

K8AB-TH
Temperature Monitoring Relay

OMRON

EN Instruction Manual

Thank you for purchasing the OMRON Product. To ensure the safe application of the Product, only a professional with an understanding of electricity and electric devices must handle it. Read this manual carefully before using the Product and always keep it close at hand when the Product is in use.

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Safety Precautions

Key to Warning Symbols

CAUTION Indicates a potentially hazardous situation which, if not avoided, is likely to result in minor or moderate injury or property damage. Read this manual carefully before using the product.

Warning Symbols

Table with 2 columns: Symbol and Description. Symbols include lightning bolt (CAUTION), crossed-out person (DANGER), and exclamation mark (WARNING).

Precautions for Safe Use

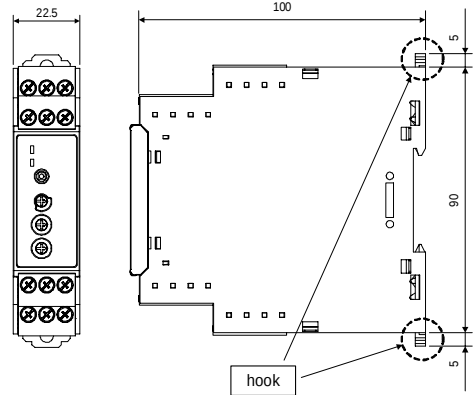
- 1) The product is designed for indoor use only. Do not use the product outdoors or in any of the following locations.
2) Use/store within the rated temperature and humidity ranges. Provide forced cooling if required.
3) Install K8AB in a correct direction.
4) Be sure to wire properly with correct polarity of terminals.
5) Wire the input and output terminals correctly.
6) Use this product within the rated load and power supply.
7) Be sure that the temperature sensor type and the input type set on K8AB are the same.
8) When extending the lead wires on a thermocouple, be sure to use compensating conductors suitable for the thermocouple type.
9) When extending the lead wires on a platinum resistance thermometer, use lead wires with a low resistance (5 Ω max. per line) and be sure that the resistance is the same for all three lead wires.
10) Use the recommended solderless terminals.
11) Do not wire the terminals which are not used.
12) Make sure that the rated voltage is attained within 1 seconds
13) Design system (control panel, etc) considering the 1 second of delay that K8AB's output to be determined after power ON.
14) Make sure that K8AB has 30 minutes or more to warm up after power ON. Turning ON the power before starting monitor to the correct temperature.
15) Separate the high-voltage or large-current power lines from other lines, and avoid parallel or common wiring with the power lines when you are wiring to the terminals.
16) Allow as much space as possible between K8AB and devices that generate powerful high frequencies or surge.
17) Do not use a microwave receiver near K8AB. Microwave interference may affect K8AB.
18) A switch or circuit breaker should be provided close to this unit. The switch or circuit breaker should be within easy reach of the operator, and must be marked as a disconnecting means for this unit.
19) Do not use paint thinner or similar chemical to clean with. Use standard grade alcohol.
20) Use tools when dismantling parts for disposal.
21) Install the K8AB inside a cabinet.

Specifications

Table with 2 columns: Specification and Value. Rows include Power supply voltage, Operating frequency, Operating voltage range, Operating frequency range, Power consumption, Inrush current, Accuracy, Relay output, Ambient temperature, Ambient humidity, Storage temperature, Storage humidity, Weight, Degree of protection, Altitude, Installation environment, External input/output current, Memory protection.

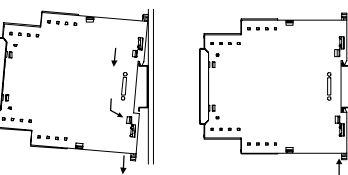
Wiring

Dimensions (mm)

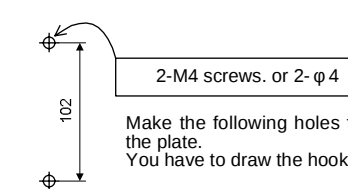


Mounting

- Mounting to the DIN Rail: Insert the hooks on the top of the K8AB into the DIN Rail and press the K8AB until the hooks lock into place.

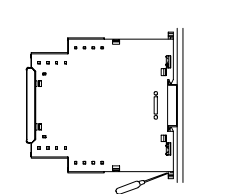


- Mounting by the screws: 2-M4 screws, or 2-φ 4



Dismounting

Pull down on the hooks with a flat-blade screwdriver and lift up on the K8AB.

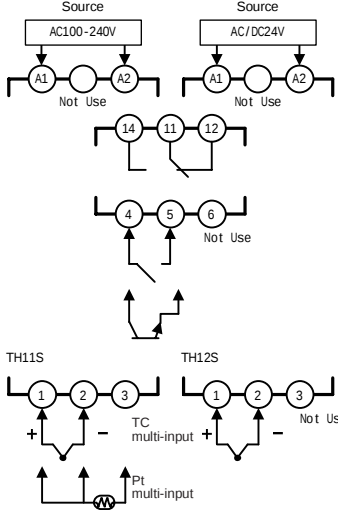


- Applicable DIN Rail: PFP-100N (100 cm), PFP-50N (50 cm)

Durability

Table with 2 columns: Condition and Specification. Rows include For vibration and For shock.

