


SRS1 Series

Single Phase, Socket Type SSR

■ Features

- Socket type for easier installation and maintenance
 - SRS1-A: Autonics socket SK-G05AC (AC, DC, AC/DC)
 - SRS1-B: Universal LY2 sockets (AC)
 - SRS1-C: Universal MY4 sockets (AC, DC, AC/DC)
- Dielectric strength: 2,500 VAC
- Zero cross turn-on, random turn-on models available
- Input indicator (red LED)

 Please read "Safety considerations" in operation manual before using.



Line-up



SRS1-A

SRS1-B



SRS1-C

■ Ordering Information

SRS 1 - B 1 2 02 R - 2

Item	Control phase	Socket	Rated input voltage	Rated load voltage	Rated load current (resistive load)	Function	Number of output circuits	1	1	
								2	2	
								No mark	Zero cross turn-on	
								R	Random turn-on	
								01	1A	
								02	2A	
								03	3A	
								05	5A	
								2	24-240VAC	
								D1	5-100VDC	
D2	5-200VDC									
X2	5-240VAC/5-200VDC (universal)									
SRS1-A	SRS1-B	SRS1-C	SRS1-A	SRS1-B, SRS1-C	SRS1-A	SRS1-B, SRS1-C	SRS1-A	SRS1-B, SRS1-C	2	90-240VAC
									2	90-240VAC
									D1	5-100VDC
X2	5-240VAC/5-200VDC (universal)									
1	4-24VDC									
1	4-30VDC ^{※1}									
A	Autonics socket (Model: SK-G05)									
B	Universal LY2 socket									
C	Universal MY4 socket									
1	Single phase									
SRS	Solid State Relay (socket type)									

※1: In case of SRS1-C1D102-1, SRS1-C1X201-1, rated input voltage is 4-24VDC.

Single Phase, Socket Type SSR

Model	Rated input voltage	Rated load current	Rated load voltage	Function		
SRS1-A	4-24VDC	2A	24-240VAC	Zero cross turn-on		
				Random turn-on		
				3A	Zero cross turn-on	
		Random turn-on				
		5A			Zero cross turn-on	
				Random turn-on		
			1A	5-100VDC	—	
		2A			5-200VDC	—
SRS1-B	4-30VDC	2A (consists of 2 circuits)	90-240VAC	Zero cross turn-on		
				Random turn-on		
		3A		Zero cross turn-on		
				Random turn-on		
		5A		Zero cross turn-on		
				Random turn-on		
SRS1-C	4-30VDC	2A (consists of 2 circuits)	90-240VAC	Zero cross turn-on		
				Random turn-on		
		3A		Zero cross turn-on		
				Random turn-on		
		5A		Zero cross turn-on		
				Random turn-on		
	4-24VDC	2A	5-100VDC	—		
				1A	5-240VAC/5-200VDC	

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/
Connector Cables/
Sensor Distribution
Boxes/ Sockets(H) Temperature
Controllers(I) SSRs / Power
Controllers

(J) Counters

(K) Timers

(L) Panel
Meters(M) Tacho /
Speed / Pulse
Meters(N) Display
Units(O) Sensor
Controllers(P) Switching
Mode Power
Supplies(Q) Stepper Motors
& Drivers
& Controllers(R) Graphic/
Logic
Panels(S) Field
Network
Devices

(T) Software

■ Specifications

⊙ Input

Series	SRS1-A	SRS1-B	SRS1-C1202(R)-2/ SRS1-C1203(R)-1/ SRS1-C1205(R)-1	SRS1-C1D102-1/ SRS1-C1X201-1
Rated input voltage range	4-24VDC	4-30VDC	4-30VDC	4-24VDC
Allowable input voltage range	4-26.4VDC	4-32VDC	4-32VDC	4-26.4VDC
Max. input current	15mA (Random turn-on)	13mA (Random turn-on)	13mA (Random turn-on)	15mA
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-C1202(R)-2	SRS1-B1203(R)-1/ SRS1-C1203(R)-1	SRS1-B1205(R)-1/ SRS1-C1205(R)-1
Rated load voltage range	24-240VACrms (50/60Hz)			90-240VACrms (50/60Hz)		
Allowable load voltage range	24-264VACrms (50/60Hz)			90-264VACrms (50/60Hz)		
Rated load current (Ta=25°C)	2Arms	3Arms	5Arms	2Arms	3Arms	5Arms
Resistive load (AC-51) ^{※1}						
Min. load current	0.15Arms	0.2Arms		0.15Arms		
Max. 1cycle surge current (60Hz)	126A	250A		126A		250A
Max. non-repetitive surge current (I ² t, t=8.3ms)	65A ² s	400A ² s		65A ² s		220A ² s
Peak voltage (Non-repetitive)	600V					
Leakage current (Ta=25°C)	Max. 2mArms (240VAC/60Hz)					
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	Max. 0.5 cycle of load source + 1ms				
	Random turn-on	Max. 1ms				
Turn-off time	Max. 0.5 cycle of load source + 1ms					

※1: AC-51 is utilization category at IEC 60947-4-3.

