CANADA SENSORS TECHNOLOGY INC.

Manufacturer of Advanced Technology Pressure & Level Transmitters

CRN Approval **ISO 9001:2015**

DIFFERENTIAL PRESSURE TRANSMITTER – PROCESS 8
HART™ Enabled Intrinsically Safe Model, HART™ Enabled General Purpose Model for Differential Pressure
Modbus RTU Intrinsically Safe Model for Differential Pressure

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**
- ✓ **Eliminate Output Drift**
- ✓ **Self-Adjusting Real Time Data**
- ✓ **Real Time Temperature Compensation**
- ✓ **On-board RTD**
- ✓ **Line Pressure Ranges up to 1,000 PSI**
- ✓ **Differential Pressures from 0 - 2 PSID to 0 to 200 PSID**
- ✓ **Characterized Sensor Head**
- ✓ **Full Scale Accuracy 0.075%**
- ✓ **RoHS Compliant**
- ✓ **2 Year Conditional Warranty**

TECHNICAL DATA

HART™ Enabled or Modbus RTU

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

Process 8 Pressure Transmitters are scaled & digitally mapped to temperatures from -40C to + 95C

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

The Process 8 transmitter has an on-board barometric calibration chip. This is a self-zeroing and 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% (or better) full scale accuracy

Intrinsically Safe - HazLoc Zone 0

Ingress Protection is minimum IP66

Operating pressure ranges to 1,000 PSI

Digitally mapped error correction throughout the pressure range

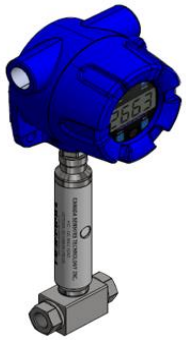
Individually characterized sensor head - 316SS silicone oil filled sensor is standard

Corrosion Inhibiting feature is standard on the Process 8 model. This PTFE corrosion protection protects from ambient conditions such as UV rays, humidity, sand, sea-spray, hydrogen sulfide environments, and most chemicals.

PTFE coating on the process connection provides protection from thread galling and corrosive media

Multiple Electrical Connectors & Housings Available

Multiple Process Connection Materials & Connection Threads Available



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Manufacturer of Advanced Technology Level and Pressure Transmitters

Additional Features: Powder Coated Canister
Engraved Product Information
Laser Welded
2 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. Quality Management System is certified as being in conformity with ISO 9001:2015 by Intertek

Technical Specifications - Process 8

Performance

Accuracy:	0.075% Full Scale Output
Stability:	< 0.075% Full Scale Output
Temperature Range:	-40C to +95C Calibrated
Temperature Accuracy:	< 0.075% Full Scale Output
Pressure Cycles:	> 50 Million
Over Range Protection:	2 x Full Scale Output
Burst Pressure:	5 x Full Scale Output

NOTE: Over Range Protection and Burst Pressure shall be reduced to 1.5 x Full Scale Output for pressures exceeding 1,000 PSI due to thread limitations

Environmental Data

Temperature

Operating:	-40C to +95C (product accessories may alter temperature ratings)
Storage:	-55C to +125C

Thermal Limits

Compensated Range:	-40C to +95C
Temp Comp Zero:	0.075% Full Scale Output @ +95C
Temp Comp Span:	0.075% Full Scale Output @ +95C

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:	Monitoring Range 88KPA (12.76 PSI) to 108 KPA (15.7 PSI)
RTD Temperature:	On Board 100 ohm Platinum
Intrinsically Safe - HazLoc Zone 0	

Pollution Degree 4

Installation Category I

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

Physical Data

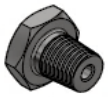
Sensor:	**Monolithic Block NOT Available on this model**
Vibration:	25gRMS from 20Hz to 2000Hz
Shock:	100g , half sine, 11mSec.
Sensor:	PFAC-8 Treatment is standard on all Silicone Oil Filled316SS, Inconel-718, Titanium, Hastalloy-276
Vibration:	25gRMS from 20Hz to 2000Hz
Shock:	100g , half sine, 11mSec.
NOTE: Silicone Oil Filled Sensors are a factory option for low pressure	
Process Connection:	1/4" MNPT; 1/4" FNPT; 1/2" MNPT; 1/2" FNPT; G-1/4"; G-1/2"
NOTE: ANSI Regulations dictate that NPT Thread should not to exceed 8,000 PSI @ +125C	
Electrical Connection:	316SS Weld-on: 6 Pin 90 Degree Military Connector; 1/2" MNPT Solid Conduit; 1/2" MNPT Positional Swivel Conduit; or w/ Aluminum XP Heads; Bendix Twist Connector 6 Pin (PTIH-10-6P)

