Genspec®GS4200

GENERAL PURPOSE PRESSURE TRANSDUCER

- SILICON-ON-SAPPHIRE SENSOR TECHNOLOGY
- PRESSURE RANGES 0-500mbar TO 0-1500bar
- ±0.25% ACCURACY NLHR
- 4-20 mA OUTPUT AS STANDARD (0-100mV, 0-5Vdc or 0-10Vdc OPTIONAL)
- OPTIONAL ATEX APPROVED VERSION (4-20mA ONLY)
- OUTSTANDING PERFORMANCE AND STABILITY

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 completed 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.

Accuracy is ± 0.25% with a typical over pressure limit of twice the rated pressure range, this together with the standard output of 4-20 mA and easy access for re-calibration affirm the excellent design. All models are supplied with integral 1/4"BSP or alternative pressure connections. Optional 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.

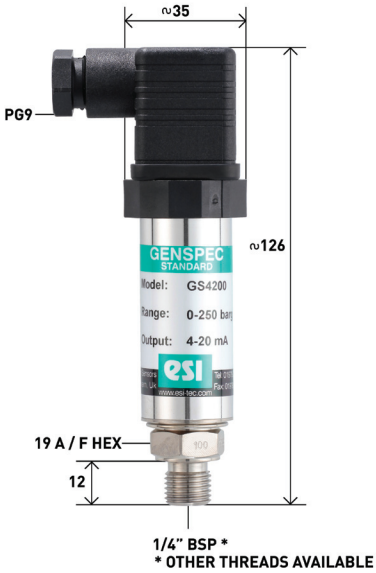
An optional ATEX certified version of this product is available approved for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I M1).

PRESSURE RANGES

0 - 1 bar vac through to 1500 bar, see table below for list of all standard pressure ranges.

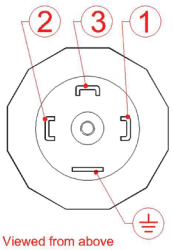
Range (bar)	Order Code	Range (bar)	Order Code
0-1 Vac	V001	0-40	0040
0-0.5	00.5	0-60	0060
0-1	0001	0-100	0100
0-1.6	01.6	0-160	0160
0-2.5	02.5	0-250	0250
0-4	0004	0-400	0400
0-6	0006	0-600	0600
0-10	0010	0-700	0700
0-16	0016	0-1000	1000
0-25	0025	0-1500	1500

DIMENSIONS (in mm)



ELECTRICAL CONNECTION (mA)

Pin No.	2 wire
1	+supply
2	4-20mA signal
3	not fitted
⏚	to case



Viewed from above
with socket removed.

ELECTRICAL CONNECTION (Vdc)

Pin No.	4 wire	3 wire
1	-supply	common
2	+supply	+supply
3	+output	+output
⏚	-output	to case

ORDERING INFORMATION

GS4200 - xxxx xx

- Model
- Electrical Connector/Option
- Pressure Range - Bar
- Process Connection

OUTPUT	Model No.
4-20mA	GS4200
0-100mV	GS4201
0-5Vdc	GS4202
0-10Vdc	GS4203
ELECTRICAL CONNECTION/OPTION	**Order Code**
DIN 43650 plug and socket	-
Cable outlet 1 metre screened	A
ATEX certified with DIN43650 plug and socket	EX
PROCESS CONNECTION	**Order Code**
1/4" BSP male thread	AB
1/4" NPT male thread	AM
EXAMPLE	**Order Code**
Output signal 4-20mA	GS4200
ATEX certified with DIN43650 plug and socket	EX
Pressure range 0-100barg	0100
Pressure connection 1/4" BSP male	AB
Correct Part Number	GS4200EX0100AB

For options not listed contact sales team

SPECIFICATION

PRESSURE REFERENCE

Gauge

OVERPRESSURE

Pressure can exceed rated range by the multiple shown below with no damage or change in calibration above ±0.5%FS.
4x for 0.5bar range
2x for ranges 1bar-600bar
1.5x for 1000bar
1.1x for 1500bar

OUTPUT SIGNAL

4-20 mA (2 wire configuration) as standard.
Optional outputs available are
0-5Vdc (3 or 4 wire)
0-10Vdc (3 or 4 wire)
0-100Mv for ranges from 1bar and above (4 wire)

ZERO OFFSET AND SPAN TOLERANCE

±0.08mA
±0.5%FS adjustment with easy access trimming potentiometers on amplified version only.

SUPPLY VOLTAGE (U_b)

Measured across supply terminals on connector plug
10-36Vdc for 4-20mA versions
13-30Vdc for 0-5Vdc and 0-10Vdc versions
10Vdc for 0-100mV version (Ratiometric output for 5-15Vdc)

PROTECTION OF SUPPLY VOLTAGE

Protected against supply voltage reversal up to 50Vdc

LOAD DRIVING CAPABILITY(4-20mA version only)

Calculate maximum load $R_s=(U_b-10V)/20mA$
e.g. with supply voltage load of 36vdc, maximum load is 1300ohms

ACCURACY (NON LINEARITY, HYSTERESIS & REPEATABILITY)

±0.25% FS Typical Max, best fit straight line

PRESSURE MEDIA

All fluids compatible with titanium alloy.

OPERATING TEMPERATURE RANGE

Ambient: -40°C to +85°C
Media: -50°C to +125°C
Storage: +5°C to +40°C

TEMPERATURE EFFECTS

±1.5%FS total error band for -20°C to +70°C
Typical thermal zero and span coefficients ±0.015%FS/°C

ATEX APPROVAL (4-20mA version only)

Ex II 1 G Ex ia IIC T4 Ga (zone 0)
Ex II 1 D Ex ia IIIC T135°C Da (zone 20)
EX I M 1 Ex ia I Ma (group I M1)

ATEX SAFETY VALUES

Ui = 28V
Ii = 119mA
Pi = 0.65W
Li = 0.1
Ci = 74nF
Temperature Range = -20°C to +70°C
Max. cable length = 45m

ELECTROMAGNETIC-COMPATIBILTY

Emissions: EN61000-6-3
Immunity: EN61000-6-2
Certification: CE marked

PRESSURE CONNECTION

1/4"BSP or 1/4"NPT male (others on request)

ELECTRICAL CONNECTION

Mating socket with screw terminal connections to DIN 43650, rated IP65. Cable entry PG9.
Options include; alternative connectors; flying lead with optional cable length and cable gland rated to IP66.