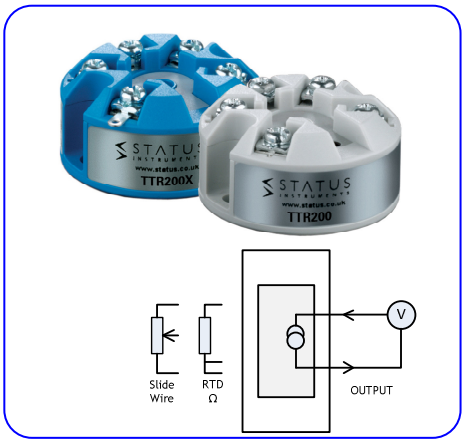
SMART RTD SLIDEWIRE TRANSMITTER

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

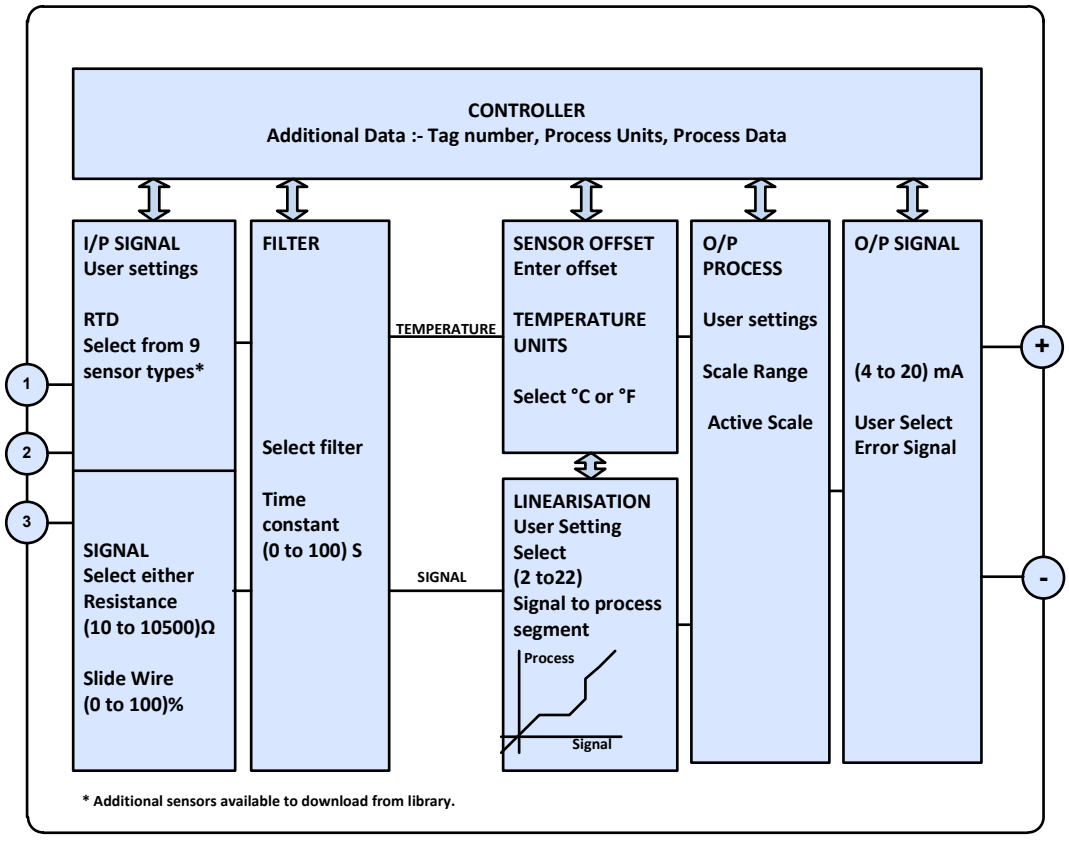


INTRODUCTION

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	PT100,PT500,PT1000, Cu100, Cu1000, Ni100, Ni120, Ni1000, Cu53, library
Slide wire	Pot range (1 to 100) KΩ, Signal (0 to 100) %, accuracy 0.1 %
Resistance	(10 to 500) Ω ± 0.055 Ω, (500 to 2500) Ω ± 0.5 Ω, (2500 to 10500) Ω ±10.0 Ω.
Thermal Drift	(0 to 500) Ω 0.013 Ω/˚C,(500 to 2500) Ω 0.063 Ω/˚C, (2500 to 10500) Ω 0.27 Ω/˚C
Excitation current	< 200 uA
Lead effect	Max lead resistance 20 Ω per leg, Effect 0.002 ˚C / Ω

OUTPUT

Type	Two wire (4 to 20) mA current Loop
Range	(4 to 20) mA; Upscale burnout 21.5 mA ; Downscale Burnout 3.8 mA
Accuracy	(mA Out/ 2000) or 5 uA which ever is the greater, Drift 1 uA/˚C
Loop Effect	± 0.2 uA/ V
Max output load	TTR200 [(Vsupply-10)/20] K Ohms (Example 700 Ohms @ 24 V)
Loop Supply	(10 to 30) VDC

SUPPLY

Range	(10 to 30) VDC
Power	< 1W Full Power

GENERAL

Accuracy	0.2˚C + (˚0.05% of reading) + (sensor)
Response time	Start up 5 seconds, Update 160 mS, Response 500 mS, Warm up 2 minutes.
Connections	Screw terminals 2.5 mm Maximum

USER INTERFACE

Type	USB 2.0
Baud rate	1200 baud
Equipment	PC running windows XP or later, USB configurator.