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

Product Weights:	OZ	LBS	KG
Process 8 w/ 316SS Weld-on 6 Pin 90 Degree Military Connector	17.5	1.1	0.50
Process 8 w/ 316SS Weld-on x 1/2 MNPT Positional Swivel Conduit Fitting (2 ft Flying Lead)	25.5	1.6	0.72
Process 8 w/ 316SS Weld-on ½" MNPT Solid Conduit Fitting (2 ft Flying Lead); Bendix Twist Connector 6 Pin (PTIH-10-6P)	23.5	1.5	0.67
Process 8 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting - Blank - No Window	60.5	3.8	1.72
Process 8 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting - Blank - No Window	58.5	3.7	1.66
Process 8 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display	73.5	4.6	2.08
Process 8 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display	71.5	4.5	2.03
Process 8 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 5 Digits LCD Loop Powered Display	113.5	7.1	3.22
Process 8 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 5 Digits LCD Loop Powered Display	111.5	7.0	3.16
Process 8 w/Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer	113.5	7.1	3.22

Process 8 w/Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer	111.5	7.0	3.16

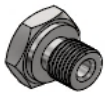
Process Connections:


1/4" MNPT


1/4" FNPT

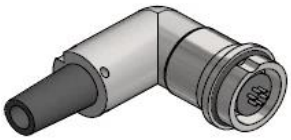

1/2" MNPT


1/2" FNPT

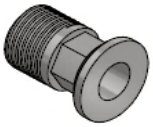

G-1/4"


G-1/2"

Electrical Connections:


6 PIN 90 DEGREE
MILITARY CONNECTOR


1/2" MNPT POSITIONAL
SWIVEL CONDUIT FITTING


1/2" MNPT SOLID
CONDUIT FITTING


BENDIX TWIST CONNECTOR
6 PIN

Product Accessories:

Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting - Blank - No Window
Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting - Blank - No Window
Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display
Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display
Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 5 Digits LCD Loop Powered Display
Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 5 Digits LCD Loop Powered Display
Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer
Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer

Product Nomenclature

MODEL: Differential Pressure Transmitter - Process 8

PN Example: A-B-C-D-E-F-G-H-I-J

08-01-01-04-051-02-02-08-01-01:

Process 8 Differential Transmitter, 4-20 mA, HART Enabled, Differential, 0 - 50 PSID, 1/4" FNPT, 316SS Wetted Parts, 316SS Weld-on 1/2" MNPT Solid Conduit Fitting with 4 ft Flying Lead, PTFE Treatment, 0.075% Accuracy

	A	B	C	D	E	F	G	H	I	J

Model

08	-	Process 8

Output

01	-	4-20 mA
04	-	RS485 - ModBus

Calibration Adjustment

01	-	HART Enabled
04	-	ModBus RTU

Pressure Reference

04	-	Differential

Pressure Range

046	-	0 – 2 PSID
047	-	0 – 5 PSID
048	-	0 – 10 PSID
049	-	0 – 15 PSID
050	-	0 – 30 PSID
051	-	0 – 50 PSID
052	-	0 – 100 PSID
053	-	0 – 150 PSID
054	-	0 – 200 PSID

Process Connection

01	-	¼" MNPT (Maximum Pressure 10,000 PSI)
02	-	¼" FNPT (Maximum Pressure 10,000 PSI)
03	-	½" MNPT (Maximum Pressure 10,000 PSI)
04	-	½" FNPT (Maximum Pressure 10,000 PSI)
07	-	G-¼" (Maximum Pressure 5,000 PSI)
08	-	G-1/2" (Maximum Pressure 5,000 PSI)

