

To prevent accidents arising from the misuse of this instrument, please ensure the operator receives this manual.

SAFETY PRECAUTIONS

- To ensure safe and correct use, thoroughly read and understand this manual before using this instrument.
- This instrument is intended to be used for industrial machinery, machine tools and measuring equipment. Verify correct usage after consulting purpose of use with our agency or main office. (Never use this instrument for medical purposes with which human lives are involved.)
- External protection devices such as protection equipment against excessive temperature rise, etc. must be installed, as malfunction of this product could result in serious damage to the system or injury to personnel. Also proper periodic maintenance is required.
- This instrument must be used under the conditions and environment described in this manual. Shinko Technos Co., Ltd. does not accept liability for any injury, loss of life or damage occurring due to the instrument being used under conditions not otherwise stated in this manual.

Caution with respect to Export Trade Control Ordinance

To avoid this instrument from being used as a component in, or as being utilized in the manufacture of weapons of mass destruction (i.e. military applications, military equipment, etc.), please investigate the end users and the final use of this instrument. In the case of resale, ensure that this instrument is not illegally exported.

Warning

Turn the power supply to the instrument off before wiring.
Working or touching the terminal with the power switched on may result in severe injury or death due to Electric Shock.

1. Model name

Model	Control system	Rated load current	Input	Supply voltage
SA-320-Z	Zero-volt switching system	20A	4 to 32V DC	75 to 250V AC 45/65Hz
SA-340-Z		40A		

2. Mounting to the control panel

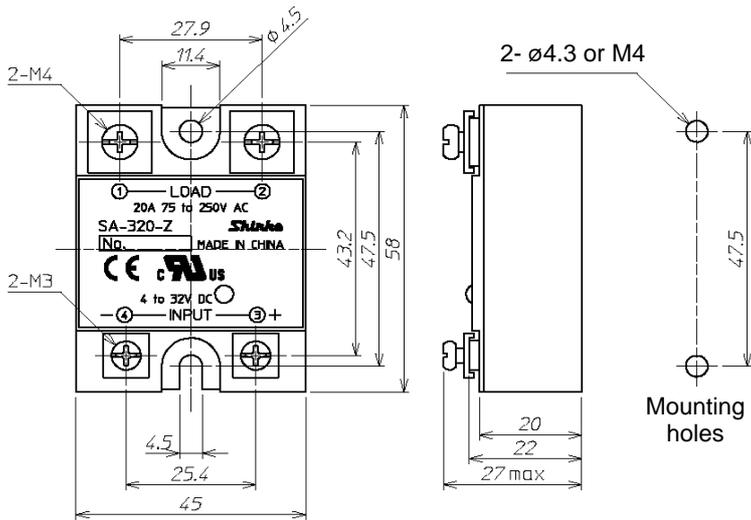
2.1 Site selection

Ensure the mounting location corresponds to the following conditions:

- A minimum of dust, and an absence of corrosive gases
- No flammable, explosive gases
- Few mechanical vibrations or shocks
- No exposure to direct sunlight, an ambient temperature of 0 to 50°C (32 to 122°F) that does not change rapidly
- An ambient non-condensing humidity of 35 to 85%RH
- No large capacity electromagnetic switches or cables through which large current is flowing
- No water, oil or chemicals or where the vapors of these substances can come into direct contact with the controller

