

DC OUTPUT

PANEL MOUNT SOLID STATE RELAYS

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 (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.

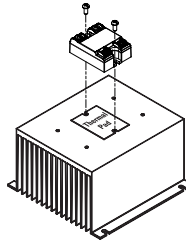


fig. 1 SSR mounted on HS053 heat sink (A)

Mounting on Panel

- 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 (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).

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. (D)

Wire Size

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

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

An inductive load will produce harmful transient voltage 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)

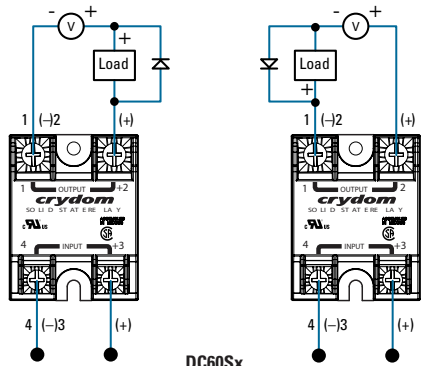
Important Considerations

Be sure to use input and output voltages within operating ranges.

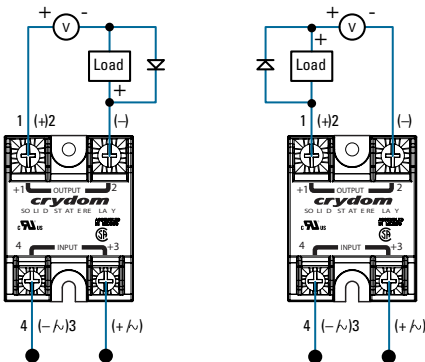
LED indicates only input status. It does not represent output status

WIRING DIAGRAM (B,C)

All DC Output Relays, except DC60Sx



DC60Sx



ACCESSORIES

TABLE 2. Recommended Accessories (A)

Cover	Hardware Kit	Heat Sink Part No	Thermal Resistance [°C/W]	Lug Terminal	Thermal Pad



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 both the DC load and DC control power supplies, with terminal 1 being positive with respect to terminal 2 for the outputs (except DC60Sx series which is reversed), and terminal 3 being positive with respect to terminal 4 for the inputs (all series).

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

^(D) 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 Crydom Technical Support.

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