ZGZX SOLID STATE RELAYS

AVR Series AC Voltage Regulating Solid State Relays

AVR series is a non-isolated resistance regulating AC solid-state voltage regulator, which integrates a trigger circuit, a resistance-capacitance absorption circuit, and a bidirectional thyristor. Easy to use. When applied, only an external adjustable resistor (or wirewound potentiometer) is needed to realize the pure resistance load AC output through the potentiometer manual adjustment. section to change the voltage on the resistive load to adjust the output power. Mainly used in incandescent lamp dimming, industrial equipment temperature control, resistive heating element parts, conveyor belt speed control, and other automatic power adjustment occasions. Note that the input and output of this product are not isolated, please use absolute Well edged potentiometers and knobs to prevent electric shock

Features

- SCR phase-shifted output, wide adjustment range
- Built-in resistance-capacitance absorption circuit, surge absorption protection is more reliable
- International Standardized Installation Dimensions
- LED indicates working status
- Epoxy resin potting, strong anti-corrosion and anti-explosion ability
- Flame retardant housing with safety cover
- Simple to use, the output voltage can be adjusted by external potentiometer

Ordering Options

AVR

AVR Series

AC Voltage
Regulating SSR

40

Load Current

10: 10Amps
25: 25Amps
40: 40Amps
60: 60Amps
80: 80Amps

PW

Control Voltage

PE: 470KΩ/2W
PW: 680KΩ/2W

24

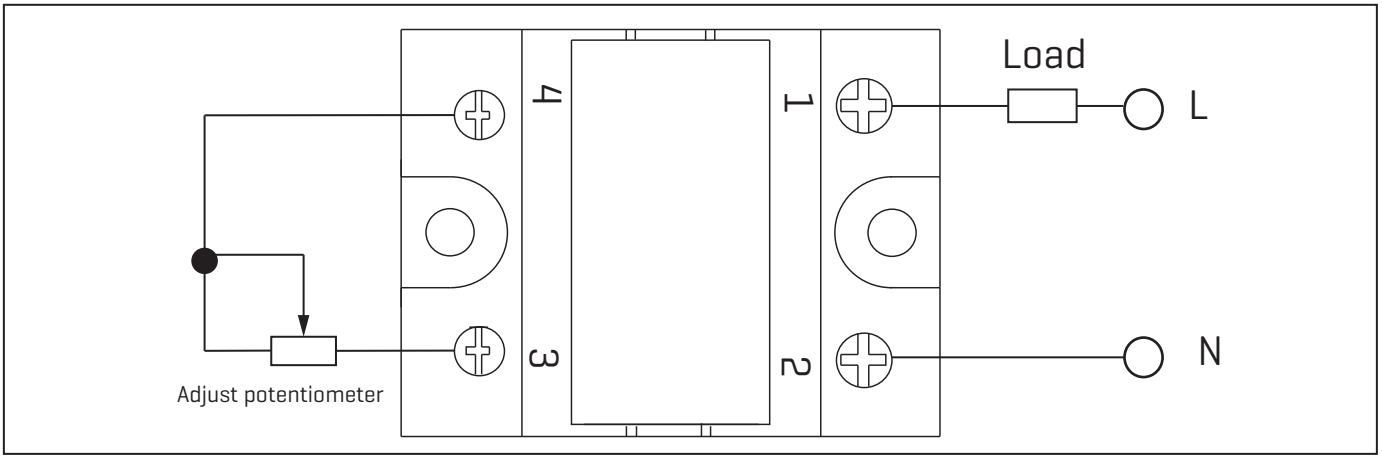
Output Voltage

24:0-240VAC
38:0-380VAC

Product Selection

Potentiometer Control	Output Voltage	Rated Operational Current				
		10Amps	25Amps	40Amps	60Amps	80Amps
470K	0-240VAC	AVR10PE24	AVR25PE24	AVR40PE24	AVR60PE24	AVR80PE24
470K	0-380VAC	AVR10PE38	AVR25PE38	AVR40PE38	AVR60PE38	AVR80PE38
680K	0-240VAC	AVR10PW24	AVR25PW24	AVR40PW24	AVR60PW24	AVR80PW24
680K	0-380VAC	AVR10PW38	AVR25PW38	AVR40PW38	AVR60PW38	AVR80PW38

