



- **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 (±1%)  
Type..... 4 wire  
Common mode voltage..... 4-6Vdc

#### 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..... 10Vdc (15Vdc max)  
Supply voltage effects..... Ratiometric  
Reverse polarity..... No damage  
Power requirements..... 10mA  
Input resistance..... 1000Ω ±30% /15k Ω ±30%  
Output resistance..... 1000Ω ±30% /15k Ω ±30%

Insulation resistance.....100MΩ@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..... <±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..... 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 ±1%

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

Load driving capability.....2.5K Ω (min)  
Output short circuit (to ground).No damage  
Insulation resistance.....100MΩ @ 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.....<±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.....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 ±1%

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

Output short circuit (to ground).No damage  
Insulation resistance.....100MΩ @ 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.....<±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..... 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

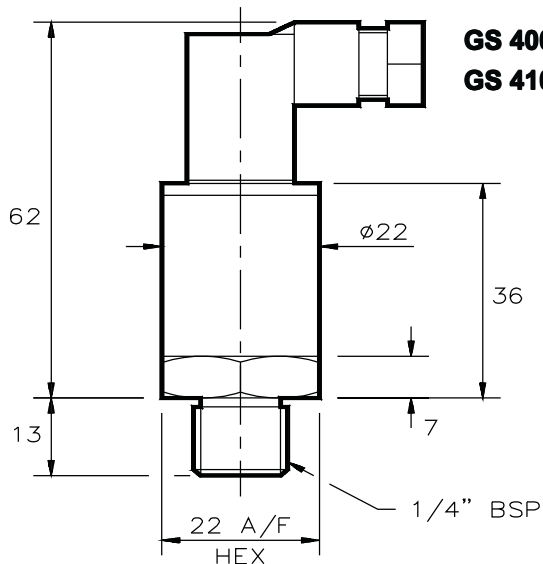
#### ENVIRONMENTAL

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 sensitvity.....<±0.03% FSO/°C  
 Vibration tolerance.....10g's to 50Hz  
 Mechanical shock tolerance.....15g@s (11mS)  
 Operating humidity.....95% RH

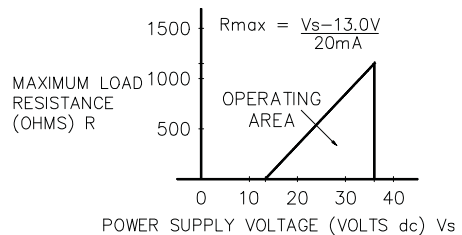
#### PHYSICAL

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' stl/ceramic diaphragm

### DIMENSIONS / LOAD DIAGRAM



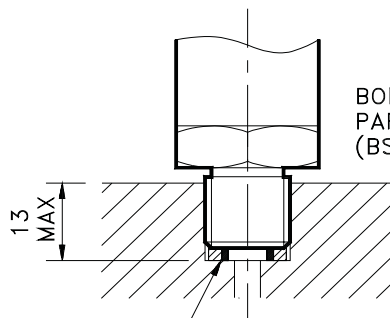
#### LOAD DRIVING CHART for GS 4003 / GS 4103



### MOUNTING DETAILS

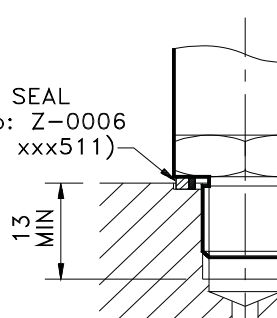
(1/4" BSP MALE THREAD)

SEALING FOR PRESSURES  
UP TO 50 bar



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

SEALING FOR PRESSURES  
OVER 50 bar

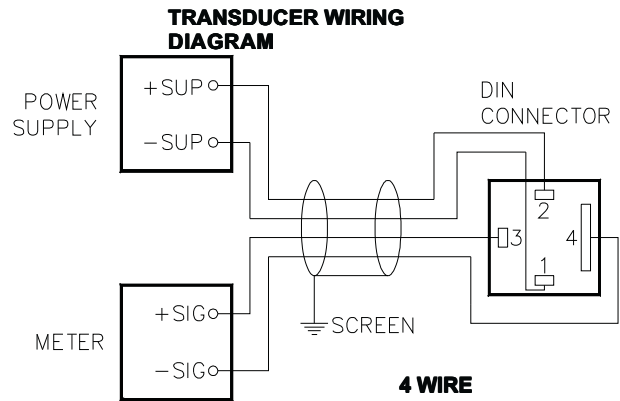
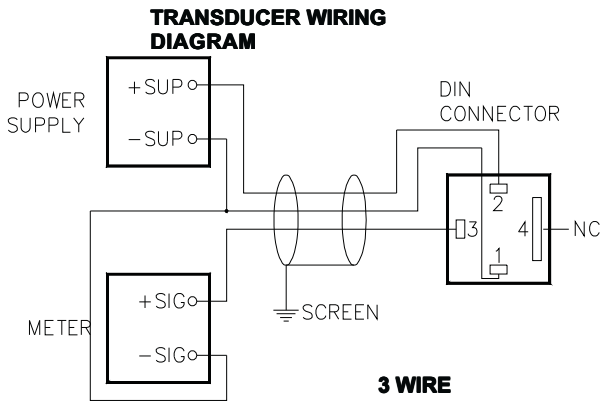


BONDED SEAL  
 PART No: Z-0006  
 (BS REF xxx511)

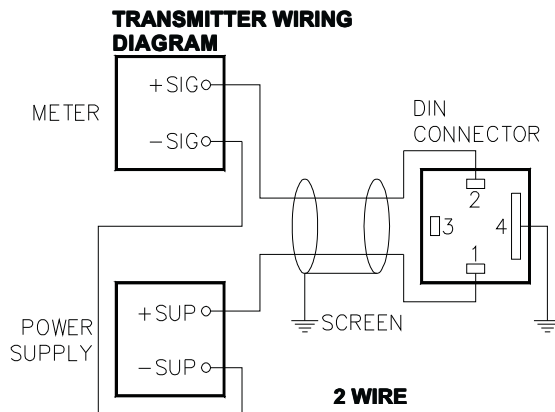
#### NOTE:-

- 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

For more information contact your distributor:



Fuji Electric Instrumentation & Control

Coulton Instrumentation Ltd

Tel: 01202 480303

E-mail: sales@coulton.com

Web: www.coulton.com