The Mercoid® Series 3100 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.

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/year
- 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

Model | Calibrated Span (Min. to Max.) | Lower Range Limit | Upper Range Limit | LCD Display |
--- | --- | --- | --- | --- |
3100D-2-FM-1-1 | 0 to 30 in w.c. | 0.15 to 7.5 kPa | -30 in w.c. to -7.5 kPa | No |
3100D-5-FM-1-1 | 1.5 to 150 in w.c. | 0.373 to 37.3 kPa | -150 in w.c. to -37.3 kPa | Yes |
3100D-3-FM-1-1 | 7.5 to 750 in w.c. | 1.865 to 186.5 kPa | -750 in w.c. to -186.5 kPa | Yes |
3100D-1-1-LCD | 1 to 100 psi | 6.9 to 690 kPa | -100 psi to -690 kPa | Yes |
3100D-5-FM-1-1-LCD | 3 to 300 psi | 20.68 to 2068 kPa | -300 psi to -2068 kPa | Yes |
3100D-3-FM-1-1-LCD | 7.5 to 750 in w.c. | 1.865 to 186.5 kPa | -750 in w.c. to -186.5 kPa | Yes |
3100D-1-1-LCD | 1 to 100 psi | 6.9 to 690 kPa | -100 psi to -690 kPa | Yes |
3100D-5-FM-1-1-LCD | 3 to 300 psi | 20.68 to 2068 kPa | -300 psi to -2068 kPa | Yes |

Consult factory for custom calibration.

Model | Calibrated Span (Min. to Max.) | Lower Range Limit | Upper Range Limit | LCD Display |
--- | --- | --- | --- | --- |
3100MP-2-FM-1-1 | 0.6 to 30 in w.c. | 0.15 to 7.5 kPa | -30 in w.c. to -7.5 kPa | No |
3100MP-3-FM-1-1 | 1.5 to 150 in w.c. | 0.373 to 37.3 kPa | -150 in w.c. to -37.3 kPa | Yes |
3100MP-4-FM-1-1 | 7.5 to 750 in w.c. | 1.865 to 186.5 kPa | -750 in w.c. to -186.5 kPa | Yes |
3100MP-5-FM-1-1 | 1 to 100 psi | 6.9 to 690 kPa | -100 psi to -690 kPa | Yes |
3100MP-6-FM-1-1 | 3 to 300 psi | 20.68 to 2068 kPa | -300 psi to -2068 kPa | Yes |
3100MP-2-FM-1-1-LCD | 0.6 to 30 in w.c. | 0.15 to 7.5 kPa | -30 in w.c. to -7.5 kPa | No |
3100MP-3-FM-1-1-LCD | 1.5 to 150 in w.c. | 0.373 to 37.3 kPa | -150 in w.c. to -37.3 kPa | Yes |
3100MP-4-FM-1-1-LCD | 7.5 to 750 in w.c. | 1.865 to 186.5 kPa | -750 in w.c. to -186.5 kPa | Yes |
3100MP-5-FM-1-1-LCD | 1 to 100 psi | 6.9 to 690 kPa | -100 psi to -690 kPa | Yes |
3100MP-6-FM-1-1-LCD | 3 to 300 psi | 20.68 to 2068 kPa | -300 psi to -2068 kPa | Yes |

Consult factory for custom calibration.

Damping Time: 0.25 to 60 seconds.
Loop Resistance: 0.25 to 60 seconds.

