

## XLdp Ultra-Low Differential Pressure Transmitter

### FEATURES

- Current and voltage output signals available
- Custom ranges available
- Si-Glass™ technology enables precise measurement and control of very low pressures

### TYPICAL USES

- HVAC/R
- Fume Hood Control
- Lab/Clean/Hospital Room Pressurization
- Medical Lung Function/Breathing Equipment
- Fan Tracking
- Filter Monitoring
- Ultra-Low Velocity Measurements
- Leak Detection
- Laminar Flow
- Building Energy Management/Comfort Control Systems

### PERFORMANCE SPECIFICATIONS

Reference Temperature:	70°F ±2°F (21°C ±1°C)
Accuracy Class:	±0.25% of span, ±0.5% of span (Terminal Point Method: includes non-linearity, hysteresis, non-repeatability, zero offset and span setting errors)
Stability:	±0.25% of span/year at reference conditions
Media Compatibility:	Clean, dry and non-corrosive gas NOT FOR USE ON LIQUIDS
Standard Response Time:	250ms

### ENVIRONMENTAL SPECIFICATIONS

Temperature Limits:	Storage:	-40°F to 180°F (-40°C to 82°C)
	Operating:	-20°F to 160°F (-29°C to 71°C)
	Compensated:	35°F to 135°F (1.7°C to 57°C)
Thermal Coefficients:	Zero & Span: ±0.015% of span/°F (From 70°F (21°C) reference temperature)	
Vibration Sweep:	<0.05% span/g temporary effect 0-60Hz	
Humidity Effects:	No performance effect at 10-95% R.H. noncondensing	
EMC:	Directive 2004/108/EC IEC/EN 61326-1: Edition 1.0 Industrial IEC/EN 61326-2-3: Edition 1.0 Annex BB Industrial	

### FUNCTIONAL SPECIFICATIONS

Mounting Position Effect:	≥0.5 IWC:	±0.1% of span/g
	0.25 IWC:	±0.25% of span/g
	0.1 IWC:	±0.5% of span/g
Calibrated horizontally (STD.), unless otherwise specified. Mounting Position Effect easily corrected with zero potentiometer		
Max. Static (Line) Pressure:	Proof:	Burst:
25 psi	15 psid	25 psid



**XLdp**  
Pressure Transmitter

\*See Approvals on page 2 regarding CE and RoHS certifications.



### KEY BENEFITS

- Broad temperature capability
- Superior long-term stability and repeatability
- High overpressure protection
- On board voltage regulation allows use of low cost unregulated power supply
- 3 year warranty

### ELECTRICAL SPECIFICATIONS

Circuit Protection:	Reverse Wiring Protected	
Potentiometers:	Externally accessible, non-interactive Zero: ±10% of span Span: ±10% of span	
Supply Current:	<6 mA for Voltage output	
Warm-up Time:	5sec Max. to meet stated specifications from initial Power-up	
Output Signal:	4-20 mA (2 wire)	12-36 Vdc
	1-5 Vdc (3 wire)	12-36 Vdc
	1-6 Vdc (3 wire)	12-36 Vdc
Output signal is independent of power supply changes: 12-36 Vdc range without effect on output signal		

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### PHYSICAL SPECIFICATIONS

Electrical Connection: Screw Termination

Pressure Connections: ¼ barbed Male, ⅛ barbed Male and ¼ NPT Female

Weight: 14 oz

Environmental Rating: NEMA 2

### WETTED MATERIAL

Media: Clean, dry air/gases compatible with Aluminum, Titanium, PBT, Buna, Silicon, Glass, Gold, Silicone Rubber, Silicone RTV and Stainless steel  
 NOT FOT USE ON LIQUIDS

### NON-WETTED MATERIAL

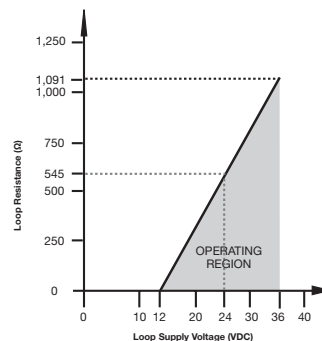
Housing: 300 Series Stainless steel / Lexan

### APPROVALS

\*Only units with 4-20 mA output and the 'XCE' option are CE and ROHS compliant.

CE Marked: Per DoC

### LOAD LIMITATIONS 4-20 mA OUTPUT ONLY



$$V_{loop} = 12V + (0.022A \times R_L)$$

$$R_L = R_s + R_w$$

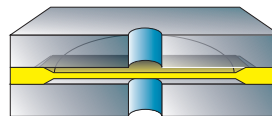
$$R_L = \text{Loop Resistance (ohms)}$$

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

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

Featuring a highly reliable variable capacitance sensor using the patented Ashcroft® Si-Glass™ 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

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ORDERING CODE	Example:	XL3	F02	42	ST	2IW	-XNH
<b>Model</b>							
XL3 - XLdp Series, $\pm 0.25\%$ of span, $\pm 0.015\%$ of span T.C. /°F		XL3					
XL5 - XLdp Series, $\pm 0.5\%$ of span, $\pm 0.015\%$ of span T.C. /°F							
<b>Pressure Connection</b>							
F02 - 1/4 NPT Female			F02				
MB1 - Board level/No case							
MB2 - 1/4 Barbed Male							
MB8 - 1/8 Barbed Male							
<b>Output Signal</b>							
15 - 1-5 Vdc							
16 - 1-6 Vdc							
42 - 4-20 mA				42			
<b>Electrical Termination</b>							
ST - Screw Terminal					ST		
<b>Pressure Range</b>							
<b>Unidirectional Ranges (differential)</b>							
P1IW - 0.10 IWD							
P25IW - 0.25 IWD							
P5IW - 0.50 IWD							
P75IW - 0.75 IWD							
1IW - 1.00 IWD							
1P5IW - 1.50 IWD							
2IW - 2.00 IWD						2IW	
2P5IW - 2.50 IWD							
3IW - 3.00 IWD							
5IW - 5.00 IWD							
10IW - 10.00 IWD							
15IW - 15.00 IWD							
25IW - 25.00 IWD							
50IW - 50.00 IWD							
<b>Bi-directional Ranges</b>							
P05IWL - $\pm 0.05$ IWD							
P1IWL - $\pm 0.10$ IWD							
P25IWL - $\pm 0.25$ IWD							
P5IWL - $\pm 0.50$ IWD							
1IWL - $\pm 1.00$ IWD							
2IWL - $\pm 2.00$ IWD							
2P5IWL - $\pm 2.50$ IWD							
3IWL - $\pm 3.00$ IWD							
5IWL - $\pm 5.00$ IWD							
10IWL - $\pm 10.00$ IWD							
25IWL - $\pm 25.00$ IWD							
50IWL - $\pm 50.00$ IWD							
<b>Option (if indicating an option(s) must include an "X")</b>							
CE - CE Approval (with 4-20 mA only)							-X__
CL - Custom pressure range calibration							
NH - SS tag							NH
NN - Paper tag							
V9 - Calibrated vertically							
X1 - Fast response time							
X2 - Slow response time							

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### DIMENSIONS

For reference only, consult Ashcroft for specific dimensional drawings

