

ST01 Intelligent Temperature Transmitter Module

Features

- Reliable performance, easy application
- high precision measurement
- long service life and stability



Introduction

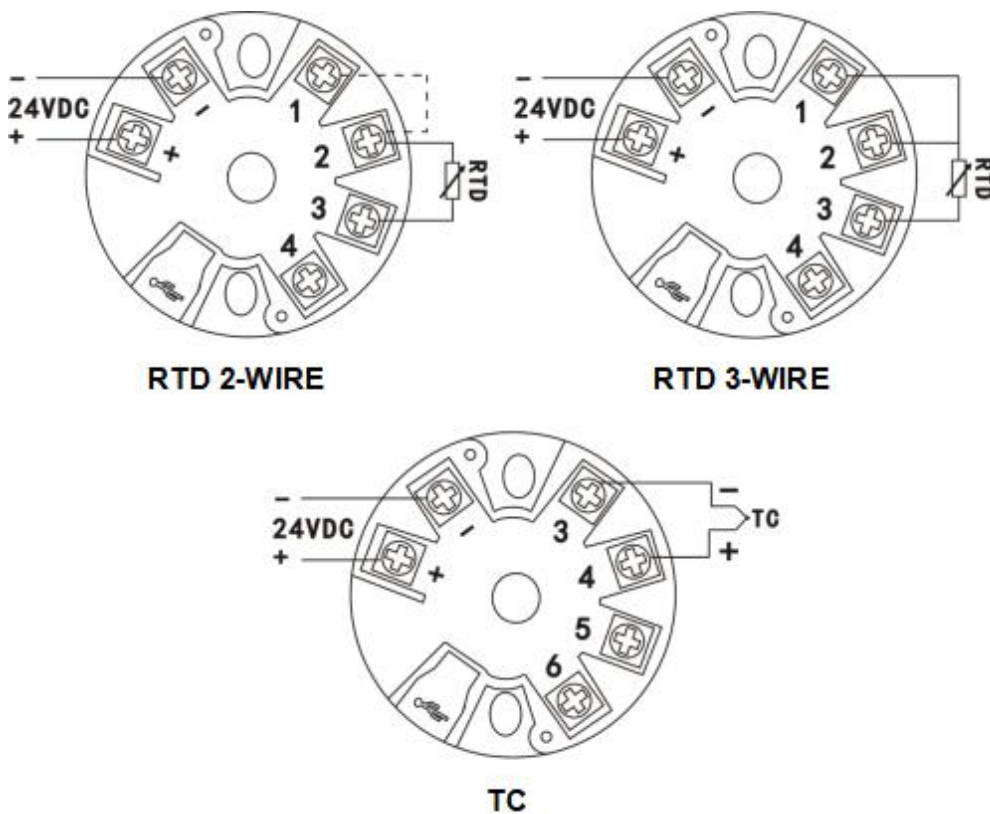
The intelligent temperature transmitter is a high performance product, compatible with more than 10 types of thermocouples and mal resistance signal transmission. Using 24 Σ - delta sampling chip, ensures high precision measurement; Anti-surge and anti-reverse connection design is adopted to avoid misinstallation and misoperation in engineering installation. Adopt enhanced software security design, including independent watchdog, low-voltage monitoring reset, multi-task scheduling optimization and other functions. All imported components are used to ensure long service life and stability. Can use computer or mobile phone configuration Settings, convenient and fast.

Specification

Power supply	12~35VDC
Output	2-WIRE 4~20mA
Accuracy	RTD 0.1%; TC 0.2%
Current Limit	20.8mA
Excitation	0.2mA
Sensor	RTDs, TCs
Load	$\leq 500 \Omega$
Stock Temperature	-40~120℃
Drift	$\leq 25\text{ppm}/^\circ\text{C}$ F.S
Shell Material	PA66
Working Temperature	-30~80℃
Mounting Screw	M4*2

Sensor List

Type	Model	Range
RTD	Pt100	-200-850°C
	Cu50	-50-200°C
	Cu100	-50-200°C
TC	B	0-1800°C
	E	0-1000°C
	J	0-1200°C
	K	0-1300°C
	N	-200-1100°C
	R	0-1700°C
	S	0-1700°C
	T	-200-400°C

Connection mode

1. Terminal 1 and terminal 2 are 24V power supply positive and negative respectively, and the circuit board has anti-reverse connection function.
2. The thermal resistance connection supports two - wire system and three - wire system. The connection mode is as shown in the figure above. The solid wire is the lead wire of the sensor, and the dotted wire is the short wire, which requires the user to connect with the short wire by himself (the factory can also connect the short wire internally according to the customer's needs).
3. The positive pole of thermocouple is connected to the no. 3 terminal, and the negative pole is connected to the no. 4 terminal.

Application method of upper computer software

The screenshot displays the upper computer software interface with the following components:

- Step1 - Select Serial Port:** A dropdown menu for selecting the COM port (e.g., "Device Manager - Ports - SiliconLab") and an "Open" button.
- Step2 - Real-time Monitoring:** A "PV" input field, "Start" and "Stop" buttons, and instructions: "Press Start to begin monitoring temperature. And press Stop to use other functions."
- Step3 - Temperature Modification:** A temperature input field, a "Modify" button, and instructions: "If there's any error of the PV, for example, real temperature is 20 °C, and the transmitter gives 20.1 °C, enter -0.1 in the edit box, then press Modify."
- Step4 - Configuration:** Fields for "Sensor", "Zero", and "Span" (all in °C), "Clear", "Upload", and "Download" buttons. Instructions: "Press Upload to get the configuration from transmitter. Press Download to put the value in the edit box into the transmitter. And press Clear to clear the edit box."
- Step5 - Loop Current Test:** Radio buttons for current values (3.9 mA, 4 mA, 8 mA, 12 mA, 16 mA, 20 mA, 20.8 mA), an "Other" field, "Test" and "Exit" buttons, and "Get AlarmCur" / "Set AlarmCur" buttons. Instructions: "Choose one of the radio boxes or enter a target value into the edit box. Then press Test, to fix the current. Press Exit to leave the test mode." and "The Alarm Current has two options: 3.9mA and 20.8mA."

1. Install USB communication line driver and program running environment.
2. One end of the communication line is connected to the computer USB port, and the other end is connected to the intelligent module, which does not need 24V power supply.
3. Double-click the "Temp Transmitter Config for Win7+ file" to enter the setup software.
4. Click the serial port number drop-down list to select the serial port number corresponding to the connection line, and click ok.
5. Click the configuration Settings in the upper left corner to set the configuration.

Mobile phone debugging software usage

1. Install the software "temperature transmitter_V2.0.apk" into the mobile phone.
2. Turn on the OTG function switch.
3. The communication line is connected to the mobile phone connection line. The other end of the mobile phone connection line is connected to the USB port of the mobile phone. The other end of the communication line is connected to the smart module.
4. Click the "connect" button in the software interface.
5. Select the dividing number, input the upper and lower limits of temperature, and click "download" to set the configuration.



Instructions and warranty

1. The instrument is suitable for storage and use in the environment where the temperature is -30°C - 80°C and the humidity is less than 80%.
2. The USB communication line used by the upper computer is specially customized for our company. Please do not use other communication lines to connect with the module.
3. When the meter is connected to the power supply, it should operate according to the wiring method in section 3. After confirming the operation is correct, the meter can be connected to the power supply for operation.
4. Under the condition that the user complies with the usage specification, from the date of delivery, we provide the user with a one-year warranty and lifelong technical support service. Welcome customers to inquire, we attach importance to your any valuable advice.

Contact

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