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

<table>
<thead>
<tr>
<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>Mounting Flange Rating</th>
<th>Extension Length</th>
<th>Diaphragm Material</th>
<th>Fill Fluid</th>
<th>Capillary Length</th>
<th>Capillary Length Low Side</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100D-2-FM-3-1-LECS2A10SS2-05-10-LCD</td>
<td>0 to 6 in.w.c.</td>
<td>FM approved</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>ANSI class 150#</td>
<td>No extension</td>
<td>316L SS diaphragm</td>
<td>Silicon oil (-40 to 400°F)</td>
<td>LCD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3100MP Multiplanar Explosion-Proof Differential Pressure Transmitter</td>
<td>0 to 30 in.w.c.</td>
<td>ATEX approved</td>
<td>1 extended diaphragm seal direct mount high side</td>
<td>1 extended diaphragm seal direct mount high side</td>
<td>1 extended diaphragm seal capillary type high side</td>
<td>S3</td>
<td>ANSI class 300#</td>
<td>2” extension</td>
<td>PTFE and 316L SS diaphragm</td>
<td>10 to 20 feet</td>
<td>0 to 20 feet</td>
<td>LCD, 5 digit LCD</td>
<td>Custom calibration</td>
</tr>
<tr>
<td>3100D Explosion-Proof Differential Pressure Transmitter</td>
<td>0 to 150 in.w.c.</td>
<td>FM approved</td>
<td>1 extended diaphragm seal capillary type low side</td>
<td>1 extended diaphragm seal capillary type low side</td>
<td>1 extended diaphragm seal capillary type</td>
<td>S2</td>
<td>DIN PN 10/16</td>
<td>4” extension</td>
<td>Hastelloy C-276 diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>316 SS housing (Only available with WP approval)</td>
<td></td>
</tr>
<tr>
<td>3100MP Multiplanar Explosion-Proof Differential Pressure Transmitter</td>
<td>0 to 750 in.w.c.</td>
<td>ATEX approved</td>
<td>2 flush diaphragm seals capillary type</td>
<td>1 flush diaphragm seal direct mount high side</td>
<td>1 flush diaphragm seal capillary type high side</td>
<td>S2</td>
<td>DIN PN 25/40</td>
<td>6” extension</td>
<td>Tantallum diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>316 SS housing (Only available with WP approval)</td>
<td></td>
</tr>
<tr>
<td>3100MP Multiplanar Explosion-Proof Differential Pressure Transmitter</td>
<td>0 to 100 psi</td>
<td>FM approved</td>
<td>1 flush diaphragm seal capillary type</td>
<td>1 flush diaphragm seal capillary type</td>
<td>1 flush diaphragm seal capillary type</td>
<td>S2</td>
<td>JIS 10 K</td>
<td>No extension</td>
<td>316L SS diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>LCD, 5 digit LCD</td>
<td>Custom calibration</td>
</tr>
<tr>
<td>3100MP Multiplanar Explosion-Proof Differential Pressure Transmitter</td>
<td>0 to 300 psi</td>
<td>ATEX approved</td>
<td>1 flush diaphragm seal capillary type</td>
<td>1 flush diaphragm seal capillary type</td>
<td>1 flush diaphragm seal capillary type</td>
<td>S2</td>
<td>JIS 20 K</td>
<td>No extension</td>
<td>PTFE and 316L SS diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>LCD, 5 digit LCD</td>
<td>Custom calibration</td>
</tr>
<tr>
<td>3100MP Multiplanar Explosion-Proof Differential Pressure Transmitter</td>
<td>0 to 1000 psi</td>
<td>FM approved</td>
<td>1 flush diaphragm seal capillary type</td>
<td>1 flush diaphragm seal capillary type</td>
<td>1 flush diaphragm seal capillary type</td>
<td>S2</td>
<td>JIS 10 K</td>
<td>No extension</td>
<td>Hastelloy C-276 diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>LCD, 5 digit LCD</td>
<td>Custom calibration</td>
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<td>1 flush diaphragm seal capillary type</td>
<td>1 flush diaphragm seal capillary type</td>
<td>S2</td>
<td>JIS 20 K</td>
<td>No extension</td>
<td>Tantallum diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>LCD, 5 digit LCD</td>
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<td>JIS 20 K</td>
<td>No extension</td>
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<td>1 flush diaphragm seal capillary type</td>
<td>S2</td>
<td>JIS 20 K</td>
<td>No extension</td>
<td>Hastelloy C-276 diaphragm</td>
<td>0 to 20 feet</td>
<td>0 to 20 feet</td>
<td>LCD, 5 digit LCD</td>
<td>Custom calibration</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>Damping Time</th>
<th>Display Mode</th>
<th>Display Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>in H20, ft H20, mm H20, 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>0 to 60 seconds</td>
<td>Unit, %, mA, rotate</td>
<td>Primary unit or Engineering unit</td>
</tr>
</tbody>
</table>

### Engineering Units

<table>
<thead>
<tr>
<th>Volumetric Flow Units</th>
<th>Mass Flow Units</th>
<th>Volume Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ft³/min, ft³/h, ft³/day, m³/s, m³/min, m³/hr, ft³/day, m³/day, normal l/hr, normal m³/hr, m³/day, normal l/hr, normal m³/hr</td>
<td>g/s, g/min, g/hr, kg/s, kg/min, kg/hr, metric ton/min, metric ton/hour, metric ton/day, lbs/s, lb/min, lb/hr, lb/day, short ton/min, short ton/hour, short ton/day, long ton/hr, long ton/day</td>
<td>gallons, liters, imperial gallons, m³, barrels, bushels, yd³, ft³, in³, bbl liq, normal cubic meter, normal liter, standard cubic feet, hectoliters</td>
</tr>
</tbody>
</table>

### Engr. Upper Range Limit

<table>
<thead>
<tr>
<th>Engr. Upper Range Limit*</th>
<th>Engr. Lower Range Limit*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr. upper value</td>
<td>Engr. lower value</td>
</tr>
</tbody>
</table>

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

### ACCESSORIES

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

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