



Digital Temperature Transmitters

For Thermocouple, RTD, Millivolt, and Resistance Inputs
Programmable • Type T12.30

Temperature Transmitters

Application

WIKA T12 digital temperature transmitter converts thermocouple, RTD (Platinum or Nickel 100 ohms), millivolt (800 mv) or resistance inputs to a linearized 4-20 mA signal. The T12 features full galvanic isolation, custom linearization tables and thermocouple break protection. All have CE certification and meet stringent RFI protection requirements. The transmitter is designed to withstand vibration and shock found in harsh industrial environments. The compact size of the T12 will fit in a DIN head assembly with form B mounting (see drawings.)

For temperature applications the T12 features built-in cold junction compensation and linearization for 11 thermocouple types. RTDs are configurable for 2, 3 or 4 wire connections, with linearization for Platinum 100 (alpha 0.00385) or Nickel 100.

The T12 is not limited to temperature. The programmable custom linearization feature allows the user to create unique linearization tables for any application. The linearization tables use up to 100 XY coordinates to calculate a linearization table for the specific application.

The T12's input type, range, and linearization parameters are programmable using an optional Configuration Set. The Configuration Set includes the required software, cables and programming unit to communicate between the transmitter and PC. The programming unit converts the RS-232 output of the PC to a format acceptable to the T12. The software features menus and on-line Help instructions written in multiple languages (English, German, Spanish, Italian and French).

General Specifications

Inputs

See Table 1

Accuracy

RTD: (Per DIN IEC 770, 23°C ±5°C) ±0.2 °C
or 0.025%FS + 0.1

Thermocouple: (Per DIN IEC 770, 23°C ±5°C)
±0.5 or 0.05%FS or ± 10µv

Thermocouple Break Protection

Programmable, Upscale (23 mA) or Downscale (3.8 mA)

Cold Junction Compensation

Programmable internal or external (Pt 100), Accuracy ±1.0°C

RTD Wiring Configuration

2, 3, or 4 wire

Response Time

Programmable 1 to 60 seconds

Measurement Update Time

2/second

Maximum Lead Wire Resistance

Thermocouple: 500 Ohm

RTD: 10 Ohm per lead

Output

4-20 mA



T12.30.000

Maximum Output Load

$$R_{MAX} \leq (V_s - 9v) / 0.021 A$$

Load Effect

< 0.01% of span/100 Ohm

Power Supply

9 to 36 Vdc

Power Supply Effect

< 0.005% of span/V

Isolation

1500 Vac, 60 s

Environmental

T12.30 Operating Temperature: -14 to 158°F (-25 to 70°C)

Humidity: 100% non-condensing

Vibration: 10 Hz to 2 KHz, 5 g per DIN IEC 68 2-6

Warm-up time: 5 minutes

Construction

Case Material: Plastic

Dimensions: refer to drawings

Weight: T12.10: 2.4oz (0.07kg); T12.30: 7oz (0.2kg)

Warranty

5 years

ATE T12.30
(ATE 12.01)

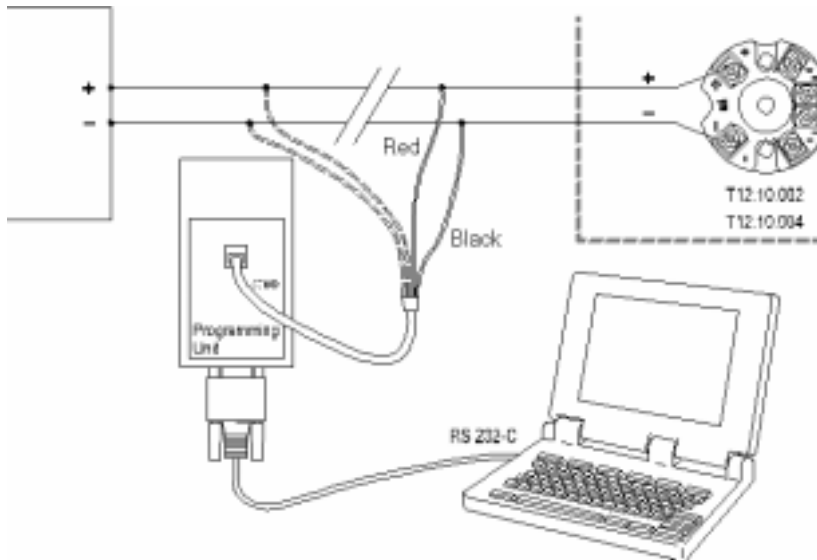
Configuration Set Model 3599490 (Optional)

Package includes:

- 1-Configuration Software (3.5" disk, on-line Help)
- 1-Connection cable, RS-232C (9-pin sub-D plug)
- 1-Plug adapter (25-pin to 9-pin sub-D plug)
- 1-Programming Unit (9 volt battery included)
- 1-Connection cable (Programming Unit to T12)



