

CANADA SENSORS TECHNOLOGY INC.



Manufacturer of Advanced Technology Pressure & Level Transmitters

PRESSURE TRANSMITTER – PROCESS 2-HYD HART™ Enabled Intrinsically Safe Model for High Pressure Hydrogen Service

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
- ✓ High Pressure Hydrogen Service
- ✓ Intrinsically Safe – HazLoc Zone 0
- ✓ On-board Barometric Sensor
- ✓ Eliminate Output Drift
- ✓ Self-Adjusting Real Time Data
- ✓ Real Time Temperature Compensation
- ✓ On-board RTD
- ✓ Pressure Ranges 15,000 PSI, 20,000 PSI, 30,000 PSI
- ✓ Characterized Sensor Head
(Plasma Gold Coated)
- ✓ Monolithic Block Sensor Head >100 million cycles
- ✓ Full Scale Accuracy 0.25%
- ✓ RoHS2 Compliant Directive 2011/65/EU
- ✓ 1 Year Conditional Warranty

TECHNICAL DATA

HART™ Enabled

Two Wire 4-20 mA Output Pressure Transmitter

Process 2-HYD Pressure Transmitters are scaled & digitally mapped to temperatures from -40C to +85C

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

The Process 2-HYD 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 0.25% full scale accuracy

Intrinsically Safe - HazLoc Zone 0

Ingress Protection is minimum IP66

Operating pressure ranges to 15,000 PSI, 20,000 PSI, 30,000 PSI

Digitally mapped error correction throughout the pressure range

Individually characterized sensor head – machined one piece monolithic block sensor head with no internal o-rings or seals which are single seal compliant to ANSI/ISA-12.27.01.2003. Autoclave 1/4" F250C Connection 316SS material only.

Corrosion Inhibiting feature is standard on the Process 2-HYD model. This PTFE corrosion protection protects from ambient conditions such as UV rays, humidity, sand, sea-spray, hydrogen sulfide environments, and most chemicals.

Gold coating on the process connection provides protection from hydrogen molecule migration and hydrogen embrittlement to ASTM F519

Multiple Electrical Connectors & Housings Available



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

Additional Features: Powder Coated Canister
Engraved Product Information
Laser Welded
1 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:	0.25% Full Scale Output
Stability:	< 0.25% Full Scale Output
Temperature Range:	-40C to +85C Calibrated
Temperature Accuracy:	< 0.25% Full Scale Output
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 10,000 PSI due to thread limitations

Electrical Data

Excitation:	14-36 VDC (product accessories may alter excitation values)
Comms:	HART Protocol & Modbus in Development
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	

NOTE: Intrinsically safe pressure sensors may only be used in hazardous areas if they are installed in conjunction with an Ex barrier

Environmental Data

Temperature

Operating:	-40C to +85C
Storage:	-55C to +125C

Thermal Limits

Compensated Range:	-40C to +85C
Temp Comp Zero:	0.25% Full Scale Output @ +85C
Temp Comp Span:	0.25% Full Scale Output @ +85C

Physical Data

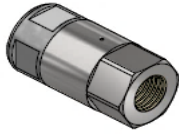
Sensor:	Gold Coated ASTM F519 Treatment is standard on all Monolithic Block - 316SS
Vibration:	25gRMS from 20Hz to 2000Hz
Shock:	100g , half sine, 11mSec.
Sensor:	Silicone Oil Filled NOT Available on this model
Vibration:	25gRMS from 20Hz to 2000Hz
Shock:	100g , half sine, 11mSec.
NOTE: Silicone Oil Filled Sensors are a factory option for low pressure	
Process Connection:	1/4" F250C
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

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

Product Weights:

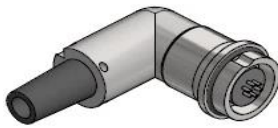
	OZ	LBS	KG
Process 2-HYD w/ F250C Autoclave & 316SS Weld-on 6 Pin 90 Degree Military Connector	21.5	1.3	0.61
Process 2-HYDw/ F250C Autoclave & 316SS Weld-on x 1/2 MNPT Positional Swivel Conduit Fitting (2 ft Flying Lead)	29.5	1.8	0.84
Process 2-HYD w/ F250C Autoclave & 316SS Weld-on 1/2" MNPT Solid Conduit Fitting (2 ft Flying Lead)	27.5	1.7	0.78
Process 2-HYD w/ F250C Autoclave & Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (2ft Flying Lead) Blank - No Window	64.5	4.0	1.83
Process 2-HYD w/ F250C Autoclave & Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting (2ft Flying Lead) Blank - No Window	62.5	3.9	1.77
Process 2-HYD w/ F250C Autoclave & Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (2ft Flying Lead) w/ 5 Digits LCD Loop Powered Display	77.5	4.8	2.20
Process 2-HYD w/ F250C Autoclave & Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting (2ft Flying Lead) w/ 5 Digits LCD Loop Powered Display	75.5	4.7	2.14

Process Connections:



1/4" F250C

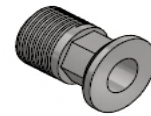
Electrical Connections:



6 PIN 90 DEGREE
MILITARY CONNECTOR



1/2" MNPT POSITIONAL
SWIVEL CONDUIT FITTING



1/2" MNPT SOLID
CONDUIT FITTING

Product Accessories:

- Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (2ft Flying Lead) Blank - No Window
- Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting (2ft Flying Lead) Blank - No Window
- Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (2ft Flying Lead) w/ 5 Digits LCD Loop Powered Display
- Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting (2ft Flying Lead) w/ 5 Digits LCD Loop Powered Display



Product Nomenclature

MODEL: Pressure Transmitter - Process 2-HYD

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

02-HYD-01-01-01-034-09-02-08-03-02:

Process 2-HYD Transmitter, 4-20 mA, HART Enabled, Gauge (PSIG), 0 - 15000 PSI, 1/4" F-250C, 316SS Wetted Parts, 316SS Weld-on 1/2" MNPT Solid Conduit Fitting with 4 ft Flying Lead, Gold Coated, 0.25% Accuracy

	A	B	C	D	E	F	G	H	I	J
Model	02-HYD	-	Process 2-HYD							
Output	01	-	4-20 mA							
Calibration Adjustment	01	-	HART Enabled							
Pressure Reference	01	-	Gauge (PSIG)							
Pressure Range	033	-	0 - 15000 PSI							
	034	-	0 - 20000 PSI							
	035	-	0 - 30000 PSI							
Process Connection	09	-	1/4" F250C							
Wetted Parts	02	-	316SS							
Electrical Connection	01	-	316SS Weld-on 6 Pin 90 Degree Military Connector							
	02	-	316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (2 ft Flying Lead)							
	03	-	316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (4 ft Flying Lead)							
	04	-	316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (6 ft Flying Lead)							
	05	-	316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (10 ft Flying Lead)							
	07	-	316SS Weld-on 1/2" MNPT Solid Conduit Fitting (2 ft Flying Lead)							
	08	-	316SS Weld-on 1/2" MNPT Solid Conduit Fitting (4 ft Flying Lead)							
	09	-	316SS Weld-on 1/2" MNPT Solid Conduit Fitting (6 ft Flying Lead)							
	10	-	316SS Weld-on 1/2" MNPT Solid Conduit Fitting (10 ft Flying Lead)							
	34	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (2ft Flying Lead) Blank - No Window							
	35	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Solid Conduit Fitting (2ft Flying Lead) Blank - No Window							
	40	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Weld-on 1/2" MNPT Positional Swivel Conduit Fitting (2ft Flying Lead) w/ 5 Digits LCD Loop Powered Display							
	41	-	Aluminum XP Head (1/2" FNPT x 3) - 316SS Thread-on 1/2" MNPT Solid Conduit Fitting (2ft Flying Lead) w/ 5 Digits LCD Loop Powered Display							
Environmental Treatment	03	-	Gold Coating							
Accuracy	02	-	0.25 %							

E: Alternate Pressure Range Units

kPa			
kPa	033 - kPa	-	0 - 1000000 kPa
kPa	034 - kPa	-	0 - 1400000 kPa
kPa	035 - kPa	-	0 - 2000000 kPa
mBar			
mBar	033 - mBar	-	0 - 1000000 mBar
mBar	034 - mBar	-	0 - 1400000 mBar
mBar	035 - mBar	-	0 - 2000000 mBar
mm Hg			
mm Hg	033 - mm Hg	-	0 - 800000 mm Hg
mm Hg	034 - mm Hg	-	0 - 1000000 mm Hg
mm Hg	035 - mm Hg	-	0 - 1500000 mm Hg
in H₂O (60° F)			
in H ₂ O (60° F)	033 - in H ₂ O	-	0 - 400000 in H ₂ O (60° F)
in H ₂ O (60° F)	034 - in H ₂ O	-	0 - 500000 in H ₂ O (60° F)
in H ₂ O (60° F)	035 - in H ₂ O	-	0 - 800000 in H ₂ O (60° F)
mm H₂O (4° C)			
mm H ₂ O (4° C)	033 - mm H ₂ O	-	0 - 10000000 mm H ₂ O (4° C)
mm H ₂ O (4° C)	034 - mm H ₂ O	-	0 - 14000000 mm H ₂ O (4° C)
mm H ₂ O (4° C)	035 - mm H ₂ O	-	0 - 20000000 mm H ₂ O (4° C)
in Hg (32° F)			
in Hg (32° F)	033 - in Hg	-	0 - 30000 in Hg (32° F)
in Hg (32° F)	034 - in Hg	-	0 - 40000 in Hg (32° F)
in Hg (32° F)	035 - in Hg	-	0 - 60000 in Hg (32° F)
Bar			
Bar	033 - Bar	-	0 - 1000 Bar
Bar	034 - Bar	-	0 - 1400 Bar
Bar	035 - Bar	-	0 - 2000 Bar
ata (kg/cm²)			
ata (kg/cm ²)	033 - ata	-	0 - 1000 ata (kg/cm ²)
ata (kg/cm ²)	034 - ata	-	0 - 1400 ata (kg/cm ²)
ata (kg/cm ²)	035 - ata	-	0 - 2100 ata (kg/cm ²)