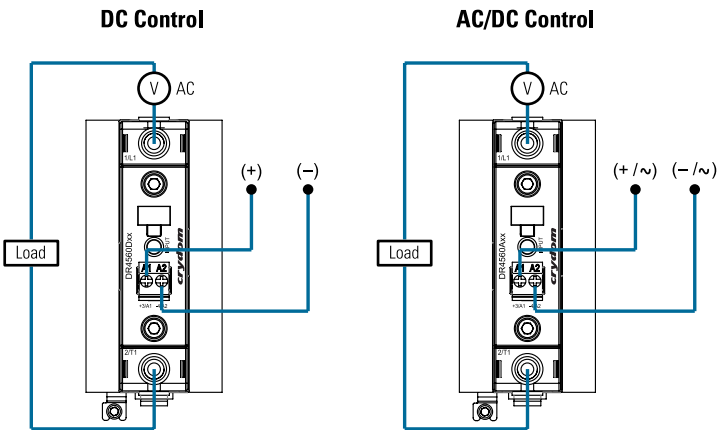
## ORDERING OPTIONS

DR45 - 60 - A - 45 - R - P - J

Series	DR45
Operating Voltage	60: 48-600 VAC
Control Voltage (A)	A: 90-280 VAC/VDC D: 4-32 VDC
Rated Load Current	45: 45 Amps 60: 60 Amps
Switching Type	Blank: Zero Voltage Turn-On R: Instantaneous Turn-On
Overvoltage Protection	Blank: Not Included P: Included
Input Connector	Blank: Screw Terminal J: Spring Terminal

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

## WIRING DIAGRAMS (B)



### Important Considerations

- Be sure to use input and output voltages within operating ranges.
- LED indicates only input status. It does not represent output status.
- To achieve maximum ratings, there must be a minimum spacing of 0.89 in (22.5 mm) between the devices in free air (as shown in fig.2).
- For optimal thermal performance the SSR must be installed vertically on a sidewall to maximize natural convection air flow.
- Protective earth (PE) screw type recommended is 10-32 UNC standard, not provided with SSR. Through the use of a DIN rail ground (protective conductor) terminal block, the DIN rail itself can be used as the grounding bus bar. In this case, the zinc plated steel material used for the DIN rail clip of DR45 models, permits a secure path to ground and avoid the need of a further PE connection (see fig.3).

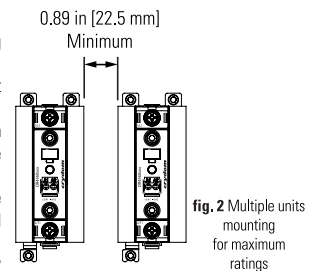


fig. 2 Multiple units mounting for maximum ratings

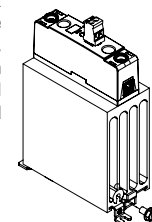

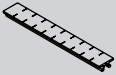


fig. 3 DR45 model with protective earth screw



## ACCESSORIES

 <b>Connectors</b>	 <b>ID Marker</b>
CP201 Screw Terminal	CN1B Blank Strips
CP202 Spring Terminal	CN1N Numbered 1 to 10 Strips
	CN12 Numbered 11 to 20 Strips



## GENERAL NOTES

- <sup>(A)</sup> Control voltage 18-52 VAC/VDC is available upon request.
- <sup>(B)</sup> Load can be wired to either terminal 1/L1 or terminal 2/T1. Proper polarity must be observed all the time for the DC control power supply, with terminal +3/A1 being positive with respect to terminal -4/A2.

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, valuation, and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements, and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY, AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA

### CONTACT US

#### Americas

+1 (877) 502 5500

[sales.crydom@sensata.com](mailto:sales.crydom@sensata.com)

#### Europe, Middle East & Africa

+44 (1202) 416170

[ssr-info.eu@sensata.com](mailto:ssr-info.eu@sensata.com)

#### Asia Pacific

[sales.isasia@list.sensata.com](mailto:sales.isasia@list.sensata.com)

China +86 (21) 2306 1500

Japan +81 (45) 277 7117

Korea +82 (31) 601 2004

India +91 (80) 67920890

Rest of Asia +886 (2) 27602006 ext

2808