INSTALLATION GUIDE

Sensata Technologies

DR67 SERIES NOVA22

3-PHASE AC OUTPUT DIN RAIL MOUNT SOLID STATE RELAYS

DR67 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 DIN Rail Mount Solid State Relay (SSR) and refer to the product datasheet for more information. For assistance, please contact Tech Support.

INSTALLATION INSTRUCTIONS

Mounting on DIN Rail

- Locate rail and align with non moveable end of DR67 DIN clip.
- Using reasonable force, push DR67 in the direction of the arrow (as shown in fig.1).
- For removal pull release tag by moving blade of screwdriver in direction of arrow and pull it away from DIN rail.
- For models with integrated fan removal tool must be inserted from the side (as shown in fig. 2)

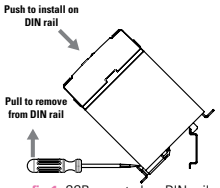


fig.1 SSR mounted on DIN rail

Mounting on Panel (25A & 30A models only)

- Locate the panel section on which the DR67 SSR will be mounted on (as shown in fig.3)
- DIN clip includes tabs for this type of mounting. Tab holes have a diameter of 4.5 mm. You will need three screws (not included) no larger than that to mount the SSR onto panel.
- Align SSR tabs with panel surface and screw both top and bottom sides. Recommended torque is 12 lb-in (1.36 Nm).

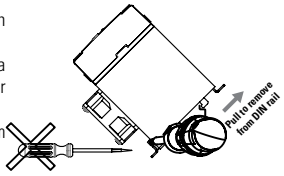


fig.2 Removal of SSR with Fan

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.
- If multiple units are installed be sure to follow derating curves.

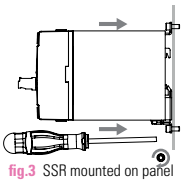


fig.3 SSR mounted on panel

WARNING!!

- Removing product from 35mm Rail incorrectly by not using the appropriate tool, would damage the latching system.

Table 1. Wire Size & Pull Out Strength

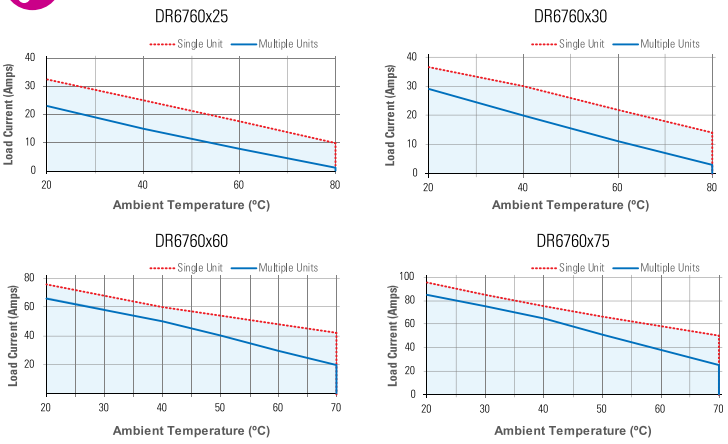
Terminal Configuration		Recommended Wire Size (Solid/Stranded)	Wire Pull-Out Strength (lb)[N]*
Output		1 x 18 AWG (1 mm²) [minimum]	20 [88]
		1 x 8 AWG (10 mm²)	75 [333]
		2 x 8 AWG (10 mm²)	65 [289]
		1 x 3 AWG (26.67 mm²) (1)	90 [400]
Input	Screw	30 AWG (0.05 mm²) [minimum]	4.5 [20]
		12 AWG (3.3 mm²)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

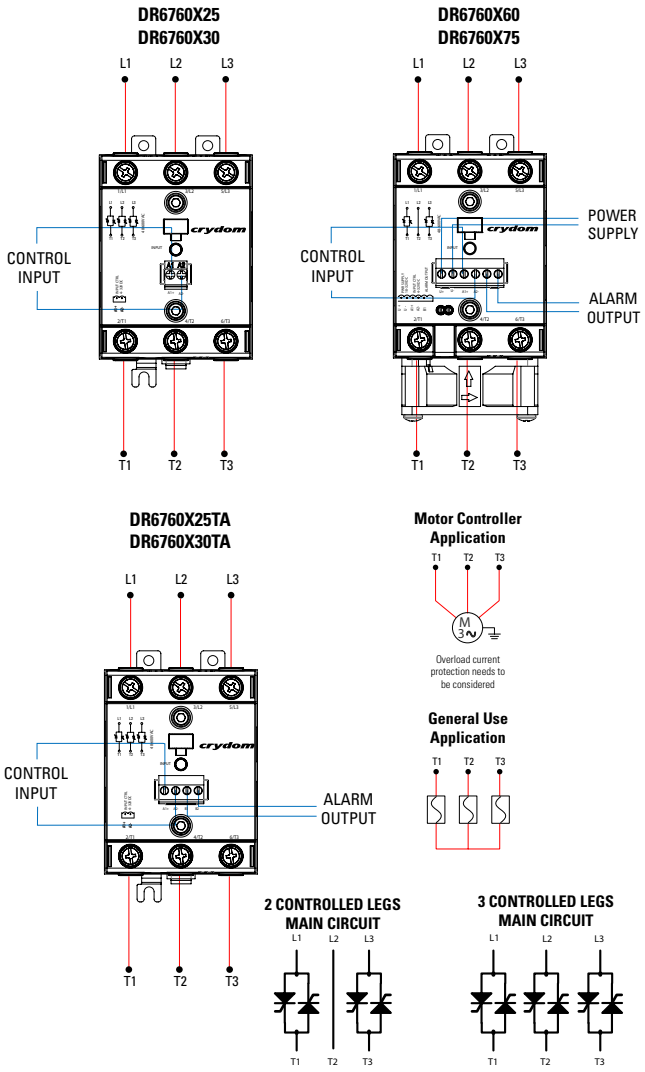
(1) Maximum wire size 1 x 2 AWG (35mm²) , torque 24 lb-in (2.7 Nm) & strip lenght 12.7mm min.

