# Type XLdp – Ultra-Low Variable Capacitance Pressure Transducer/Transmitter

### APPLICATIONS:

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

### **BENEFITS & FEATURES:**

- Certified 0.25% and 0.5% accuracy
- 0.1 ~-50 ~-H<sub>2</sub>O pressure ranges
- CE approved
- High overpressure protection
- Flame proof NEMA 2 stainless steel construction
- Three types of output signals available
- Easy installation
- Board level OEM versions available

## PERFORMANCE CHARACTERISTICS

Standard Ranges (Inches W.C.)						
Unidirectional Ranges:						
Differenti	<u>al or Gage</u>					
0/0.1	0/1.0	0/3.0	0/50	.0		
0/0.25	0/1.5	0/5.0				
0/0.5	0/2.0	0/10.0	)			
0/0.75	0/2.5	0/25.0	1			
Bidirectional Ranges:						
<u>Compour</u>	ld					
±0/0.05	±0/1.0	±0/5.0	)			
±0/0.1	±0/2.0	±0/10	.0			
±0/0.25	±0/2.5	±0/25	.0			
±0/0.5	±0/3.0	±0/50	.0			
Consult fa	actory for r	nonstand	lard range	s.		
Accuracy	Class (F.S	S.)*:	<u>0.25%</u>	<u>0.50%</u>		
(Using T.P. method)						
Best fit straight line (BFSL) $\pm 0.15 \pm 0.3$				±0.3		
Hysteresis			±0.02	±0.02		
Nonrepeatability			±0.03	±0.05		
Interchangeability		±0.25%	±0.50%			

Stability (F.S./year): ±0.5 %

#### ENVIRONMENTAL CHARACTERISTICS

Temperature	Limits:		
Storage: -	-40 to 180°	°F	
Operating: -	-20 to 160°	°F	
(10-95% R.H.	. nonconde	ensing)	
Compensated	Range:	35 to	135°F
Thermal Coef	fficients:		

# ZERO ±0.015% F.S./°F

SPAN ±0.015% F.S./°F

# FUNCTIONAL CHARACTERISTICS

#### Overpressure Limits: Proof 10 psid

Burst 25 psis Vibration Sweep: Less than 0.05% F.S. temporary effect with

5 g's 0-60 Hz

The Ashcroft<sup>®</sup> XLdp is a variable capacitance sensor within a glassclad silicon chip. The patented Si-Glas<sup>™</sup> technology combines the inherent high sensitivity of a variable capacitance transducer with the repeatability of a micro-machined, ultra-thin silicon diaphragm.

The Ashcroft Si-Glas sensor now enables precise measurement and control of very low pressure. Although the ultra-thin silicon diaphragm deflects only a micron, the sensor is 100 times more sensitive to pressure than available silicon piezo-resistive pressure sensors.

The Si-Glas sensor is composed of only sputtered metals and glass molecularly bonded to silicon. There

#### **Mounting Position Error:**

0.5" W.C. and higher 0.25" W.C. 0.1" W.C.	≤0.10% F.S./g ≤0.25% F.S./g ≤0.50% F.S./g
ELECTRICAL SPECIFI	CATIONS
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
Power Supply:	
Variations will not affe	ect output signal
Supply Current: <6m/	A for voltage output

Response Time: 250msec

(Consult factory for response time options) Reverse Wiring Protected

#### Resolution: Infinite

Warm-up Time: 10 second max. to meet stated specifications



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.

#### Zero and Span Potentiometers:

Externally accessible, noninteractive,  $\pm 10\%$  F.S. adjustment

### **PHYSICAL CHARACTERISTICS**

Weight: 14 oz, NEMA 2 Case

#### MATERIALS:

Case: 300 series stainless steel

#### PRESSURE CONNECTION OPTIONS:

- $\frac{1}{4}$  barbed nickel plated brass
- ¼ NPTF stainless steel

#### NOTES:

- Consult factory for use with media other than air or nonconducting gases
- OEM circuit board available (MB1)
- Calibration curve (0.25%) or data (0.50%) supplied with each transmitter
- Consult factory on other pressure range, temperature compensation or packaging variations

T	O ORDER THIS TYPE XLdp TRANSDUCER/TRANSMITTER:
S	elect: XL C C ST C C C
1.	Type Configuration (XLdp <del>)</del>
2.	Accuracy % F.S
3.	Pressure Connection- (FO2) <sup>1</sup> / <sub>4</sub> NPTF (MB2) <sup>1</sup> / <sub>4</sub> Barbed (MB1) No Case
4.	Output Signal
5.	Output Connection (ST) Screw Terminal
6.	Pressure Range Diff. or Gauge: (P1IW) 0.10"W.C. (P25IW) 0.25"W.C. (P5IW) 0.50"W.C. (P75IW) 0.75"W.C. (1IW) 1.00"W.C. (1P5IW) 1.50"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. (25IW) 25.00"W.C. (50IW) 50.00"W.C.
	Compound: (PO5IWL) ±0.05 <sup>°</sup> W.C. (P1IWL) ±0.10 <sup>°</sup> W.C. (P25IWL) ±0.25 <sup>°</sup> W.C. (P5IWL) ±0.50 <sup>°</sup> W.C. (1IWL) ±1.00 <sup>°</sup> W.C. (2PIWL) ±2.00 <sup>°</sup> W.C. (2P5IWL) ±2.50 <sup>°</sup> W.C. (3IWL) ±3.00 <sup>°</sup> W.C. (5IWL) ±5.00 <sup>°</sup> W.C. (10IWL) ±10.00 <sup>°</sup> W.C. (25IWL) ±25.00 <sup>°</sup> W.C. (50IWL) ±50.00 <sup>°</sup> W.C.
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7. Optional X-Variations (XCE) CE Approval Option -

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