# IWTT Series

## *Industrial Wireless Temperature Transducer*

- ***K or J Type Thermocouples***
- ***PT100 RTD Sensors***
- ***6mm stainless steel sheath***
- ***Up to 750m 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, RS232/485, Ethernet & USB receiver outputs***
- ***Receiver clean contacts provide process alarm functions***

### 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

### DESCRIPTION

The IWTT 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 750m 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.

### 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 |

### System Performance

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

### Transmitter Output

| | |
|---|---|
| *Transmission Frequency | 2.4 Ghz IEEE 802.15.4 |
| Transmit Power | 18 dBm |
| System Channel | User selectable via DIL switch |
| Antenna | Integral 0dBi |

*Compliant with EN 300 328, V1.8.1

### Instrument Power Source

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

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ISO9001 CERTIFIED

cynergy3-iwtt-v4

Made in the UK

www.cynergy3.com

# IWTT Series

## *Industrial Wireless Temperature Transducer*

### 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

### Environmental Conditions & Thermal Effects

| | |
|---|---|
| Media Temperature | -200ºC to +1200ºC |
| Op. /Ambient Temperature | -20ºC to +50ºC |
| Storage Temperature | -20ºC to +80ºC |
| Humidity | 5% to 95% RH non-condensing |
| Thermal Span Shift | <±0.05% /ºC typical |

### Receiver Output Signals

| Receiver Part Number | Receiver Outputs |
|---|---|
| IWR-1 | 1 off 4-20mA or 1-5Vdc and 1 Relay output |
| IWR-5 | 5 off 4-20mA or 1-5Vdc and 1 Relay output |
| IWR-USB | Displays & Logs data on any PC running IWR-USB software |
| IWR-PORT | RS232 or RS485 or Ethernet MODBUS Communications. Up to 128 off analogue 4-20mA or Relay outputs can be obtained by fitting extra ISOSLICE I/O modules |
| IoT-Gateway | Built-in cellular modem allows all data to be sent to remote servers |

***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

### Ordering Codes:-

| | |
|---|---|
| Temperature Transducer | See table below |
| Spare battery | IBAT-1 |
| Receivers - | See IWR-1, IWR-5, IWR-PORT and IWR-USB data sheets |
| Five Channel Configuration Software | IWR-Set (free download*) |

*Download user configuration software here:-
https://www.cynergy3.com/sites/default/files/IWR-Set_v2.4_installer.zip

| Part No. | Description | | Part No. | Description |
|---|---|---|---|---|
| IWTTP100A | PT100 6x100mm | | IWTTJ200A | J type 6x200mm |
| IWTTP150A | PT100 6x150mm | | IWTTJ300A | J type 6x300mm |
| IWTTP200A | PT100 6x200mm | | IWTTJ400A | J type 6x400mm |
| IWTTP250A | PT100 6x250mm | | IWTTK150A | K type 6x150mm |
| IWTTP300A | PT100 6x300mm | | IWTTK200A | K type 6x200mm |
| IWTTP400A | PT100 6x400mm | | IWTTK300A | K type 6x300mm |
| | | | IWTTK400A | K type 6x400mm |

### *Mechanical Dimensions*