

RAIL-MOUNT TRANSMITTER

TCD series



- output signal
 - 0 ... 20 mA (TCD-1, TCD-4)
 - 4 ... 20 mA (TCD-2)
 - 0 ... 10 V (TCD-3)
- for use with sensors Pt100, J, K, N, S, R, B
- 2-wire or 3-wire Pt100 sensor connection
- with or without sensor linearization
- automatic compensation of thermocouple cold junction
- out of range / sensor failure indication
- for mounting on 35 mm wide rail, according to DIN EN 50022-35

The TCD type transmitter converts the Pt100 sensor resistance or voltage of thermocouples to a current signal in the range 0...20mA (TCD-1..., TCD-4...), 4...20mA (TCD-2...) or to a voltage signal in the range 0...10V (TCD-3...). TCD-2... transmitter is powered from current loop. The electronic circuit of the transmitter allows high accuracy of conversion with low temperature drift and very good resistance to noise. It is widely used for temperature measurement in many branches of industry.

TECHNICAL DATA

Sensor type, measuring range	according to the table ^{(1), (2)}	
Output signal	0 ... 20 mA ref. to +24V (TCD-1)	
	4 ... 20 mA 2-wire arrangement (TCD-2)	
	0 ... 10 V ref. to GND (TCD-3)	
	0 ... 20 mA ref. to GND (TCD-4)	
Bias current of Pt100 sensors	0,5 mA	
Accuracy ($T_A = 23^\circ\text{C} \pm 5^\circ\text{C}$)	0,15% of the range value	
Temperature drift	0,02% of the range value / °C	
Power supply	12 ... 36 V DC / 25 mA	
Ambient temperature T_A	0°C... +60°C	
Dimensions (height x width x depth)	42 x 29 mm	
Weight	ca. 50 g	

Code	Range [°C]	Pt100	J	K	N	S, R, B
10	-50 ... 50	+				
15	0 ... 50	+				
20	0 ... 100	+				
25	0 ... 150	+				
30	0 ... 200	+	+	+		
35	0 ... 300	+	+	+		
40	0 ... 400	+	+	+		
45	0 ... 500	+	+	+	+	
50	0 ... 600	+	+	+	+	
55	0 ... 700	+	+	+	+	
60	0 ... 800	+	+	+	+	
65	0 ... 1000			+	+	
70	0 ... 1200			+	+	
75	300 ... 1400					+
80	300 ... 1600					+

⁽¹⁾ Other sensor types on demand

⁽²⁾ Other measuring ranges on demand

ORDERING CODE

(1) (2) (3) (4)

TCD — — — —

- | | | |
|--------------------------|--------------------------------|---------------------------------|
| (1) Output signal | 1 | 0 ... 20 mA, referenced to +24V |
| | 2 | 4 ... 20 mA, 2-wire system |
| | 3 | 0 ... 10 V, referenced to GND |
| | 4 | 0 ... 20 mA, referenced to GND |
| (2) Sensor linearisation | 0 | no |
| | 1 | yes |
| (3) Measuring range | 10 ... 80 | (code according to the table) |
| (4) Sensor type | Pt100, J, K, N, S, R, B | |

Example for order:

TCD-2130-Pt100 means transmitter for range 0...200°C, with sensor linearization, for use with Pt100 temperature sensor, output current 4...20 mA, powered from current loop.