

Temperature Indicator

AT6/AT3

INSTRUCTION MANUAL

Thank you for purchasing HANYOUNG product.
Please check whether the product is the exactly same as you ordered.
Before using the product, please read this instruction manual carefully.
Please keep this manual where you can view at any time



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Safety information

Alerts declared in the manual are classified to Danger, Warning and Caution by their criticality

DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury
WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury

Danger

Do not touch or contact the input/output terminals because they may cause electric shock.

Warning

- If there is a possibility of an accident caused by errors or malfunctions of this product, install external protection circuit to prevent the accident.
- This product does not contain an electric switch or fuse, so the user needs to install a separate electric switch or fuse externally. (Fuse rating : 250 V 0.5 A)
- To prevent deflection or malfunction of this product, supply proper power voltage in accordance with the rating.
- To prevent electric shock or device malfunction of this product, do not supply the power until the wiring is completed.
- Since this product is not designed with explosion-protective structure, do not use it at any place with flammable or explosive gas.
- Do not decompose, modify, revise or repair this product. This may cause malfunction, electric shock or fire.
- Reassemble this product while the power is off. Otherwise, it may cause malfunction or electric shock.
- If you use the product with methods other than specified by the manufacturer, there may be bodily injuries or property damages.
- Due to the danger of electric shock, use this product installed onto a panel while an electric current is applied.

Caution

- The contents of this manual maybe changed without prior notification.
- Before using the product you have purchased, check to make sure that it is exactly what you ordered.
- Check to make sure that there is no damage or abnormality of the product during delivery.
- The ambient temperature is 0 ~ 50 °C and the ambient humidity is 35 ~ 85 % RH (No icing).
- Do not use this product at any place with corrosive (especially noxious gas or ammonia) or flammable gas.
- Do not use this product at any place with direct vibration or impact.
- Do not use this product at any place with liquid, oil, medical substances, dust, salt or iron contents. (Use at Pollution level 1 or 2)
- Do not polish this product with substances such as alcohol or benzene.
- Do not use this product at any place with excessive induction trouble, static electricity or magnetic noise.
- Do not use this product at any place with possible thermal accumulation due to direct sunlight or heat radiation.
- Install this product at place under 2,000m in altitude.
- When the product gets wet, the inspection is essential because there is danger of an electric leakage or fire.
- Use a compensating cable with thermocouple.
- For RTD input use a cable which is a small lead wire resistance and without resistance difference to 3 wires.
- To avoid inductive noise to input wires separate from the power and the load wire.
- Keep input wire away from output wire.
- Use a non-earth sensor with thermocouple.
- If there is excessive noise from the power supply, using insulating transformer and noise filter is recommended. The noise filter must be attached to a panel grounded, and the wire between the filter output side and power supply terminal must be as short as possible.
- It is effective to use a twisted cable for power supply against noise.
- Turn off the power before changing a sensor.
- Do not connect anything to the unused terminals.
- After checking polarity of terminal, connect wires at the correct position.
- When this product is connected to a panel, use a circuit breaker or switch approved with IEC947-1 or IEC947-3.
- Install the circuit breaker or switch at near place for convenient use.
- Write down on a label that the operation of circuit breaker or switch disconnects the power since the device is installed.
- For the continuous and safe use of this product, the periodical maintenance is recommended.

- Some parts of this product have limited life span, and others are changed by their usage.
- The warranty period for this product including parts is one year if this product is properly used.

Suffix Code

Model	Code	Information
AT	<input type="checkbox"/> <input type="checkbox"/>	Digital Temperature Indicator
Dimension	3	96 (W) × 48 (H) mm
	6	72 (W) × 36 (H) mm
AT3 Input	KP	K thermocouple RTD Pt 100 Ω
	R	R thermocouple (599 ~ 1699 °C)
AT6 Input	K	K thermocouple (0 ~ 1200 °C)
	J	J thermocouple (0 ~ 600 °C)
	P1	Resistance Temperature Detector (RTD) Pt100 Ω (IEC) -199 ~ 600 °C
	P2	Resistance Temperature Detector (RTD) Pt100 Ω (IEC) -199.9 ~ 199.9 °C
	G	0 ~ 5 V d.c (0 ~ 100 °C)
	F	0 ~ 10 V d.c (0 ~ 100 °C)
	V	1 ~ 5 V d.c (0 ~ 100 °C)
C	4 ~ 20 mA d.c (0 ~ 100 °C)	

Specification

Model	AT6	AT3
Power Supply Voltage	100 ~ 240 V a.c 50 ~ 60 Hz	110 / 220 V a.c 50 / 60 Hz (Dual usage)
Voltage fluctuation	± 10 % of power supply voltage	
Power consumption	5 VA max	4 VA max
Input	Thermocouple, RTD (Please refer to the suffix code and range)	
Digital display	7 segment Red LED 11 mm height	7 segment Red LED 14.2 mm height
Display accuracy	± 0.5 % F.S	
Vibration resistance	Malfunction	10 ~ 50 Hz, peak amplitude for 10 minute each in X, Y and Z direction
	Durability	10 ~ 50 Hz, peak amplitude for 2hrs each in X, Y and Z direction
Shock resistance	Malfunction	100 %
	Durability	300 %
Dielectric strength	2,000 V a.c 50/60 Hz for 1min. (between the different recharging part from each other)	
Burn-out function	Indicate maximum temperature When the input circuit is broken.	
Allowable signal source resistance	Thermocouple (100 Ω max), DC voltage (2 kΩ max)	
Allowable wiring resistance	RTD (10 Ω max) but resistances among 3 wires should be same	
Ambient temp. humidity	0 ~ 5 °C, 35 ~ 85 % RH (without dew condensation)	