Connection Diagram



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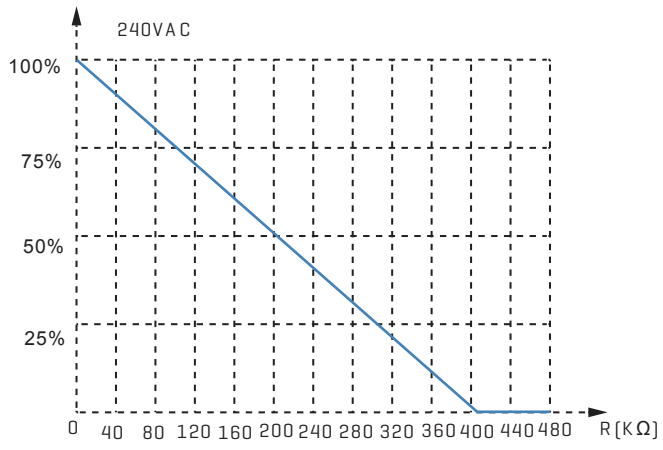
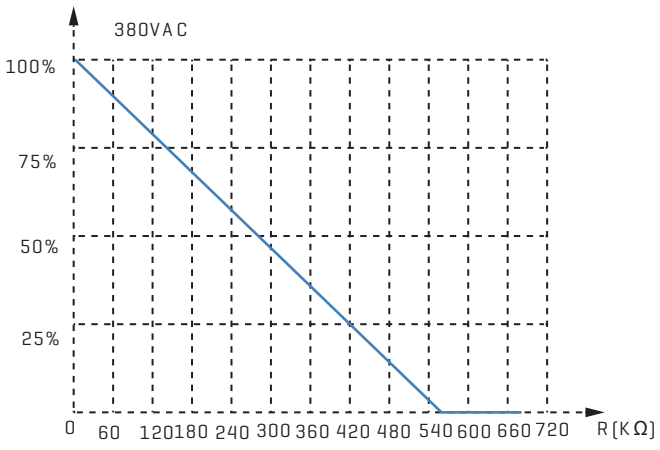
Specifications

Output Parameter	Units	Specification Limits				
Model No.: AVR	Amps	10	25	40	60	80
Load Current Range	Arms	0.05 to 10	0.05 to 25	0.1 to 40	0.1 to 60	0.1 to 80
Potentiometer Control	Ω	470kΩ/2W or 470kΩ/2W				
Load Voltage Regulation Range	V	0-240VAC or 0-380VAC				
Minimum On-current	mA	50mA				
Maximum On-state Voltage Drop	Vrms	1.5VAC				
Maximum Off-state Current	mA	5mA				
On-off Time	ms	≤10ms				
Working Frequency	Hz	≤45-65Hz				
Insulation resistance	MΩ	1000MΩ[500VDC]				
Dielectric Strength, Input to Output	Vrms	2500Vrms				
Dielectric Strength, Input/Output to Base	Vrms	2500Vrms				
Ambient Operating Temperature Range	°C	-30 to 80°C				

