

Model IXLdp Ultra-Low Differential Pressure Transmitter



APPLICATIONS:

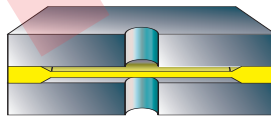
HVAC, fume hood control, lab/clean room pressurization, laminar flow, furnace/stack draft, leak detection, or pollution monitoring, medical equipment, fan tracking, filter monitoring and velocity measurements

FEATURES:

- **Certified 0.25% and 0.5% accuracy**
- **0.1~200" H₂O pressure ranges**
- **High overpressure protection**
- **FM approved for hazardous locations**
- **NEMA 4X metal construction**
- **Six types of output signals available**
- **5:1 turndown option**
- **Variable dampening option**
- **On-board voltage regulation allows use of lower cost, non-precise, unregulated power supply**
- **Hazardous environments**

Featuring a highly reliable variable capacitance sensor using the patented Ashcroft® SiGlas™ sensor. This ultra-thin single crystal diaphragm provides inherent sensor repeatability and stability.

SENSOR CROSS SECTION



The silicon diaphragm sensor has no glues or other organics to contribute to drift or mechanical degradation over time.

The Ashcroft® Industrial IXLdp was designed for the measurement and control of very low pressure and flow in industrial and process plant environments. The Industrial IXLdp transmitter features a rugged NEMA 4X enclosure, built-in electrical terminal box isolated from the electronics and threaded process connections.

The Ashcroft IXLdp transmitter utilizes a state-of-the-art variable capacitance sensor with a glass-clad silicon chip. The Si-Glas™ technology combines the high sensitivity of a variable capacitance transducer with the repeatability of a micro-machined, single-crystal silicon diaphragm.

The Si-Glas sensor is composed of sputtered metals and glass molecularly bonded to silicon. There are no epoxies or other organics in the sensor to contribute to drift or mechanical degradation over time.

PERFORMANCE SPECIFICATIONS

Ref. Temperature: 70°F ±2°F (21°C ±1°C)

Accuracy Class (of Span)

Two Options: ±0.25%, ±0.5%

Includes non-linearity (Terminal Point Method), hysteresis, non-repeatability, zero offset and span setting errors.

Stability – Max. Change (Span/year): ±0.25 %

Standard Ranges (Inches W.C.)

Unidirectional Ranges:

Differential or Gauge

0/0.1	0/2.0	0/10	0/50
0/0.25	0/2.5	0/15	0/100
0/0.50	0/3.0	0/20	0/150
0/1.0	0/5.0	0/25	0/200

Bidirectional Ranges:

Compound

±0.05	±0.5	± 5.0	± 25.0
±0.10	±1.0	±10.0	± 50.0
±0.20	±2.0	±15.0	±100.0
±0.25	±2.5	±20.0	

Custom Ranges:

Special range calibrations – see options

Response Time: Standard: 250ms

Optional variable damping (0-30 sec) – see options

ENVIRONMENTAL SPECIFICATIONS

Temperature Limits:

Storage: –40 to 210°F

Operating: –20 to 185°F (0-95% relative humidity)

Compensated: 0 to 160°F

Thermal Coefficients:

	0.25% Acc.	0.5% Acc.
ZERO	±0.01% Span/°F	±0.02% Span/°F
SPAN	±0.01% Span/°F	±0.02% Span/°F

Vibration Sweep:

Less than 0.2% Span/g temporary effect 10-130 Hz

FUNCTIONAL SPECIFICATIONS

Overpressure Limits:

Proof differential pressure: 20 psid

Burst differential pressure: 50 psid

Maximum static (line) pressure: 100 psi

Static pressure effect: less than 0.5% Span

Mounting Position Effect:

1" W.C. and higher 0.1% Span/g

0.25" up to 0.5" W.C. 0.5% Span/g

0.1" W.C. 0.8% Span/g

Note: Calibrated horizontally standard unless otherwise specified. Mounting Position Effect easily corrected with zero potentiometer.

