

Slim Type _____

HSR-SL

Single-Phase Solid State Relay

INSTRUCTION MANUAL

Thank you for purchasing HANYOUNG product.
Please check whether the product is the exactly same as you ordered.
Before using the product, please read this instruction manual carefully.
Please keep this manual where you can view at any time

HANYOUNG NUX



HANYOUNGNUX CO.,LTD

HEAD OFFICE 1381-3, Juan-Dong, Nam-Gu Incheon, Korea
TEL: (82-32)876-4697 FAX: (82-32)876-4696

Safety information

Alerts declared in the manual are classified to Danger, Warning and Caution by their criticality

⚠ DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury
⚠ WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
⚠ CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury

⚠ DANGER

Do not touch or contact the input/output terminals because they may cause electric shock.

⚠ WARNING

- Before you use, read safety precautions carefully, and use this product properly.
- Do not touch or contact the input/output terminals because they may cause electric shock.
- If you are concerned about serious accident due to the malfunction of products, please install the external safety equipment
- To prevent deflection or malfunction of this product, supply proper power voltage in accordance with the rating.
- To prevent electric shock or devise malfunction of this product, do not supply the power until the wiring is completed.
- Reassemble this product while the power is off. Otherwise, it may cause malfunction or electric shock.
- If the user use the product with methods other than specified by the manufacturer, there may be bodily injuries or property damages.
- Due to the danger of electric shock, use this product installed onto a panel while an electric current is applied.

⚠ CAUTION

- Before using the product you have purchased, check to make sure that it is exactly what you ordered.
- Do not use this product at any place with corrosive (especially noxious gas or ammonia) or flammable gas.
- Do not use this product at any place with liquid, oil, medical substances, dust, salt or iron contents.
- Do not use this product at any place with excessive induction trouble, static electricity or magnetic noise.
- Do not use this product at any place with possible thermal accumulation due to direct sunlight or heat radiation.
- When the product gets wet, the inspection is essential because there is danger of an electric leakage or fire.
- Do not connect anything to the unused terminals.
- For DC types, connect wires at the correct position after checking polarity of terminal.
- The rated heat sink must be used; otherwise, the product may be destroyed.
- When product is disposed, treat as a industrial waste.

Suffix code

Model	Code	Information
HSR-SL	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Slim Type Single-Phase Solid State Relay
Input Control Voltage	D	4 - 32 V d.c
Contact	-	1 contact
	2C	2 contact
Rated load current	15	15 A
	25	25 A
	40	40 A
Rated load voltage	2	90 - 264 V a.c (Low voltage)
	4	90 - 480 V a.c (High voltage)
Operation method (Switching Mode)	Z	Zero Cross Switching (Standard product)
	R	Random Switching

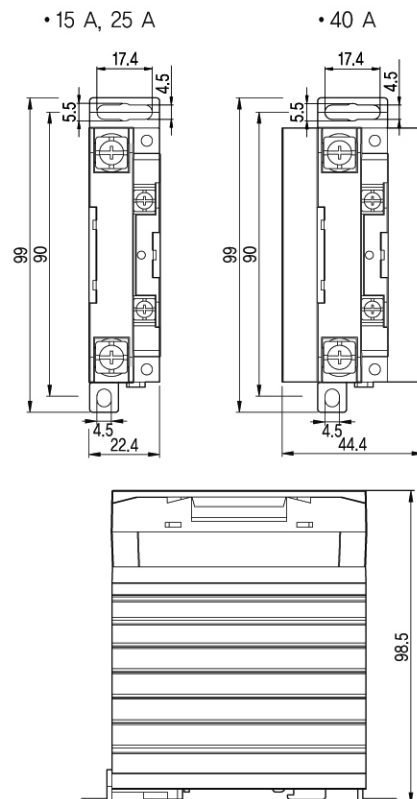
* 2 contact : Only available for 15 A items (HSR-SLD2C152Z, HSR-SLD2C154Z)

Specification

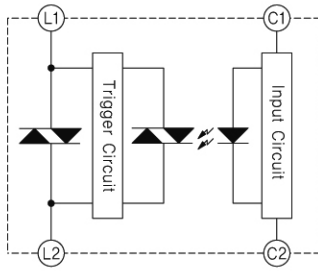
Model	Low	HSR-SLD152Z	HSR-SLD252Z	HSR-SLD402Z	
	High	HSR-SLD154Z	HSR-SLD254Z	HSR-SLD404Z	
Load	Rated Load Voltage	Low	90 - 264 V a.c		
		High	90 - 480 V a.c		
	Peak Voltage (Non-repetition)	Low	600 V		
		High	800 V	1200 V	
	Rated load current		15 A	25 A	40 A
	Frequency		50/60 Hz(Dual usage)		
	Surge current (8.3 ms No repetition)	Low	170 A	260 A	420 A
		High	170 A	250 A	370 A
	Leakage current		20 mA max		
	Output ON voltage dropping		1.6 V (R.M.S) max		
Indu	Rated Voltage	5 - 24 V d.c			
	Operating Voltage Range	4 - 32 V d.c			
	Impedance	Less than 4 kΩ			
	Operation Voltage	More than 3 V d.c			
	Reset Voltage	Less than 1.5 V d.c			
	Input Current	Constant-current system : 8 mA (±3)			
	Response Time	1/2 Cycle + 1 ms max. ("R" type below 1 ms)			
Insulating Resistance	500 V d.c, 100 MΩ (Between the input / output and case)				
Dielectric strength	3000 V a.c (For 1 min at 60 Hz)				
Vibration resistance	10 - 55 Hz, Double amplitude : 1.5 mm each X,Y and Z direction for 2 hours				
Shock resistance	1000 %, X, Y, Z each axis 3 times				
Storage Temperature	-30 ~ 90 °C				
Ambient Temperature	0 ~ 40 °C (But without frostiness)				
Ambient Humidity	45 ~ 85 % R.H.				
Weight	Approx 230g (Including packing box)		Approx 372g (Including packing box)		

