

SRH1 Series

Single phase, Intergrated heatsink type SSR

NEW

■ Features

- Superior dielectric voltage : 4,000VAC
- Improved reliability by maximizing heat protection efficiency with heatsink integrated design and ceramic board
- Various mounting methods (DIN rail, panel front)
- Zero cross turn-on / Random turn-on type

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



■ Ordering information

SRH	1	-	1	4	60	R	
							Function
							Blank
							R
							Rated load current (Resistive load)
							15
							20
							30
							40
							60
							Load voltage (Rated)
							2
							4
							Input voltage (Rated)
							1
							2
							4
							Control phase
							1
							Item
							SRH

Model	Input voltage	Rated load current	Load voltage	Zero cross/Random turn-on
SRH1-1215	4-30VDC	15A	24-240VAC	Zero cross turn-on
SRH1-2215	24VAC			
SRH1-4215	90-240VAC			
SRH1-1220	4-30VDC	20A		
SRH1-2220	24VAC			
SRH1-4220	90-240VAC			
SRH1-1230	4-30VDC	30A		
SRH1-2230	24VAC			
SRH1-4230	90-240VAC			
SRH1-1240	4-30VDC	40A		
SRH1-2240	24VAC			
SRH1-4240	90-240VAC			
SRH1-1260	4-30VDC	60A		
SRH1-2260	24VAC			
SRH1-4260	90-240VAC			
SRH1-1420	4-30VDC	20A	48-480VAC	Zero cross turn-on
SRH1-1420R				Random turn-on
SRH1-2420	24VAC	Zero cross turn-on		
SRH1-1430	4-30VDC	30A		Zero cross turn-on
SRH1-1430R				Random turn-on
SRH1-2430	24VAC	Zero cross turn-on		
SRH1-1460	4-30VDC	60A		Zero cross turn-on
SRH1-1460R				Random turn-on
SRH1-2460	24VAC			Zero cross turn-on

Integrated Heatsink Type SSR

■ Specifications

◎ Input

4-30VDC input voltage	
Input voltage range	4-32VDC
Max. input current	8mA(Zero cross turn-on), 12mA(Random turn-on)
Pick-up voltage	4VDC
Drop-out voltage	1VDC
Turn-on time	0.5 cycle of load source + 1ms
Zero cross turn-on time	Max. 1ms
Turn-off time	0.5 cycle of load source + 1ms
24VAC input voltage	
Input voltage range (50/60Hz)	19-30VACrms
Max. input current	12mArms(24VACrms)
Pick-up voltage	19VACrms
Drop-out voltage	4VACrms
Turn-on time	1.5 cycle of load source + 1ms
Turn-off time	1.5 cycle of load source + 1ms
90-240VAC input voltage	
Input voltage range (50/60Hz)	85-264VACrms
Max. input current	6mArms(240VACrms)
Pick-up voltage	85VACrms
Drop-out voltage	10VACrms
Turn-on time	1.5 cycle of load source + 1ms
Turn-off time	1.5 cycle of load source + 1ms

◎ Output

24-240VAC load voltage						
Load voltage range (50/60Hz)		24-264VACrms				
Rated load current Ta=25℃	Resistive load (AC-51)	15Arms	20Arms	30Arms	40Arms	60Arms
	Min. load current	0.15Arms	0.2Arms	0.2Arms	0.5Arms	0.5Arms
	Max. 1 cycle surge current(60Hz)	170A	260A	330A	500A	1000A
	Max. non-repetitive surge current (I ² t, t=8.3ms)	150A ² s	300A ² s	500A ² s	1000A ² s	4000A ² s
Peak voltage(Non-repetitive)		600V				
Leakage current (240VAC/60Hz, Ta=25℃)		Max. 10mArms				
Output ON voltage drop (Max. load current)		Max. 1.6Vrms				
Static off state dv/dt		500V/μs				
48-480VAC load voltage						
Load voltage range (50/60Hz)		48-528VACrms				
Rated load current Ta=25℃	Resistive load (AC-51)	20Arms		30Arms		60Arms
	Motor load (AC-53a)	5Arms		8Arms		15Arms
	Min. load current	0.5Arms		0.5Arms		0.5Arms
	Max. 1 cycle surge current(60Hz)	300A		500A		1000A
Max. non-repetitive surge current (I ² t, t=8.3ms)		350A ² s		1000A ² s		4000A ² s
Peak voltage(Non-repetitive)		1200V(Zero cross turn-on), 1000V(Random turn-on)				
Leakage current (480VAC/60Hz, Ta=25℃)		Max. 10mArms				
Output ON voltage drop (Max. load current)		Max. 1.6Vrms				
Static off state dv/dt		500V/μs				

