



- **LATEST STRAIN GAUGE TECHNOLOGY**
- **ALL STAINLESS STEEL CONSTRUCTION**
- **LOW COST**
- **OUTPUT OPTIONS 20mV, 5V, 10Vdc, 4-20mA**
- **EXCELLENT STABILITY / ACCURACY**
- **RANGES FROM 500mbar to 700bar**
- **O.E.M. APPLICATIONS**
- **COMPATIBLE INDICATORS and ALARMS**

DESCRIPTION

The GENSPEC GS4000 series of Pressure Transducers have been designed for general purpose applications where reliable pressure measurement is required. Incorporating the latest strain gauge technology and utilising unique manufacturing techniques, has resulted in a low cost quality transducer ideal for O.E.M. applications.

Constructed from stainless steel with a 17/4PH stainless steel diaphragm for ranges of over 10bar, and ceramic diaphragm for ranges under 10bar, the GENSPEC range of transducers are extremely rugged yet of compact design.

Applications for the GENSPEC range include the continuous monitoring of oil, gas, water, and other liquids in the process, industrial, medical and aerospace industries. Also the measurement and control of pressure in refrigeration, pneumatic, compressor, HVAC and engine monitoring systems.

GENSPEC Transducers are compatible with the PM8000 Range of Panel Meters and Controllers to produce a simple low cost and accurate pressure measuring and control system.

Available in pressure ranges from 0-500mbar to 0-700bar gauge and absolute reference they have electrical outputs of 0-20mV, 0-5Vdc, 0-10Vdc and now 4-20mA (two wire).

SPECIFICATION

GS 4000 / GS 4100 - mV output

INPUT

Pressure ranges..... 500mbar to 0-700bar
Pressure reference..... Gauge / Absolute
Over pressure..... 2 x Rated pressure

OUTPUT

Span..... 0-20mV ($\pm 1\%$)
Type..... 4 wire
Common mode voltage..... 4-6Vdc

ACCURACY

Zero offset..... $< \pm 1\%$ FSO
Combined non-linearity / hysteresis..... $< \pm 0.25\%$ FSO
Repeatability..... $< \pm 0.1\%$ FSO
Long term stability..... $< \pm 0.2\%$ FSO / 6 months

ELECTRICAL

Supply voltage..... 10Vdc (15Vdc max)
Supply voltage effects..... Ratiometric
Reverse polarity..... No damage
Power requirements..... 10mA
Input resistance..... $1000\Omega \pm 30\%$ / $15k\Omega \pm 30\%$
Output resistance..... $1000\Omega \pm 30\%$ / $15k\Omega \pm 30\%$

Insulation resistance..... 100M Ω @ 100Vdc elec conn to case
Response time (63%)..... 0.2mS

ENVIRONMENTAL

Pressure media..... Media compatible with 17/4PH +300 Series Stainless Steel / Alumina
Operating temperature range... -20 to +80°C
Storage temperature range..... -40 to +90°C
Thermal effect Zero..... $< \pm 0.03\%$ FSO/°C
Thermal sensitivity..... $< \pm 0.03\%$ FSO/°C
Vibration tolerance..... 10g's to 50Hz
Mechanical shock tolerance.... 15g@s (11mS)
Operating humidity..... 95% RH

PHYSICAL

Pressure connection..... $\frac{1}{4}$ " BSP male (others on request)
Electrical connection..... Mini-DIN plug + socket to DIN43650
Enclosure rating..... IP65
Natural frequency..... 20 Khz 17/4PH / 12Khz Alumina
Weight..... 75 grams
Materials..... 300 series stain'stl body/connector
17/4PH stain' stl/ceramic diaphragm

SPECIFICATION

GS 4001 / GS 4101 - 0-5V output

INPUT

Pressure ranges..... 0-500mbar to 0-700bar
Pressure reference..... Gauge / Absolute
Over pressure..... 2 x Rated pressure

OUTPUT

Span..... 0-5Vdc
Type..... 4 wire / 3 wire
Common mode voltage..... 1Vdc $\pm 1\%$