Range and input code chart

■ AT3

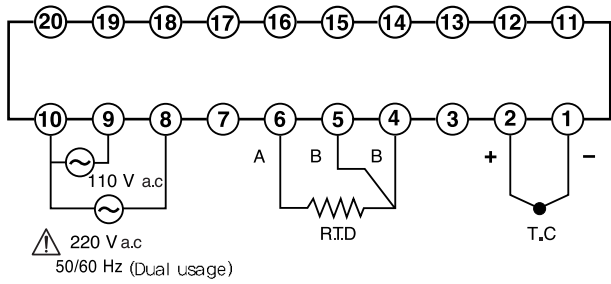
Classification	Code	Input	Range (°C)
Thermocouple	R	R	599 ~ 1699
	K	K (Front panel deep switch)	0 ~ 1,300
			0.0 ~ 199.9
RTD	P	Pt100 Ω (Front panel deep switch)	-199 ~ 600
			-199.9 ~ 199.9

■ AT6

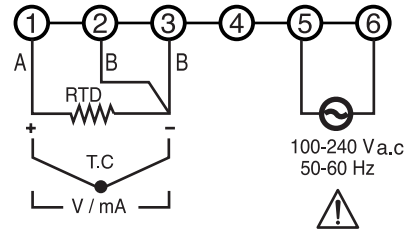
Classification	Code	Input	Range (°C)
Thermocouple	K	K Thermocouple	0 ~ 1,200
	J	J Thermocouple	0 ~ 600
RTD	P1	Pt100 Ω	-199 ~ 600
	P2		-199.9 ~ 199.9
DC voltage	G	0 ~ 5 V d.c	0 ~ 100
	V	1 ~ 5 V d.c	0 ~ 100
	F	0 ~ 10 V d.c	0 ~ 100
DC current	C	4 ~ 20 mA d.c	0 ~ 100

Connection diagram

■ AT3

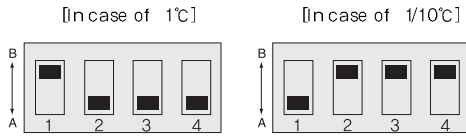


■ AT6



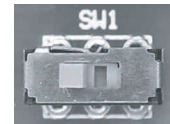
■ Explanation for the front dip switch (Only for AT3)

Select range and decimal point by the front dip switch.





■ K/P mode selection (Only for AT3)

Select K thermocouple or RTD by internal dip switch.



K(CA) Type ↔ Pt100 Ω Type

1. Please press left side of front case and pull it out to open it
2. Select K or Pt100Ω by internal dip switch as above picture
3. In case of K (CA) type, please move switch to the CA side. And move switch to the Pt side for the RTD.

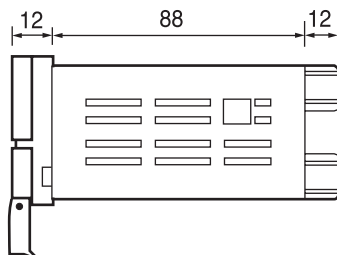
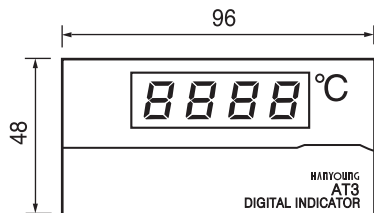
K type (Initial value)	Pt100 type
	

Dimension and panel cutout

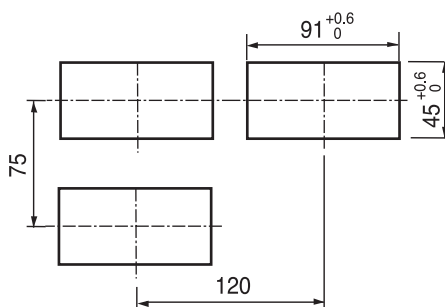
[Unit: mm]

■ AT3

● Dimension

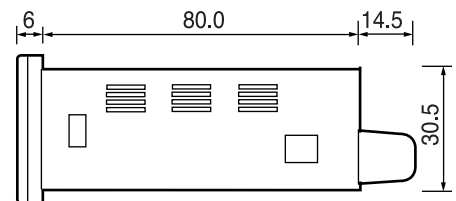
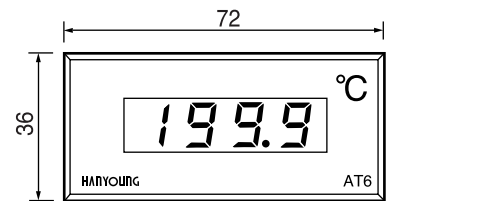


● Panel cutout



■ AT6

● Dimension



● Panel cutout

