



**The MS Series** is a surface-mountable pressure monitoring device suitable for low to medium pressure applications.

**COMPANY:** Merit Sensor is a leader in piezoresistive pressure sensing and partners with clients to create high performing solutions for a variety of applications and industries.

**SENTIUM:** Merit Sensor products incorporate a proprietary Sentiium® technology, developed to provide a best-in-class operating temperature range (-40°C to 85°C) and superior stability.

**TECHNOLOGY:** Merit Sensor utilizes a piezoresistive Wheatstone bridge in a design that anodically bonds glass to a chemically etched silicon diaphragm. All products are RoHS compliant.

**CAPABILITIES:** Merit Sensor designs, engineers, fabricates, dices, assembles, and tests products from a state-of-the-art facility near Salt Lake City, Utah.

### FEATURES

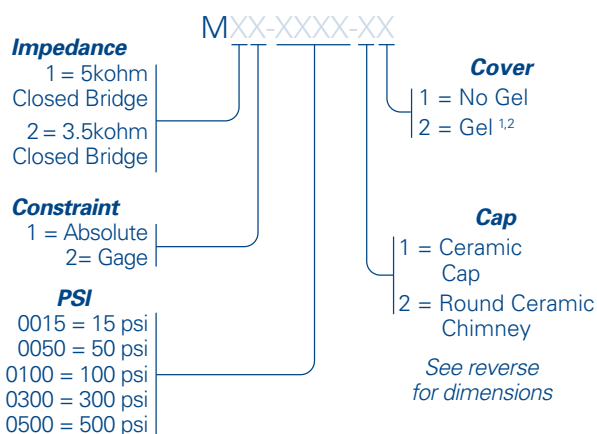
|             |                                                   |
|-------------|---------------------------------------------------|
| Range       | 15 to 500 psi (1 to 34.5 bar; 103 to 3,447 KPa)   |
| Type        | Absolute, gage                                    |
| Media       | Clean, dry air and non-corrosive gases            |
| Packaging   | Substrates, covers, gels, etc.                    |
| Flexibility | Sensitivity, resistance, bridge, constraint, etc. |

### BENEFITS

|             |                                                                                                           |
|-------------|-----------------------------------------------------------------------------------------------------------|
| Performance | Enjoy best-in-class performance due to Merit's proprietary Sentiium technology.                           |
| Cost        | Save money over time with high-performing die                                                             |
| Security    | Feel confident doing business with an experienced company backed by a solid parent company (NASDAQ: MMSI) |
| Speed       | Get to market quickly with creative and flexible solutions.                                               |
| Service     | Experience prompt, personal, and professional support.                                                    |



### MS Series Part Number Configurator



**Example:** M11-0015-11 offers 5kohm Impedance, Closed Bridge, Absolute Constraint, 15 psi, Ceramic Cap, No Gel

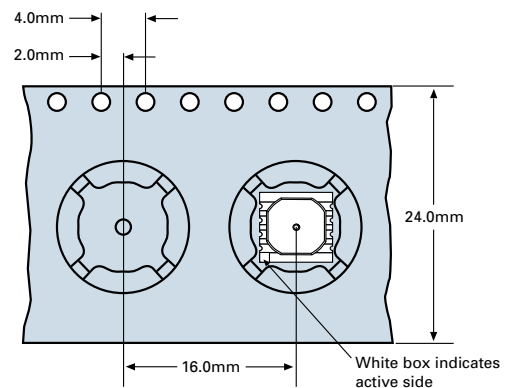
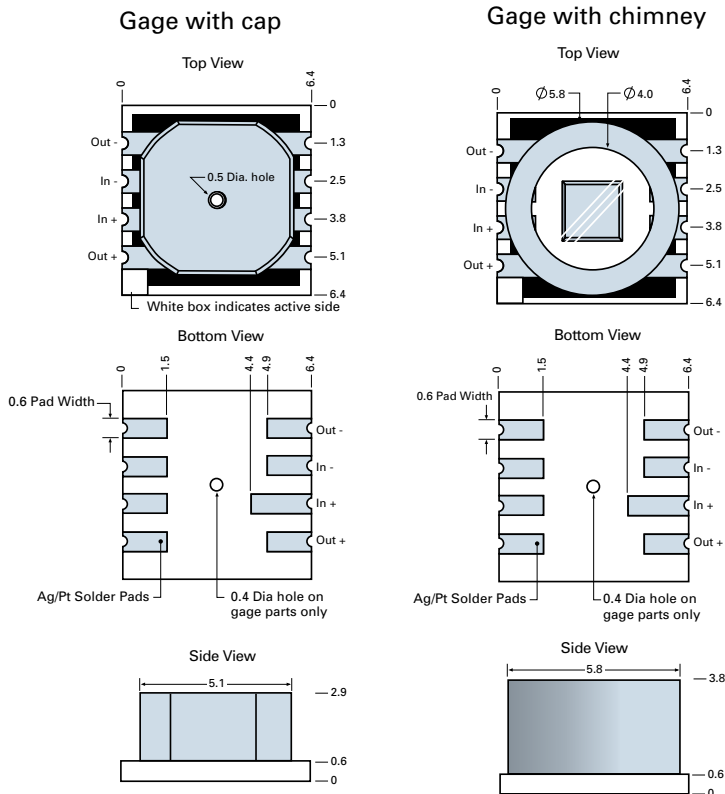
<sup>1</sup> Not available with cap. <sup>2</sup> Not available above 100 psi.

