Single phase, Socket heatsink separated type SSR

NEW

▣ Features

- Dielectric strength 2,500 VAC
- SRS1-A: AC, DC, AC/DC control
  SRS1-B: AC control
- Socket type(Autonics SRS1-A: socket SK-G05, SRS1-B: general purpose LY2) saves working time and improves ease of maintenance
- Supports Zero cross turn-on/Random turn-on type
- Checks input status by Input LED(red)

SRS1-A

SRS1-B

Please read "Caution for your safety" in operation manual before using.

▣ Ordering information

SRS | **1** | - | **B** | **1** | **2** | **02** | **R** | - | **1**

Item		SRS	Solid State Relay(socket type)
Control phase		1	Single phase
Socket		B	General purpose LY2 socket
		A※1	Autonics socket(Model: SK-G05)
Input voltage(rated)	SRS-A	1	4-24VDC
	SRS-B	1	4-30VDC
Load voltage(rated)	SRS-A	2	24-240VAC
		D1	5-100VDC
		D2	5-200VDC
		X2	5-240VAC/5-200VDC(universal)
	SRS-B	2	90-240VAC
Rated load current (resistive load)		01	1A
		02	2A
		03	3A
		05	5A
Function		No mark	Zero cross turn-on
		R	Random turn-on
Number of output circuit		1	1
		2	2

Model		Input voltage	Rated load current	Load voltage	Zero cross turn-on/Random turn-on
SRS1-A	SRS1-A1202	4-24VDC	2A	24-240VAC	Zero cross turn-on
	SRS1-A1202R				Random turn-on
	SRS1-A1203		3A		Zero cross turn-on
	SRS1-A1203R				Random turn-on
	SRS1-A1205		5A		Zero cross turn-on
	SRS1-A1205R				Random turn-on
	SRS1-A1D101		1A	5-100VDC	—
	SRS1-A1D102		2A		
	SRS1-A1D201		1A	5-200VDC	
	SRS1-A1X201			5-240VAC/5-200VDC	—
SRS1-B	SRS1-B1202-2	4-30VDC	2A (consists of 2 circuits)	90-240VAC	Zero cross turn-on
	SRS1-B1202R-2				Random turn-on
	SRS1-B1203-1		3A		Zero cross turn-on
	SRS1-B1203R-1				Random turn-on
	SRS1-B1205-1		5A		Zero cross turn-on
	SRS1-B1205R-1				Random turn-on

▣ Specifications

◎ Input

	SRS1-A	SRS1-B
Rated input voltage range	4-24VDC	4-30VDC
Allowable input voltage range	4-26.4VDC	4-32VDC
Max. input current	15mA(Random turn-on)	13mA
Pick-up voltage	Min. 4VDC	
Drop-out voltage	Max. 1VDC	

◎ Output(AC)

Model	SRS1-A1202(R)	SRS1-A1203(R)	SRS1-A1205(R)	SRS1-B1202(R)-2	SRS1-B1203(R)-2	SRS1-B1205(R)-1
Rated load voltage range	24-240VACrms(50/60Hz)			90-240VACrms(50/60Hz)		
Allowable load voltage range	24-264VACrms(50/60Hz)			90-240VACrms(50/60Hz)		
Rated load current resistive load	2Arms	3Arms	5Arms	2Arms	3Arms	5Arms
Min. load current	0.15Arms	0.2Arms		0.15Arms		
Max. 1cycle surge current (60Hz)	126A	250A		126A		250A
Max. non-repetitive surge current(I^2t, t=8.3ms)	$65A^2S$	$400A^2S$		$65A^2S$		$220A^2S$
Peak voltage(Non-repetitive)	600V					
Leakage current(Ta=25℃)	Max. 2mArms					
Output on voltage drop[Vpk] (Max. load current)	Max. 1.6V					
Static off-state dv/dt	500V/μs					
Turn-on time: Zero cross turn-on	0.5 cycle of load source + 1ms					
Turn-on time: Random turn-on	Max. 1ms					
Turn-off time	0.5 cycle of load source + 1ms					

