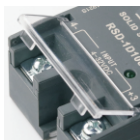


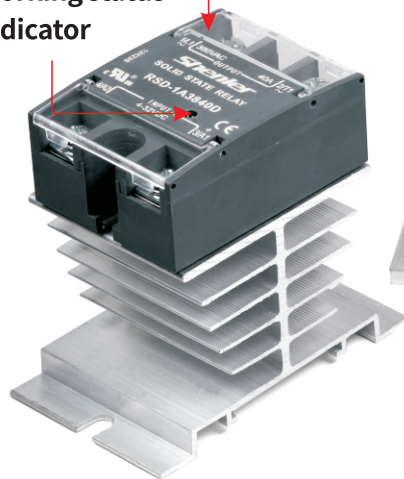
- ◆ 1 N/O SPST DC AC output
- ◆ No contact, no spark, long service life
- ◆ MOSFET output is used for DC, and TRIAC or SCR output is used for AC, with fast switching response
- ◆ Using optocoupler isolation, high isolation voltage
- ◆ Wide control voltage range, LED indicator
- ◆ Optional IP20 protective cover, panel mounting
- ◆ Widely used in constant temperature systems, temperature regulation, electric furnace heating control, CNC machinery, solenoid valves, motor control, etc.



Transparent protective cover

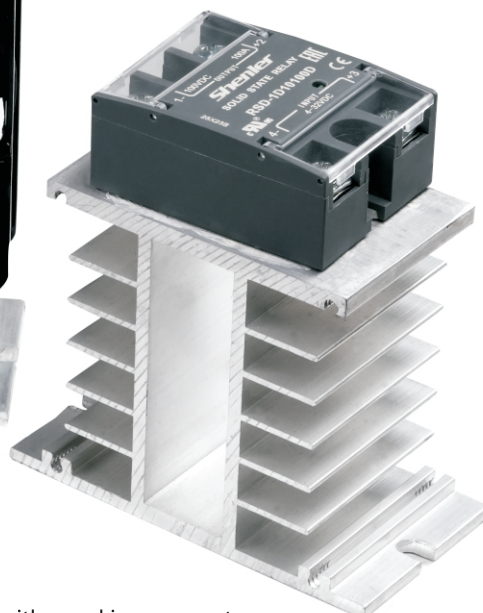
High performance polycarbonate transparent cover, safe, dustproof, easy to open, and effectively reduce falling off or loss due to human factors

Working status indicator



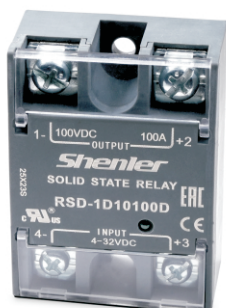
Metal cooling base plate

The back adopts thickened metal plate; smooth surface helps fast cooling and avoid overheat.



Auxiliary heat sink

The solid-state relay with working current of more than 10A must be installed with heat sink, and thermal conductive silicone grease is added between the relay and the heat sink (fan forced cooling is added for more than 60A)



Relay

RSD 1 D □ □ D □

Options

T:TVS

Control type

D:4-32VDC DC control

Load current

Code	20	40	60	80	100
Current (A)	20	40	60	80	100
Note	For load voltage code 06 and 10 only				

Load voltage

Code	06	10	20
Voltage Range (VDC)	7-48	7-75	7-120

Load type

D: DC load

Single-phase

Series name

Product performance

Input parameter (Ta=25°C)

Control voltage range	4~32VDC												
Must ON voltage	4VDC												
Must OFF voltage	1VDC												
Control current range	6~20mA												

Output parameters (Ta=25°C)

