

HNT10

CYLINDRICAL TEMPERATURE TRANSMITTER

HNT10

MAIN PARAMETERS

Temperature type: Platinum

Temperature range: -50-300°C, please refer to the selection table for details

Output signal: Analog signal

Measurement medium: Suitable for most industrial temperature measurement applications

Application scenarios: Temperature measurement

Authentication: 



PRODUCT INTRODUCTION

The HNT10 cylindrical temperature transmitter uses platinum resistance to sense temperature, and measures temperature by utilizing the change in resistance (thermal effect) of platinum wire when temperature changes. It is equipped with a stainless steel protective sleeve to ensure sufficient mechanical strength and corrosion resistance, and completes industrial temperature measurement. The resistance signal is converted into standard current or voltage signal output.

PRODUCT FEATURES

- 1 Wide temperature measurement range, up to -50-300°C
- 2 Compact structure, diverse installation methods
- 3 Extremely high linearity and repeatability 4-20mA output
- 4 Widely used as supporting equipment in industries such as power, chemical, steel, and ship platinum
- 5 Industrial process temperature measurement is usually used in conjunction with display, recording, and regulating instruments suitable for liquid, steam gas media, and fixed surface temperatures

GENERAL TECHNICAL PARAMETERS (IEC584 International Standard)

MEASUREMENT RANGE AND ALLOWABLE ERROR

Thermal resistance category		Accuracy class	0°C resistance value Ω
A-grade platinum thermistor		A	$R_0=100\pm0.06$
B-grade platinum thermistor		B	$R_0=100\pm0.12$
Resistance value at 100°C	Graduation	Temperature measurement range°C	Allowable error $\Delta t^\circ\text{C}$
$R_{100}=138.512\pm0.06$	Pt100	-50-300	$\pm(0.15+0.002 t)$
$R_{100}=138.512\pm0.12$	Pt100	-50-300	$\pm(0.30+0.005 t)$

THERMAL RESPONSE TIME

When there is a step change in temperature, the output of the thermal resistor changes to 50% of the change, and the time required is called the thermal response time, represented by τ 0.5

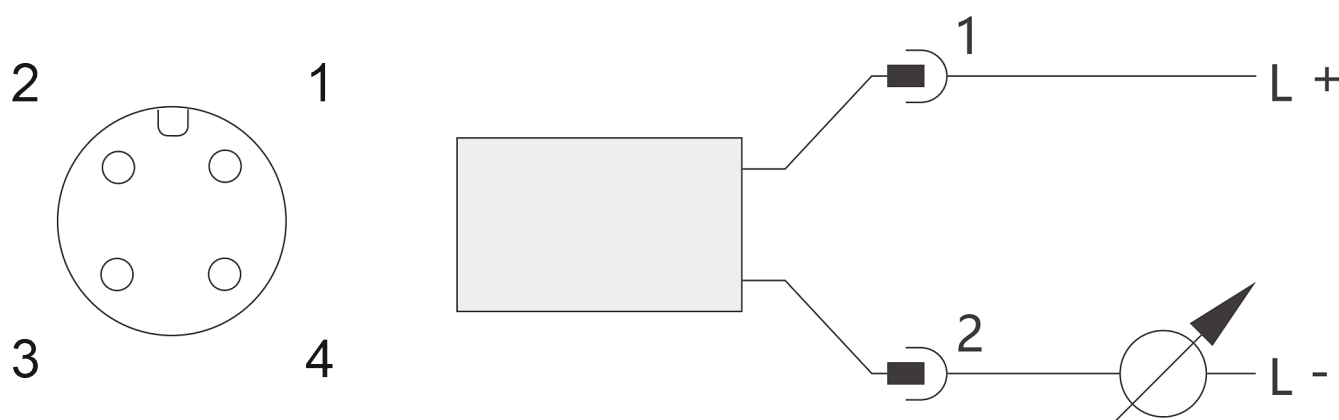
Thermal response time τ 0.5<5s

PERFORMANCE

Maximum withstand voltage	<20MPa (the material, diameter, and wall thickness of the protective tube will affect its uncertainty)
Minimum insertion depth of sensor	>5D (D is the outer diameter of the protective tube)
Insulation impedance (Voltage 500V $\pm$ 50VDC, atmospheric temperature conditions 15-35°C, relative humidity 45% -75% atmospheric pressure 86-106KPa)	Length>1000mm, $R_r * L \geq 100M \Omega m$ Length<1000mm, $R_r \geq 100M \Omega$

