

# Model XLdp Ultra-Low Differential Pressure Transmitter



LOOK FOR THIS AGENCY MARK ON OUR PRODUCTS

## APPLICATIONS

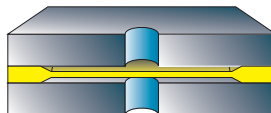
*HVAC, fume hood control, lab/clean/hospital room pressurization, medical lung function or breathing equipment, fan tracking, filter monitoring, or very low velocity measurements*

## FEATURES:

- Certified 0.25% and 0.5% accuracy
- 0.1"~50" H<sub>2</sub>O pressure ranges
- CE approved
- High overpressure protection
- NEMA 2 stainless steel construction
- Three output signals available
- Easy installation
- On-board voltage regulation allows use of lower cost, non-precise, unregulated power supply
- 9 point NIST Traceable Calibration Certificate

*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 patented Si-Glas™ technology combines the high sensitivity of a variable capacitance transducer with the repeatability of a micro-machined, ultra-thin silicon diaphragm. The XLdp enables precise measurement and control of very low pressure.

The Si-Glas sensor is composed of only 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. The glass-clad silicon diaphragm withstands extreme overpressure as well as severe shock and vibration.

## PERFORMANCE SPECIFICATIONS

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

### Accuracy Class (of Span)

**Two Options: ±0.25%, ±0.50%**

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	0/1.00	0/ 3.00	0/25.00
0/0.25	0/1.50	0/ 5.00	0/50.00
0/0.50	0/2.00	0/10.00	
0/0.75	0/2.50	0/15.00	

### Bidirectional Ranges:

Compound

±0.05	±1.00	± 5.00
±0.10	±2.00	±10.00
±0.25	±2.50	±25.00
±0.50	±3.00	±50.00

**Custom Ranges:** Special range calibrations (XCL) – consult factory

**Standard Response Time:** 250msec  
(Consult factory for damping options)

## ENVIRONMENTAL SPECIFICATIONS

### Temperature Limits:

Storage: -40 to 180°F

Operating: -20 to 160°F

(10-95% R.H. non-condensing)

Compensated Range: +35 to 135°F

### Thermal Coefficients:

ZERO ±0.015% Span/°F

SPAN ±0.015% Span/°F

**Vibration Sweep:** Less than 0.05% Span temporary effect with 5 g's 0-60 Hz

**EMC:** CE model compliant to EN61326: 1997

Annex A. Harmonized heavy industrial transmitter specification

## FUNCTIONAL SPECIFICATIONS

### Overpressure Limits:

Proof 15 psid

Burst 25 psid

Max. static line pressure 25 psi

### Mounting Position Effect:

0.5" W.C. and higher ± 0.10% Span/g

0.25" W.C. ± 0.25% Span/g

0.1" W.C. ± 0.50% Span/g

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

## ELECTRICAL SPECIFICATIONS

**Output Signal:** **Power:**

4-20mA (2 wire)\* 12-36 Vdc

1-5 Vdc (3 wire) 12-36 Vdc

1-6 Vdc (3 wire) 12-36 Vdc

\* Optional CE version

**Output Signal is Independent of Power Supply Changes:**

12-36 Vdc range without effect on output signal

**Reverse Wiring Protected Zero and Span Potentiometers:** Externally accessible, non-

interactive, ±10% F.S. adjustment

**Supply Current:** <6mA for voltage output

**Warm-up Time:** 5 seconds max. to meet

# Model XLdp Ultra-Low Pressure Differential Transmitter

stated specifications

## PHYSICAL SPECIFICATIONS

### Pressure Connections:

- 1/8" barbed stainless steel
- 3/8" barbed stainless steel (optional)
- 1/4 NPT female stainless steel (optional)

**Electrical Connections:** Terminal strip

**Weight:** 14 oz, NEMA 2 Case

### MATERIALS:

**Case:** 300 series stainless steel

**Media:** Clean, dry, non-corrosive gas  
(consult factory for use on other media)  
**DO NOT USE ON LIQUIDS**

### NOTES:

- Calibration curve (0.25%) or data (0.50%) supplied with each transmitter
- Consult factory on other pressure range, temperature compensation or packaging variations

