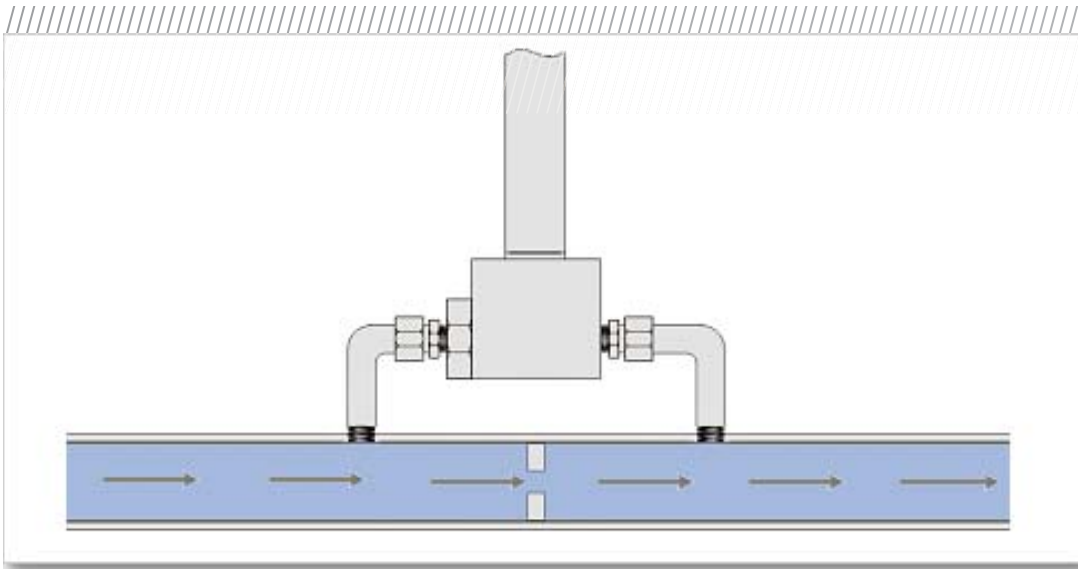


PT2X Wet/Wet Differential Smart Sensor

WITH DATA LOGGING



APPLICATIONS

- Flow measurement
- Pressure equalization applications
- Replace analog sensors with separate dataloggers

Flow measurement with all the great AquiStar[®] Smart Sensor features

Features

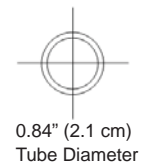
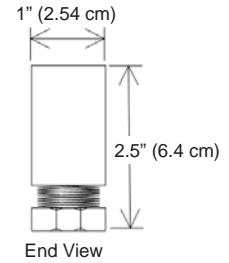
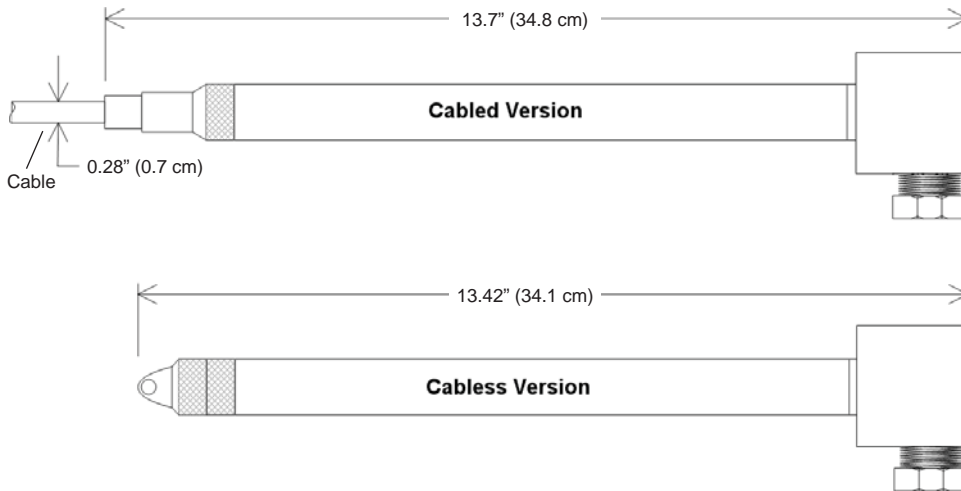
- Measures and records differential pressure, temperature, and time
- Low power — *field replaceable AA batteries*
- Modbus[®] RTU (RS485) and SDI-12 interface — *great flexibility*
- Thermally compensated
- Two diaphragms — *detects difference between pressure on the high side and pressure on the low side*
- $\pm 0.05\%$ 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

MEASURING VERTICAL HYDRAULIC GRADIENT

“This approach combines the advantage of high-temporal frequency measurements obtained with instrumented piezometers with the simplicity and reduced potential for human-induced error obtained with a manometer board method.”

—Fritz, Brad G., Mackley, Rob D.
“A Wet/Wet Differential Pressure Sensor for Measuring Vertical Hydraulic Gradient.” *Ground Water*.
Jan-Feb 2010:117

PT2X Wet/Wet Differential Smart Sensor with Data Logging



GENERAL

Length	13.7" (34.8 cm) cabled 13.42" (34.1 cm) cableless
Diameter	0.75" (1.9 cm)
Weight	0.8 lb. (0.4 kg)
Body Material	Acetal & 316 stainless steel or titanium
Wire Seal Material	Fluoropolymer and PTFE
Submersible Cable	Polyurethane, polyethylene, or FEP available
Protection Rating	IP68, NEMA 6P
Desiccant	1-3 mm indicating silica gel (high or standard capacity)
Terminating Connector	Available
Communication	RS485 Modbus® RTU SDI-12 (ver.1.3)
Direct Modbus Read Output	32-bit IEEE floating point
SDI-12 Output	ASCII
Internal Math	32-bit floating point
Operating Temp. Range³	-15° C to 55° C
Storage Temp. Range¹	-40° C to 80° C

LOGGING

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

POWER

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

TEMPERATURE

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

PRESSURE

Transducer Type	Silicon strain gauge
Transducer Material	316 stainless steel or titanium
Pressure Ranges	PSID (differential) 15, 30, 50, 100, 300, 500 mH ₂ O (differential) 10.5, 21, 35, 70, 210, 350
Common Mode Pressure	10x range or 1000 PSI (whichever is lower)
Units	PSI, FtH ₂ O, inH ₂ O, cmH ₂ O, mmH ₂ O, mH ₂ O, inHg, cmHg, mmHg, Bars, mBars, kPa
Static Accuracy	± 0.05% FSO (typical) ± 0.1% FSO (maximum) (B.F.S.L. 20° C)
Resolution	0.0034% FS (typical)
Maximum Operating Pressure	1.1 x FS
Burst Pressure⁴	3.0 x FS
Compensated Range	0° C to 40° C

¹ Storage without batteries
² Lithium available upon request
³ Requires freeze protection kit if in water below freezing

⁴ Burst reduced at PSI>300
⁵ May vary due to environmental factors

©2013 Instrumentation Northwest, Inc. All rights reserved. INW and AquiStar are registered trademarks of Instrumentation Northwest. Modbus is a registered trademark of Schneider Electric. Information in this document is subject to change without notice. Doc# 6D0045r6.1 11/5/13

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

