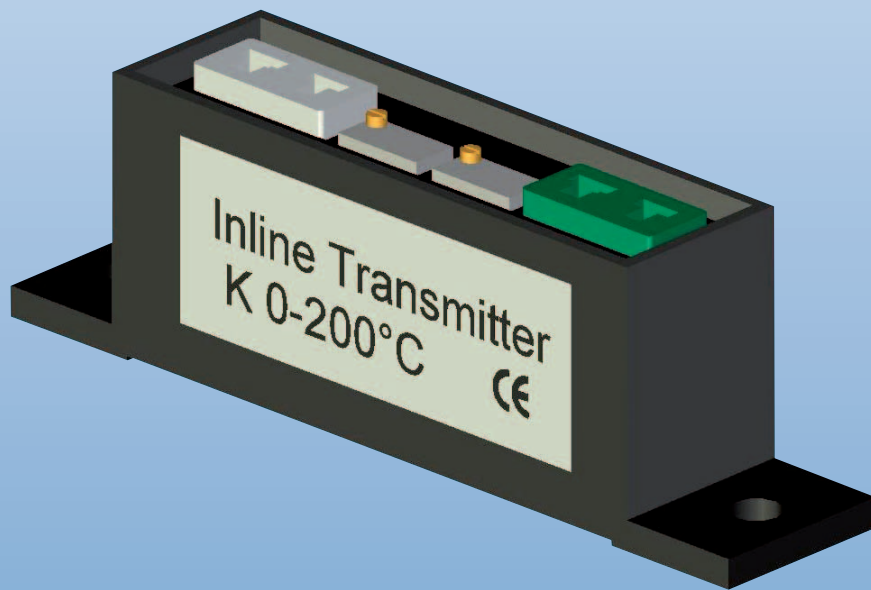


# HIGH ACCURACY MINIATURE IN-LINE 2 WIRE TEMPERATURE TRANSMITTER

**A unique, rapid and simple solution to convert to, or add 4-20mA loops using existing sensors in-situ without process downtime.**

The ILTX device is a stand alone, fully enclosed temperature transmitter which can be quickly and easily fitted to a new or existing (even fully installed) thermocouple or Pt100 sensor without removing it from the process; it is simply plugged-in to the probe termination.

A novel feature is the minimal-interaction span and zero potentiometer action which is time saving and convenient when calibrating; the potentiometers provide a wide range of adjustment for re-scaling.



- 4-20mA 2 wire loop
- Low cost
- Simple to fit – just plug-in
- Colour coded mini-connectors prevent cross-connection
- Connectors included
- Easy retro-fit
- High accuracy
- Versatile – can fit on probe or connected in-line
- Compact, only 92mm long x 20mm x 29mm
- Pt100 or thermocouples type J, K, N
- Accurate cold junction compensation for thermocouples
- High reliability
- Quick, simple re-scaling as required
- Minimal-interaction span & zero pots for calibration
- No enclosure needed so saves money
- Simple probe interchangeability – just plug-in
- Permits virtually unlimited length of cable run in low-cost copper
- More expensive thermocouple extension cable not required
- Rugged construction
- Effective input 'noise' rejection
- CE compliant
- RoHS compliant
- 2 year warranty

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## Specification

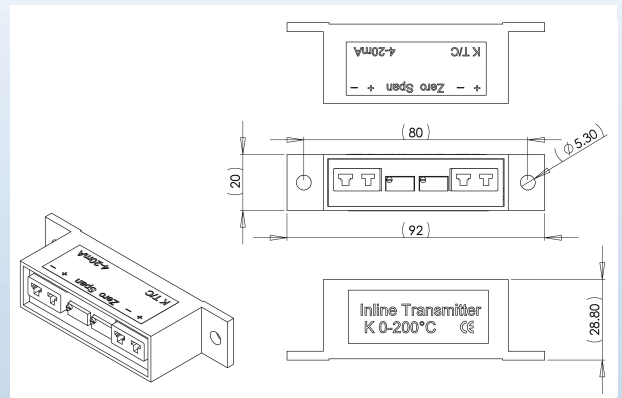
Ranges:- Thermocouple to IEC 584 Type J 0-800°C  
 Type K 0-200°C, 0-600°C, 0-1100°C  
 Type N 0-1300°C  
 R,S & T available to order

