

Absolute Pressure Transducers

Series 3000 & 4000



Series 3000 Absolute Pressure Transducer



Series 4000 Absolute Pressure Transducer

RANGES

9 Absolute Ranges

0-1000 psia to 0-40000 psia

FEATURES

- 0.01% Accuracy
- 0.0001% Resolution
- Frequency Outputs
- Low Power Consumption
- NIST Traceable Calibration
- High Stability and Reliability
- On-board Coefficient Storage
- On-board Application Memory
- ISO 9001:2000 Quality System
- Fully Calibrated and Characterized

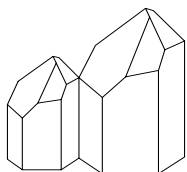
APPLICATION AREAS

- Metrology
- Oceanography
- Oil Well Testing
- Energy Exploration
- Laboratory Standards
- Process Control Systems
- Pressure Calibration Systems

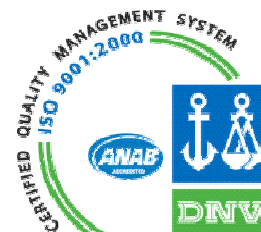
Paroscientific manufactures and sells a complete line of high precision pressure instrumentation. Resolution of better than 0.0001% and typical accuracy of 0.01% are achieved even under harsh environmental conditions. Resolution and accuracy comparable to the primary standards make the Digiquartz® Transducers essential for a variety of application areas where **high resolution, accuracy, reliability, ruggedness, long-term stability, low power consumption** and **low cost of ownership** are important requirements.

The remarkable performance of these transducers is achieved through the use of a precision quartz crystal resonator whose frequency of oscillation varies with pressure induced stress. A quartz crystal temperature signal is provided to thermally compensate the calculated pressure and achieve high accuracy over a broad range of temperatures. The transducers include integral shock protection to withstand extremely high acceleration, shock, and vibrational loads.

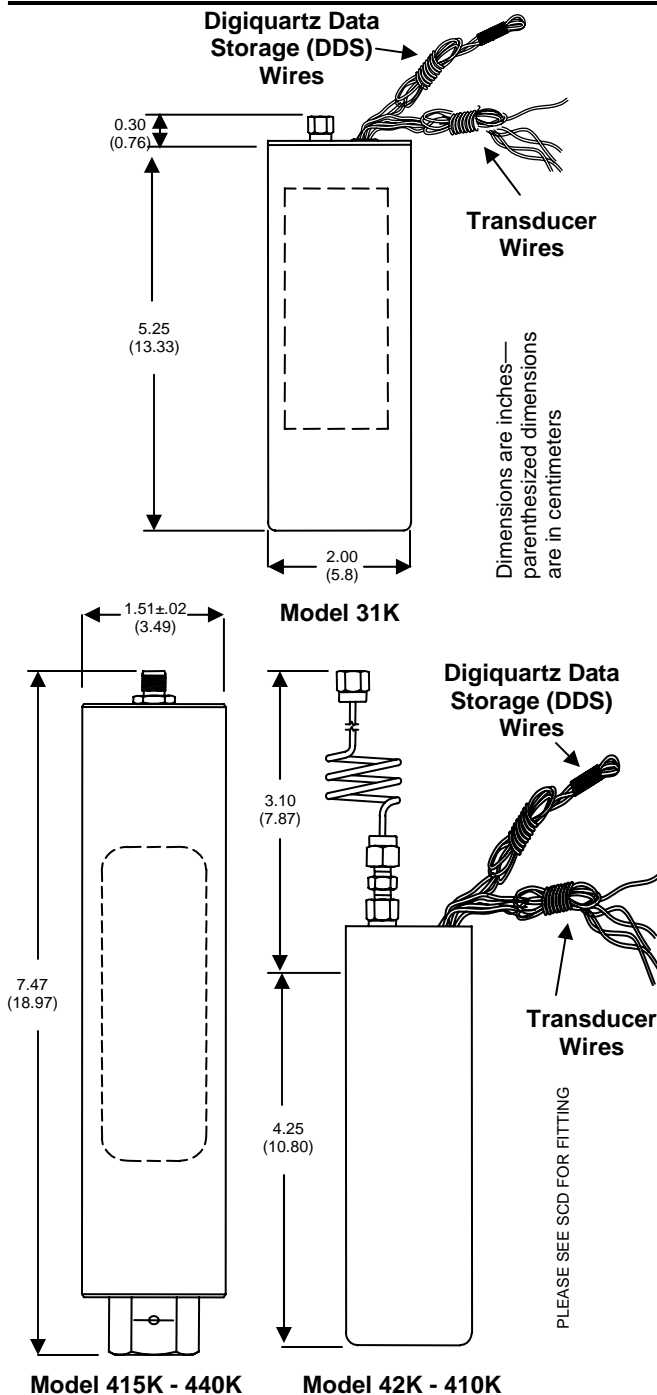
A Quality Management System that is certified to the requirements of the ISO 9001:2000 International Quality Standard provides consistency in our products and processes from design and development through production, calibration, test, and servicing. Our quality system and commitment to excellence ensure customers of outstanding products and services. As a result, we offer a **market-leading** five year limited **warranty** on all Digiquartz® Transducers with the first two years covered at 100%.



