TTC200 USER GUIDE

THERMOCOUPLE, mV TRANSMITTER USER INSTRUCTIONS

Important - Please read this document before installing.
Every effort has been taken to ensure the accuracy of this document; however we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.

IMPORTANT – CE, UKCA & SAFETY REQUIREMENTS

Product must be mounted inside a suitable enclosure providing environmental protection to IP54, => IP65 is recommended.
To maintain CE EMC requirements, input wires must be less than 3 metres.
The product contains no serviceable parts, or internal adjustments. No attempt must be made to repair this product. Faulty units must be returned to supplier for repair.
This product must be installed by a qualified person. All electrical wiring must be carried out in accordance with the appropriate regulations for the place of installation.
Before attempting any electrical connection work, please ensure all supplies are switched off.

ABSOLUTE MAXIMUM CONDITIONS (To exceed may cause damage to the unit).	
Supply Voltage	± 30 V dc (Protected for over voltage and reverse connection)
Current with over voltage	± 100 mA
Input Voltage	± 3 V between any terminals
Ambient	Temperature (-40 to 85) °C, Humidity (0 to 95) % RH (Non-condensing)

Important – Read this document before installing.

1~DESCRIPTION.

This head mounted temperature transmitter connects to thermocouple and mV sensors and converts the linearised temperature to a (4 to 20) mA signal. The transmitter is a two-wire output device, and is fully configurable by the user, over a wide temperature range, with the aid of the USB configuration kit and software. The transmitters advanced circuitry gives high stability over the wide operating ambient temperature ranges experienced by head mounted devices.

2~RECEIVING AND UNPACKING.

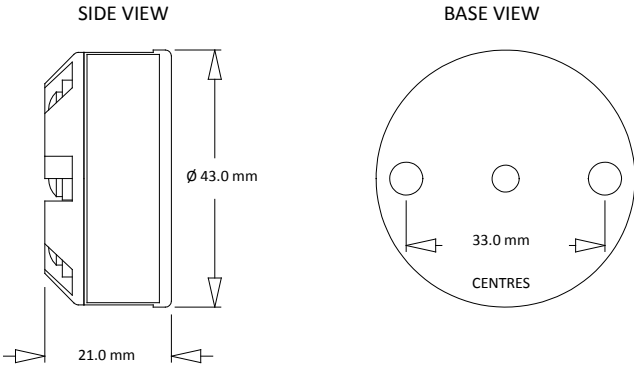
Please inspect the packaging and instrument thoroughly for any signs of transit damage. If the instrument has been damaged, please notify your supplier immediately.

3~SPECIFICATION.

Refer to data sheet for full specification. Download at www.status.co.uk

Factory defaults	T/C type K, (0 to 1000) °C, Up-scale burnout Filter = off, User offset = 0.0 °C

4~INSTALLATION AND WIRING



Mounting holes: two holes 5.5 mm diameter, 33 mm centres.
Centre hole sensor wire entry 4 mm.

D2491-01-06

4.1~MECHANICAL.

The transmitter has been specifically designed to fit inside a DIN standard probe head enclosure, which provides adequate protection from moisture, dust, corrosive atmospheres etc. All cable entries must be sealed using the correct size gland. Likewise, any probe assembly fitted must be sealed.

Care must be taken when locating the transmitter to ensure the working ambient temperature range of (-40 to 85) °C is not exceeded. The device body has a centre hole allowing the sensor wire to enter screw terminals from the transmitter centre; this is applicable when the sensor is mounted directly below the transmitter.

4.2~ELECTRICAL.

