



Genspec[®] GS4200

General Purpose Pressure Transmitter



- Silicon-on-Sapphire sensor technology for outstanding performance
- Pressure ranges to 1,500 bar (0-20,000 psi)
- Unblemished track record of reliability
- Excellent corrosion resistance
- High strength titanium pressure port
- High resistance to overpressure and pressure transients
- ATEX/IECEx option available (includes M1 for mining applications)
- DNV GL certification available





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Description

The GENSPEC GS4200 pressure transmitter is designed to meet the operational requirements of demanding pressure measurement applications where good quality, fast delivery and low cost are of the highest priority.

The unique Silicon-on-Sapphire sensor technology provides outstanding performance and gives excellent stability over a wide temperature range. The advanced sensor design consists of a piezoresistive silicon strain gauge circuit, which is epitaxially grown onto the surface of a sapphire diaphragm to form a single crystalline structure. The sapphire sensor element is then molecularly bonded to a titanium alloy sub-diaphragm. This enables the sensor to endure higher over-pressures and provides superb corrosion resistance. The sensor exhibits virtually no hysteresis and excellent long-term stability. With outstanding insulation properties, the sapphire substrate allows the sensor to operate over a very wide temperature range without loss of performance.

Standard accuracy is $\pm 0.25\%$ with an over pressure limit of twice the rated pressure range, this together with easy access for re-calibration affirm the excellent design. All models are supplied with integral 1/4" BSP or alternative pressure connections. Optional higher accuracy, outputs and electrical connections are available. The all titanium alloy wetted parts offer unbeatable corrosion resistance. Versions are also available offering IP66 sealing for installations requiring high levels of environmental protection. Applications for the GS4200 include the continuous monitoring of hydraulic systems with oil, gas, water and other process liquids, industrial, medical and aerospace industries. Also ideal for the measurement and control of pressure in refrigeration, pneumatic, compressor, HVAC and engine monitoring systems.

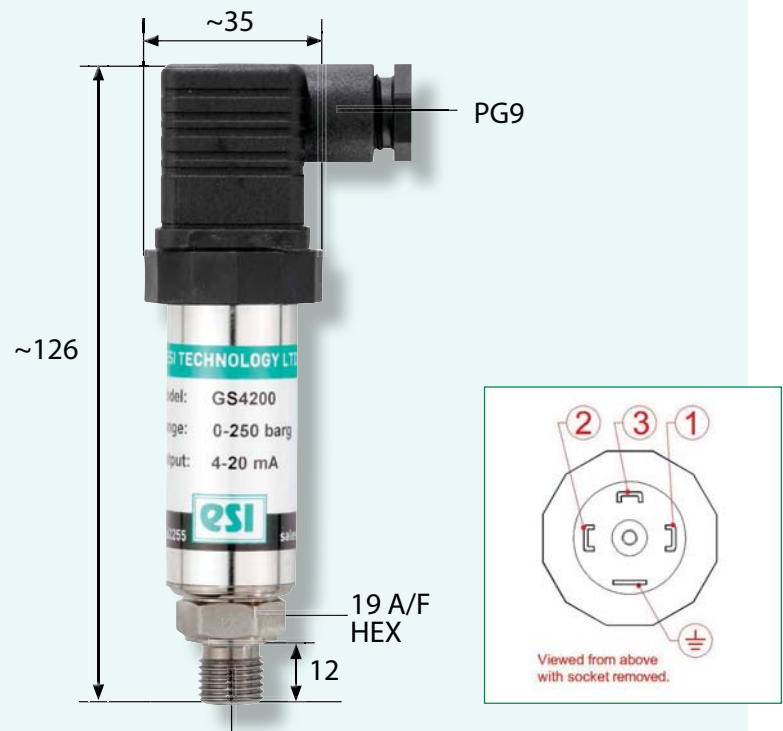
An optional ATEX and IECEx approved version of this product is available for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I M1).

