



# **BNsens**

## **TEMPERATURE TRANSMITTER**

### **HTD**



**BNsens**

## DESCRIPTION

HTD is a high performance digital temperature transmitter that provides accurate measurement accuracy, stability and reliability over a large range. The product can easily meet the requirements of stringent temperature measurement applications. With reasonable design and production process, it can achieve excellent performance in various ambient temperatures. The transmitter achieves high overall accuracy even under harsh conditions, so HTD can meet almost all high precision temperature measurement requirements.

- High precision -- digital stability of RTD can reach 0.1°C
- Fast response - Update time as short as 135ms
- Stability of measurement -- two year stability does not exceed 0.4% of the range

## PERFORMANCE

| Parameter               | HTD  |
|-------------------------|--|
| Temperature range       | -200°C ~ 850°C   |
| Supply voltage          | 12~36V DC  |
| Output signal           | 4~20mA; 4~20mA+Hart; RS485   |
| Sensitive element       | Pt100  |
| Insulation strength     | 100MΩ /250VDC  |
| Long-term stability     | ≤ 0.2%FS/ year   |
| Thermal response time   | < 135ms  |
| Insertion diameter      | Φ 8mm (special requirements negotiable)  |
| Explosion-proof rating  | Intrinsic safety explosion-proof ExiaIICT6   |
| With or without display | Optional with or without display   |
| Shell protection        | IP66   |
| Working environment     | (1) Ambient temperature: -40°C ~ 85°C<br>(2) Relative humidity: 0 ~ 95% RH<br>(3) Mechanical vibration: f≤ 55Hz<br>(5) Amplitude < 0.15mm<br>(4) Power consumption: < 0.5W |

## CHARACTERISTICS

- Equipped with heat dissipation rod, with excellent heat dissipation performance
- Integrated structure
- Convenient field connection
- Easy to install, can work stably for a long time
- Simple operation
- Fast response
- Can be customized according to customer requirements

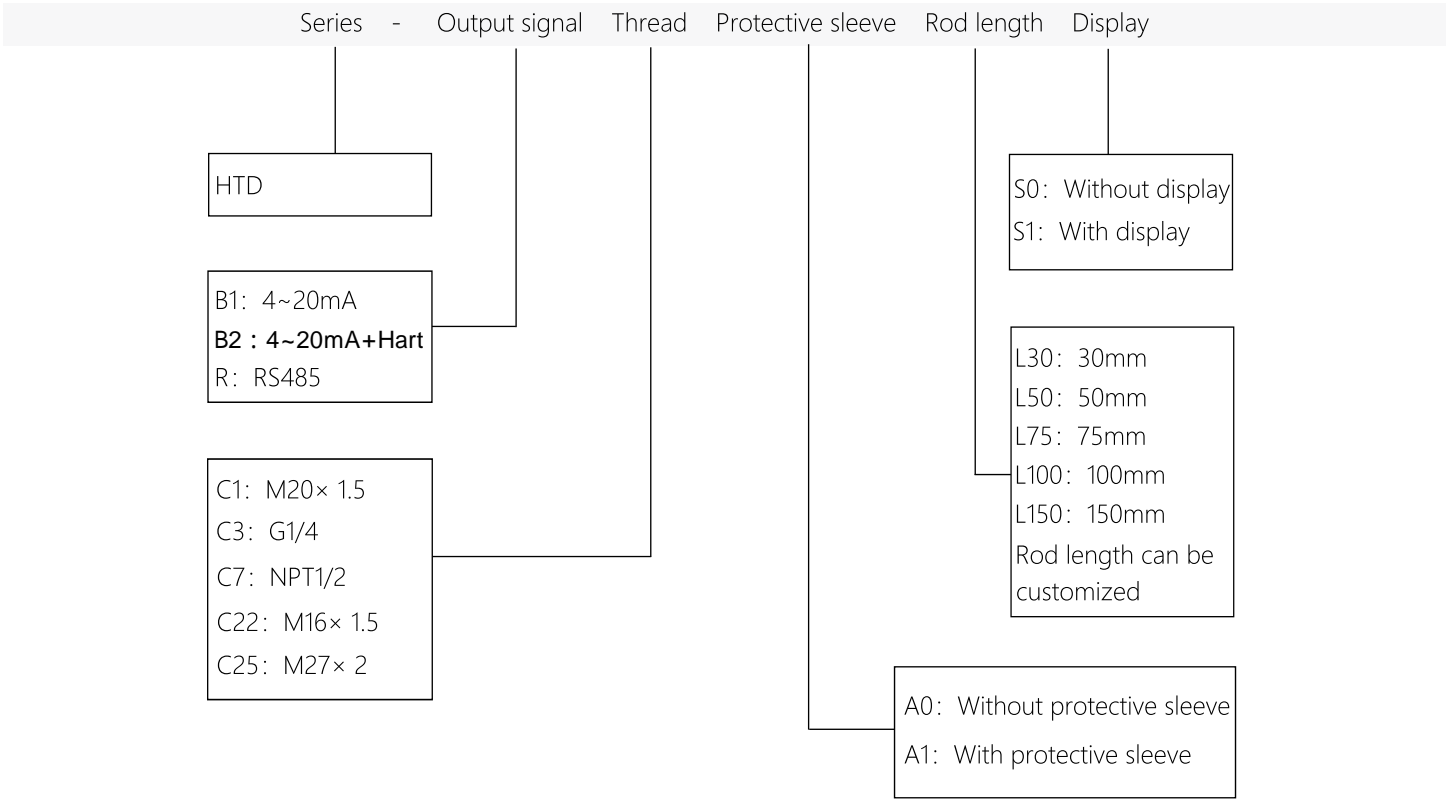
| Sensor type | Basic accuracy <sup>(1)</sup> |                | Rated range    | Standard | Min. range <sup>(2)</sup> | The temperature effect of a 1.0°C change <sup>(3)</sup><br>in ambient temperature |                |
|-------------|-------------------------------|----------------|----------------|----------|---------------------------|---|----------------|
|             | Fixed value                   | % of the range | °C             |          | °C                        | Fixed value   | % of the range |
| Pt100       | 0.15°C                        | ± 0.1          | -200°C ~ 850°C | IEC60751 | 25°C                      | 0.01°C  | ± 0.01         |

