


# LONG TERM TIDE AND WAVE RECORDER

QUARTZ PRESSURE SENSOR FOR VERY LOW DRIFT



The RBRquartz<sup>3</sup> Q tide and wave recorder uses an integrated Paroscientific Digiquartz<sup>®</sup> pressure sensor for the best-in-class initial accuracy and low drift performance. The RBRquartz<sup>3</sup> Q is intended for long-term autonomous or real-time observations of water level, tides and waves. The stable pressure sensor is able to resolve small changes in water level over long deployments. Flexible measurement schedules and burst sampling permit applications for tide, wave, and sea level measurements. The RBRquartz<sup>3</sup> Q has a large memory capacity, sufficient power for extended deployments, and USB-C or Wi-Fi download for large data files.

## FEATURES

 Long deployments	 Quartz stability	 240M readings	 Up to 16Hz sampling rate	 USB-C download	 High accuracy
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The RBRquartz<sup>3</sup> Q uses the proven Digiquartz<sup>®</sup> pressure sensor to achieve stable long-term measurements for water level and wave observations. The RBRquartz<sup>3</sup> Q can record instantaneous pressure measurements, average pressure samples to remove wave action, and burst-sample pressure at up to 16Hz for wave height and period calculations. Wave measurements are made by burst sampling, with programmable sample rate, number of samples, and burst interval. High accuracy marine temperature data are recorded with each measurement. Wave, tide, and temperature measurements are standard with every RBRquartz<sup>3</sup> Q.

The RBRquartz<sup>3</sup> Q pressure recorder is ideal for applications such as long-term wave, tide, and sea level measurements, high-accuracy depth sensing in ROVs and AUVs, and critical engineering projects such as offshore platform leveling, dam and reservoir level sensing and underwater pipe surveying. Online applications are enabled via RS-232 or RS-485 communications. Data transmission to a surface buoy can be performed reliably using the RBR inductive modem system. Dataset export to Matlab, Excel, OceanDataView<sup>®</sup>, or text files makes post processing with your own algorithms effortless.

## LONG TERM TIDE AND WAVE RECORDER QUARTZ PRESSURE SENSOR FOR VERY LOW DRIFT

### Specifications

#### Physical

Storage:	240M readings
Power:	8 AA cells
External power:	4.5-30 VDC
Communication:	USB-C or RS-232/485
Clock drift:	±60 seconds/year
Depth rating:	750m
Housing:	Plastic
Adapter kit available:	SBE-26+ frames
Size:	~510mm x Ø100mm
Weight:	~2.3kg in air ~-0.25kg in water

#### Marine temperature (standard)

Range:	-5 to 35°C
Accuracy:	±0.002°C
Time constant:	30s (embedded)
Typical stability:	±0.002°C/year

#### Depth

Range:	10 / 20 / 55 / 125 / 190 / 260 / 330 dbar
Initial accuracy:	±0.01% FS (full scale)
Resolution:	100ppb (at 16Hz sampling rate)

### Deployment Estimates

Speed	Burst samples	Interval	Time	# samples
16Hz	-	Continuous	33 days	45M
4Hz	4096	120 min	1.1 years	11M
1s	60	30 min	2.2 years	100K

\*All values are generated using lithium iron cells



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