

# CANADA SENSORS TECHNOLOGY INC.



Manufacturer of Advanced Technology Pressure & Level Transmitters

CRN Approval, ISO 9001:2015 Certified



## DIFFERENTIAL PRESSURE TRANSMITTER – PROCESS 9 General Purpose Model for Differential Pressure

Canada Sensors Technology Inc. offers an affordable solution with the Process 9 Differential Pressure Transmitter without sacrificing quality or longevity of use.

### FEATURES

- ✓ 4 – 20 mA Two Wire, Voltage, MODbus, CANbus, J1939, USB, Ethernet
- ✓ 0.25% BSL Accuracy
- ✓ Zero & Span Function
- ✓ >50 million Cycles
- ✓ Line Pressure Ranges to 1,000 PSI
- ✓ Differential Pressures from 0 – 2 PSID to 0 – 200 PSID
- ✓ Heavy Duty 316SS Powder Coated Canister
- ✓ Temperature Compensated 0C to +50C
- ✓ Maximum Operating Temperature -40C to +95C
- ✓ Ingress Protection IP65
- ✓ Approved for General Purpose Use
- ✓ Multiple Electrical Connectors & Housings Available
- ✓ Multiple Process Connection Materials & Connection Threads Available
- ✓ Laser Engraved Product Information
- ✓ RoHS2 Compliant
- ✓ 2 Year Conditional Warranty (Serial Number Traceability)
- ✓ Unparalleled Value



### Contact Us:

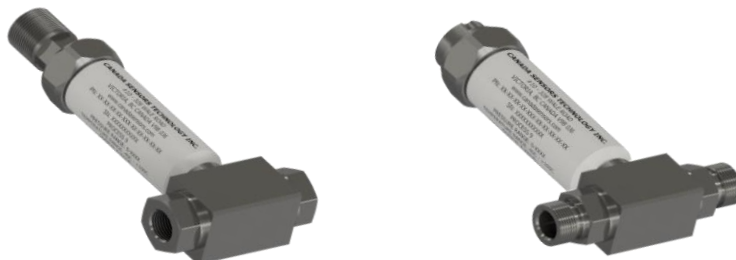
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Manufacturer of Advanced Technology  
Level and Pressure Transmitters



### 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 - Process 9**

**Performance**

Accuracy:	0.25% Full Scale Output
Stability:	< 0.1% Full Scale Output/Year
Temperature Range:	-40C to +95C
Temperature Accuracy:	1% Full Scale Output @ +50C
Pressure Cycles:	> 100 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**

**Electrical Data**

Excitation:	9-32 VDC (product accessories may alter excitation values)
Comms:	4-20 mA, 0-5 VDC or 0-10 VDC or Ratio Metric, RS485-Modbus, CANopen, J939, USB, Ethernet
Current Consumption:	5 mA
Zero Offset:	0.5% Full Scale Output set by Customer
Span Tolerance:	0.5% Full Scale Output set by Customer
Output Load:	9 Volts typical @ 24 VDC 750 OHMS

**Environmental Data**

**Temperature**

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

**Thermal Limits**

Compensated Range:	0 to +50C
Temp Comp Zero:	1% Full Scale Output @ +50C
Temp Comp Span:	1% Full Scale Output @ +50C

**Physical Data**

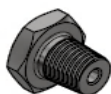
Sensor:	<b>Monolithic Block NOT Available on this model</b>
Vibration:	25gRMS from 20Hz to 2000Hz
Shock:	100g , half sine, 11mSec.
Sensor:	Silicone Oil Filled: 316SS, Inconel-718, Titanium, Hastalloy-276
Vibration:	25gRMS from 20Hz to 2000Hz
Shock:	100g , half sine, 11mSec.
<b>NOTE: Silicone Oil Filled Sensors are a factory option for low pressure</b>	
Process Connection:	1/4" MNPT; 1/4" FNPT; 1/2" MNPT; 1/2" FNPT; G-1/4"; G-1/2"
<b>NOTE: ANSI Regulations dictate that NPT Thread should not to exceed 8,000 PSI @ +125C</b>	
Electrical Connection:	316SS Thread-on 1/2" MNPT Solid Conduit Fitting or w/ Aluminum XP Heads; Big-DIN or w/ LED Display; Bendix Twist 6 Pin (PTIH-10-6P): M12
<b>NOTE: Big-DIN connection not approved for UV exposure</b>	

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

**Product Weights:**

	<b>OZ</b>	<b>LBS</b>	<b>KG</b>
Process 9 w/ 316SS Thread-on 1/2" MNPT Solid Conduit Fitting (2 ft Flying Lead)	20.5	1.3	0.58
Process 9 w/ Big-DIN (DIN 43650 90 Degree Hirschmann); Bendix Twist 6 Pin (PTIH-10-6P); M12	11.5	0.7	0.33
Process 9 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting - Blank - No Window	55.5	3.5	1.57
Process 9 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display	68.5	4.3	1.94
Process 9 w/ Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting w/ 5 Digits LCD Loop Powered Display	108.5	6.8	3.08
Process 9 w/ Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer	108.5	6.8	3.08
Process 9 w/ Big-DIN (DIN 43650 90 Degree Hirschmann) w/ LED Display	19.5	1.2	0.55

**Process Connections:**



1/4" MNPT



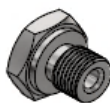
1/4" FNPT



1/2" MNPT



1/2" FNPT

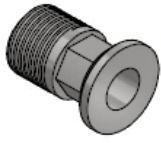


G-1/4"

