RBR

Your Path Through the Sea

MARINE | FRESHWATER | CRYOSPHERIC

Instruments for Measuring Tides and Waves

Models TGR-1050; TGR-2050; TWR-2050 and WG-50

Tide & Wave Recorders

RBR offers instruments to measure tides and waves by pressure or a direct capacitive sensor. If pressure is measured, the electronics package may be mounted on the sea floor or at the surface. A capacitive sensor may be provided with a USB interface.

Sea Bed Recorders

Models TGR-1050P, TGR-2050P and TWR-2050 are autonomous instruments which are intended to be mounted on the sea bed. They will record to internal memory for periods of up to two years, and contain 8Mbytes of flash memory. Temperature is measured in the 2050 models.

Surface Recorders

Both the TGR and TWR are available in a surface version - models TGR-1050HT and TWR-2050HT. Pressure only is measured on the sea bed using a vented transducer for automatic atmospheric compensation. The instruments have a NEMA4X case and full functionality for use with RF or cellular (CDMA or GSM) modem. They may also be connected via RS-232 or RS-485 direct communications. These units can run for five years on internal batteries.

Direct Sensor

The WG-50 is a capacitive wave gauge, and may be supplied with a USB interface for computer data collection.

USB a/d Interface 8 channels

Electronics

Wave Staff

Software

Integrated RBR Windows® software is available at no additional charge for all of our instruments. See reverse for further details or check our website for details, downloads and upgrades.

Sea Bed Recorders

Power:	QTY 2, 3V CR123A cells
Communications:	RS-232/485 or telemetry option
Download speed:	~115,000 samples/minute
Clock accuracy:	± 32 seconds/year
Size:	265mm x 38mm diameter
Memory:	8Mbyte Flash
Weight:	364g in air, 70g in water

Depth	Temperature
Range: 10/20/50/100m (dBar)	Range: -5 °C to 35 °C
Accuracy: ± 0.05% full scale	Accuracy: ± 0.002 °C
Resolution: <0.001% full scale	Resolution: <0.00005 °C
Time Constant: < 10 msec	Time Constant: < 3 sec
Drift ~0.1%/year - typical	Drift: ~0.002 °C/year - typical

Averaging period:	1 sec to 8 hours
Bursts (wave recorder)	512, 1024, 2048, 4096 samples
Burst sampling rate	1, 2, or 4 Hz

Surface Recorders

Specifications similar to those above, with the following changes:

Power:	QTY 8, C size alkaline cells / 12V ext.
Communications:	RS-232/485 or modems
Size:	255x205x120mm
Weight:	<5kg (excluding sensor and cable)
Pressure Sensor:	Druck PDCR 1830
Range:	10 dBar; 15 or 25m cable

Other ranges and sizes to special order

Accuracy:	±0.05% full scale

Direct Sensor WG-50

Power:	9V to 18V @ 55mA
Output:	± 5Vdc or USB interface option
Size:	160 x 110 x 85 mm
Accuracy:	±0.4% full scale
Probe lengths:	100mm to 20m

Ordering Information

TGR-1050P	Specify depth range
TGR-2050P	Specify depth range
TWR-2050P	Specify depth range
TGR-1050HT	Specify sensor cable length
TWR-2050HT	Specify sensor cable length
WG-50	Specify probe length; USB option.

For further information on sensor performance please consult RBR.

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RBR Windows® Software

Data Logger Software

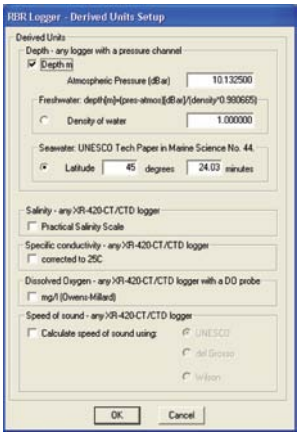
The RBR Windows® software package has been designed for easy use while still providing the necessary features for logger programming, data retrieval and analysis. One piece of software does it all!

Features:

- Intuitive
- Graphical Display
- Real-time data
- Derived Units
- Export to Matlab®
- GPS Integration
- Telemetry ready
- Setup cloning

RBR's Windows®-based data logger software includes a straightforward logger setup display menu that includes options for programming start and stop time, thresholding, sampling rates for both tides and waves (TWR-2050), burst rate, burst length, averaging, and batch programming.

Some basic analysis features are included that allow the user to review the data graphically. Data can also be saved in various file formats for easy import into third party software packages, such as Matlab® or Microsoft® Excel®.

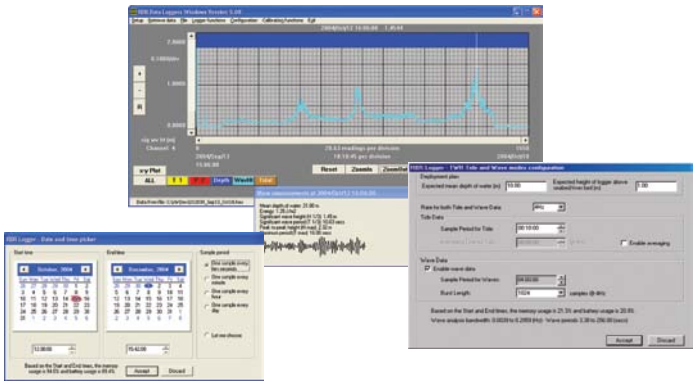


Derived Units

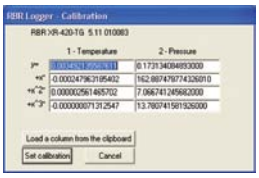
- Salinity (PSS-78)
- Depth
- Speed of Sound
- Density
- Dissolved Oxygen
- Specific Conductivity

Analysis of waves & wave spectra:

- Mean level
- Tidal slope
- Significant Wave Height
- Min & Max Elevation from Mean
- Mean Period
- Significant Wave Period
- Total Energy



Logger programming is easily achieved by using the 'Setup' dialog, which allows the user to choose Start and End times, Sampling Rate, Averaging, Thresholding, as well as synchronize the logger with the PC clock. The setup dialog also indicates the expected battery and memory usage for the chosen deployment settings.



Re-calibration is done easily by entering the coefficients for each channel of the logger in the appropriate columns. These values are stored in the logger, and a complete calibration history is always available at the click of a button. In order to reduce deployment error, a log file is automatically generated for all logger setup activity.

System Requirements

Operating System:	Windows® 95/98/ME/2000/XP/Vista
CPU:	x86 133Mhz or higher
RAM:	128MB recommended
Communications:	At least 1 RS-232 serial port, or USB
Cost:	RBR Software is free.

Windows

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