

# TWO-CHANNEL LOGGER

MEASURE MORE,  
DEPLOY LONGER,  
DOWNLOAD FASTER



The RBRduo<sup>3</sup> instruments can integrate almost any two sensors from RBR, offering high accuracy, flexible schedules, USB-C download, Wi-Fi communication, and twist activation. Variants with pressure, temperature, conductivity, radiometer, PAR, and turbidity sensors are also available in titanium housing for deep applications (I deep), designed to endure harsh conditions.

## FEATURES



The RBRduo<sup>3</sup> can integrate any two of the following sensors:

- ▶ Conductivity (C)
- ▶ Temperature (T)
- ▶ Pressure (D)
- ▶ Dissolved oxygen (DO)
- ▶ Optical dissolved oxygen (ODO)
- ▶ Photosynthetically active radiation (PAR)
- ▶ Radiometer (rad)
- ▶ Turbidity (Tu)
- ▶ Fluorescence (Fl)
- ▶ Voltage
- ▶ Transmittance
- ▶ pH
- ▶ ORP
- ▶ CH<sub>4</sub>
- ▶ CO<sub>2</sub>

### Examples:

- ▶ RBRduo<sup>3</sup> T.D                      temperature, pressure
- ▶ RBRduo<sup>3</sup> C.T                     conductivity, temperature
- ▶ RBRduo<sup>3</sup> T.Fl                    temperature, fluorescence

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The RBR $duo^3$  instruments facilitate optimal measurement schedules, whether moored, towed, or profiling. Large storage capacity and reliable battery power facilitate long deployments with higher sampling rates. Downloads are quick with USB-C. A dedicated holder makes it simple to replace desiccant before each deployment. The calibration coefficients are stored with the instrument, and only one software tool, Ruskin, is required to operate it. Datasets can be read directly in Matlab, or exported to Excel, OceanDataView®, or text files.

### Specifications

#### Physical

|                    |  |
|--------------------|--|
| Storage            | 240M readings  |
| Power <sup>1</sup> | 8 AA cells   |
| External power     | 4.5 to 30V   |
| Communication      | USB-C or RS-232/485                                  |
| Clock drift        | ±60 seconds/year                                     |
| Housing            | Plastic or titanium                                  |
| Diameter           | 63.3mm (plastic), 60.3mm (Ti)                        |
| Length             | Configuration dependent                              |
| Weight             | Configuration dependent                              |
| Max depth rating   | Up to 10000m<br>(configuration dependent)            |
| Sampling rate      | 2Hz; options up to 32Hz<br>(configuration dependent) |

<sup>1</sup> Lithium thionyl chloride batteries are only recommended for the RBR $duo^3$  C.T and RBR $duo^3$  T.D. Use alkaline or lithium iron batteries for all other configurations.

#### Conductivity

|                   |                      |
|-------------------|----------------------|
| Range             | 0-85mS/cm            |
| Initial accuracy  | ±0.003mS/cm          |
| Resolution        | <0.001mS/cm          |
| Typical stability | ±0.010mS/cm per year |

#### Temperature

|                    |                           |
|--------------------|---------------------------|
| Range <sup>2</sup> | -5°C to 35°C              |
| Initial accuracy   | ±0.002°C                  |
| Resolution         | <0.00005°C                |
| Typical stability  | ±0.002°C / year           |
| Time constant      | <0.1s  fast, <1s standard |

<sup>2</sup> A wider temperature range is available upon request. Contact RBR for more information.

#### Pressure

|                    |                                       |
|--------------------|---------------------------------------|
| Range <sup>3</sup> |                                       |
| Plastic            | 20 / 50 / 100 / 200 / 500 / 750dbar   |
| Ti                 | 1000 / 2000 / 4000 / 6000 / 10000dbar |
| Initial accuracy   | ±0.05% full scale                     |
| Resolution         | <0.001% full scale                    |
| Typical stability  | ±0.05% full scale per year            |
| Time constant      | <10ms                                 |

<sup>3</sup> Recommended depth for wave measurements is less than 50m.

#### Options

- ▶ Wi-Fi communication
- ▶ External data and power connection via connectorised end-caps
- ▶ |fast8, |fast16, or |fast32 variants for profiling
- ▶ |tide16, |wave16 variants with wave burst and tidal averaging
- ▶ |deep variants in titanium housing for depths up to 10000m

#### RBR Ltd

+1 613 599 8900  
 info@rbr-global.com  
 rbr-global.com