■ Specifications

○ Output (DC, AC/DC)

Model	SRS1-A1D101	SRS1-A1D102	SRS1-A1D201	SRS1-C1D102-1	SRS1-A1X201	SRS1-C1X201-1
Rated load voltage range	5-100VDC		5-200VDC	5-100VDC	5-240VAC (50/60Hz) / 5-200VDC	
Allowable load voltage range	3-120VDC		3-220VDC	3-120VDC	3-264VAC (50/60Hz) / 3-220VDC	
Rated load current (Ta=25°C)	1Adc	2Adc	1Adc	2Adc	1Arms/1Adc	
Resistive load (AC-51) ^{※1}						
Min. load current	10mA				10mA	
Max. surge current (t=10ms)	5A	10A	4A	10A	4A	
Leakage current	Max. 100uA				Max. 2mArms	Max. 2mArms (240VAC/60Hz)
Output on voltage drop[Vpk] (Max. load current)	Max. 1.1V				Max. 2.2V	
Static off-state dv/dt	500V/μs			—	500V/μs	—
Turn-on time	Max. 1ms	Max. 2ms	Max. 1ms	Max. 1ms	Max. 2ms	Max. 1ms
Turn-off time	Max. 1ms					

※1: AC-51 is utilization category at IEC 60947-4-3.

○ General Specifications

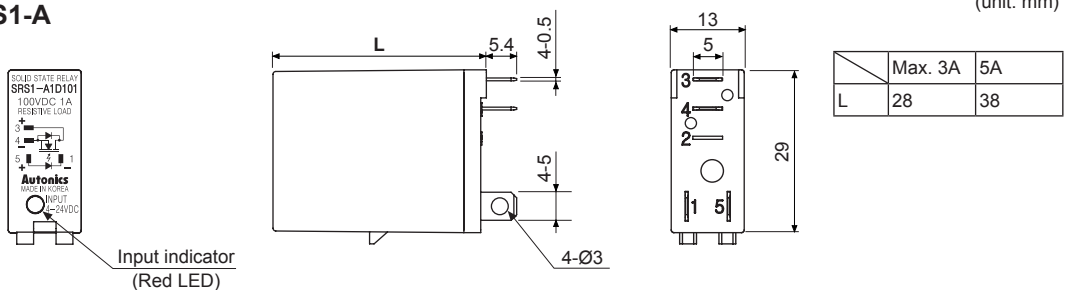
Series	SRS1-A	SRS1-B	SRS1-C
Dielectric strength (Vrms)	2,500VAC 50/60Hz 1min. (Input-Output, Input/Output-Case)		
Insulation resistance	Min. 100MΩ (at 500VDC Megger)		
Operation indicator	Input indicator: Red LED		
Environment	Ambient temperature	-20 to 70°C, storage: -30 to 100°C	-20 to 80°C, storage: -30 to 100°C
	(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 universal LY2 socket	According to protection of the universal MY4 socket
Approval	CE c RU us		—
Weight ^{※1}	3A and below: Approx. 270g (approx. 17g), 5A: Approx. 380g (approx. 28g)	Approx. 400g (approx. 30g)	Approx. 400g (approx. 30g)

※1: The weight is per 10 units with packing and the weight of parenthesis is per 1 unit.