◎ Output(DC, AC/DC)

Model	SRS1-A1D101	SRS1-A1D102	SRS1-A1D201	SRS1-A1X201
Rated load voltage range	5-100VDC		5-200VDC	5-240VAC 50/60Hz /5-200VDC
Allowable load voltage range	3-120VDC		3-220VDC	3-264VAC 50/60Hz /3-220VDC
Rated load current resistive load	1Adc	2Adc	1Adc	1Arms/1Adc
Min. load current	10mA			
Max. surge current(t=10ms)	5A	10A	4A	
Leakage current	Max. 100uA			Max. 2mArms
Output on voltage drop[Vpk] (Max. load current)	Max. 1.1V			Max. 2.2V
Static off-state dv/dt	500V/μs			
Turn-on time	1ms	2ms	1ms	2ms
Turn-off time	1ms			

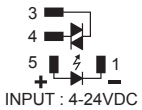
◎ General Specifications

		SRS1-A	SRS1-B
Dielectric strength(Vrms)		2,500VAC 50/60Hz 1min.(Input-Output, Input/Output-Case)	
Insulation resistance		Min. 100MΩ(at 500VDC Megger)	
Input LED		Red	
Protection		According to protection of socket(SK-G05: IP10)	
Environ-ment	Ambient temperature	-20 to 70℃, storage: -30 to 100℃	-20 to 80℃, storage: -30 to 100℃
		(The rated load current capacity is different depending on ambient temperature.Refer to '▣ SSR Derating curve'.)	
	Ambient humidity	45 to 85%RH, storage: 45 to 85%RH	
Protection		IP10(Protection structure of socket, SK-G05)	According to protection of the general LY2 socket
Approval		CE cULus	
Unit weight		3A and below: Approx. 17g(approx. 270g), 5A: Approx. 28g(approx. 380g)	Approx. 30g(approx. 400g)

※1: This weight is for 1EA except the packing box. The weight of parenthesis is for 10EA as packing unit.
※Environment resistance is rated at no freezing or condensation.

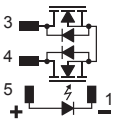
▣ Connections

◎ SRS1-A1202(R)/A1203(R)/A1205(R)



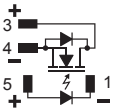
※SRS1-A1202(R): 250VAC 2A Resistive Load
SRS1-A1203(R): 250VAC 3A Resistive Load
SRS1-A1205(R): 250VAC 5A Resistive Load

◎ SRS1-A1X201



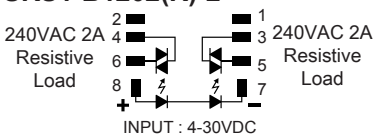
※SRS1-A1X201:
240VAC 1A Resistive Load
200VDC 1A Resistive Load

◎ SRS1-A1D101/A1D102/A1D201

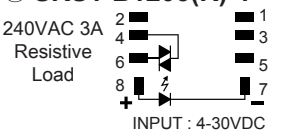


※SRS1-A1D101: 100VDC 1A Resistive Load
SRS1-A1D102: 100VDC 2A Resistive Load
SRS1-A1D201: 100VDC 1A Resistive Load

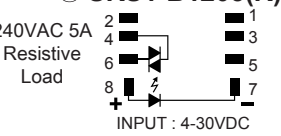
◎ SRS1-B1202(R)-2



◎ SRS1-B1203(R)-1



◎ SRS1-B1205(R)-1

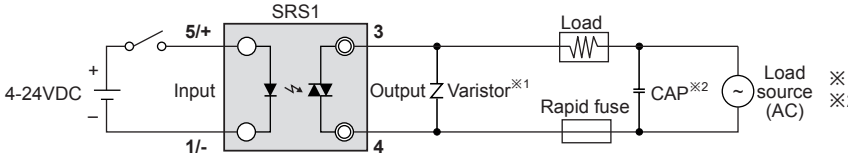


※Using the general LY2 type power relay socket.

