



Thermal Resistance temperature signal isolation transmitter

Features:

- Small size, low cost, international standards DIN35mm rail mounting
- three-wire, four-wire Pt100 or (PT1000, PT10, Cu50, Cu100) thermal resistance signal input
- international standard signal output (0 ~ 5V / 0 ~ 10V / 1 ~ 5V / 4 ~ 20mA / 0 ~ 20Ma options)
- internal Built-linear circuit, long-term compensation circuit
- High Accuracy (0.2% F.S, relative humidity)
- High isolation voltage (2500VDC/60S)
- three-port isolation between input, output and power supply
- Industrial temperature range (-45 ~ +85 °C)
- High reliability ( MTBF> 50 Wan hour)
- Power supply (5VDC/12VDC/15VDC/24VDC options)

Typical applications:

- Temperature signal isolation, acquisition and conversion
- industrial field precision temperature measurement
- thermal resistance signal isolation and temperature control
- ground interference suppression
- temperature sensor signal change into standard signal
- oil temperature measurement and alarm
- signal transmission distance without distortion
- power monitoring, medical equipment ,temperature control, isolation safety barrier

GENERAL DESCRIPTION:

JIE Shengda Technology DIN35 1x1 OI-TRZ-TPV (I) O series thermal resistance temperature signal isolation transmitter convert and isolate the thermal resistance signal from Pt100 or (PT1000, PT10, Cu50, Cu100) inputting at high temperatures from low, and transmit a standard output signal or user-specified special signal to the control room、 PLC、 PC or DCS systems. However, Thermal Resistance temperature signal input and analog signal output is linear.

DIN35 1x1 OI-TRZ-TPV (I) O series thermal resistance temperature signal isolation transmitter integrates a set of multi-channel high-isolation DC / DC power supply, a few high-performance signal isolators and RTD linearization, long-term compensation, interference suppression circuit, especially for (Pt100 RTD signal isolation converted into a standard signal, temperature signal remote transmission with no distortion, industrial fields temperature signal acquisition and isolation, high-precision temperature measurement on-site measurements, oil temperature measurement and alarm), the thermal resistance signal isolation transmitter adopts with optical isolation technology, so that the isolation transmitter has high isolation voltage 2500VDC and strong anti-electromagnetic EMC interference capability, improved product reliability and stability by SMD Chip and modular technology designed to make products satisfy harsh industrial environments,

DIN35 1x1 OI-TRZ-TPV (I) O series thermal resistance isolation transmitter is easy to use and needn't external components, can achieve thermal resistance signal isolation transmitter and conversion.

Electrical Characteristics:

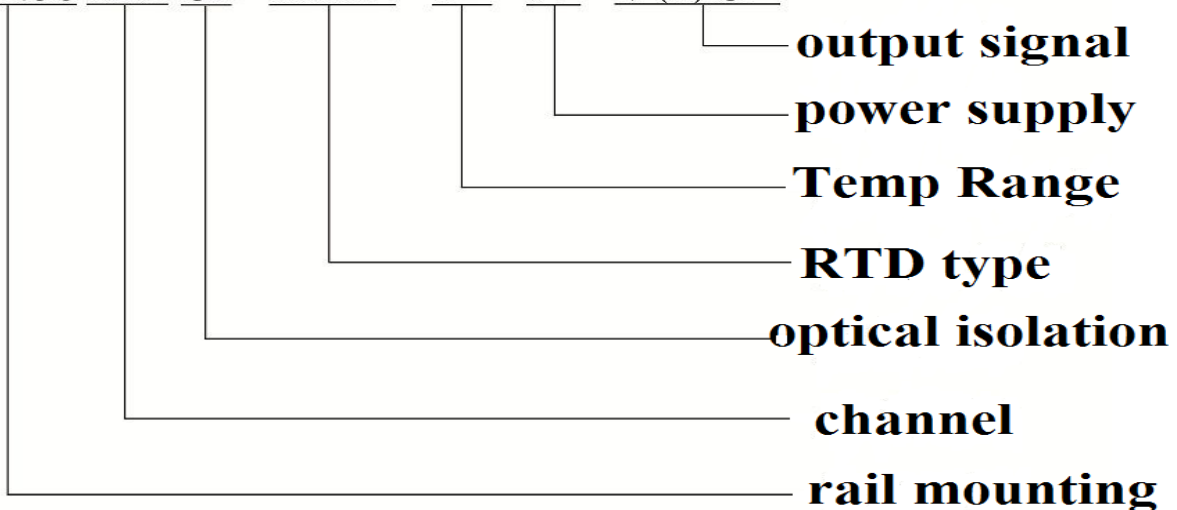
Signs	Item	Test Condition	Min	Type	Max	Units
<b>Isolation characteristics</b>	Isolation voltage	AC,50Hz,(Tested for 1 minute humidity<70%, leakage current < 1mA)		2500		V(rms)
<b>Transmission</b>	Gain drift			50		ppm/°C



