

## Product Features

- 1.Compact structure, stable performance, and high reliability
- 2.High-quality and reliable electronic components
- 3.High-power thyristor chips
- 4.Versatile input control-mode
- 5.Surface Mount Technology (SMT) process



## Model Description

G SRT - 2 - 1 - 3 40 - UA - XXX

greegoo	Product type	Design code	Input method	Rated voltage	Output current	Voltage regulator model	Customer characteristics
G: greegoo	SRT:solid-state voltage regulator	2: Design code	1: Single-phase	2:0 - 240VAC 3:0 - 440VAC	40:10A, 25A, 40A, 60A, 80A, 100A, 125A	U: Opto-Isolated Voltage Regulator (DC0-5V,0-10V,4-2mA)	XXX

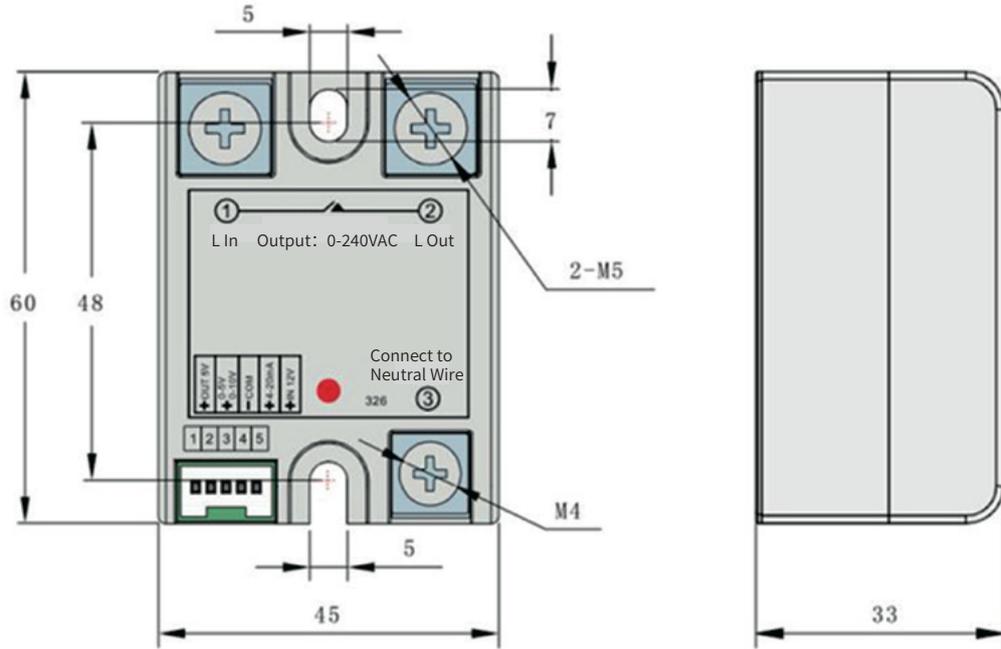
## Performance Parameters

Product technical parameters

Control Parameters	Input Voltage Range	DC 0- 5V、 DC 0-10V
	Input Current Range	4- 20mA
	Manual Adjustment	10KΩResistance value of Potentiometer
	Auxiliary Power Supply	12VAC
	Rated Operating Voltage	220—240VAC、 380-440VAC
Output Parameters	Rated Current	Current values ranging from 10A to 125A are all available.
	Operating Current	0.1 - 125A
	Grid Frequency	50Hz
	Peak Off-State Voltage	≥1200Vpk
	Inrush Current (per grid cycle)	8
	Off-State Leakage Current	<12mA
	Critical Rate of Rise of Off-State Voltage	> 500v/μs
	Critical Rate of Rise of Commutation Voltage	> 10v/μs
	Regulator Response Time	≤10mS
Other Parameters	Maximum Turn-Off Delay Time	≤10mS
	Dielectric Withstand Voltage	≥2000V
	Insulation Resistance	>1000MΩ
	Cooling Method	Heatsink, forced air cooling
	Outline Dimensions	60×45×33mm
	Mounting Dimensions	48mm
	Weight	10- 40A≈100g、 60- 80A≈105g、 100- 125A≈150g
	Mounting Type	Panel mount
	Operation Indication	LED
Description	A heat sink must be installed for load with a current>5A. Forced air cooling with a fan or water cooling must be adopted when the temperature is > 60°C.	

