

# Autonics

## TEMPERATURE INDICATOR T3NI/T4YI/T4WI/T4WM SERIES

### M A N U A L



Thank you very much for selecting Autonics products.  
For your safety, please read the following before using.

#### Caution for your safety

- \*Please keep "Caution for your safety" to avoid accidents or damages as using it correctly.
- \*The meaning of 'Warning' and 'Caution' is as follows:  
**Warning** In case a serious injury or dead may be occurred.  
**Caution** In case a little injury or damage of this unit may be occurred.
- \*The meaning of the mark on the product and manual is as follows:  
 is a caution mark for danger in special condition.

#### Warning

- Please use it with double safety devices when it is used at the equipments which may cause damages to human life or assets. (Ex:Nuclear power, Medical equipment, Vehicle, Train, Air plane, Combustion apparatus, Entertainment or Safety device etc.) It may cause a fire, human life or assets.
- This equipment must be mounted on panel. It may give an electric shock.
- Do not repair or checkup when power on. It may give an electric shock.
- Do not disassemble and modify, when it requires. If needs, please contact us. It may give an electric shock and cause a fire.
- Please check the terminal No. when connect. It may cause a fire.
- Lithium battery is used for memory retention in T4WM, therefore do not disassemble or burn it. It may cause a fire.
- This product is a combined use of 110/220VAC, please check the terminal when connect. It may cause a fire.

#### Caution

- This equipment shall not be used outdoors. It might shorten the life cycle of the product or give an electric shock.
- When wire connection, No. 20AWG(0.50mm<sup>2</sup>) should be used and screw bolt on terminal block with 0.74N·m to 0.90N·m strength. It may result in malfunction or fire due to contact failure.
- Please observe specification rating. It might shorten the life cycle of the product and cause a fire.
- In cleaning the unit, do not use water or an oil-based detergent. It might cause an electric shock or fire that will result in damage to this product.
- Do not use this unit at place where there are flammable or explosive gas, humidity, direct ray of the sun, radiant heat, vibration, impact etc. It may cause a fire or explosion.
- Do not inflow dust or wire dregs into inside of this unit. It may cause a fire or mechanical trouble.
- Please wire properly after checking the polarity of terminals when connect thermocouples. It may cause a fire or explosion.

\*The above specification are changeable without notice anytime.

#### Ordering information

① Product	T	Temperature
② Display	3	3 Digit
	4	4 Digit
③ Size	N	DIN W48 × H24mm
	Y	DIN W72 × H36mm
	W	DIN W96 × H48mm
④ Sub output mode	I	Indicator Type
	M	5 Point Indicator
⑤ Control mode	N	No output
	X	12-24VDC
⑥ Power supply	3	110/220VAC 50/60Hz
	4	100-240VAC 50/60Hz
⑦ Output mode	N	No output
	K	K(CA) Type
	J	J(IC) Type
	P	Pt100Ω
⑧ Sensor input type	0	-99.9 to 199.9
	4	0 to 399
	5	0 to 500
	C	0 to 1200
⑨ Temperature range	0	-99.9 to 199.9
	4	0 to 399
	5	0 to 500
	C	0 to 1200
⑩ Unit	C	°C

