RBR

MEASURE THE BLUE PLANET

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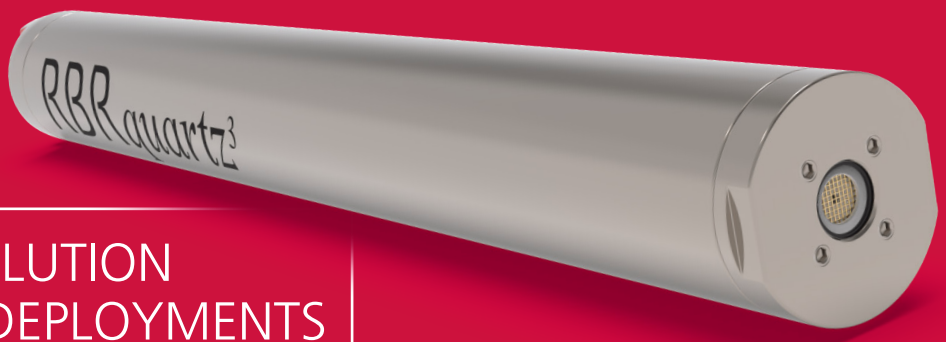
BOTTOM PRESSURE RECORDER



HIGH RESOLUTION FOR DEEP DEPLOYMENTS

The RBR*quartz*³ BPR (Bottom Pressure Recorder) uses an integrated Paroscientific Digiquartz® pressure sensor for the best-in-class initial accuracy, resolution, and low drift performance. The RBR*quartz*³ BPR is intended for tsunami detection, tide monitoring, long-term water level studies, and high-resolution depth sensing in ROVs and AUVs.

FEATURES

- Long deployments
- High accuracy
- 240M readings
- Up to 16Hz sampling rate
- USB-C download
- 10ppb resolution

The RBR*quartz*³ BPR is ideal for tsunami detection and early-warning systems, providing continuous measurements while connected to a cabled realtime network. Flexible measurement schedules and configurable integration times enable water level and tide observations in deep water. The Paroscientific Digiquartz® pressure sensor supports instantaneous pressure measurements, average pressure measurements over specified sampling duration, and burst-sample pressure measurements at up to 16Hz. A high-accuracy marine temperature sensor records temperature data with each pressure measurement.

Realtime data applications are enabled via USB, RS-232, RS-485, or Ethernet communication. Data transmission to a surface buoy can be performed inexpensively and reliably using the RBR MLM inductive modem system. Innovative canister design allows for easy access to the battery compartment and fast data download via USB-C. Datasets can be read directly in Matlab, or exported to Excel, OceanDataView®, or text files.

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Specifications

Physical

Storage	~240M readings
Power	8 AA cells
External power	4.5V to 30V
Communication	Internal: USB-C External: USB, RS-232/RS-485, Ethernet
Clock drift	±60 seconds/year
Max depth rating	7000m
Housing	Titanium
DImensions	540mm x Ø60mm
Weight	~3.3kg in air, ~1.7kg in water

Temperature

Range	-5 to 35°C
Initial accuracy	±0.002°C
Resolution	0.00005°C
Typical stability	±0.002°C/year
Time constant	~30s (embedded)

Pressure

Range	4000 / 7000 dbar
Initial accuracy	±0.01% full scale
Resolution	10ppb (at 1Hz sampling rate)

Deployment estimates[1]

Speed	Time	# samples
16Hz	58 days	~80M
2s	65 days	~3M
10s	322 days	~3M
60s	5 years	~3M

[1] These estimates represent an instrument operating on lithium thionyl chloride batteries. Deployments can be extended by using the RBR*fermata* underwater battery canisters.

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