

Thermostat Type Thermal Switch

MODEL UZ-415

INSTRUCTION MANUAL



**Warning** This marking indicates that the erroneous operation of this thermal switch may result in death or serious injury.



**Precautions** Failure to follow the directions in this manual could result in minor to moderate injury, equipment damage or other physical damage.

■ Outline

This device senses the temperature of equipment and controls the operation of cooling fans, ventilators or anti-condensation heaters.

The use of this device enables a system's operation mode to be changed from continuous operation to ON-OFF control, resulting in the conservation of energy and the reduction of CO<sub>2</sub> emissions.

As this is a thermostat type device, a power supply is not required for control action.

The case can easily be attached to DIN rails.



**Warning**

For safety, do not use this product.

Do not use this device directly or indirectly on people or property.

Do not dismantle the unit to carry out modification.

Do not use this device if it is broken or faulty.

■ Model No. Configuration

Each code and the standard specifications of this thermal switch are as follows.

(Example) UZ-415-2060A

UZ- 4 1 5- □ □ □ □ □

|                               |      |                                |                      |
|-------------------------------|------|--------------------------------|----------------------|
| Contact Point Specifications: | A    | Contact Point A                | ON at operating poin |
|                               | B    | Contact Point B                | OFF at operating poi |
| Temperature Specifications:   | 2060 | 20 to 60°C ((Operating point)) |                      |

■ Accessories

Non

■ General specifications

Temperature sensing system : Bimetal Thermostat

Temperature setting range : 20 to 60°C

Set with the knob on the front of the device(knob turns 180°C)

Temperature tolerance : ±4K (Setting temperature at 60°C)

Differential : 4 to 7K

(Differential I: The difference between ON temperature and OFF temperature)

Contact rating : AC100 to 240V 0.2 to 3A(resistance load)

DC5 to 24V 0.2 to 1A(resistance load)

ON-resistance : Less than 1Ω (at initialization)

Durability :100,000 times

Operating ambient temperature : -5 to 70°C

Operating ambient humidity : Less than 90 %RH (No-condensing)

Storage temperature : -10 to 70°C

Storage humidity : Less than 60%RH (No-condensing)

Case material : ABS resin (Black) 94V-2

Weight : Approx. 70g

Vibration resistance : Frequency : 10 to 55Hz ;

amplitude (half) :0.15mm

10 sweeps of 5min each in X,Y and Z directions



**Warning**

Do not use voltage, currents or temperatures outside the specified ranges.

Do not use this device in areas where flammable gas is produced.



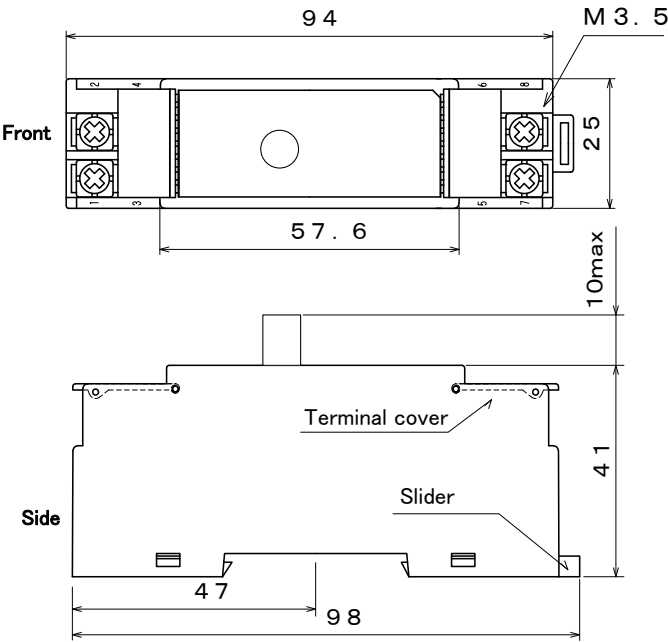
**Precautions**

Please use this device in an area free from dust, dirt, organic solvents and corrosive gases.

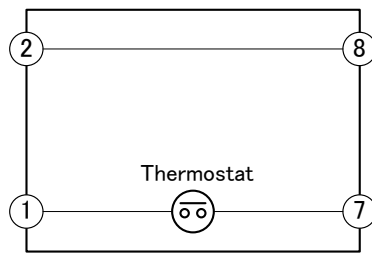
Please install this device indoors or enclosed in a case.

