

DXLdp Ultra-Low Differential Pressure Transducer

FEATURES

- TruAccuracy™- Terminal Point Accuracy method includes non-linearity, hysteresis, non-repeatability, zero offset and span setting errors
- The exclusive patented Ashcroft® SpoolCal® actuator provides in-place system calibration
- 2:1 range turndown (OPT.)
- Front access test jacks provide on-line signal reference without removing wiring
- LED range status indicators for instant troubleshooting information
- Si-Glas™ technology enables precise measurement and control of very low pressures

TYPICAL USES

- HVAC/R
- Bio-pharm
- Bio-tech
- Room pressurization and control
- Velocity pressure
- Critical environments
- Building energy management/comfort control systems

PERFORMANCE SPECIFICATIONS

Reference Temperature:	70 °F±2 °F (21 °C±1 °C)
Accuracy:	Three Options: ±0.25%, ±0.5%, ±1.0% of span (Terminal Point Method: includes non-linearity, hysteresis, non-repeatability, zero offset and span setting errors)
Stability:	≤ ±0.25% of span/year
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 (1.6 °C to 57 °C)
Thermal Coefficients:	Zero: ±0.02% of span/°F Span: ±0.02% of span/°F (From 70 °F reference temperature)
Humidity Effects:	No performance effect at 10-95% R.H. noncondensing

FUNCTIONAL SPECIFICATIONS

Max. Static (Line) Pressure:	Proof:	Burst:
25 psi	15 psid	25 psid
Mounting Position Effect:	Mounting Position Effect easily corrected with zero potentiometer	
	≥0.5 in. H ₂ O	0.1% span/g
	<0.5 in. H ₂ O	0.25% span/g



DXLdp
Pressure Transducer



KEY BENEFITS

- SpoolCal® process valve actuator provides in-place system calibration without disturbing process tubes
- Broad temperature capability
- DIN rail mount dramatically reduces installation and calibration costs
- CE/UKCA standard with all outputs
- On-board voltage regulation allows use of lower cost, unregulated power supply

ELECTRICAL SPECIFICATIONS

Potentiometers:	Front accessible, non-interactive Zero: ±5% F.S. Span: ±3% F.S.
Supply Current:	<10 mA for Voltage
Warm-up Time:	5 sec Max. to meet stated specifications from initial power-up
Output Signal:	Power:
4-20 mA (2 wire)	12-36 Vdc
1-5 Vdc (3 wire)	12-36 Vdc
1-6 Vdc (3 wire)	12-36 Vdc
0-5 Vdc (3 wire)	12-36 Vdc
0-10 Vdc (3 wire)	12-36 Vdc
	Output signal is independent of power supply changes: 12-36 Vdc range without effect on output signal
Circuit Protection:	Reversed wiring protection

Data Sheet

DXLdp Ultra-Low Differential Pressure Transducer

PHYSICAL SPECIFICATIONS

Electrical Connection:	Screw termination
Enclosure Rating:	NEMA 1 case
Mounting:	DIN rail types EN50022, 35 and 45
Pressure Connections:	1/8 NPT Female, 1/64 barbed Male
Weight:	4.5 oz

WETTED MATERIAL

Media

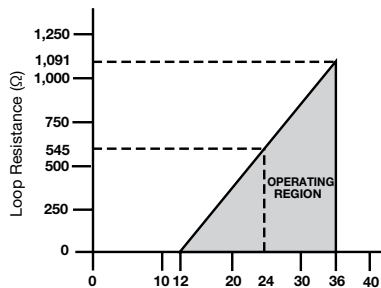
Clean, dry air/gases compatible with Aluminum, Titanium, PBT, Buna, Glass, Gold, Silicone Rubber, Silicon, Silicone RTV and Brass
NOT FOR USE WITH LIQUIDS

NON-WETTED

Housing

Glass-filled polycarbonate (UL94-V-1)

LOAD LIMITATIONS 4-20 mA OUTPUT ONLY



$$V_{min} = 12V + [0.022A \cdot (R_L)]$$

*includes a 10% safety factor

$$R_L = R_s + R_w$$

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 DXLdp has $\pm 0.25\%$ of span accuracy out of the box. Zero and span setting errors are already included in the $\pm 0.25\%$ of span accuracy spec.

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

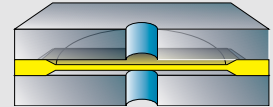
A unit from another manufacturer advertised as $\pm 0.25\%$ best fit straight line may actually be a $\pm 1.25\%$ to $\pm 2.25\%$ device. Using best fit straight line method, the accuracy spec does not include zero and span setting errors, which can be as much as $\pm 1.00\%$ each.

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.



Data Sheet

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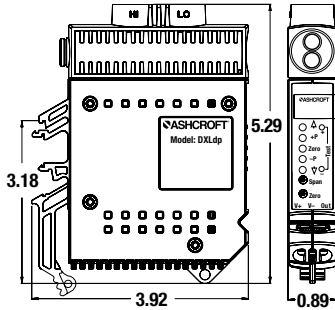
ORDERING CODE	Example:	DX3	F01	42	ST	P5IW	-XPV
Model							
DX3 - DXLdp Series, ±0.25% of span, ±0.02% span T.C. /°F		DX3					
DX5 - DXLdp Series, ±0.50% of span, ±0.02% span T.C. /°F							
DX7 - DXLdp Series, 1.00% of span, ±0.02% span T.C. /°F							
Pressure Connection							
F01 - 1/8 NPT Female			F01				
MB2 - 11/64 Barbed Male							
Output Signal							
05 - 0-5 Vdc							
10 - 0-10 Vdc							
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						P5IW	
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							
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							
20IW - 20.00 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							
P75IWL - ±0.75 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							
Options (if indicating an option(s) must include an "X")							
21 - 2:1 Turndown							-X__
CL - Custom pressure range calibration							
DL - LED range status indicators (includes front access test jacks)							
NH - Stainless steel tag							
NL - Front access test jacks (no LED indication)							
NN - Paper tag							
PV - SpoolCal® process valve actuator							PV
RH - 9 pt. Traceable calibration certificate (OPT. for DX7/1.00% accuracy version, STD. for DX3 and DX5)							
X1 - Fast response time (10 ms)							
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.

SpoolCal® and LED (OPT.)



Basic Unit

