

# Loggers for CT and CTD

These recorders will provide derived measurements of Salinity, Speed of Sound and Density

The XR series CT/CTD offer three conductivity sensors; two case styles; and a maximum sampling rate of 1Hz or 6Hz. Temperature may be measured internally, or with an external probe of time constant 3s or ~0.1s.

## Conductivity Measurement

The RBR XR series offer three sensors for conductivity, each with different applications.



### Inductive cell

This is the simplest and most rugged sensor. It has one range, from 0 to 70mS/cm and is sufficiently robust that it may be frozen into the water. Noise level is ~3 $\mu$ S/cm rms

This option is specified with a suffix "m".

### Electrode contact cell

This provides high resolution measurements in fresh water. The range is 0 to 2mS/cm. The noise level of this sensor is about 0.2 $\mu$ S/cm rms.

Specify with a "f" suffix.



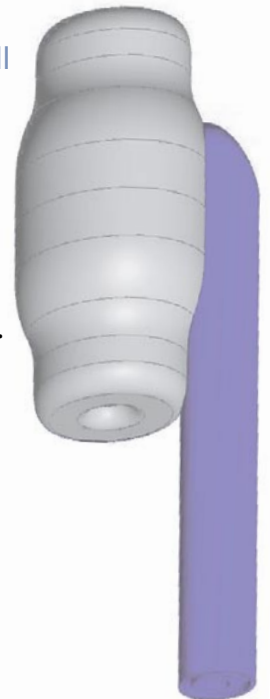
## Software

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.

### Zero External Field Inductive cell (ZEFICC)

This innovation permits the use of an inductive cell without external field. The principle is to dynamically cancel the external field of the cell. This is valuable in the presence of mooring structures.

This option may be selected by using a suffix "z" in the model number.



## Outline Specifications

Conductivity:  $\pm 0.003$  mS/cm  
 Temperature:  $\pm 0.002$  °C ITS-90  
 Depth:  $\pm 0.05\%$  full scale (standard)  
 See overleaf for full specifications

## Other Sensors

Sensors are available for a wide range of standard parameters. See the multichannel data sheet for more details.

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# Conductivity, Temperature and Depth

## General Specifications

|                 |  |
|-----------------|--|
| Case Size:      | 310 or 420mm x 65mm diameter   |
| Material:       | Acetal copolymer: to 740m<br>Titanium: to 6,600m   |
| Memory:         | 8Mbyte Flash (2,400,000 samples)<br>(May be extended to 2 Gbyte)   |
| Power:          | Four CR123A Lithium (3V) standard camera batteries or external power (6 to 15 V).<br>Battery power sufficient for 2,400,000 readings or three years of operation |
| Weight:         | 1260g in air, 389g in water (Delrin®)<br>2400g in air, 1530g in water (titanium)   |
| Calibration:    | NIST traceable standards   |
| Clock Accuracy: | ±32 seconds/year   |
| Sample Rates:   | Up to 1Hz (XR-420)<br>Up to 6Hz (XR-620)   |
| Communications: | RS-232/485 RF Modem control or GSM/CDMA modem  |
| Download Speed: | ~115,000 samples/minute RS232<br>Or USB for large memory option  |

## Ordering Information

|                     |   |              |
|---------------------|---|--------------|
| Inductive:          | XR-420CT(D)m                                      | XR-620CT(D)m |
| Electrode:          | XR-420CT(D)f                                      | XR-620CT(D)f |
| ZEFICC:             | XR-420CT(D)z                                      | XR-620CT(D)z |
| Select depth range: | 10/20/50/100/200/500/740m<br>1000/2000/4000/6000m |              |

Select fast temperature probe (~0.1s) if required

## Other Options

External serial connector  
External power connector  
Interface for modem

## Measurement Specifications

### Conductivity

|                |  |
|----------------|--|
| Range:         | 0 to 2mS/cm or 0 to 85mS/cm.<br>Extended ranges available            |
| Accuracy:      | ± 0.003 mS/cm at 35psu 15°C  |
| Drift:         | ±0.005 mS/cm over 5° to 25°C   |
| Resolution:    | <0.0005 mS/cm  |
| Time Constant: | Set by flow through cell   |
| Measurement:   | Inductive or Electrode cell<br>Zero external field inductive option. |

### Temperature

|                |   |
|----------------|---|
| Range:         | -5 °C to 35 °C Standard<br>-40°C to +50° optional             |
| Accuracy:      | ± 0.002 °C<br>(ITS-90 and NIST traceable standards)           |
| Resolution:    | <0.00005 °C   |
| Time Constant: | ~3 sec (standard)<br>~0.1 sec (option)<br>< 20 sec (internal) |

### Depth (Optional)

|                |  |
|----------------|--|
| Range:         | 10/20/50/100/200/500/740/1000/<br>2000/4000/6000m (dBar)     |
| Accuracy:      | ±0.05% full scale  |
| Resolution:    | <0.001% full scale   |
| Time Constant: | < 10 msec  |
| Sensor Type:   | Keller strain gauge<br>Option: Quartz resonant gauge ±0.015% |

For further information on sensor performance please contact RBR.

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