

CANADA SENSORS TECHNOLOGY INC.



Manufacturer of Advanced Technology Pressure & Level Transmitters

CRN Approval, ISO 9001:2015 Certified



LIQUID LEVEL TRANSMITTER – PROCESS 10

HART™ Enabled Intrinsically Safe Model, HART™ Enabled General Purpose Model

Modbus RTU Intrinsically Safe Model

Submersible Pump Lift Station / Sludge Level Transmitter / Long Range Depth Transmitter

Canada Sensors *intelligent* transmitters bring the latest technology to the pressure transmitter & related instrumentation market-place with self-diagnostic features which will maintain consistent accuracy throughout temperature and pressure scales.

FEATURES

- ✓ HART™ Protocol or Modbus RTU
- ✓ Intrinsically Safe – HazLoc Zone 0
- ✓ On-board Barometric Sensor Optional
- ✓ Eliminate Output Drift
- ✓ Self-Adjusting Real Time Data
- ✓ On-board RTD with Real Time Temperature Compensation
- ✓ All 316SS Construction (Wetted Parts)
- ✓ IP 68 Rated PTFE Vent
- ✓ Circuit Protection RFI and EMI surge protection
- ✓ 316SS Breathable Encapsulated Wire Tubing (BEWT)
(Tubing Length from 12 inches (30 cm) to 9 miles (15 KM))
- ✓ Full Scale Accuracy 0.075% (or better)
- ✓ Optional: Large 3" Non-clog 316SS Diaphragm c/w
Protective Cage for Heavy Slurry Applications,
Pipe Mounting Bracket,
Remote WIFI, 900 MHz Radio, LTE-M Cellular or Iridium
Satellite Monitoring System
(Real time information to your phone, computer or PLC)
- ✓ RoHS Compliant
- ✓ External Pressures to 15,000 PSI
- ✓ 3 Year Conditional Warranty



TECHNICAL DATA

HART™ Enabled or Modbus RTU is a standard feature

Two Wire 4-20 mA Output Pressure Transmitter / Four Wire Modbus RTU Protocol

Temperature compensation, through a mathematical formula, will occur at multiple levels throughout the range of the pressure transmitter offering highly accurate information.

The Process 10 transmitter has an optional on-board barometric calibration chip. This is a self-adjusting feature with zero drift at any altitude or day or night. The transmitter does not require any external adjustments.

Highly accurate and repeatable 0.075% to 0.25% (or better) full scale accuracy depending on conditions

Intrinsically Safe - HazLoc Zone 0

Ingress Protection is minimum IP68

Operating pressure ranges from 5 PSI and up

Digitally mapped error correction throughout the level range

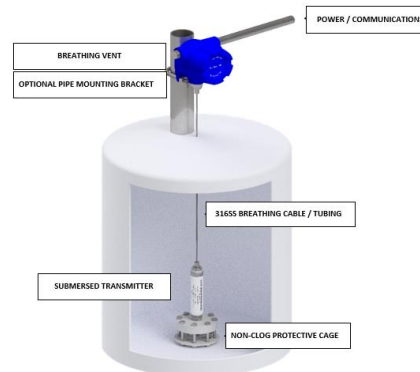
Individually characterized sensor head -316SS silicone oil filled sensor

Corrosion Inhibiting feature is standard on the Process 10 model. This PTFE corrosion protection protects from ambient conditions such as UV rays, humidity, sand, sea-spray, hydrogen sulfide environments, and most chemicals. (PTFE is not available on 3" diaphragm model)

PTFE coating on the process connection provides protection from corrosive media

Multiple Electrical Connectors & Housings Available

316SS Process Connection Materials are standard



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**Manufacturer of Advanced Technology
Level and Pressure Transmitters**

Additional Features:

Powder Coated Canister
Engraved Product Information
Laser Welded
3 Year Conditional Warranty (Serial Number Traceability)

Advanced Technology ... Improving Business

Smart THROUGH and THROUGH

This transmitter packs a powerful punch

No drift. No set-up. It just works.

MISSION STATEMENT

Canada Sensors Technology Inc. strives to build a mutually positive and beneficial relationship with our customers, ensuring their long-term success, through the understanding of their needs and the needs of their customers.

We will listen to our customers and constantly improve our technologies as our customers' needs change with time.

Canada Sensors Technology Inc. is committed to providing the highest level of product quality and customer service. Canada Sensors Technology Inc. is ISO 9001:2015 certified.

