

## IPS-M12 SERIES

### INDUSTRIAL PRESSURE SENSOR - CERAMIC - WITH 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 data sheet M12 Cable Set Series.

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

#### Features

- 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

## SPECIFICATIONS

### Performance

|  |                           |                                      |
|--|---------------------------|--------------------------------------|
| <b>Accuracy (Non-linearity &amp; Hysteresis)</b> | $<\pm 0.25\%$ / FS (BFSL) |                                      |
| <b>Setting Errors (Offsets)</b>                  | 2-wire                    | Zero & Full Scale, $<\pm 0.5\%$ / FS |
|  | 3-wire                    | Zero & Full Scale, $<\pm 0.5\%$ / FS |

### Material

|                                 |   |
|---------------------------------|---|
| <b>Housing</b>                  | 316L Stainless Steel                              |
| <b>"O" Ring Seals</b>           | Viton   |
| <b>Diaphragm</b>                | Ceramic $Al_2O_3$ 96%                             |
| <b>Media Wetted Parts</b>       | Housing & connection, "O" ring seal, diaphragm    |
| <b>Weight</b>                   | Approx 100g                                       |
| <b>Installation Position</b>    | Any   |
| <b>Operation Life</b>           | $> 100 \times 10^6$ cycles                        |
| <b>Insulation Resistance</b>    | $> 50$ MOhms at 50Vdc                             |
| <b>Environmental Protection</b> | IP67 (when used with a similarly rated connector) |

## Electrical Protection

|                                      |                       |
|--------------------------------------|-----------------------|
| <b>Supply Reverse Polarity</b>       | No damage/no function |
| <b>Electromagnetic Compatibility</b> | CE Compliant          |

## Environmental Conditions

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

## Temperature & Thermal Effects

|                                      |                |
|--------------------------------------|----------------|
| <b>Compensated Temperature Range</b> | +20°C to +80°C |
| <b>Thermal Zero Shift (TZS)</b>      | <±0.04% /FS/°C |
| <b>Thermal Span Shift (TSS)</b>      | <-0.015% /°C   |

## PRESSURE RANGES

### Pressure Ranges & Passive mV/V Outputs

|                                 |     |           |           |         |         |          |          |     |     |     |
|---------------------------------|-----|-----------|-----------|---------|---------|----------|----------|-----|-----|-----|
| <b>Nominal Pressure, Gauge</b>  | bar | 1         | 2         | 5       | 10      | 20       | 50       | 100 | 250 | 400 |
| <b>Compound Range</b>           | bar | -0.5 to 0 | -0.5 to 2 | -1 to 5 | -1 to 9 | -1 to 19 | -1 to 24 |     |     |     |
| <b>Permissible Overpressure</b> | bar | 2         | 4         | 10      | 15      | 35       | 100      | 150 | 350 | 500 |
| <b>Burst Pressure</b>           | bar | 3         | 6         | 12      | 20      | 50       | 120      | 200 | 500 | 650 |

## Output Signal & Supply Voltage

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

| Part No        | Pressure Range | 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     |

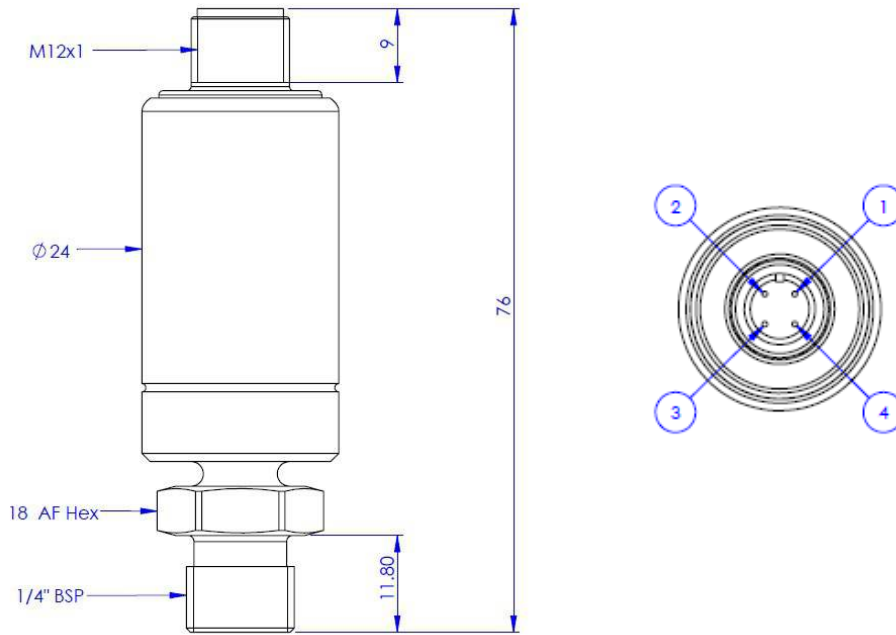
| Part No        | Pressure Range  | Output   |
|----------------|-----------------|----------|
| IPS-C0184-5M12 | -1 to +24 Bar G | 4 - 20mA |
| IPS-C0184-6M12 | -1 to +24 Bar G | 0 - 5V   |
| IPS-G2502-5M12 | 0 - 25 Bar G    | 4 - 20mA |
| IPS-G2502-6M12 | 0 - 25 Bar G    | 0 - 5V   |
| IPS-G4002-5M12 | 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 only



## DIMENSIONS

All dimensions are in millimeters.



Made in the UK

Page 3

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

## CONTACT US

+44 (0)1202 897969  
 c3w\_sales@sensata.com  
 Cynergy3 Components Ltd.  
 7 Cobham Road,  
 Ferndown Industrial Estate,  
 Wimborne, Dorset,  
 BH21 7PE, United Kingdom