Connections



Solderless terminals (Recommendation)

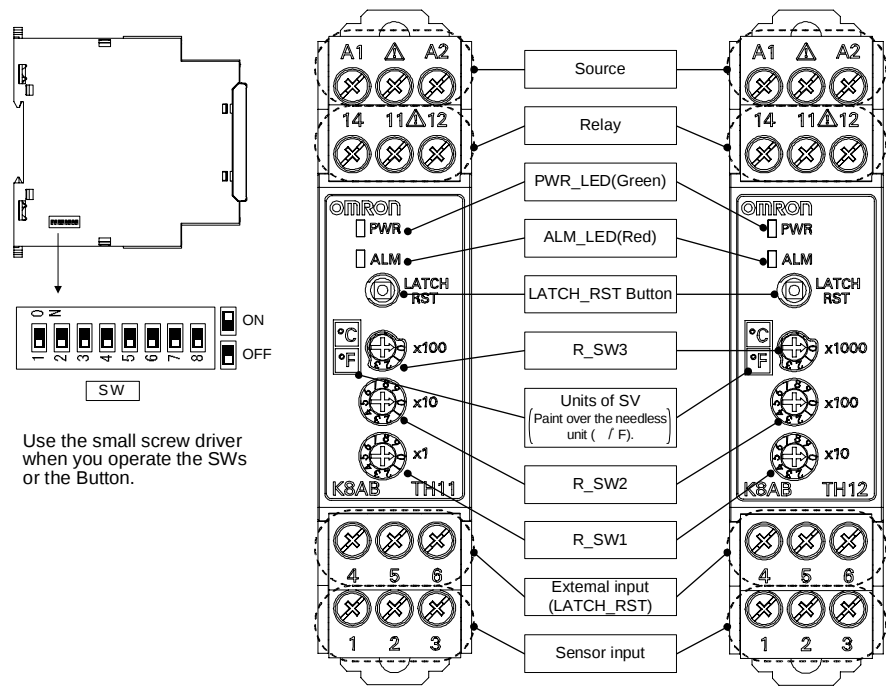
Table with 2 columns: Types and Diameter of wires. Rows include AI1, 5-8BK (PHOENIX CONTACT), AI1-8RD (PHOENIX CONTACT), and AI0, 75-8GY (PHOENIX CONTACT).

Tool(Recommendation)

Cross-head screwdriver(φ 5mm)

Function

Names of parts

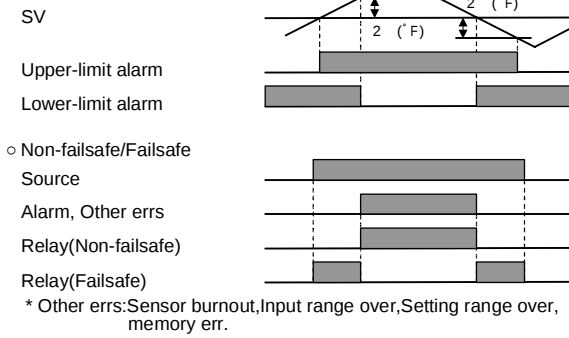


Switch Operation

Tables for TH11S and TH12S switch operations, showing settings for Upper Limit, Lower Limit, Latch, Non-Latch, Non-Fail Safe, Fail Safe, and Input Type.

Time Chart

- Alarm type:Hysteresis 2 (or ° F)



Setting range

Tables showing setting ranges for TH11S and TH12S models across different input types (K, J, T, E, Pt100) and units (°F, °C).

Sensor input range

Tables showing sensor input ranges for TH11S and TH12S models across different input types (K, J, T, E, Pt100) and units (°F, °C).

Errors(ALM_LED:flash)

- Following (1) ~ (3) may occur.
(1)Sensor burn out or Sensor input range over.
(2)Setting range over.
(3)Inner error(devices,memories,etc.).

- Trouble shooting: Comes out of SV protect mode. Reset the latch. Confirm the wiring and parameter settings. Reset the SOUCE. If K8AB return to normal state, the cause may be the noise. If not, there is need to replace it. The state of latched output and the state of SV protect mode are backed up by EEPROM. The frequent operation will damage EEPROM.

Suitability for Use

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the products in the customer's application or use of the product. Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used. Know and observe all prohibitions of use applicable to this product. NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM. See also product catalog for Warranty and Limitation of Liability.

OMRON ELECTRONICS LLC
One Commerce Drive Schaumburg, IL 60173-5302 U.S.A
Phone 1-847-843-7900
Telephone Consultation 1-800-55-OMRON
FAX 1-847-843-7787
OMRON EUROPE B.V.
Wegalaan 67-69 P.O. BOX 13 2130 AA Hoofddorp The Netherlands
Phone 31-23-56-81-300
FAX 31-23-56-81-388
OMRON ASIA PACIFIC PTE LTD
83 Clemenceau Avenue, #11-01 UE Square, Singapore 239920
Phone 65-6-835-3011
FAX 65-6-835-2711