

Data Sheet

XLdp Ultra-Low Differential Pressure Transducer

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
- Laminarflow
- Building energy management/comfort control systems

PERFORMANCE SPECIFICATIONS

Reference Temperature:	70 °F ±2 °F (21 °C ±1 °C)
Accuracy:	±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 WITH LIQUIDS
Standard Response Time:	250 ms

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 0-60 Hz
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 ₂ O: ±0.1% of span/g 0.25 in. H ₂ O: ±0.25% of span/g 0.1 in. H ₂ 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: 15 psid Burst: 25 psid



XLdp
Pressure Transducer

*See Approvals on page 2 regarding CE/UKCA 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, 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 FOR USE WITH LIQUIDS

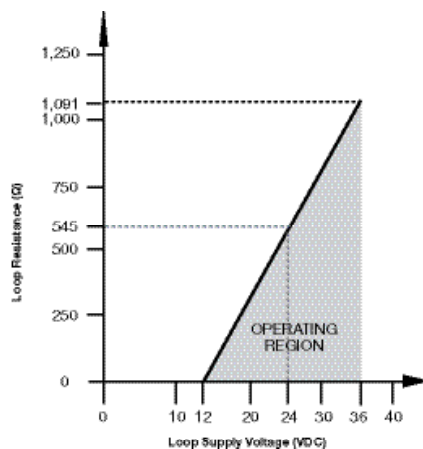
NON-WETTED MATERIAL

Housing: 300 Series stainless steel / Lexan®

APPROVALS

*Only units with 4-20 mA output and a housing (MB1 = no housing) are available with the 'XCE' option and are CE/UKCA and ROHS compliant.
CE/UKCA Marked: Per DoC

LOAD LIMITATIONS 4-20 mA OUTPUT ONLY



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

$$R_L = R_s + R_w$$

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.

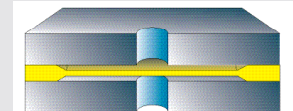
A unit from another manufacturer advertised as ±0.25% best fit straight line may actually be a ±1.25% to ±2.25% device. Using best fit straight line method, the accuracy spec does not include zero and span setting errors, which can be as much as ±1.00% each.

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
Model							
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							
Pressure Connection							
F02 - ¼ NPT Female			F02				
MB1 - Board level/No case							
MB2 - ¼ Barbed Male							
MB8 - ¼ Barbed Male							
Output Signal							
15 - 1-5 Vdc							
16 - 1-6 Vdc							
42 - 4-20 mA				42			
Electrical Termination							
ST - Screw Terminal					ST		
Pressure Range Differential							
Unidirectional Ranges							
P1IW - 0.10 in. H ₂ O							
P25IW - 0.25 in. H ₂ O							
P5IW - 0.50 in. H ₂ O							
P75IW - 0.75 in. H ₂ O							
1IW - 1.00 in. H ₂ O							
1P5IW - 1.50 in. H ₂ O							
2IW - 2.00 in. H ₂ O						2IW	
2P5IW - 2.50 in. H ₂ O							
3IW - 3.00 in. H ₂ O							
5IW - 5.00 in. H ₂ O							
10IW - 10.00 in. H ₂ O							
15IW - 15.00 in. H ₂ O							
25IW - 25.00 in. H ₂ O							
50IW - 50.00 in. H ₂ O							
Bi-directional Ranges							
P05IWL - ±0.05 in. H ₂ O							
P1IWL - ±0.10 in. H ₂ O							
P25IWL - ±0.25 in. H ₂ O							
P5IWL - ±0.50 in. H ₂ O							
1IWL - ±1.00 in. H ₂ O							
2IWL - ±2.00 in. H ₂ O							
2P5IWL - ±2.50 in. H ₂ O							
3IWL - ±3.00 in. H ₂ O							
5IWL - ±5.00 in. H ₂ O							
10IWL - ±10.00 in. H ₂ O							
25IWL - ±25.00 in. H ₂ O							
50IWL - ±50.00 in. H ₂ O							
Option (if indicating an option(s) must include an "X")							
CE - CE/UKCA 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)							
(9 point traceable calibration certificate standard with every unit)							

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DIMENSIONS

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

