

TR13/14 SERIES TEMPERATURE TRANSMITTER OPERATION MANUAL



Thank you for purchasing this Fine-Tek product. Please read the user's manual first and be familiar with the product performance and each function before use. Please keep the user's manual for reference in future.

Warning

1. Make sure the screw terminals are properly tightened. If the screws drop out, it could cause fire or mechanical breakdown.
2. Don't use this product in explosive or flammable gas environment; due to risk of explosion.
3. Only use the relay within specified load rating. Failure to do so may reduce the life expectancy of the relay or it.
4. Don't disassemble, repair or modify the product without authorization, this may cause short circuit, fire or malfunction.
5. Avoid dropping metal fragments or lead wire scraps inside the product. This may cause short circuit, fire or malfunction.

Environmental Conditions

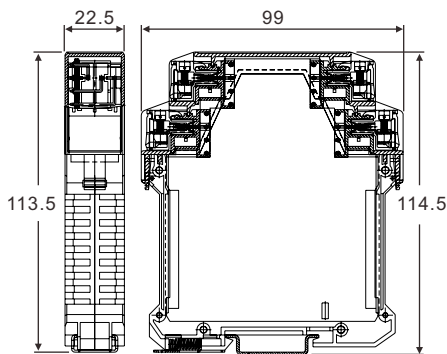
- a) Indoor use
- b) Altitude up to 2 000 m
- c) Temperature 5°C to 40°C
- d) Maximum relative humidity 80 % for temperatures up to 31°C decreasing linearly to 50 % relative humidity at 40 °C;
- e) Over voltages category II
- f) Pollution degree II.

SPECIFICATIONS

- Supply Voltage: Loop Power 18~32 Vdc
- DCV Input: 0~500 mV/0~1V/0~5V/0~10V/0~20V
- DCA Input: 0~20mA / 4~20mA
- Thermocouple Input: K / J / T / E / R / S / B / N
- RTD / Resistance Input: PT100 / 0~400Ω
- Analog Output: 4~20mA (Loop Power)
- Accuracy: 18bits
- Ambient Temperature: -20~60°C
- Communication: HART
- Galvanic Isolation: 1500 Vac
- Degree of Protection (IEC 60529): IP00
- Dimension: 113.5 (H)x 99 (W)x 22.5(D) mm
- EMC rule: IEC61326-1:2006
- Warm Up Time: 10 minutes

DIMENSIONS

TR130/ 131/ 140/ 141 Series



(Unit: mm)

General values

Input Type	Range	Accuracy	Temp.Coefficient
All Type	By Type	≤ ± 0.05%	≤ ± 100ppm / °C

Basic values

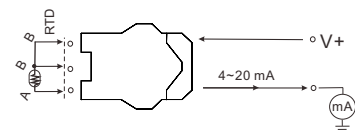
Input Type	Range	Min. Span	Accuracy	Temperature coefficient (% / °C)
Voltage	-10~100mV	2mV	≤ ± 0.01mV	≤ ± 0.005%
Thermocouple	B 250~1820°C	100°C	≤ ± 5.5°C	≤ ± 0.04%
	E -200~1000°C	50°C	≤ ± 2°C	≤ ± 0.01%
	J -210~1200°C	50°C	≤ ± 2°C	≤ ± 0.01%
	K -200~1370°C	50°C	≤ ± 2°C	≤ ± 0.01%
	N -200~1300°C	50°C	≤ ± 2°C	≤ ± 0.01%
	R -50~1760°C	100°C	≤ ± 3°C	≤ ± 0.04%
	S -50~1760°C	100°C	≤ ± 3°C	≤ ± 0.04%
	T -200~400°C	40°C	≤ ± 2°C	≤ ± 0.01%
Resistance	0~400Ω	5Ω	≤ ± 0.04Ω	≤ ± 0.005%
PT100	-200~850°C	10°C	≤ ± 0.5°C	≤ ± 0.005%

Cold junction compensation : ≤ ± 1°C

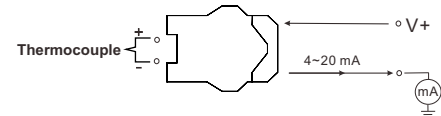
※Accuracy at 25°C

TERMINAL CONNECTION

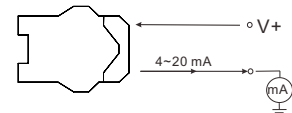
1. PT100 and Resistance to 4~20 mA



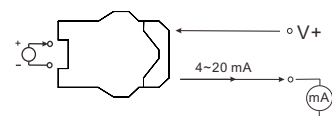
2. Thermocouple to 4~20 mA



3. V and mV to 4~20 mA



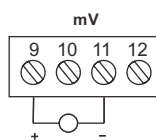
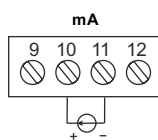
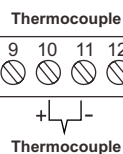
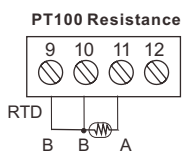
4. mA to 4~20 mA



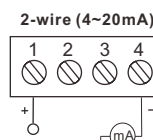
TERMINAL ASSIGN

Channel 1

Inputs:

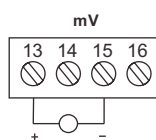
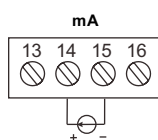
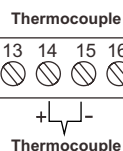
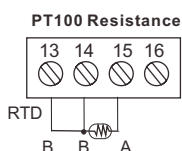


Outputs:

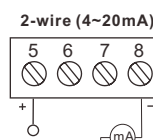


Channel 2

Inputs:



Outputs:



ORDERING INFORMATION

T R 1 □ □ - □ □ - □ □ □ □ - □									
Type	30---DIN Rail none isolation (1 Channel) 31---DIN Rail none isolation (2 Channels) 40---DIN Rail isolation 1.5KV (1 Channel) 41---DIN Rail isolation 1.5KV (2 Channels)								
Display	0---none								
Communication	0---none 2---HART								
Input type	V : DC Voltage T : Thermocouple/RTD I : DC Current R : ohm								
Unit	0:°C 1:°F 9:Other								
Input range									
Output	0---4~20mA								
Input type	Unit	Input range		Input type	Unit	Input range			
V	0~V	01	DC Voltage 0~0.5V	T	0:°C 1:°F	00	All Type BY Type		
		02	DC Voltage 0~1V			01	K Type -200°C~1370°C		
		03	DC Voltage 0~5V			11	K Type -90°C~320°C		
		04	DC Voltage 0~10V			02	J Type -210°C~1200°C		
		05	DC Voltage 0~20V			12	J Type -90°C~320°C		
I	0~mA	01	DC Current 0~20mA			03	T Type -200°C~400°C		
		02	DC Current 4~20mA			04	E Type -200°C~1000°C		
R	0~Ohm	01	Resistance 0~400Ohm			05	R Type -50°C~1760°C		
						06	S Type -50°C~1760°C		
						07	B Type 250°C~1820°C		
						08	N Type -200°C~1300°C		
						09	PT100 -200°C~850°C		

