

# PT2X Submersible Pressure/Temperature Smart Sensor

WITH DATA LOGGING



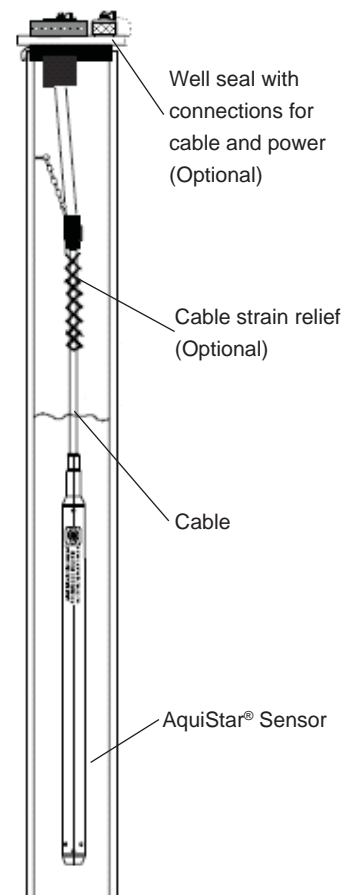
## APPLICATIONS

Pump and slug tests  
Stormwater runoff monitoring  
Well, tank, tidal levels  
River, stream, reservoir gauging  
Wetland monitoring  
Resource administration

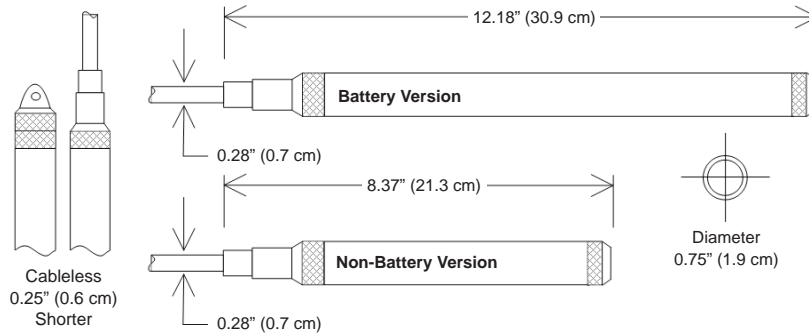
**Great almost anywhere you need to measure level and temperature – whether it be in a lake, a tank, or a well**

### Features

- Measures and records pressure/level, temperature, and time
- Low power — *field replaceable AA batteries*
- Modbus® RTU (RS485) and SDI-12 interface — *great flexibility*
- Thermally compensated — *great where water temperatures vary, such as in streams or in industrial tank applications*
- $\pm 0.05\%$  FSO typical accuracy
- Small diameter — 0.75" (1.9 cm)
- 520,000 record non-volatile memory — *no data loss in the event of a power failure*
- Wireless connectivity — *radios and/or cellular*
- Barometric compensation utility for use with absolute sensors
- Free, easy-to-use software



**TYPICAL INSTALLATION**



- <sup>1</sup> Storage without batteries
- <sup>2</sup> Lithium available upon request
- <sup>3</sup> Requires freeze protection kit if in water below freezing
- <sup>4</sup> Burst reduced at PSI<sub>≥</sub>300
- <sup>5</sup> Higher pressure ratings available upon request
- <sup>6</sup> May vary due to environmental factors
- <sup>7</sup> Depth range for absolute sensors has 14.7 PSI subtracted to give actual depth allowed.
- <sup>8</sup> ±0.25% accuracy FSO (max) at this range

## GENERAL

<b>Length w/batteries</b>	12.18" (30.9 cm)
<b>Length w/o batteries</b>	8.37" (21.3 cm) <i>Cableless 0.25" (0.6 cm) shorter</i>
<b>Diameter</b>	0.75" (1.9 cm)
<b>Weight</b>	0.8 lb. (0.4 kg)
<b>Body Material</b>	Acetal & 316 stainless steel or titanium
<b>Wire Seal Material</b>	Fluoropolymer and PTFE
<b>Submersible Cable</b>	Polyurethane, polyethylene, or FEP available
<b>Protection Rating</b>	IP68, NEMA 6P
<b>Desiccant</b>	1-3 mm indicating silica gel ( <i>high or standard capacity</i> )
<b>Terminating Connector</b>	Available
<b>Communication</b>	RS485 Modbus <sup>®</sup> RTU SDI-12 (ver.1.3)
<b>Direct Modbus Read Output</b>	32-bit IEEE floating point
<b>SDI-12 Output</b>	ASCII
<b>Internal Math</b>	32-bit floating point
<b>Operating Temp. Range<sup>3</sup></b>	-15° C to 55° C
<b>Storage Temp. Range<sup>1</sup></b>	-40° C to 80° C

## LOGGING

<b>Memory</b>	4MB - 520,000 records
<b>Log Types</b>	Variable, user-defined, logarithmic, profiled
<b>Programmable Baud Rate</b>	9600, 19200, 38400
<b>Logging Rate</b>	8x/sec maximum
<b>Software</b>	Complimentary Aqua4Plus or Aqua4Push
<b>Networking</b>	32 available addresses per junction w/ batching capabilities (up to 255)
<b>File Formats</b>	.xls / .csv / .a4d

## POWER

<b>Internal Battery</b>	2x1.5V AA alkaline <sup>2</sup>
<b>Auxiliary Power</b>	12 VDC - Nominal 6-15VDC - Range
<b>Exp. Alkaline Battery Life</b>	18 months at 15m polling interval <sup>6</sup>

## TEMPERATURE

<b>Element Type</b>	Digital IC on board
<b>Accuracy</b>	± 0.5° C
<b>Resolution</b>	0.1° C
<b>Range</b>	-40° C to 80° C
<b>Units</b>	Celsius, Fahrenheit, Kelvin

## PRESSURE

<b>Transducer Type</b>	Silicon strain gauge
<b>Transducer Material</b>	316 stainless steel or titanium
<b>Pressure Ranges<sup>5</sup></b>	
<i>Gauge</i>	
PSI	1 <sup>8</sup> , 5, 15, 30, 50, 100, 300
FtH <sub>2</sub> O	2.3 <sup>8</sup> , 12, 35, 69, 115, 231, 692
mH <sub>2</sub> O	0.7 <sup>8</sup> , 3.5, 10.5, 21, 35, 70, 210
<i>Absolute<sup>7</sup></i>	
PSI	30, 50, 100, 300
FtH <sub>2</sub> O	35, 81, 196, 658
mH <sub>2</sub> O	3.5, 10, 24, 59, 200
<b>Units</b>	PSI, FtH <sub>2</sub> O, inH <sub>2</sub> O, cmH <sub>2</sub> O, mmH <sub>2</sub> O, mH <sub>2</sub> O, inHg, cmHg, mmHg, Bars, mBars, kPa
<b>Static Accuracy</b>	± 0.05% FSO (typical) ± 0.1% FSO (maximum) ( <i>B.F.S.L. 20° C</i> )
<b>Resolution</b>	0.0034% FS (typical)
<b>Maximum Operating Pressure</b>	1.1 x FS
<b>Burst Pressure<sup>4</sup></b>	3.0 x FS
<b>Compensated Range</b>	0° C to 40° C

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## SALES & SERVICE

8902 122nd Avenue NE  
Kirkland, WA 98033 USA  
425-822-4434  
FAX 425-822-8384 / info@inwusa.com

1-800-PRO-WELL  
WWW.INWUSA.COM

