

Low Range Bi-Directional Gauge Pressure Transducer

Model 202BG



PRESSURE RANGE

-15 kPa to +15 kPa Bi-Directional Gauge (± 2 psig)

FEATURES

- 0.01% Accuracy
- Low Power Consumption
- High Stability and Reliability
- On-Board Application Memory
- On-Board Coefficient Storage (DDS)
- Fully Calibrated and Characterized Over Temperature and Common Mode Variations
- Total accuracy better than 0.0004 psig (3 Pa)
- Resolution better than 0.000001 psig (0.007 Pa)
- NIST Traceable –ISO 9001:2000 Quality System Certified

APPLICATION AREAS

- Metrology
- Flow Measurements
- Atmospheric Research
- Portable Transfer Standards
- High Precision Low-Pressure Calibrators

The Model 202BG is a bi-directional gauge pressure sensor that offers unparalleled precision over the range of -15 to $+15$ kPa (-2 to $+2$ psig). The sensor is ideally suited for use in high-precision gas calibrators and in portable transfer standards. The transducer provides pressure and temperature frequency outputs and is fully characterized over a temperature range of $+10$ to $+40$ deg C and ambient static pressure of 80 to 110 kPa. It comes with an integral shock mount and flexible buffer tubes.

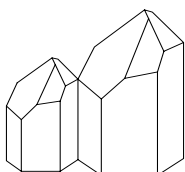
The 202BG provides sub-micron resolution sensitivity of 0.007 Pa (Pascal) and a total accuracy band better than 3 Pa (0.0004 psig) including repeatability, hysteresis, and conformance.

Careful linearity tests against low-pressure primary standards have shown conformance is better than 0.2 Pa (rms). Temperature effects and common-mode sensitivity are eliminated with a compensation equation and coefficients provided with each transducer.

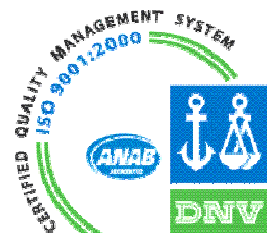
A Digiquartz[®] Barometric Standard can be used to monitor and compensate for ambient atmospheric variations over the 80 to 110 kPa range. Free software is available for common mode compensation.

The 202BG can serve as a high-precision monitor and calibration reference for direct input of bi-directional gauge pressure. In conjunction with a pressure source and pressure control, it is the ideal solution for a reference standard in a high-precision pressure calibrator.

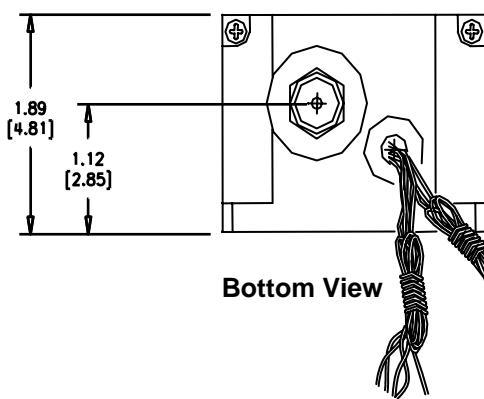
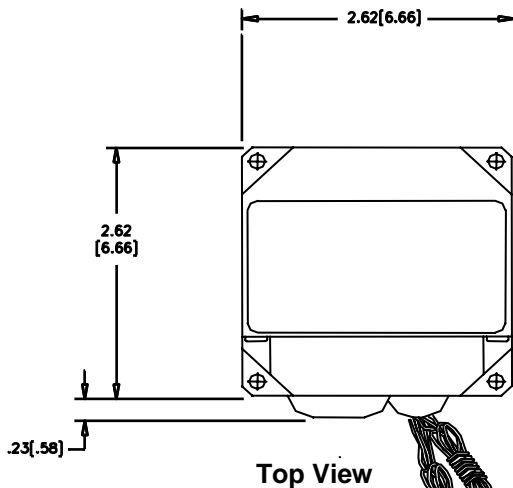
All Digiquartz[®] transducers come with a limited 5-year warranty with the first two years covered at 100%.



Paroscientific, Inc.
Digiquartz[®] Pressure Instrumentation



Low Range Bi-Directional Gauge Pressure Transducer



Digiquartz Data Storage (DDS) Wires

PERFORMANCE CHARACTERISTICS

Static Error Band (Including Repeatability, Hysteresis and Conformance):	Within $\pm 0.01\%$ of Full Range
Acceleration Sensitivity:	Within $\pm 0.02\%$ of Full Range / g
Common Mode Sensitivity:	Compensation equation provided
Thermal Sensitivity:	Compensation equation provided

ELECTRICAL CHARACTERISTICS

Input Voltage:	+5 VDC Min to +16 VDC
Current Consumption at 6 VDC:	1.3 mA
Output Signal:	Output signal is a square wave of 4 Volts amplitude peak to peak, capacitively coupled with source impedance less than 1000 Ohms.

ENVIRONMENTAL CHARACTERISTICS

Weight:	15 Ounces (430 g)
Over Pressure:	± 1.2 times Full Scale
Operating Temperature Range:	+10 °C to +40 °C (+50 °F to +104 °F)

OTHER ACCESSORIES AVAILABLE

- Digiquartz® Barometric Standard
- 202BG Display Software

Wiring		Pressure Range	Model No	Part Number	Remarks
Color	Function	-15 kPa to +15 kPa	202BG-102	1546-002	Nylon Buffer Tube
Red	Power				
Blue/Black	Pressure Signal				
White/Black	Temperature Signal				

* Dimensions are in inches (parenthesized dimensions are in cm)

Digiquartz Data Storage (DDS) is an onboard serial EEPROM chip that contains calibration and transducer information. This information can be accessed electronically to provide plug and play pressure transducer interchangeability. See product SCD for details.

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