DNV GL rules for classification of ships, high speed & light craft and DNV GL offshore standards

Dimensions (in mm)

| ELECTRICAL CONNECTION (mA) | |
|----------------------------|---------------|
| Pin No. | 2 wire |
| 1 | +supply |
| 2 | 4-20mA signal |
| 3 | not fitted |
| ⏏ | to case |

| ELECTRICAL CONNECTION (Vdc) | | |
|-----------------------------|---------|---------|
| Pin No. | 4 wire | 3 wire |
| 1 | -supply | common |
| 2 | +supply | +supply |
| 3 | +output | +output |
| ⏏ | -output | to case |



1/4" BSP male (G1/4)* * Other threads available



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Technical Data

| Type: | GS4200 | GS4201 | GS4202/GS4212 | GS4203/GS4213 |
|---|---|----------------------|-----------------------|------------------------|
| Sensor Technology | Silicon-on-Sapphire (SoS) | | | |
| Output signal: | 4 - 20 mA (2 wire) | 0 - 10 mV/V (4 wire) | 0 - 5 V (4 or 3 wire) | 0 - 10 V (4 or 3 wire) |
| Supply Voltage: | 10 - 36 VDC | 10 VDC (5 - 15V) | 13 - 30 VDC | 13 - 30 VDC |
| Pressure Reference: | Gauge | | | |
| Protection of Supply Voltage: | Protected against supply voltage reversal up to 50 V (amplified versions) | | | |
| Standard Pressure Ranges (bar): | 0-1 bar Vac; 0-0.5 bar; 0-1 bar; 0-2.5 bar; 0-6 bar; 0-10 bar; 0-16 bar; 0-25 bar; 0-100 bar; 0-250 bar; 0-400 bar; 0-600 bar; 0-1,000 bar; 0-1,500 bar (other ranges available) | | | |
| Standard Pressure Ranges (psi): | 0-30 in Hg; 0-7.5 psi; 0-15 psi; 0-30 psi; 0-100 psi; 0-150 psi; 0-200 psi; 0-300 psi; 0-1,500 psi; 0-3,000 psi; 0-6,000 psi; 0-8,700 psi; 0-15,000 psi; 0-20,000 psi (other ranges available) | | | |
| Overpressure Safety: | 4x for 0.5 bar range; 2x for ranges -1 bar to 600 bar; 1.5x for 1,000 bar range; 1.1x for 1,500 bar range | | | |
| Load Driving Capability: | 4-20 mA: $RL < [UB - 10 V] / 20 \text{ mA}$ (e.g. with supply voltage (UB) of 36 V, max. load (RL) is 1300 Ω) 10 mV/V: n/a; 0-5 V: max. load $RL > 5 \text{ K}\Omega$; 0-10 V: max. load $RL > 10 \text{ K}\Omega$ | | | |
| Accuracy NLHR: | $\leq \pm 0.25 \%$ of span BFSL (Optional higher accuracy version of $\leq \pm 0.1 \%$ of span BFSL available) | | | |
| Zero Offset and Span Tolerance: | $\pm 0.5 \%$ FS at room temperature (GS4201: $\pm 1 \text{ mV}$); $\pm 5 \%$ FS (approx.) adjustment with easy access trimming potentiometers on amplified versions only | | | |
| Operating Ambient Temperature: | -40 °C to +85 °C (-40 °F to +185 °F) | | | |
| Operating Media Temperature: | -50 °C to +125 °C (-58 °F to +257 °F) | | | |
| Storage Temperature: | +5 °C to +40 °C (+41 °F to +104 °F) Recommended Best Practice | | | |
| Temperature Effects: | $\pm 1.5 \%$ FS total error band for -20 °C to +70 °C. Typical thermal zero and span coefficients $\pm 0.015 \%$ FS /°C | | | |
| ATEX/IECEX Approval (4-20 mA version only): | Ex II 1 G Ex ia IIC T4 Ga (zone 0) Ex II 1 D Ex ia IIC T135 °C Da (zone 20) Ex I M 1 Ex ia I Ma (group 1 M1) | n/a | n/a | n/a |
| ATEX/IECEX Safety Values: | U _i = 28 V I _i = 119 mA P _i = 0.65 W L _i = 0.1 μ H C _i = 74 nF Temperature Range = -20 °C to +70 °C Max. cable length = 45 m | n/a | n/a | n/a |
| DNV GL Approval Class: | Temperature: D; Humidity: B; Vibration: B; EMC: B; Enclosure: C (contact sales for more information) | | | |
| Electromagnetic Capability: | Emissions: EN61000-6-3; Immunity: EN61000-6-2; Certification: CE Marked | | | |
| Insulation Resistance: | > 100 M Ω @ 50 VDC | | | |
| Response time 10-90 %: | 1 mS | | | |
| Wetted Parts: | Titanium alloy (1/4" BSP male (G1/4) and 1/4" NPT male thread); other thread options typically Titanium alloy/316L stainless steel | | | |
| Pressure Media: | All fluids compatible with Titanium alloy (1/4" BSP male (G1/4) and 1/4" NPT male); other threads typically Titanium alloy/316L stainless steel | | | |
| Pressure Connection: | 1/4" BSP male (G1/4); 1/4" NPT male; 1/4" BSP male (G1/2); 1/2" NPT male and 1/4" BSP female (others options available) | | | |
| Electrical Connection: | Mating socket EN175301-803 Form A (ex DIN43650) rated IP65 with PG9 cable entry (other options available) | | | |



