



year warranty with the first two years covered at 100%.

RANGES

Absolute

0-30 psia to 0-10,000 psia
0-10 m H₂O to 0-7000 m H₂O

Gauge

0-15 psig to 0-200 psig
0-10 m H₂O to 0-140 m H₂O

FEATURES

0.01% Accuracy
 1×10^{-8} Resolution
Low Power Consumption
High Stability and Reliability
Fully Calibrated and Characterized
Digital Communications Interface or
Quartz Crystal Frequency Outputs
ISO 9001 Certified - NIST Traceable

APPLICATION AREAS

Hydrology
Oceanography
Reservoir Level
Tsunami Detection
Wave and Tide Gauges
Underwater Pipe Laying

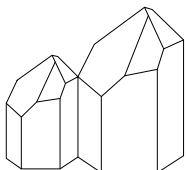
DIGIQUARTZ[®] DEPTH SENSORS provide the ultimate in precision water level measurements. Typical application accuracy of 0.01% is achieved even under difficult environmental conditions. Desirable characteristics include excellent long term stability, 1×10^{-8} resolution, low power consumption, and high reliability. The depth sensors are easy to interface with counters and digital computer systems.

The remarkable performance of these depth sensors 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 depth sensors include water-proof housings with integral shock protection.

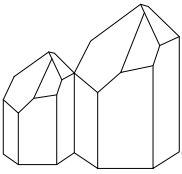
Excellent stability and low power consumption are mandatory for applications such as long term monitoring of water levels. Superior resolution and accuracy comparable to the primary standards make DIGIQUARTZ[®] DEPTH SENSORS ideal for applications such as wave and tide gauges, Tsunami detection, platform leveling, and underwater pipe laying.

All pressure ranges are available with an integral intelligent electronics to provide two-way digital communications. Users may command and configure these Intelligent Depth Sensors to select and optimize parameters such as resolution, integration time, and engineering units.

All DIGIQUARTZ[®] products come with a limited five



Paroscientific, Inc.
Digiquartz[®] Pressure Instrumentation



Digiquartz® Pressure Instrumentation

Series 8DP



Ranges Available:

7 Absolute Pressure Ranges:

From 0-10 m H₂O to 0-700 m H₂O

6 Gauge Pressure Ranges:

From 0-10 m H₂O to 0-140 m H₂O

Digiquartz® Transducer with Integral Shock Mount
Fully Calibrated and Characterized

Quartz Crystal Frequency Outputs or :

Integral Microprocessor Electronics with Bi-Directional
Serial Interfaces Available: (RS-232) or (SDI-12)

User Selectable Parameters Include:

Resolution, Sample Rate, Engineering Units,

Integration Time, Sampling Commands, Software

Recalibration Features, and Baud Rate (RS-232)

Modems Available with RS-232 Interface

Series 8WD



Ranges Available:

5 Absolute Pressure Ranges:

From 0-20 m H₂O to 0-270 m H₂O

Miniaturized Integral Microprocessor Electronics

Digiquartz® Transducer with Integral Shock Mount

Fully Temperature Compensated and Linearized Outputs

Bi-Directional Serial Interface Included: (RS-232) or (SDI-12)

User Selectable Parameters Include:

Resolution, Sample Rate, Engineering Units,

Integration Time, Sampling Commands, Software

Recalibration Features, and Baud Rate (RS-232)

Series 8B



Ranges Available:

4 Absolute Pressure Ranges:

From 0-1400 m H₂O to 0-7000 m H₂O

Digiquartz® Transducer with Integral Shock Mount

Fully Calibrated and Characterized

Quartz Crystal Frequency Outputs or :

Integral Microprocessor Electronics with Bi-Directional
Serial Interfaces Available: (RS-232) or (SDI-12)

User Selectable Parameters Include:

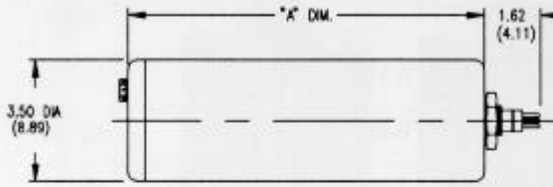
Resolution, Sample Rate, Engineering Units,

Integration Time, Sampling Commands, Software

Recalibration Features, and Baud Rate (RS-232)

Submersible Depth Sensors

Series 8000



Depth (M)	A
10-270	8.42 (21.39)
700 or Modem	14.26 (36.22)

Dimensions are in inches - parenthesized dimensions are in centimeters.

Pressure Performance - Typically better than 0.01% Full Scale
(Consult transducer specification control drawing.)

Calibrated Temperature Range: -2°C to +40°C

Typical Current Consumption: @ +6 to +15 VDC Input

Frequency Output Sensors: 1 mA @ +6VDC

Intelligent interfaces: RS-232 SDI-12

Quiescent 12 mA 1 mA

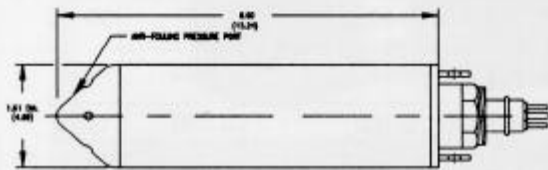
Maximum 25 mA 10 mA

Baud Rate Selection: 150 - 19,200 1200

Maximum Sample Rate: 135 per sec. 1 per sec.

