

## OPERATING MANUAL

Thermostat for fan **AM2-XA1**

Thermostat for heater **AM2-XB1**



Only qualified and educated personnel should work with the product. Use the product correctly after thoroughly reading the section "Safety precautions". The product described in this manual has been designed and manufactured to be incorporated in general industrial equipment. Do not use for any other purpose. Oriental Motor Co., Ltd. is not responsible for any damage caused through failure to observe this warning.

### Safety precautions

The precautions described below are intended to ensure the safe and correct use of the product, and to prevent the customer and others from exposure to the risk of injury. Use the product only after carefully reading and fully understanding these instructions. Handling the product without observing the instructions that accompany a "Warning" or "Caution" symbol may result in fire, electric shock, injury or equipment damage.

#### WARNING

Handling the product without observing the instructions that accompany a "WARNING" symbol may result in serious injury or death.

- Do not use the product in explosive or corrosive environments, in the presence of flammable gases, locations subjected to splashing water, or near combustibles.
- Only qualified and educated personnel should be allowed to perform installation, connection, operation and inspection of the product.
- Do not transport, install, connect or inspect the product while the power is supplied. Always turn the power off before carrying out these operations.
- Connect the product securely according to the wiring diagram.
- Do not disassemble or modify the product.
- Refer all such internal inspections and repairs to the branch or sales office from which you purchased the product.

#### CAUTION

Handling the product without observing the instructions that accompany a "CAUTION" symbol may result in injury or property damage.

- Do not use the product beyond its specifications.
- Use this product in combination with fans or heaters of Oriental Motor.
- Provide safety measures according to the instructions of the connected device.
- To dispose of the product, disassemble it into parts and components as much as possible and dispose of individual parts/components as industrial waste.

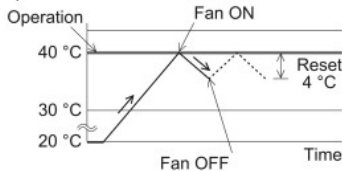
### Specification

Model	Thermostat for fan (Normally open)	Thermostat for heater (Normally closed)
Oriental Motor model name	<b>AM2-XA1</b>	<b>AM2-XB1</b>
Temperature setting range	0 to +60 °C (32 to +140 °F)	
Switch temperature difference	±5 °C (±9 °F) [When setting to 23 °C (73 °F)]	
Reset (differential)	Operating temperature -4 °C±3 °C (7 °F±5 °F)	
Type of Sensor	Thermo bimetal	
	ON when activated, OFF when recovered	OFF when activated, ON when recovered
Setting dial	Color	Blue
	Display unit	°C

#### Operation flow (image)

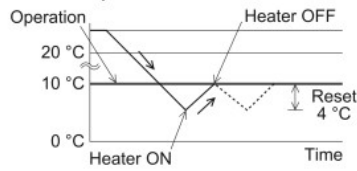
##### Fan

The temperature at which the fan turns ON is set to 40 °C (104 °F), and the temperature inside the enclosure rises and the fan operates:



##### Heater

The temperature at which the heater turns OFF is set to 10 °C (50 °F), and the temperature inside the enclosure drops and the heater operates:



### Installation

#### Location for installation

- Indoors
- Operating ambient temperature: -35 to +80 °C (-31 to +176 °F) (non-freezing)
- Operating ambient humidity: 95% or less (non-condensing)
- Area that is free of explosive atmosphere or toxic gas (such as sulfuric gas) or liquid
- Area not exposed to direct sun
- Area free of excessive amount of dust, iron particles or the like
- Area not subject to splashing water (rain, water droplets), oil (oil droplets) or other liquids
- Area not subject to continuous vibration or excessive shocks
- Area free of excessive electromagnetic noise (from welders, power machinery, etc.)
- Area free of radioactive materials, magnetic fields or vacuum

#### Method of installation

Mount the product to a 35 mm (1.38 in.) width DIN rail.

Thank you for purchasing an Oriental Motor product.

This Operating Manual describes product handling procedures and safety precautions.

- Please read it thoroughly to ensure safe operation.
- Always keep the manual where it is readily available.

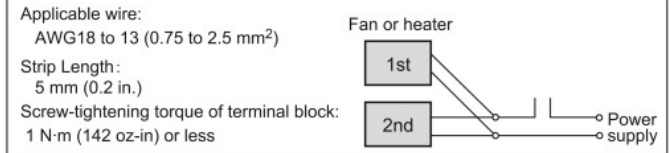
#### Note

- Do not drop the product. Dropping impact may cause damage to the product.
- Do not install the product in such a way that the ventilation at the slit is blocked.
- Do not let foreign objects enter the inside of the product.

### Connection

Connect the thermostat between the fan (or heater) and power supply.

The terminals of the thermostat are the solderless type. Connect using the solid wire or rod terminal.



- If connecting two or more fans (or heaters), use a terminal block for relay. Do not connect lead wires from multiple units directly to the thermostat.
- When using the product in the environment where the operating ambient temperature is 70 °C (158 °F) or more, use a heat-resistant cable for connection.

### Troubleshooting and remedial actions

If the product does not operate normally, refer to this section, and check in the order of 1 → 2.

#### 1. Operation of contact

Check the condition of the contact by rotating the temperature-setting dial at room temperature.

- Thermostat for fan: Turn the setting dial from "contact ON [0 °C (32 °F)]" to "contact OFF [60 °C (140 °F)]". If the product is normal, the contact will be OFF.
- Thermostat for heater: Turn the setting dial from "contact OFF [0 °C (32 °F)]" to "contact ON [60 °C (140 °F)]". If the product is normal, the contact will be ON. If the contact "ON" state or contact "OFF" state is continued when the setting dial is set to any of the temperature, contact your nearest Oriental Motor sales office.

#### 2. Operating temperature

The temperature difference against the setting temperature of this product is ±5 °C (±9 °F) [when setting to 23 °C (73 °F)]. Check the setting temperature and ambient temperature.

### Standards and CE Marking

This product is recognized by UL and certified by VDE.

This product is affixed the CE Marking under the Low Voltage Directive, EMC Directive, and RoHS Directive.

Applicable standards	Certification body	Oriental Motor model name	Manufacturer model name
UL 60730-1 UL 60730-2-9	UL	<b>AM2-XA1</b>	Type STS 011 Model No. 01116.0-00
CSA E60730-1 CSA E60730-2-9		<b>AM2-XB1</b>	Type STO 011 Model No. 01115.0-00
EN 60730-1 EN 60730-2-9	VDE	Manufacturer: STEGO Elektrotechnik GmbH	

#### Installation conditions

Overvoltage category II, Pollution degree 2, Class II equipment (For EN standards)

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- Please contact your nearest Oriental Motor office for further information.

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