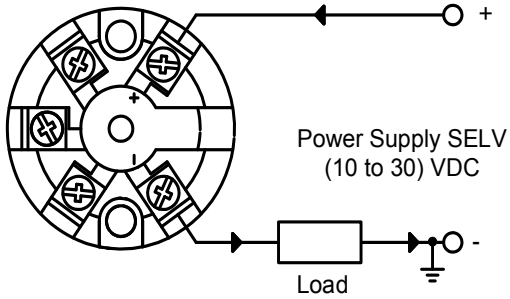
Electrical connections to the transmitter are made to the screw terminal provided on the top face. The sensor wires must be equal length and type for the lead compensation to work correctly. The screw terminals allow for wires to enter either inner or outer direction.
The transmitter is protected against reverse connection and over voltage. If no sensor (input) connection is made the transmitter will go into either up or down scale output current, depending on configuration.

The transmitter conforms with EC directive BS EN 61326 when correctly installed in a termination head providing at least IP54 protection

4.2.1~Two wire (4 to 20) mA output connection.
Figure 1 gives output connection details; the output is shown connected to a 24 V supply. The load symbol represents any other device connected in the loop, such as monitoring equipment, panel indicators and loop isolators. The load value can range from 0 ohms to the maximum loop load for given supply.

Always ensure the (4 to 20) mA loop is grounded at one point; this would normally be at the monitoring equipment or loop power supply.
Screened or twisted pair wires are recommended for output wires.

Figure 1 output connection.



4.2.2~Input connections.
Figure 2 and 3 show input connection wiring.
Input sensor wires must be less than 3 metres to conform to BS EN 61326.
For thermocouple inputs use the correct compensating cable.

Figure 2 Thermocouple input connection.

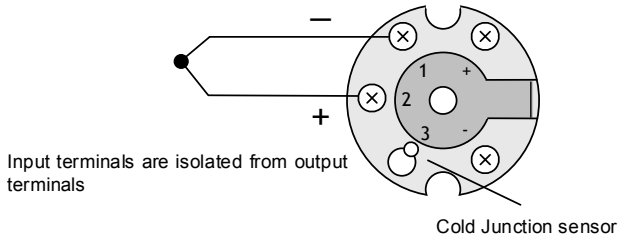
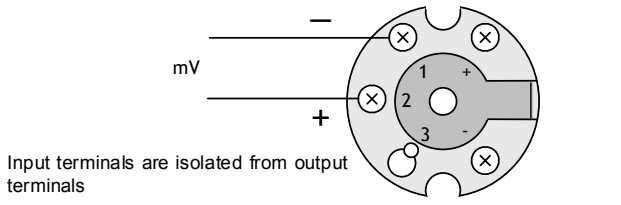


Figure 3 mV input connection.



5~USER CONFIGURATION.

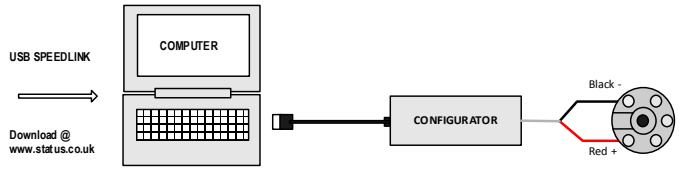
IMPORTANT

READ COMPLETE SECTION BEFORE ATTEMPTING CONFIGURATION.

IMPORTANT

Do not attempt to configure the unit when connected to a loop supply.

A USB configuration module is required for connecting the unit to the PC. Refer to your supplier for details.



Install the software and connect the USB configuration module

Configuration steps
Install the software and connect the USB configuration module to the PC.
Connect the configuration module to the device (removed from any loop supply).
Select the correct programming page in the software.
Read the unit configuration into the software.
Re-configure or adjust configuration options as required.
Send the new configuration to the unit.

