

A1000i LOOP POWERED/ 4-20mA SUBMERSIBLE LEVEL TRANSMITTER

The A1000i Submersible Level Transducer is the industry's most highly engineered and advanced submersible level transmitter for the measurement of liquids containing high amounts of solids such as raw sewage/wastewater. The unit works equally well in potable water applications. The robustness and high reliability of the A1000i is based on its maintenance free design and simplicity of operation allowing it to operate in harsh environments. The unit is unaffected by turbulence, foaming, false echoing, solids build up, and atmospheric changes that often cause other level transmitter technologies to fail. A selection of pressure ranges is available to fit most wet well level/pressure measurement applications from high accuracy weir level/flow rate measurement to the deepest of wet wells and storage tanks. Several mounting options are available including vessel, pipe, fixed and suspension kits.

THEORY OF OPERATION

The A1000i utilizes pressure, the most reliable means to measure liquid level. The sensor assembly is mounted at a low point (fixed or suspended) within the liquid media and uses a sensing diaphragm to measure the hydrostatic head-pressure. The pressure produced is proportional to the height of the liquid above the sensing diaphragm. The protruding (no cavity) flexible Teflon® coated Buna-N diaphragm uses a liquid fill to transfer the external diaphragm pressure to a stable and accurate gauge pressure type piezoresistive sensor. The transducer uses the loop power excitation source (9-30VDC) and converts the pressure to a proportional (4-20mA) electrical signal. The transducer is barometrically compensated via a rigid breather tube connected to a panel mounted sealed breather system.

APPLICATIONS

Wastewater

- Sewage lift station wet wells
- Headworks
- Combined Sewer Overflow (CSO)
- Sequencing Batch Reactors (SBR)
- Lagoons/Ponds, Lakes & Rivers
- Equalization Basins
- Weir Flow Measurement
- Contact Tanks
- Sumps

Water

- Raw Water Intake Level
- Filter Water Levels
- Clearwells
- Backflush Decant Tanks
- Above or Below Ground Storage Tanks
- Standpipes

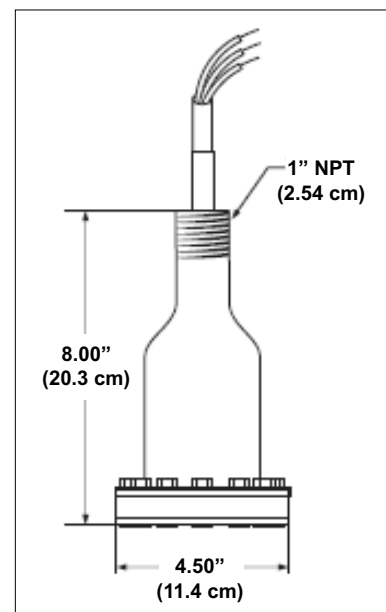
FEATURES

- Economically priced
- Easy trouble free installation
- Rugged, debris-free non-fouling Teflon® coated 316 stainless steel housing
- Large protruding (no cavity to clean) 2 5/8" (6.7 cm) Teflon® Coated-Buna-N sensing diaphragm
- Maintenance free "Rigid Sealed Breather System" reliably equalizes atmospheric pressure
- Versatile mounting arrangements
- Intrinsically safe, Class I, Div. 1 A, B, C & D rated with approved barrier
- Pre-calibrated Pressure ranges from 1.5 PSI (0.1 Bar) to 30 PSI (2.1 Bar) 0-3.5ft (0-1.1 m) to 0-69.3ft (0-21.1m)
- Transducer electronic components are electronically and physically isolated from sensed media

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Specifications	
Housing	316 Cast Stainless Steel, Teflon® Coated
Cable	Heavy-duty Polyurethane with Vent Tube, Shielded 16 AWG Conductors
Atmosphere Ventilation	No Maintenance Sealed Breather System Equalizes Atmospheric Pressure
Mounting	Suspension Cable Mount or 1" (2.54 cm) Pipe Mount
Exposed Materials	316 Cast Stainless Steel, Teflon® Coated, PVC, Synthetic Rubber and Urethane
Sensing head	Two Layer Diaphragm With Teflon® and Buna-N Material
Power Required	9 - 30 VDC (750 ohm load @ 24VDC)
Signal Output	4 - 20mA
Agency Approval	FM and CSA Intrinsically Safe Class I, Div. 1, Groups A,B,C,D with Approved Barrier
Accuracy	0.25 % Full Scale with Long Term Stability of 0.2 % Full Scale per Year
Pressure Ranges	5.0 PSI to 30 PSI (0.3 Bar to 2.1 Bar) (Consult factory for ranges over 30 PSI (2.1 Bar))
Max Over Pressure Range	5.0 PSI (0.3 Bar) 4X Full Scale 15 PSI & 30 PSI (1.0 Bar & 2.1 Bar) 2X Full Scale
Temperature Range	-40 to +185°F (-40 to 85°C) (Liquid must remain fluid)

Description	Part Number
A1000i Sensors	
5 PSI (0.3 Bar) 4-20mA Output (0-11.5 ft (0-3.5 m) of water)	W2T294099
15 PSI (1.0 Bar) 4-20mA Output (0-34.7 ft (0-10.6 m) of water)	W2T294101
30 PSI (2.1 Bar) 4-20mA Output (0-69.3 ft (0-21.1m) of water)	W2T295696
Consult Factory For Ranges Over 30 PSI	
Housing/Cable Assembly	
A1000 Housing/Cable Sub-Assembly 20ft (6.1 m)	W2T294060
A1000 Housing/Cable Sub-Assembly 30ft (9.1 m)	W2T296821
A1000 Housing/Cable Sub-Assembly 40ft (12.2 m)	W2T294061
A1000 Housing/Cable Sub-Assembly 60ft (18.3 m)	W2T294062
A1000 Housing/Cable Sub-Assembly 80ft (24.4 m)	W2T294063
A1000 Housing/Cable Sub-Assembly 100ft (30.5 m)	W2T294064
Mounting Hardware and Accessories	
B100 9G CLS Stainless Steel Pipe Mounting Clamps	W3T4748
Cable Suspension Mounting Pipe (without SS cable)	W2T292717
Stainless Steel Cable; Each Additional 10 ft (3.1 m) (XX)	W3T490X
Breather Assembly Kit (Required for all A1000i sensors)	W3T4801
Terminal Connection (Junction) Box with Built-in Breather Assembly	W3T4804
Breather Assembly Kit (required with A1000i) Dual breather bags (2) for over 85' (25.9 m)	W3T4802



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