



General Technical Information

Thermocouple or RTD inputs were converted to analog signal such as 4-20mA, 0-10VDC then feed to other devices

Input, output, power supply are galvanically isolated, error detection function, input and range configurable via free windows software PC

Ordering information

- TT-311** 1 input 1 output, 4-20mA output, self-powered
- TT-312** 1 input 2 outputs, 4-20mA output, self-powered
- TT-311-V** 1 input 1 output, 0-10V output, self-powered
- TT-312-V** 1 input 2 outputs, 0-10V output, self-powered
- TT-311-LP** 1 input 1 output, 4-20mA output, loop-powered
- TT-312-LP** 1 input 2 outputs, 4-20mA output, loop-powered

Detailed Technical information

- Input types:**
Thermocouple: K、E、S、B、J、T、R、N, WRe3_WRe25、WRe5_WRe26;
RTD: works with 2,3,4 wires RTD(Pt100、Cu50、Cu100)
PT1000 needs to be custom made as per order.
Input and range via free windows PC software
- Output types:**
Self-powered : 0(4)mA~20mA; 0mA~10mA;
Loop-powered: 4mA~20mA;
Self-powered: 0(1)V~5V; 0V~10V;
- Output fluctuation:** <5mV_{rms} (Load 250Ω)

Transmission accuracy:

Input types		Range	Accuracy
TC	K/E/J/N	< 300 °C	±0.3 °C
		≥ 300 °C	±0.1% F·S
	S/B/T/R/WRe-	< 500 °C	±0.5 °C
		≥ 500 °C	±0.1% F·S
RTD	Pt100/Cu100/Cu50	< 100 °C	±0.1 °C
		≥ 100 °C	±0.1% F·S

- Response time:** ≤0.5s
- Temperature drift:** 40ppm/°C
- Cold end junction compensation accuracy:** ±1°C
After 10 minutes
- Cold end junction compensation range:** -20°C~+60°C
- Allowable resistance for RTD lead wire:**
≤20Ω/wire
- Load capacity:**
Self-powered: 0(4)mA~20mA: ≤550Ω; 0mA~10mA: ≤1.1kΩ
Loop-powered: $R_L \leq [(U-3)/0.02] \Omega$; U is loop power voltage
Voltage: 0(1)V~5V: ≥1MΩ; 0V~10V: ≥2MΩ;
- Full load power consumption:**
24V DC source, Dual channel full load situation ≤1.3W
- Power supply:** 18V DC~32V DC (default: 24V DC)
- Dielectric strength (current leakage 1mA, testing duration 1 minute):**
≥2500 V AC (Input/output, input/power supply)
≥100MΩ (Input/Output/Power supply)

- EMC:** Comply with IEC61326—3

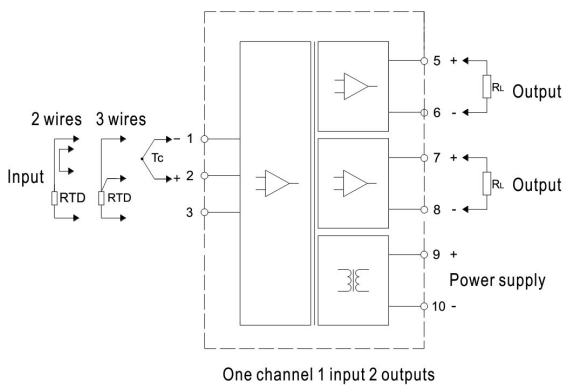
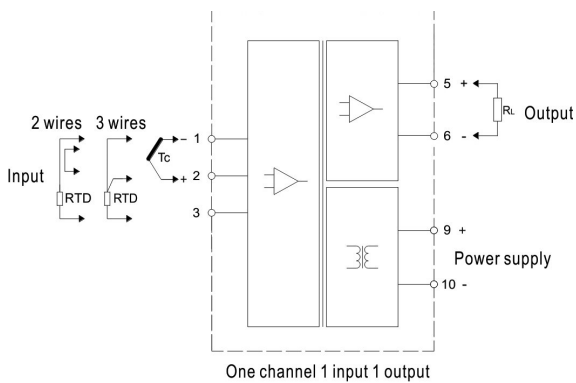
Input error handling mode

Input error.: The output will align with the input even if there is an input error occurs except the input break off situation, but the output will not exceed 110% of the maximum range, for example, if the output is 4-20mA, under any circumstance

The output won't be more than 22mA

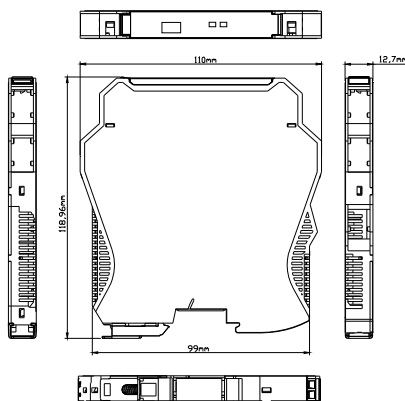
Input break off.: when input break off, the output will be 0mA/V

Wiring diagram:



Dimension

Thickness × height × depth (12.7mm × 110mm × 118.9mm)



LED indicators on the panel

- PWR:** Power source indicator(light when power on)

- ALM:** Input indicator, Red.

Indicator off when input is normal.

Indicator Flashing when input error happens.

Indicator Light on when input is over range.

Working condition

- Ambient temperature: -20°C~+60°C

- Humidity: 10%RH~90%RH (40°C)

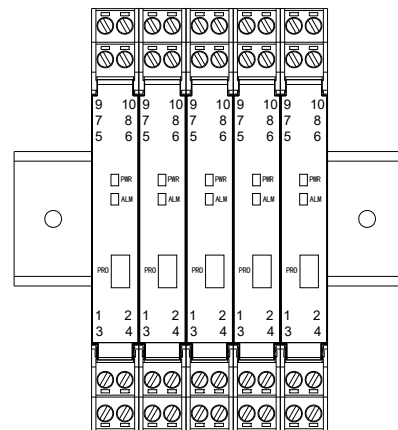
- Air pressure: 80kPa~106kPa

- Storage temperature: -40°C~+80°C

Installation

- Can be mounted to 35mm standard din rail.

- Install vertically, to ensure a better heat dissipation.



Caution

Strong vibration is not allowed on site where the transmitter is installed, strong interference greater than that described under criteria three of IEC61000-4 is not allowed, strong corrosive is prohibited.

Configuration

- Configurable via windows PC software

- Configuration kit needs to be purchased separately