

TC input temperature converter

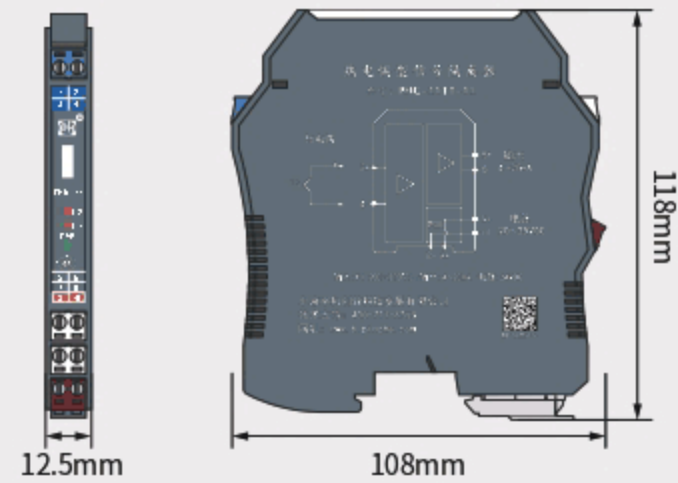
PHG-11TT series PHG-12TT series

1 input 1 output

1 input 2 outputs

Input: TC signal

Output: DC signal (current/voltage)



Overview

Thermocouple input temperature transmitter can isolate and convert the DC signal from the thermocouple (TC) into a DC signal. This product has a built-in cold junction compensation function and can be configured intelligently. The actual range of the thermocouple can be set through computer software. It has the function of disconnection alarm and out-of-range alarm function.

This product needs to be powered independently, and the power supply, input and output terminals are isolated.

Specifications

Input:

Input signal: K, S, E, J, B, T, R, N thermocouple signals (see "Input Signal Type and Range Table" for details)

Input disconnection: The default "low alarm" can be modified to "high alarm" through configuration software

Signal range: The measuring range of the corresponding thermocouple is -10~100mV

Measurement range: Users make their own configuration when ordering, and indicate it at the tail number or otherwise.

Built-in cold compensation: $\pm 1^{\circ}\text{C}$ (Compensation range $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$)

Output:

Output signal: DC signal (current/voltage)

Load resistance: Current load resistance $\leq 500\Omega$ (can be customized)
Voltage load resistance $< 5\text{mA}$ (can be customized)

Basic parameters:

Supply voltage: 20~35V DC

Power consumption: Current output $< 0.8\text{W}$; voltage output $< 0.6\text{W}$ (PHG-11TT series)

Current output $< 1.2\text{W}$; voltage output $< 0.6\text{W}$ (PHG-12TT series)

LED indicator: Green: Power indicator

Low range alarm L1 light on, high range alarm L2 light on

Output accuracy: Please refer to the "Input Signal Type and Range Table" for details

Response time: Reaching 90% of the final value within 300ms

Temperature drift: $0.005\% \text{F.S}/^{\circ}\text{C}$

Temperature parameters: Working temperature: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
Storage temperature: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$

Relative humidity: 10%~95% RH no condensation

Insulation strength: $\geq 2000\text{VAC}/\text{min}$ (between input/output/power supply)

Insulation resistance: $100\text{M}\Omega$ (500 V DC)
(between input/output/power supply)

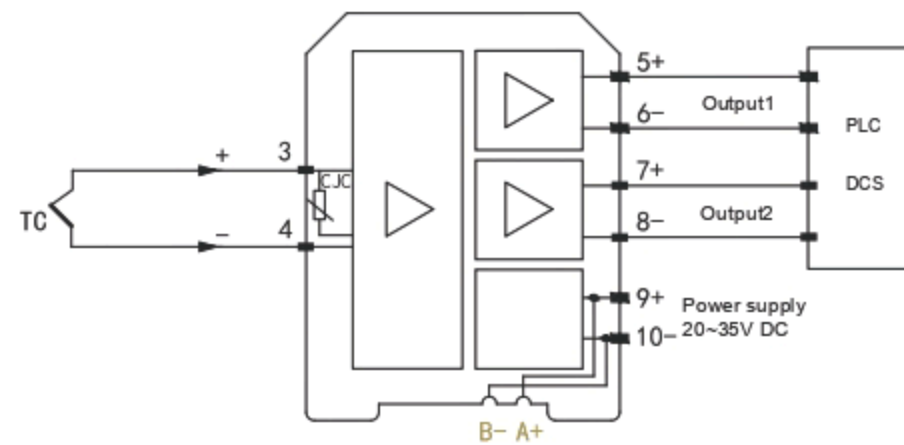
EMC: GB/T 18268(IEC 61326-3-1)

MTBF: 80000h

Wire requirements: Horizontal cutting surface $\geq 0.5\text{mm}^2$
Insulation strength $\geq 500\text{V}$

Applicable field equipments: K, S, E, J, B, T, R, N TC sensors

Connection wiring



Note: 1. PHG-11TT does not include output part 2

2. The power rail function is an optional function, and users need to specify the power supply method when placing an order
The selection of power rail connectors can refer to page 89 of the "Annex"

Specifications, models and codes

Input signal type and range table				
Code	Model	Measurement range	Minimum range	Conversion accuracy
1	K	$-200 \sim 1370^{\circ}\text{C}$	50°C	$0.5^{\circ}\text{C}/0.1\%$
2	S	$-50 \sim 1760^{\circ}\text{C}$	500°C	$1.5^{\circ}\text{C}/0.1\%$
3	E	$-140 \sim 1000^{\circ}\text{C}$	50°C	$0.5^{\circ}\text{C}/0.1\%$
4	J	$-160 \sim 1200^{\circ}\text{C}$	50°C	$0.5^{\circ}\text{C}/0.1\%$
5	B	$250 \sim 1800^{\circ}\text{C}$	500°C	$1.5^{\circ}\text{C}/0.1\%$
6	T	$-200 \sim 400^{\circ}\text{C}$	50°C	$0.5^{\circ}\text{C}/0.1\%$
7	R	$-50 \sim 1760^{\circ}\text{C}$	500°C	$1.5^{\circ}\text{C}/0.1\%$
8	N	$-200 \sim 1300^{\circ}\text{C}$	50°C	$0.5^{\circ}\text{C}/0.1\%$

Output parameter definitions	
Code	Parameters
1	4~20mA
2	0~20mA
3	0~5V
4	0~10V
5	1~5V
6	0~75mV
7	$\pm 10\text{V}$
8	Customized parameters

For example: one input and one output, thermocouple K ($-200 \sim 1370^{\circ}\text{C}$) input, 4-20mA output, 24V power supply: Model: PHG-11TT-11