

DXLdp Low Pressure Differential Transducer/Transmitter

APPLICATIONS:

High reliability HVAC, bio-pharm, bio-tech, room pressurization and control, environmental and pollution control

BENEFITS AND FEATURES:

- The exclusive patent pending Ashcroft® SpoolCal™ actuator provides in-place system calibration without disturbing process tubes
- Front access test jacks provide on-line signal reference without removing wiring
- LED range status indicators for instant troubleshooting information
- DIN Rail Mount dramatically reduces installation and calibration costs
- CE standard with all outputs
- On-board voltage regulation allows use of lower cost, non-precise, unregulated power supply

The Ashcroft® DXLdp is a variable capacitance sensor within a glass-clad silicon chip. The patented Si-Glas™ technology combines the inherent high sensitivity of a variable capacitance transducer with the repeatability of a micromachined, 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 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.

PERFORMANCE CHARACTERISTICS

Accuracy Class (F.S.):	0.25%	0.5%	1.0%
Non-linearity			
Terminal point*	±0.2	±0.4%	±0.8%
Best fit straight line (BFSL)	±0.15	±0.3%	±0.6%
Hysteresis	±0.02	±0.02%	±0.05%
Non-repeatability	±0.03	±0.05%	±0.10%
*Includes hysteresis			

Stability – Max. Change (F.S./year): $\pm 0.5\%$ Standard Ranges (Inches W.C.) Unidirectional Ranges:

Differential or Gage

<u>Differential or Gage</u>					
0/0.1	0/1.0	0/3.0	0/20.0		
0/0.25	0/1.5	0/5.0	0/25.0		
0/0.5	0/2.0	0/10.0	0/50.0		
0/0.75	0/2.5	0/15.0			

Bidirectional Ranges:

Compound

±0.05 ±0.5 ±2.0 ±5.0 ±0.1 ±0.75 ±2.5 ±10.0 ±0.25 ±1.0 ±3.0 ±25.0

Custom Ranges: Special range calibration, (XCL) – Consult factory

Standard Response Time: 250m sec (Consult factory for optional damping times)

ENVIRONMENTAL CHARACTERISTICS

Temperature Limits:

Storage: -40 to 180°F Operating: -20 to 160°F (10-95% R.H. noncondensing) Compensated Range: +35 to 135°F

Thermal Coefficients:

ZERO ±0.02%F.S./°F SPAN ±0.02%F.S./°F

FUNCTIONAL CHARACTERISTICS

Overpressure Limits:

Proof 15 psid Burst 25 psi Max. Static Line Pressure: 25 psi Mounting Position Effect:

0.5"W.C. and higher 0.1% F.S./g Below 0.5"W.C. 0.25% F.S/g.

Note: Mounting Position Effect easily corrected with zero potentiometer.

ELECTRICAL SPECIFICATIONS

Output Signal:	Power:	
4-20mA (2 wire)	12-36 Vdc	
1-5 Vdc `	12-36 Vdc	
1-6 Vdc	12-36 Vdc	
0-5 Vdc	12-36 Vdc	
0-10 Vdc	12-36 Vdc	
Output signal is independent of power		

supply changes: 12-36 Vdc range without effect on output signal

Reverse Wiring Protected Zero and Span Potentiometers:

Front accessible, non-interactive

Zero: ±5%F.S. Span: ±3%F.S. Supply Current: < 10mA for voltage

Warm-up Time: 5 sec. max. to meet stated specifications from initial power-up

PHYSICAL CHARACTERISTICS

Pressure Connections: 1/8 NPT Female Weight: 4.5 oz., NEMA 1 Case MATERIALS:

Enclosure: Glass-filled polycarbonate (UL94-V-1)
Media: Clean, dry and non-corrosive gas (consult factory for use on other media).
NOT FOR USE ON LIQUIDS

Mounting: DIN rail types EN50022, 35 & 45

OPTIONS

• Option XDL:

LED for quick process diagnostics:
Zero Pressure.......Center Amber LED
In Range ±Adjacent Green LED's
Out of Range ±Adjacent Red LED's
Includes: front access test jacks for on-line data
access without disturbing wiring

- Option XNL: Front access jacks without LED's
- Option XPV: SpoolCal[™] process valve actuator provides in-place system calibration without disturbing process tubes. From Off position the removable SpoolCal[™] actuator tool provides the following functions:
- A 90 degree clockwise rotation puts the DXLdp in the CAL mode isolating it from the process and allowing direct external pressure input.
- A 90 degree counter clockwise rotation puts the DXLdp in the MONITOR mode to tee the process pressure to the DXLdp sensor and out, providing external measurement or recording capabilities. Includes SpoolCal™ actuator tool with 7"silicon tubing (as shown in front photo). (Refer to Ashcroft[®] ATE series calibrator for data collection and instrumentation)
- Option X21: 2:1 turn down, 0.25% accuracy is maintained on initialized range.

HOW TO ORDER THIS DXLdp TRANSDUCER/TRANSMITTER:

 ect: Type Configuration (DXLdp)
Accuracy/TC
 Pressure Connection
Output Signal
Output Connection (ST) Screw Terminal
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) 2.00"W.C. (2IW) 2.00"W.C. (2IW) 2.00"W.C. (3IW) 3.00"W.C. (5IW) 5.00"W.C. (10IW) 1.00"W.C. (25IW) 25.00"W.C. (5IW) 5.00"W.C. (5IWL) 5.05"W.C. (P5IWL) 5.05"W.C. (P5IWL) 5.05"W.C. (P5IWL) 5.05"W.C. (P5IWL) 5.50"W.C. (P5IWL) 5.50"W.C. (P5IWL) 5.50"W.C. (P5IWL) 5.50"W.C. (P5IWL) 5.00"W.C. (P5IWL) 5.

7. Optional X-Variation (XLD) LED (XPV) Process Valve Actuator (X21) 2:1 Turn Down (XNL) Test Jacks

