

# IWPTU SERIES

## INDUSTRIAL WIRELESS PRESSURE TRANSDUCER



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

It is easily paired with compatible wireless gateways and receivers thus offering a “plug and play” solution to your pressure measurement applications.

The instrument uses a piezo-resistive ceramic sensor mounted within a 316 stainless steel housing giving excellent media compatibility for the harshest of applications.

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

- Suitable for use with liquids and gases
- Pressure ranges from -15 to +5800 psi gauge
- Up to 500 m line-of-site range (depending on receiver)
- Piezo-resistive thick film ceramic sensor with stainless steel body
- Five-year battery life at 10 second transmission update rate
- Simple DIL switch pairing with the single or five channel receiver
- User-selectable transmission update rates
- User-selectable 1-5 V dc or 4-20 mA receiver outputs
- Receiver clean contacts provide process alarm functions

## SPECIFICATIONS

### Transmitter Output

<b>*Transmission Frequency</b>	2.4 GHz IEEE 802.15.4
<b>Transmit Power</b>	18 dBm
<b>System Channel</b>	User selectable via DIL switch
<b>Antenna</b>	Integral 0dBi

\*Compliant with EN 300 328, V1.8.1

### System Performance

<b>Accuracy (Non-linearity &amp; Hysteresis)</b>	<±0.25% /FS (BFSL)
<b>Setting Errors (offsets)</b>	Zero & Full Scale, <±0.5% /FS

## Material Specifications

<b>Pressure Housing</b>	316 Stainless Steel
<b>"O" Ring Seals</b>	Viton
<b>Diaphragm</b>	Ceramic Al <sub>2</sub> O <sub>3</sub> 96%
<b>Wireless Enclosure Material</b>	Plastic
<b>Weight</b>	310g including battery
<b>**Installation Position</b>	Any
<b>Environmental Protection</b>	Designed to IP68 (not recommended for submersion due to signal loss)
** Consult installation manual to ensure adequate signal path between transmitter and receiver.	

## Instrument Power Source

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

## Receiver Output Signals

Receiver Part Number	Receiver Outputs
<b>IoT Gateway</b>	Built-in cellular modem allows all data to be sent to remote servers
<b>IWR-PORT</b>	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
<b>IWR-USB</b>	Displays & Logs data on any PC running IWR-USB software
<b>IWR-5</b>	5 off 4-20 mA or 1-5 V dc and 1 Relay output
<b>IWR-1</b>	1 off 4-20 mA and 1-5 V dc and 1 Relay output
***Transmission Update Rate 1, 5, 10 and 30 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	

## Environmental Conditions & Thermal Effects

<b>Media Temperature</b>	-20°C to +135°C
<b>Ambient Temperature</b>	-20°C to +80°C
<b>Storage Temperature</b>	-20°C to +80°C
<b>Humidity</b>	5% to 95% RH non-condensing
<b>Thermal Zero Shift</b>	<±0.04% /FS/°C
<b>Thermal Span Shift</b>	<±0.02% /°C typical

## Mechanical Stability

See user manual

## PRESSURE RANGES

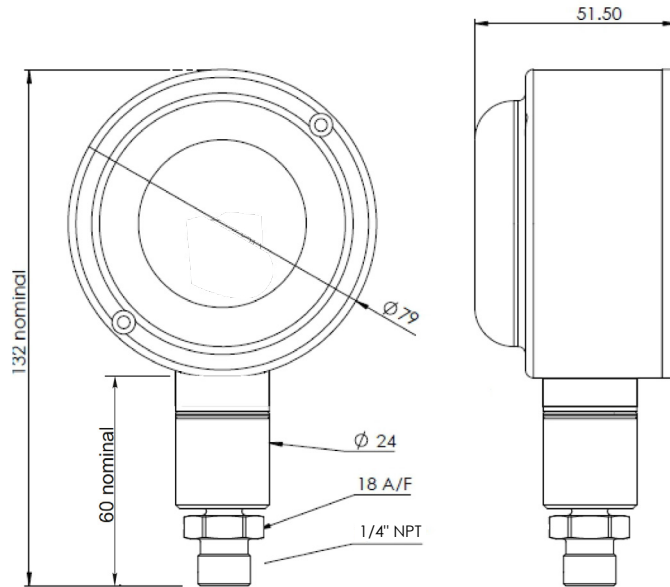
### Transmitter

Nominal Pressure, Gauge	psi	15	30	75	150	300	750	1500	3750	6000
<b>Compound Range</b>	psi	-15 to 0	-15 to 30	-15 to 75	-15 to 1235	-15 to 285	-15 to 360			
<b>Permissible Overpressure</b>	psi	30	60	150	300	600	1500	3000	6000	9750
<b>Burst Pressure</b>	psi	60	75	180	375	750	1800	3750	7500	9750



## DIMENSIONS

All dimensions are in millimeters.



## ORDERING OPTIONS

Example : IWPTU-GP015-00

<b>Pressure Transducer</b>	See table below
<b>Spare Battery</b>	IBAT-1
<b>Gateway or Receiver Types</b>	IoT Gateway, IWR-PORT, IWR-USB, IWR-5, IWR-1

\*Download free user configuration software here:

[https://www.cynergy3.com/sites/default/files/IWR-Set\\_v2.4\\_installer.zip](https://www.cynergy3.com/sites/default/files/IWR-Set_v2.4_installer.zip)

Part Number	Pressure Rating	Receiver Output
IWPTU-GP015-00	0-15 psi G	1-5Vdc or 4-20mA
IWPTU-GP030-00	0-30 psi G	1-5Vdc or 4-20mA
IWPTU-C0446-00	-14.5 to +150 psi G	1-5Vdc or 4-20mA
IWPTU-GP075-00	0-75 psi G	1-5Vdc or 4-20mA
IWPTU-GP100-00	0-100 psi G	1-5Vdc or 4-20mA
IWPTU-C0447-00	-14.5 to +350 psi G	1-5Vdc or 4-20mA
IWPTU-GP150-00	0-150 psi G	1-5Vdc or 4-20mA
IWPTU-GP300-00	0-300 psi G	1-5Vdc or 4-20mA
IWPTU-GP750-00	0-750 psi G	1-5Vdc or 4-20mA
IWPTU-GP1K5-00	0-1500 psi G	1-5Vdc or 4-20mA
IWPTU-GP3K6-00	0-3600 psi G	1-5Vdc or 4-20mA
IWPTU-GP5K8-00	0-5800 psi G	1-5Vdc or 4-20mA

Made in the UK

Page 3

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

## CONTACT US

EUROPE  
+44 (0)1202 897969  
c3w\_sales@sensata.com  
Cynergy3 Components Ltd.  
7 Cobham Road,  
Ferdown Industrial Estate,  
Wimborne, Dorset,  
BH21 7PE, United Kingdom

USA  
+1 310 561 8092 / +1 866 258 5057  
c3w\_sales@sensata.com