Typical Resolution at 1 sample/sec. 1 ppm 1 ppm

Engineering Unit Selection: 8 Standard or User-defined



Dimensions are in inches - parenthesized dimensions are in centimeters.

Pressure Performance - Typically better than 0.02% Full Scale
(Consult transducer specification control drawing.)

Calibrated Temperature Range: -2°C to +40°C

Typical Current Consumption: @ +6 to +15 VDC Input

Intelligent interfaces: RS-232 SDI-12

Quiescent 12 mA 1 mA

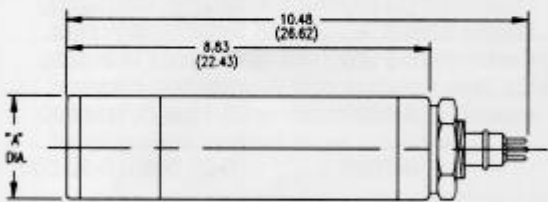
Maximum 25 mA 10 mA

Baud Rate Selection: 150 - 19,200 1200

Maximum Sample Rate: 135 per sec. 1 per sec.

Typical Resolution at 1 sample/sec. 1 ppm 1 ppm

Engineering Unit Selection: 8 Standard or User-defined



Depth (M)	A
1400-4000	1.61 (4.09)
7000	2.17 (5.51)

Dimensions are in inches - parenthesized dimensions are in centimeters.

Pressure Performance - Typically better than 0.01% Full Scale
(Consult transducer specification control drawing.)

Calibrated Temperature Range: -2°C to +40°C

Typical Current Consumption: @ +6 to +15 VDC Input

Frequency Output Sensors: 1 mA @ +6VDC

Intelligent interfaces: RS-232 SDI-12

Quiescent 12 mA 1 mA

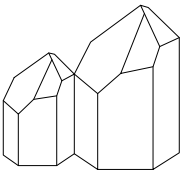
Maximum 25 mA 10 mA

Baud Rate Selection: 150 - 19,200 1200

Maximum Sample Rate: 135 per sec. 1 per sec.

Typical Resolution at 1 sample/sec. 1 ppm 1 ppm

Engineering Unit Selection: 8 Standard or User-defined



Digiquartz[®] Pressure Instrumentation

Model	Part Number				Pressure Range		
	Frequency Outputs	RS-232	SDI-12	RS-232 w/ Modem	Meters of H ₂ O	Feet H ₂ O	PSI
Series 8DP Absolute Depth Sensors							
8DP010	1116-004-O	1350-001-O	1360-001-O	1118-004-O	0-10	0-30	30 psia
8DP020	1116-006-O	1351-001-O	1361-001-O	1118-006-O	0-20	0-70	45
8DP060	1116-008-O	1352-001-O	1362-001-O	1118-008-O	0-60	0-200	100
8DP130	1116-010-O	1353-001-O	1363-001-O	1118-010-O	0-130	0-430	200
8DP200	1116-012-O	1354-001-O	1364-001-O	1118-012-O	0-200	0-660	300
8DP270	1116-014-O	1355-001-O	1365-001-O	1118-014-O	0-270	0-900	400
8DP700	1116-035-O	1118-032-O	1118-039-O	1118-040-O	0-700	0-2300	1000
Series 8DP Gauge Depth Sensors							
8DP010-GV	1117-002-O	1390-001-O	1419-001-O	1119-002-O	0-10	0-30	15 psig
8DP015-GV	1117-010-O	1391-001-O	1420-001-O	1119-024-O	0-15	0-50	22
8DP020-GV	1117-004-O	1392-001-O	1421-001-O	1119-004-O	0-20	0-70	30
8DP070-GV	1117-006-O	1393-001-O	1422-001-O	1119-006-O	0-70	0-230	100
8DP100-GV	1117-012-O	1394-001-O	1423-001-O	1119-026-O	0-100	0-330	150
8DP140-GV	1117-008-O	1395-001-O	1424-001-O	1119-008-O	0-140	0-460	200
Series 8WD Small Bore Absolute Depth Sensors							
8WD020	--	1320-011-O	1320-001-O	--	0-20	0-70	45 psia
8WD060	--	1320-012-O	1320-002-O	--	0-60	0-200	100
8WD130	--	1320-013-O	1320-003-O	--	0-130	0-430	200
8WD200	--	1320-014-O	1320-004-O	--	0-200	0-660	300
8WD270	--	1320-015-O	1320-005-O	--	0-270	0-900	400
Series 8B High Pressure Absolute Depth Sensors							
8B1400	1036-002-O	1281-001-O	1286-001-O	--	0-1400	0-4600	0-2000
8B2000	1036-004-O	1282-001-O	1287-001-O	--	0-2100	0-6900	0-3000
8B4000	1036-006-O	1283-001-O	1288-001-O	--	0-4200	0-13,800	0-6000
8B7000	1036-008-O	1284-001-O	1289-001-O	--	0-7000	0-23,000	0-10,000

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Water Well Level Sensing
 Offshore Platform Leveling
 Remotely Operated Vehicles