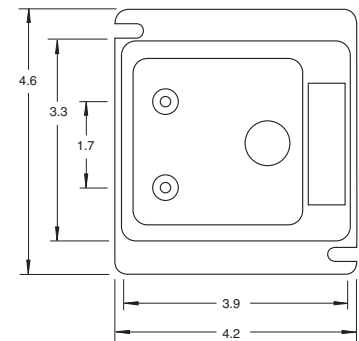
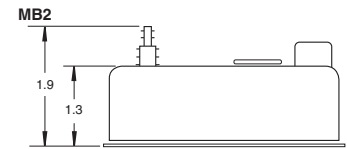
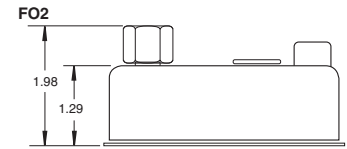
## OPTIONS

- (XCL) Custom calibration
- (XCE) CE compliant 4-20mA only
- (XV9) Calibrated vertically
- (XX1) – Fast response time 5 msec.
- (XX2) – Slow response time 1 sec.

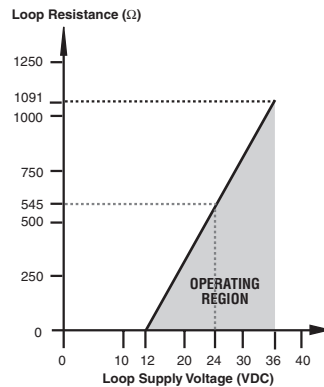
### NOTES:

- Consult factory for additional options including pressure ranges, temperature compensation, packaging variations and signal response time.

## DIMENSIONS (in inches)



Load Limitations 4-20mA Output Only



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

$$R_L = R_s + R_w$$

$R_L$  = Loop Resistance (ohms)  
 $R_s$  = Sense Resistance (ohms)  
 $R_w$  = Wire Resistance (ohms)

## How To Order

<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">X</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">L</div>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">S</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">T</div>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">X</div>
<b>Type Configuration</b> (XLdp)	<b>Accuracy/TC*</b> (3) 0.25%, ±0.015% F.S./°F (5) 0.50%, ±0.015% F.S./°F	<b>Pressure Connection</b> (MB2) 1/8 Barbed Stainless Steel (MB8) 3/8 Barbed Stainless Steel (FO2) 1/4 NPTF	<b>Output Signal</b> (15) 1-5 Vdc (16) 1-6 Vdc (42) 4-20mA	<b>Electrical Termination</b> (ST) Screw Terminal	<b>Pressure Range</b> Diff. or Gauge: (P1 IW) 0.10 W.C. (P25 IW) 0.25 W.C. (P5 IW) 0.50 W.C. (P75 IW) 0.75 W.C. (1 IW) 1.00 W.C. (1P5 IW) 1.50 W.C. (2I IW) 2.00 W.C. (2P5 IW) 2.50 W.C. (3I IW) 3.00 W.C. (5 IW) 5.00 W.C. (10 IW) 10.00 W.C. (15 IW) 15.00 W.C. (25 IW) 25.00 W.C. (50 IW) 50.00 W.C. Compound: (P05 IWL) ±0.05 W.C. (P1 IWL) ±0.10 W.C. (P25 IWL) ±0.25 W.C. (P5 IWL) ±0.50 W.C. (1 IWL) ±1.00 W.C. (2P IWL) ±2.00 W.C. (2P5 IWL) ±2.50 W.C. (3 IWL) ±3.00 W.C. (5 IWL) ±5.00 W.C. (10 IWL) ±10.00 W.C. (25 IWL) ±25.00 W.C. (50 IWL) ±50.00 W.C.	<b>Optional X-Variations</b> (XCE) CE Approval Option (includes all options in list) (XCL) Custom calibration (XV9) Calibrated vertically (XX1) Fast response time (XX2) Slow response time
*XLdp units include 9 point NIST traceable calibration certificate						