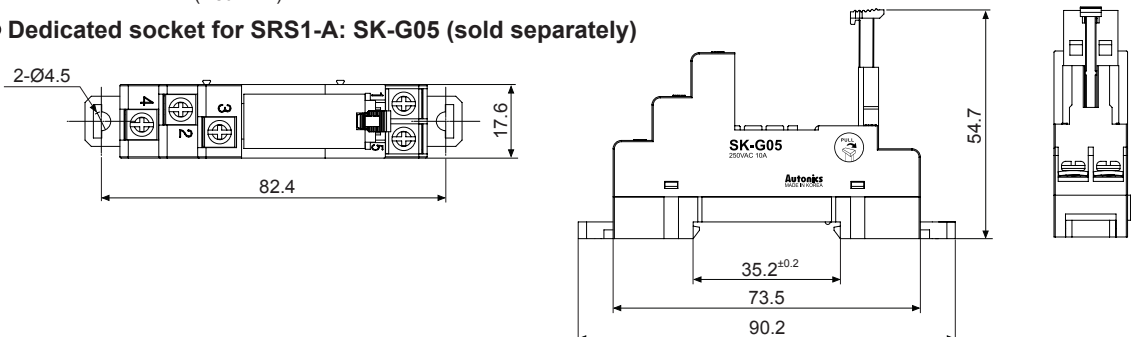
※Environment resistance is rated at no freezing or condensation.

■ Dimensions

○ SRS1-A



● Dedicated socket for SRS1-A: SK-G05 (sold separately)



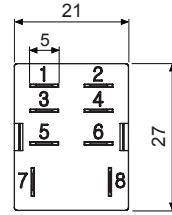
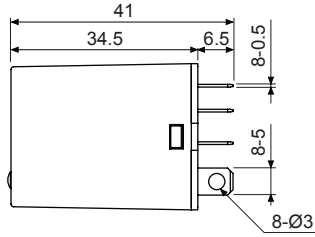
Single Phase, Socket Type SSR

(unit: mm)

◎ SRS1-B



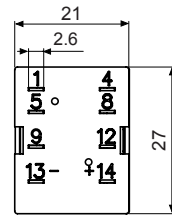
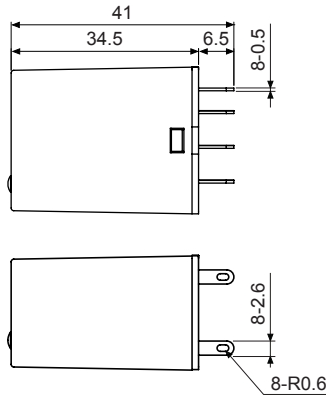
Input indicator
(Red LED)



◎ SRS1-C



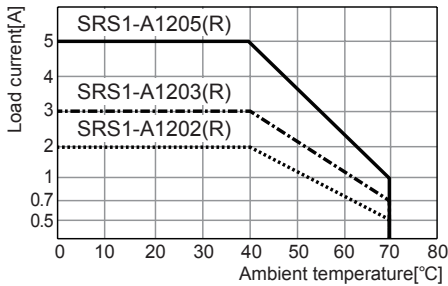
Input indicator
(Red LED)



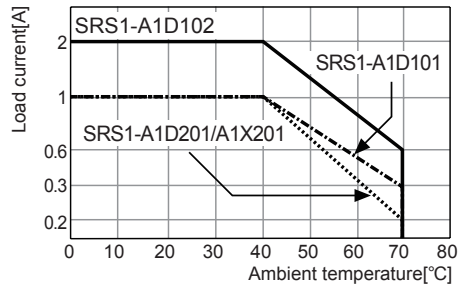
■ SSR Derating Curve

◎ SRS1-A

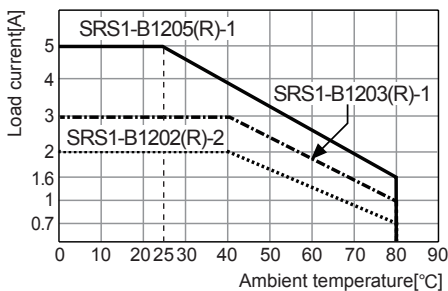
- SRS1-A1202(R)/SRS1-A1203(R)/SRS1-A1205(R)



- SRS1-A1D102/SRS1-A1D101/SRS1-A1D201/SRS1-A1X201



◎ SRS1-B



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

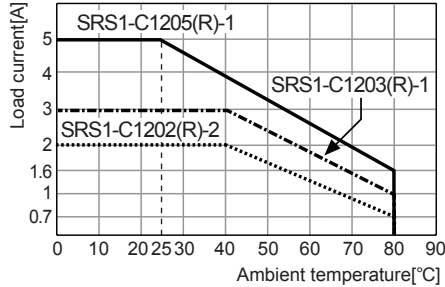
(A)	Photoelectric Sensors
(B)	Fiber Optic Sensors
(C)	Door/Area Sensors
(D)	Proximity Sensors
(E)	Pressure Sensors
(F)	Rotary Encoders
(G)	Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets
(H)	Temperature Controllers
(I)	SSRs / Power Controllers
(J)	Counters
(K)	Timers
(L)	Panel Meters
(M)	Tacho / Speed / Pulse Meters
(N)	Display Units
(O)	Sensor Controllers
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(R)	Graphic/ Logic Panels
(S)	Field Network Devices
(T)	Software

