

Digiquartz® Depth Sensors provide the ultimate precision in 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 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 waterproof housings with integral shock protection.

High accuracy, resolution, and stability make Digiquartz® Depth Sensors ideal for applications such as Tsunami detection, wave and tide gauges, platform leveling, underwater pipe laying, and as depth sensors in ROVs and AUVs.

All Depth Sensor ranges are available with either frequency outputs or integral intelligent electronics with bi-directional digital communications.

New and enhanced features include support for both serial loop and multi-drop networking, selectable baud rates up to 115,200 baud, synchronization of measurements with timebased integration, 2 or 4 wire RS-485 transmission distances greater than 1 kilometer, improved high-speed continuous pressure measurements, a power management "sleep" mode, data formatting features, and unit identification commands.



RANGES

- **Absolute**
- 0-10 m H₂O to 0-7000 m H₂O
- 0-30 psia to 0-10,000 psia
- **Gauge**
- 0-10 m H₂O to 0-140 m H₂O
- 0-15 psig to 0-200 psig

FEATURES

- 0.01% Accuracy
- 1×10^{-8} Resolution
- Unique Anti-Fouling Port
- Low Power Consumption
- High Stability and Reliability
- Fully Calibrated and Characterized
- ISO 9001 Quality System - NIST Traceable
- Frequency Outputs or Dual RS-232 and RS-485 Interfaces

APPLICATION AREAS

- Hydrology
- Oceanography
- Tsunami Detection
- Wave and Tide Gauges
- Offshore Platform Leveling
- Dam and Reservoir Level Sensing
- Underwater Pipe Laying and Surveying
- Remotely Operated and Autonomous Underwater Vehicles

TECHNICAL SPECIFICATION

PERFORMANCE CHARACTERISTICS

Pressure Performance	Accuracy typically better than 0.01% Full Scale (See SCD)
Calibrated Temperature Range:	-2C to +40C
Hysteresis:	8CB $\leq \pm 0.01\%$ Full Scale 8CDP $\leq \pm 0.005\%$ Full Scale
Repeatability:	8CB $\leq \pm 0.01\%$ Full Scale 8CDP $\leq \pm 0.005\%$ Full Scale
Over Pressure:	1.2 times Full Scale
Thermal Sensitivity:	<0.0008% Full Scale / deg C

ELECTRICAL CHARACTERISTICS

Input Voltage:	+6 (Min) to +16 VDC
Current Consumption:	16.5 mA Quiescent, 32 mA max @ +6 VDC

Output Signal:	RS-232 meets EIA/TIA specs RS-485 meets EIA/TIA specs
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ENVIRONMENTAL CHARACTERISTICS

Weight:	8CB Dry: 2.94 lbs (1.33 Kg) Max 8CDP Dry: 3.48 lbs (1.58 Kg) Max 8CDP 700m Dry: 5.0 lbs (2.26 Kg) Max
Housing Materials/Wetted:	8CB - Stainless Steel 8CDP-PVC Type 1 or Acetal, White

OTHER ACCESSORIES AVAILABLE

- Model 715 Remote LCD Display
- Cables with Mating Connectors
- Power Module Kit

Note: Dynamic Positioning Services reserve the right to amend this specification without prior notice.