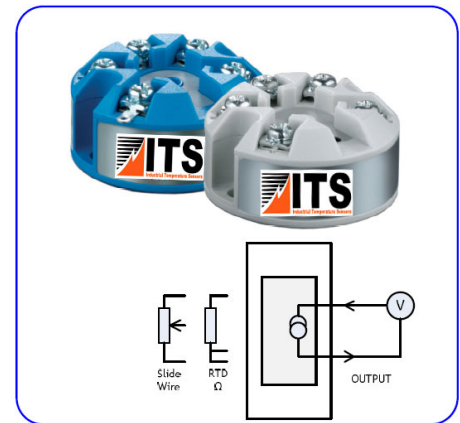


## TTR200 TTR200X

- INPUT: MULTI TYPE RTD, SLIDE WIRE, RESISTANCE INPUTS
- ATEX AND IECEx APPROVED VERSION
- 22 SEGMENT USER LINEARISATION FOR INPUT
- SENSOR OFFSET AND OUTPUT ALIGNMENT
- ADJUSTABLE INPUT FILTER
- PROGRAMMABLE BURNOUT

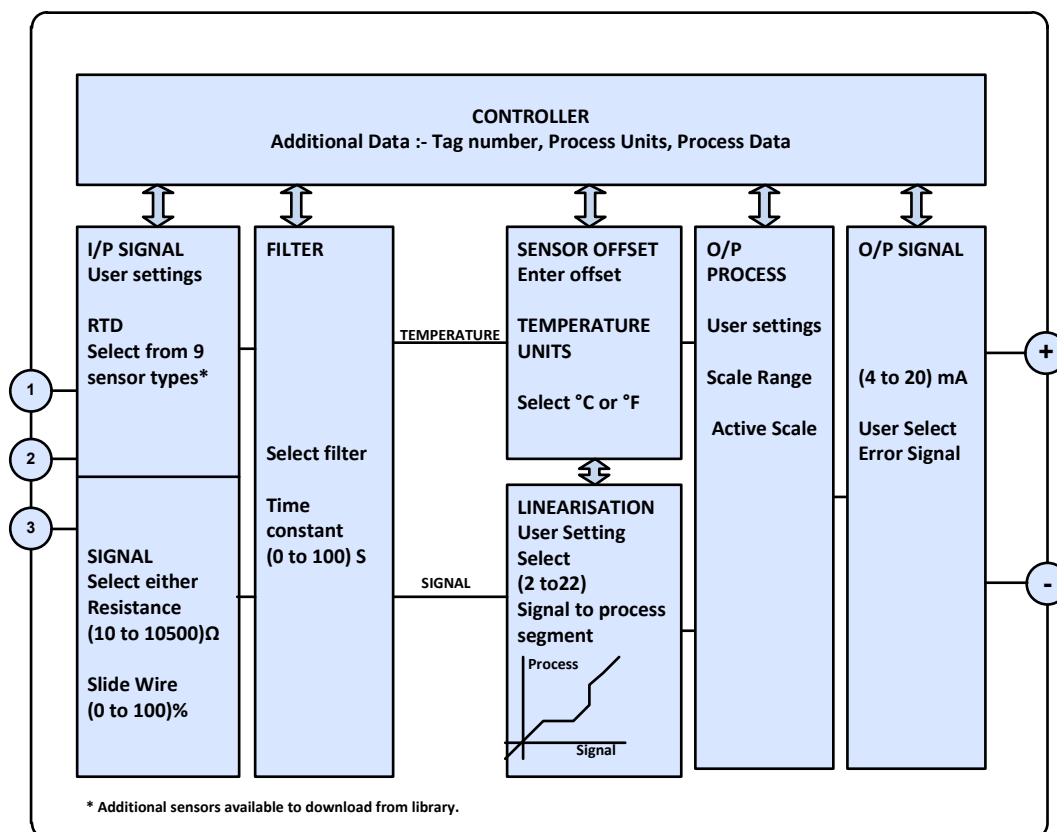


### INTRODUCTION

The TTR200 ‘smart’ transmitter is designed for use with RTD or Slidewire sensors. The flexible design allows the use of any resistive sensor within the range of (10 to 10500) Ω. Pt100, 500, 1000, Ni or Cu sensors as well as slide wire sensors up to 100 KΩ can be accommodated. Other sensor characteristics or your own 22 point linearisation characteristic (for slidewire or linear resistance) can be downloaded into the product enabling you to adapt it exactly to your application. The TTR220X is approved to ATEX and IECEx standards allowing for use in hazardous area applications.

PC configuration allows the user to select Sensor type, Range, Filter, Tag, Units and error signal without requiring calibration equipment. Additionally, the user may read live process data when connected to the PC, this allows for sensor offset, and output alignment calibration, where the user can enter values to match the actual process and therefore reducing system errors.

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 Pt100 (0 to 100) °C, burnout high and filter off.