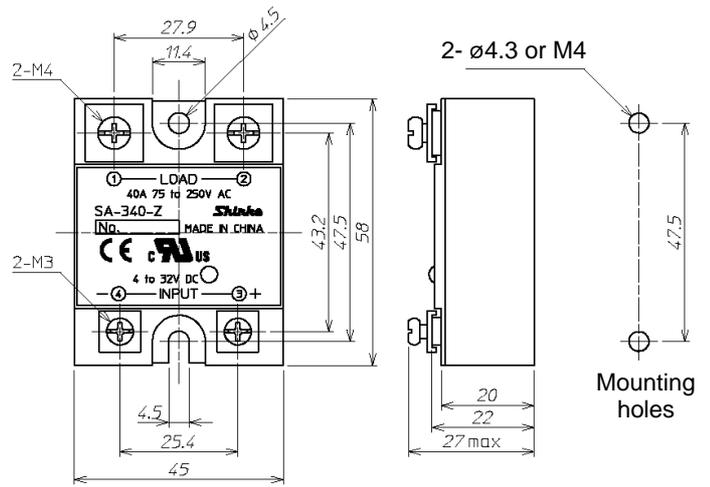
2.2 External dimensions

SA-320-Z



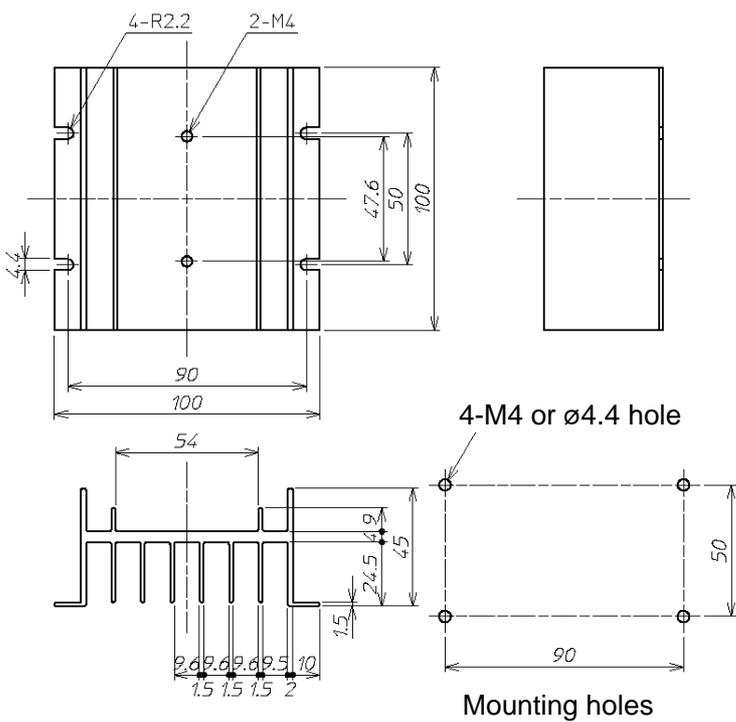
(Fig. 2.2-1)

SA-340-Z



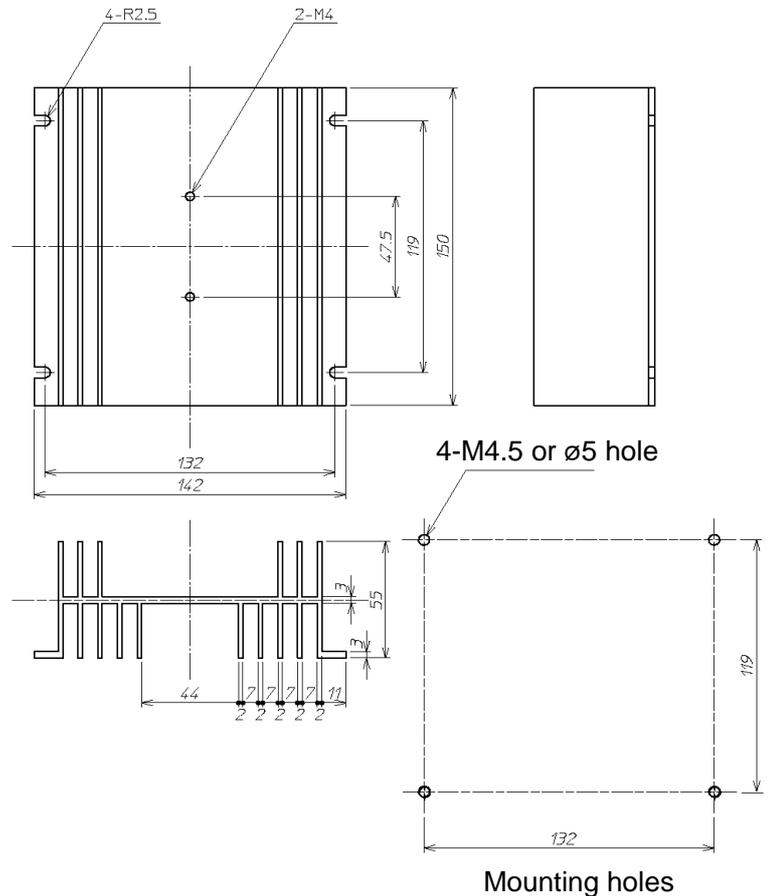
(Fig. 2.2-2)