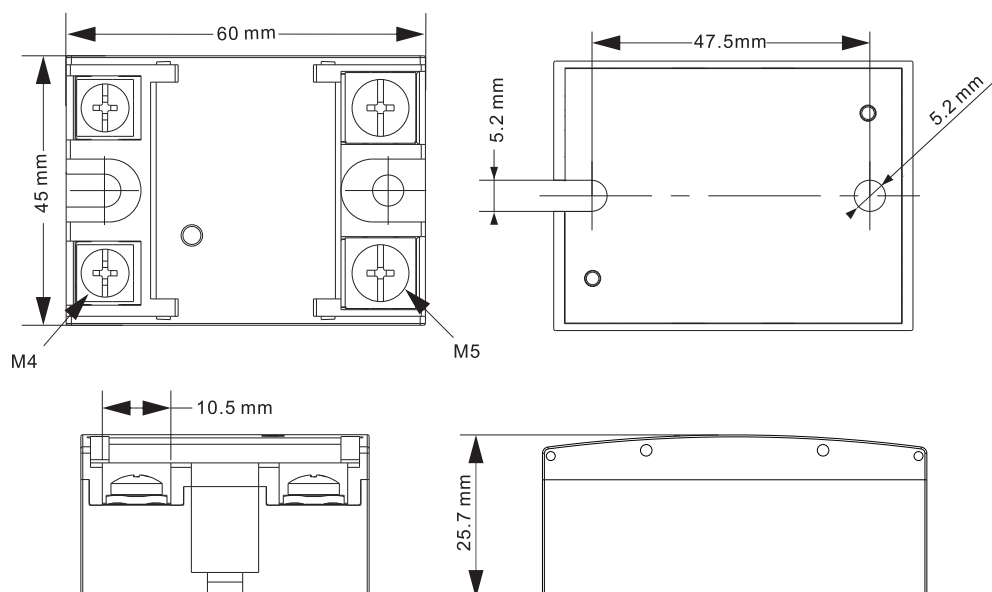
Part No.	RSD-1D06xxD					RSD-1D10xxD					RSD-1D20xxD		
Load voltage range(VDC)	7-48					7-75					7-120		
Blocking voltage(VDC)	60					100					200		
Maximum load current(A)	20	40	60	80	100	20	40	60	80	100	20	40	60
Maximum surge current (Apk,@10ms)	110	160	200	260	300	90	140	180	220	280	80	160	200
Maximum PWM(Hz) ★	900	700	700	500	500	900	600	600	400	400	800	600	400
Maximum conduction voltage drop(V)	≤1										≤1.2		
Maximum off- state leakage current(mA)	≤0.3												
Minimum load current(mA)	≥2												
Maximum conduction time(ms)	1												
Maximum off time(ms)	1												

Other parameters (Ta=25°C)

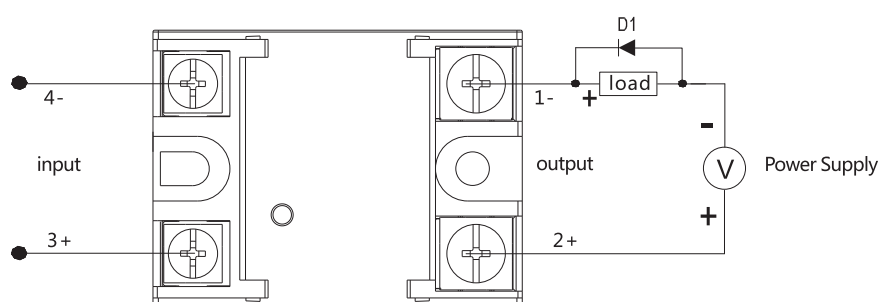
Dielectric withstand voltage (50/60Hz)	Between Input and Output	2500Vrms
	Input/Output to base	2500Vrms
Insulation resistance(@500VDC)	1000MΩ	
Operating temperature range	-30°C~+80°C	
Storage temperature range	-40°C~+100°C	
Operating ambient humidity range	35~85%RH (No condensation)	
Cooling mode	fan forced cooling is added for more than 60A	
Unit weight	approx.90g	

★ Note: For PWM rating, a voltage of at least 8 Vdc must be applied to the control input.

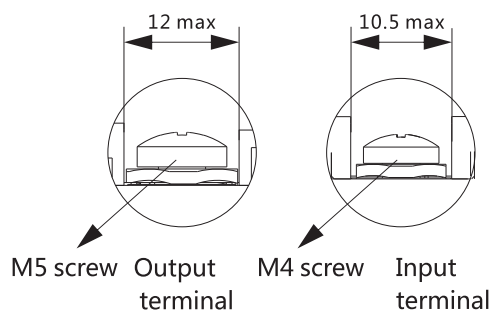
Dimensions (mm)



Wiring Diagrams



*When inductive load is used, suppression circuit must be added, as shown in the figure: reverse parallel freewheeling diode D1 at both ends of the load (D1 is a fast recovery diode)



