**EXPLOSION-PROOF DIFFERENTIAL PRESSURE TRANSMITTER**

HART®, Push-Button Configuration, Rangeability (100:1)

**CALIBRATION SERVICES AVAILABLE**

Mercoid® Series 3100 Explosion-Proof Smart Pressure Transmitter is a microprocessor-based high performance transmitter, which has flexible pressure calibration, push-button configuration, and programmable using HART® Communication. The Series 3100 is capable of being configured for differential pressure or level applications with the zero and span buttons. A field calibrator is not required for configuration. The transmitter software compensates for thermal effects, improving performance. EEPROM stores configuration settings and stores sensor correction coefficients in the event of shutdowns or power loss.

The Series 3100 is FM or ATEX approved for use in hazardous (classified) locations. The 100:1 rangeability allows the smart transmitter to be configured to fit any application.

**FEATURES/BENEFITS**

- Configurable using zero/span buttons means no calibrator required reducing time to install and running
- Range-ability and selectable engineering units, allows transmitter to fit many applications reducing the number of different transmitters to meet specifications
- High accuracy (±0.075%) provides exceptional measurement for ensuring tight-control and minimizing costly out of specification conditions
- Automatic sensor temperature compensation improves performance of device for accurate measurement under different operating environments
- Fail-mode process function stores configuration settings in the event of shutdown or power-loss provides for faster restart to getting application back on-line
- A HART® Communication programmable device provides a reliable, long-term solution for plant operators who seek the benefits of intelligent devices with digital communication

**APPLICATIONS**

- Flow measurement
- Level monitoring
- Filter or pump differential pressure
- Critical process monitoring

**MODEL CHART**

<table>
<thead>
<tr>
<th>Model</th>
<th>Calibrated Span (Min. to Max.)</th>
<th>Lower Range Limit</th>
<th>Upper Range Limit</th>
<th>LCD Display</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100D-2-FM-1-1</td>
<td>0.6 to 30 in w.c.</td>
<td>0.15 to 7.5 kPa</td>
<td>-30 in w.c.</td>
<td>-7.5 kPa</td>
<td>30 in w.c.</td>
</tr>
<tr>
<td>3100D-3-FM-1-1</td>
<td>1.5 to 150 in w.c.</td>
<td>0.373 to 37.3 kPa</td>
<td>-150 in w.c.</td>
<td>-37.3 kPa</td>
<td>150 in w.c.</td>
</tr>
<tr>
<td>3100D-4-FM-1-1</td>
<td>7.5 to 750 in w.c.</td>
<td>1.665 to 186.5 kPa</td>
<td>-750 in w.c.</td>
<td>-186.5 kPa</td>
<td>750 in w.c.</td>
</tr>
<tr>
<td>3100D-5-FM-1-1</td>
<td>1 to 100 psi</td>
<td>6.9 to 690 kPa</td>
<td>-100 psi</td>
<td>-690 kPa</td>
<td>100 psi</td>
</tr>
<tr>
<td>3100D-6-FM-1-1</td>
<td>3 to 300 psi</td>
<td>20.68 to 2068 kPa</td>
<td>-300 psi</td>
<td>-2068 kPa</td>
<td>300 psi</td>
</tr>
<tr>
<td>3100D-2-FM-1-LCD</td>
<td>0.6 to 30 in w.c.</td>
<td>0.15 to 7.5 kPa</td>
<td>-30 in w.c.</td>
<td>-7.5 kPa</td>
<td>30 in w.c.</td>
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<td>-2068 kPa</td>
<td>300 psi</td>
</tr>
</tbody>
</table>

**SPECSIFICATIONS**

- Service: Compatible gases, steam, liquids or vapors.
- Wetted Materials: 316L SS, fluoroelastomer.
- Accuracy: ±0.075% FS @ 20°C.
- Rangeability: 100:1 turn down.
- Temperature Limits: Process: -40 to 248°F (-40 to 120°C); Ambient: Without LCD: -40 to 185°F (-40 to 85°C); With LCD: -22 to 176°F (-30 to 80°C).
- Pressure Limits: Max pressure: Range: -14.5 to 2000 psi; Burst pressure: 10000 psi.
- Thermal Effect: ±0.125% span/32°C.
- Power Requirements: 11.9-45 VDC.
- Output Signal: 4-20 mA / HART® Communication.
- Response Time: 0.12 s.
- Damping Time: 0.25 to 60 s.
- Loop Resistance: Operation: 0 to 1500 Ω; HART® Communication: 250 to 500 Ω.
- Electrical Connection: Two 1/2” female NPT conduit, screw terminal.
- Process Connection: 1/4” female NPT.
- Display: Optional 5 digit LCD.
- Enclosure Rating: NEMA 4X (IP66) and explosion-proof for Class I, Div I, Groups A, B, C and D.
- Weight: 8.6 lb (3.9 kg).
- Agency Approvals: CE, FM, ATEX option available (consult factory).

