

## Model IXLdp Ultra-Low Differential Pressure Transmitter



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OUR PRODUCTS

### APPLICATIONS:

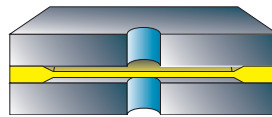
*HVAC, fume hood control, lab/clean room pressurization, laminar flow, furnace/stack draft, leak detection, or pollution monitoring, medical equipment, fan tracking, filter monitoring and velocity measurements*

### FEATURES:

- **Certified 0.25% and 0.5% accuracy**
- **0.1"~200" H<sub>2</sub>O pressure ranges**
- **High overpressure protection**
- **Optional FM approval 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

0/0.10	0/2.00	0/10.00	0/ 50.00
0/0.25	0/2.50	0/15.00	0/100.00
0/0.50	0/3.00	0/20.00	0/150.00
0/1.00	0/5.00	0/25.00	0/200.00

#### Bidirectional Ranges:

Compound

±0.05	±0.50	± 3.00	± 20.00
±0.10	±1.00	± 5.00	± 25.00
±0.20	±2.00	±10.00	± 50.00
±0.25	±2.50	±15.00	±100.00

#### 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

XFM Operating: –4 to 104°F

Compensated: 0 to 160°F

Relative Humidity: 0 to 95%

#### Thermal Coefficients:

	<b>0.25% Acc.</b>	<b>0.5% Acc.</b>
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

(Continued on other side)

## Model IXLdp Ultra-Low Pressure Differential Transducer/Transmitter

### Warm-up Time:

Full specification: Less than one second

### Fast Response, Turndown & Variable Dampening Optional

### PHYSICAL SPECIFICATIONS

#### Enclosure:

NEMA 4X, 300 series stainless steel

#### Process Connections:

Two ¼ NPT female

#### Electrical Connections:

Two ½" female electrical

conduit connections isolated from the electronics.

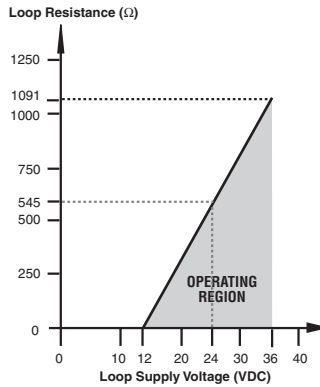
Separate access cover for terminal connections

**Media:** Clean, dry and noncorrosive gas (consult

factory for use on other media)

NOT FOR USE ON LIQUIDS

### Load Limitations 4-20mA Output Only



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

$$R_L = R_s + R_w$$

$R_L$  = Loop Resistance (ohms)

$R_s$  = Sense Resistance (ohms)

$R_w$  = Wire Resistance (ohms)

### 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, II, III; Div. 1

Groups A, B, C, D, E, F and G

When properly installed with an approved FM

intrinsically safe barrier.

Non-Incendive:

Class I, II, III; Div. 2

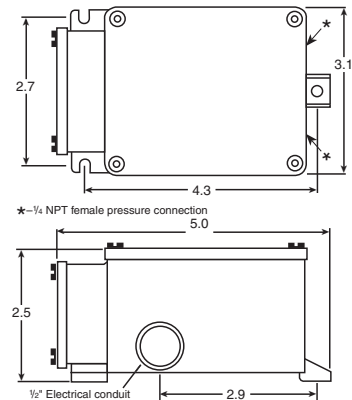
Groups A, B, C, D, E, F and G

\*Note:

FM option (XFM) cannot be combined with

options X1D or XX2.

### DIMENSIONS (in inches)



### How To Order

<b>I X</b>	<b>Accuracy/TC*</b> (3) 0.25%, ±0.01%FS/°F (5) 0.50%, ±0.02%FS/°F	<b>F 0 2</b>	<b>Output Signal</b> (05) 0-5 Vdc (15) 1-5 Vdc (16) 1-6 Vdc (42) 4-20mA (25) ±5.0 Vdc (50) ±2.5 Vdc	<b>ST</b>	<b>Electrical Termination</b> (ST) Screw Terminal	<b>Pressure Range</b> Diff. or Gauge: (P1IW) 0.10" W.C. (P25IW) 0.25" W.C. (P5IW) 0.50" W.C. (1IW) 1.00" W.C. (2IW) 2.00" W.C. (2P5IW) 2.50" W.C. (3IW) 3.00" W.C. (5IW) 5.00" W.C. (10IW) 10.00" W.C. (15IW) 15.00" W.C. (20IW) 20.00" W.C. (25IW) 25.00" W.C. (50IW) 50.00" W.C. (100IW) 100.00" W.C. (150IW) 150.00" W.C. (200IW) 200.00" W.C.	<b>X F M</b>	<b>Optional X-Variations</b> See "Options" noted above
<b>Type Configuration</b> (IXLdp)		<b>Pressure Connection</b> (F02) ¼ NPT-Female				Compound: (P05IWL) ±0.05" W.C. (P1IWL) ±0.10" W.C. (P2IWL) ±0.20" W.C. (P25IWL) ±0.25" W.C. (P5IWL) ±0.50" W.C. (1IWL) ±1.00" W.C. (2IWL) ±2.00" W.C. (2P5IWL) ±2.50" W.C. (3IWL) ±3.00" W.C. (5IWL) ±5.00" W.C. (10IWL) ±10.00" W.C. (15IWL) ±15.00" W.C. (20IWL) ±20.00" W.C. (25IWL) ±25.00" W.C. (50IWL) ±50.00" W.C. (100IWL) ±100.00" W.C.		

\*IXLdp units include 9 point NIST traceable calibration certificate