To use cold rolled copper lugs

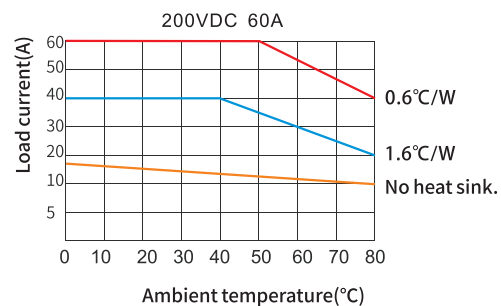
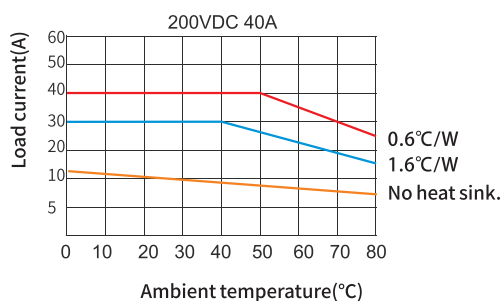
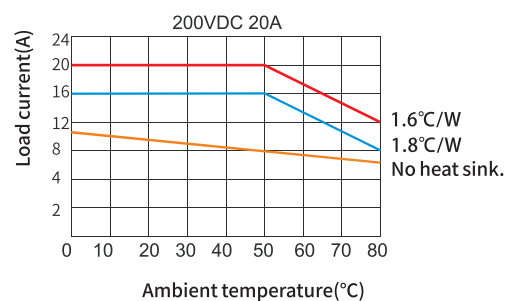
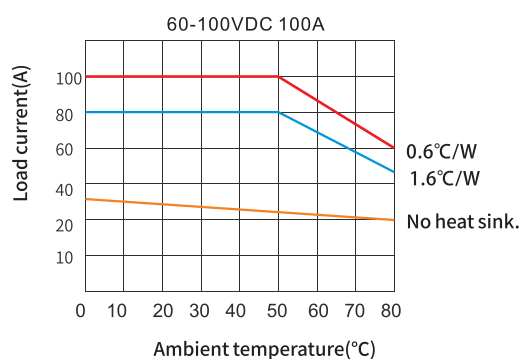
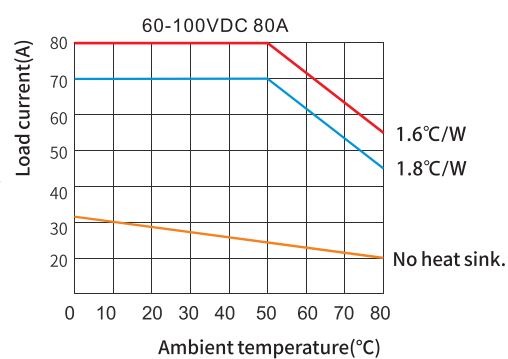
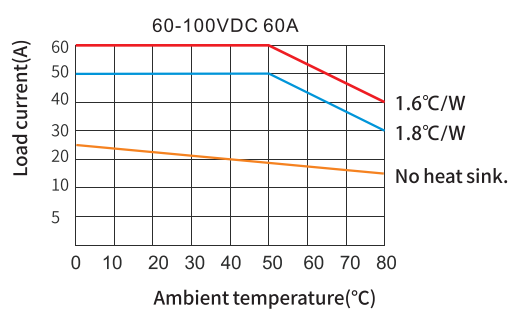
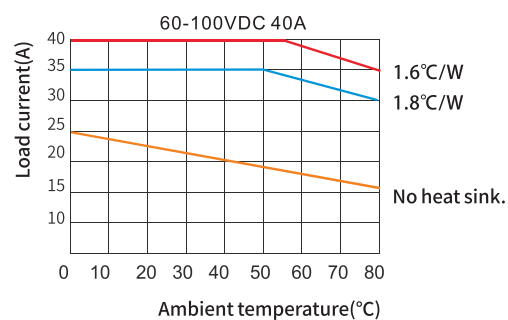
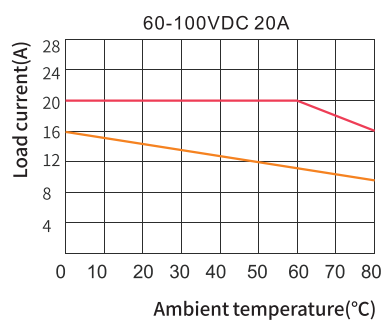


Output screw
torque: (1.5-1.8) N·m



Input screw torque:
(1.2-1.4) N·m

Performance curve



Current level selection

Considering the load surge current and relay overload capacity, to make the relay work with long life and high reliability, it is recommended to select the current magnification corresponding to the load type in the table below.