**Note:** Consult factory for custom calibration. Items are subject to Schedule B discounts.
**Series 3100 | MercoID® by Dwyer**

**Explosion-Proof Differential Pressure Transmitter**

**HART®, Push-Button Configuration, Rangeability (100:1)**

**CALIBRATION SERVICES AVAILABLE**

### Model Chart

<table>
<thead>
<tr>
<th>Example</th>
<th>Series</th>
<th>-9</th>
<th>-10</th>
<th>LCD</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0</td>
<td>0</td>
<td>-10</td>
<td>LCD</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>LCD</td>
</tr>
<tr>
<td>Approve</td>
<td></td>
<td>FM</td>
<td>ATEX</td>
<td>WP</td>
<td>+225.00</td>
</tr>
<tr>
<td>Process Connection</td>
<td>1</td>
<td>1/4&quot; female NPT</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Connection</td>
<td>1</td>
<td>1/2&quot; female NPT</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Diaphragm Seal Type

<table>
<thead>
<tr>
<th>Mounting Flange</th>
<th>Mounting Flange Rating</th>
<th>Extension Length</th>
<th>Diaphragm Material</th>
<th>Capillary Length High Side</th>
<th>Capillary Length Low Side</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2</td>
<td>A1</td>
<td>0</td>
<td>316L SS diaphragm</td>
<td>XX</td>
<td>XX</td>
<td>LCD</td>
</tr>
<tr>
<td>S3</td>
<td>D1</td>
<td>0</td>
<td>PTFE and 316L SS diaphragm</td>
<td>60</td>
<td>0</td>
<td>SS/S</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>Tantannium diaphragm</td>
<td>XX</td>
<td>XX</td>
<td>CC</td>
</tr>
</tbody>
</table>

### Diaphragm Material

- S: 316L SS diaphragm
- P: PTFE and 316L SS diaphragm
- T: Tantannium diaphragm

### Fill Fluid

- 2: Silicon oil (-40 to 400°F)

### Capillary Length High Side

- 00: No extension [standard for flush mount]
- 05: 2" extension
- 10: 4" extension
- 15: 6" extension

### Capillary Length Low Side

- XX: 0 to 20 feet

### Options

- LCD: 5 digit LCD
- SS/S: 316 SS housing (Only available with WP approval)
- SS: NIST calibration
- CC: Custom calibration

### Calibration Services Available

- LCD: 5 digit LCD
- SS/S: 316 SS housing (Only available with WP approval)
- SS: NIST calibration
- CC: Custom calibration

### Customer Calibration Values

- Primary Units: in w.c., ft in w.c., mm in w.c., in Hg, psig, g/cm², kg/cm², MPa, Pa, kPa, bar, mbar, Torr, Atm, mm Hg
- Upper Range Limit: 20 mA value
- Lower Range Limit: 4 mA value
- Output: Linear or square root
- Damping Time: 0 to 60 seconds
- Display Mode: Unit, %, mA, rotate
- Display Units: Primary unit or Engineering unit

### Accessories

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-630</td>
<td>Stainless steel angle bracket with SS bolts</td>
<td>$92.00</td>
</tr>
<tr>
<td>A-631</td>
<td>Stainless steel flat type bracket with SS bolts</td>
<td>$92.00</td>
</tr>
<tr>
<td>BBV-1F</td>
<td>Flanged 3-valve block manifold</td>
<td>180.00</td>
</tr>
<tr>
<td>BBV-22F</td>
<td>Flanged 5-valve block manifold</td>
<td>266.00</td>
</tr>
<tr>
<td>DevCom2000</td>
<td>HART® Communication Protocol Software</td>
<td>1545.00</td>
</tr>
</tbody>
</table>

Items are subject to Schedule B discounts.

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