Adjusting potentiometer resistance and voltage output RMS curve



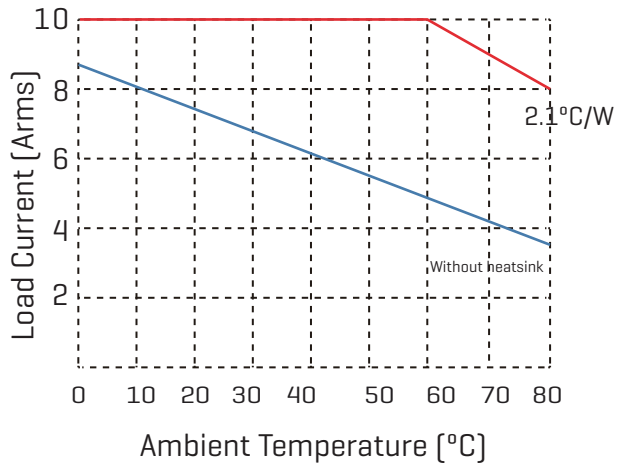
470K



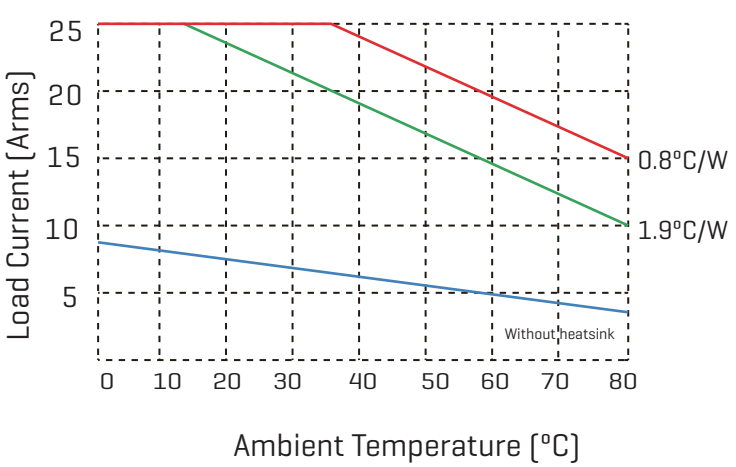
680K

Thermal Derating Curve

10A



25A



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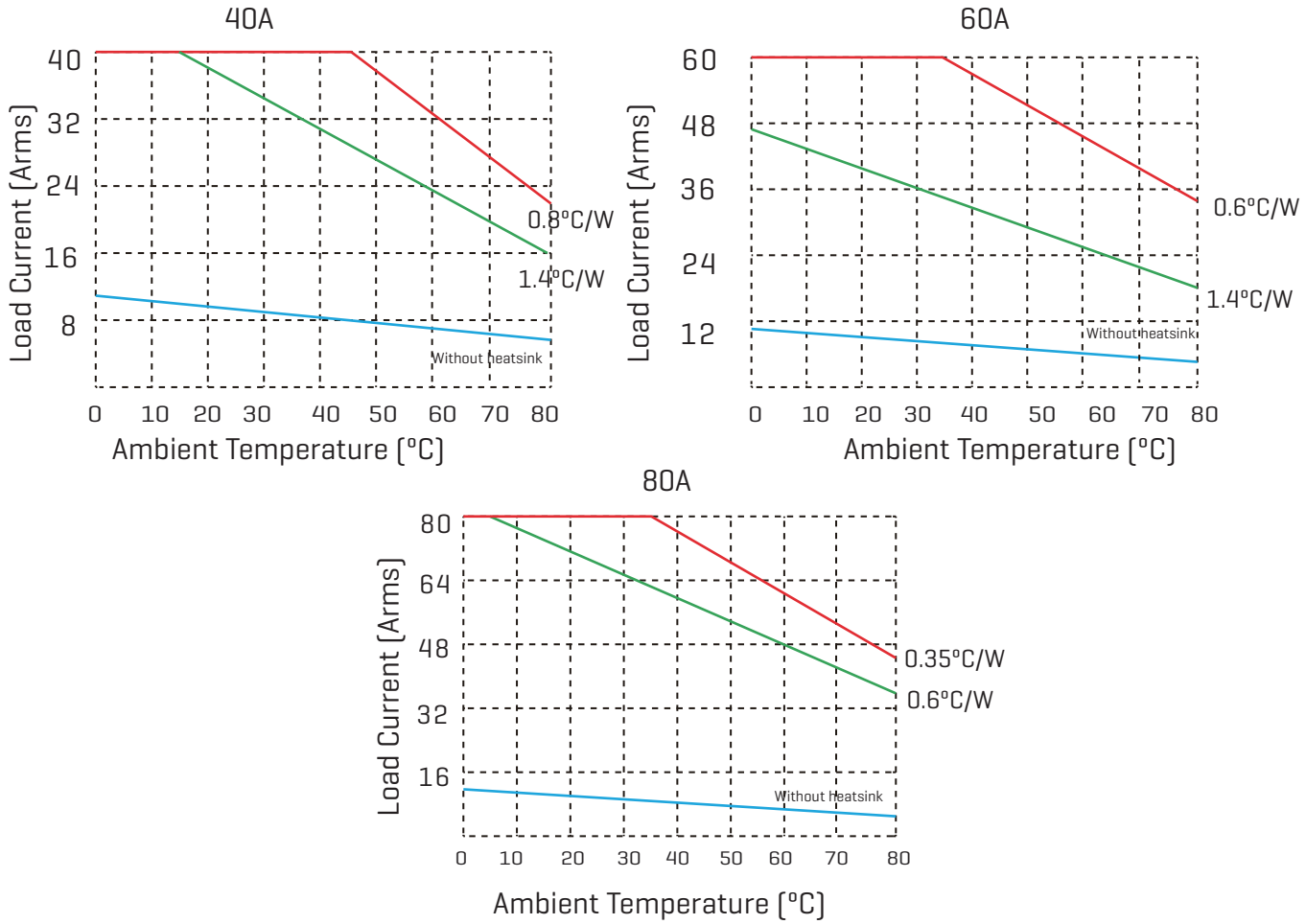
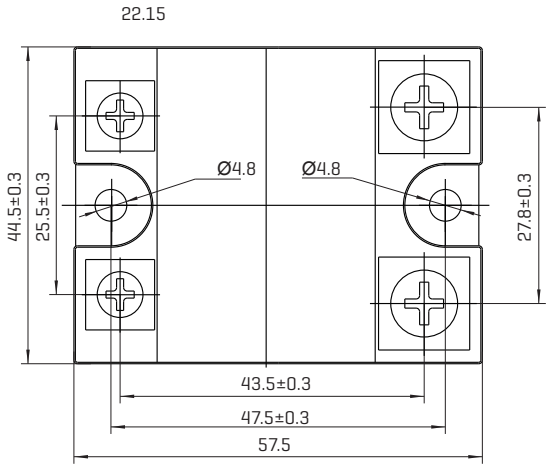


