

DR45 SERIES

AC SINGLE PHASE OUTPUT DIN RAIL MOUNT SSRS

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

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.

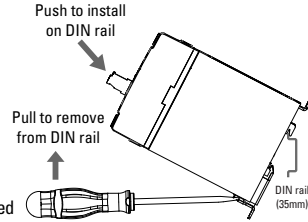


fig. 1 SSR mounted on DIN rail

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).

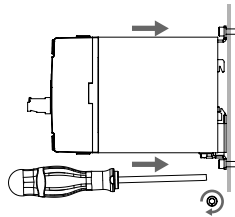


fig. 2 SSR mounted on Panel Mount

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

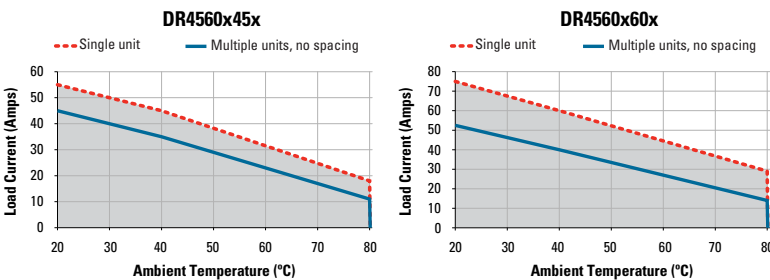
WARNING! Latching system could be damaged if product is removed incorrectly out of the DIN rail.

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 mm ²) [minimum]	20 [88]	
	1 x 8 AWG (10 mm ²) [maximum]	90 [400]	
	2 x 8 AWG (10 mm ²) [maximum]	80 [355]	
	1 x 3 AWG (26.67 mm ²) [maximum]	90 [400]	
Input	Screw	30 AWG (0.05 mm ²) [minimum]	4.5 [20]
		12 AWG (3.3 mm ²) [maximum]	30 [133]
	Spring	26 AWG (0.13 mm ²) [minimum]	5 [22]
		12 AWG (3.3 mm ²) [maximum]	5 [22]

* Tests performed on Stranded wire

DERATING CURVES

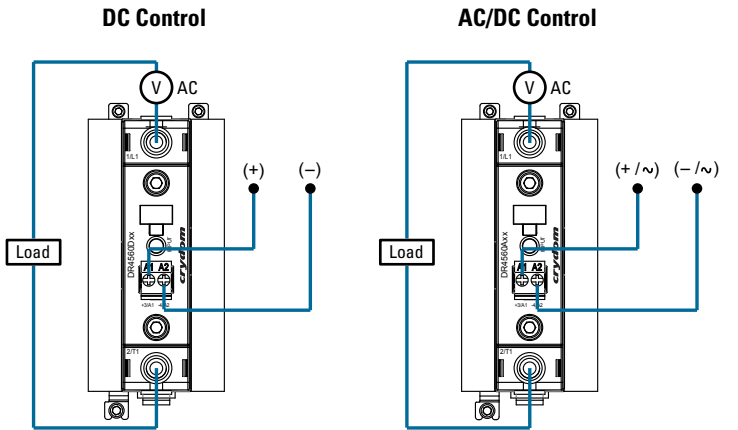


ORDERING OPTIONS

Series	DR45	60	A	45	R	P	J
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**).

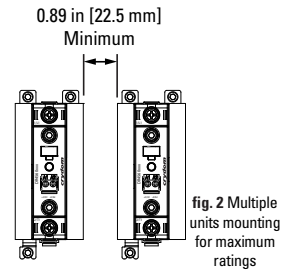


fig. 2 Multiple units mounting for maximum ratings

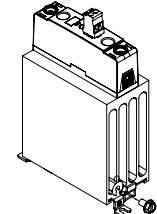


fig. 3 DR45 model with protective earth screw

TABLE 2. Recommended Accessories

Connectors	ID Marker
CP201 Screw Terminal	CNLB Blank Strips
CP202 Spring Terminal	CNLN Numbered 1 to 10 Strips
	CNL2 Numbered 11 to 20 Strips

General Notes

- (A) Control voltage 18-52 VAC/VDC is available upon request.
- (B) 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.