T.12 Configuration Set sold separately

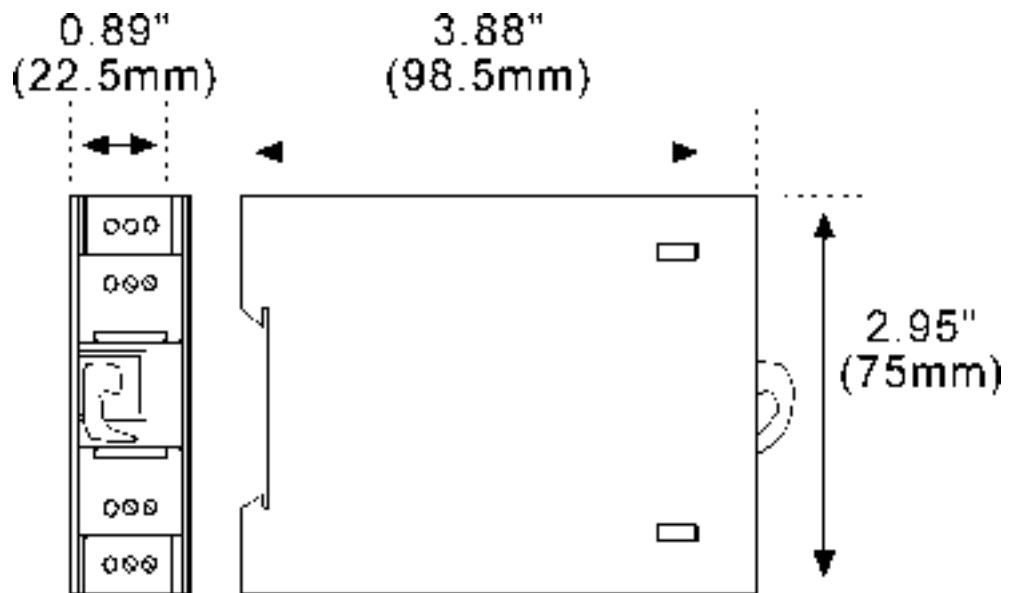


* Yellow and green are connected only for "on-line" configuration of T12.

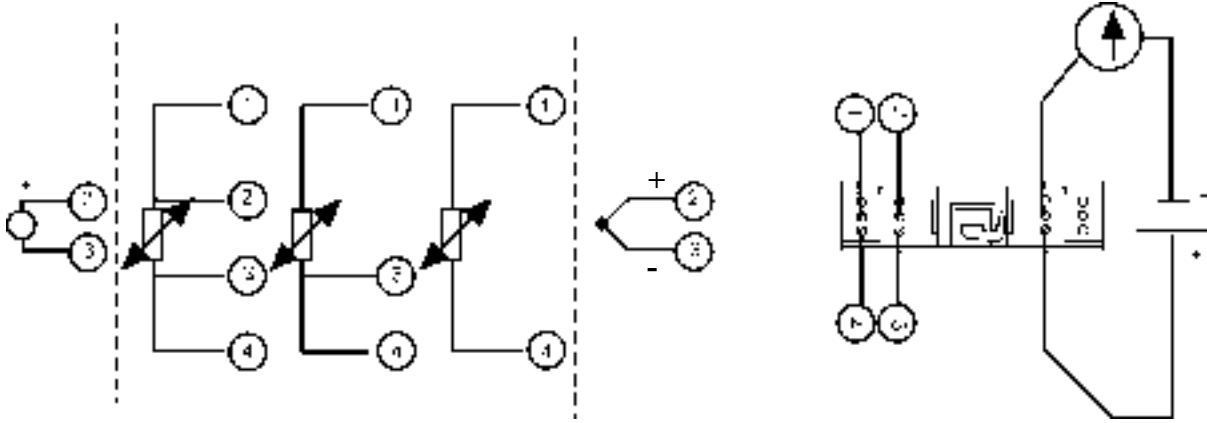
T-12 PROGRAMMABLE INPUTS AND RANGES

INPUT	SENSOR	STANDARD	RANGE °C	RANGE °F	MIN. SPAN
Thermocouple	J	IEC 584	-100 to 1200	-148 to 2192	50 K
	K	IEC 584	-180 to 1372	-292 to 2500	50 K
	N	IEC 584	-180 to 1300	-292 to 2372	100 K
	T	IEC 584	-200 to 400	-328 to 752	50 K
	E	IEC 584	-100 to 1000	-148 to 1832	50 K
	L	DIN 43710	-100 to 900	-148 to 1652	50 K
	U	DIN 43710	-180 to 600	-292 to 1112	75 K
	R	IEC 584	-50 to 1760	-58 to 3200	200 K
	S	IEC 584	-50 to 1760	-58 to 3200	200 K
	B	IEC 584	400 to 1820	752 to 3308	200 K
	W3	ASTM E988	0 to 2300	32 to 4172	200 K
W5	ASTM E988	0 to 2300	32 to 4172	200 K	
RTD	Pt 100	Pt 100	-200 to 850	-328 to 1562	25 K
	Ni 100	Ni 100	-60 to 250	-76 to 482	25 K
Linear Resistance			0 to 5K Ohm		30 Ohm
DC Voltage (Unipolar)			-10 to 800 mV		5 mV

T12 Dimensions in inches (mm)



T12.30 DIN Rail Mounted Temperature transmitter



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Total Performance™

Ordering Information:

State computer part number (if available) / type number / size / range / connection size and location / options required.

Specifications given in this price list represent the state of engineering at the time of printing. Modifications may take place and the specified materials may change without prior notice.

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