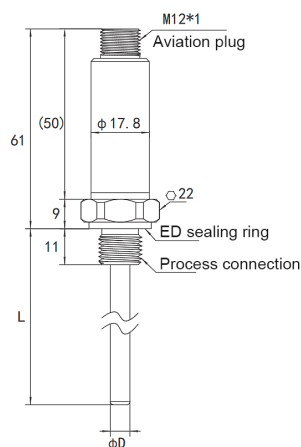
Accuracy	$\pm 0.2K + \pm 0.5K\%FS$
Resolution	0.1K
Linearity	$< 0.1\%FS$
Pressurization	Ø 6 type 40 bar Ø 8 type 100 bar/200 bar
Temperature influence	0.1K/10K
Response time	2.3S
Working voltage	12...30Vdc
Model output and load	4... 20mA type
Sensor	PT100
Ambient temperature	-25...75°C
Shell material	stainless steel
Probe rod material	304 or 316
Protection level	IP65
Electrical connection	M12 connector
Mechanical connection	Threaded type, chuck connection

ELECTRICAL CONNECTION

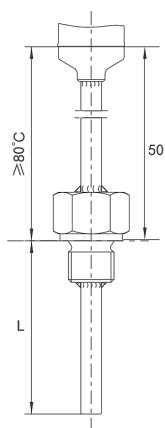


Pin	Connect
1	24VDC
2	Temperature analog signal (4-20mA)

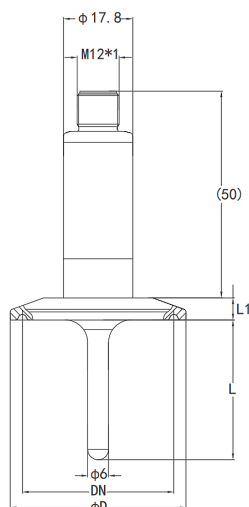
BASIC STRUCTURAL DIMENSION DIAGRAM



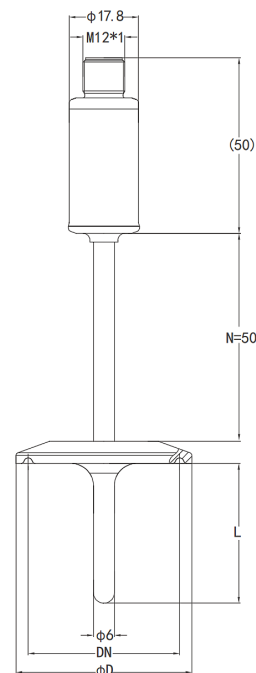
Standard type
(Measurement
range: -50~100°C)



High and low temperature type
(Measurement
range: -50~300°C)



Sanitary type
(Measurement
range: -50~100°C)



High and low temperature type
(Measurement
range: -50~300°C)

HNT10 CYLINDRICAL TEMPERATURE TRANSMITTER SELECTION CHART

NAME	CODE	CODE DESCRIPTION
Sensor type	A	PT100 platinum resistor
Temperature measurement range	X	Write the temperature range directly, such as 0-100 degrees Celsius
Probe length L	L25	Probe length L=25mm
	L50	Probe length L=50mm
	L80	Probe length L=80mm
	L100	Probe length L=100mm
	X	Other lengths should be specified separately, and the selection should be directly written with the length
Probe directly	A6	Φ6mm protective tube
	A8	Φ8mm protective tube
Standard for mechanical connection threads and flanges	G	Connect standard British thread
	M	Connecting standard metric threads
	K	Chuck connection
Output signal	M	4... 20mA output