



## IPSSAT series

### *Intrinsically Safe, Semi-Flush Mount Pressure Transmitter*



**Approvals:-**  
ATEX / IECEx

Ex II 1G Ex ia IIC T4 Ga (Ta -see schedule)



- **Piezo-resistive sensor, Ceramic or Silicon**
- **Accuracy  $\leq \pm 0.25\%$  FS BFSL**
- **Pressure ranges from 100mbar to 100 bar**
- **Pressure reference, Gauge or Absolute**

The intrinsically safe, semi-flush mount pressure transmitter, IPSSAT, has a piezo-resistive silicon or ceramic pressure sensor. The sensor is semi-flush to the housing making this product ideal for viscous or paste like media. The sensor and housing are made from stainless steel to ensure the product is suitable for a wide range of applications.

The electronics incorporate a microprocessor-based amplifier, requiring no adjusting and giving stable electronics - especially in high vibration or shock applications.

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



#### Performance

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

#### Material Specifications

|                    |                                                        |
|--------------------|--------------------------------------------------------|
| Housing            | 316 Stainless Steel                                    |
| "O" ring seals     | Viton                                                  |
| Diaphragm          | 316L Stainless Steel or Ceramic                        |
| Media wetted parts | Housing & process connection, "O" ring seal, diaphragm |

#### Miscellaneous

|                       |                                                           |
|-----------------------|-----------------------------------------------------------|
| Weight                | Approx 100g                                               |
| Installation position | Any, small zero shift when tilted through 90° for silicon |
| Operational Life      | $> 100 \times 10^6$ cycles                                |
| Insulation resistance | $> 50\text{M}\Omega$ at 50Vdc                             |

#### Electrical Protection

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

#### Mechanical Stability

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

#### Environment & Thermal Effects

|                           |                           |
|---------------------------|---------------------------|
| Ambient Temperature Range | -20°C to +75°C            |
| Storage temperature       | -40°C to +80°C            |
| Compensated temperature   | +20°C to +80°C            |
| Thermal Zero Shift (TZS)  | $\leq \pm 0.04\%$ / FS/°C |
| Thermal Span Shift (TSS)  | $\leq -0.015\%$ / °C      |
| Permissible environment   | Zone 0                    |

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ISO9001 CERTIFIED

www.cynergy3.com



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#### Input Pressure Ranges

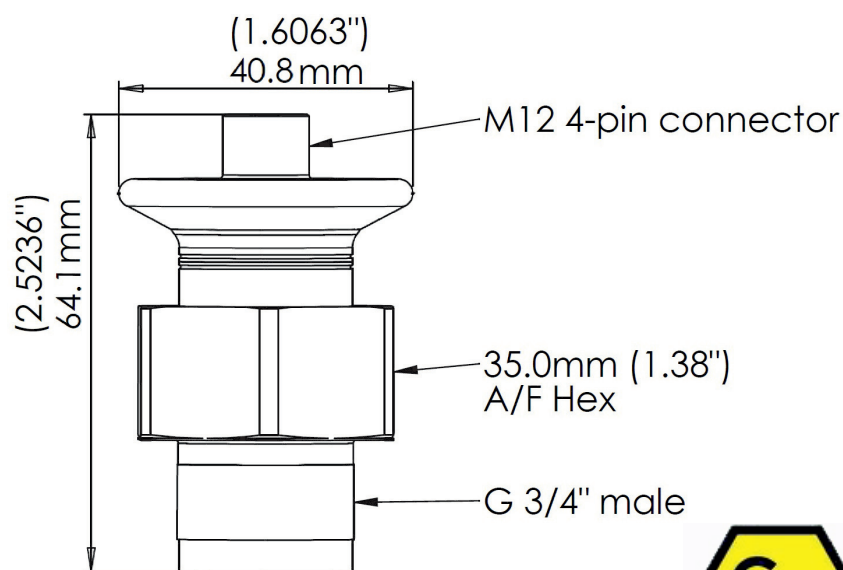
|                             |     |          |          |          |           |    |    |    |     |     |
|-----------------------------|-----|----------|----------|----------|-----------|----|----|----|-----|-----|
| Nominal pressure, Gauge,    | Bar | 0.1      | 0.5      | 1        | 2         | 5  | 10 | 20 | 50  | 100 |
| Nominal pressure*, Absolute | Bar | -        | -        | 1        | 2         | 5  | 10 | 20 | -   | -   |
| Nominal pressure*, Compound | Bar | -1 to +1 | -1 to +5 | -1 to +9 | -1 to +19 |    |    |    |     |     |
| Permissible Overpressure    | Bar | 2        | 2        | 5        | 5         | 10 | 20 | 50 | 100 | 200 |

\* Ceramic sensor only

#### Output Signal and Supply Voltage

| Wire system | Output | Supply Volts | Wiring Designation | Pin No. |
|-------------|--------|--------------|--------------------|---------|
| 2-wire      | 4-20mA | 10-28Vdc     | +ve Supply         | Pin 1   |
|             |        |              | -ve Supply         | Pin 2   |
|             |        |              | Ground             | Pin 3   |

| Part No         | Sensor type | Pressure Range                     |
|-----------------|-------------|------------------------------------|
| IPSSAT-G0100-5S | Silicon     | 0-100mbar G (0-1.4psi)             |
| IPSSAT-G0500-5S | Silicon     | 0-500mbar G (0-7.25psi)            |
| IPSSAT-G1000-5S | Silicon     | 0-1000mbar G (0-14.5psi)           |
| IPSSAT-G2000-5C | Ceramic     | 0-2 Bar G (0-29psi)                |
| IPSSAT-G5000-5C | Ceramic     | 0-5 Bar G (0-73psi)                |
| IPSSAT-G1002-5C | Ceramic     | 0-10 Bar G (0-145psi)              |
| IPSSAT-G2002-5C | Ceramic     | 0-20 Bar G (0-290psi)              |
| IPSSAT-G5002-5C | Ceramic     | 0-50 Bar G (0-725psi)              |
| IPSSAT-G1003-5C | Ceramic     | 0-100 Bar G (1450psi)              |
| IPSSAT-GM1P1-5C | Ceramic     | -1 to +1 Bar G (-14.5 to +14.5psi) |
| IPSSAT-GM1P5-5C | Ceramic     | -1 to +5 Bar G (-14.5 to +73psi)   |
| IPSSAT-GM1P9-5C | Ceramic     | -1 to +9 Bar G (-14.5 to +131psi)  |
| IPSSAT-C0072-5C | Ceramic     | -1 to +19 Bar G (-14.5 to +276psi) |
| IPSSAT-A1000-5C | Ceramic     | 0-1 Bar Abs (0-14.5psiA)           |
| IPSSAT-A2000-5C | Ceramic     | 0-2 Bar Abs (0-29psiA)             |
| IPSSAT-A5000-5C | Ceramic     | 0-5 Bar Abs (0-73psiA)             |
| IPSSAT-A1002-5C | Ceramic     | 0-10 Bar Abs (0-1345psiA)          |



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