RBR

MEASURE THE BLUE PLANET

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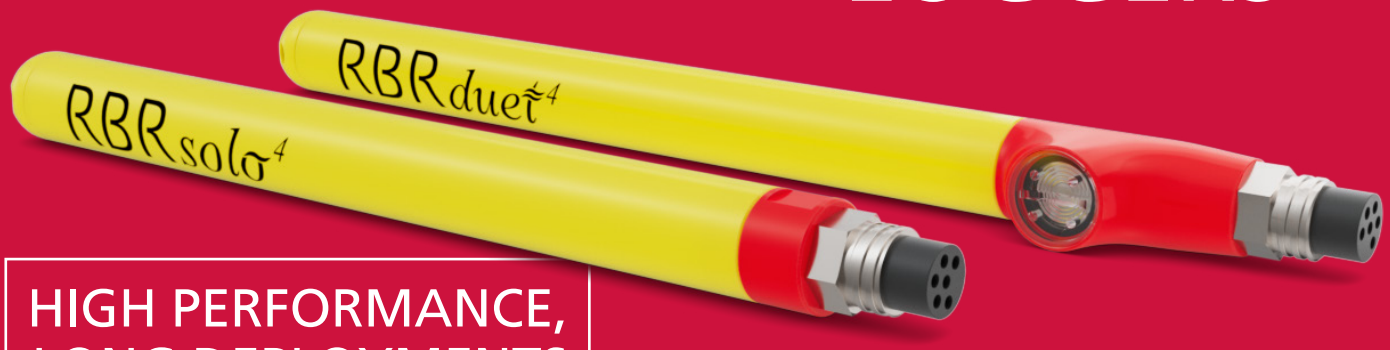
RBR*solo*^{4} x|2x, RBR*duet*^{4} D.x|2x

SMALL EXCHANGEABLE LOGGERS



HIGH PERFORMANCE, LONG DEPLOYMENTS

The RBR*solo*^{4} x|2x and RBR*duet*^{4} D.x|2x are compact, lightweight exchangeable loggers designed for high-precision oceanographic measurements in demanding environments. They combine exceptional accuracy and resolution using any standard AA battery chemistry. Engineered for durability in harsh marine conditions, these instruments deliver reliable, long-term performance across a wide range of oceanographic applications.

FEATURES

- Long deployments
- Compact and lightweight
- Two AA batteries
- Up to 32Hz sampling
- USB-C download
- Infinite memory*

*not really, but we stopped counting at billions of samples.

Available configurations

|fast32	up to 32Hz continuous sampling
|deep	depths up to 6000m

Compatible sensors

- RBR*coda*^{3} T
- RBR*coda*^{3} D
- RBR*coda*^{3} T.D
- RBR*coda* T.ODO
- RBR*coda* Tu
- RBR*coda* chl-*a*
- RBR*quadrante*

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SMALL EXCHANGEABLE LOGGER

COMPACT, ACCURATE, DEPENDABLE

Specifications

Physical

Configuration	RBR*solo*^{4} x	RBR*duet*^{4} D.x
Storage	Infinite memory[1]	
Power	Any AA cells, any chemistry	
Communication	USB-C	
Clock drift	±60 seconds per year	
Housing	Plastic (pl) or titanium (Ti)	
Max depth rating[2]	1700m (pl) 6000m (Ti)	
Diameter	25mm (x), 28mm (D.x)	
Length	305mm (pl) 319mm (Ti)	349mm (pl) 358mm (Ti)
Weight in air	184g (pl) 410g (Ti)	219g (pl) 520g (Ti)
in water	35g (pl) 255g (Ti)	40g (pl) 340g (Ti)

[1] Not really, but we stopped counting at billions of samples.
[2] Actual depth rating is determined by the sensor rating.

Dissolved oxygen

Measurement range	0-1000µmol/L
Calibrated range	0-500µmol/L concentration 0 – 120% saturation 1.5°C to 30°C temperature
Initial accuracy	Max of ±8µmol/L or ±5% |fast Max of ±2µmol/L or ±1.5% standard Max of ±2µmol/L or ±1.5% |slow
Resolution	<1µmol/L (saturation 0.4%) |fast <0.5µmol/L (saturation 0.2%) standard <0.1µmol/L (saturation 0.04%) |slow
Time constant	<1s |fast, <8s standard, or <30s |slow
Sampling rates	24hr to 1Hz
Output Values	Temperature (°C) Dissolved O_2 concentration (µmol/L) Dissolved O_2 concentration (salinity compensated, µmol/L) Dissolved O_2 saturation (%) Dissolved O_2 phase (°)

Temperature

Range	-5°C to 35°C
Initial accuracy	±0.002°C
Resolution	<0.00005°C
Typical stability	±0.002°C / year
Time constant	<1s

Pressure

Range[1]	
plastic	20 / 100 / 300 / 1000dbar
Ti	1000 / 2000 / 6000 / 10000dbar
Accuracy[2]	±0.01% full scale
Resolution	<0.001% full scale
Typical stability	±0.01% full scale / year
Time constant	<10ms

[1] Recommended depth for wave measurements is less than 100m.
[2] The 20m sensor is limited to ±0.05% FS due to its physical construction.

Chlorophyll-*a*

Wavelength	470nm/695nm (excitation/emission)
Calibrated range*	0-50µg/L
Measurement range	0-500µg/L
Detection limit*	0.020µg/L
Optical	
Linearity, R^2	0.99
Initial accuracy	5%

* Scaled for the in vivo fluorescence response.

Turbidity

Wavelength	880nm
Centroid angle	90°
Linearity, R^2	0.99
Initial accuracy	5%
Calibrated range	0 - 1000FTU
Measurement range	0 - 1500FTU[1]
Detection limit	0.005FTU
Optical backscatter	
Wavelength	880nm
Centroid angle	135°
Linearity, R^2	0.99
Initial accuracy	5%
Calibrated range	1000 - 4000FTU
Measurement range	0 - 20000FTU[2]
Detection limit	2.0FTU

[1] Response becomes non-linear above 1000FTU.
[2] Response becomes non-linear below 500FTU and above 15000FTU.

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