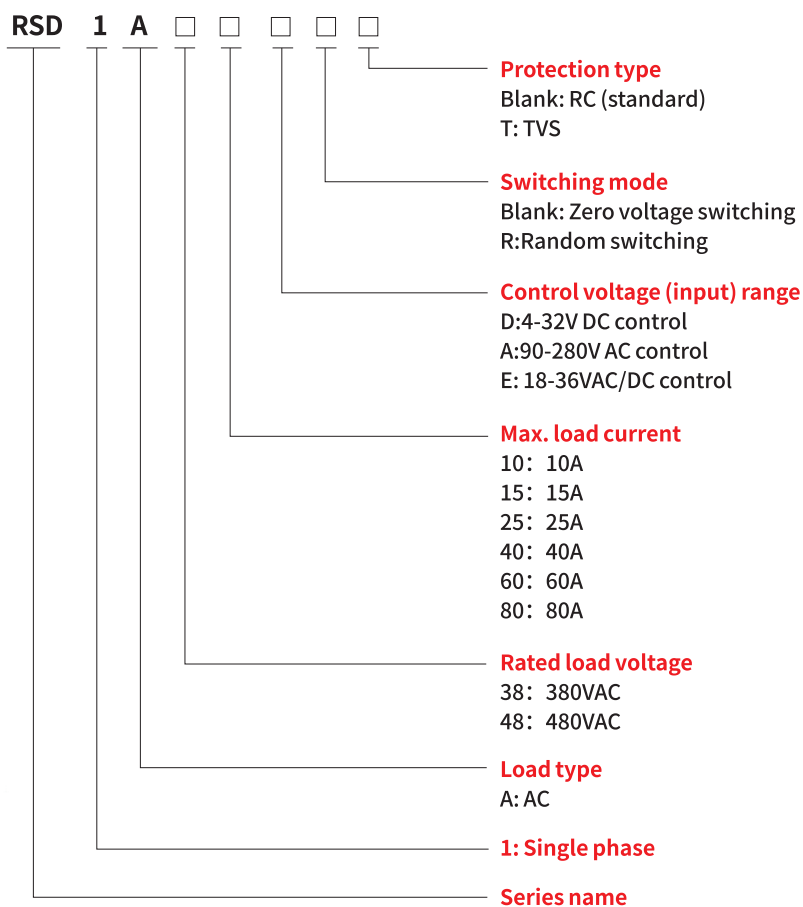
Load type	Resistance	Electric heating wire	Incandescent lamp	Transformer/ electromagnet	Motor
Power factor	1.0	0.7	0.5	0.4	0.2
Magnification	1.5multiple	2multiple	2.5multiple	4multiple	7multiple

Note

1. Please be sure to set fuse, air circuit breaker and other protective equipment on the power side to prevent short circuit.
2. When connecting inductive load, be sure to reverse parallel freewheeling diode at the load end (see "Terminal configuration and wiring diagram" for specific connection method)!
3. M5 screw and spring washer are used with 2N.m torque. After 3 hours of use, tighten it once with the same torque. To ensure the close contact and firm installation between the base plate of the solid-state relay (hereinafter referred to as the product) and the heat sink.
4. The product wiring shall be standard wire, and the cross-sectional area can be selected according to 5-8A per square millimeter. The terminal shall ensure that the wiring is firm. Loose wiring will lead to abnormal heating and damage to the product. In case of high temperature and high humidity environment, conductive compound shall also be coated on the connection part.
5. The input terminal is standard M4 screw, and the wiring tightening torque is (1.2-1.4) N.m. the output terminal is standard M5 screw, and the wiring tightening torque is (1.5-1.8) N.m.
6. Please do not connect the current above the rated specification. Otherwise, it may cause abnormal heating of the product.
7. Do not apply voltage exceeding the rated value on the input circuit and output circuit, and pay attention to the wrong connection of positive and negative polarity, otherwise the product will fail or burn.
8. Requirements for installation: it shall be installed vertically on the chassis with good ventilation conditions, and make full use of the heat dissipation conditions of air convection. When two or more products are installed side by side, an appropriate large gap shall be reserved.
9. When the ambient temperature of the product is high, please refer to "Performance curve" to check the current temperature curve for derating. When it exceeds 60 °C, air cooling is needed to ensure that the temperature of the product bottom plate does not exceed 80 °C.
10. Before installation, maintenance and other operations, be sure to cut off the power supply in case of electric shock!



Relay



Current level selection

Considering the load surge current and the overload capacity of the relay, so that the relay can work with long life and high reliability, it is recommended to select the current amplification factor corresponding to the load type in the following table.