Pt100 to IEC751,2 wire -50 to 450°C

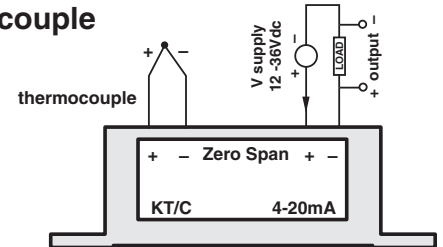
3 or 4 wire Pt100 convert to 2 wire in the input connector without degradation of accuracy

Junctions/ sensors must be insulated from sheath

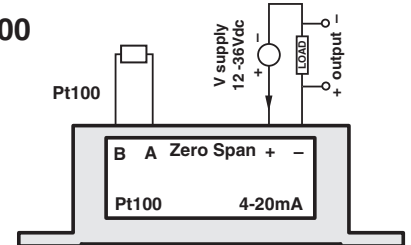
Output	4-20mA loop powered, max 30mA. Directly proportional to mV input for thermocouples. Directly proportional to temperature for Pt100.
Loop supply	12-36V dc; reverse connection protected.
Accuracy	Thermocouple ranges $\pm 0.2\%$ of span (linear to mV input) Pt100 ranges $\pm 0.1\%$ of span (linear to temperature input)
Zero drift	$\pm 0.02\%$ of span per °C
Span drift	$\pm 0.02\%$ of span per °C
Supply voltage effect	$\pm 0.03\%$ change of span over 12 to 36 voltage change
Cold junction compensation	Better than 2°C over ambient temperature range of 0 to 50°C ; rejection ratio better than 25:1
Sensor open circuit detection & indication	Upscale; output current between 23 and 27 mA, separate, independent alarms should be used if required for process safety
Load capability	(Vs -12)/0.02 Ohm; Vs = 12 to 36Vdc
Ambient operating temperature	0 to 70°C
Storage temperature	-20 to 100°C
Zero adjustment potentiometer	$\pm 20\%$ of span for thermocouple inputs $\pm 10\%$ of span for Pt100 inputs, 25 turns
Span adjustment potentiometer	down to 50% of span for thermocouple input and 30% of Span for Pt100 input, 25 turns (see note 1&2 below)
Terminations	Miniature thermocouple or Pt100 socket for input Miniature 'copper' contact socket for output Miniature plugs supplied for input & output connections
Mechanical	Free in-line or surface mounting. 92mm long (including Fixing lugs) x 20mm x 29mm.



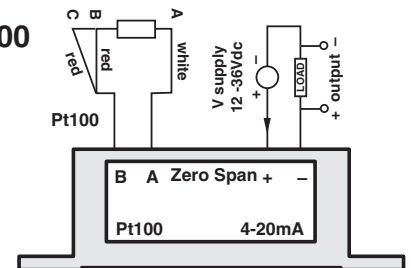
### Thermocouple



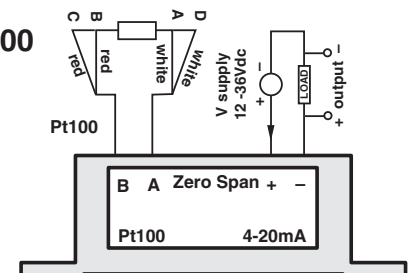
### 2 wire Pt100



### 3 wire Pt100



### 4 wire Pt100



**Note 1:** The transmitter can be easily ranged and calibrated by means of the multi-turn zero and span adjusters in conjunction with either a mV source or standard resistance input. For example, a type K-thermocouple which has a working temperature range of 0 to 1100°C can be easily calibrated to operate between 0 to 600°C, where 4mA and 20mA represent 0 and 600°C respectively.

**Note 2:** For span & zero adjustments, the overall numerical span (the range between zero & span values) can not be increased, just re-assigned for 4-20mA.

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Certificate No. 4746

**LABFACILITY LIMITED**

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