### MS Series Standard Part Numbers

|             |             |             |
|-------------|-------------|-------------|
| M11-0015-11 | M22-0300-11 | M21-0015-21 |
| M11-0050-11 | M22-0500-11 | M21-0050-21 |
| M11-0100-11 | M11-0015-21 | M21-0100-21 |
| M11-0300-11 | M11-0050-21 | M21-0300-21 |
| M11-0500-11 | M11-0100-21 | M21-0500-21 |
| M12-0015-11 | M11-0300-21 | M22-0015-21 |
| M12-0050-11 | M11-0500-21 | M22-0050-21 |
| M12-0100-11 | M12-0015-21 | M22-0100-21 |
| M12-0300-11 | M12-0050-21 | M22-0300-21 |
| M12-0500-11 | M12-0100-21 | M22-0500-21 |
| M21-0015-11 | M12-0300-21 | M21-0015-22 |
| M21-0050-11 | M12-0500-21 | M21-0050-22 |
| M21-0100-11 | M11-0015-22 | M21-0100-22 |
| M21-0300-11 | M11-0050-22 | M22-0015-22 |
| M21-0500-11 | M11-0100-22 | M22-0050-22 |
| M22-0015-11 | M12-0015-22 | M22-0100-22 |
| M22-0050-11 | M12-0050-22 |             |
| M22-0100-11 | M12-0100-22 |             |

**SPECIFICATIONS**

| Parameter                                       | Minimum | Typical | Maximum | Units                          | Notes                           |
|-------------------------------------------------|---------|---------|---------|--------------------------------|---------------------------------|
| <b>Electrical &amp; Environmental</b>           |         |         |         |                                |                                 |
| Excitation (In)                                 |         | 5       | 15      | V                              | Maximum: 3 mA                   |
| Impedance                                       | 4000    | 5000    | 6000    | $\Omega$                       | Optional: 3,500 +/- 500         |
| Operating Temperature                           | -40     |         | 85      | °C                             | Sentium® technology             |
| Storage Temperature                             | -55     |         | 160     | °C                             |                                 |
| <b>Performance</b>                              |         |         |         |                                |                                 |
| Offset                                          | -10     | 0       | 10      | mV/V                           | Zero pressure; gage only; @25°C |
| Non-linearity                                   | -0.2    | 0       | 0.2     | % FSO                          | Best Fit Straight Line; @25°C   |
| Pressure Hysteresis                             | -0.1    | 0       | 0.1     | % FSO                          | @25°C                           |
| Temp Coeff – Zero                               | -25     | 0       | 25      | $\mu\text{V/V}/^\circ\text{C}$ | -40°C to 85°C                   |
| Temp Coeff – Resistance                         | 2300    | 2800    | 3300    | PPM/°C                         | -40°C to 85°C                   |
| Temp Coeff – Sensitivity                        | -1500   | -2200   | -2500   | PPM/°C                         | -40°C to 85°C                   |
| Thermal Hysteresis                              | -0.1    | 0       | 0.1     | % FSO                          | Zero pressure                   |
| Burst Pressure                                  | 2X      |         |         |                                | Room Temperature                |
| <b>Full-Scale Output (@ 5 volts excitation)</b> |         |         |         |                                |                                 |
| 15 psi (1 bar; 103 KPa)                         | 60      | 75      | 90      | mV                             | Closed bridge only              |
| 50 psi (3.4 bar; 345 KPa)                       | 100     | 125     | 150     | mV                             |                                 |
| 100 psi (6.9 bar; 689 KPa)                      | 120     | 150     | 180     | mV                             |                                 |
| 300 psi (20.7 bar; 2068 KPa)                    | 120     | 150     | 180     | mV                             |                                 |
| 500 psi (34.5 bar; 3447 KPa)                    | 140     | 175     | 210     | mV                             |                                 |

**DIMENSIONS AND ELECTRICAL (millimeters)**
**PACKAGING AND SHIPPING (millimeters)**


Absolute and Gage available