ELECTRICAL SPECIFICATIONS

Output Signal:

4-20 mA (2 wire)

0-5 Vdc (3 wire)

1-5 Vdc (3 wire)

1-6 Vdc (3 wire)

±2.5 Vdc (3 wire)

±5 Vdc (3 wire)

Power:

12-36Vdc

12-36Vdc

12-36Vdc

12-36Vdc

12-36Vdc

12-36Vdc

Output Signal is Independent of Power Supply

Changes: 12-36 Vdc range without effect on output signal

Reverse Wiring Protected

Internal Zero and Span: ±10% F.S. Adjustment

Supply Current: 2.6mA typical for voltage output

Warm-up Time:

Full specification: Less than one second

Fast Response, Turndown & Variable Dampening Optional

Model IXLdp Ultra-Low Pressure Differential Transducer/Transmitter

PHYSICAL SPECIFICATIONS

Enclosure:

NEMA 4X, 300 series stainless steel

Process Connections:

Two 1/4" NPT female

Electrical Connections:

Two 1/2" female electrical conduit connections isolated from the electronics. Separate access cover for terminal connections

Media:

Clean, dry and noncorrosive gas (consult factory for use on other media)

NOT FOR USE ON LIQUIDS

OPTIONS

(XX1) – Fast Response: 8 ms

(X41) – 5:1 Turndown

(X1D) – Variable dampening (0-30 sec.)

(XNH) – Paper tag

(XCL) – Custom pressure range calibration

(XFM) – FM approval

• Consult factory on other pressure range, temperature compensation, packaging variations or response times

Factory Mutual  approvals*: Use "XFM" option Intrinsically Safe :

Class I, Div. 1, Groups A, B, C, D

Class II, Div. 2, Groups E, F, G

Class III, Div. 1,

When wired in accordance with Ashcroft drawings 71B241 (1-3)

Non-Incendive :

Class I, Div. 2, Groups A, B, C, D

Suitable for Class II, Div. 2, Groups F, G

Class III,

*Note:

FM option (XFM) cannot be combined with options X41 or X1D.

Load Limitations 4-20mA Output Only

Loop Resistance (Ω)

1250

1091

1000

750

545

500

250

0

0

10

20

30

36

40

Loop Supply Voltage (VDC)

OPERATING REGION

$$V_{min} = 12V + (.022A \times R_L)$$

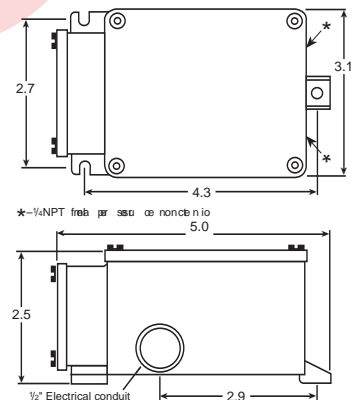
$$R_L = R_s + R_w$$

$$R_L = \text{Loop Resistance (ohms)}$$

$$R_s = \text{Sense Resistance (ohms)}$$

$$R_w = \text{Wire Resistance (ohms)}$$

DIMENSIONS (in inches)



How To Order

I X	Accuracy/TC* (3) 0.25%, ±0.01%F.S./°F (5) 0.50%, ±0.02%F.S./°F	F 0 2	Output Signal (05) 0-5 Vdc (15) 1-5 Vdc (16) 1-6 Vdc (42) 4-20mA (25) ±5.0 Vdc (50) ±2.5 Vdc	Electrical Termination (ST) Screw Terminal	Pressure Range Diff. or Gauge: (P11W) 0.10" W.C. (P25IW) 0.25" W.C. (P51IW) 0.50" W.C. (11W) 1.00" W.C. (21W) 2.00" W.C. (2P51W) 2.50" W.C. (31W) 3.00" W.C. (51W) 5.00" W.C. (101W) 10.00" W.C. (151W) 15.00" W.C. (201W) 20.00" W.C. (251W) 25.00" W.C. (501W) 50.00" W.C. (1001W) 100.00" W.C. (1501W) 150.00" W.C. (2001W) 200.00" W.C. Compound: (P051IW) ±0.05" W.C. (P11IW) ±0.10" W.C. (P21IW) ±0.20" W.C. (P251IW) ±0.25" W.C. (P51IW) ±0.50" W.C. (11IW) ±1.00" W.C. (21IW) ±2.00" W.C. (2P51IW) ±2.50" W.C. (31IW) ±3.00" W.C. (51IW) ±5.00" W.C. (101IW) ±10.00" W.C. (151IW) ±15.00" W.C. (201IW) ±20.00" W.C. (251IW) ±25.00" W.C. (501IW) ±50.00" W.C. (1001IW) ±100.00" W.C.	X F M Optional X-Variations See "Options" noted above
Type Configuration (IXLdp)		Pressure Connection (F02) 1/4" NPT-Female				

*IXLdp units include 9 point NIST traceable calibration certificate