SensorsONE
Measurement Instrumentation Products

IWTTU SERIES

INDUSTRIAL WIRELESS TEMPERATURE TRANSDUCER - 1/4" NPT

The IWTTU Wireless Temperature Transducer is a cost effective replacement to a traditionally wired temperature transducer that offers the advantages of a low-cost installation in inaccessible and expensive installation environments.

It is easily paired to any of the range of IWR receivers - thus offering a "plug and play" solution to your pressure measurement applications.

The instrument uses either J or K type thermocouples or 3-wire RTD sensors fitted to an acetal housing giving excellent media compatibility for the harshest of applications. Compression fittings are available which allow the head to be orientated in the required direction.

The IWPT sensor can be used with any of the IWR range of receivers. A line-of-sight range of up to 500 m is possible depending on the wireless receiver used (refer to specific receiver datasheets for further information).

Each device is temperature compensated, calibrated and supplied with a traceable serial number.

Typical Applications Include

- Simple cable replacement installation
  – dispense with expensive cable runs
- Environmental monitoring
  – pumping stations, sewage plants, water treatment
- Facilities management
  – boiler rooms, plant hydraulics, plant pneumatics
- Asset monitoring
  – tanks farms, process plants, HVAC and building management
- Service Contract
  – temporary installation for servicing and field trials

Features

- K or J Type Thermocouples
- PT100 RTD Sensors
- 6mm stainless steel sheath
- Up to 500 m line-of-site range (depending on receiver)
- Five year battery life at 10 second transmission update rate
- Simple DIL switch pairing with the single or five channel receiver
- Single, five and multi-channel channel receivers available (up to 128)
- User-selectable transmission update rates
- Analogue, digital, RS-232/485, Ethernet & USB receiver outputs
- Receiver clean contacts provide process alarm functions

SPECIFICATIONS

Transmitter Temperature Ranges

Standard products are factory configured as below:

J-Type	0 to 1200°C
K-Type	0 to 1200°C
RTD Type	-200 to +800°C

Transmitter Output

***Transmission Frequency**	2.4 Ghz IEEE 802.14.4
Transmit Power	18 dBm
System Channel	User selectable via DIL switch
Antenna	Integral 0dBi

*Compliant with EN 300 328, V1.8.1

System Performance

Accuracy (Non-Linearity & Hysteresis)	<±0.1% / FS
Temperature Coefficent	±500ppm/°C

Instrument Power Source

Battery Type	User replaceable Lithium C cell
Battery Life	Five years at 10 second update rate
Battery Shelf Life	10 years

Material Specifications

Probe Sheath	316 Stainless Steel
"O" Ring Seals	Viton
Wireless Enclosure Material	Acetal
Weight	300g typical including battery
****Installation Position**	Any

** Consult installation manual to ensure adequate signal path between transmitter and receiver

Temperatures & Thermal Effects

Media Temperature	-200ºC to +1200ºC
Op. /Ambient Temperature	-20ºC to +50ºC
Storage Temperature	-20ºC to +80ºC
Thermal Span Shift	<±0.05% /ºC typical

Receiver Output Signals

Receiver Part Number	Receiver Outputs
IoT Gateway	Built-in cellular modem allows all data to be sent to remote servers
IWR-PORT	RS-232 or RS-485 or Ethernet MODBUS Communications. Up to 128 off analog 4-20 mA or Relay outputs can be obtained by fitting extra ISOSLICE I/O modules
IWR-USB	Displays & Logs data on any PC running IWR-USB software
IWR-5	5 off 4-20 mA or 1-5 V dc and 1 Relay output
IWR-1	1 off 4-20 mA and 1-5 V dc and 1 Relay output

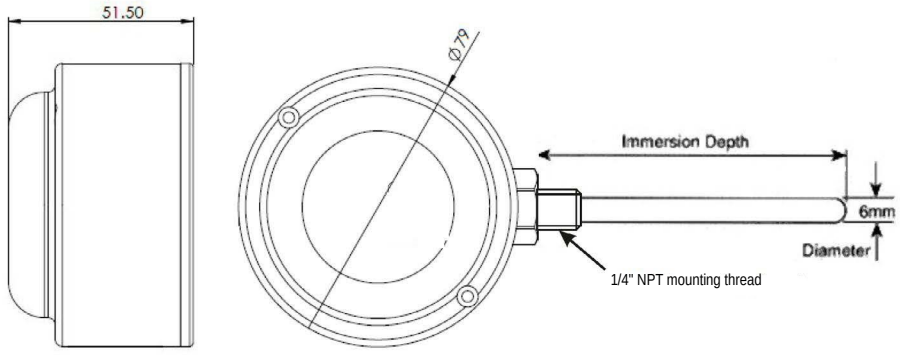
***Transmission Update Rate 1, 5, 10, 20, 30, 60, 120 and 600 seconds
*** Consult installation manual for set-up:
- Single channel system is DIL switch configurable
- Five channel system requires set-up using "IWR Set" user software

Mechanical Stability

See user manual

DIMENSIONS

All dimensions are in millimeters.



ORDERING OPTIONS

Example : IWTTUP100A

Temperature Transducer	See table below
Spare battery	IBAT-1
Receivers	See IWR-1, IWR-5, IWR-PORT, IoT Gateway and IWR-USB data sheets
Five Channel Configuration Software* See Datasheet IWPTL	IWR-Set

*Download free user configuration software:

Part No.	Description	Part No.	Description
IWTTUP100A	PT100 6x100mm	IWTTUJ200A	J type 6x200mm
IWTTUP150A	PT100 6x150mm	IWTTUJ300A	J type 6x300mm
IWTTUP200A	PT100 6x200mm	IWTTUJ400A	J type 6x400mm
IWTTUP250A	PT100 6x250mm	IWTTUK150A	K type 6x150mm
IWTTUP300A	PT100 6x300mm	IIWTTUK200A	K type 6x200mm
IWTTUP400A	PT100 6x400mm	IWTTUK300A	K type 6x300mm
		IWTTUK400A	K type 6x400mm