

XR-420CT+Tu

Conductivity, Temperature & Turbidity With Autoranging and Optional Depth

Features:

- Autoranging turbidity
- Highest accuracy
- 8MB Memory
- Up to 2 years battery life
- High-speed Data Download

The XR-420CT+Tu combines the excellent temperature and conductivity channels of our XR-420 Series loggers with an autoranging Seapoint Turbidity sensor. The logger is small and light (362g in water).

The full specifications of the conductivity and temperature channels may be found on our general XR-420 data sheet. It is possible to obtain this logger without the conductivity channel.



The Seapoint Turbidity sensor measures turbidity by detecting scattered light from suspended particles in water. The optical geometry approaches that of a true nephelometer. A sensor power requirement of only 3mA during measurement ensures overall battery life of up to 2 years. The wide dynamic range is further enhanced by autoranging. Taken together with a 6,000 metre depth rating, these specifications make the sensor the most versatile for measurement of suspended particle concentrations.

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.

Technical

General

Power:	QTY 4, 3V CR123A cells
Communications:	RS-232/485; logged, cable, or telemetry
Download Speed:	~115,000 samples/minute
Clock Accuracy:	±32 seconds/year
Size:	Body 310mm (T+Tu) or 450mm (CT+Tu) x 64mm diameter
Memory:	8MByte Flash (2,400,000 samples)
Weight:	950g in air, 362g in water (T+Tu)
Calibration:	NIST traceable standards
Depth:	740m (optional to 6000m)

Turbidity^[1]

Range:	0 to 25, 125, 500, 2,500 ^[2] FTU ^[3] (fixed or auto-ranging)
Linearity:	<2% deviation; 0 to 750 FTU ^[3]
Source Wavelength:	880nm
Scatter Angles:	15 to 150 degrees
Temp. Coefficient:	<0.05%/°C
Time Constant:	0.1 seconds

[1] These represent the manufacturer's specifications. [2] Output is non-linear above 750 FTU. [3] NTU and FTU are equivalent units

Temperature

Range:	-5°C to 35°C
Accuracy:	±0.002°C
Resolution:	<0.00005°C
Time Constant:	~3 sec (standard) or ~0.1 sec (option)
Drift:	~0.002°C/year

Conductivity

Range:	0-2mS/cm (freshwater) or 0-85mS/cm (marine)
Accuracy:	±0.003 mS/cm at 35psu 15°C
Drift:	~1 µS/cm/month
Resolution:	~0.01µS/cm (freshwater) and ~1µS/cm (marine)

Time Constant: Depends on cast rate. Cell length ~60mm
See Loggers for CT and CTD data sheet for full specifications.
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.

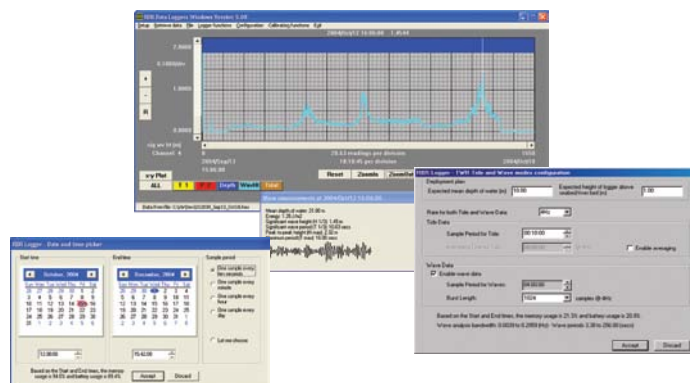
Some basic analysis features are included that allow the user to review the data graphically. Data can also be saved in various file formats for easy import into third party software packages, such as Matlab® or Microsoft® Excel®.

Derived Units

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

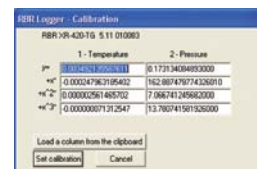
Analysis of waves & wave spectra:

- 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.