⚠ DANGER / PELIGRO / DANGER /GEFAHR / PERICOLO / 危險

<p>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH.</p> <ul style="list-style-type: none"> • Disconnect all power before installing or working with this equipment. • Verify all connections and replace all covers before turning on power. <p>Failure to follow these instructions will result in death or serious injury.</p>	<p>RIESGO DE DESCARGA ELECTRICA O EXPLOSION.</p> <ul style="list-style-type: none"> • Desconectar todos los suministros de energia a este equipo antes de trabajar con este equipo. • Verificar todas las conexiones y colocar todas las tapas antes de energizar el equipo. <p>El incumplimiento de estas instrucciones puede provocar la muerte o lesiones serias.</p>	<p>RISQUE DE DESCARGE ELECTRIQUE OU EXPLOSION</p> <ul style="list-style-type: none"> • Eteindre toutes les sources d'énergie de cet appareil avant de travailler dessus de cet appareil • Vérifier tous connections, et remettre tous couverts en olace avant de mettre sous <p>De non-suivi de ces instructions provoquera la mort ou des lésions sérieuses sérieuses.</p>	<p>GEFAHR EINES ELEKTRISCHE N SCHLAGES ODER EINER EXPLOSION.</p> <ul style="list-style-type: none"> • Stellen Sie jeglichen Strom ab, der dieses Gerät versorgt, bevor Sie an dem Gerät Arbeiten durchführen • Vor dem Drehen auf Energie alle Anschlüsse überprüfen und alle Abdeckungen ersetzen. <p>Unterlassung dieser Anweisungen können zum Tode oder zu schweren Verletzungen führen.</p>	<p>RISCHIO DI SCOSSA ELETTRICA O DELL'ESPLOSIONE.</p> <ul style="list-style-type: none"> • Spenga tutta l'alimentazione e che fornisce questa apparecchiatura prima del lavorare a questa apparecchiatura • Verificare tutti i collegamenti e sostituire tutte le coperture prima della rotazione sull'alimentazione <p>L'omissione di seguire queste istruzioni provocherà la morte o di lesioni serie</p>	<p>存在电击、爆炸或电弧闪烁危险</p> <ul style="list-style-type: none"> • 在操作此设备之前请先关闭电源。 <p>若不遵守这些说明,可能会导致严重的人身伤害甚至死亡。</p>
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⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / 警告

<p>RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE</p> <ul style="list-style-type: none"> • The product's side panels may be hot, allow the product to cool before touching. • Follow proper mounting instructions including torque values. • Do not allow liquids or foreign objects to enter this product. <p>Failure to follow these instructions can result in serious injury, or equipment damage.</p>	<p>RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER</p> <ul style="list-style-type: none"> • Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. • Respecter les consignes de montage, et notamment les couples de serrage. • Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. <p>Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.</p>	<p>GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG</p> <ul style="list-style-type: none"> • Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. • Beachten Sie die Montageanweisungen, • Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. <p>Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.</p>
<p>RIESGO DE DAÑOS MATERIALES Y DE SOBRECIENTAMIENTO DE LA UNIDAD</p> <ul style="list-style-type: none"> • Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. • Respetar las instrucciones de montaje, y en particular los pares de apretado. • No dejar que penetren líquidos o cuerpos extraños en el producto. <p>Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.</p>	<p>RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO</p> <ul style="list-style-type: none"> • I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. • Seguire le istruzioni di montaggio corrette. • Non far entrare liquidi o oggetti estranei in questo apparecchio. <p>La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.</p>	<p>材料损坏和高温外壳的危险性</p> <ul style="list-style-type: none"> • 产品的一侧面板可能很热, 在其冷却前请不要触碰。 • 遵照正确的安装说明, 包括扭矩值。 • 请勿让液体及其他异物进入本产品。 <p>如不能正确执行这些操作说明, 极有可能造成严重人体伤害或者设备的损坏。</p>

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