INSTALLATION GUIDE

Sensata Technologies

PM67 SERIES

3-PHASE AC OUTPUT PANEL MOUNT SOLID STATE RELAYS

PM67 Series 3-Phase Solid State Relays offer the advantages of semiconductor switching technology in a compact 67.5 mm industrial package. Read all installation instructions before using your panel mount Solid State Relay (SSR) and refer to the product datasheet for more information. For assistance, please contact Tech Support.

INSTALLATION INSTRUCTIONS

Mounting on Heat Sink

- Select adequate heat sink (see thermal derating curves in product series datasheet).
- Be sure to use a thermal pad (part no. HSP-8) or equivalent thermal compound between the SSR and the selected heat sink.
- SSR housing mounting holes have a diameter of 0.341in (8.66mm). Two screws are needed to mount the SSR onto a heat sink (See fig.1). Mounting screws are sold separately as HK8. Otherwise, recommended screw size is 8-32 (socket) using an allen wrench (9/64 in) for the installation. Choose screw length considering mounting surface hole depth and SSR baseplate thickness of 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) min.
- For optimal thermal performance heat sink fins should be oriented vertically to promote natural convection airflow

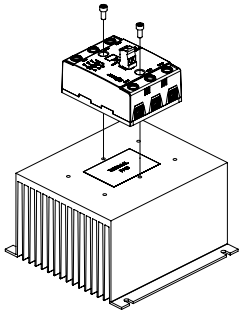


fig.1 SSR mounted on HS053 heat sink

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 thermal pad HSP-8 or equivalent thermal compound between the SSR and the panel.
- SSR housing mounting slots have a diameter of 0.341 in (8.66 mm). Two screws are needed (not included) to mount the SSR onto a panel. Mounting screws are sold separately as HK8. Otherwise, recommended screw size is 8-32 (socket) using allen wrench (9/64 in) for the installation. 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 lb-in (2.2 Nm) min

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)
- Strip lenght for input terminals: Per manufacturer specifications
- Strip lenght for load terminals: 10mm min.
- Use only copper conductors rated for 75°C or higher

Table 1. Wire Size & Pull Out Strength

Terminal Configuration		Recommended Wire Size (Solid/Stranded)	Wire Pull-Out Strength (lb)[N]*
Output		1 x 18 AWG (1 mm²) [minimum]	20 [88]
		1 x 8 AWG (10 mm²)	75 [333]
		2 x 8 AWG (10 mm²)	65 [289]
		1 x 3 AWG (26.67 mm²) (1)	90 [400]
Input	Screw	30 AWG (0.05 mm²) [minimum]	4.5 [20]
		12 AWG (3.3 mm²) [maximum]	30 [133]
	Spring (2)	26 AWG (0.13 mm²) [minimum]	5 [22]
		12 AWG (3.3 mm²) [maximum]	5 [22]

*Tests performed on Stranded wire

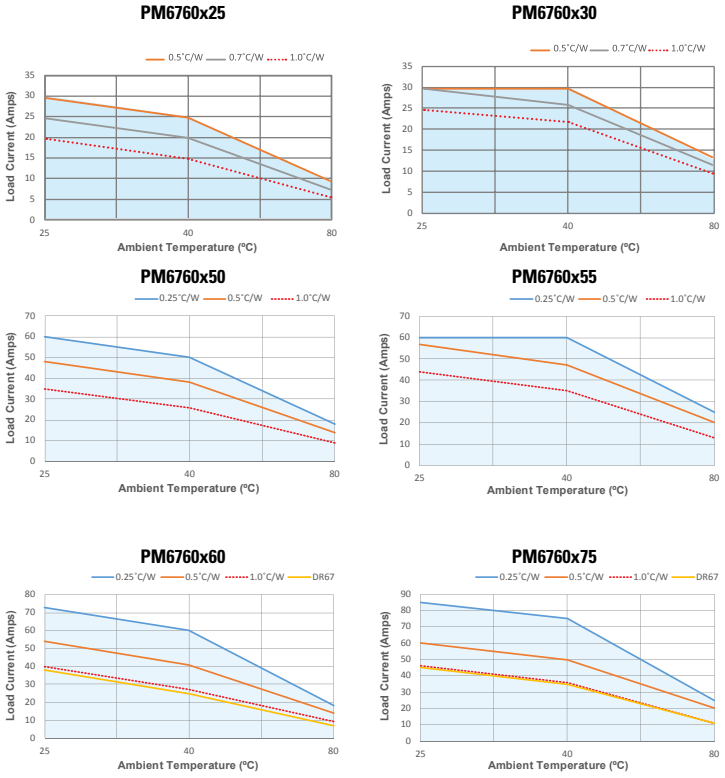
(1) Maximum wire size 1 x 2 AWG (35mm²)