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

DERATING CURVES



WIRING DIAGRAM



Important Considerations

- Be sure to use input and output voltages within operating ranges.
- On models without overtemperature protection or integrated fan, LED indicates only input status. It does not represent output status.
- To achieve maximum ratings, there must be a minimum spacing of 0.87 inch (22mm) between the devices in free air (as shown in fig.4).
- To achieve maximum current rating in continuous operation, the SSR should be mounted aligned vertically to allow natural convection air flow. Otherwise, use derating curves for multiple units.

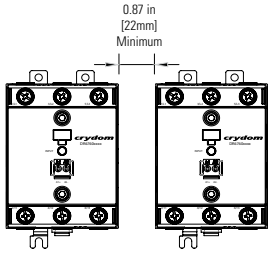


fig.4 Multiple units mounting for maximum ratings

WARNING! On version with integrated Fan (60 and 75 amps models), do not replace or operate without Fan.

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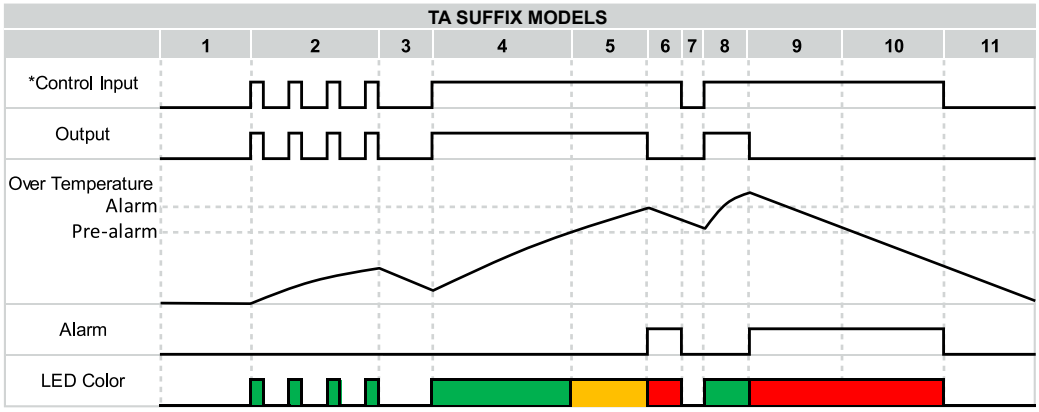
FUNCTIONAL DIAGRAMS

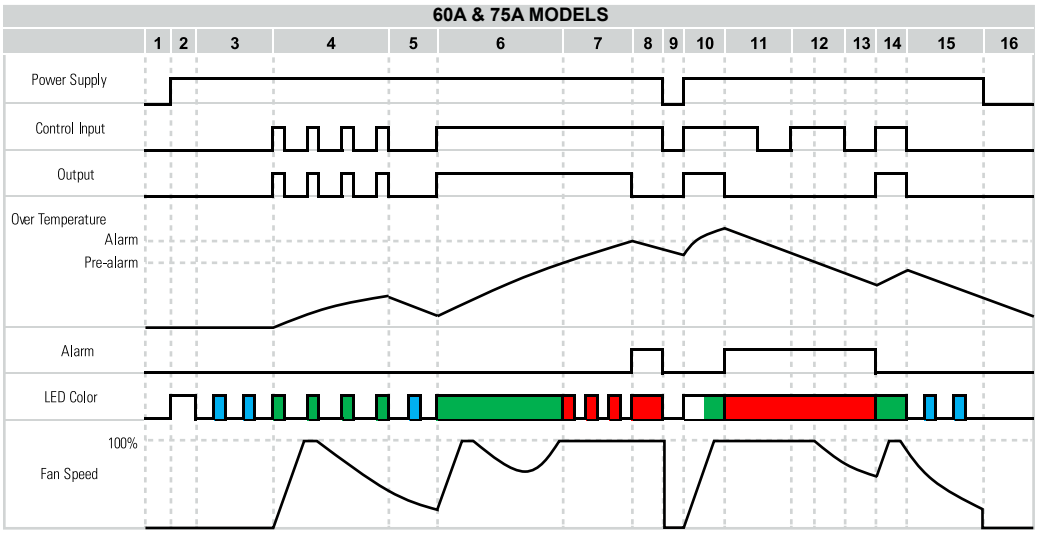
(only for models with overtemperature protection or integrated fan)



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



Conditions	Description
1,16	Initial Condition.
2	Microcontroller Start-up, white light.
3, 5, 15	Stand by condition, LED is blinking blue. Control Input is Off.
4, 6, 14	Control Input is On, Output is activated, temperature rises, Green LED is On, Fan goes to Maximum speed and then starts regulating the speed for optimal values.
7	LED indicator changes to blinking red, fan is at full speed.
8, 11	Output is Off due to overtemperature, alarm is On, LED changes to solid red
9	While Power Supply is Off: Output, Alarm, LED and Fan remains Off. (Power Supply Min. 100ms to reset values)
10	Power Supply is On, start initialization. Control Input is On, Output is on and temperature rises.
12	Control Input is On, Output is Off due to overtemperature.

LED Color		
	Blue	Standby mode
	Green	Output On
	Red	Alarm
	White	Initialization

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.

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

Specification No.: Rev. 10/08/19