

Key Characteristics

Suitability	Suitable for PT100 temperature sensors
Configuration	PC programmable temperature range
Feature	High stability
Output	(4 to 20) mA
Configuration	Free configuration software

For more information about our Temperature Assemblies, please [click here](#).



TR206P Model

Product Description

The TR206P is a **cost effective “smart” in head transmitter** that accepts **PT100** temperature sensors and converts sensor output over a configured range to a standard industrial (4 to 20) mA transmission signal.

PC configuration allows the user to select range, units and burnout direction, without requiring calibration equipment. Configuration is performed quickly using our new USB port driven configurator by simply connecting two clips to the TR206P loop terminals and following the software instructions. Calibration set up may be saved as a file on the PC for later use.

The TR206P in head transmitter incorporates the latest digital technology to ensure accurate drift free performance.

If required the desired range can be specified at the time of order, removing the need for user configuration. If the range is not specified then the transmitter will be shipped with the default range of (0 to 100) °C and upscale burnout.

PC Configuration

Equipment

- Computer - Running Windows X7 or later with USB port
- USB configurator suite - Comprising: USB Configurator, Leads and download software

Method

- Load PC with USB_SPEEDLINK software
- Connect USB Configurator to PC USB port using cable
- Connect Tool clips to TR206P Loop Terminals Red (+) Black (-)
- Run software, set configuration required and save to device

Specification @ 20 ° C

Input

Sensor Type	PT100 100 R @ 0 °C 2 or 3 Wire
Sensor Range	(-195 to +845) °C (18 to 390) Ω
Sensor Connection	Screw terminal
Minimum span (*1)	25 °C
Linearisation	BS EN 60751(IEC 751) standard / JISC 1604
Measurement Accuracy (*2)	0.2 °C ± 0.05 % of Reading
Thermal Drift	±0.02 °C / °C
Excitation current	<200 uA
Lead Resistance effect	0.002 °C / Ohms
Maximum lead Resistance	20 Ohms per leg

Output

Output Type	2 wire (4 to 20) mA current loop
Output Range	(4.0 to 20.0) mA
Output Connection	Screw terminal
Maximum output	21.5 mA (in high burnout condition)
Minimum output	<3.9 mA (in low burnout condition)
Accuracy	(mA output /2000) or 5 uA (Whichever is the greater)
Loop Voltage effect	0.2 uA / V
Thermal drift	2 uA / °C
Maximum output load	[(Vsupply-10)/21] K Ohms (Example: 700 Ohms @ 24 V)

Specification @ 20 ° C

General specification

Update time	500 ms
Response time	1 second
Start up time	4 seconds (I out < 4 mA during start up)
Warm-up time	1 minute to full accuracy
Power Supply	(10 to 30) Volts dc SELV

Environmental

Ambient operating range	(-40 to +85) °C (Full accuracy only between (-30 to 75) °C)
Ambient storage temperature	(-50 to +90) °C
Ambient humidity range	(10 to 90) % RH non condensing

Physical

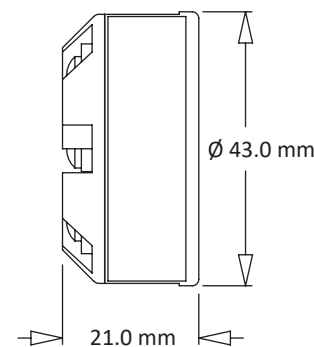
Dimensions	43 mm diameter; 21 mm height
Weight	31 g (encapsulated)

Approvals

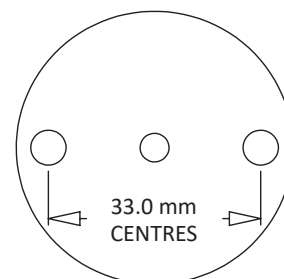
EMC - BS EN 61326	Electrical equipment for measurement control and laboratory use.
ANNEX A	Immunity test requirements for equipment intended for use in industrial locations.
ANNEX F	Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning.
IEC 61000-4-2	Electrostatic discharge
IEC 61000-4-3	EM Field
IEC 61000-4-4	Transient Burst (output)
IEC 61000-4-5	Surge (output)

Note - Sensor input wires to be less than 3 meters to comply.

Mechanical - Side view

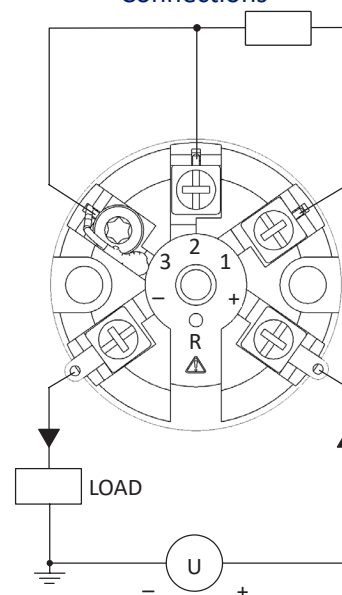


Mechanical - Base view



Fixing holes 2 x Ø 5.5 mm

Electrical - Internal Wiring Connections



Note *1 - Any span may be selected, full accuracy is only guaranteed for spans greater than the minimum recommended

Note *2 - Basic measurement accuracy includes the effects of calibration, linearisation and repeatability