(2) Applicable when using CP202 connector instead of supplied connector

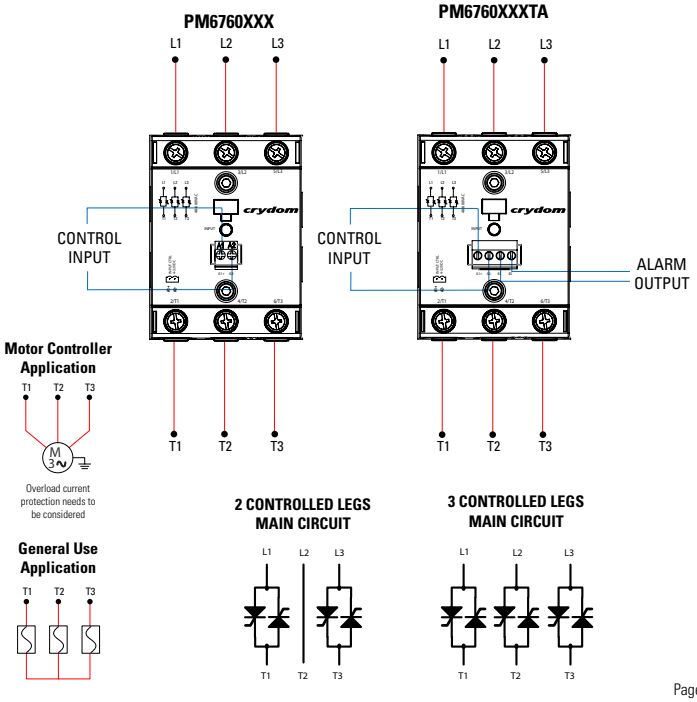
Important Considerations

- Be sure to use input and output voltages within operating ranges.
- On models without overtemperature protection LED indicates only input status. It does not represent output status.

DERATING CURVES



WIRING DIAGRAM



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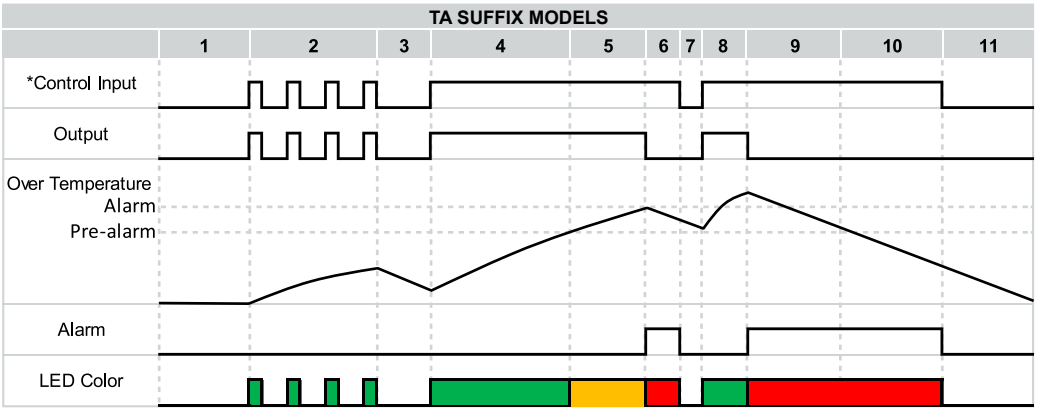
FUNCTIONAL DIAGRAMS

(only for models with overtemperature protection)



Conditions	Description
1,11	Initial Condition.
2, 4	Control Input is On, Output is activated, temperature rises, Green LED is On.
3, 7	Control Input is Off, Output is Off.
5	LED changes to solid Orange color.
6, 9	Output is Off due to overtemperature, Alarm is latched On, LED changes to solid red.
7	While Control Input is Off: Output, Alarm and LED remains Off. (Control Input Min. 100ms Off to reset values)
8	Control Input is On, Output is on and temperature rises.
6, 10	Alarm will reset until Control Input is Off.

* Max. 60 ms OFF when applying PWM on Control Input.

LED Color	Green	Output On
	Red	Alarm
	Yellow	Pre-Alarm

ACCESSORIES

TABLE 2. Recommended Accessories

Connectors	ID Marker	Hardware Kit	Heat Sink Part No	Thermal Resistance [°C/W]	Thermal Pad
CP201 CP202	CNLB CNLN CNL2	HK8	HS073 HS053 HS033 HS023	0.7 0.5 0.36 0.25	HSP-8

WARNINGS

DANGER

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- 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

Failure to follow these instructions can result in serious injury, or equipment damage.

Danger
Electric shock risk

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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