SRS1 Series

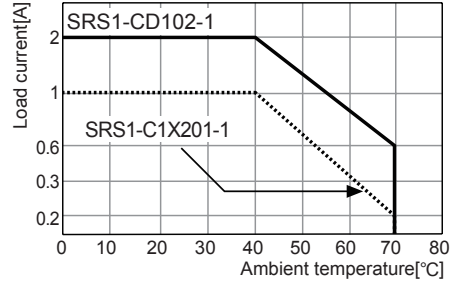
SSR Characteristic Curve

SRS1-C

- SRS1-C1202(R)-2/SRS1-C1203(R)-1/
SRS1-C1205(R)-1



- SRS1-C1D102-1/SRS1-C1X201-1

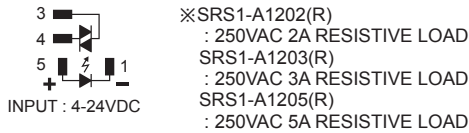


⚠ Please supply less than 50% of the rated load current when installing several SSRs closely due to decreasing effectiveness of protection against heat.

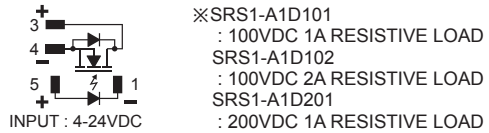
Connections

SRS1-A

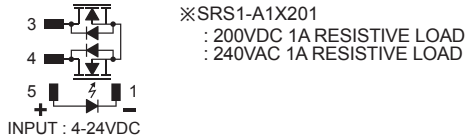
- SRS1-A1202(R)/SRS1-A1203(R)/
SRS1-A1205(R)



- SRS1-A1D101/SRS1-A1D102/
SRS1-A1D201

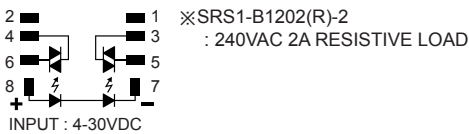


- SRS1-A1X201

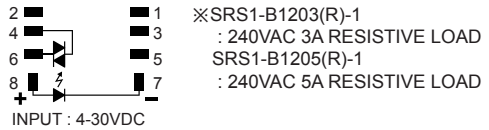


SRS1-B

- SRS1-B1202(R)-2

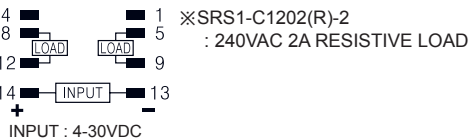


- SRS1-B1203(R)-1/SRS1-B1205(R)-1

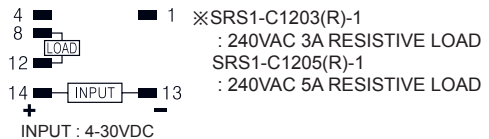


SRS1-C

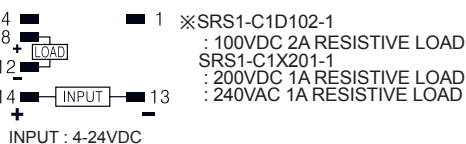
- SRS1-C1202(R)-2



- SRS1-C1203(R)-1/SRS1-C1205(R)-1



- SRS1-C1D102-1/SRS1-C1X201-1

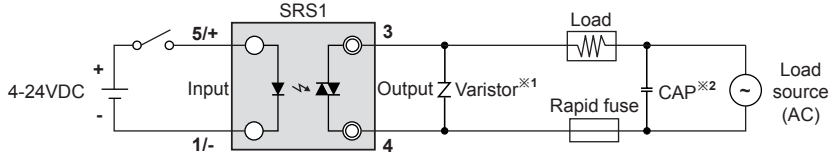


Single Phase, Socket Type SSR

Example Of Connection

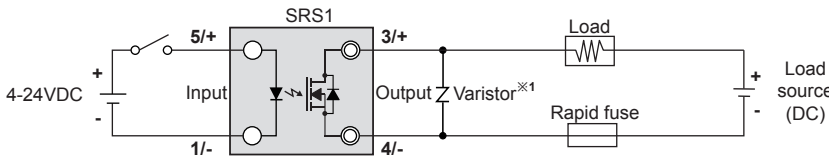
◎ SRS1-A

● AC Load (SRS1-A1202(R)/SRS1-A1203(R)/SRS1-A1205(R))