- (1) Select a larger value, the overall reference accuracy = basic accuracy
- (2) or 50% of the upper limit value of the range, choose a larger value
- (3) Reference temperature 24°C

# APPLICATION

- Equipment matching
- Pump and compressor, natural gas pipe network and other automatic measurement and control system temperature measurement
- Temperature measurement of water or oil in petroleum, chemical, electric power, textile, environmental protection and other fields

# NOMENCLATURE



**FOR EXAMPLE:** HTD-B1C1A0L100S1

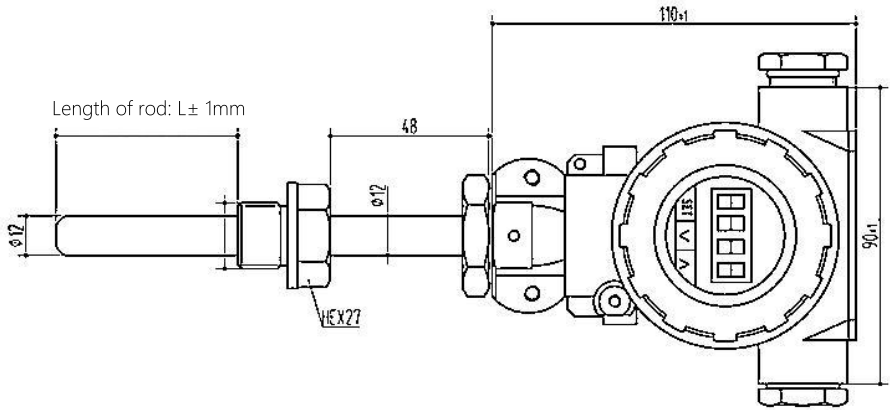
Indicates that the series is HTD, the output signal is 4~20mA, the thread interface is M20× 1.5, Without protective sleeve the length of the probe rod is 100mm, with display.

# Corresponding table of contour parameters:

| Joint thread | Thread length (mm) | Hexagonal size |
|--------------|--------------------|----------------|
| M20× 1.5     | 15                 | SW27           |
| M16× 1.5     | 15                 | SW24           |
| M27× 2       | 20                 | SW32           |
| G1/4         | 27                 | SW15           |

## DIMENSION

Unit: mm



## NOTE:

- During temperature measurement, the temperature measuring element should reach thermal balance with the measured object.
- The insertion depth should be accurate.
- Please read the product manual carefully and check the product information before installation.
- Strictly follow the wiring method. Otherwise, product damage and other potential faults may occur.



# DISCLAIMER

## ⚠ Warning

### LIFE OR PROPERTY RISK

- Please ensure that this product has been designed as part of whole system and already considered related risks, make sure the product has the correct ratings and is designed based on the entire system. It must not be used when applications related to serious life or property damage risks.

**Failure to follow this instruction can result in death or serious injury.**

## ⚠ Warning

### PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to follow this instruction can result in death or serious injury.**

## ⚠ Warning

### MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to follow this instruction can result in death or serious injury.**

## Warranty/Remedy

Banning warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Banning's standard product warranty applies unless agreed to otherwise by Banning in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Banning during the period of coverage, Banning will repair or replace, at its option, without charge those items that Banning, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Banning be liable for consequential special, or indirect damages.**

While Banning may provide application assistance personally, through our literature and the Banning web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Banning assumes no responsibility for its use.

## SALES & SERVICE

Banning serves its clients through a worldwide network of sales offices, agents and distributors. For application assistance specifications, prices or names with the nearest authorized dealer, please contact your sales specialist or contact us directly:

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