PRODUCT OVERVIEW

Submersible Pressure Transducer

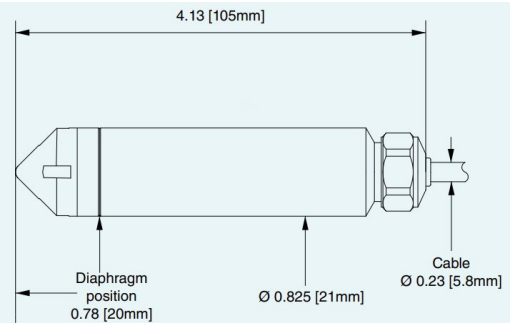
The Submersible Pressure Transducer (PT) provides outstanding Total Error Band (TEB)[2] accuracy for reliable, accurate measurements in real-world conditions.

The Submersible PT is ideally suited for environmental monitoring applications such as surface water, streams, and reservoirs using existing SDI-12 monitoring equipment.

The Submersible PT is ideal for remote applications where battery-powered operation with minimal current draw and networking multiple sensors to a data recorder are required. The included lightning protection makes it more robust for installation in areas prone to high current and voltage transients.

FEATURES

- Standard ±0.1% FS TEB or optional USGS OSW accuracies available
  - ±0.1% FS TEB on ranges up to 900 ft W.C.
  - Meets OSW spec on ranges up to 70 ft W.C. from 0...40°C
- 16-bit internal digital error correction for cost-effective low Total Error Band (TEB)[2]
- Digital output SDI-12 for maximum versatility
- SDI-12 V1.3 protocol compatibility
- 316L stainless construction standard
- Lightning protection included
- Built in the U.S.A. ARRA Section 1605 Compliant



Red	Black	White
+Vcc	GND	SDI-12
Braided shield wire connected to transmitter housing. For lightning protection to function properly, the shield wire must be connected to a good earth ground!		

Detailed specifications

PRESSURE RANGES[1]	
Relative	• 30 PSI ~ 20m ~ 70ft (compliance with USGS OSW specification mandates) • 15 PSI ~ 10m ~ 33 ft • 7 PSI ~ 5m ~ 16 ft

ACCURACY[2,3,4]	
Pressure	• Standard ±0.1% FS TEB • **Optional** ±0.01 ft WC when reading ≤ 10 ftWC or ±0.1% of reading >10 ftWC
Temperature	typ. ± 0.3 °C

OUTPUT[5]	
Digital	SDI-12
Pressure Resolution	0.0005% FS
Temp. Resolution	< 0.01 °C
Communication Protocol	SDI-12 V1.3
Baud Rate	1200 bits/s

CERTIFICATIONS	
CE	EN50081-1, EN50082-2

ELECTRICAL[6]	
Supply	6...32 VDC
Power Consumption	• <0.1mA (sleep) • < 5.5 mA (active)
Startup Time	< 5 ms (interface ready)
Load Resistance (mA)	<(Supply-6V)/0.0055A
Insulation GND-CASE	> 10 MΩ @ 300 V

ENVIRONMENTAL	
Protection Rating	IP68
Storage Temp.	-20...80° C
Compensated Temp.	• Standard -10...80° C • **Optional** 0...40° C[7]
Wetted Materials	• 316 L Stainless Steel • Titanium Optional • Polyamide • Fluorocarbon
Cable Options	• Polyethylene for general purpose • Hytrel for hydrocarbon • Tefzel for chemical interaction

1 Level range may be specified in units of bar, mbar, mH2O, psi, ftWC, or inWC

2 Total Error Band (TEB) includes the combined effects of non-linearity, hysteresis, and non-repeatability as well as thermal dependencies, over the compensated temperature range.

3 Optional accuracy is written in compliance with USGS OSW specification mandates

4 Optional accuracy is written in compliance with USGS OSW specification mandates and limited to a compensated temperature range of 0...40° C.

6 Nominal values may be higher depending upon cable length. Cable resistance (~70Ω / 1000ft) adds to the supply requirement. In order to insure proper system operation, calculate the minimum required supply voltage (at the source) as follows: MINIMUM SUPPLY VOLTAGE = 6 + 0.022 (CABLE LENGTH x 0.07) VDC

7 Optional compensated temperature range applies to transducers built to USGS OSW Certifications accuracy specification.