Autonics

LCD Temperature/Humidity Controllers

TH4M Series
CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc are subject to change without notice for product improvement Some models may be discontinued without notice.

Features

• Simultaneous control of temperature and humidity

• LCD display with easy-to-read white and blue characters

• Input correction of temperature and humidity

• Output delay time setting

• Deviation high/low-limit alarm output

• Dedicated temperature/humidity sensor THD-RM (accessory)

Product Components

- Product
- Bracket
- Instruction manual
- Temperature/Humidity sensor THD-RM

Specifications

Model		TH4M-24R
Power supply		100 - 240 VAC∼ 50/60 Hz ±10%
Power consumption		≤ 8 VA
Sampling period		1 sec
Display accuracy	Temperature	• At room temperature (25 °C ±5 °C): ≤ ±1.0 °C • Out of room temperature range: ≤ ±2.0 °C
	Humidity	• At room temperature (25 °C ±5 °C): ≤ ±3.0%RH (20 to 90%RH), ≤ ±5.0%RH (below 20%RH, over 90%RH) • Out of room temperature: ≤ ±5.0%RH (all range)
Display range	Temperature	-20.0 to 60.0 °C
	Humidity	10.0 to 100.0%RH
Using range	Temperature	-20.0 to 60.0 °C
	Humidity	10.0 to 100.0%RH
Control output [01]	Temperature (OUT1)	Relay: 250 VAC∼ 3 A, 30 VDC⎓ 3 A, 1a
	Humidity (OUT2)	Relay: 250 VAC∼ 3 A, 30 VDC⎓ 3 A, 1a
Alarm output	Relay	AL1/2: 250 VAC∼ 3 A, 1a
Display type [02]		11-Segment (temperature: white, humidity: blue), other display (yellow) LCD type
Control type		ON/OFF control
Relay life cycle	Mechanical	≥ 5,000,000 operations
	Electrical	≥ 200,000 operations (resistance load: 250 VAC∼ 3 A)
Dielectric strength		Between primary circuit and secondary circuit: 3,000 VAC∼ 50/60 Hz for 1 min
Vibration		0.75 mm amplitude at frequency 5 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours
Insulation resistance		≥ 100 MΩ (500 VDC⎓ megger)
Noise immunity		±2 kV square shaped noise (pulse width 1 μs) by noise simulator R-phase, S-phase
Memory retention		≈ 10 years (non-volatile semiconductor memory type)
Ambient temperature		-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity		35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)
Insulation type		Double or reinforced insulation (mark: ▣, dielectric strength between primary circuit and secondary circuit: 3 kV)
Approval		C€
Unit weight		≈ 144 g

01) Connect to a load using the same power supply. Connecting to a load from a different power supply may cause safety issues.
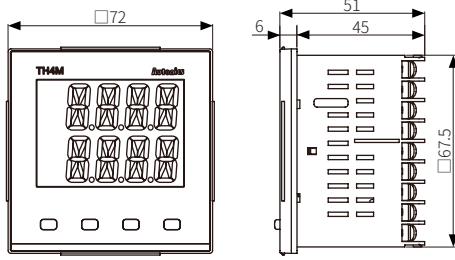02) When using the unit at low temperature (below 0°C), display cycle is slow.
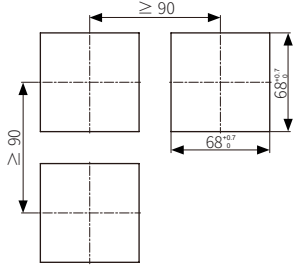
■ Temperature/Humidity sensor

| Model		THD-RM
Power supply		3.3 VDC⎓ ±2%
Power consumption		≤ 1.3mA
Response time		15 sec
Sensing accuracy	Temperature	• At room temperature (25 °C ±5 °C): ≤ ±1.0 °C • Out of room temperature: ≤ ±2.0 °C
	Humidity	• At room temperature (25 °C ±5 °C): ≤ ±3.0%RH (20 to 90%RH), ≤ ±5.0%RH (below 20%RH, over 90%RH) • Out of room temperature: ≤ ±5.0%RH (all range)
Sensing range	Temperature	-20.0 to 60.0 °C
	Humidity	10.0 to 100.0%RH
Communication type		I2C communication output
Dielectric strength		Between primary circuit and case: 500 VAC∼ 50/60 Hz for 1 min
Vibration		0.75 mm amplitude at frequency 5 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours
Ambient temperature		-20 to 60 °C, storage: -20 to 60 °C (no freezing or condensation)
Ambient humidity		0 to 100%RH, storage: 35 to 85%RH (no freezing or condensation)
Cable		Ø4 mm, 4 seam , 2 m (tensile strength: 1kgf/s)
Approval		C€
Unit weight		≈ 56 g

C€

Dimensions

• Unit: mm, For the detailed drawings, follow the Autonics website.
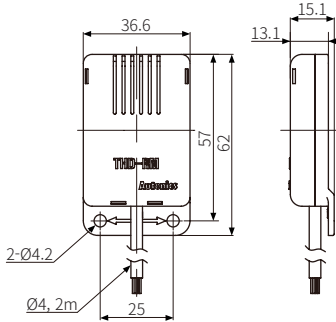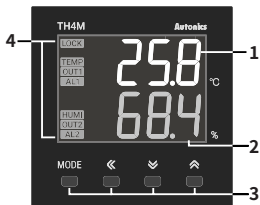

■ Panel cut-out

■ Bracket
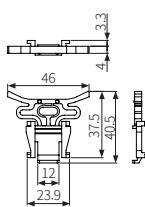
■ Temperature/Humidity sensor

Unit Descriptions

1. Temperature display part (White)
• Run mode: displays temperature PV (Present value)
• Setting mode: displays parameter name

2. Humidity display part (Blue)
• Run mode: displays humidity SV (Setting value)
• Setting mode: displays parameter setting value

3. Input key

Display	Name
[MODE]	Mode key
[◀], [▼], [▲]	Setting value control key

4. Indicator

Display	Name	Description
LOCK	Lock	Turns ON when lock function is activated (parameter)
TEMP	Temperature control	Turns ON when temperature control is ON
HUMI	Humidity control	Turns ON when humidity control is ON
OUT1/2	Control output	Turns ON when the control output is ON
AL1/2	Alarm output	Turns ON when the alarm output is ON

Sold Separately

• Terminal protection cover: RMA Cover