Please install this device in an area where it will not be subject to vibration or impact.

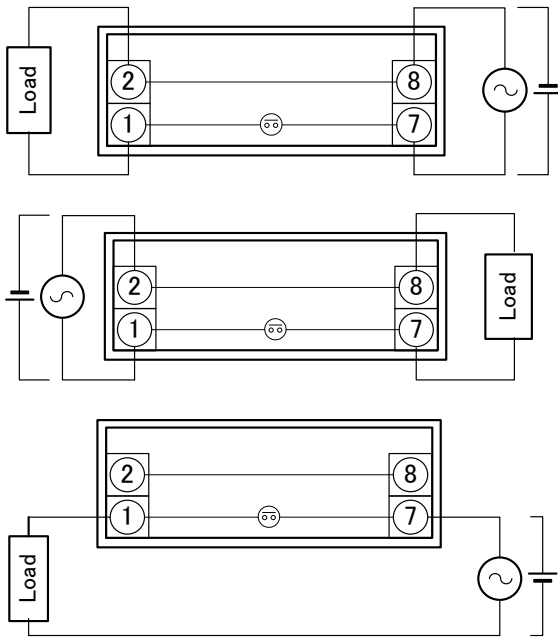
■ Dimensions



## ■Block diagram



## ■Input/Output connection diagram



## ⚠ Warning

This device should only be serviced by qualified electricians.  
Do not install wiring, retighten terminals or clean the device when the power is on.

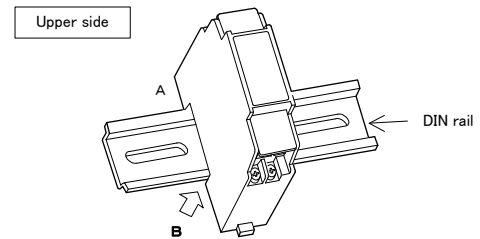
## ⚠ Precautions

Use electrical wire appropriate for the applied voltage and contact current of the device and ensure the device is correctly wired.  
Please ensure that no foreign matter enters the device through the ventilator.  
When using this device to control the inductive loads of equipment such as fans, please use in combination with a surge protective device in order to protect the contact points.  
Please install protection circuits to ensure the inrush current remains below 10A.

## ■Mounting/dismounting

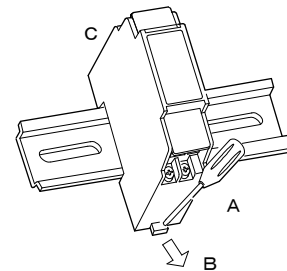
### Mounting

- Engage the upper side of the thermal switch with the rail.
- Push the lower side of the thermal switch into the rail.



### Dismounting

- Push down the slider using a screwdriver.
- Pull the thermal switch toward you, then disengage the lower side of the thermal switch from the rail.
- Disengage the upper side of the thermal switch from the rail.



**Note:**  
If the thermal switch is dislocated after its mounting, it is recommended that a clamp be used.

Clamps : E/NS35N made by Phoenix/Contact, etc.

## ■Warranty

This thermal switch is warranted for a period of one year from date of delivery. Any defect which occurs in this period and is undoubtedly caused by Watanabe's faults will be remedied free of charge. This warranty does not apply to the thermal switch showing abuse or damage which has been altered or repaired by others except as authorized by Watanabe Electric Industry Co., Ltd.

Use of this device directly or indirectly on people or property (in nuclear energy, aviation, railways, medical procedures etc.) is not covered by the warranty.

Watanabe Electric Industry takes no responsibility for special, indirect, and negative damages caused by the use of this product.

## ■After-sale service

This thermal switch is delivered after being manufactured, tested and inspected, under strict quality control. However, if any problem does occur, contact your nearest Watanabe sales agent or Watanabe directly giving as much information on problem as possible.

## ■Precaution

- Make this manual available easily anytime.
- This instruction manual is carefully prepared. However, if any mistake or omission is found, contact your nearest Watanabe sales agent or Watanabe directly.
- The contents of this instruction manual are subject to change without prior notice.
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