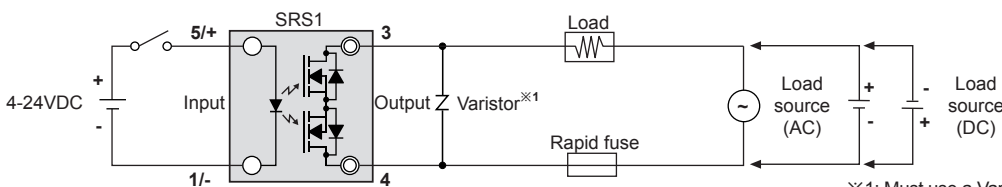
※1: Must use a Varistor (470V, 0.6W)
 ※2: When connecting capacitor as above, it is appropriate for EMC. CAP: 1uF/250VAC

● DC Load (SRS1-A1D101/SRS1-A1D102/SRS1-A1D201)



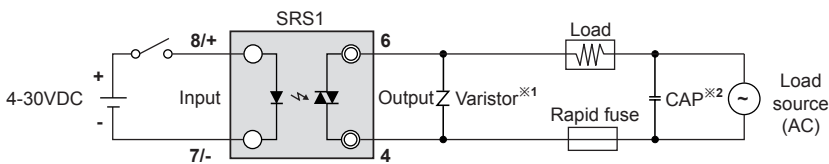
※1: Must use a Varistor (SRS1-A1D101/SRS1-A1D102: 270V, 0.6W) (SRS1-A1D201: 470V, 0.6W)

● AC/DC Load (SRS1-A1X201)



※1: Must use a Varistor (470V, 0.6W)

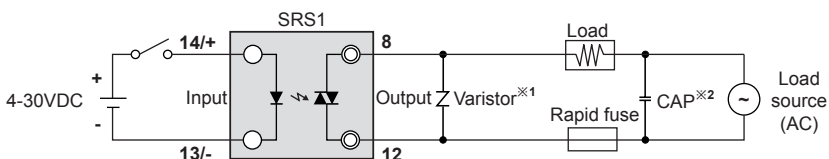
◎ SRS1-B



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

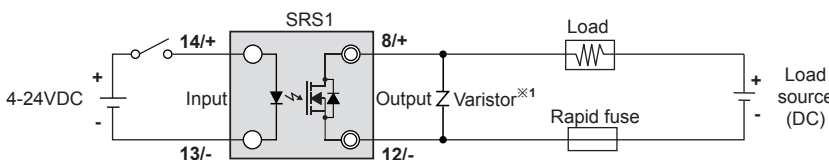
◎ SRS1-C

● AC Load (SRS1-C1202(R)-2/SRS1-C1203(R)-1/SRS1-C1205(R)-1)



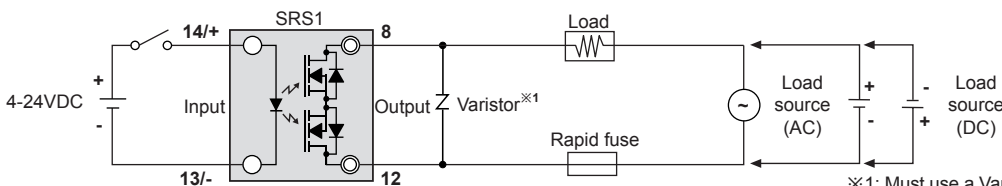
※1: Must use a Varistor (470V, 0.6W)
 ※2: When connecting capacitor as above, it is appropriate for EMC. CAP: 1uF/250VAC

● DC Load (SRS1-C1D102-1)



※1: Must use a Varistor (270V, 0.6W)

● AC/DC Load (SRS1-C1X201-1)



※1: Must use a Varistor (470V, 0.6W)

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(T)	Software

■ Proper Usage



High temperature caution

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



Cautions during use

1. Ventilate air 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 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. Avoid following environments to install this unit.
 - 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. This unit may be used in the following environments.
 - ① Indoors
 - ② Max. altitude: 2,000m
 - ③ Pollution degree 2
 - ④ Installation category II