Load type	Resistance	Electric heating wire	Incandescent lamp	Transformer /Electromagnet
Power factor	1.0	0.7	0.5	0.4
Magnification	1.5	2	2.5	4

Load type	Single phase motor	Three phase motor	Capacitor
Power factor	0.2	0.3	surge
Magnification	7	6	10

Voltage option

Load type	240V resistive or inductive load	380V resistive load	380V inductive load	Capacitor load
Voltage	380V		480V	

Product performance

Input parameter (Ta=25°C)

Part No.	RSD-1AxxxxD	RSD-1AxxxxDR	RSD-1AxxxxA	RSD-1AxxxxAR
Control voltage range	4~32VDC		90~280VAC	
Must ON voltage	4VDC		90VAC	
Must OFF voltage	1VDC		10VAC	
Control current range	6~25mA		6~20mA	
Maximum opening time	1/2cycle	1ms	20ms	
Maximum closing time	1/2cycle	10ms	30ms	

Part No.	RSD-1AxxxxE	RSD-1AxxxxER
Control voltage range	18-36VAC/DC	
Must ON voltage	18VAC/DC	
Must OFF voltage	4VAC/DC	
Control current range	6-20mA	
Maximum opening time	20ms	
Maximum closing time	30ms	

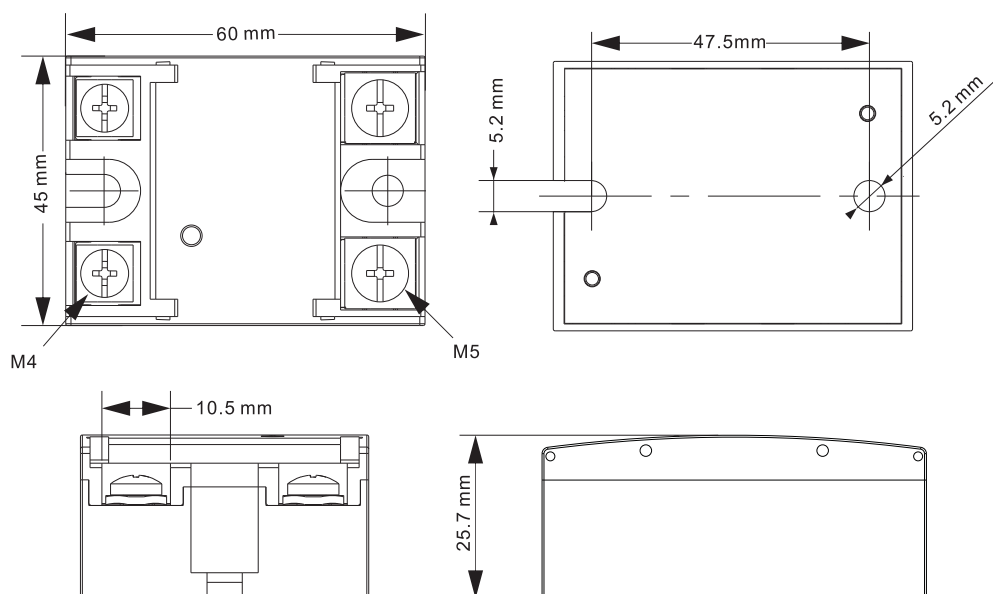
Input parameter (Ta=25°C)

Part No.	RSD-1A38xxxx				RSD-1A48xxxx	
Rated load voltage (47-63Hz)	380VAC				480VAC	
Load voltage range	24~440VAC				40~530VAC	
Transient Overvoltage	800Vpk				1200Vpk	
Critical rise rate of open-state voltage dv/dt	500V/ μ s					
Minimum load current	150mA					
Maximum open-state leakage current (at rated voltage)	10mA					
Maximum conduction voltage drop (at rated current)	1.5V					
Maximum load current	10A	15A	25A	40A	60A	80A
Maximum surge current [@ 10ms]	120A	160A	250A	500A	700A	1000A
Maximum I ² T value [@ 10ms]	80A ² s	112A ² s	312A ² s	800A ² s	1800A ² s	5000A ² s

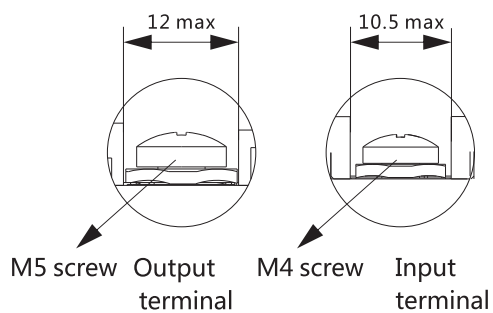
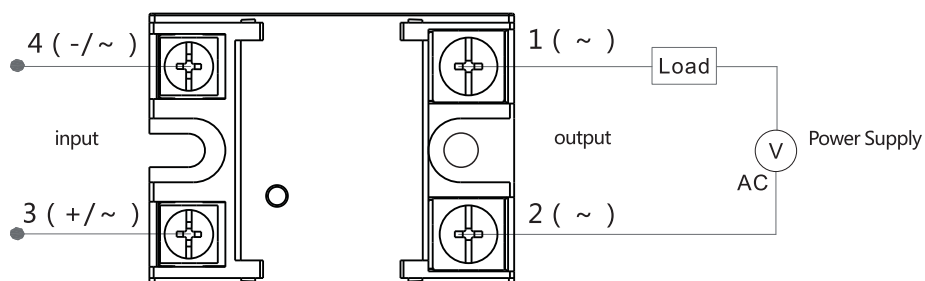
Other parameters (Ta=25 °C)

