TxT02

TEMPERATURE TRANSMITTER

Product operation manual

OVERVIEW AND PARAMETERS

- Up to 5 mounting and output options available
- New industrial look quick-fit design for fast installation and deployment
- Imported Heraeus Class A sensors, high accuracy, fast response, low temperature drift
- Excellent anti-interference ability and protection function, CE certification IP65, RoHS

OVERVIEW

The TxT02 series temperature transmitter is a transmitter designed for industrial applications.It is specially designed for shock surges, electrostatic discharges group pulse withstand voltages, etc, and has strong anti-interference ability There is a wall hangingThere are five installation methods of air duct / water pipe, split, and clamp, and three outputs of current, voltage, and thermal resistance.The mode is optional, the on-site adaptability is strong, and the spring screw/terminal design is suitable for quick installation.canIt is widely used in computer room HVAC, buildings, warehouses and other places where temperature detection is required.

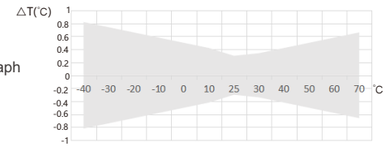
TECHNICAL PARAMETER

Sensor	High precision thermal resistance，please refer to the selection instruction table (resistance output) / PT1000, level A(analog output type)
Output	Resistance value．please refer to the selection table and thermal resistance indexing table / 4~20mA or 0~10VDC,0~5VDC
Thermal resistance	Please check the selection table and thermal resistance indexing table
Accuracy	Typical 0.2~0.5℃@0/25℃, as the selection table/ ±0.3℃@25℃, as the accuracy graph

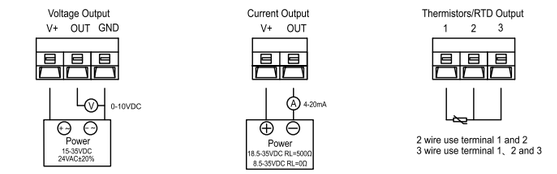
WIRING AND DIMENSIONS

Power supply	• Voltage type 15~35VDC/24VAC±20% • Current type 18.5~35VDC (RL=500Ω) / 8.5~35VDC (RL=0Ω)
Output load	（analog output type): ≤500Ω(current type), ≥2KΩ(0~5V), ≥3KΩ(0~10V)
Housing material	PC housing，stainless steel probe（φ6mm)and sleeving
Working temperature	-40~70℃、0~95%RH (Non-condensing)
IP level	IP65

Temperature accuracy graph (analog output type)

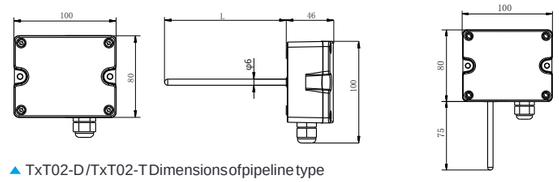


WIRING INSTRUCTIONS

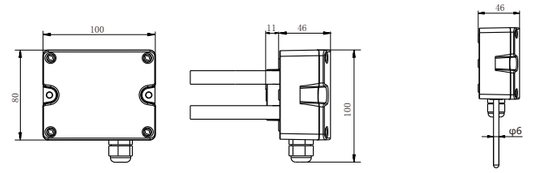


● Note: When using 24VAC power supply, it is recommended to use isolated 24VAC power supply. The maximum power of thermal resistance output type is P=100mW@25℃. If it exceeds the rated power, the thermal resistance will burn.

SIZE（mm）

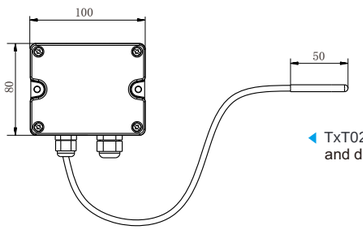


▲ TxT02-D/TxT02-T Dimensions of pipeline type



▲ TxT02-C Clamp type outline drawing

▲ TxT02-W Wall-mounted outline drawing



◀ TxT02-S Sub-body shape and dimensions diagram

PRODUCT SELECTION

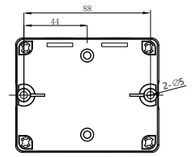
SELECTION INSTRUCTIONS

Codes & descriptions					Remark
TxT02-W	Wall-mounted type temperature transmitter	TxT02-S	Split type temperature transmitter		Model
TxT02-D	Duct type temperature	TxT02-C	Clamp type temperature transmitter		
TxT02-T	Pipe type temperature				
V10	0~10VDC(3-wired)	1	PT1000，±0.2℃@0℃		Temperature output
A	4~20mA(2-wired)	2	PT100，±0.2℃@0℃		
V5	0~5VDC(3-wired)	3	NTC20K，±0.3℃@25℃		
		7	NTC10K，±0.3℃@25℃		
0	null				Temperature range
1	0~50℃				
2	-20~60℃				
9	others(available on request)				
0	65MM				Probe length TxT02-2/10-3
1	100MM				
2	200MM				
3	150MM				
9	others(available on request)				
TxT02-D	A	1	2		Selection example

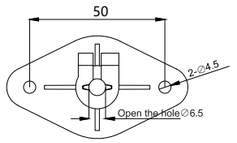
1. Only when the temperature output are V10、A 、V5, the temperature range can be accordingly selected from 1-8;otherwise, the range selection would be 0.
2. The standard **TxT02-S** cable length is 1m。If request longer length, the cable length should be round number, and add a length identifier at the end of the model number.E.g., **TxT02SA12** means the cable length is 2m。
3. The accuracy of the clamp type of **TxT02C** depends on the wall material, installation, working temperature, and wind speed, etc. Therefore, it might be difficult to achieve the above accuracy.
4. The example **TxT02WV101** shows the wall-mounted type temperature output is 0~10VDC,and the temperature range is 0~50℃.