Heat sink HS-320 (for SA-320-Z)



(Fig. 2.2-3)

Heat sink HS-340 (for SA-340-Z)



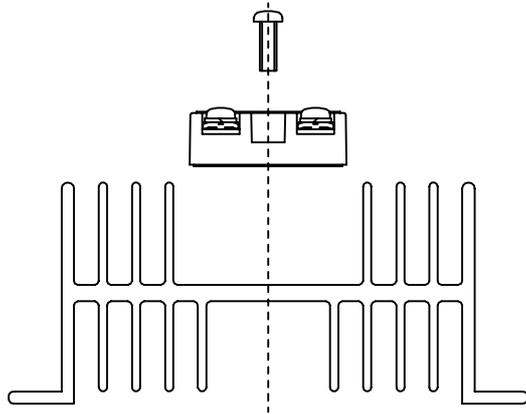
2.3 Mounting

When mounting the SA-320-Z or SA-340-Z to the heat sink (HS-320, HS-340, sold separately), use the specified screws, and tighten them with a specified torque. (See Table 2.3-1 below.)

Tightening torque (Table 2.3-1)

	Screw	Rating	
		Standard	Maximum
Torque for mounting screw	M4 screw	0.98N•m (10kg•cm)	1.47N•m (15kg•cm)
Torque for terminal screw	M4 screw	0.98N•m (10kg•cm)	1.47N•m (15kg•cm)

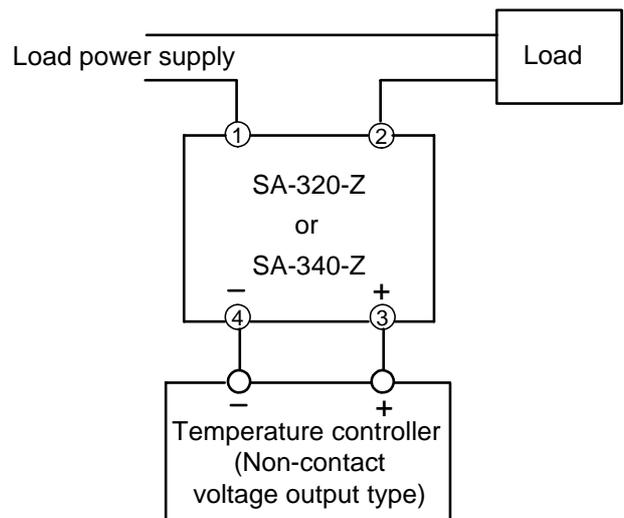
Panel mounting type heat sink (HS-320, HS-340)



(Fig. 2.3-1)

3. Wiring

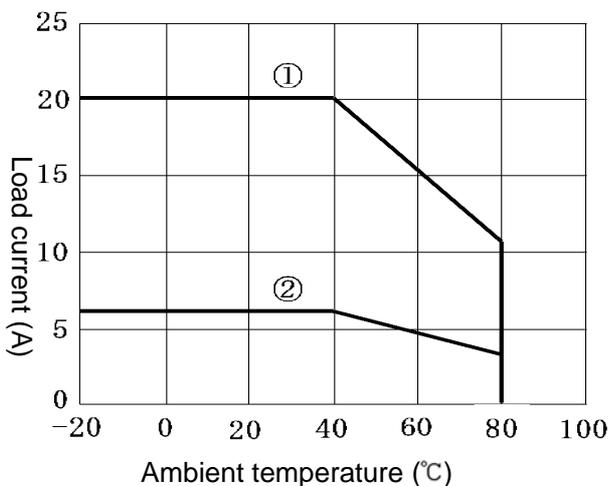
- Please ensure that a wire with sufficient capacity is securely connected.
- For input circuit wiring, use 0.5mm² to 1.25mm² of wire, and avoid adjacent wiring to the load circuit.
- To protect the circuit, circuit breaker or fuse should be installed into the load power supply.



