

ACCELEROMETER & BOTTOM PRESSURE RECORDER

10ppb PRESSURE RESOLUTION WITH BROADBAND ACCELEROMETER



The RBRquartz³ APT is a combined triaxial quartz accelerometer and a bottom pressure recorder. The alliance of a 16Hz strong- and weak-motion seismometer, and the pressure measurement with 10ppb resolution make this instrument ideal for deep-sea early earthquake warning and tsunami monitoring. The RBRquartz³ APT is designed for both autonomous installation or real-time cabled observatories with ethernet connectivity. Designed for rapid ROV deployment, the instrument penetrates sea bed sediments and has good seismic coupling.

FEATURES



10ppb resolution



Quartz stability



High accuracy



Up to 16Hz sampling rate



TCP/IP socket over Ethernet



Long deployments

The RBRquartz³ APT uses proven proprietary RBR technology and the Paroscientific Digiquartz® transducers to achieve 10ppb depth resolution with sub-second integration times. The short integration time consumes less power during sampling resulting in significantly longer deployments between battery replacements. User selectable integration time for each reading means you can adjust the resolution to your measurement needs. Dataset export to Matlab, Excel, OceanDataView®, or text files makes post processing with your own algorithms effortless.



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Specifications

Physical

Storage:	240M readings
Power:	24Wh battery
External power:	9V-18V
Communication:	TCP/IP socket over Ethernet
Clock drift:	±60 seconds/year NTP clock sync when available
Size:	~880mm x Ø60.3mm
Weight:	~5.7kg

Temperature

Range:	-2 to 45°C
Accuracy:	±0.002°C
Time constant:	30s (embedded)
Typical stability:	0.002°C/year

Depth

Range:	1000 / 1400 / 2000 / 3000 / 4000 / 7000m (dbar)
Initial accuracy:	±0.01% FS (full scale)
Resolution:	10ppb full scale (1s integration)
Overpressure:	1.2 times rated pressure
Thermal sensitivity:	<0.0008% FS per °C
Hysteresis:	≤±0.01% FS
Repeatability:	≤±0.01% FS

Accelerometer

Range:	±3g
Resolution:	<100ng

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