

# Pressure Transmitter

## Model IDP10

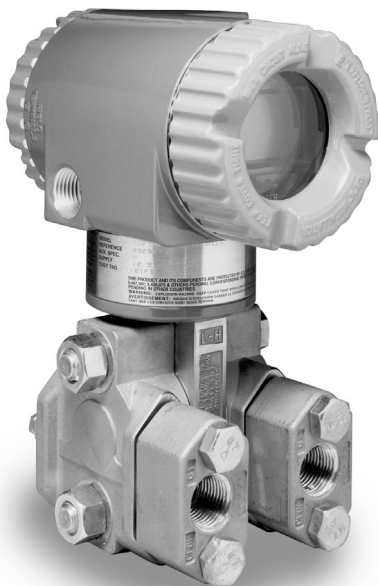
### Differential Pressure

#### Features

- HART and/or 4-20 mA or 1 to 5 VDC output
- Spans from 0.5" W.C. to 3,000 PSI
- 30:1 ranging
- Exotic wetted materials available
- NEMA 4X & Explosion Proof housing
- Push button configuration and calibration
- Local digital indicator

#### Typical Applications

- Pulp & paper, chemical processing, pharmaceutical and food processing
- Tank liquid level
- Filter differential
- Flow rate of liquids, gases and steam
- Offshore oil rigs



Viatran's Model IDP10 uses silicon sensor technology and microprocessor based electronics to provide a transmitter with exceptional accuracy and reliability. The modular electronics are housed in a durable NEMA 4X housing with corrosion-resistant epoxy coating. A stainless steel housing is available optionally for extremely corrosive and offshore applications. The electronics housing is fully rotatable and has two conduit entrances, allowing fully flexible installation.

Covering differential pressure ranges from 0.5" W.C. through 3,000 PSI, the Model IDP10 is available in five sensor ranges with 30:1 turn-down capability. The instrument has a high static line pressure capability of 3,625 PSI.

HART communication allows remote configuration and calibration for economical system start-up and commissioning. In addition, the IDP10 is fully capable of square root calculations for accurate process flow measurement.

The low power version features a 1 to 5 VDC output that will function with as little as 9 VDC and 3mA input power.

Standard product consists of 316 stainless steel process covers and sensor, providing excellent corrosion protection. A variety of other materials are available, including Hastelloy C, Monel and Tantalum for particularly demanding applications.

An integral LCD is standard to display in many desired units and provides pushbuttons for local configuration and calibration. An external zero adjustment is also available which makes it easier to zero the transmitter in the field, especially in hazardous locations.

#### Approval Options Available



# Viatran Model IDP10 Specifications

## Span Limit Codes

Span Code	Span Limits			Range Limits (a)		
	in H <sub>2</sub> O	PSI	mBAR	in H <sub>2</sub> O	PSI	mBAR
A	0.5 and 30	0.17 and 1.09	1.2 and 75	-30 and +30	-1.09 and +1.09	-75 and +75
B	3.5 and 200	0.12 and 7.25	8.7 and 500	-200 and +200	-7.25 and +7.25	-500 and +500
C	28 and 840	1.01 and 30.45	70 and 2100	-840 and +840	-30.45 and +30.45	-2100 and +2100
	PSI	PSI	BAR	PSI	PSI	BAR
D	10 and 300	10.15 and 304.58	0.7 and 21	-30 and +300	-30.46 and +304.58	-2.1 and +21
E	100 and 3000 (b)	10.15 and 3045 (b)	7 and 210 (b)	-30 and +3000 (b)	-30.46 and +3045 (b)	-2.1 and +210 (b)

(a) Positive values indicate HI side of sensor at the high pressure and negative values indicate LO side of sensor at the high pressure

(b) Limits may be derated when DIN 19213 flange option(s) ordered – consult factory

