

5-Channel Digital Temperature Indicators

T4WM Series
INSTRUCTION MANUAL

TCD210156AA

Autonics

Thank you for choosing our Autonics product.
Read and understand the instruction manual and manual thoroughly before using the product.
For your safety, read and follow the below safety considerations before using.
For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
Keep this instruction manual in a place where you can find easily.
The specifications, dimensions, etc are subject to change without notice for product improvement
Some models may be discontinued without notice.
Follow Autonics website for the latest information.

Safety Considerations

- Observe all ‘Safety Considerations’ for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

⚠ Warning

Failure to follow instructions may result in serious injury or death

01. **Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.**(e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow this instruction may result in personal injury, economic loss or fire.
02. **Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.**
Failure to follow this instruction may result in explosion or fire.
03. **Install on a device panel to use.**
Failure to follow this instruction may result in electric shock.
04. **Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in fire or electric shock.
05. **Check ‘Connections’ before wiring.**
Failure to follow this instruction may result in fire.
06. **Do not disassemble or modify the unit.**
Failure to follow this instruction may result in fire or electric shock.
07. **Since Lithium battery is embedded in the product, do not disassemble or burn the unit.**
Failure to follow this instruction may result in fire.

⚠ Caution

Failure to follow instructions may result in injury or product damage

01. **When connecting the power input and relay output, use AWG 20 (0.50 mm²) cable or over and tighten the terminal screw with a tightening torque of 1.0 N m.**
When connecting the sensor input without dedicated cable, use AWG 28 to 16 cable and tighten the terminal screw with a tightening torque of 1.0 N m.
Failure to follow this instruction may result in fire or malfunction due to contact failure.
02. **Use the unit within the rated specifications.**
Failure to follow this instruction may result in fire or product damage
03. **Use a dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in fire or electric shock.
04. **Keep the product away from metal chip, dust, and wire residue which flow into the unit.**
Failure to follow this instruction may result in fire or product damage.

- Cautions during Use
- Follow instructions in ‘Cautions during Use’. Otherwise, it may cause unexpected accidents.
 - Check the polarity of the terminals before wiring the temperature sensor. For RTD temperature sensor, wire it as 3-wire type, using cables in same thickness and length. For thermocouple (CT) temperature sensor, use the designated compensation wire for extending wire.

- Keep away from high voltage lines or power lines to prevent inductive noise. In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line. Do not use near the equipment which generates strong magnetic force or high frequency noise.
 - Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
 - Do not use the unit for other purpose (e.g. voltmeter, ammeter), but temperature controller.
 - Make a required space around the unit for radiation of heat. For accurate temperature measurement, warm up the unit over 20 min after turning on the power.
 - Make sure that power supply voltage reaches to the rated voltage within 2 sec after supplying power.
 - Do not wire to terminals which are not used.
 - This unit may be used in the following environments.
 - Indoors (in the environment condition rated in ‘Specifications’)
 - Altitude Max. 2,000 m
 - Pollution degree 2
 - Installation category II

Ordering Information

This is only for reference, the actual product does not support all combinations.
For selecting the specified model, follow the Autonics website .

T	4	W	M	-	N	3	N	①	②	C
					① Input sensor P: DPT100 Ω J: J (IC) K: K (CA)					
					② Using temperature Range 0: -99.9 to 199.9 4: 0 to 399 5: 0 to 500 C: 0 to 1,200					

Product Components	
• Product	• Instruction manual
	• Bracket ×2

Specifications	
Series	T4WM Series
Power supply	110 / 220 VAC ~ 50/60 Hz
Power consumption	≤ 3 VA
Input specification	Thermocouple DPT100 Ω (Allowable line resistance per a wire: ≤ 5 Ω)
	RTD K (CA), J (IC) (Input line resistance: ≤ 100 Ω)
Display accuracy	F.S. ±0.5% rdg ±1digit
Display type	7 Segment (red), LED type
Connectible sensors	5 (Thermocouple, RTD are not used as mixed)
Channel switching	Auto / Manual selection
Auto switching time	1 to 10 sec (Volume switch)
Dielectric strength	Between input terminal and power terminal: 2,000 VAC ~ 50/60 Hz for 1 min
Vibration	0.75 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 1 hour
Malfunction vibration	0.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 min
Shock	300 m/s² (≈ 30 G) in each X, Y, Z direction for 3 times
Malfunction shock	100 m/s² (≈ 10 G) in each X, Y, Z direction for 3 times
Insulation resistance	≥ 100 MΩ (500 VDC≡ megger)
Noise immunity	±1 kV square shaped noise (pulse width 1 μs) by noise simulator
Memory retention	≈ 3 month (full charged)
Ambient temperature	-10 to 50 °C, storage: -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)
Approval	EMC
Body weight	≈ 322 g

Input Type and Using Range			
Input type		Display	Using range (°C)
Thermocouple	K (CA)	℄℄℄℄℄	0 to 1,200
	J (IC)	℄℄℄℄℄	0 to 500
RTD	DPT100 Ω	℄℄℄ 5	-99.9 to 199.9 0 to 399

Unit Descriptions

1. Channel auto switching indicator [AUTO]
Turns ON during auto channel switching

2. PV display part
Turns ON the number which is displayed on PV display part

3. Power terminals (1-5)

4. Auto switching time control volume
Setting range: 1 to 10 sec

5. Channel switching selection key [SELECT]
Refer to 'Channel Switching'.

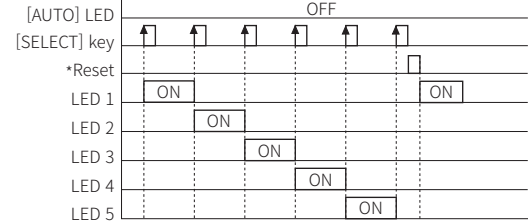
Channel Switching

■ Auto/Manual switching selection

It is possible to select auto/manual switching when pressing [SELECT] key over 3 sec. When selecting auto switching, it turns ON [AUTO] indicator.

■ Manual switching

[AUTO] indicator is turned ON sequentially when press [SELECT] key, and PV of the channel is displayed.



■ Auto switching

*Reset: Automatic reset by DIP switch

*CK: Setting time of 'Auto switching time control volume'.

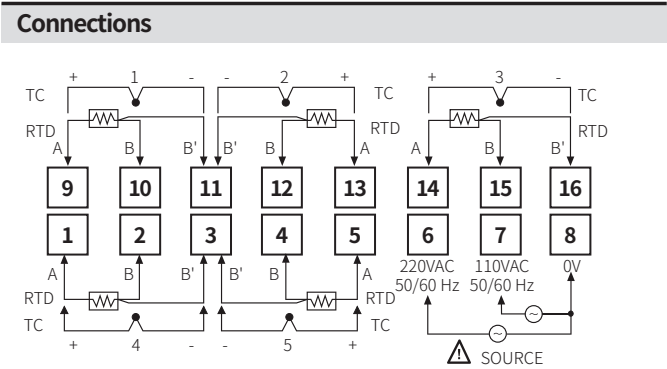
Internal DIP Switch:The Number of Input Sensor Selection

The Number of Input Sensor	2	3	4	5
DIP switch setting	ON OFF	ON OFF	ON OFF	ON OFF

• Thermocouple, RTD are not used as mixed

Dimensions

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



Crimp Terminal Specifications

• Unit: mm, Use the crimp terminal of follow shape.

Fork crimp terminal

Round crimp terminal