



TEM18T Smart Signal Conditioners

The Tempatron TEM18T smart signal conditioners accept resistance or mV signals from RTD or slide wire within the range of 10 to 10500 ohms (including PT100, 500, 1000, Ni or Cu sensors and slide wire sensors up to 100 kohms) as well as 13 different thermocouple types.

The TEM18T provides a voltage, bipolar voltage or current output. A transmitter power supply is provided on the output allowing the TEM18T to accept sink or source mA applications. The signal conditioners are housed in a compact DIN rail mounting enclosure and are powered from either 10 to 48Vdc or 10 to 32Vac.

A USB interface is fitted for connection to a PC (using a standard USB to mini USB cable) for configuration using the free configuration software. The TEM18T is powered via the USB interface from the PC during this configuration process.

Models Available

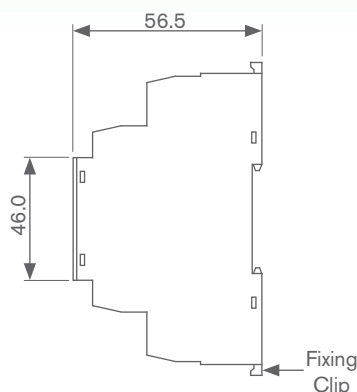
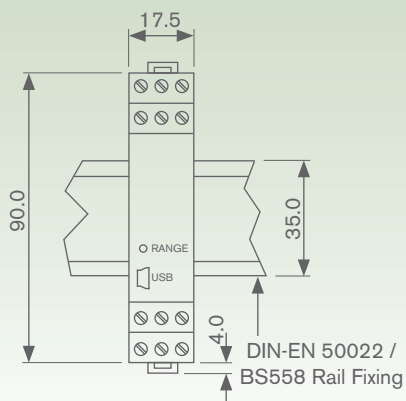
TEM18T Thermocouple, RTD or Potentiometer Input Signal Conditioner

Product Features

- J, K, T, N, E, R, S, L, U or B type thermocouple inputs
- PT100 RTD input
- Potentiometer input
- Active or passive mA or voltage output
- PC configurable via mini USB socket
- Free configuration software
- Adjustable input filter
- 10 to 48Vdc or 10 to 32Vac powered
- Slimline 17.5mm wide enclosure
- DIN rail mounting
- Screw type fingerproof terminals

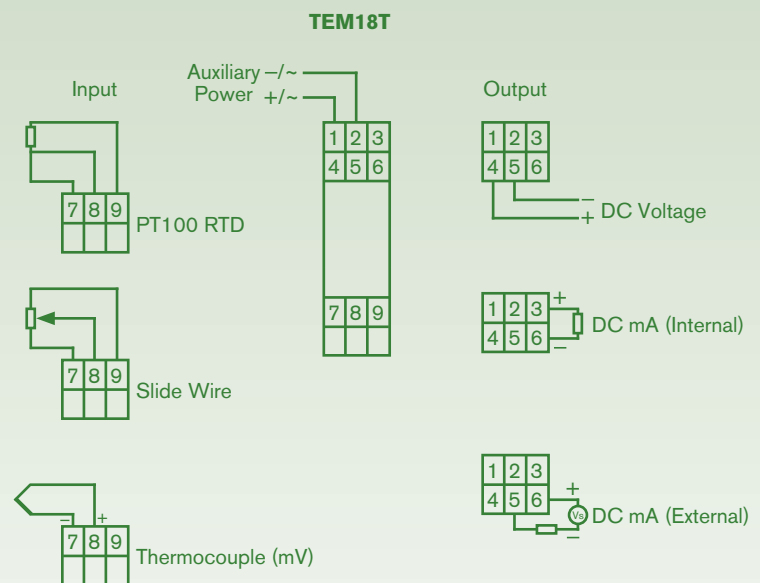
For converting/isolating temperature or resistance into a DC process signal

Dimensions



All dimensions in mm

Connections



Ordering information

Model	Code	Description
	TEM18T	Thermocouple, RTD or Potentiometer Input Signal Conditioner
		PT100 (-200 to 850°C), PT500 (-200 to 750°C) PT1000 (-200 to 600°C), Ni100 (-60 to 180°C) Ni120 (-80 to 260°C), Ni1000 (-60 to 180°C) Cu53 (-50 to 180°C)
		Thermocouples: K Type (-200 to 1370°C) J Type (-100 to 1200°C), E Type (-200 to 1000°C) N Type (-180 to 1300°C), T Type (-200 to 400°C) R & S Type (0 to 1760°C), L Type (-100 to 600°C) U Type (0 to 600°C), B Type (0 to 1800°C) C, D & G Type (0 to 2300°C)

Example	TEM18T
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Configuration

This product is configured using the USB port of a PC running the USB_Speed_Link software available from the Tempatron website.

During configuration the product is powered directly from the USB port, removing the need for additional power. If the user wishes to monitor live process data during configuration then power must be applied.

Note the input and mini USB port of the device share the same ground, therefore care must be taken to ensure isolation between the PC and the input circuit. This is best achieved by using a portable laptop or notebook PC.

The default configuration settings are as follows:-

Input Type	= PT100 (IEC)
Input Range	= (-205 to 855)°C
Units	= "C"
Process Output	= (0 to 100)°C
Output Range	= (4-20)mA
Filter	= off
User Offset	= 0.0°C
Tag	= " "
Error Signal	= 21.00mA

Tempatron: Eltime House, Hall Road, Maldon, Essex, CM9 4NF UK.

TEMPATRON

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Specification**Accuracy:**

- Thermocouple: $\pm 0.25\%$ of scale range
- PT100: $\pm 0.6\%$ of scale range
- Slide wire $\pm 0.1\%$ of scale range

Power Supply Voltage:

- 10 to 48Vdc & 10 to 32Vac (protected by 500mA internal resettable fuse)

Burden:

- <1W

Resistance Input:

- 10 to 10,500 ohms

Potentiometer Input:

- 1kohm to 100kohms auto sense

Input Sensor:

- K, J, E, N, T, R, S, L, U, B, C(W5), D(W3) and G(W) type thermocouples
- 3 wire RTD: PT100, PT500, PT1000, Cu100, Cu1000, Ni100, Ni120, Ni1000, Cu53

Units:

- °C or °F

Voltage Input:

- -100 to +200mV

Current Output:

- Current source 0-21.5mA (<750 ohms)
- Current sink 0-21.5mA
supply 10-30Vdc, voltage effect 0.2 μ A/V

Loop Power Supply Output:

- Yes

LED Indication:

- Green when output -0.1 to 100.1%
- Red otherwise

Operating Temperature & Humidity:

- -30°C to 70°C (configure 10°C to 30°C)
- 10% to 90% rH (non-condensing)

Enclosure:

- DIN43880 (1 module width)
- Grey polyamide 6.6 self extinguishing
- Screw terminals (2.5mm max.)
- IP40

Weight:

- 70g

User Interface:

- USB 2.0, 19,200 baud rate
- PC running windows XP or later and USB cable required

Approval:

- BS EN 61326

Markings:

- CE marked (meets EN61010-1 low voltage and EN50081-1/50082-1 EMC directives)

Specification subject to change without notice.