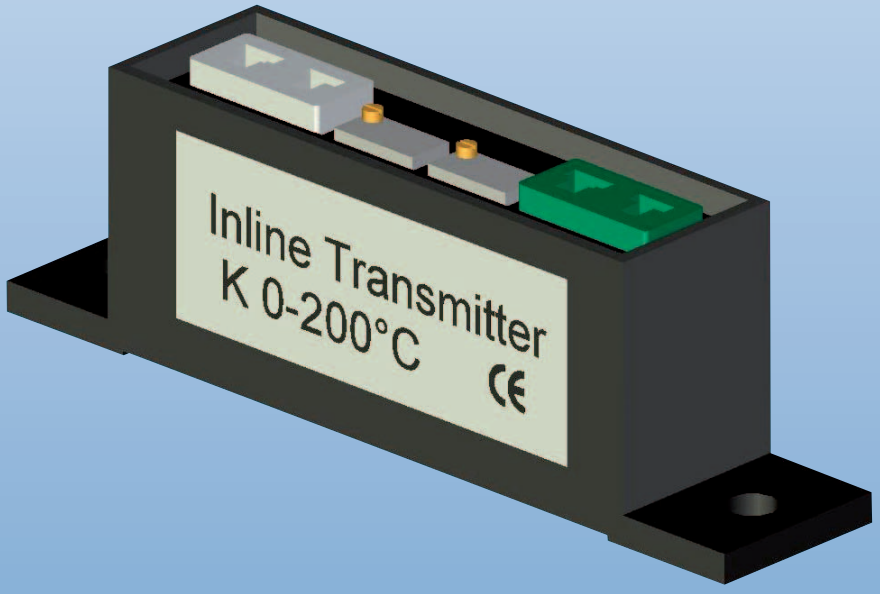
# LOW COST, HIGH ACCURACY MINIATURE IN-LINE 2 WIRE TEMPERATURE TRANSMITTER

## 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 non-interactive 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
- Non-interactive span & zero pots for calibration
- No head 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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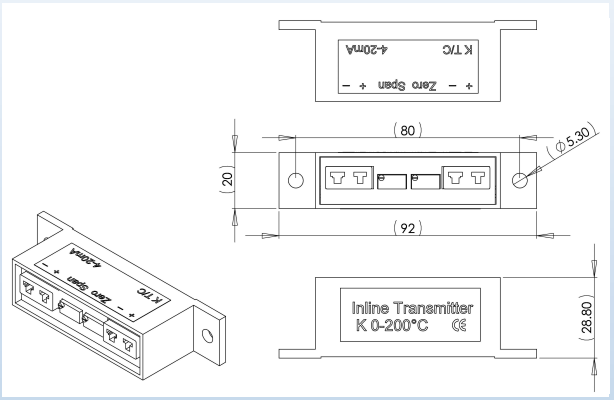
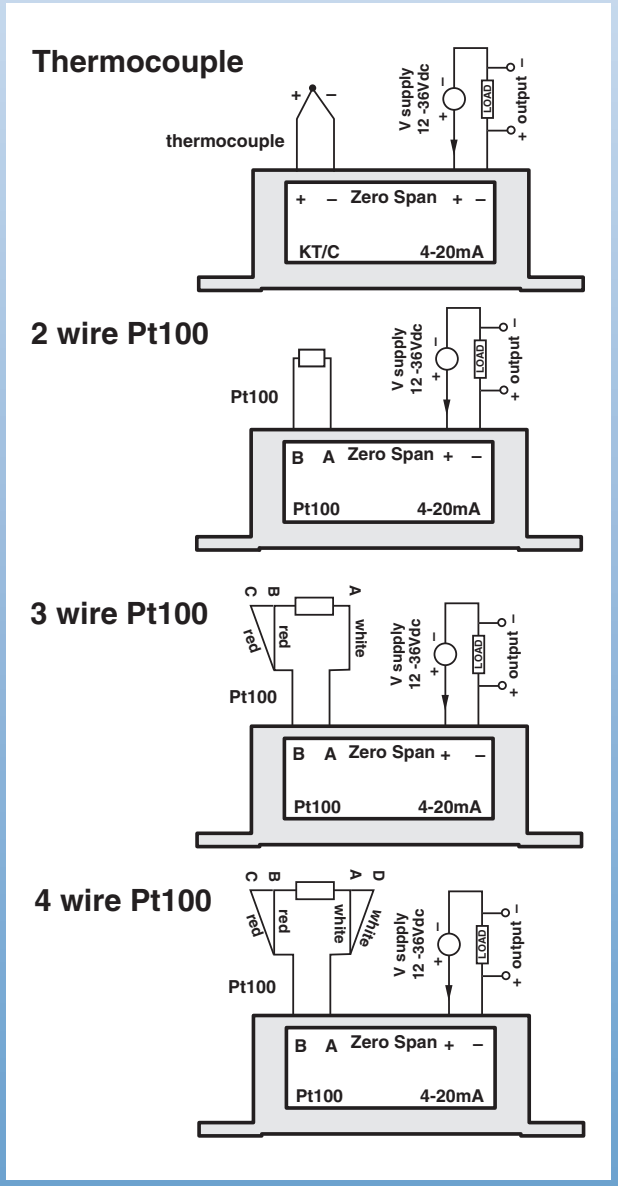
## Specification

| | | |
|---|---|---|
| Ranges:- | Thermocouple to IEC 584 Type J | 0-800°C |
| | Type K | 0-1100°C |
| | Type N | 0-1300°C |
| | R,S &T available to order | |
| | PT100 to IEC751,2 wire | -50 to450°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 ±0.2% of span (linear to mV input) | |
| | Pt100 ranges ±0.1% of span (linear to temperature input) | |
| Zero drift | ±0.02% of span per °C | |
| Span drift | ±0.02% of span per °C | |
| Supply voltage effect | ±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 | ±20% of span,25 turns | |
| Span adjustment potentiometer | down to 50% of span for thermocouple input and 30% of Span for PRT100 input, 25 turns (see note 1) | |
| Terminations | Miniature thermocouple or Pt100 socket for input<br>Miniature 'copper' contact socket for output<br>Miniature plugs supplied for input & output connections | |
| Mechanical | Free in-line or surface mounting. 92mm long (including Fixing lugs) x 20mm x 29mm. | |




**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

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