1. OUTLINE

This instrument is a single-phase thyristor unit for power supply voltage 100 to 240 V AC. It is possible to adjust power supply to heaters, etc. by setting the signal from the controller, setter (variable resistor) or front keys.

Setter (Potentiometer, Knob and Scale plate)

For dimensional details of a fuse holder, and an output voltmeter, refer to the THV-10 Installation Manual (IMR02W03-E2).

2. MOUNTING

In order to prevent electric shock or instrument failure, always mount or remove this instrument after power supplied to the entire system is turned off.

As the temperature of this instrument becomes high, mount the instrument on a non-conductive material (metal plate, etc.).

As this instrument generates a large amount of heat, it is cooled by circulating air by convection. Therefore, if mounted in any direction other than specified, accident or failure may result.

To carry the instrument, wait for the radiation fin to cool down. Grip the instrument firmly with your fingers on the anti-slip parts on both sides of the instrument.

2.1 Mounting Environment

The instrument described must be used under the following environmental conditions.

- Temperature characteristic of 120 A type is the same as that for 250 A type.
- Excessive induction noises, static electricity, magnetic fields or noise.
- Direct air flow from an air conditioner.
- Do not place the instrument near a light source.

2.2 Mounting Cautions

Take the following points into consideration when mounting this instrument.

- The instrument must be mounted in a proper direction. When installing the instrument, observe Mounting Dimensions.

3. WIRING

To prevent electric shock or instrument failure, do not turn on the power until wiring is completed. Make sure that the wiring is correct before applying power to the instrument.

3.1 Wiring of Main Circuit

- Match the phase between the supply voltage for the instrument and the supply voltage for the load. Without proper matching, the instrument may not work properly.

- Caution for connecting control of primary side of a transformer

When a protection function for control of primary side of a transformer is provided:

To conduct control of primary side of a transformer, make sure protection function for control of primary side of a transformer is provided. To avoid damage to instrument display, do not rub with an abrasive material or push front panel with a hard object.

3.2 Wiring of Power Supply

- Power supply 100 to 240 V AC

- Noise filter

Set the potentiometer following the instructions and control the instrument. When setting the scale on the knob plate, adjust the arrow to the proper position.
There are neither fuses nor power switches in the power circuit of this instrument. Therefore install fuses and switches near the instrument. If necessary.

To avoid noise induction, keep input signal wire of controller away from instrument power line, load lines and power lines of other electric equipment. If using near high-voltage power is unavoidable, use shielded wires.

Use wiring satisfying the rated current capacity.

Tighten the hexagon headed bolts on the main circuit terminals using a torque wrench. Always tighten them of by contacting the diagonal surfaces of with those of hexagonal head.

When the power is turned on, the Heater break alarm output may be turned on for up to 0.5 s. When an interlock circuit or any other related circuit is used, take a necessary measure externally for delaying the activation of the circuit more than 0.5 s.

Internal gradient set value: 0.00 to 2.00 (Set by the THV-10 front keys)

3.4 Protective Earth (PE) Terminal

To control the primary side of the transformer, it is recommended to purchase a THV-10 with a protection function for control of primary side of the transformer.

Rated conditional short-circuit current:

- 25 A (150 V ~ 250 V)
- 35 A (250 V ~ 400 V)
- 50 A (400 V ~ 600 V)

Cooling method: Forced air cooling (built-in cooling fan)

Short-circuit protective device (fuse): 100 A (100 V)

Overload current profile and duty cycle:

Zero-cross control (continuous, input synchronous type): Resistor load (Corresponding utilization category: AC-51)

For the ambient temperature characteristic, refer to temperature characteristic graph.

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