

## Model RXLdp Ultra-Low Differential Pressure Transmitter



LOOK FOR THIS AGENCY MARK ON OUR PRODUCTS

### APPLICATIONS:

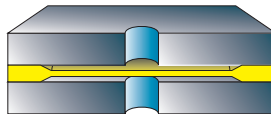
*HVAC, fume hood control, lab/clean room pressurization, laminar flow, leak detection, medical, fan tracking, glove-box and velocity measurements*

### FEATURES:

- 0.1"-50" H<sub>2</sub>O pressure ranges
- CE approval option
- High overpressure protection
- Stainless steel & Lexan NEMA 1 construction
- Five types of output signals available
- Mounts inside standard 3 1/2" electrical box
- Board level OEM versions available
- On-board voltage regulation allows use of lower cost unregulated power supply

*Featuring a highly reliable variable capacitance sensor using the patented Ashcroft® SiGlas™ 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.*

The patented Si-Glas™ technology combines the high sensitivity of a variable capacitance transducer with the repeatability of a micro machined, ultra-thin single crystal silicon diaphragm.

The Ashcroft Si-Glas sensor enables precise measurement and control of very low pressure. Although the 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 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.

### PERFORMANCE SPECIFICATIONS

Ref. Temperature: 70°F ±2°F (21°C ±1°C)

**Accuracy Class (of Span): 1.0%**

Includes non-linearity (Terminal Point Method), hysteresis, non-repeatability, zero offset and span setting errors.

**Stability – Max. Change (Span/year): ±0.5 %**

**Standard Ranges (Inches W.C.)**

**Unidirectional Ranges:**

Differential or Gauge

0/0.10 0/1.00 0/3.00 0/50.00

0/0.25 0/1.50 0/5.00

0/0.50 0/2.00 0/10.0

0/0.75 0/2.50 0/25.0

**Bidirectional Ranges:**

Compound

±0.10 ±1.00 ±10.00

±0.25 ±2.50 ±25.00

±0.50 ±5.00 ±50.00

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

**Response Time Standard:** 250ms (factory set) (Consult factory for dampening options)

### ENVIRONMENTAL SPECIFICATIONS

**Temperature Limits:**

Storage: -40 to 180°F

Operating: 0 to 160°F

(10-95% R.H. noncondensing)

Compensated Range: 40 to 125°F

**Thermal Coefficients:**

ZERO ±0.025% Span/°F

SPAN ±0.025% Span/°F

**Vibration Sweep:** Less than ±0.05%F.S. temporary effect with 5 g's 0-60Hz

**EMC:** CE model compliant to EN61326: 1997

Annex A. Harmonized heavy industrial transmitter specification

### FUNCTIONAL SPECIFICATIONS

**Overpressure Limits:**

Proof 15 psid

Burst 25 psid

Max. Static Line Pressure: 25 psi

**Mounting Position Effect:**

0.5" W.C. and higher 0.1% Span/g

Below 0.5" W.C. 0.25% Span/g

**Note:** Calibrated horizontally standard, unless otherwise specified. Mounting Position Effect easily corrected with zero potentiometer.

### ELECTRICAL SPECIFICATIONS

**Output Signal:**

4-20 mA\* (2 wire)

0-5 Vdc (3 wire)

1-5 Vdc (3 wire)

1-6 Vdc (3 wire)

0-10 Vdc (3 wire)