(A)
Photo
electric
sensor

(B)
Fiber
optic
sensor

(C)
Door/Area
sensor

(D)
Proximity
sensor

(E)
Pressure
sensor

(F)
Rotary
encoder

(G)
Connector/
Socket

(H)
Temp.
controller

(I)
SSR/
Power
controller

(J)
Counter

(K)
Timer

(L)
Panel
meter

(M)
Tacho/
Speed/
Pulse
meter

(N)
Display
unit

(O)
Sensor
controller

(P)
Switching
power
supply

(Q)
Stepping
motor &
Driver &
Controller

(R)
Graphic/
Logic
panel

(S)
Field
network
device

(T)
Production
stoppage
models &
replacement

SRH1 Series

■ Specifications

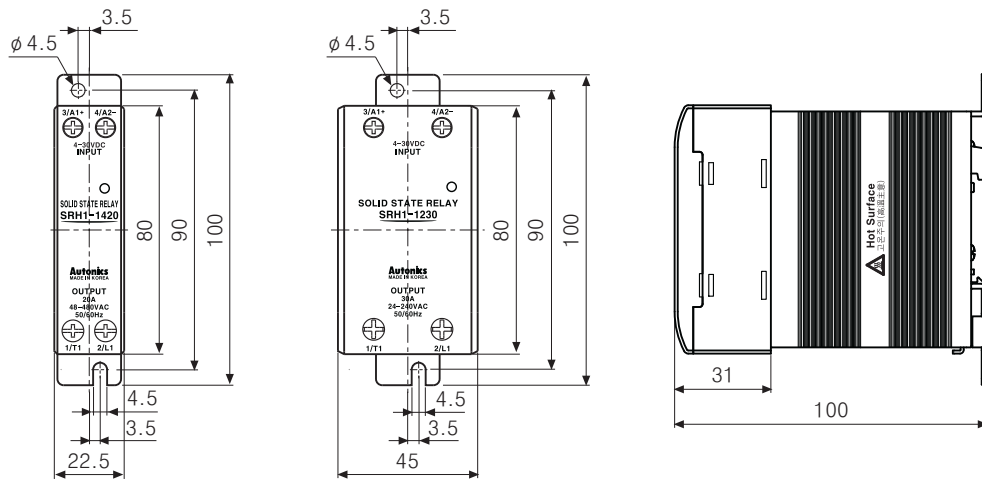
○ General Specifications

Dielectric strength(Vrms)	4000VAC 50/60Hz for 1 min. (Input-Output, I/O-Case)
Insulation resistance	Min. 100M Ω (at 500VDC megger)
Vibration	10 to 55Hz double amplitude 0.75 mm in each X, Y, Z direction for 1 hour
Protection	IP20(IEC standards)
Input LED	Green
Ambient temperature	-20 to 80℃ / -20 to 70℃ (In case of 90-240VAC is input voltage), Storage : -30 to 100℃
Ambient humidity	45 to 85%RH, Storage : 45 to 85%RH
Input terminal connection	Min. 1×0.5mm ² (1×AWG20) Max. 2×1.5mm ² (2×AWG16)
Output terminal connection	• Case width 22.5mm(M4 terminal bolt): Min. 1×0.75mm²(1×AWG18) Max. 2×2.5mm²(2×AWG14) • Case width 45mm(M5 terminal bolt): Min. 1×1.5mm²(1×AWG16) Max. 2×6mm²(2×AWG10) ※Use wires compliant with load current capacity to connect to the terminal.
Input terminal fixed torque	0.75N·m to 0.95N·m
Output terminal fixed torque	• Case width 22.5mm(M4 terminal bolt): 1N·m to 1.35N·m • Case width 45mm(M5 terminal bolt): 1.6N·m to 2.2N·m
Unit weight	• Rated load current(Resistive load) 15A/20A : Approx. 225g • Rated load current(Resistive load) 30A/40A : Approx. 410g • Rated load current(Resistive load) 60A : Approx. 680g

