

## 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<br>(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<br>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<br>(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<br>IEC/EN 61326-1: Edition 1.0 Industrial<br>IEC/EN 61326-2-3: Edition 1.0 Annex BB Industrial |                                |

### FUNCTIONAL SPECIFICATIONS

|                              |  |         |
|------------------------------|--|---------|
| Mounting Position Effect:    | ≥0.5 IWC: ±0.1% of span/g<br>0.25 IWC: ±0.25% of span/g<br>0.1 IWC: ±0.5% of span/g<br>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<br>Zero: ±10% of span<br>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)<br>1-5 Vdc (3 wire)<br>1-6 Vdc (3 wire)  | 12-36 Vdc<br>12-36 Vdc<br>12-36 Vdc |
|                     | Output signal is independent of power supply changes: 12-36 Vdc range without effect on output signal |                                     |

## XLdp Ultra-Low Differential Pressure Transmitter

### 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<br>NOT FOT USE ON LIQUIDS |
|--------|---|

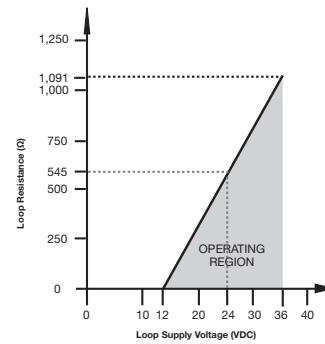
### NON-WETTED MATERIAL

|          |                                    |
|----------|------------------------------------|
| 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



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

$$R_L = R_s + R_w$$

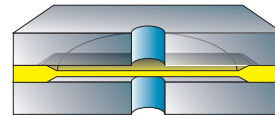
$$R_s = \text{Loop Resistance (ohms)}$$

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

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

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   |          |     |     |    |    |     |      |

## XLdp Ultra-Low Differential Pressure Transmitter

### DIMENSIONS

For reference only, consult Ashcroft for specific dimensional drawings