Technical Specifications

Performance

Accuracy:	0.075 to 0.25% Full Scale Output depending on conditions
Stability:	0.075 to 0.25% Full Scale Output depending on conditions
Temperature Range:	-4C to +60C Calibrated
Temperature Accuracy:	0.075 to 0.25% Full Scale Output depending on conditions
Pressure Cycles:	n/a
Over Range Protection:	2 x Full Scale Output
Burst Pressure:	5 x Full Scale Output

Environmental Data

Temperature

Operating:	-4C to +60C
Storage:	-55C to +125C

Thermal Limits

Compensated Range:	-4C to +60C
Temp Comp Zero:	0.075 to 0.25% Full Scale Output @ +50C
Temp Comp Span:	0.075 to 0.25% Full Scale Output @ +50C

Electrical Data

Excitation:	14-33 VDC (product accessories may alter excitation values)
Comms:	HART Protocol or Modbus RTU
Current Consumption:	3.6 mA
Zero Offset:	4 mA
Span Tolerance:	Range or Sensor with Turndown
Output Load:	500 OHMS
Barometric Chip (optional):	Monitoring Range 88KPA (12.76 PSI) to 108 KPA (15.7 PSI)
RTD Temperature:	On Board 100 ohm Platinum
Intrinsically Safe - HazLoc Zone 0	

Physical Data

Sensor:	PFAC-8 Treatment is standard on all Silicone Oil Filled 316SS, Inconel-718, Titanium, Hastalloy-276
Vibration:	25gRMS from 20Hz to 2000Hz
Shock:	100g , half sine, 11mSec.
NOTE: Silicone Oil Filled Sensors are standard for low pressure	
Process Connection:	1/4" MNPT Flushmount 316SS w/ Nose Cone or 316SS 3" Flush Non-clog Diaphragm w/protective cage
Electrical Connection:	316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ BEWT; XP Enclosures (complete system)
Optional:	WIFI or LTE-M Cellular Wireless Remote Data Transmission

NOTE: An Ex Barrier is required for any connections that cross the boundary from an Ordinary Location (Non-Classified/Non-Hazardous) to a Classified (Hazardous) location

NOTE: 316SS Wetted Parts are the minimum requirement for NACE compliance

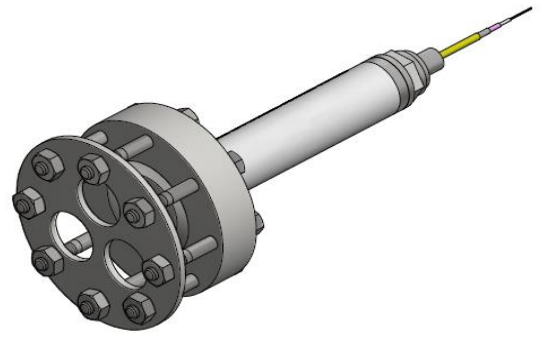
Process Connections:



1/4" MNPT FLUSHMOUNT 316SS



316SS Nose Cone

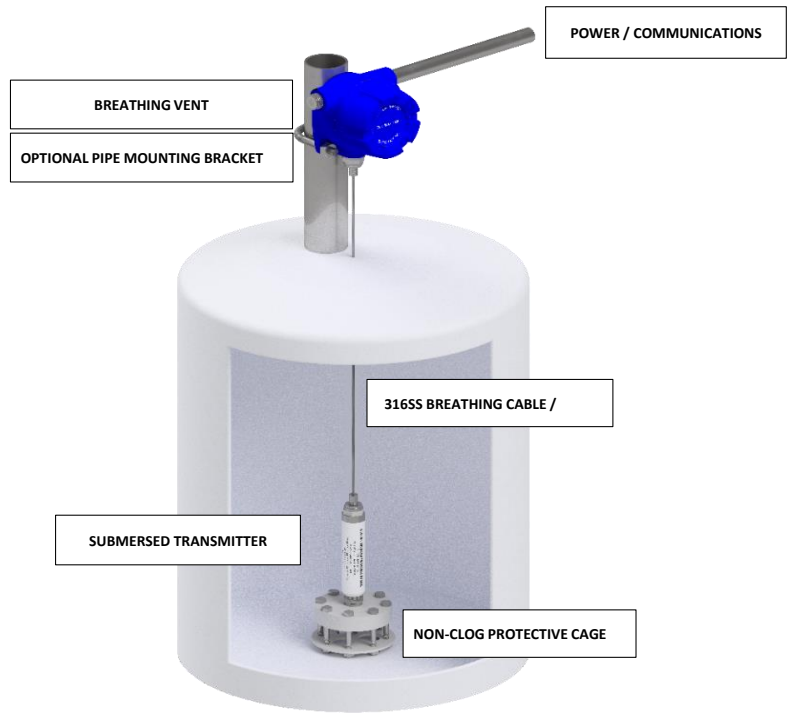


316SS 3" Flush Non-clog Diaphragm & Cage

Electrical Connections:



316SS 1/4" x 1/2" Bored Tubing Connector



Product Accessories:

Aluminum XP Head (1/2" FNPT x 3) - Blank - No Window

Aluminum XP Head (1/2" FNPT x 3) - w/ 3 1/2 + Digits LCD Loop Powered Display

Aluminum XP Head (1/2" FNPT x 3) - w/ 5 Digit LCD Loop Powered Display



Product Nomenclature

MODEL: Liquid Level Transmitter - Process 10

PN Example: A-B-C-D-E-F-G-H-I-J-K-L-M-N

LL10-01-01-01-850-025-14-02-L08-01-01-01-02-02:

Process 10 Transmitter, 4-20 mA, HART Enabled, Gauge (PSIG), .850 Specific Gravity, 25 ft maximum liquid height, 1/2" MNPT Flushmount w/ 3" Flush Non-clog Diaphragm & Cage 316SS, 316SS Wetted Parts, 316SS 1/4" Compression x 1/2" MNPT Bored Tubing Connector w/ 45 ft BEWT, Head - Blank No Window, No Mounting Bracket, No Monitoring, No Treatment, 0.25% Accuracy

	A	B	C	D	E	F	G	H	I	J	K	M	N
Model	LL10	-	Process 10										
Output	01	-	4-20 mA										
	04	-	RS485 - ModBus										
Calibration Adjustment	01	-	HART Enabled										
	04	-	ModBus RTU										
Pressure Reference	01	-	Gauge (PSIG)										

Specific Gravity (water 1,000 kg/m3 = 1) Specific gravity of a liquid is the "ratio of the density of the liquid - to the density of water at 4°C"

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1296	1.296
1297	1.297
1298	1.298
1299	1.299
1300	1.300
9999	Specific Gravity - Other

Liquid Level - Maximum Height (ft)

001	1 ft
002	2 ft
003	3 ft
004	4 ft
005	5 ft
006	6 ft
007	7 ft
008	8 ft
009	9 ft
010	10 ft
011	11 ft
012	12 ft

013	13 ft
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099	99 ft
100	100 ft
999	Custom Length

Process Connection

- 13 - 1/4" MNPT w/ Nose Cone 316SS (Maximum Pressure 5,000 PSI)
- 14 - 1/2" MNPT w/ 3" Flush Non-clog Diaphragm & Cage 316SS (Maximum Pressure 1,500 PSI)

Wetted Parts

02 - 316SS

Electrical Connection

- L01 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 10 ft BEWT
- L02 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 15 ft BEWT
- L03 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 20 ft BEWT
- L04 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 25 ft BEWT
- L05 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 30 ft BEWT
- L06 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 35 ft BEWT
- L07 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 40 ft BEWT
- L08 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 45 ft BEWT
- L09 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 50 ft BEWT
- L10 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 55 ft BEWT
- L11 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 60 ft BEWT
- L12 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 65 ft BEWT
- L13 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 70 ft BEWT
- L14 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 75 ft BEWT
- L15 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 80 ft BEWT
- L16 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 85 ft BEWT
- L17 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 90 ft BEWT
- L18 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 95 ft BEWT
- L19 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 100 ft BEWT
- L20 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 105 ft BEWT
- L21 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 110 ft BEWT
- L22 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 115 ft BEWT
- L23 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 120 ft BEWT
- L24 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ 125 ft BEWT
- L99 - 316SS 1/4" Compression x 1/2' MNPT Bored Tubing Connector w/ BEWT Custom Length

Aluminum XP Enclosure

- 01 - Aluminum XP Head (1/2" FNPT x 3) - Blank - No Window
- 02 - Aluminum XP Head (1/2" FNPT x 3) - w/ 3 1/2 + Digits LCD Loop Powered Display
- 03 - Aluminum XP Head (1/2" FNPT x 3) - w/ 5 Digits LCD Loop Powered Display

Mounting Bracket

- 01 - None
- 02 - 2 " Pipe Mounting Kit

Environmental Treatment

- 01 - PTFE Treatment (Sensor / Nose Cone only, not available on 3" Diaphragm Model)
- 02 - No Treatment

Accuracy

- 01 - 0.075 Full Scale
- 02 - 0.25% Full Scale