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Order Matrix

| Output | Wires | Type | Electrical Connector | Pressure Range | Process Connection |
|---|----------------|--------|----------------------|----------------|--------------------|
| 4-20 mA | 2 | GS4200 | | | |
| 10 mV/V | 4 | GS4201 | | | |
| 0-5 V | 4 | GS4202 | | | |
| | 3 | GS4212 | | | |
| 0-10 V | 4 | GS4203 | | | |
| | 3 | GS4213 | | | |
| Electrical Connection / Option | | | | | |
| DIN EN175301 plug and socket | | | - | | |
| Cable outlet 1m screened | | | A | | |
| M12 connector | | | B | | |
| Cable outlet 1m screened IP67 protection | | | C | | |
| ATEX/ IECEx certified with DIN EN175301 plug and socket | | | EX | | |
| Pressure Range in bar | | | | | |
| 0-1 bar Vac | (0-30 in Hg) | | | V001 | |
| 0-0.5 bar | (0-7.5 psi) | | | 00.5 | |
| 0-1 bar | (0-15 psi) | | | 0001 | |
| 0- 2.5 bar | (0-30 psi) | | | 02.5 | |
| 0-6 bar | (0-100 psi) | | | 0006 | |
| 0-10 bar | (0-150 psi) | | | 0010 | |
| 0- 16 bar | (0-200 psi) | | | 0016 | |
| 0-25 bar | (0-300 psi) | | | 0025 | |
| 0-100 bar | (0-1,500 psi) | | | 0100 | |
| 0-250 bar | (0-3,000 psi) | | | 0250 | |
| 0-400 bar | (0-6,000 psi) | | | 0400 | |
| 0-600 bar | (0-8,700 psi) | | | 0600 | |
| 0-689 bar | (0-10,000 psi) | | | 0689 | |
| 0-1,000 bar | (0-15,000 psi) | | | 1000 | |
| 0-1,500 bar | (0-20,000 psi) | | | 1500 | |
| Process Connection | | | | | |
| 1/4" BSP male (G1/4) | | | | | AB |
| 1/2" BSP male (G1/2) | | | | | AC |
| 1/4" NPT male | | | | | AM |
| 1/2" NPT male | | | | | AN |

Order Number Example

GS4200**B1500AB**

For options not listed please contact sales team.

DISCLAIMER : ESI Technology Ltd operates a policy of continuous product development. We reserve the right to change specification without prior notice. All products manufactured by ESI Technology Ltd are calibrated using precision calibration equipment with traceability to international standards.



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