## Accuracy (includes Linearity, Hysteresis, Repeatability) % Span

Electronic Signal	Configured Output Signal	Common Span Accuracy (a)	Small Span Accuracy		
			Span Code B (spans <5% URL)	Span Code C, D & E (spans <6.7% URL)	Span Code A (spans <10% URL)
-T	Digital Linear	+/- 0.07 (b)	+/- (0.0035)(URL/Span)	+/- (0.0047)(URL/Span)	+/- [(0.08)+(0.002)(URL/Span)]
	Digital Square Root	+/- 0.10 (b)	+/- (0.005)(URL/Span)	+/- (0.0067)(URL/Span)	+/- [(0.008)+(0.003)(URL/Span)]
	4 to 20 mA Linear	+/- 0.10 (b)	+/- [(0.03)+(0.0035)(URL/Span)]	+/- [(0.03)+(0.0047)(URL/Span)]	+/- [(0.11)+(0.002)(URL/Span)]
	4 to 20 mA Square Root	+/- 0.13 (b)	+/- [(0.03)+(0.005)(URL/Span)]	+/- [(0.03)+(0.0067)(URL/Span)]	+/- [(0.11)+(0.003)(URL/Span)]
-A	4 to 20 mA Linear Sq. Root	+/- 0.2	+/- [(0.10)+(0.005)(URL/Span)]	+/- [(0.10)+(0.0067)(URL/Span)]	+/- [(0.10)+(0.0067)(URL/Span)]
-V	1 to 5 VDC Linear Sq. Root	+/- 0.2	+/- [(0.10)+(0.005)(URL/Span)]	+/- [(0.10)+(0.0067)(URL/Span)]	+/- [(0.10)+(0.0067)(URL/Span)]

(b) for Span Code A, add ± 0.03% to the accuracy values listed

## Static Pressure

Maximum Static Pressure: 3,625 PSI (standard construction)

Static Pressure Effect – per 1000 PSI

Span Code	Zero Shift	Span Shift
A	+/-0.30% URL (a)	+/-0.30% Span
B & C	+/-0.10% URL	+/-0.25% Span
D & E	+/-0.50% URL	+/-0.25% Span

(a) per 3.5 MPa (500 PSI) for Span Code A

## Temperature

Temperature Compensation: -20° F to +180° F

Process Temperature Range: -50° F to +250° F (silicone fill fluid)

-20° F to +250° F (fluorinert fill fluid)

Ambient Temperature Range: -40° F to +185° F

Ambient Temperature Effect (per 100° F change)

Span Code	Version -T Ambient Temperature Effect	Version -A and -V Ambient Temperature Effect
A	+/- (0.355% URL + 0.145% Span)	+/- (0.355% URL + 0.3% Span)
B & C	+/- (0.0625% URL + 0.225% Span)	+/- (0.0625% URL + 0.3925% Span)
D	+/- (0.100% URL + 0.1875% Span)	+/- (0.100% URL + 0.355% Span)
E	+/- (0.155% URL + 0.145% Span)	+/- (0.155% URL + 0.3% Span)

Zero Suppression	To the upper range limit minus the span
Zero Elevation	To the lower range limit
Enclosure Classification	Meets IEC IP66 and NEMA 4X
Sensor Fill Fluid	Dow Corning DC200 or 3M Fluorinert FC43
Supply Voltage	1-5 VDC: 9 to 15.5 VDC 4-20 mA: 11.5V to 42V HART: 17V to 42V
Minimum Resistance	250 Ohms for HART Communication
Response Time	Normally 1.0 seconds Electronically step adjustable from 0 to 32 sec.

### Certifications

FM/CSA **Intrinsic Safety** (-T and -V versions) Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III, Division 1  
**Explosion Proof/Dust Ignition Proof** (-T, -A, -V versions) Class I, Division 1, Groups B, C, D; Class II, Division 1, Groups E, F, G; Class III, Division 1  
**Nonincendive** (-T and -V versions) Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups E, F, G; Class III

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