Dimension

[Unit : mm]

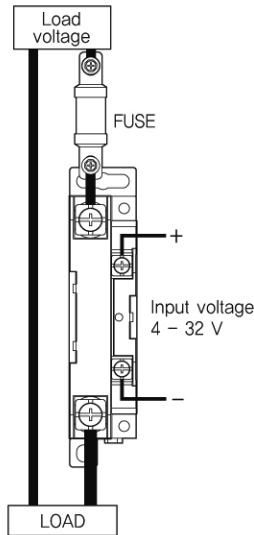


Equivalent Circuit

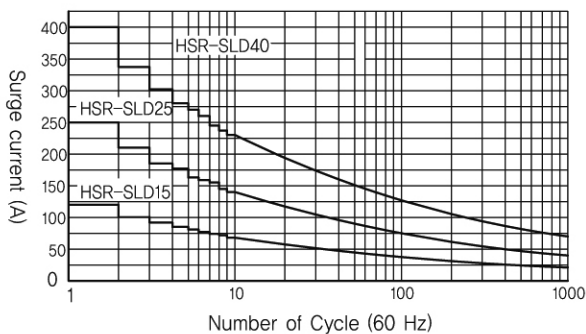
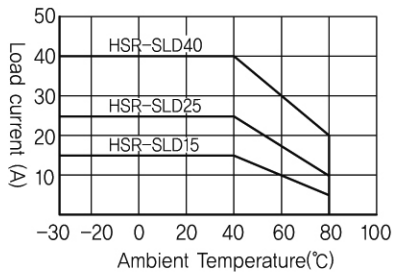
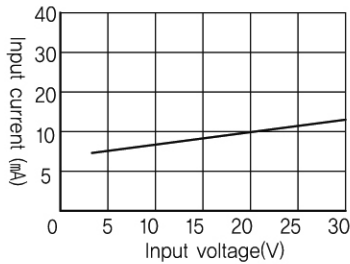


Connection

※ This model does not have a fuse internally. So we suggest using fast-acting fuse separately on the outside as following picture.

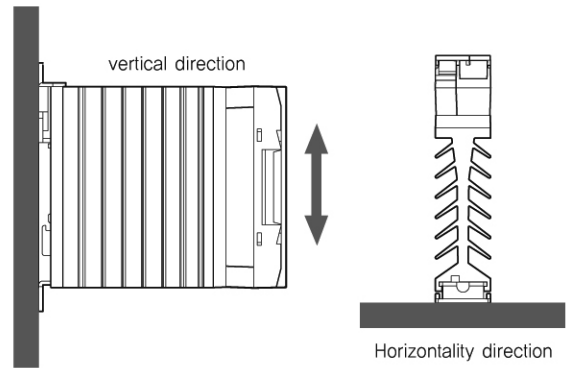


Input/Load/Surge current Characteristics



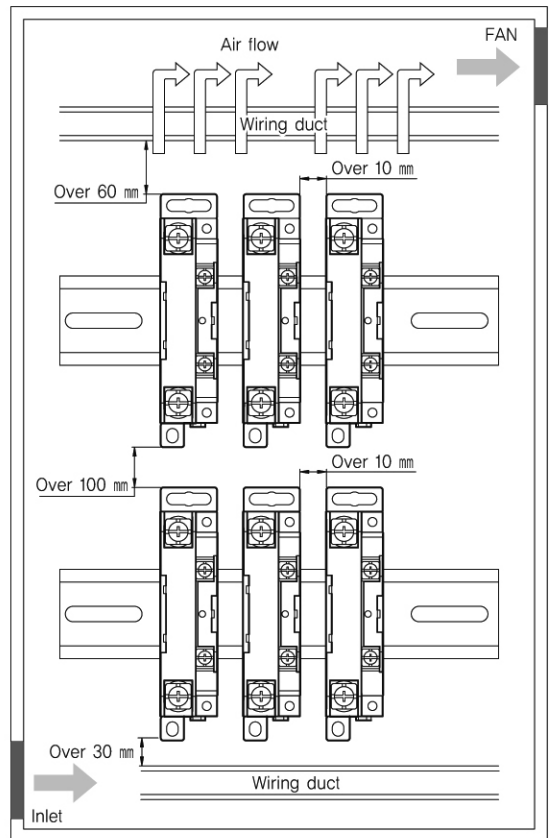
How to install

Please install SSR in the vertical direction. Otherwise, production performance may be reduced to less than 50 %.



Installation intervals

- Please make intervals more than following picture.
- Please install wiring duct less than half the height of the heat sink to prevent obstruction the flow of air.
- The optimal performance of our SSR is in the ambient temperature by 40 °C so please use it lower than 40 °C



Notice

- The width of the load output terminal is 10,6 mm and Input terminal is 6,8 mm so please use terminal that has less than size of them.
- When it is out of order, please separate SSR from head sink and only change SSR.
- This model has epoxy molding for the purpose of safety, reliability and extends of the life.
- If the actual load is 35 ~ 40 A, please use this model in the 25 °C ambient temperature condition.