

TS-TC Series Thermocouple Temperature Isolation Transmitter

- The TS-TC series thermocouple signal isolator accepts thermocouple signals from the site and outputs standard current/voltage signals to the control room, PLC, display instruments, DCS, etc. through isolation and transformation.
- Connect the PC upper computer through the miniUSB interface to measure the graduation number, range, and alarm output value of the input signal; Configure the range and type of output range. Equipped with RS485 communication function (customization required).
- This product requires independent power supply and adopts DIN35mm standard guide rail independent installation method (optional bus power supply function); The input, output, and power supply are isolated from each other.

Selection Table				
TS-TC	X	X	X	INSTRUCTIONS
Channel	1			1 IN 1 OUT
	2			1 IN 2 OUT
	5			2 IN 2 OUT
Input Signal (Thermocouple Type)		B		400~+1820℃
		E		-100~+1000℃
		J		-100~+1200℃
		K		-180~+1372℃
		N		-180~+1300℃
		R		-50~+1760℃
		S		-50~+1760℃
		T		-200~+400℃
Output Signal			1	4-20mA
			2	0-20mA
			4	0-5V
			6	0-10V

Note: Customers need to determine the input signal form and output signal form when placing an order. If there are special needs, they can customize it

Product Selection

Eg: TS-TC5K1/0-1000, 2 IN 2 OUT, input signal K-type thermocouple (0-1000 °C), output 4-20mA.

MAIN TECHNICAL PARAMETERS

Input

Input signal: B, E, J, K, N, R, S, T, etc thermocouple signal  
Cold end compensation: Compensation range: -20 °C~+60 °C; Cold end compensation accuracy: ± 1 °C  
Compensation method: internal compensation (default); External compensation (optional)  
Over limit alarm: The input is below the lower limit of the range, and the output current is about 3.8mA (during current output)  
The input is above the upper limit of the range, and the output current is about 20.5mA (during current output)  
Wire breakage alarm: When the input wire is disconnected, the output current is approximately 22mA (when the current is output)

Output

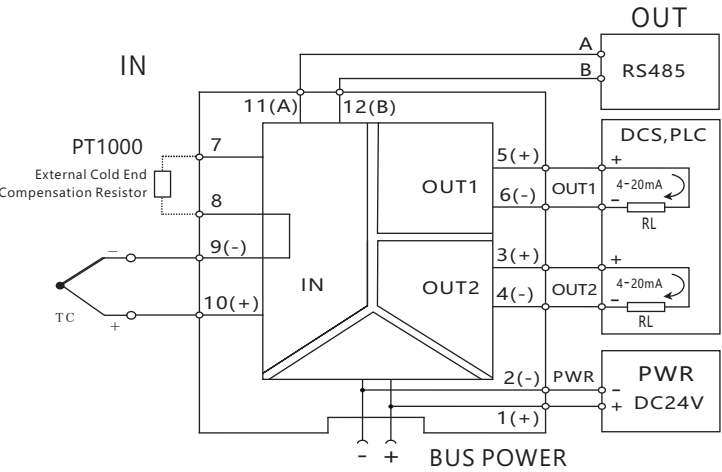
Output signal: Current signal: 0-20mA; Voltage signal: 0-10V  
(The type and range of current and voltage signals can be set by the PC upper computer)  
Digital signal: RS485 (optional function, not included by default)  
Output load resistance:  $RL \leq 400 \Omega$  (output is current signal)      $RL \geq 10K \Omega$  (output is voltage signal)

General Technical Parameters

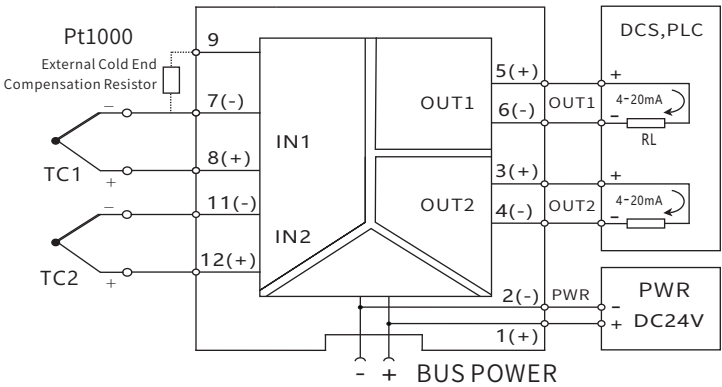
Number of channels: 1 IN 1 OUT, 1 IN 2 OUT, 2 IN 2 OUT  
Power supply: DC24V, voltage range: DC18-32V  
Consumption current:  $\leq 80mA$  (2 IN 2 OUT, 24V power supply, 20mA output)  
Basic accuracy:  $\pm 0.1\% F.S$  or  $\pm 0.2\% F.S$  (20 °C) ,The actual product shall prevail.  
Temperature drift:  $\pm 0.01\% F.S/^{\circ}C$  (-20 °C~+55 °C)  
Response time:  $\leq 1S$  (0-90%) (TYP)  
Insulation strength: 1500V AC/1min (between input, output, and power supply)  
Working temperature range: -20~+55 °C (without condensation or icing)  
Electromagnetic compatibility: In accord with GB/T 18268.1 (IEC61326-1)  
Applicable on-site equipment: Thermocouple



WIRING DIAGRAM



TS-TC2XX 1 IN 2 OUT  
TS-TC1XX 1 IN 1 OUT only includes channel 1 part



TS-TC5XX 2 IN 2 OUT

- Note:
1. When inputting thermocouples, the compensation wire should be directly connected to the input terminal, and other materials of wire should not be connected in the middle, otherwise it will cause measurement errors.
  2. The bus power supply and RS485 output functions are optional functions. If necessary, please specify and purchase a bus power supply module separately when ordering. TS-TC5XX has no 485 output function for two inputs and two outputs.

OVERALL DIMENSION

