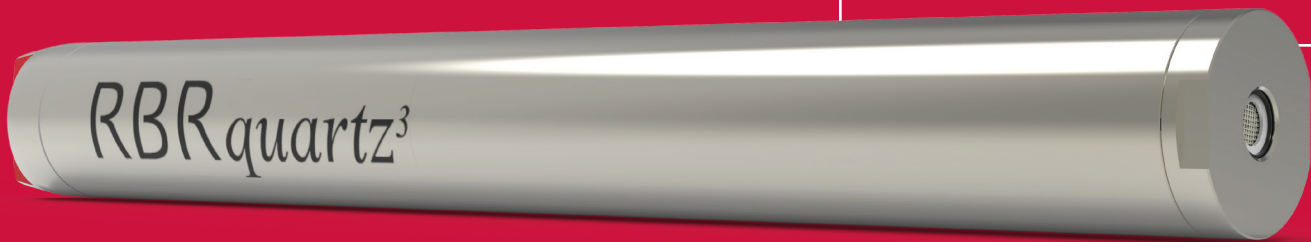




# BOTTOM PRESSURE RECORDER

10ppb RESOLUTION  
FULL OCEAN DEPTH  
TSUNAMI MONITORING



The RBRquartz<sup>3</sup> BPR (bottom pressure recorder) uses an integrated Paroscientific Digiquartz® pressure sensor for the best-in-class initial accuracy, resolution and low drift performance. The RBRquartz<sup>3</sup> BPR is intended for long-term autonomous or real-time observations of water level, tides, and tsunamis in deep water. The high resolution (10ppb) and accuracy (0.01% FS) quartz pressure sensor is able to detect minuscule changes in water level from the bottom of the ocean. Continuous measurements allow the RBRquartz<sup>3</sup> BPR to be used for tsunami detection and early-warning systems when connected to a cabled real-time network. Flexible measurement schedules and configurable integration times permit applications for tide and sea level measurements when powered on internal batteries. The RBRquartz<sup>3</sup> BPR has a large memory capacity, sufficient power for extended deployments, and USB-C download for large data files.

## FEATURES

 <p>Long deployments</p>	 <p>High accuracy</p>	 <p>240M readings</p>	 <p>Up to 16Hz sampling rate</p>	 <p>USB-C download</p>	 <p>10ppb resolution</p>
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The RBRquartz<sup>3</sup> BPR uses the proven Digiquartz® pressure sensor to achieve high resolution measurements for full ocean depth water level and tide observations. The RBRquartz<sup>3</sup> BPR can record instantaneous pressure measurements, average pressure measurements over specified sampling duration, and burst-sample pressure at up to 16Hz. A high accuracy marine temperature sensor is standard with every RBRquartz<sup>3</sup> BPR and temperature data are recorded with each pressure measurement.

The RBRquartz<sup>3</sup> BPR is ideal for applications such as tsunami detection and warning systems, long-term water level studies, and high-accuracy depth sensing in ROVs and AUVs. 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®, or text files makes post processing with your own algorithms effortless.

## BOTTOM PRESSURE RECORDER

### FULL OCEAN DEPTH TSUNAMI MONITORING

#### 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:	10,000m
Housing:	Titanium
Size:	~540mm x Ø60mm
Weight:	~3.4kg in air ~1.7kg in water

##### Temperature

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

##### Depth

Range:	1350 / 2000 / 4000 / 7000 dbar
Initial accuracy:	±0.01% FS
Resolution:	10ppb (at 1Hz sampling rate)

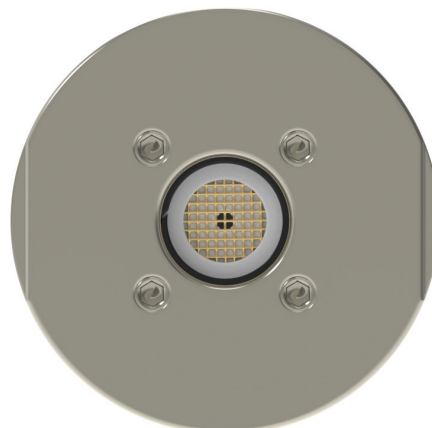
#### Deployment Estimates

##### Lithium iron cells

Sampling Period	Time	Samples
2s	35 days	1.5M
10s	175 days	1.5M
60s	2.5 years	1.5M
16Hz	35 days	48M

##### RBRfermata alkaline pack

Sampling Period	Time	Samples
2s	3 years	50M
16Hz	95 days	135M



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