ACCURACY

Zero offset..... $< \pm 1\%$ FSO
Combined non-linearity / hysteresis..... $< \pm 0.25\%$ FSO
Repeatability..... $< \pm 0.1\%$ FSO
Long term stability..... $< \pm 0.2\%$ FSO / 6 months

ELECTRICAL

Supply voltage..... 13-30Vdc
Supply voltage effects..... 11 μ V/V
Reverse polarity..... Protected
Power requirements..... 30mA

Load driving capability..... 2.5K Ω (min)
Output short circuit (to ground).No damage
Insulation resistance..... 100M Ω @ 100Vdc elec conn to case
Response time (63%)..... 1mS

ENVIRONMENTAL

Pressure media..... Media compatible with 17/4PH +300 Series Stainless Steel / Alumina
Operating temperature range... -20 to +80°C
Storage temperature range..... -40 to +90°C
Thermal effect Zero..... $< \pm 0.03\%$ FSO/°C
Thermal sensitivity..... $< \pm 0.03\%$ FSO/°C
Vibration tolerance..... 10g's to 50Hz
Mechanical shock tolerance.... 15g@s (11mS)
Operating humidity..... 95% RH

PHYSICAL

Pressure connection..... $\frac{1}{4}$ " BSP male (others on request)
Electrical connection..... Mini-DIN plug + socket to DIN43650
Enclosure rating..... IP65
Natural frequency..... 20Khz 17/4PH / 12Khz Alumina
Weight..... 75 grams
Materials..... 300 series stain'stl body/connector
17/4PH stain' stl/ceramic diaphragm

SPECIFICATION

GS 4002 / GS 4102 - 0-10V output

INPUT

Pressure ranges..... 0-500mbar to 0-700bar
Pressure reference..... Gauge / Absolute
Over pressure..... 2 x Rated pressure

OUTPUT

Span..... 0-10Vdc
Type..... 4 wire / 3 wire
Common mode voltage..... 1Vdc $\pm 1\%$

ACCURACY

Zero offset..... $< \pm 1\%$ FSO
Combined non-linearity / hysteresis..... $< \pm 0.25\%$ FSO
Repeatability..... $< \pm 0.1\%$ FSO
Long term stability..... $< \pm 0.2\%$ FSO / 6 months

ELECTRICAL

Supply voltage..... 13-30Vdc
Supply voltage effects..... 11 μ V/V
Reverse polarity..... Protected
Power requirements..... 30mA
Load driving capability..... 5K Ω (min)

Output short circuit (to ground).No damage
Insulation resistance..... 100M Ω @ 100Vdc elec conn to case
Response time (63%)..... 1mS

ENVIRONMENTAL

Pressure media..... Media compatible with 17/4PH +300 Series Stainless Steel / Alumina
Operating temperature range... -20 to +80°C
Storage temperature range..... -40 to +90°C
Thermal effect Zero..... $< \pm 0.03\%$ FSO/°C
Thermal sensitivity..... $< \pm 0.03\%$ FSO/°C
Vibration tolerance..... 10g's to 50Hz
Mechanical shock tolerance.... 15g@s (11mS)
Operating humidity..... 95% RH

PHYSICAL

Pressure connection..... $\frac{1}{4}$ " BSP male (others on request)
Electrical connection..... Mini-DIN plug + socket to DIN43650
Enclosure rating..... IP65
Natural frequency..... 20Khz 17/4PH / 12Khz Alumina
Weight..... 75 grams
Materials..... 300 series stain'stl body/connector
17/4PH stain' stl/ceramic diaphragm

SPECIFICATION

GS 4003 / GS 4103 - 4-20mA output

INPUT

Pressure ranges.....0-500mbar to 0-700bar
 Pressure reference.....Gauge / Absolute
 Over pressure.....2 x Rated pressure

OUTPUT

Span.....4-20 mA
 Type.....2 wire

ACCURACY

Zero offset.....<±1% FSO
 Combined non-linearity / hysteresis.<±0.25% FSO
 Repeatability.....<±0.1% FSO
 Long term stability.....<±0.2% FSO / 6 months

