The Series MS2 Magnesense® II Differential Pressure Transmitter combines the proven stable Hall Effect sensing technology of our original Series MS with additional features to reduce installation time and simplify ordering. In this second generation transmitter, we have added additional field selectable pressure ranges so that each model can have four selectable ranges along with additional bidirectional ranges. When using the pluggable integral display or the portable remote display tool, both Metric and English engineering units can be selected via on board dip switches. Dual current and voltage outputs allow users to simultaneously take either a current or voltage output to their building controller and have a local test circuit for verification of the output reading. The output voltage can be selected to be either 0 to 5 VDC or 0 to 10 VDC, while the current is always 4 to 20 mA. Both the current and voltage output can also be inverted. The MS2 can also be ordered with either a BACnet® or Modbus® Communications protocol output that will allow the transceivers to be daisy-chained together.

Like the original Series MS, the second generation transmitter can be used as a linear pressure output or a linear velocity output with the square root extraction done in the transmitter. Additional parameters have been included to expand the square root capability to include flow measurements.

BACnet® and Modbus® Communications protocol recommend limiting the number of nodes in any segment to 32. Therefore, the transceiver may be rated at one unit load. Fractional loads are also acceptable. The MS2 accounts as an eighth of a load on the MSTP network.

### Model Specifications

**Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>in w.c.</th>
<th>kPa</th>
<th>mm w.c.</th>
<th>kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS2-W101</td>
<td>0.10, 0.15,</td>
<td>±0.0, ±0.025,</td>
<td>0.0, ±0.025,</td>
<td>±0.005, ±0.125</td>
</tr>
<tr>
<td></td>
<td>0.25, 0.50</td>
<td>±0.025, ±0.04,</td>
<td>±0.05, ±0.125</td>
<td></td>
</tr>
<tr>
<td>MS2-W111</td>
<td>±0.10, ±0.15,</td>
<td>±0.25, ±0.50,</td>
<td>±0.125, ±0.125</td>
<td>±0.125, ±0.125</td>
</tr>
<tr>
<td></td>
<td>±0.25, ±0.5</td>
<td>±0.25, ±0.5</td>
<td>±0.25, ±0.5</td>
<td></td>
</tr>
<tr>
<td>MS2-W102</td>
<td>±1, ±2, ±3,</td>
<td>±25, ±50, ±250</td>
<td>±50, ±75, ±125</td>
<td>±6, ±10, ±25, ±125</td>
</tr>
<tr>
<td></td>
<td>±5</td>
<td>±125, ±250, ±125</td>
<td>±125, ±250, ±125</td>
<td>±125, ±250, ±125</td>
</tr>
<tr>
<td>MS2-W103</td>
<td>10, 15, 25,</td>
<td>±250, ±500, ±750, ±125</td>
<td>±250, ±500, ±750, ±125</td>
<td>±250, ±500, ±750, ±125</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>±500, ±697, ±250, ±500, ±697</td>
<td>±500, ±697, ±250, ±500, ±697</td>
<td>±500, ±697, ±250, ±500, ±697</td>
</tr>
</tbody>
</table>

**Adjustable**

- 0.5 to 15 sec. time constant. Provides a 95% response time of 1.5 to 45 seconds.

**Stability**

- ±1% / year FSO.

**Temperature Limits**

- 0 to 150°F (-18 to 66°C).

**Pressure Limits**

- ±2% FS for 0.1˝ (25 Pa), 1˝ (250 Pa), and all bi-directional ranges.

**Loop Resistance**

- Current Output: 0 to 1250 Ω max; Voltage Output: Min. load resistance 1 kΩ.

**Current Consumption**

- 4 to 20 mA (2-wire), 0 to 5 VDC, 0 to 10 VDC (3-wire).

**Response Time**

- Adjustable: 0.5 to 15 sec. time constant. Provides a 95% response time of 1.5 to 45 seconds.

**Zero & Span Adjustments**

- Digital push buttons.

**Loop Resistance**

- Current Output: 0 to 1250 Ω max; Voltage Output: Min. load resistance 1 kΩ.

**Current Consumption**

- 40 mA max.

**Display (Optional):**

- 5 digit LCD.

**Electrical Connections:**

- 3-wire removable European style terminal block for 16 to 22 AWG.

**Electrical Rating:**

- IP66.

**Mounting Orientation:**

- Diaphragm in vertical position.

**Weight:**

- 8.0 oz (230 g).

**Agency Approvals:**

- BTL, CE.

### Options

Add +LCD to end of model numbers for units with display

Example: MS2-W101-LCD

Add +BC to end of model numbers for BACnet Communications

Example: MS2-W101-BC

Add +Modbus® Communications

Example: MS2-W101-Modbus®

Add +NIST to end of model numbers for NIST Traceable Certificate

Example: MS2-W101-NIST

Add +FC to end of model numbers for Factory Calibration Certificate

Example: MS2-W101-FC

Changes W to D for Duct Mount Static Probe

Example: MS2-D101

Changes W to N for DIN Rail Mounting

Example: MS2-N101

**Accessories**

- A-151, Cable gland for 5 to 10 mm diameter cable
- A-MS2-LCD, Field Upgradeable Display
- A-435-A, Remote Display Tool
- A-480, Plastic Static Pressure Tip
- A-481, Installer kit. Includes 2 plastic static pressure tips and 7 ft (2.1 m) of PVC tubing
- A-489, 4” 303 SS Straight Static Pressure Tip with Flange
- A-302F-A, 4” 303 SS Static Pressure Tip with mounting flange. For 3/16” ID rubber or plastic tubing
- SCD-PS, 100 to 240 VAC/VDC to 24 VDC Power Supply

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Process Tubing Options: See page 547 (Gage Tubing Accessories)