(Fig. 3-1)

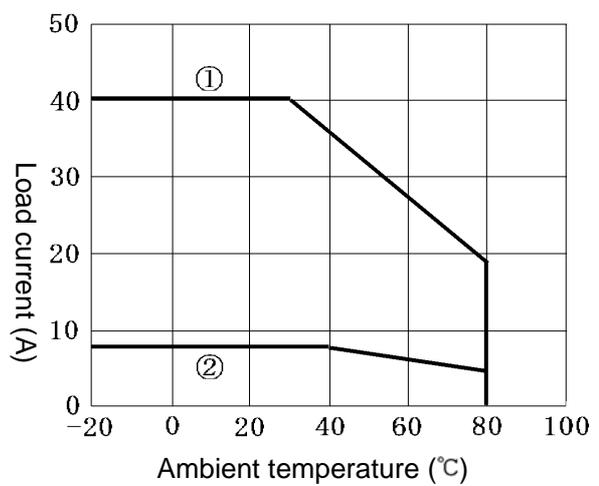
4. Characteristics

4.1 Ambient temperature and allowable current SA-320-Z



(Fig. 4.1-1)

SA-340-Z



(Fig. 4.1-2)

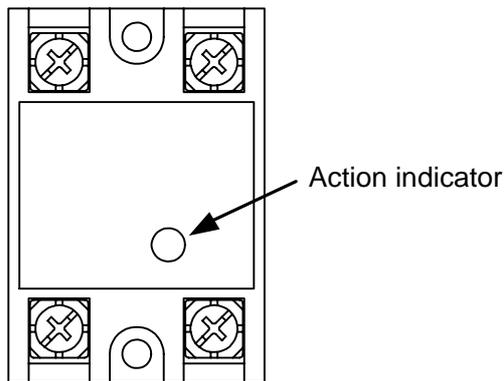
- ①: Maximum load current when using the SA-320-Z (or SA-340-Z) after mounted to the HS-320 (or HS-340) type heat sink
 ②: Maximum load current when the heat sink is not used

The SA-300 series can be used at an ambient temperature within the curved lines.

5. Running

After wiring is completed, switch ON the power supply to the relay and controller.

When input is ON, the action indicator of SA-320-Z or SA-340-Z alights.



6. Specifications

Name	: Solid state relay
Model	: SA-320-Z, SA-340-Z
External dimensions	: 45 x 58 x 27mm (W x H x D)
Control system	: Zero-volt switching system
Rated load current	: 20A (SA-320-Z), 40A (SA-340-Z)
Load power supply	: 75 to 250V AC
Operation power supply	: 4 to 32V DC
Frequency	: 45 to 65Hz
Insulation resistance	: 100M Ω or more (500V DC by megger)
Dielectric strength	: Between input terminal and output terminal: 2500V AC for 1 min. (at 25 $^{\circ}$ C of ambient temperature) Between input terminal and case: 2500V AC for 1 min. (at 25 $^{\circ}$ C of ambient temperature) Between output terminal and case: 2500V AC for 1 min. (at 25 $^{\circ}$ C of ambient temperature)
Ambient temperature	: -20 to 80 $^{\circ}$ C (no freezing and condensing at low temperature)
Storage temperature	: -25 to 85 $^{\circ}$ C (no freezing and condensing at low temperature)
Weight	: Approx. 90g
Accessories	: Instruction manual 1 copy

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