Wetted Parts

02	-	316SS
03	-	Inconel-718
04	-	Titanium
05	-	Hastelloy-276

Electrical Connection

01	-	316SS Weld-on 6 Pin 90 Degree Military Connector
02	-	316SS Weld-on ½" MNPT Positional Swivel Conduit Fitting (2 ft Flying Lead)
03	-	316SS Weld-on ½" MNPT Positional Swivel Conduit Fitting (4 ft Flying Lead)
04	-	316SS Weld-on ½" MNPT Positional Swivel Conduit Fitting (6 ft Flying Lead)
05	-	316SS Weld-on ½" MNPT Positional Swivel Conduit Fitting (10 ft Flying Lead)
07	-	316SS Weld-on ½" MNPT Solid Conduit Fitting (2 ft Flying Lead)
08	-	316SS Weld-on ½" MNPT Solid Conduit Fitting (4 ft Flying Lead)
09	-	316SS Weld-on ½" MNPT Solid Conduit Fitting (6 ft Flying Lead)
10	-	316SS Weld-on ½" MNPT Solid Conduit Fitting (10 ft Flying Lead)
31	-	Weld-on Bendix 6-Pin - Aluminum
33	-	Weld-on Bendix 6-Pin - 316SS
34	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting - Blank - No Window
35	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting - Blank - No Window
37	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display
38	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display
40	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 5 Digits LCD Loop Powered Display
41	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 5 Digits LCD Loop Powered Display
47	-	Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer
48	-	Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer

Environmental Treatment

01	-	PTFE Treatment
02	-	No Treatment
04	-	DLC (Diamond Like Coating)