▣ Example of connection

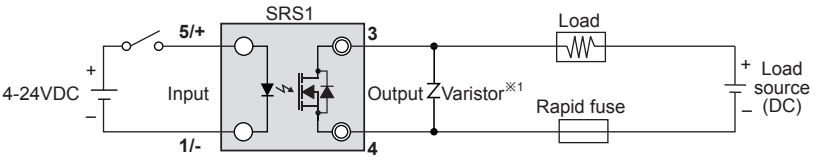
◎ SRS1-A

●AC Load



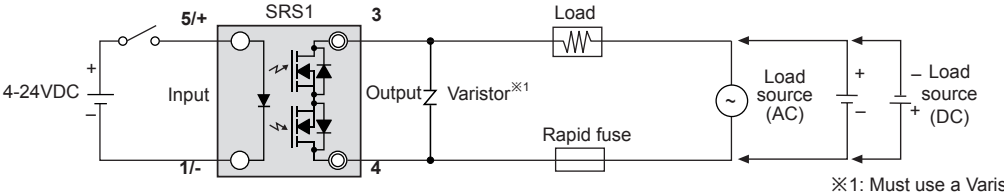
※1: Must use a Varistor(470V, 0.6W)
※2: When connecting capacitor as above, it is appropriate for EMC.
CAP: 1uF/250VAC

●DC Load(SRS1-A1D101/A1D102/A1D201)



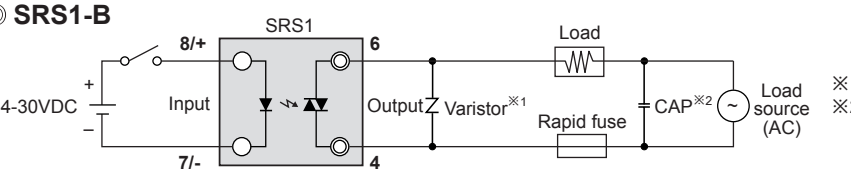
※1: Must use a Varistor(270V, 0.6W)

●AC/DC Load(SRS1-A1X201)



※1: Must use a Varistor(470V, 0.6W)

◎ SRS1-B

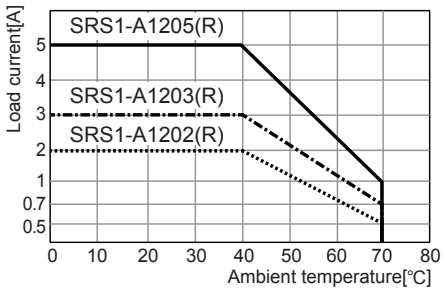


※1: Must use a Varistor(470V, 0.6W)
※2: When connecting capacitor as above, it is appropriate for EMC.
CAP: 1uF/250VAC

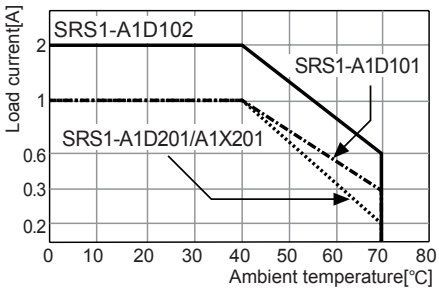
▣ SSR Characteristic curve

◎ SRS1-A

●SRS1-A1202(R)/A1203(R)/A1205(R)



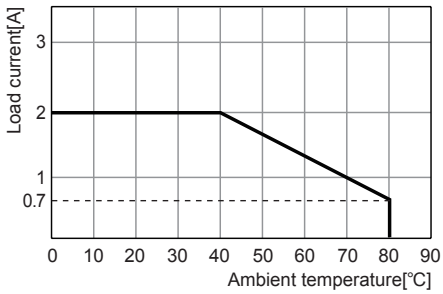
●SRS1-A1D102/A1D101/A1D201/A1X201



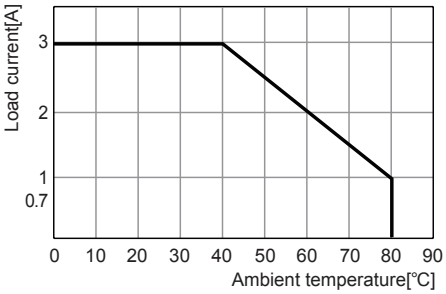
⚠ Please supply less than 50% of the rated load current when installing several SSRs closely due to decreasing effectiveness of protection against heat.