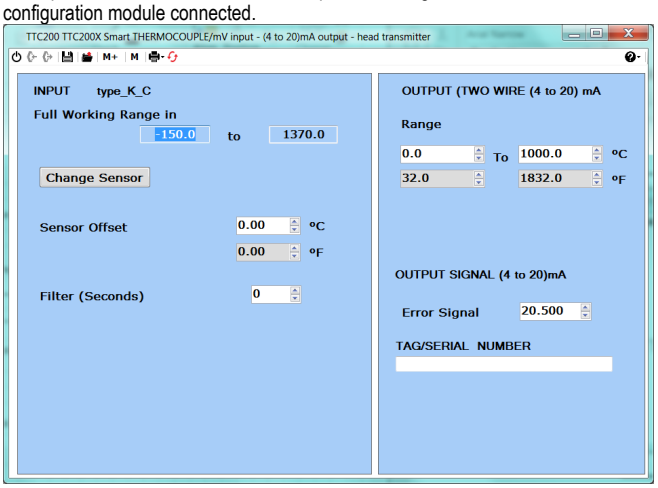
Temperature mode configuration options in software	
T/C type	From list
Filter	In seconds
Low range 4 mA	Any °C/°F point within range
High range 20 mA	Any °C/°F point within range
Sensor fail	Burnout high or low, any mA value between (3.75 and 21.5) mA
Offset	In °C or °F

Process mode configuration options in software	
Input type	mV
Filter	In seconds.
Low range 4 mA	Any point within input range
High range 20 mA	Any point within input range
Units	User characters
User linearisation	Up to 22 X, Y Cordiant pairs

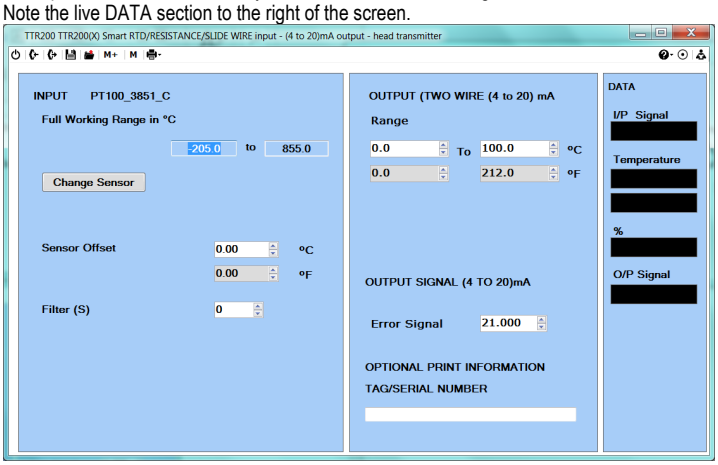
During configuration the product is powered direct from the USB port configuration module, removing the need for additional power.
Unless specified at the time of order this product is supplied with the default configuration listed above in section 3~Specification.

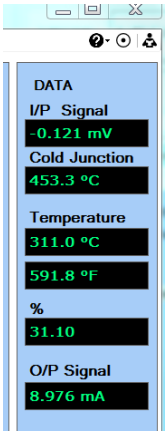
5.1~USBSpeedLink software.

USBSpeedLink software on TTC200 temperatue configuration screen, no USB configuration module connected.



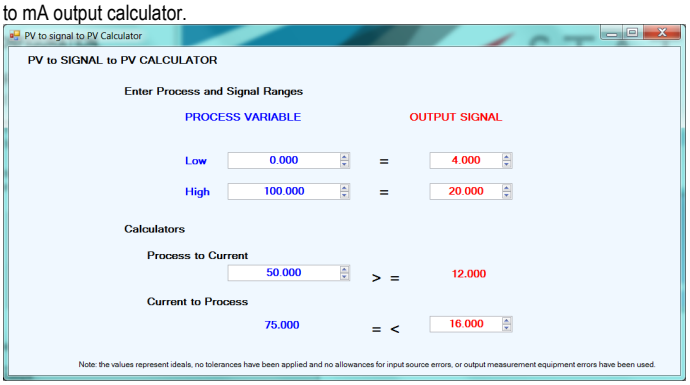
USBSpeedLink software correctly connected to the USB configuration module.
Note the live DATA section to the right of the screen.





Live Data
The USBSpeedLink configuration software can be used to take live data readings onto the PC, and even record the readings over time into a text file using the proof of process function.

The USBSpeedLink software has some additional features such as a process value to mA output calculator.





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