**Outline Dimensions (Size: mm) and Wiring diagram:**

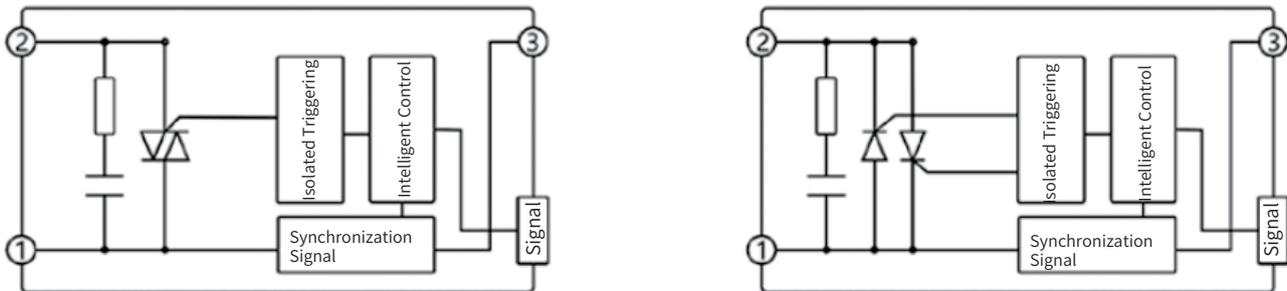
Product dimensions and wiring methods



Notes:

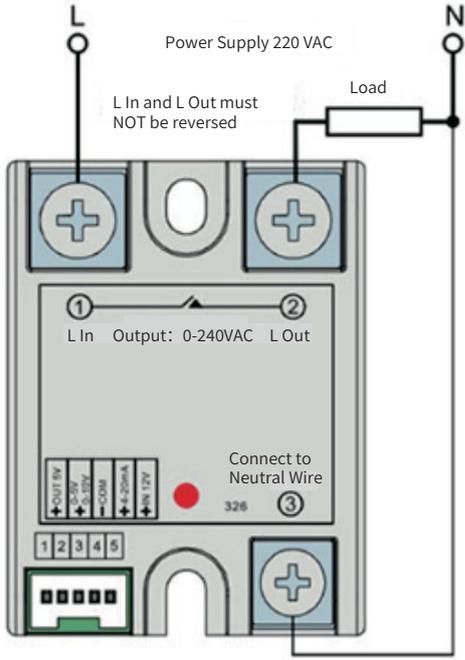
- (1) For some external dimensions of the product where no dimensional tolerance is specified: when the external dimension is  $\leq 1$  mm, the tolerance is  $\pm 0.1$ ; when the external dimension is within the range of 1–3 mm, the tolerance is  $\pm 0.2$ ; when the external dimension is  $> 3$  mm, the tolerance is  $\pm 0.3$ .
- (2) For the mounting hole size where no dimensional tolerance is specified, the tolerance is  $\pm 0.1$ .

**Product Dimension Drawing**

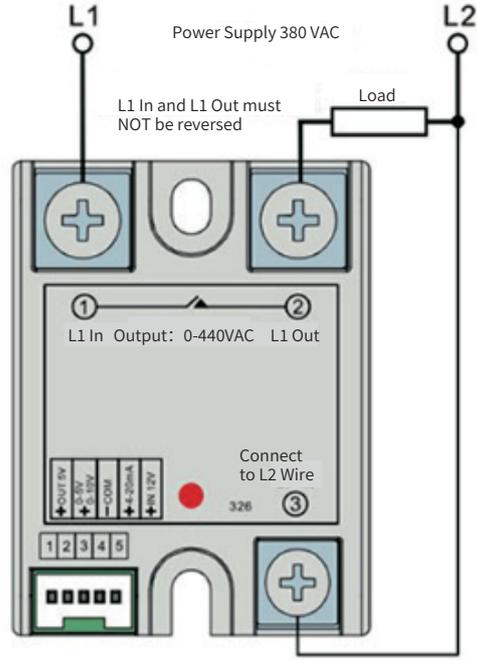


**Internal Circuit Diagram**

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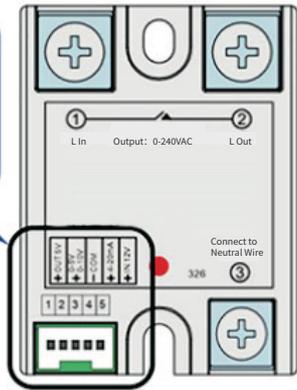
220V Load Wiring Diagram



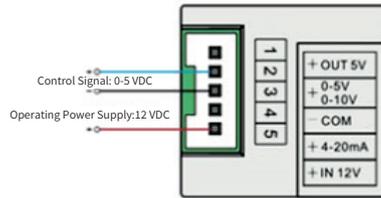
380V Load Wiring Diagram

**Product Load Wiring Diagram**

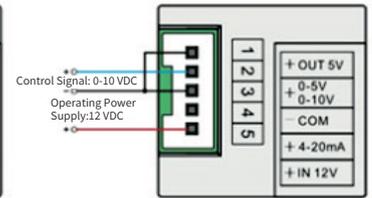
For control terminal wiring details, refer to the right-hand diagram



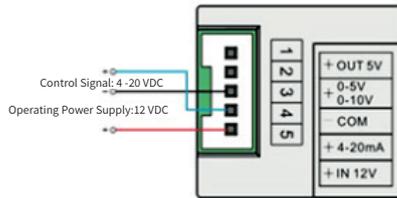
Product Control Terminal Schematic Diagram



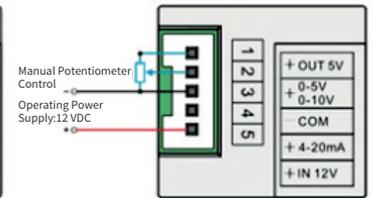
When the control signal is 0-5VDC, connect the control signal to Terminals 2 and 3.



