

# IPS-M12 Series

## Industrial Pressure Sensor - Ceramic - with M12 4-Pin Connector



- Piezo-resistive thick film ceramic sensor
- Stainless steel body
- Accuracy  $<\pm 0.25\%$  FS BFSL
- 0-5V or 4-20mA output
- Pressure ranges from -1 to 400 bar
- M12 4-pin connector

The IPS-M12 series is suitable for use in a wide range of industrial applications. The probe uses a piezo-resistive ceramic sensor, giving excellent media compatibility within a stainless steel housing

The electronics incorporate a microprocessor based amplifier, requiring no adjusting and giving stable electronics, especially industrial applications..

Each device is temperature compensated, calibrated and supplied with a traceable serial number and calibration data.

Mating cable and plug assemblies are available - see datasheet M12 Cable Set Series

### Electrical Protection

|                               |                       |
|-------------------------------|-----------------------|
| Supply reverse polarity       | No damage/no function |
| Electromagnetic compatibility | CE Compliant          |

### Performance

|                                       |                                             |
|---------------------------------------|---------------------------------------------|
| Accuracy (Non-Linearity & Hysteresis) | $<\pm 0.25\%$ / FS (BFSL)                   |
| Setting Errors (offsets)              | 2-wire Zero & Full Scale, $<\pm 0.5\%$ / FS |
|                                       | 3-wire Zero & Full Scale, $<\pm 0.5\%$ / FS |

### Mechanical Stability

|           |                       |
|-----------|-----------------------|
| Shock     | 100g / 11s            |
| Vibration | 10g RMS (20 - 2000Hz) |

### Material Specifications

|                          |                                                   |
|--------------------------|---------------------------------------------------|
| Housing                  | 316L Stainless Steel                              |
| "O" ring seals           | Viton                                             |
| Diaphragm                | Ceramic $Al_2O_3$ 96%                             |
| Media wetted parts       | Housing & connection, "O" ring seal, diaphragm    |
| Weight                   | Approx 100g                                       |
| Installation position    | Any                                               |
| Operational Life         | $> 100 \times 10^6$ cycles                        |
| Insulation resistance    | $> 50$ MOhms at 50Vdc                             |
| Environmental protection | IP67 (when used with a similarly rated connector) |

### Temperatures & Thermal Effects

|                               |                                 |
|-------------------------------|---------------------------------|
| Media Temperature             | $-40^\circ C$ to $+135^\circ C$ |
| Ambient Temperature           | $-20^\circ C$ to $+80^\circ C$  |
| Storage temperature           | $-40^\circ C$ to $+125^\circ C$ |
| Compensated temperature range | $+20^\circ C$ to $+80^\circ C$  |
| Thermal Zero Shift (TZS)      | $<\pm 0.04\%$ /FS/ $^\circ C$   |
| Thermal Span Shift            | $<\pm 0.015\%$ / $^\circ C$     |

### Pressure Ranges and Passive mV/V Outputs

|                              |           |           |         |         |          |          |     |     |     |
|------------------------------|-----------|-----------|---------|---------|----------|----------|-----|-----|-----|
| Nominal Pressure, Gauge, bar | 1         | 2         | 5       | 10      | 20       | 50       | 100 | 250 | 400 |
| Compound range bar           | -0.5 to 0 | -0.5 to 2 | -1 to 5 | -1 to 9 | -1 to 19 | -1 to 24 |     |     |     |
| Permissible Overpressure bar | 2         | 4         | 10      | 20      | 40       | 100      | 200 | 400 | 650 |
| Burst Pressure bar           | 4         | 5         | 12      | 25      | 50       | 120      | 250 | 500 | 650 |

### Output Signals and Supply Voltages

| Wire system | Output | Supply Voltage | Connection Pin Nos |                  |                  |
|-------------|--------|----------------|--------------------|------------------|------------------|
| 2-wire      | 4-20mA | 9-32Vdc        | +ve Supply Pin 1   | -ve Supply Pin 2 | Ground Earth Pin |
| 3-wire      | 0-5Vdc | 9-32Vdc        | +ve Supply Pin 1   | -ve Supply Pin 2 | Earth Pin 4      |
|             |        |                | Output Pin 3       |                  |                  |