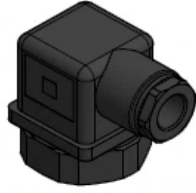


G-1/2"

**Electrical Connections:**



1/2" MNPT SOLID  
CONDUIT FITTING



43650A DIN CONNECTOR  
(BIG-DIN HIRSCHMANN)



BENDIX TWIST CONNECTOR  
6 PIN



M12

**Product Accessories**

Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting - Blank - No Window

Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-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 Thread-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 Thread-on 1/2" MNPT Solid Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer



Two Wired Smart LED SQUARE Display Unit



**Product Nomenclature**

**MODEL: Differential Pressure Transmitter - Process 9**

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

09-01-03-04-051-02-01-12-02-02:

Process 9 Differential Transmitter, 4-20 mA, Zero and Span, Differential, 0 - 50 PSID, 1/4" FNPT, 17-4phSS Wetted Parts, 316SS Thread-on 1/2" MNPT Solid Conduit Fitting with 2 ft Flying Lead, No Treatment, 0.25% Accuracy

	A	B	C	D	E	F	G	H	I	J
<b>Model</b>										
09	-	Process 9								
<b>Output</b>										
01	-	4-20 mA								
02	-	0-5 Volts								
03	-	0-10 Volts								
04	-	RS485 – Modbus								
05	-	CANopen								
06	-	J1939								
07	-	USB								
08	-	Ethernet								
<b>Calibration Adjustment</b>										
03	-	Zero and Span								
<b>Pressure Reference</b>										
04	-	Differential								
<b>Pressure Range</b>										
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								
<b>Process Connection</b>										
01	-	1/4" MNPT (Maximum Pressure 10,000 PSI)								
02	-	1/4" FNPT (Maximum Pressure 10,000 PSI)								
03	-	1/2" MNPT (Maximum Pressure 10,000 PSI)								
04	-	1/2" FNPT (Maximum Pressure 10,000 PSI)								
07	-	G-1/4" (Maximum Pressure 5,000 PSI)								
08	-	G-1/2" (Maximum Pressure 5,000 PSI)								
<b>Wetted Parts</b>										
02	-	316SS								
03	-	Inconel-718								
04	-	Titanium								
05	-	Hastelloy-276								
<b>Electrical Connection</b>										
12	-	316SS Thread-on 1/2" MNPT Solid Conduit Fitting (2 ft Flying Lead)								
13	-	316SS Thread-on 1/2" MNPT Solid Conduit Fitting (4 ft Flying Lead)								
14	-	316SS Thread-on 1/2" MNPT Solid Conduit Fitting (6 ft Flying Lead)								
15	-	316SS Thread-on 1/2" MNPT Solid Conduit Fitting (10 ft Flying Lead)								
22	-	Big-DIN (DIN 43650 90 Degree Hirschmann)								
31	-	Bendix Twist Connector 6 Pin (PTIH-10-6P)								
32	-	M12								
36	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting - Blank - No Window								
39	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting w/ 3 1/2 + Digits LCD Loop Powered Display								
42	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting w/ 5 Digits LCD Loop Powered Display								
49	-	Aluminum XP Head (1/2" FNPT x 1, 3/4" FNPT x 2) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting w/ 5 or 7 Digits LCD Loop Powered Flow Rate Totalizer								
91	-	Big-DIN (DIN 43650 90 Degree Hirschmann) w/ LED Display								
<b>Environmental Treatment</b>										
02	-	No Treatment								
04	-	DLC (Diamond Like Coating)								
<b>Accuracy</b>										
02	-	0.25 %								

**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<sub>2</sub>O (60° F)**

in H <sub>2</sub> O (60° F)	046 - in H <sub>2</sub> O	-	0 - 60 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	047 - in H <sub>2</sub> O	-	0 - 150 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	048 - in H <sub>2</sub> O	-	0 - 300 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	049 - in H <sub>2</sub> O	-	0 - 400 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	050 - in H <sub>2</sub> O	-	0 - 800 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	051 - in H <sub>2</sub> O	-	0 - 1500 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	052 - in H <sub>2</sub> O	-	0 - 3000 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	053 - in H <sub>2</sub> O	-	0 - 4000 in H <sub>2</sub> OD (60° F)
in H <sub>2</sub> O (60° F)	054 - in H <sub>2</sub> O	-	0 - 5000 in H <sub>2</sub> OD (60° F)

**mm H<sub>2</sub>O (4° C)**

mm H <sub>2</sub> O (4° C)	046 - mm H <sub>2</sub> O	-	0 - 1400 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	047 - mm H <sub>2</sub> O	-	0 - 3500 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	048 - mm H <sub>2</sub> O	-	0 - 7000 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	049 - mm H <sub>2</sub> O	-	0 - 10000 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	050 - mm H <sub>2</sub> O	-	0 - 20000 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	051 - mm H <sub>2</sub> O	-	0 - 35000 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	052 - mm H <sub>2</sub> O	-	0 - 70000 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	053 - mm H <sub>2</sub> O	-	0 - 100000 mm H <sub>2</sub> OD (4° C)
mm H <sub>2</sub> O (4° C)	054 - mm H <sub>2</sub> O	-	0 - 140000 mm H <sub>2</sub> OD (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)

<b>Bar</b>			
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

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