When the control signal is 0-10VDC, connect the control signal to Terminals 2 and 3, and short-circuit Terminals 1 and 3.



When the control signal is 4-20mA, connect the control signal to Terminals 3 and 4



For manual control, connect a 1W/10K potentiometer to Terminals 1, 2, and 3

Product Control Wiring Diagram

**Selection Guide**

1. The output terminal of the solid - state relay is equipped with a built - in RC loop, which leads to a  $\leq 10\text{mA}$  leakage current. It is normal to have conduction or output voltage phenomena. For customized products, please negotiate with the factory to confirm the technical parameters before the production.
2. The voltage drop of about  $\leq 5\text{V}$  at the output terminal causes the solid - state relay to generate heat. Therefore, a heatsink needs to be added, and sufficient space should be reserved when installing it in the same cabinet.
3. For the selection of heatsinks, please refer to Appendix 1.
4. The output voltage and current marked on the solid-state relay refer to the rated voltage and rated current. Derating is required during selection. As power factors vary for different loads, refer to Appendix 2. In particular, for inductive loads, a varistor should be connected in parallel at the output for protection.

**Appendix 1: Heatsink Selection Guide**

Load Current	Heatsink Model	Load Current	Heatsink Model
single-phase, below 20A	GSRS-060	single-phase, below 80A	GSRS-063
single-phase, below 40A	GSRS-061	single-phase, below 100A	GSRS-034
single-phase, below 60A	GSRS-062	single-phase, below 120A	GSRS-036

**Appendix 2: Load Derating**

Load Type	Pure resistance	Electric heating wire	Incandescent lamp	Transformer	Electromagnet	Single-phase Motor	Three-phase Motor	Capacitive Switching
Power Factor	1.0	0.7	0.5	0.4	0.5	0.2	0.3	Surge
Magnification	1.5 times	2 times	2.5 times	4 times	4 times	7 times	6 times	10 times

• Example 1:

For a load type of electric heating wire (with a power factor of 0.7) and an actual operating current of 10A, what ampere-rated solid-state relay should we choose?

According to the estimation method in Appendix 2, we calculate: 10A (actual operating current)  $\times$  2 (multiplication factor) = 20A.

Therefore, a 20A solid-state relay needs to be selected in this example.

• Example 2: For the load type of single-phase motor (with a power factor of 0.2) and the actual operating current is 10A, what ampere-rated solid-state relay should we choose?

According to the estimation method in Table 2, we calculate: 10A (actual operating current)  $\times$  7 (multiplication factor) = 70A.

Therefore, a 70A solid-state relay needs to be selected in this example.

## Precautions

### Input Operating Conditions

1. Pay attention to the operating voltage range and the positive/negative poles.
2. To ensure normal operation of the SSR, increase input current at low temperatures and reduce it at high.
3. Do not apply a voltage exceeding the rated voltage to the input circuit; otherwise, it may cause burnout.
4. Driving the SSR with an integrated circuit when the circuit must have sufficient load-carrying capacity and maintain the lowest possible "0" level output.

### Output Operating Conditions

1. Do not apply voltage exceeding the rated value to the output circuit, as this will cause SSR failure or burnout.
2. Do not let the load current exceed the rated current range in actual use, which may cause abnormal heating or burnout of the SSR.
3. Ensure reliable SSR operation through correct use of its limit parameters and adoption of necessary protective measures.
4. Peak voltage selection: For inductive loads, choose 2-3 times the line voltage (rms); for pure resistive loads, 1-2 times the line voltage (rms).
5. Varistor selection: Set the varistor's nominal operating voltage to 1.8-2 times the SSR's operating voltage rms.

## Installation Instructions

1. During installation, be sure to install aR-type fast-acting fuses, switches, and other protective devices on the power supply to prevent short circuits that could cause permanent product failure. Current rating of fuse is slightly higher than the load current. aR-type fast-acting fuses are suitable for resistive and inductive loads, while air switches are recommended for loads such as motors and power compensation capacitors.
2. Prevent SSR temperature rise from exceeding allowable limits by fully considering heat dissipation and installation position during design and application. Reserve adequate spacing when installing two or more SSRs side by side.
3. For operating current <5A products, install it near well-ventilated heat dissipation vents or where cooling air reaches.
4. For operating current >5A products, a heatsink is required. Apply thermal conductive grease between the relay and heatsink for effective heat dissipation; use forced air cooling when the heatsink surface temperature nears 60°C.
5. Recommended tightening torque: M4 screws at the input terminal – 1.2-1.4Nm; M5 screws at the output terminal – 1.9-2.1Nm.
6. **WARNING!** For operations such as installation and maintenance, always disconnect the power supply first before proceeding to avoid electric shock hazards.
7. Storage conditions: The product must be protected from moisture, rain, dropping, and severe impact. Store it in a well-ventilated, dry environment free of corrosive gases, with ambient humidity kept below 80%.