**Power:**

12-36Vdc

12-36Vdc

12-36Vdc

12-36Vdc

12-36Vdc

\* Optional CE versions available

**Output signal is independent of power supply changes:**

12-36 Vdc range without effect on output signal

**Reverse Wiring Protected**

**Zero Span Potentiometers:** Externally accessible; non-interactive

ZERO

±5% Span

SPAN

±3% Span

# Model RXLdp Ultra-Low Pressure Differential Transmitter

## ELECTRICAL SPECIFICATIONS (cont.)

**Supply Current:** <6mA for voltage output

### Warm-up Time:

Five seconds max. to meet stated specifications

## PHYSICAL SPECIFICATIONS

### Pressure Connections:

Stainless steel 1/8" NPT female, 1/4" and 3/8" barbed connection

**Electrical Connections:** Terminal strip

**Weight:** 4.5 oz, NEMA 1 Case

### MATERIALS:

**Case/Cap:** Stainless steel/Lexan

**Media:** Clean, dry and noncorrosive gas (consult factory for use on other media)

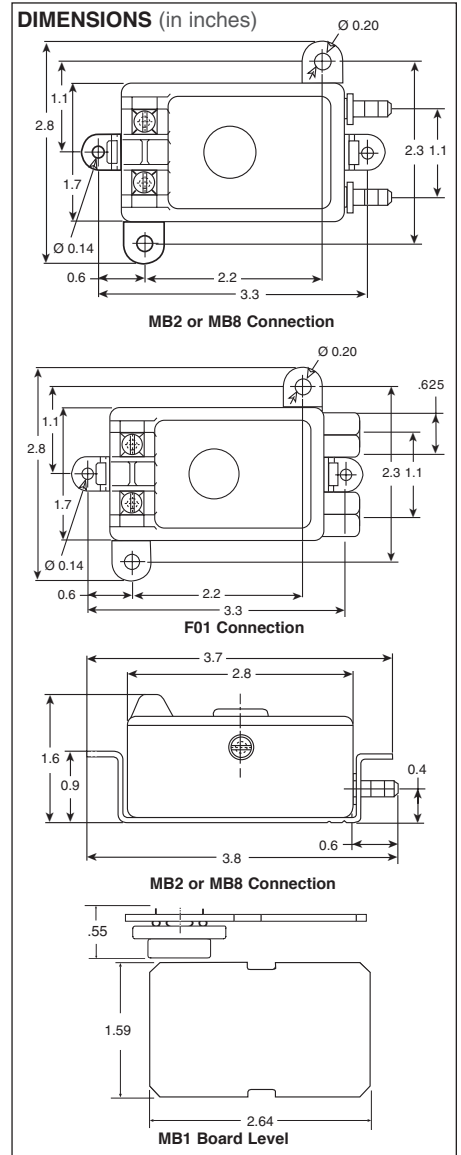
NOT FOR USE ON LIQUIDS

## OPTIONS

- (XRK) Back plate adapter
- (XRH) Calibration report
- (XCL) Custom calibration
- (XCE) CE compliant 4-20mA only

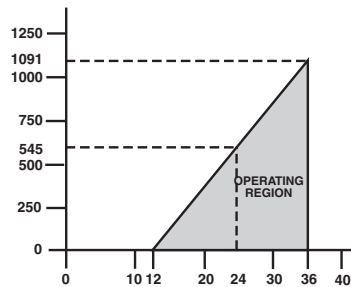
## NOTES:

- Consult factory on other pressure range, temperature compensation, packaging variations or response times available



## Load Limitations 4-20mA Output

Loop Resistance ( $\Omega$ )



LOOP SUPPLY VOLTAGE (VDC)

$$V_{min} = 12V + [.022A \cdot (R_L)]$$

\*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)

## How To Order

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<b>Type Configuration</b> (RXLdp)	<b>Accuracy/TC</b> (7) 1.00%, $\pm 0.025\%/^{\circ}F$	<b>Pressure Connection</b> (MB2) 1/4" Barbed Male (MB8) 1/2" Barbed Male (MB1) Board Level/No Case (F01) 1/2" NPT Female	<b>Output Signal</b> (05) 0-5 Vdc (10) 0-10 Vdc (15) 1-5 Vdc (16) 1-6 Vdc (42) 4-20mA	<b>Electrical Termination</b> (ST) Electric Terminal	<b>Pressure Range</b> 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) 1.50" W.C. (2IW) 2.00" W.C. (2P5IW) 2.50" W.C. (3IW) 3.00" W.C. (5IW) 5.00" W.C. (10IW) 10.00" W.C. (25IW) 25.00" W.C. (50IW) 50.00" W.C. Compound: (P1IWL) $\pm 0.10$ " W.C. (P25IWL) $\pm 0.25$ " W.C. (P5IWL) $\pm 0.50$ " W.C. (P75IWL) $\pm 0.75$ " W.C. (1IWL) $\pm 1.00$ " W.C. (2P5IWL) $\pm 2.50$ " W.C. (5IWL) $\pm 5.00$ " W.C. (10IWL) $\pm 10.00$ " W.C. (25IWL) $\pm 25.00$ " W.C. (50IWL) $\pm 50.00$ " W.C.	<b>Optional X-Variation</b> (XRK) Back Plate Adapter (XRH) 9pt Calibration Report (XCE) CE Approval Option (4-20mA Output) (XCL) Custom calibration