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Made in the UK

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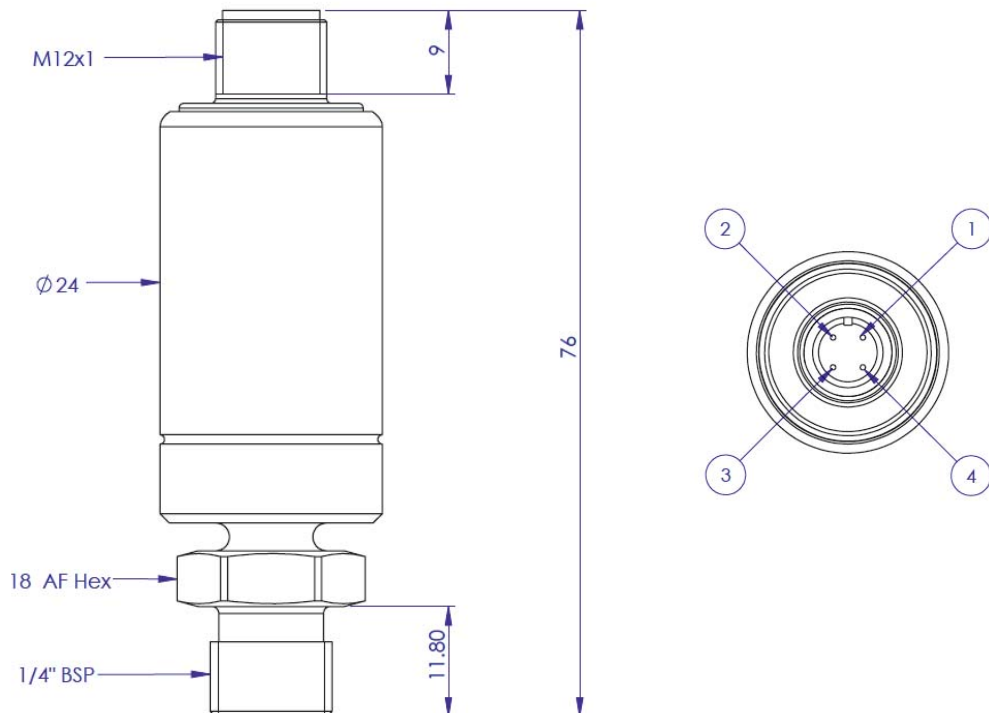
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## Industrial Pressure Sensor - Ceramic - with M12 4-Pin Connector

| Part Number    | Pressure Rating | Output   |
|----------------|-----------------|----------|
| IPS-G1000-5M12 | 0 - 1 Bar G     | 4 - 20mA |
| IPS-G1000-6M12 | 0 - 1 Bar G     | 0 - 5V   |
| IPS-G6000-5M12 | 0 - 6 Bar G     | 4 - 20mA |
| IPS-G6000-6M12 | 0 - 6 Bar G     | 0 - 5V   |
| IPS-GM1P9-5M12 | -1 to +9 Bar G  | 4 - 20mA |
| IPS-GM1P9-6M12 | -1 to +9 Bar G  | 0 - 5V   |
| IPS-G1002-5M12 | 0 - 10 Bar G    | 4 - 20mA |
| IPS-G1002-6M12 | 0 - 10 Bar G    | 0 - 5V   |
| IPS-G1602-5M12 | 0 - 16 bar G    | 4-20mA   |
| IPS-G1602-6M12 | 0 - 16 bar G    | 0-5V     |
| IPS-C0184-5M12 | -1 to +24 Bar G | 4 - 20mA |
| IPS-C0184-6M12 | -1 to +24 Bar G | 0 - 5V   |
| IPS-G2502-5M12 | 0 - 25 Bar G    | 4 - 20mA |
| IPS-G2502-6M12 | 0 - 25 Bar G    | 0 - 5V   |
| IPS-G4002-5M12 | 0 - 40 Bar G    | 4 - 20mA |
| IPS-G4002-6M12 | 0 - 40 Bar G    | 0 - 5V   |
| IPS-G1003-5M12 | 0 - 100 Bar SG* | 4 - 20mA |
| IPS-G1003-6M12 | 0 - 100 Bar SG* | 0 - 5V   |
| IPS-G2503-5M12 | 0 - 250 Bar SG* | 4 - 20mA |
| IPS-G2503-6M12 | 0 - 250 Bar SG* | 0 - 5V   |
| IPS-G4003-5M12 | 0 - 400 Bar SG* | 4 - 20mA |
| IPS-G4003-6M12 | 0 - 400 Bar SG* | 0 - 5V   |

\* sealed gauge

### Mechanical Dimensions



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