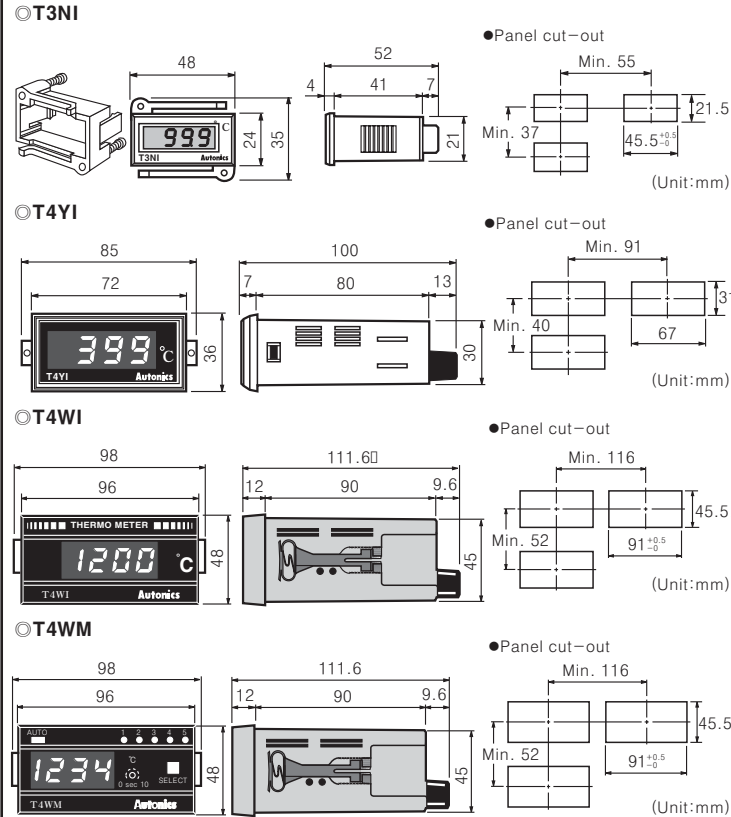
#### Specifications

Model	T3NI	T4YI	T4WI	T4WM
Power supply	12-24VDC	100-240VAC 50/60Hz	110/220VAC 50/60Hz	
Allowable operating voltage	90 to 110% of rated voltage			
Power consumption	2W	3VA		
Display method	7 Segment LED Display			
Display accuracy	F · S ± 0.3% rdg ± 1digit	F · S ± 0.5% rdg ± 1digit		
Input sensor	RTD : Pt100Ω	Thermocouples : K(CA), J(IC), Pt100Ω		
Input line resistance	RTD:Max. 5Ω per a wire	Thermocouples : Max. 10Ω RTD : Max. 5Ω per a wire		
Available sensor quantity			Thermocouple: Max. 5pcs RTD:Max. 5pcs	
Insulation resistance	Min. 100MΩ (at 500VDC)			
Dielectric strength	2000VAC 50/60Hz for 1 minute			
Noise strength	±2kV the square wave noise(pulse width:1μs) by the noise simulator		±1kV	
	±500V		±1kV	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hour		
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes		
Shock	Mechanical	300m/s <sup>2</sup> (Approx. 30G) 3 times at X, Y, Z direction		
	Malfunction	100m/s <sup>2</sup> (Approx. 10G) 3 times at X, Y, Z direction		
Ambient temperature	-10 to 50°C (at non-freezing status)			
Storage temperature	-25 to 65°C (at non-freezing status)			
Ambient humidity	35 to 85%RH			
Weight	Approx. 34g	Approx. 170g	Approx. 322g	

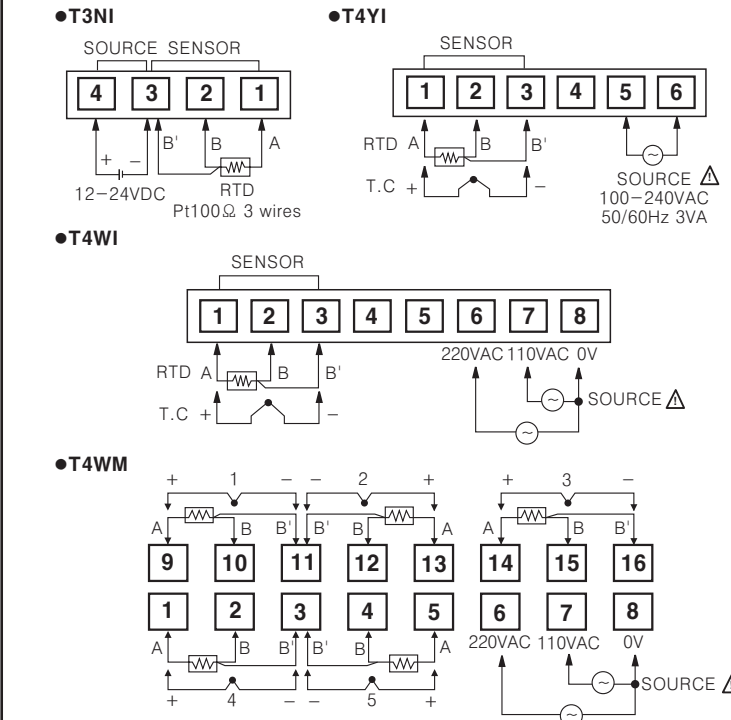
#### Temperature range for each sensor

Model	T4YI / T4WI / T4WM		
	RTD Pt100Ω	Thermocouples J(IC)	Thermocouples K(CA)
Standard scale range (°C)	99.9°C	500°C	1200°C
	399°C		399°C
			199.9°C
			-99.9°C