◎ SRS1-B

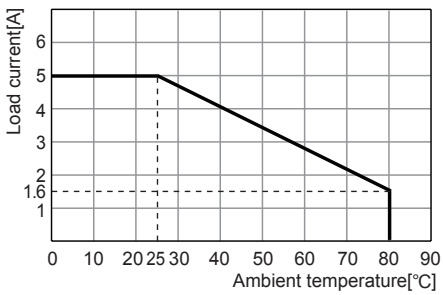
●SRS1-B1202(R)-2



●SRS1-B1202(R)-2



●SRS1-B1202(R)-2

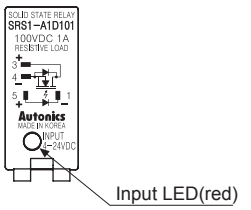


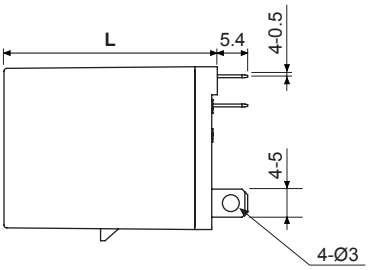
⚠ Please supply less than 50% of the rated load current when installing several SSRs closely due to decreasing effectiveness of protection against heat.

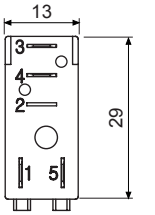
▣ Dimensions

◎ SRS1-A

(unit: mm)

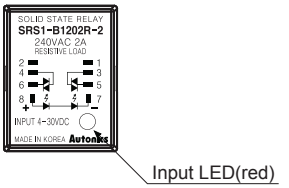


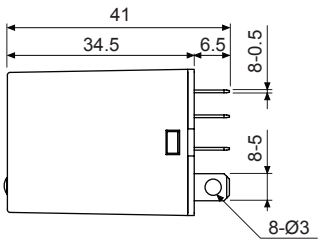


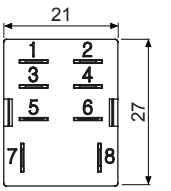


	3A	5A
L	28	38

◎ SRS1-B







▣ Proper usage

⚠ High temperature caution

Make sure do not touch the heat sink or the unit body while power is supplied or right after load power is turned off. If not, it may cause a burn.

⚠ Caution for using

1. Please attach a heatsink and ventilate for smooth convection current. If not, congested heat transfer may cause product failure or malfunction.
2. For mounting multiple SSR, please keep certain installation intervals for heat prevention. For horizontal installation(when the heights of input part and output part are equal), it is recommended to apply less than 50% of the rated load current.
3. Make sure do not touch the heatsink or the unit body while power is supplied or right after load power is turned OFF. If not, it may cause a burn.
4. Connect the proper cable for the rated load current with output terminal.
5. Use rapid fuse of which I^2t is under 1/2 of SSR I^2t in order to protect the unit from load's short-circuit current.
6. In case that load's current is lower than SSR min. load current, connect dummy resistance to the load in parallel so as to make load's current higher than SSR min. load current.
7. When selecting phase control with random turn-on model, install the noise filter between load and load's source.
8. Make sure that the screw on output terminal is tightly fastened. Using the unit with loose bolt may cause product failure or malfunction.
9. Before or during installation this unit, turn OFF the power of this unit.
10. Do not touch the load's terminal even if output is OFF. It may cause electric shock.
11. Proper application environment(Avoid following environments to install)

① Where temperature/humidity is beyond the specification
② Where dew condensation occurs due to temperature change
③ Where inflammable or corrosive gas exists
④ Where direct rays of light exist
⑤ Where severe shock, vibration or dust exists
⑥ Where near facilities generating strong magnetic forces or electric noise

12. Installation environment

① It shall be used indoor
② Altitude Max. 2,000m
③ Pollution Degree 2
④ Installation Category II