ELECTRICAL

Supply voltage.....13-36Vdc
 Supply voltage effects.....3µA/V
 Reverse polarity.....Protected
 Load driving capability.....1150Ω @ 36Vdc
 Output short circuit (to ground).....No damage

Insulation resistance.....100MΩ @ 100Vdc elec conn to case
 Response time (63%).....1.5mS

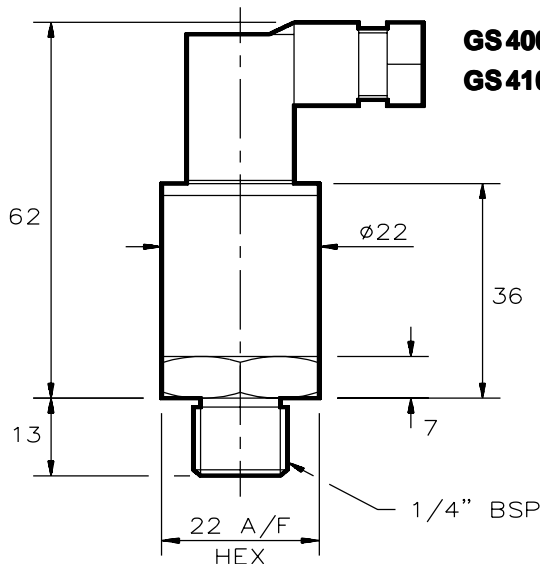
ENVIRONMENTAL

Pressure media.....Media compatible with 17/4PH +300 Series Stainless Steel / Alumina
 Operating temperature range...-20 to +80 °C
 Storage temperature range.....-40 to +90°C
 Thermal effect Zero.....<±0.03% FSO/°C
 Thermal sensitivity.....<±0.03% FSO/°C
 Vibration tolerance.....10g's to 50Hz
 Mechanical shock tolerance...15g@s (11mS)
 Operating humidity.....95% RH

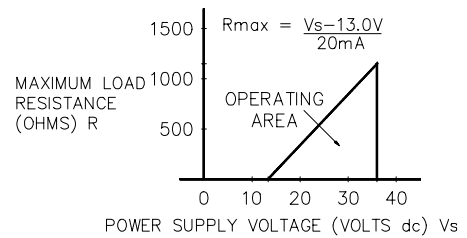
PHYSICAL

Pressure connection.....1/4" BSP male (others on request)
 Electrical connection.....Mini-DIN plug + socket to DIN43650
 Enclosure rating.....IP65
 Natural frequency.....120Khz 17/4PH / 12Khz Alumina
 Weight.....75grams
 Materials.....300 series stain'stl body/connector
 17/4PH stain' st/ceramic diaphragm

DIMENSIONS / LOAD DIAGRAM



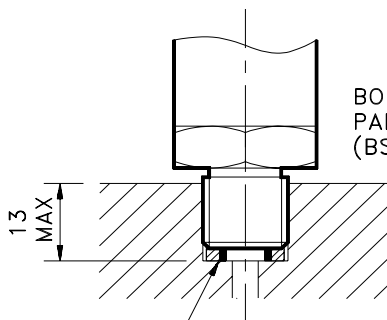
LOAD DRIVING CHART for GS 4003 / GS 4103



MOUNTING DETAILS

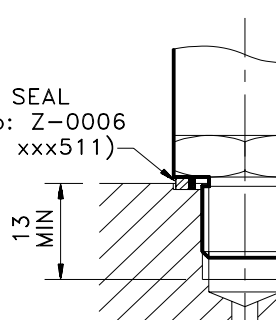
(1/4" BSP MALE THREAD)

SEALING FOR PRESSURES
UP TO 50 bar



BONDED SEAL
PART No: Z-0032
(BS REF xxx004)