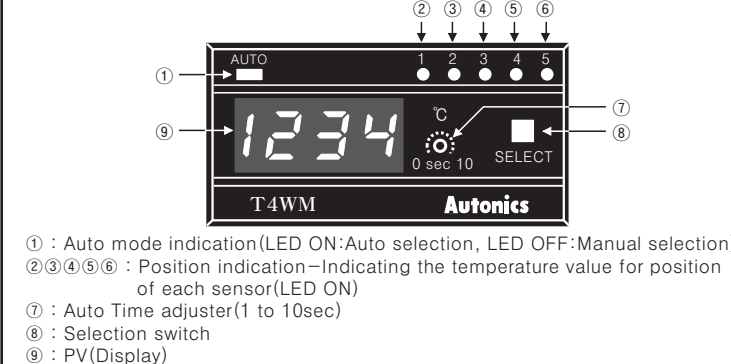
#### Dimensions



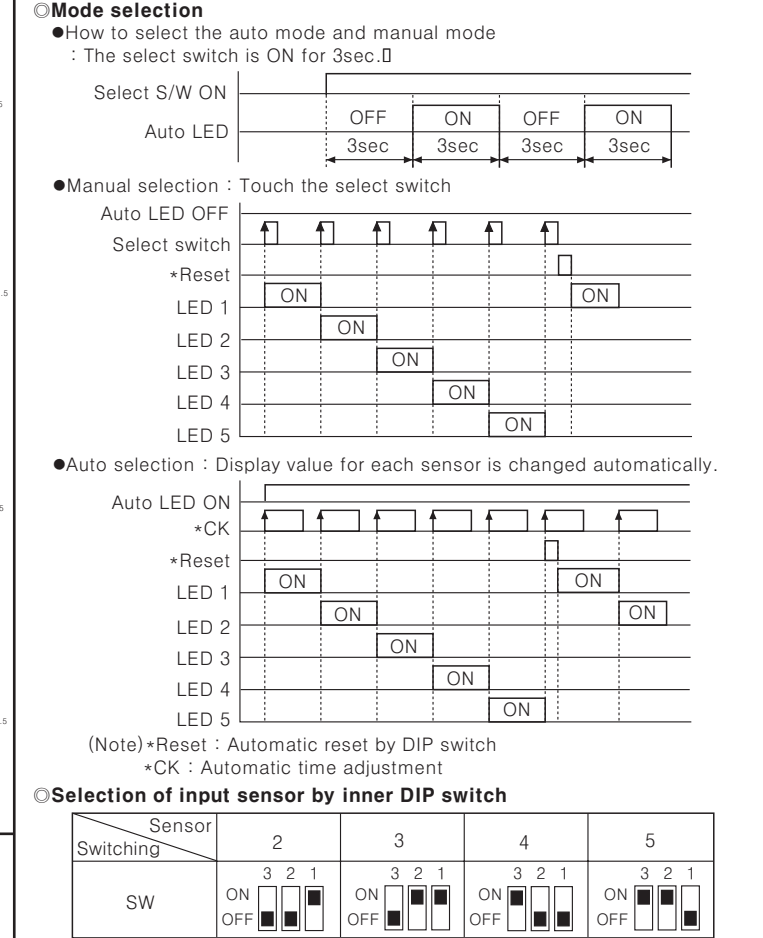
#### Connection



#### Parts name(T4WM)



#### 5 Point indicator(T4WM)



#### Caution for using

- Installation environment
  - It shall be used indoor
  - Altitude Max. 2000m
  - Pollution Degree 2
  - Installation Category II.
- Please use the terminal(M3.5, Max.7.2mm) when connect the AC power source.
- Please use separated line from high voltage line or power line in order to avoid inductive noise.
- Please install power switch or circuit-breaker in order to cut power supply off.
- The switch or circuit-breaker should be installed near by users.
- Do not use this product as Volt-meter or Ampere-meter, this is a temperature controller.
- Be sure to use compensating wire when extends wire from controller, otherwise the temperature deviation will be occurred at the part where wires are connected each other.
- In case of using RTD sensor, 3wires type must be used. If it needs to extend the line, 3wires must be used with the same thickness as the line. It might cause the deviation of temperature if the resistance of line is different.
- In case of making power line and input signal line close, line filter for noise protection should be installed at power line and input signal line should be shielded.
- Keep away from the high frequency instruments. (High frequency welding machine & sewing machine, big capacitive SCR controller)

\*It may cause malfunction if above instructions are not followed.

#### Main products

- COUNTER
- TIMER
- TEMPERATURE CONTROLLER
- PANEL METER
- TACHO/LINE SPEED/PULSE METER
- DISPLAY UNIT
- PROXIMITY SENSOR
- PHOTOELECTRIC SENSOR
- FIBER OPTIC SENSOR
- PRESSURE SENSOR
- ROTARY ENCODER
- SENSOR CONTROLLER
- POWER CONTROLLER
- STEPPING MOTOR & DRIVER & CONTROLLER

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