Dielectric withstand voltage (50/60Hz)	Input/Output	4000Vrms
	Input,output/base	2500Vrms
Insulation resistance(@500VDC)	1000M Ω	
Operating temperature range	-30°C~+80°C	
Storage temperature range	-40°C~+100°C	
Operating ambient humidity range	35 ~ 85%RH (No condensation)	
Cooling mode	fan forced cooling is added for more than 60A	
Unit weight	approx.100g	

Dimensions (mm)



Wiring Diagrams



To use cold rolled copper lugs

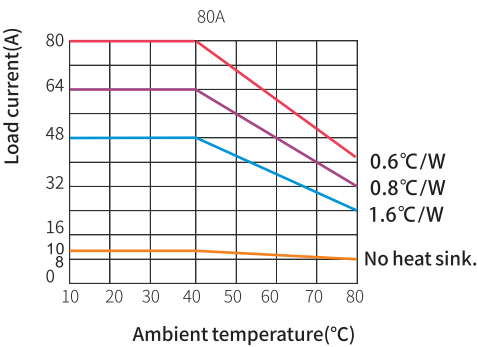
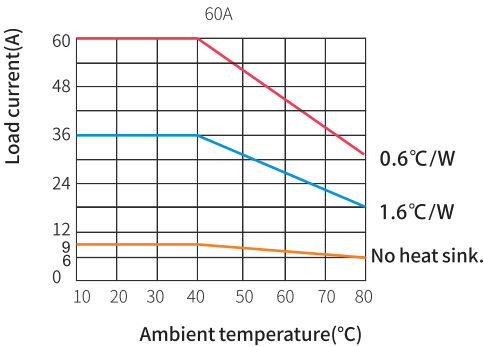
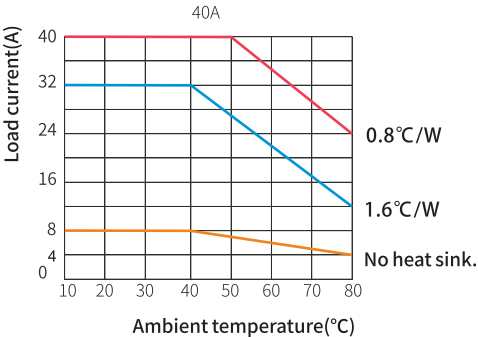
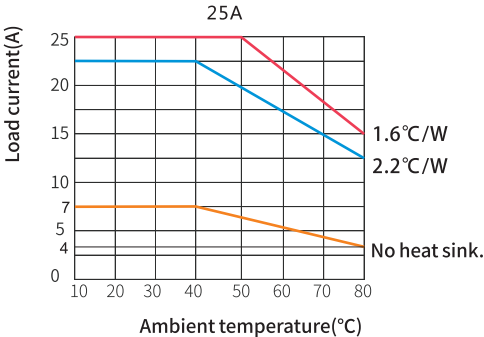
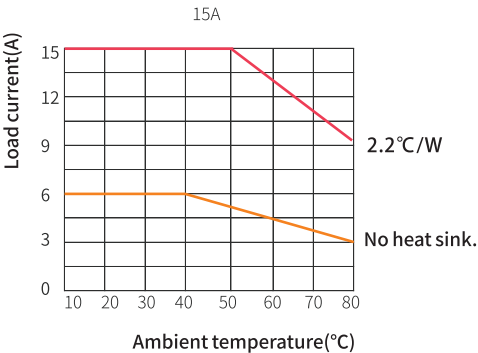
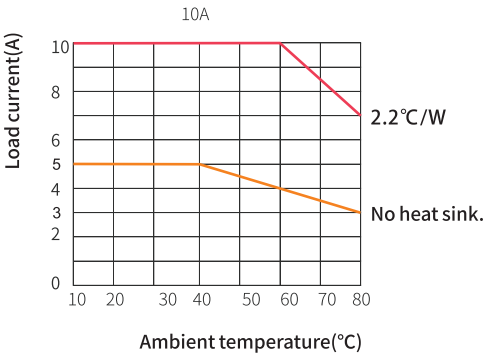