PRODUCT INSTALLATION

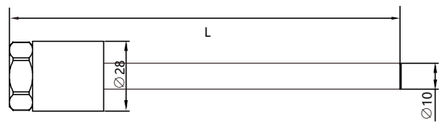
PRODUCT INSTALLATION



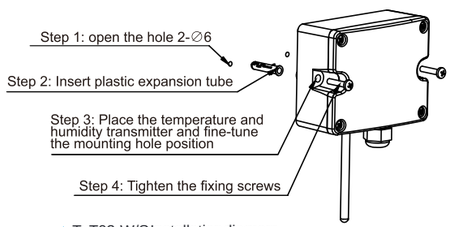
▲ TxT02-W/S wall mounting opening



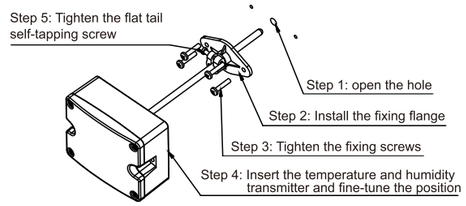
▲ TxT02-D Flange mounting opening



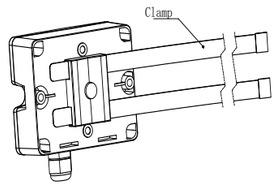
▲ TxT02-T Stainless steel casing installation opening



▲ TxT02-W/S Installation diagram

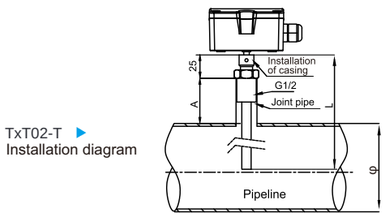


▲ TxT02-D Installation diagram



Step 1: Clean the fitting area and remove rust
Step 2: Insert the two clamps into the mounting holes
Step 3: Use a screwdriver to lock the clamp so that the sensor prode is closely fitted to the outer wall of the pipeline under test

▲ TxT02-C Installation diagram



TxT02-T ▶ Installation diagram

For example： A=L-25-1/2φ

PRECAUTIONS

1. TxT02-W/S, when select wall-mounted, the probe should be vertically downward. When applied to outdoors, a proper position is needed. Please make sure the transmitter is away from the factors which may affect the measurement, such as cold, heat source, etc. And it's also necessary to install sun visor or protective cover to protect the transmitter from direct sunlight or rain. Drill two holes in the mounting place according to the hole size of the mounting box(refer to above picture), and tighten the mounting box with two screws.

2. TxT02-D is recommended to use flange accessories for installation. The insertion depth is adjustable. Fix the flange on the pipe with four screws. The screws can tighten the probe and TxT02D. Drilling hole size is Φ7mm, and it must be finally sealed after drilling.

3. TxT02-T should be installed with installation joint. The connection joint size should be G1/2 ,and welded to the pipe. Tighten the connection joint to ensure pipe pressure was sealed well. Put in the probe to the pipe bottom, and fasten it with the screws.

4. TxT02-C is designed for circular pipe and cable ties installation. Tighten the cable tie to make the probe is as close as possible to the pipe surface(To achieve the best measurement performance, the connect part must be clean and no rust).

5. When wiring, please open the cover and install the waterproof connector first. And then connect the power supply and signal wire at the box base through the waterproof connector. Finish the wiring according to the wiring diagram. In order to make the protection level up to IP65. Please make sure the waterproof connector and the box base matched well without leakage (There is a sealing ring). So do the cover and the bottom box(There is also a sealing ring).

NOTE:

Tambient=Measure ambient temperature
X1=Thickness of the sensor module
K1=Thermal conductivity of the sensor module
Tsensor=Measure surface temperature
X2=pipe wall thickness

As illustrated above, when using the clamp type transmitter TxT02-C to test the Tprocess (temperature of the fluid in the pipe), the real temperature Tsensor will be different from Tprocess the temperature of the fluid in pipe. The factors which lead to the difference are: thermal conductivity of pipe material k2/ thickness X2, transmitter thermal conductivity k1/ thickness X1, external ambient temperature Tambient, and environment wind speed, approaching degree at installation, etc. To reduce the difference between Sensor and Process, improving the accuracy, please pay attention to make the contact part surface is clean, close and with good thermal conductivity. In addition, it is recommended to add thermal insulation material to the pipe and the contact part. If there are other ways to measure the real temperature Process, and get the deviation between real temperature from TxT02C and the Tprocess. We can correct the Process by calculation to get the better accuracy.