

# Crydom

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## DC Output SSRs Panel Mount

This installation sheet includes detailed mounting and wiring instructions which apply for most Crydom Panel Mount DC output SSRs. Be sure to visit the product series' datasheet available at the Crydom website to complement this information. If you have questions or need additional information please contact Crydom Tech Support.

Please read all mounting instructions before using your DC Output Panel Mount Solid State Relay (SSR).

### MOUNTING INSTRUCTIONS (A)

Choose one of the two mounting options and follow the instructions.

#### ■ Mounting on Heat Sink

- ◆ Select adequate heat sink (see thermal derating curves in product series' datasheet).
- ◆ Be sure to use a thermal pad or thermal compound between the SSR and the selected heat sink.
- ◆ SSR mounting slots have a diameter of 0.2 in (5.0 mm). Two screws are needed to mount the SSR onto heat sink (See fig. 1). Mounting screws are sold separately as HK1 and are suitable for all Crydom heat sinks. Otherwise, recommended screw size is 8-32 (UNC standard) or M4 (metric). Choose screw length considering the mounting surface and that SSR baseplate thickness is 0.125 in (3.2 mm).
- ◆ Before applying full torque tighten down both screws until they contact the baseplate. Then, tighten them to 20 in-lbs (2.2 Nm).
- ◆ For optimal thermal performance heat sink fins should be oriented vertically to promote natural convection airflow.

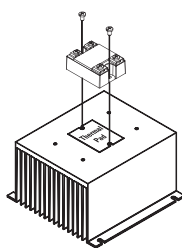


fig. 1 SSR mounted on HS053 heat sink (A)

#### ■ Mounting on Panel

- ◆ Locate the panel section on which the SSR will be mounted. Panel mount surface must provide adequate heat sinking capability, uncoated, clean, flat and preferably aluminum.
- ◆ Be sure to use a thermal pad or thermal compound between the SSR and the panel.
- ◆ SSR mounting slots have a diameter of 0.2 in (5.0 mm). Two screws are needed (not included) to mount the SSR onto panel. Choose screw length considering the mounting surface and that the SSR baseplate thickness is 0.125 in (3.2 mm).
- ◆ Before applying full torque tighten down both screws until they contact the baseplate. Then, tighten them to 20 in-lbs (2.2 Nm).

TABLE 1. Accessories (A)

Cover	Hardware Kit	Heat Sink Part No.	Thermal Resistance [°C/W]	Lug Terminal	Thermal Pad
KS100	HK1	HS501DR	5.0	TRM1	HSP1
		HS351 / HS351DR	3.5	TRM6	HSP2
		HS301 / HS301DR	3.0		
		HS271 / HS271DR	2.7		
		HS251	2.5		
		HS202 / HS202DR	2.0		
		HS201 / HS201DR	2.0		
		HS172	1.7		
		HS151 / HS151DR	1.5		
		HS122 / HS122DR	1.2		
		HS103 / HS103DR	1.0		
		HS072	0.7		
		HS053	0.5		

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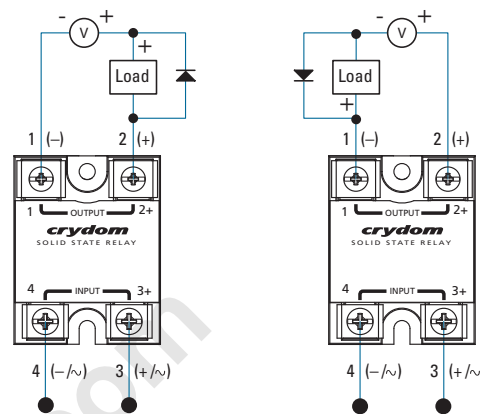
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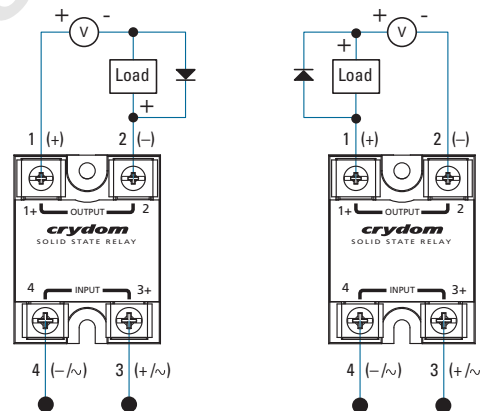
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### WIRING DIAGRAMS (B, C)

#### a. Generic DC Output SSRs Wiring Diagram



#### b. DC60 Series Wiring Diagram (only)



#### ■ Terminals

Screw type, finger proof (IP20 only). Input: 6-32, Combo Drive. Output: 8-32, Combo Drive. Maximum screw torque is 10 in-lbs (1.1 Nm) on input and 20 in-lbs (2.2 Nm) on output.

#### ■ Wire Size

Maximum wire size capacity per terminal: Input 1 x 12 AWG (3.3 mm<sup>2</sup>), output 2 x 8 AWG (8.4 mm<sup>2</sup>). Choose wire gauge according to actual load current. For larger wire sizes use lug terminals (see TABLE 1 for available part numbers).

#### ■ Connections

Ensure that wires ends are stripped to a minimum length of 0.46 in (11.7 mm) for input and 0.49 in (12.5 mm) for output.

#### ■ Transient Protection

An inductive load will produce harmful transient voltages when it is turned off. The more perfect the switch, the larger the transient voltages. The MOSFET output is so nearly ideal switch that the transient voltages produced by seemingly "non-inductive" loads can cause damage if not suppressed. Diodes should be fast recovery type with PIV rated greater than supply voltage. (C)

#### ■ Important Considerations

Be sure to use input and output voltages within operating ranges. LED indicates only input status. It does not represent output status.

(A) See compatible accessories in corresponding datasheet.

(B) Load can be wired to either terminal 1 or terminal 2. Proper polarity must be observed all the time for the power supply and load with terminal 3 being positive with respect to terminal 4.

(C) DC inductive loads must be diode suppressed. Diode not included.

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

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

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