# SMART RTD SLIDEWIRE TRANSMITTER

## SPECIFICATION @20 °C

### RESISTANCE RTD INPUT

Standard RTD  
Slide wire  
Resistance  
Thermal Drift

Excitation current  
Lead effect

Pt100, Pt500, Pt1000, Cu100, Cu1000, Ni100, Ni120, Ni1000, Cu53, library  
Pot range (1 to 100) K $\Omega$ , Signal (0 to 100) %, accuracy 0.1 %  
(10 to 500)  $\Omega \pm 0.055 \Omega$ , (500 to 2500)  $\Omega \pm 0.5 \Omega$ , (2500 to 10500)  $\Omega \pm 10.0 \Omega$   
(0 to 500)  $\Omega 0.013 \Omega/^\circ\text{C}$ , (500 to 2500)  $\Omega 0.063 \Omega/^\circ\text{C}$ ,  
(2500 to 10500)  $\Omega 0.27 \Omega/^\circ\text{C}$   
< 200  $\mu\text{A}$   
Max lead resistance 20  $\Omega$  per leg, Effect 0.002  $^\circ\text{C} / \Omega$

### OUTPUT

Type  
Range  
Accuracy  
Loop Effect  
Max output load  
Loop Supply

Two wire (4 to 20) mA current Loop  
(4 to 20) mA; Upscale burnout 21.5 mA ; Downscale Burnout 3.8 mA  
(mA Out/ 2000) or 5  $\mu\text{A}$  which ever is the greater, Drift 1  $\mu\text{A}/^\circ\text{C}$   
 $\pm 0.2 \mu\text{A}/\text{V}$   
TTR200 [(Vsupply-10)/20] K Ohms (Example 700 Ohms @ 24 V)  
(10 to 30) VDC

### SUPPLY

Range  
Power

(10 to 30) VDC  
< 1W Full Power

### GENERAL

Accuracy  
Response time  
Connections

0.2  $^\circ\text{C}$  + ( $\pm 0.05\%$  of reading) + (sensor)  
Start up 5 seconds, Update 160 mS, Response 500 mS, Warm up 2 minutes.  
Screw terminals 2.5 mm Maximum

### USER INTERFACE

Type  
Baud rate  
Equipment

USB 2.0  
1200 baud  
PC running windows XP or later, USB configurator.

### USER INTERFACE FUNCTIONS

Scaling  
Filter  
User Linearisation (Profile)  
Process Units  
Temperature units  
Tag Number  
Process Output  
User offset  
Active scaling

User signal to process value scaling, for simplified setup.  
Adjustable time constant (0 to 100) Seconds.  
(2 to 22) segments mV to process.  
4 Characters (signal input only)  
 $^\circ\text{C}$  or  $^\circ\text{F}$  (TC inputs only)  
20 Characters  
Range in process units  
Enter sensor offset (Temperature mode only).  
Set output process range against active sensor input

### ENVIRONMENT

Operating Ambient  
Storage Ambient  
Configuration Ambient  
Installation Enclosure

TTR200(-40 to 85)  $^\circ\text{C}$  ; (10 to 90) %RH (non condensing)  
TTR200X Refer to user manual  
(-50 to 90)  $^\circ\text{C}$  ; (10 to 90) %RH (non condensing)  
(10 to 30)  $^\circ\text{C}$   
>= IP65.

### APPROVALS

CE  
BS EN 61326

### MECHANICAL

Style  
Diameter

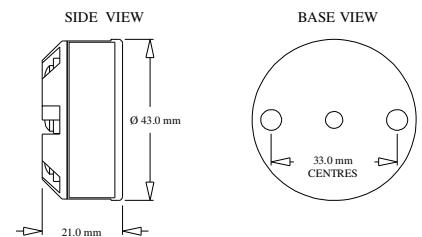
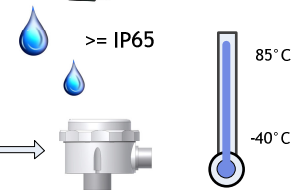
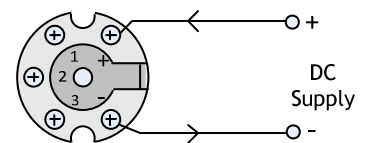
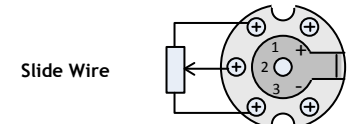
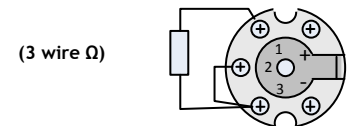
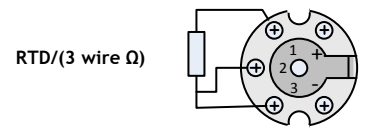
Head mounted terminal block  
43 mm diameter; 21 mm height Weight 31 g (encapsulated)

### SENSORS RTD

Platinum IEC  
Platinum IPTS-68  
Ni100 DIN 0.00618  
Ni 1000  
Ni 507.5  
Cu 53  
Cu1000  
Silicon

Pt100 (-200 to 850), Pt500 (-200 to 750), Pt1000 (-200 to 600)  
Pt100 (0.00391) + Pt100 (0.00392) (-200 to 630)  
(-60 to 180) Ni120 0.00672 (-80 to 260)  
(-60 to 180) Ni1000 Tk5000 (-50 to 150)  
(-80 to 360) Ni 604 (-200 to 200)  
(-50 to 180) Cu100 0.00427 (-80 to 260)  
(-80 to 260)  
KTY81-110 -120-121-122-150-210-220-221-222-250 (-55 to 175)  
KTY82-110 -120-121-122-150-210-220-221-222-250 (-55 to 175)  
KTY81-151, KTY82-151, KTY83-210-220-250-121-122 (-55 to 175)  
KTY84-130-150 (-40 to 300)

### TTR200 Connection



### TTR200X ATEX / IECEx VERSION



Please refer to user manual document D2504\_01 details of the TTR200X ATEX / IECEx specification and the special conditions for safe use.