Paroscientific, Inc.
Digiquartz® Pressure Instrumentation



Series 3000 & 4000 Absolute Pressure Transducers



PERFORMANCE

Repeatability - Better than $\pm 0.01\%$ Full Scale
Hysteresis - Better than $\pm 0.01\%$ Full Scale
30K & 40K Better than $\pm 0.02\%$ Full Scale
Acceleration Sensitivity - $\pm 0.008\%$ Full Scale /g (Three axis average)

CHARACTERISTICS

Pressure signal is a frequency output with a 10% frequency change within the frequency band 30 KHz to 42 KHz.

Temperature signal is a frequency output with a 45 ppm/ $^{\circ}\text{C}$ sensitivity within the band 168 KHz to 172 KHz.

Both pressure and temperature output signals are nominally square waves of 4 volts amplitude peak to peak.

Conformance and temperature compensation equations and calibration coefficients are provided with each transducer.

Weight

Model 31K 12 ounces (363 grams)
Model 42K, 43K, 46K, 410K 6 ounces (170 grams)
Model 415K, 420K, 430K, 440K 11 ounces (308 grams)
Power Requirements +5 to +12 VDC 1.3 mA

ENVIRONMENTAL

Overpressure 1.2 times Full Scale
Model 30K, 40K 1.1 times Full Scale
Operating Temperature Range
Model 31K -54°C to $+107^{\circ}\text{C}$ (-65°F to 224°F)
Model 42K, 43K, 46K, 410K 0°C to $+125^{\circ}\text{C}$ (32°F to $+257^{\circ}\text{F}$)
Model 415K, 420K, 430K, 440K ... 0°C to $+50^{\circ}\text{C}$ (32°F to $+122^{\circ}\text{F}$)

Pressure Ranges		Model No	Part Number
psia	MPa		
0-1000	0-6.9	31K-101	1139-001 ⁽¹⁾
0-2000	0-13.8	42K-101 ⁽²⁾	1220-001 ⁽¹⁾
0-3000	0-20.7	43K-101 ⁽²⁾	1221-001 ⁽¹⁾
0-6000	0-41.4	46K-101 ⁽²⁾	1222-001 ⁽¹⁾
0-10000	0-68.9	410K-101 ⁽²⁾	1223-001 ⁽¹⁾
0-15000	0-103	415K-101 ⁽²⁾	1225-001 ⁽¹⁾
0-20000	0-138	420K-101 ⁽²⁾	1226-001 ⁽¹⁾
0-30000	0-207	430K-101	1227-001 ⁽¹⁾
0-40000	0-276	440K-101	1228-001 ⁽¹⁾

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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Technology

(1) Append - 0 to order oil-filled units.

(2) Please consult factory for ruggedized and high temperature (150°C or 177°C) models.