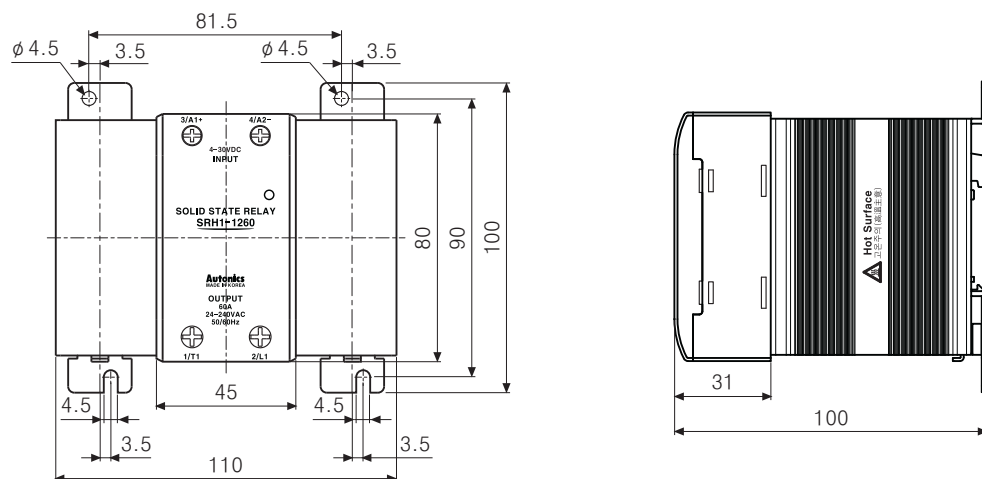
■ Dimensions & Mounting

○ Dimensions

- 15A/20A Rated load current ● 30A/40A Rated load current



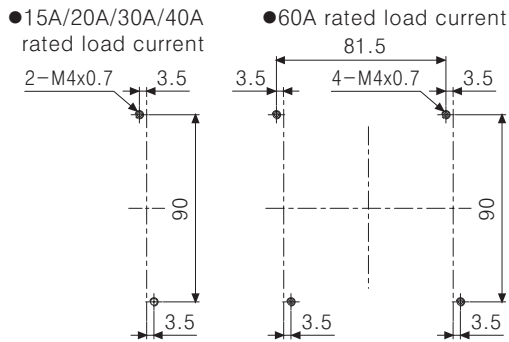
- 60A Rated load current



(Unit:mm)

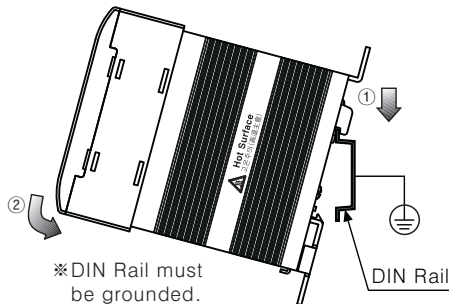
Integrated Heatsink Type SSR

○Hole cut-out for panel front mounting

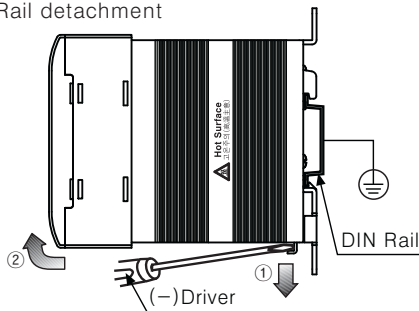


○DIN Rail mounting

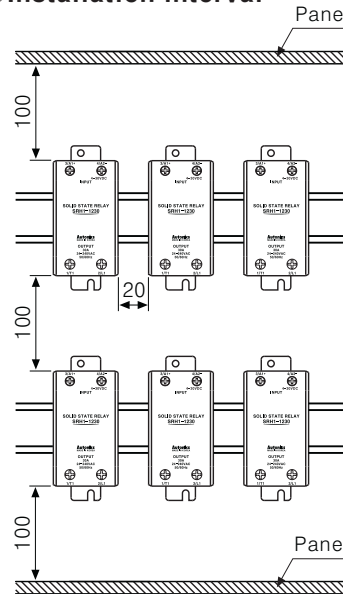
●DIN Rail attachment



●DIN Rail detachment



○Installation interval



※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 50% of rated load current.

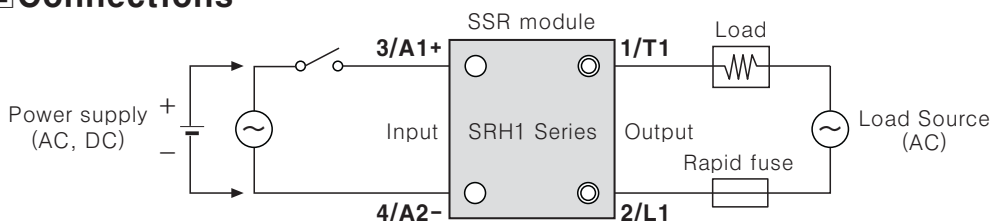


High temperature caution

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.

