INSTALLATION GUIDE

Sensata Technologies

AC OUTPUT

PANEL MOUNT SOLID STATE RELAYS

This installation sheet includes detailed mounting and wiring instructions which apply for most Crydom Panel Mount AC output SSRs. Be sure to visit the product series' datasheet available at the Sensata 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 AC 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 (0.006 - 0.008 in layer thickness recommended) 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) depending on the heat sink model, see product datasheet. Choose screw length considering the mounting surface hole depth 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 lb-in (2.2 Nm).
- For optimal thermal performance heat sink fins should be oriented vertically to promote natural convection airflow.

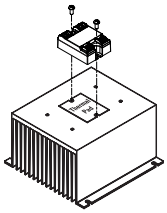


fig. 1 SSR mounted on HS053 heat sink [A]

Mounting on Panels

- Locate the panel section on which the SSR will be mounted. Panel mount surface must provide adequate heat sinking capability, uncoated, clean, flat (0.004 in/in recommended) and preferably aluminum.
- Be sure to use a thermal pad or thermal compound (0.006 - 0.008 in layer thickness recommended) 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 hole depth 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 lb-in (2.2 Nm).

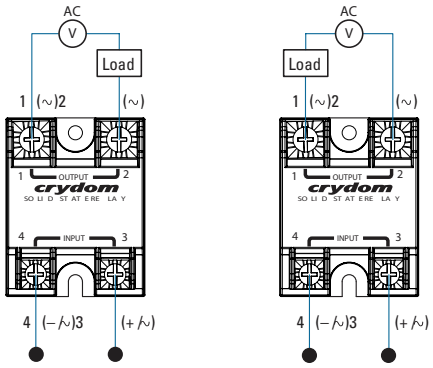
ACCESSORIES

TABLE 2. Recommended Accessories [A]

Cover	Hardware Kit	Heat Sink Part No	Thermal Resistance [°C/W]	Lug Terminal	Thermal Pad
KS101	HK1 HK4	HS501DR HS301 / HS301DR HS251 HS202 / HS202DR HS201 / HS201DR HS172 HS151 / HS151DR HS122 HS103 / HS103DR HS101 HS073 HS072 HS053 HS033 HS023	5.0 3.0 2.5 2.0 2.0 1.7 1.5 1.2 1.0 1.0 0.7 0.7 0.5 0.36 0.25	TRM1 TRM6	HSP-1 HSP-2 HSP-7

WIRING DIAGRAM [B]

Generic AC Output SSRs Wiring Diagram



Terminals

Screw, Quick connect or Installed standoff according to selection.
Standard screw terminals are for Input: 6-32, Combo Drive; and for Output: 8-32, Combo Drive. Maximum screw torque is 15 lb-in (1.7 Nm) on input and 20 lb-in (2.2 Nm) on output.
Quick connect Single pair for models up to 25 Amp; Double pair for 50 Amp models only. User must connect both pairs.
Installed Standoff model for PCB mounting or similar applications up to 50 Amp, standard screw torque is 8-10 lb-in (0.9-1.13 Nm) on Input and Output. [C]

Wire Size

Choose wire gauge according to actual load current (see TABLE 2). For larger wire sizes use lug terminals (see TABLE 1 for available part numbers).

TABLE 1. Recommended Wire Sizes

Terminal Type	Wire Size (Solid / Stranded)	Wire Pull-Out Strength (lb)[N]
Input	24 AWG (0.2 mm²) / 0.2 [minimum]	10 [44.5]
	2 x 12 AWG (3.3 mm²) / 3.3 [maximum]	90 [400]
Output	20 AWG (0.5 mm²) / 0.518 [minimum]	30 [133]
	2 x 10 AWG (5.3 mm²) / 5.3	110 [490]
	2 x 8 AWG (8.4 mm²) / 8.4 [maximum]	90 [400]

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

Transients are common on AC power lines, and in extreme cases, may pose a risk for the proper operation and reliability of the SSR and its load. The load which the SSR controls may also generate transients itself. Therefore, inclusion of transient protection for the SSR is highly recommended. Internal transient protection is standard in certain Crydom SSR models, and optionally available in others. The user may also install transient protection external to the SSR for additional protection. Contact Crydom technical support for additional information on use of transient protection for AC output SSRs.

Important Considerations

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

GENERAL NOTES

[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 DC control power supply, with terminal 3 being positive with respect to terminal 4.
[C] Option "K" is designed and tested for use with printed circuit boards or ring/fork terminals having a thickness between 0.031 and 0.093 inches (0.79 to 2.36 mm), and loads rated up to 50 Amps. For higher load currents, the "K" standoff temperature must not exceed 105°C. For additional application assistance please contact Technical Support.

CONTACT US

Americas
+1 (877) 502 5500
sales.crydom@sensata.com
Europe, Middle East & Africa
+44 (1202) 416170
ssr-info.eu@sensata.com
Asia Pacific
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

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