

IPS-M12 Series

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



- Piezo-resistive thick film ceramic sensor
- Stainless steel body
- Accuracy $\leq \pm 0.25\%$ 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) | $\leq \pm 0.25\%$ / FS (BFSL) | |
| Setting Errors (offsets) | 2-wire | Zero & Full Scale, $\leq \pm 0.5\%$ / FS |
| | 3-wire | Zero & Full Scale, $\leq \pm 0.5\%$ / FS |

Environmental Conditions

| | |
|---------------------|-----------------------------|
| Shock | 100g / 11s |
| Vibration | 10g RMS (20 - 2000Hz) |
| Media Temperature | -40°C to +135°C |
| Ambient Temperature | -20°C to +80°C |
| Storage temperature | -40°C to +125°C |
| Humidity | 5% to 95% RH non-condensing |

Material Specifications

| | |
|--------------------------|---|
| Housing | 316L Stainless Steel |
| "O" ring seals | Viton |
| Diaphragm | Ceramic Al ₂ O ₃ 96% |
| Media wetted parts | Housing & connection, "O" ring seal, diaphragm |
| Weight | Approx 100g |
| Installation position | Any |
| Operational Life | > 100x 10 ⁶ cycles |
| Insulation resistance | > 50MΩ at 50Vdc |
| Environmental protection | IP67 (when used with a similarly rated connector) |

Thermal Effects

| | |
|-------------------------------|--------------------------|
| Compensated temperature range | +20°C to +80°C |
| Thermal Zero Shift (TZS) | $\leq \pm 0.04\%$ /FS/°C |
| Thermal Span Shift | $\leq \pm 0.015\%$ /°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 | | |

*Calibration data is supplied as a sticker affixed to the product packaging - do not discard

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ISO9001 CERTIFIED

cynergy3-ips-m12-v3

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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 Dim