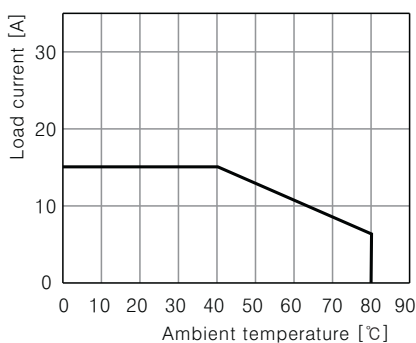
(Unit:mm)

■Connections

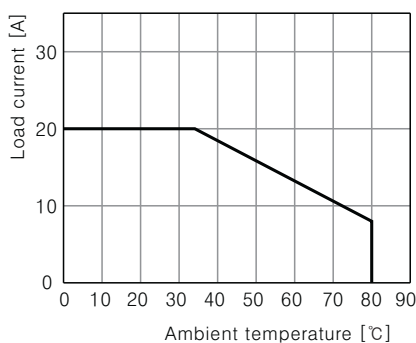


■SSR Characteristic curve

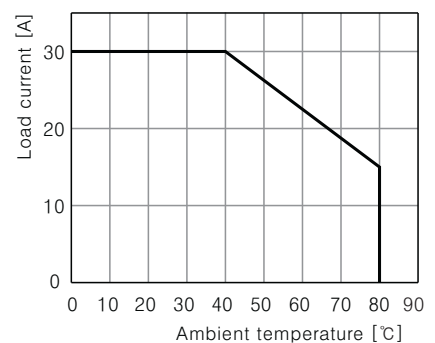
○SRH1-1215/2215/4215



○SRH1-1220/2220/4220 SRH1-1420/1420R/2420



○SRH1-1230/2230/4230

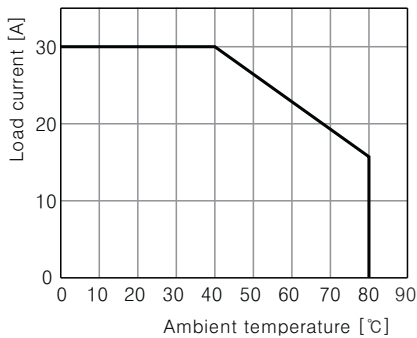


(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
(D)	Proximity sensor
(E)	Pressure sensor
(F)	Rotary encoder
(G)	Connector/Socket
(H)	Temp. controller
(I)	SSR/ Power controller
(J)	Counter
(K)	Timer
(L)	Panel meter
(M)	Tacho/ Speed/ Pulse meter
(N)	Display unit
(O)	Sensor controller
(P)	Switching power supply
(Q)	Stepping motor & Driver & Controller
(R)	Graphic/ Logic panel
(S)	Field network device
(T)	Production stoppage models & replacement

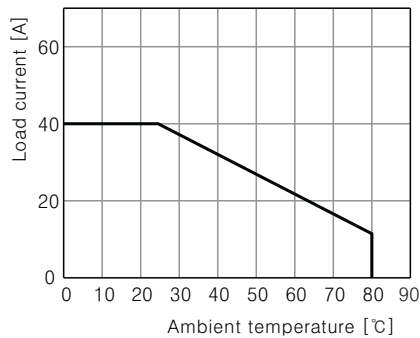
SRH1 Series

■ SSR Characteristic curve

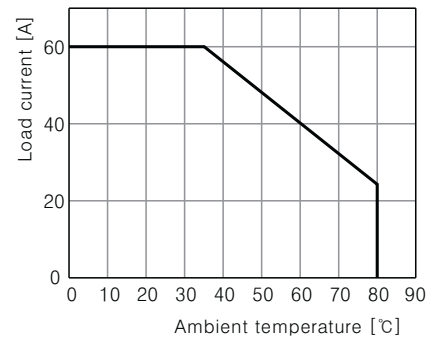
○SRH1-1430/1430R/2430



○SRH1-1240/2240/4240



○SRH1-1260/1460/1460R
SRH1-2460/2260/4260



■ 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. Keep the distance between heat sink and the unit to ventilate.
If not, congested heat transfer may cause product failure or malfunction.
2. 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
3. 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.
4. In case that load current is lower than SSR min. load current, connect dummy resistance to the load in parallel so as to make load current higher than SSR min. load current.
5. When selecting phase control with random turn-on model, install the noise filter between load and load source.
6. Make sure that the screw on output terminal is tightly fastened.
Using the unit with loose bolt may cause product failure or malfunction.
7. Do not touch the load terminal even if output is OFF.
It may cause an electric shock.
8. 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
9. Installation environment
 - ① It shall be used indoor
 - ② Altitude Max. 2,000m
 - ③ Pollution Degree 2
 - ④ Installation Category III