Accuracy

01	-	0. 075%

E: Alternate Pressure Range Units

kPa			
kPa	**046 - kPa**	-	**0 – 15 kPaD**
kPa	**047 - kPa**	-	**0 – 35 kPaD**
kPa	**048 - kPa**	-	**0 – 70 kPaD**
kPa	**049 - kPa**	-	**0 – 100 kPaD**
kPa	**050 - kPa**	-	**0 – 200 kPaD**
kPa	**051 - kPa**	-	**0 – 350 kPaD**
kPa	**052 - kPa**	-	**0 – 700 kPaD**
kPa	**053 - kPa**	-	**0 – 1000 kPaD**
kPa	**054 - kPa**	-	**0 – 1400 kPaD**
mBar			
mBar	**046 - mBar**	-	**0 – 150 mBarD**
mBar	**047 - mBar**	-	**0 – 350 mBarD**
mBar	**048 - mBar**	-	**0 – 700 mBarD**
mBar	**049 - mBar**	-	**0 – 1000 mBarD**
mBar	**050 - mBar**	-	**0 – 2000 mBarD**
mBar	**051 - mBar**	-	**0 – 3500 mBarD**
mBar	**052 - mBar**	-	**0 – 7000 mBarD**
mBar	**053 - mBar**	-	**0 – 10000 mBarD**
mBar	**054 - mBar**	-	**0 – 14000 mBarD**
mm Hg			
mm Hg	**046 - mm Hg**	-	**0 – 100 mm HgD**
mm Hg	**047 - mm Hg**	-	**0 – 250 mm HgD**
mm Hg	**048 - mm Hg**	-	**0 – 500 mm HgD**
mm Hg	**049 - mm Hg**	-	**0 – 800 mm HgD**
mm Hg	**050 - mm Hg**	-	**0 – 1500 mm HgD**
mm Hg	**051 - mm Hg**	-	**0 – 2500 mm HgD**
mm Hg	**052 - mm Hg**	-	**0 – 5000 mm HgD**
mm Hg	**053 - mm Hg**	-	**0 – 8000 mm HgD**
mm Hg	**054 - mm Hg**	-	**0 – 10000 mm HgD**
in H_2O (60° F)			
in H_2O (60° F)	**046 - in H_2O**	-	**0 - 60 in H_2OD (60° F)**
in H_2O (60° F)	**047 - in H_2O**	-	**0 - 150 in H_2OD (60° F)**
in H_2O (60° F)	**048 - in H_2O**	-	**0 - 300 in H_2OD (60° F)**
in H_2O (60° F)	**049 - in H_2O**	-	**0 - 400 in H_2OD (60° F)**
in H_2O (60° F)	**050 - in H_2O**	-	**0 - 800 in H_2OD (60° F)**
in H_2O (60° F)	**051 - in H_2O**	-	**0 - 1500 in H_2OD (60° F)**
in H_2O (60° F)	**052 - in H_2O**	-	**0 - 3000 in H_2OD (60° F)**
in H_2O (60° F)	**053 - in H_2O**	-	**0 - 4000 in H_2OD (60° F)**
in H_2O (60° F)	**054 - in H_2O**	-	**0 - 5000 in H_2OD (60° F)**
mm H_2O (4° C)			
mm H_2O (4° C)	**046 - mm H_2O**	-	**0 - 1400 mm H_2OD (4° C)**
mm H_2O (4° C)	**047 - mm H_2O**	-	**0 - 3500 mm H_2OD (4° C)**
mm H_2O (4° C)	**048 - mm H_2O**	-	**0 - 7000 mm H_2OD (4° C)**
mm H_2O (4° C)	**049 - mm H_2O**	-	**0 - 10000 mm H_2OD (4° C)**
mm H_2O (4° C)	**050 - mm H_2O**	-	**0 - 20000 mm H_2OD (4° C)**
mm H_2O (4° C)	**051 - mm H_2O**	-	**0 - 35000 mm H_2OD (4° C)**
mm H_2O (4° C)	**052 - mm H_2O**	-	**0 - 70000 mm H_2OD (4° C)**
mm H_2O (4° C)	**053 - mm H_2O**	-	**0 - 100000 mm H_2OD (4° C)**
mm H_2O (4° C)	**054 - mm H_2O**	-	**0 - 140000 mm H_2OD (4° C)**
in Hg (32° F)			
in Hg (32° F)	**046 - in Hg**	-	**0 - 5 in HgD(32° F)**
in Hg (32° F)	**047 - in Hg**	-	**0 - 10 in HgD(32° F)**
in Hg (32° F)	**048 - in Hg**	-	**0 - 20 in HgD(32° F)**
in Hg (32° F)	**049 - in Hg**	-	**0 - 30 in HgD(32° F)**
in Hg (32° F)	**050 - in Hg**	-	**0 - 30 in HgD(32° F)**
in Hg (32° F)	**051 - in Hg**	-	**0 - 100 in HgD(32° F)**
in Hg (32° F)	**052 - in Hg**	-	**0 - 200 in HgD(32° F)**
in Hg (32° F)	**053 - in Hg**	-	**0 - 300 in HgD(32° F)**
in Hg (32° F)	**054 - in Hg**	-	**0 - 400 in HgD(32° F)**
Bar			
Bar	**046 - Bar**	-	**0 – 0.15 BarD**
Bar	**047 - Bar**	-	**0 – 0.35 BarD**
Bar	**048 - Bar**	-	**0 – 0.7 BarD**
Bar	**049 - Bar**	-	**0 – 1 BarD**
Bar	**050 - Bar**	-	**0 – 2 BarD**
Bar	**051 - Bar**	-	**0 – 3.5 BarD**
Bar	**052 - Bar**	-	**0 – 7 BarD**
Bar	**053 - Bar**	-	**0 – 10 BarD**
Bar	**054 - Bar**	-	**0 – 14 BarD**

ata (kg/cm^2)			
ata (kg/cm^2)	**046 - ata**	-	**0 - 0.14 ata (kg/cm^2)D**
ata (kg/cm^2)	**047 - ata**	-	**0 - 0.35 ata (kg/cm^2)D**
ata (kg/cm^2)	**048 - ata**	-	**0 - 0.7 ata (kg/cm^2)D**
ata (kg/cm^2)	**049 - ata**	-	**0 - 1 ata (kg/cm^2)D**
ata (kg/cm^2)	**050 - ata**	-	**0 - 2.1 ata (kg/cm^2)D**
ata (kg/cm^2)	**051 - ata**	-	**0 - 3.5 ata (kg/cm^2)D**
ata (kg/cm^2)	**052 - ata**	-	**0 - 7 ata (kg/cm^2)D**
ata (kg/cm^2)	**053 - ata**	-	**0 - 10 ata (kg/cm^2)D**
ata (kg/cm^2)	**054 - ata**	-	**0 - 14 ata (kg/cm^2)D**