USER INTERFACE FUNCTIONS

Scaling	User signal to process value scaling, for simplified setup.
Filter	Adjustable time constant (0 to 100) Seconds.
User Linearisation (Profile)	(2 to 22) segments mV to process.
Process Units	4 Characters (signal input only)
Temperature units	˚C or ˚F (TC inputs only)
Tag Number	20 Characters
Process Output	Range in process units
User offset	Enter sensor offset (Temperature mode only).
Active scaling	Set output process range against active sensor input

ENVIRONMENT

Operating Ambient	TTR200(-40 to 85) ˚C ; (10 to 90) %RH (non condensing) TTR200X Refer to user manual
Storage Ambient	(-50 to 85) ˚C; (10 to 90) %RH (non condensing)
Configuration Ambient	(10 to 30) ˚C
Installation Enclosure	>= IP65.

APPROVALS

CE	BS EN 61326

MECHANICAL

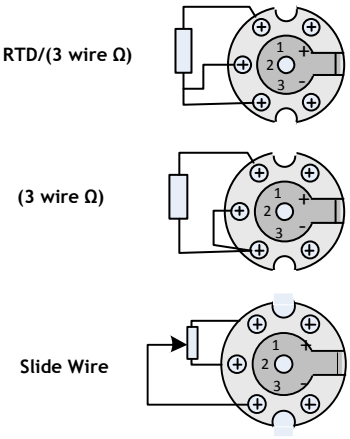
Style	Head mounted terminal block
Diameter	43 mm diameter; 21 mm height Weight 31 g (encapsulated)

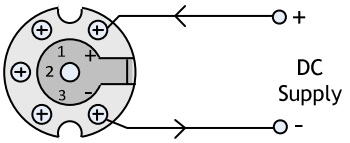
SENSORS RTD

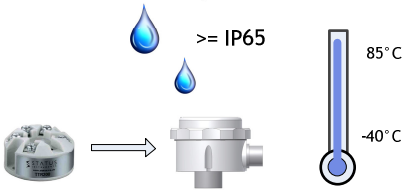
Platinum IEC	Pt100 (-200 to 850), Pt500 (-200 to 750), Pt1000 (-200 to 600)	
Platinum IPTS-68	Pt100 (0.00391) + Pt100 (0.00392) (-200 to 630)	
Ni100 DIN 0.00618	(-60 to 180)	
Ni 1000	(-60 to 180)	
Ni 507.5	(-80 to 360)	
Cu 53	(-50 to 180)	
Cu1000	(-80 to 260)	
Silicon	KTY81-110 -120-121-122-150-210-220-221-222-250 (-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)	

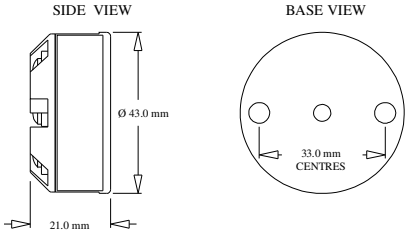
Ni120 0.00672 (-80 to 260)
Ni1000 Tk5000 (-50 to 150)
Ni 604 (-200 to 200)
Cu100 0.00427 (-80 to 260)

TTR200 Connection



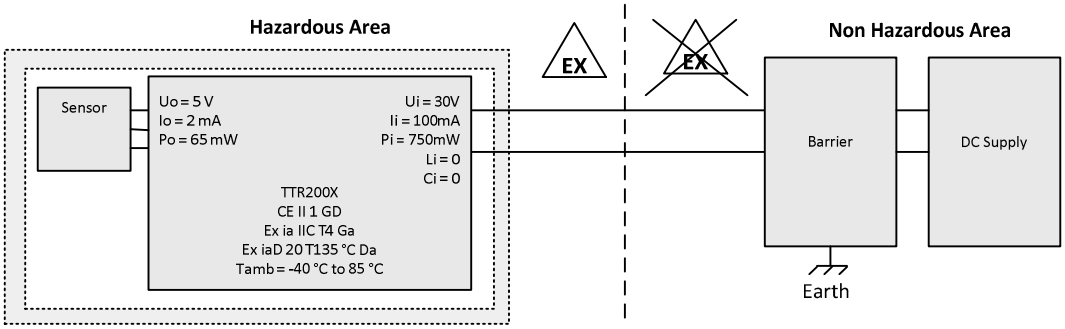






TTR200X ATEX /IECEx VERSION

Please refer to user manual document D2504_01 available at www.status.co.uk for details of the TTR200X ATEX / IECEx specification and the special conditions for safe use.



Order code:	
TTR200	Std Tx.
TTR200X	IS Ver.

Distribution via
www.fluidic-ltd.co.uk
Glasgow 0141 641 5920
Warrington 01925 572401

STATUS INSTRUMENTS