Output screw
torque: (1.5-1.8) N·m



Input screw torque:
(1.2-1.4) N·m

Performance curve



Matters needing attention

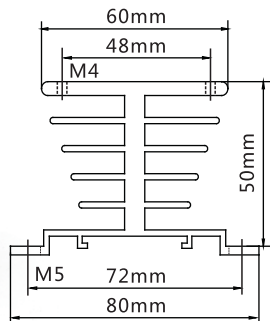
1. Please be sure to set fast fuse, air switch and other protective equipment on the power supply side to prevent short circuit. The principle of selecting the current level of the breaker is slightly greater than the load current. Resistive load and inductive load should be protected by fast fuse, and motor, power compensation capacitor and other loads should be protected by air switch.
2. When the solid-state relay (hereinafter referred to as SSR) works below -20°C , the minimum control voltage needs to be increased by 1V.
3. Selection of SSR: For AC load and most AC inductive load, zero-crossing SSR shall be selected; For 380V inductive load and capacitive load, it is recommended to use 480V zero-crossing trigger SSR; It is used as phase output control or optional when the frequency is high.
4. Overvoltage protection selection: built-in RC absorption circuit (standard configuration); Built-in transient voltage suppression diode TVS.
5. Installation between SSR and radiator: select the matching radiator (thermal resistance shall be as small as possible), and evenly coat the SSR base plate with thermal conductive silicone grease or Place the silicone pad, use M5 screws and spring washers, and tighten them with 2N. m torque. After 3 hours of use, tighten them with the same torque Times. To ensure that the SSR base plate is in close contact with the radiator and installed firmly.
6. The product wiring should use standard wire, the sectional area can be selected according to 5-8A per square millimeter, and the terminal should ensure that the wiring is firm and loose It will cause abnormal heating of the product and damage the product. In case of high temperature and high humidity environment, conductive paste should also be applied to the connection part.
7. Input terminal adopts M4 screw, wiring tightening torque is (1.2-1.4) N.m, output terminal adopts M5 screw, wiring tightening torque is (1.5-1.8) N.m
8. Please do not connect the current above the rated specification. Otherwise, abnormal heat of SSR may be caused.
9. Do not apply voltage exceeding the rated value on the input circuit and output circuit, otherwise it will cause SSR failure or burning.
10. Requirements for installation conditions: it should be installed vertically on the case with good ventilation conditions, and make full use of the heat dissipation conditions of air convection. When two or more SSRs are installed side by side, there should be an appropriate large gap.
11. The SSR needs to install a radiator. Refer to the product derating curve. Fan forced cooling is added for more than 60A, air cooling should also be used. In order to prevent the SSR from overheating and damage, a temperature control switch of 80°C can be installed on the radiator in series in the control circuit for protection.
12. Warning! During installation, maintenance and other operations, be sure to cut off the power supply before installation or maintenance. In case of electric shock!



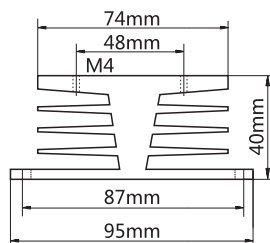
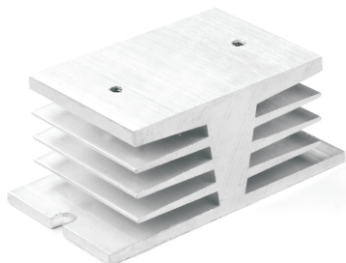
KSR-1

Single phase heat sink

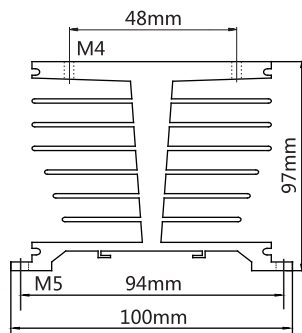
- Selection of heat sink: select the heat sink corresponding to thermal resistance according to "Performance curve" of solid-state relay . The smaller the thermal resistance value, the better the heat dissipation effect. >>>>>