characteristics	Non-linearity			0.1	0.2	%FSR	
<b>Input characteristics</b>	Signal input	Two-wire	PT1000, PT100, PT10, Cu100, Cu50 etc. thermal resistance types option				
		Three-wire					
		Four-wire					
<b>Output characteristics</b>	Signal output	voltage		0	10	V	
		current		0	20	mA	
	Load capacit	voltage	Vout=10V		2		kΩ
		current		0	350	450	Ω
<b>Power input characteristics</b>	Power supply	voltage		5	12	24	VDC
		Power loss			1		W
		Rage		-10		+10	%
<b>Other characteristics</b>	operating			-45		85	°C
	storage temperature			-55		105	°C
	Weight					60	g

Selection and parameter definition:

**DIN35 1x1 OI-TRZ□-T□-P□-V(I)O□**



Product Selection Parameter List:							
DIN35	1x1	OI	TRZx	Tx	Px	V(I)Ox	Detailed description
Installation code							standard DIN 35mm installation
Channel code							1-in-1-out
Isolation code							optical isolation
thermal resistance type code			TRZ1:				TRZ1: PT1000
			TRZ2:				TRZ2: PT100
			TRZ3:				TRZ3: PT10
			TRZ4:				TRZ4: Cu100
			TRZ5:				TRZ5: Cu50
Inputting temperature range code				T1:			T1: -20~100°C
				T2:			T2: 0~100°C
				T3:			T3: 0~150°C
				T4:			T4: 0~200°C

	T5:		T5: 0~400°C
	Tud:		Tud: User-defined
Power supply code	P1:		24VDC
	P2:		15VDC
	P3:		12VDC
	P4:		5VDC
	Pud:		User-defined
current/voltage signal outputting code	IO1:		4~20mA
	IO2:		0~20mA
	IO3:		-----
	VO4:		0~5V
	VO5:		0~10V
	VO6:		1~5V
	V(I)Oud:		V(I)Oud: User-defined

**Note 1: When ordering ,please determine input、 output and power , special can customize**

**Selection example:**

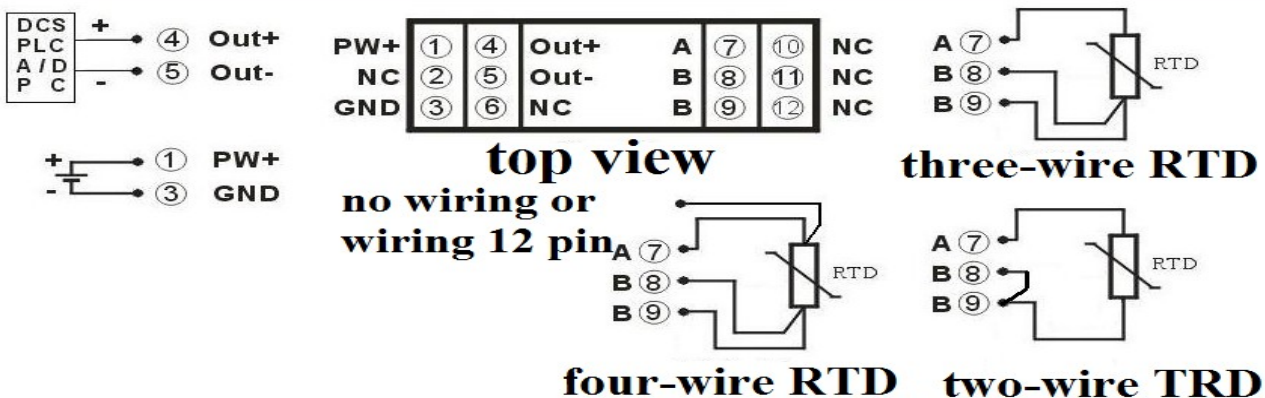
Example 1: Signal input: Pt100; temperature range: 0~150°C; power supply: 12VDC; signal output:4-20mA; model: DIN35 1x1 OI-TRZ2-T3-P3-IO1

