RBR

MEASURE THE BLUE PLANET

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RBR*argo*³ C.T.D FOR PROFILING FLOATS



ULTRA LOW POWER, SALINITY TO THE SURFACE

The RBR*argo*³ C.T.D is designed specifically for the Argo program. The ultra-low power design consumes only 20% the energy of competing products, with a CFD-optimised flow path that reduces salinity spiking. Salinity to the surface is default behaviour — the conductivity cell is unaffected by surfactants and is not damaged by drying out. Atmospheric measurements provide helpful drift references.

Impeccable power management and a direct engineer-to-engineer support channel, coupled with a design that focuses on ease of use makes integration straightforward. Capable of up to 8Hz sampling, massive storage capacity, and compact electronics, the RBRargo fits in both standard Argo and NATO A-class float hulls, and withstands air deployments.

A full range of BGC sensors are available, including optical DO, pH, PAR, fluorometers, and others. The related product, RBR*argo*³ C.T.D|deep6k, is designed with an external Titanium housing and rated to 6000dbar for Deep Argo floats utilizing glass spheres.

FEATURES

- WOCE accuracy
- Streamlined design minimizes salinity spiking
- Flushing by design - no pump required
- Classical 2000dbar profile consumes only 400J
- Up to 8Hz sampling
- Accurate conductivity to within 10cm of air-ocean interface
- Integrations with many floats already available, in water, and data in the GDACs

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Specifications

Physical

Power:	10µA sleep, 4.5mA at 12V for 450ms
Storage:	~120M readings
Communication:	UART, RS-232, USB-CDC
Energy/sample:	24mJ
Energy/profile:	~490J (2000dbar sampling)
Sampling speeds:	Up to 8Hz
Materials:	OSP and titanium
Input voltage:	4.5V-30V

Conductivity

Range:	0 – 85mS/cm
Initial accuracy:	±0.003mS/cm
Resolution:	0.001mS/cm
Typical stability:	0.010mS/cm per year

Temperature

Range:	-5°C to 35°C
Initial accuracy:	±0.002°C
Resolution:	0.00005°C
Typical stability:	0.002°C per year
Time constant:	~700ms

Depth

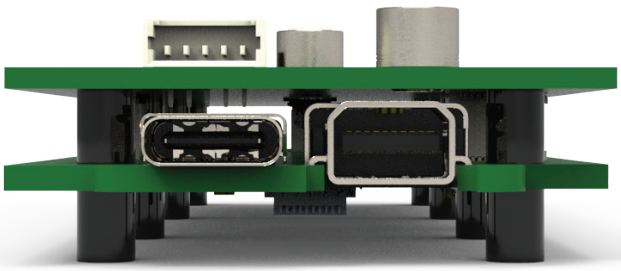
Range:	2000 / 4000dbar
Initial accuracy:	±0.05% full scale (FS)
Resolution:	0.001% FS
Typical stability:	0.05% FS
Time constant:	<0.01s

Custom Realtime Data Logging

All RBR*argo*³ instruments have onboard compensation of temperature effects on pressure, and temperature and pressure effects on conductivity. Derived channels are also built in for salinity, sound speed, density, etc.

The instrument runs a true RTOS and is capable of logging autonomously at the same time as supplying intermittent measurements (to a buoyancy engine controller, for instance).

Regimes mode supports three different sampling protocols according to the float depth in the water column. For instance, regime 1 could be between 2000 and 1000dbar, sampling at 1Hz, and binning all measurements taken over a 5dbar range. Regime 2 could be between 1000dbar and 300dbar, sampling at 1Hz, and binning over a 1dbar range. Regime 3 could be between 300dbar and the surface, sampling at 8Hz without any binning (storing all samples).



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