The Mercoid® Series 3100D Smart Pressure Transmitter is a microprocessor-based high performance transmitter, which has flexible pressure calibration, push button configuration, and programable using HART® Communication. The Series 3100D 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 3100D is FM approved for use in hazardous (classified) locations. The 100:1 rangeability allows the smart transmitter to be configured to fit any application.

**FEATURES**

- Configurable using zero/span buttons (no calibrator required)
- Rangeability (100:1)
- High accuracy (±0.075%)
- Automatic sensor temperature compensation
- Fail-mode process function
- Selectable engineering units

**APPLICATIONS**

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

**SPECIFICATIONS**

**Service:** Compatible gases, steam, liquids or vapors.

**Wetted Materials:** 316L SS.

**Accuracy:** ±0.075% FS (@ 20°C).

**Rangeability:** 100:1 turn down.

**Stability:** ±0.125% FS/yr.

**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 to 45 VDC.

**Output Signal:** 4 to 20 mA / HART® Communication.

**Response Time:** 0.12 seconds.

**Damping Time:** 0.25 to 60 seconds.

**Loop Resistance:**
- Operation: 0 to 1500 Ω;
- HART® Communication: 250 to 500 Ω.

**Electrical Connection:** Two 1/2˝ female NPT
- HART® Communication: 2 to 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.

**NEW PRODUCT!**

Consult factory for custom calibration.

**ACCESSORIES**

- A-630, Stainless steel angle type bracket with SS bolts
- A-631, Stainless steel flat type bracket with SS bolts
- BBV-1F, Flanged 3-valve block manifold
- BBV-22F, Flanged 5-valve block manifold
- DevCom2000, HART® Communication Protocol Software

HART® is a registered trademark of Hart Communication Foundation.
### Ordering Chart

<table>
<thead>
<tr>
<th>Example</th>
<th>Series</th>
<th>Range</th>
<th>Approval</th>
<th>Process Connection</th>
<th>Electrical Connection</th>
<th>Diaphragm Seal Type</th>
<th>Mounting Flange</th>
<th>Extension Length</th>
<th>Capillary Length High Side</th>
<th>Capillary Length Low Side</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0 to 6 in w.c.</td>
<td>FM</td>
<td>1/4˝ female NPT</td>
<td>1/2˝ female NPT</td>
<td>2 extended diaphragm seals capillary type</td>
<td>S2</td>
<td>00</td>
<td>XX</td>
<td>XX</td>
<td>LCD</td>
</tr>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0 to 30 in w.c.</td>
<td>ATEX</td>
<td></td>
<td></td>
<td>1 extended diaphragm seal direct mount high side</td>
<td>S3</td>
<td>05</td>
<td>XX</td>
<td>XX</td>
<td>SSH</td>
</tr>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0 to 150 in w.c.</td>
<td>WP</td>
<td></td>
<td></td>
<td>1 extended diaphragm seal capillary type high side</td>
<td>S2</td>
<td>10</td>
<td>XX</td>
<td>XX</td>
<td>316 SS housing</td>
</tr>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0 to 750 in w.c.</td>
<td>FM</td>
<td></td>
<td></td>
<td>1 extended diaphragm seal capillary type low side</td>
<td>S3</td>
<td>15</td>
<td>XX</td>
<td>XX</td>
<td>NIST</td>
</tr>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0 to 100 psi</td>
<td>ATEX</td>
<td></td>
<td></td>
<td>2 flush diaphragm seals capillary type</td>
<td>S2</td>
<td>00</td>
<td>XX</td>
<td>XX</td>
<td>LCD</td>
</tr>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0 to 300 psi</td>
<td>WP</td>
<td></td>
<td></td>
<td>1 flush diaphragm seal direct mount high side</td>
<td>S3</td>
<td>05</td>
<td>XX</td>
<td>XX</td>
<td>SSH</td>
</tr>
<tr>
<td>3100D</td>
<td>3100D</td>
<td>0 to 1000 psi</td>
<td>FM</td>
<td></td>
<td></td>
<td>1 flush diaphragm seal capillary type high side</td>
<td>S2</td>
<td>10</td>
<td>XX</td>
<td>XX</td>
<td>316 SS housing</td>
</tr>
</tbody>
</table>

### Custom Calibration Values

<table>
<thead>
<tr>
<th>Primary Units</th>
<th>Upper Range Limit</th>
<th>Lower Range Limit</th>
<th>Output</th>
<th>Display Units</th>
<th>Engineering Units*</th>
</tr>
</thead>
<tbody>
<tr>
<td>in H₂O, ft, H₂O, mm H₂O, in Hg, psig, g/cm², kg/cm², MPa, Pa, kPa, bar, mbar, Torr, Atm, mm Hg</td>
<td>20 mA value</td>
<td>4 mA value</td>
<td>Linear or square root</td>
<td>Primary unit or Engineering unit</td>
<td></td>
</tr>
</tbody>
</table>

### Diaphragm Materials

<table>
<thead>
<tr>
<th>Diaphragm Material</th>
<th>Fill Fluid</th>
<th>Capillary Length High Side</th>
<th>Capillary Length Low Side</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>316L SS diaphragm</td>
<td>Silicon oil (-40 to 400°F)</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>LCD</td>
</tr>
<tr>
<td>PTFE and 316L SS diaphragm</td>
<td>Hastelloy C-276 diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>SSH</td>
</tr>
<tr>
<td>Tantallum diaphragm</td>
<td>Silicon oil (-40 to 400°F)</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>316 SS housing</td>
</tr>
</tbody>
</table>

### Engineering Units* and Functions

- **Engineering Units**
  - Volumetric Flow Units: US gal/s, US gpm, US gal/hr, US gpd, imp gal/s, imp gpm, imp gal/hr, imp gpd, l/s, l/min, l/hour, ft³/s, ft³/min, ft³/h, ft³/day, m³/s, m³/min, m³/h, m³/day, normal l/hr, normal m³/hr, standard ft³/min, barrels/s, barrels/min, barrels/hr, barrels/day
  - Mass Flow Units: g/s, g/min, g/hr, kg/s, kg/min, kg/hr, kg/day, metric ton/min, metric ton/hour, metric ton/day, lb/s, lb/min, lb/hr, lb/day, short ton/min, short ton/hr, short ton/day, long ton/hr, long ton/day
  - Volume Units: gallons, liters, imp gallons, m³, barrels, bushels, yd³, ft³, in³, bbl liq, normal cubic meter, normal liter, standard cubic feet, hectoliters

- **Engr. Upper Range Limit**
- **Engr. Lower Range Limit**
- **Engr. Function**
  - Linear or square root

*Engineering Units, Engr. Upper Range Limit, Engr. Lower Range Limit and Engr. Function values are only required if engineering unit is selected.