

## Data Sheet

# XLdp Ultra-Low Differential Pressure Transmitter

### FEATURES

- TruAccuracy™ - Terminal Point Accuracy method includes non-linearity, hysteresis, non-repeatability, zero offset and span setting errors.
- Current and voltage output signals available
- Custom ranges available
- Si-Glas™ 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



**XLdp**  
Pressure Transmitter

### PERFORMANCE SPECIFICATIONS

Reference Temperature:	70°F ±2°F (21°C ±1°C)
Accuracy:	±0.25% of span, ±0.5% of span ( <b>Terminal Point Method:</b> 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 WITH 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:	±0.015% of span/°F
	Span:	±0.015% of span/°F (From 70°F 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 in. H <sub>2</sub> O: ±0.1% of span/g 0.25 in. H <sub>2</sub> O: ±0.25% of span/g 0.1 in. H <sub>2</sub> O: ±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

\*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:	5 sec 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, ⅜ 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 FOR USE WITH LIQUIDS**

### NON-WETTED MATERIAL

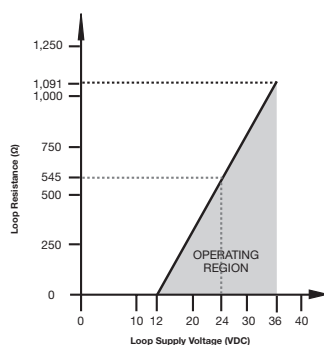
Housing: 300 Series Stainless steel / Lexan

### 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



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

$$R_L = R_s + R_w$$

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

### TruAccuracy

### What Does It Mean?

Ashcroft's TruAccuracy™ specification is exclusively based on terminal point methodology instead of statistically derived schemes like 'best fit straight line'.

TruAccuracy™ means the Ashcroft XLdp has ±0.25% of span accuracy out of the box. Zero and span setting errors are already included in the ±0.25% of span accuracy spec.

The XLdp is ready to be installed with no additional calibration adjustments required.

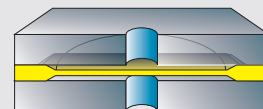
A unit from another manufacturer advertised as ±0.25% best fit straight line may actually be a ±1.25% to ±2.25% device. Using best fit straight line method, the accuracy spec does not include zero and span setting errors, which can be as much as ±1.00% each.

### Ashcroft® Si-Glas™ Sensor Technology

Featuring a highly reliable variable capacitance sensor using the patented Ashcroft® Si-Glas™ 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, ±0.25% of span, ±0.015% of span T.C. /°F		XL3					
XL5 - XLdp Series, ±0.5% of span, ±0.015% of span T.C. /°F							
<b>Pressure Connection</b>							
F02 - ¼ NPT Female			F02				
MB1 - Board level/No case							
MB2 - ¼ Barbed Male							
MB8 - ½ 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 in. H <sub>2</sub> O							
P25IW - 0.25 in. H <sub>2</sub> O							
P5IW - 0.50 in. H <sub>2</sub> O							
P75IW - 0.75 in. H <sub>2</sub> O							
1IW - 1.00 in. H <sub>2</sub> O							
1P5IW - 1.50 in. H <sub>2</sub> O							
2IW - 2.00 in. H <sub>2</sub> O						2IW	
2P5IW - 2.50 in. H <sub>2</sub> O							
3IW - 3.00 in. H <sub>2</sub> O							
5IW - 5.00 in. H <sub>2</sub> O							
10IW - 10.00 in. H <sub>2</sub> O							
15IW - 15.00 in. H <sub>2</sub> O							
25IW - 25.00 in. H <sub>2</sub> O							
50IW - 50.00 in. H <sub>2</sub> O							
<b>Bi-directional Ranges</b>							
P05IWL - ±0.05 in. H <sub>2</sub> O							
P1IWL - ±0.10 in. H <sub>2</sub> O							
P25IWL - ±0.25 in. H <sub>2</sub> O							
P5IWL - ±0.50 in. H <sub>2</sub> O							
1IWL - ±1.00 in. H <sub>2</sub> O							
2IWL - ±2.00 in. H <sub>2</sub> O							
2P5IWL - ±2.50 in. H <sub>2</sub> O							
3IWL - ±3.00 in. H <sub>2</sub> O							
5IWL - ±5.00 in. H <sub>2</sub> O							
10IWL - ±10.00 in. H <sub>2</sub> O							
25IWL - ±25.00 in. H <sub>2</sub> O							
50IWL - ±50.00 in. H <sub>2</sub> O							
<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 - Stainless steel tag							NH
NN - Paper tag							
V9 - Calibrated vertically							
X1 - Fast response time (5 msec)							
X2 - Slow response time (1 sec)							

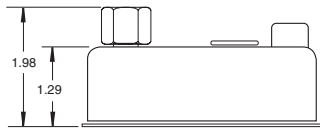
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### DIMENSIONS

For reference only, consult Ashcroft for specific dimensional drawings.  
All dimensions are identified in inches.

**F02**



**MB2**

