

HAC Series AC Load Solid State Contactors

The HAC Series Solid State Contactors (SSCs) are designed for control of high power AC loads such as heaters, motors, lights, pumps, solenoids, transformers, etc., where long life and reliable AC switching are required and traditional mechanical contactors or relays don't provide the required life, performance or service levels. The HAC Series offers the latest in AC Solid State Power control by virtue of Crydom's proven AC power switching technology and control circuitry. Advanced thermal design provides superior performance for loads rated up to 150 Amps rms from 48 to 660 VAC.

FEATURES

- 150 Amp AC Load Ratings @ 40°C ambient with 0.25°C/W heat sink
- Single Pole Single Throw Normally Open operation (SPST/N.O.)
- LED Input Status indicator standard
- UL & cUL recognized

MOUNTING INSTRUCTIONS (A)

Please read all installation instructions before using your HAC Series Solid State Contactor (SSC).

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

Mounting on Heat Sink

- ◆ Select adequate heat sink (see thermal derating curves). (B)
- ◆ Be sure to use thermal pad or thermal compound between the SSC and the selected heat sink.
- ◆ HAC Series Contactor mounting slots have a diameter of 0.2 in (5.0 mm). Four screws are needed (not included) to mount the SSC onto heat sink (See fig. 1). Choose screw length considering the mounting surface and that HAC Series baseplate thickness is 0.125 in (3.2 mm).
- ◆ Before applying full torque, tighten down all 4 screws until they contact the baseplate. Then, tighten them to 20 in-lbs (2.2 Nm) starting with one immediately followed by the one in the diagonally opposite corner. After the first 2 screws are completely tightened, proceed tightening the remaining 2 screws.
- ◆ For optimal thermal performance heat sink fins should be oriented vertically to promote natural airflow.

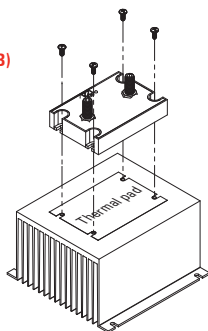


fig. 1 HAC Series SSC mounted on HS053 heat sink (A)

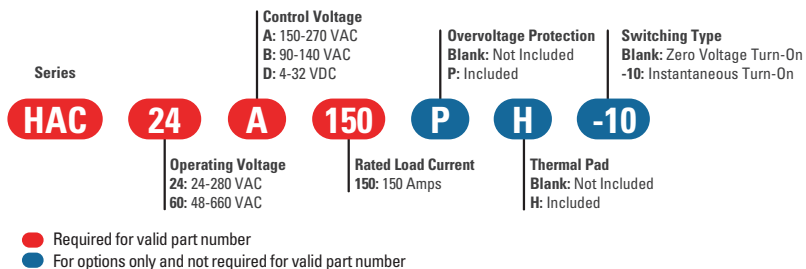
Mounting on Panel

- ◆ Locate the panel section on which the HAC Series SSC will be mounted. Panel mount surface must be clean, bare metal and provide adequate heat sinking capability. (B)
- ◆ Be sure to use thermal pad or thermal compound between the SSC and the panel.
- ◆ HAC Series Contactor mounting slots have a diameter of 0.2 in (5.0 mm). Four screws are needed (not included) to mount the SSC onto panel. Choose screw length considering the mounting surface and that HAC Series baseplate thickness is 0.125 in (3.2 mm).
- ◆ Before applying full torque, tighten down all 4 screws until they contact the baseplate. Then, tighten them to 20 in-lbs (2.2 Nm) starting with one immediately followed by the one in the diagonally opposite corner. After the first 2 screws are completely tightened, proceed tightening the remaining 2 screws.

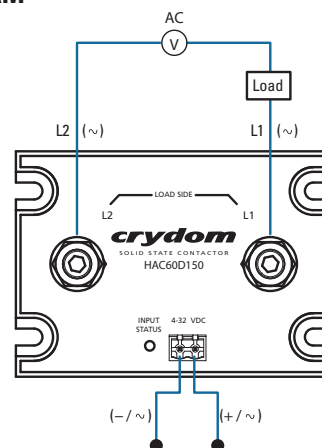
TABLE 1. Accessories

Hardware Kit	Heat Sink Part No.	Thermal Resistance [°C/W]	Lug Terminal	Thermal Pad
HK1	HS053	0.5	TRM3/0	HSP-3
	HS033	0.36		HSP-5
	HS023	0.25		

PART NUMBER NOMENCLATURE



WIRING DIAGRAM (C)



Terminals

For maximum ratings, for 150 Amp models use Crydom lug terminal TRM3/0 or other lug terminal with a diameter of 0.375 in (9.52 mm), 2/0 AWG (67.4 mm²) 75°C insulation wire installing capable.

Wire Size

Maximum wire size capacity: Input 12 AWG (3.31 mm²) through suggested mating connector (see TABLE 2), Output 2/0 AWG (67.4 mm²).

Connections

First install Lug Terminal (Item 1 on fig.2) followed by Washer Int. Tooth-Lock (Item 2 on fig.2) and finally Nut Hex (Item 3 on fig.2)

Important Considerations

WARNING! Do not try to unscrew Terminal Studs from Product. Be sure to use input and output voltages within operating ranges. LED indicates only input status. It does not represent output status.

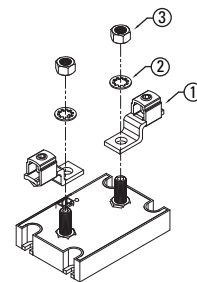


fig. 2 Lug Terminal Connections

TABLE 2. Suggested Mating Connectors/Plugs

Front Wire Entry	Right Angle	Rear Wire Entry
Molex: 0395332002 Phoenix: MVSTBW 2,5/ 2 -ST-5,08	Molex: 0395300002 Phoenix: MSTB 2,5/ 2 -ST-5,08	Molex: 39533 -3002 Phoenix: MVSTBR 2,5/ 2 -ST-5,08

(A) See compatible accessories in TABLE 1.

(B) For maximum ratings use heat sink ratings shown in HAC series derating curves (see product datasheet).

(C) Load can be wired to either terminal L1 or terminal L2.



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 place 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 SOBRECALENTAMIENTO 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>