Example 2: Signal input: Cu50; temperature range: 0~400°C; power supply: 24VDC; signal output:0-5VDC; model: DIN35 1x1 OI-TRZ5-T5-P1-VO4

**Pins function description:**

Signal Type	Pin	Function Description	Pin	Function Description	Package
Voltage/current outputting type	1	power +	7	thermal resistance input A	International Standard DIN35 Rail Mounting
	2	Mo pin (NC)	8	thermal resistance input B	
	3	Power -	9	thermal resistance input B	
	4	Signal Out +	10	Mo pin (NC)	
	5	Signal Out -	11	Mo pin (NC)	
	6	Mo pin (NC)	12	Mo pin (NC)	

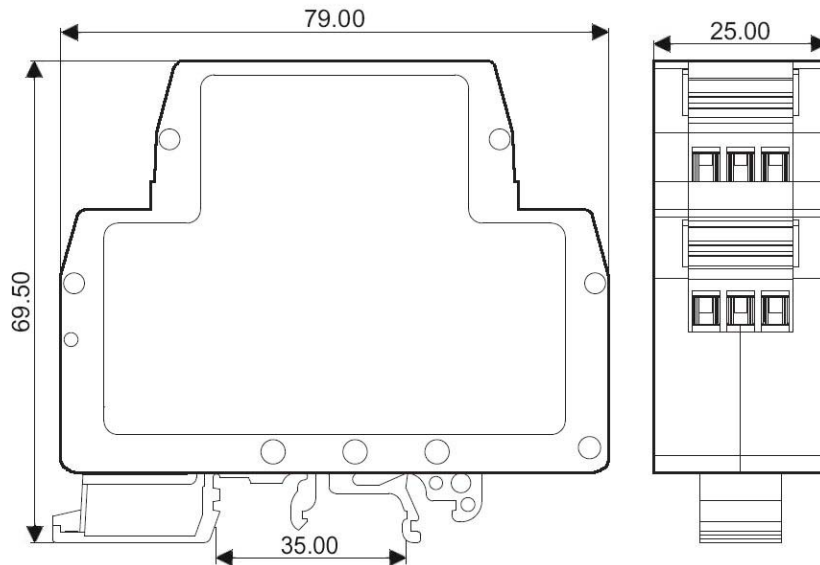
**Wiring diagram and Size Description:**



**Remark:**

1, two-wire, three-wire or four-wire RTD input, respectively refer to wiring diagram.

2, three-wire RTD disconnection detection: (a. output max:with pin 1 or 3 connected wire disconnected; b. Output Min: with pin 2 connected wire disconnection.)

**Notes:**

- 1、 Please read the user manual carefully before using. If any question please contact our technical support department.
- 2、 Please do not use this product in hazardous area. The power supply of this product should be 24VDC power source. It is forbidden to use 220VAC power supply.
- 3、 Calculating from the date of delivery, during normal use of the product, any quality problems are free repair or replacement by Company during 3 years warranty,
- 4、 To avoid invalid, or any failure, users disassemble this product is forbidden
- 5、 the product is strictly forbidden demolish without permission for not damage
- 6、 All specifications measured at  $T_a=25^{\circ}\text{C}$ , humidity $<75\%$ , nominal input voltage and rated output load unless otherwise specified.
- 7、 In this datasheet, all the test methods of indications are based on corporate standards.