SEALING FOR PRESSURES
OVER 50 bar

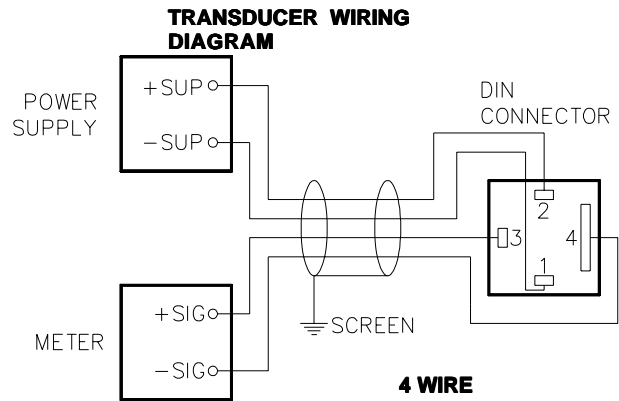
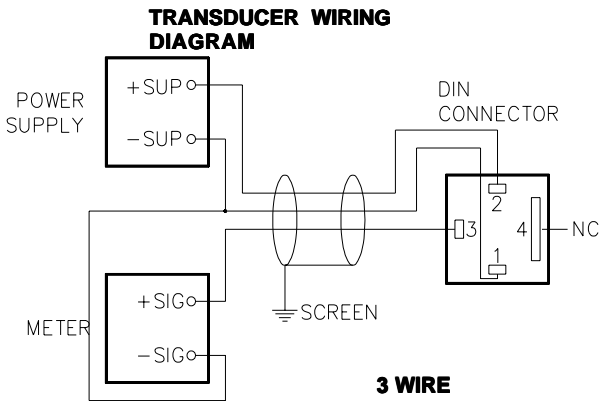


BONDED SEAL
PART No: Z-0006
(BS REF xxx511)

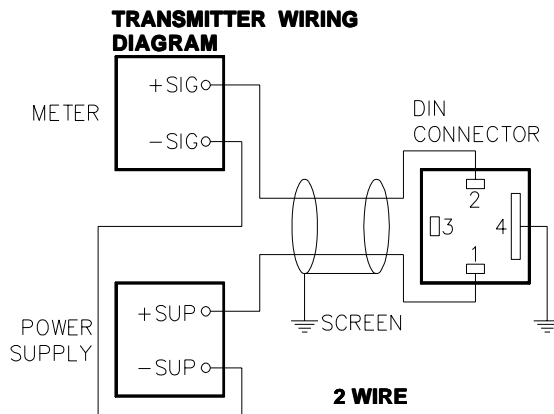
NOTE:-

- 1) Sealing to ISO 1179-1973.
- 2) Tightening Torque for sealing 15.8Nm.
- 3) Sealing face to be flat, free from marks, and 90° to the thread.

WIRING DIAGRAMS



*3 and 4 wire versions available for
GS 4000/1/2 and GS 4100/1/2*



*2 wire versions available for
GS 4003 and GS 4103*

ORDERING INFORMATION

STATE MODEL NUMBER AND PRESSURE RANGE
REQUIRED:-
i.e. GS 4000 0-10bar

MODEL NO.	DESCRIPTION
GS 4000	0-10 to 0-700bar. Transducer mV output
GS 4001	0-10 to 0-700bar. Transducer 5V output
GS 4002	0-10 to 0-700bar. Transducer 10V output
GS 4003	0-10 to 0-700bar. Transmitter 4-20mA output
GS 4100	0-500mbar to 0-6bar. Transducer mV output
GS 4101	0-500mbar to 0-6bar. Transducer 5V output
GS 4102	0-500mbar to 0-6bar. Transducer 10V output
GS 4103	0-500mbar to 0-6bar. Transmitter 4-20mA output

PRESSURE RANGES - GS4100/1/2/3

-1 - 0 bar Vac	0 - 2.5 bar
0 - 500 mbar	0 - 4 bar
0 - 1 bar	0 - 6 bar
0 - 1.6 bar	

PRESSURE RANGES - GS4000/1/2/3

0 - 10 bar	0 - 100 bar
0 - 16 bar	0 - 160 bar
0 - 25 bar	0 - 250 bar
0 - 40 bar	0 - 400 bar
0 - 60 bar	0 - 700 bar