

## SMALL EXCHANGEABLE LOGGERS



HIGH PERFORMANCE,  
LONG DEPLOYMENTS

The RBRsolo<sup>4</sup> x|2x and RBRduet<sup>4</sup> 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



\*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

- ▶ RBRcoda<sup>3</sup> T
- ▶ RBRcoda<sup>3</sup> D
- ▶ RBRcoda<sup>3</sup> T.D
- ▶ RBRcoda T.ODO
- ▶ RBRcoda Tu
- ▶ RBRcoda chl-a
- ▶ RBRquadrante

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### COMPACT, ACCURATE, DEPENDABLE

### Specifications

#### Physical

| Configuration                 | RBRsolo <sup>4</sup> x        | RBRduet <sup>4</sup> D.x |
|-------------------------------|-------------------------------|--------------------------|
| Storage                       | Infinite memory <sup>1</sup>  |                          |
| Power                         | Any AA cells, any chemistry   |                          |
| Communication                 | USB-C                         |                          |
| Clock drift                   | ±60 seconds / year            |                          |
| Housing                       | Plastic (pl) or titanium (Ti) |                          |
| Max depth rating <sup>2</sup> | 1700m (pl) 6000m (Ti)         |                          |
| Diameter                      | <26mm (x), <37mm (D.x)        |                          |
| Length                        | 305mm (pl) 319mm (Ti)         | 349mm (pl) 358mm (Ti)    |
| Weight in air                 | 184g (pl) 410g (Ti)           | 219g (pl) 520g (Ti)      |
| Weight in water               | 35g (pl) 255g (Ti)            | 40g (pl) 340g (Ti)       |

<sup>1</sup> Not really, but we stopped counting at billions of samples.

<sup>2</sup> Actual depth rating is determined by the sensor rating.

#### Dissolved oxygen

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

#### Temperature

|                   |                                       |
|-------------------|---------------------------------------|
| Range             | -5°C to 35°C                          |
| Initial accuracy  | ±0.002°C                              |
| Resolution        | <0.0005°C                             |
| Typical stability | ±0.002°C / year                       |
| Time constant     | <0.1s  fast, <1s standard, <15s  slow |

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#### Pressure

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

<sup>1</sup> Recommended pressure ranges for wave measurements are 20 and 100dbar.

#### Chlorophyll-a

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

\* Scaled for the in vivo fluorescence response.

#### Turbidity

|                                |                 |
|--------------------------------|-----------------|
| Wavelength                     | 880nm           |
| Centroid angle                 | 90°             |
| Linearity, R <sup>2</sup>      | 0.99            |
| Initial accuracy               | 5%              |
| Calibrated range               | 0 to 1000FTU    |
| Measurement range <sup>1</sup> | 0 to 1500FTU    |
| Detection limit                | 0.005FTU        |
| Optical backscatter            |                 |
| Wavelength                     | 880nm           |
| Centroid angle                 | 135°            |
| Linearity, R <sup>2</sup>      | 0.99            |
| Initial accuracy               | 5%              |
| Calibrated range               | 1000 to 4000FTU |
| Measurement range <sup>2</sup> | 0 to 20000FTU   |
| Detection limit                | 2.0FTU          |

<sup>1</sup> Response becomes non-linear above 1000FTU.

<sup>2</sup> Response becomes non-linear below 500FTU and above 15000FTU.