Part No.	L x W x H	Weight≈	Thermal resistance
KSR-1A-50	50×80×50	70g	2.2°C/W

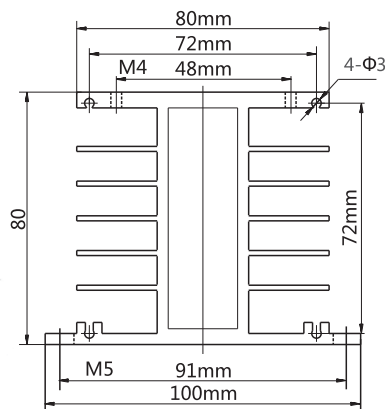


Part No.	L x W x H	Weight≈	Thermal resistance
KSR-1E-50	50×95×40	225g	1.8°C/W



Part No.	L x W x H	Weight≈	Thermal resistance
KSR-1T-50	50×100×97	324g	1.6°C/W
KSR-1TF-76	76×100×97	580g	0.6°C/W

Note: the length of KSR-1TF-76 with fan is 76mm



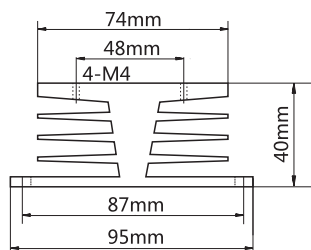
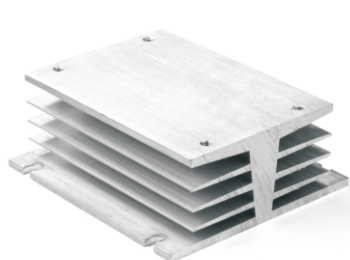
Part No.	L x W x H	Weight≈	Thermal resistance
KSR-1H-50	50×100×80	220g	1.8°C/W
KSR-1HF-76	76×100×80	480g	0.8°C/W

Note: the length of KSR-1HF-76 with fan is 76mm

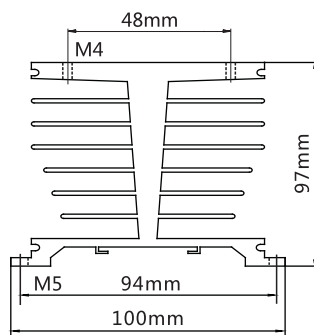
KSR-3

Three phase heat sink

- Installation: Evenly coat the bottom plate of the solid-state relay with thermal grease or place a silicone pad, then install and tighten the screws.

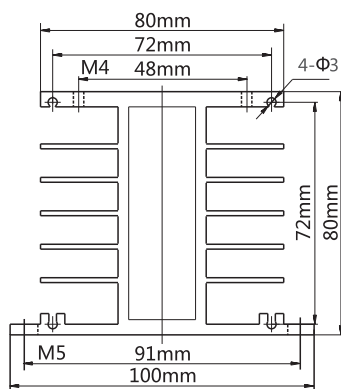


Part No.	L x W x H	Weight≈	Thermal resistance
KSR-3E-105	105×95×40	460g	1.1°C/W



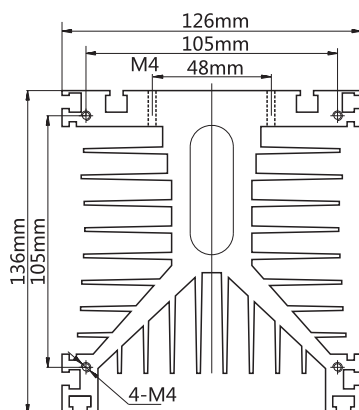
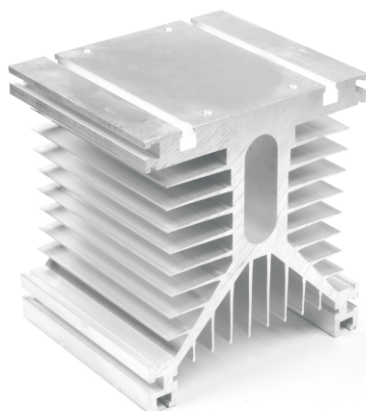
Part No.	L x W x H	Weight≈	Thermal resistance
KSR-3T-110	110×100×97	750g	0.8°C/W
KSR-3TF-136	136×100×97	1100g	0.35°C/W

Note: the length of KSR-3TF-136 with fan is 136mm.



Part No.	L x W x H	Weight≈	Thermal resistance
KSR-3H-110	110×100×80	460g	1°C/W
KSR-3H-150	150×100×80	630g	0.8°C/W
KSR-3HF-136	136×100×80	670g	0.5°C/W
KSR-3HF-176	176×100×80	840g	0.4°C/W

Note: the length of KSR-3HF-136 with fan is 136mm.
Note: the length of KSR-3HF-176 with fan is 176mm



Part No.	L x W x H	Weight≈	Thermal resistance
KSR-3Y-110	110×126×136	1400g	0.5°C/W
KSR-3Y-150	150×126×136	1900g	0.4°C/W

The length of fan is 38mm.