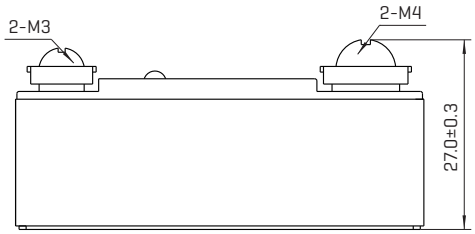
Important Notice

1. Product manufacturers have made great efforts on product quality and reliability, but the semiconductors used in solid state relays
Improper selection or use of power devices can lead to irreversible damage. Also due to grid voltage fluctuations (usually ±10%) and the difference in inductive and capacitive reactance, a certain safety factor must be considered when selecting models. For example: electric heating long Period operating current should not exceed 60% of SSR current rated nominal value, motor operating current should not exceed 1/7 SSR current Rated nominal value.
2. When the long-term working current is greater than or equal to 5A, a matching radiator must be installed, and the temperature of the radiator bottom plate shall not exceed 80°C during operation. If the ambient temperature is too high, air cooling must be adopted to accelerate the air flow for better heat dissipation.
3. In order to ensure that the solid state relay is in close contact with the surface of the radiator during the installation process to achieve a more ideal heat dissipation effect, our company Equipped with special thermal conductive film or special thermal conductive silicone grease according to different current levels, please place the thermal conductive film parallel to the solid during installation between the base plate of the state relay and the contact surface of the heat sink, and fasten the fixing screws; for those equipped with thermal grease, please install Evenly apply an appropriate amount of thermal grease on the whole solid state relay base plate, and fasten the fixing screws.
4. When the module is fastened to the surface of the radiator, use M4 screws and spring washers with a torque of 4-6Nm. After 3 hours of use, use M4 screws and spring washers. Tighten once with the same torque.
5. The recommended tightening torque of M3 screws at the control end is 0.8-1Nm, and the recommended tightening torque of M5 screws at the load end is 1.9-2.1Nm.
6. When the wiring of the control potentiometer is long, please use a shielded wire or shield with a metal tube;
7. The product is non-isolated (input and output), the selection of the potentiometer should pay attention to the isolation from the line voltage, installation and use Safety must be paid attention to during the process;
8. The storage requirements of solid-state relays should be moisture-proof, moisture-proof, and avoid rain, drops and violent falls. should be stored in a ventilated, dry, non-corrosive gas environment, the humidity requirements of the environment must be less than 80%.

AVR Series AC Voltage Regulating Solid State Relays

Dimensions





▪ Unit:mm