RBR

Your Path Through the Sea

MARINE | FRESHWATER | CRYOSPHERIC

Ten Channel Field Upgradeable Data Logger — Model XRX-420/620

XRX Series

Multichannel Loggers

The XRX series is always equipped with sensors for C,T and D, and supports a maximum of 7 additional sensors (up to 6 for the XRX with freshwater conductivity). The instrument may be configured so that further sensors can be added at any time.

The end cap is predrilled for six sensors on the face and six connectors on the rear. Any unpopulated port is supplied with a removable plug for field upgrade. The connectors are Impulse Micro-Mini Wet Pluggable series. External sensors may be clamped to the logger body or supported in a small cage.

Memory is 8MB standard, expandable to 2GB with SD card. The additional memory uses two sensor positions. Battery is 1.3Ah internal with external battery options or power supplied over the cable from the deck.

Benefits:

- Highest accuracy
- Large memory (up to 2GB)
- Up to 3 years on one battery set
- High-speed data download (USB)
- Custom sensor configuration
- Additional sensors can be added in the field
- Extremely rugged, wet pluggable connectors
- Sensors may be clamped to the logger body or used in a small cage
- Can be hand launched from a small boat

Technical

Base Logger

Internal Power:	QTY 4, 3V CR123A cells
External Power:	3AH NIMH rechargeable battery, 12AH 12 volt lithium battery
Communications:	RS-232/485 cable, telemetry, USB
Download Speed:	~115,000 samples/minute
Clock Accuracy:	±32 seconds/year
Size:	Body 500mm x 67mm diameter, end cap 150mm in diameter
Memory:	8MByte Flash (2.4M samples), up to 8GByte option
Weight:	3kg in air, 1.1kg in water
Calibration:	NIST traceable standards

Temperature

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

Depth

Range:	10/20/50/100/200/500/740m
Accuracy:	±0.05% full scale
Resolution:	<0.001% full scale
Time Constant:	<10 msec

Conductivity

Range:	0-2 mS/cm (f) or 0-80 mS/cm (m)
Accuracy:	±0.003 mS/cm calibrated at 35psu, 15˚
Drift:	~1µS/cm/month
Resolution:	<0.01µS/cm (f) or ~1µS/cm (m)
Time Constant:	Depends on cast rate. Cell length ~60mm

Ordering Information

XRX-420CTDm	XRX-420CTDf	XRX Sensor Guard
XRX-620CTDmF	XRX-620CTDfF	
Accessories:	Mooring clamps, support kits, DO sensor membranes, u/w connectors, desiccant packs.	

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Additional Sensors

The XR logger range is able to support sensors to measure Conductivity, Temperature, Depth etc. See table below. Sensors that are not specifically identified in the list can usually be supported.

Outline Specifications*				
Parameter	**Sensor Manufacturer**	**Max Depth (m)**	**Range**	**Accuracy**
Conductivity	RBR Inductive	6,600	0-70 mS/cm	±0.003
Conductivity	AMT 3 Electrode	2,000	0-2 mS/cm	±0.003
Temperature	RBR Thermometrics	10,500	-40 to +35˚C or more	±0.002
T 8, 16, 24	RBR thermistor chain	6,600	-40 to +35˚C	±0.005
Depth	Keller	10,000	Various	±0.05%
Depth	Paroscientific / Serial	10,000	Various	±0.015%
pH	AMT	1,200 / 6,000	0 to 14 pH	±0.1
ORP	AMT	1,200 / 6,000	-2 to +2 V	±0.01
DO	Oxyguard	100 / 2,000	0 to 150%	±2%
DO	Aanderaa Optode	6,000	0 to 120%	±5%
Turbidity	Seapoint Auto ranging	6,000	0 to 2,000 FTU	<±2%
Fluorometer	Seapoint Auto ranging	6,000	0.02 - 150 µg/L	<±2%
Transmissometer	Wetlabs	600 / 6,000	660, 530, 470, 370 nm	±0.1%
PAR	Licor	560	0-10,000µmol/s-m^2	<±2%
PAR (5 decade)	BioSpherical	2,000	0-5,000µmol/s-m^2	<±2%
Heading	PNI	Internal	0-360˚	±0.5
Flow	Nortek Aquadopp	2,000 / 6,000	±5m/sec	±1%
Tilt	RST Instr	Geological	±40˚	±0.01˚

This table lists some of the sensors available for the XRX-420/620 Series Logger. An external sensor should accept 12V power (or be self-powered), and either should give a voltage output or, as an option, provide serial data. The voltage output may either be low impedance (typically 0 to 5 volts) or high impedance, as from a pH or ORP electrode. Serial data may be accepted by a generic interface using a Metatable based XML code driver. Please do not hesitate to contact us for further information, including sensor performance.
* These represent the manufacturers' specifications.

Software

XRX series data loggers use fully integrated RBR Windows® compatible software. A single software program supports all functions including derived units for O2 concentration, salinity, specific conductivity, speed of sound, density anomaly, and depth. The XRX-620 series contains profiling software, and includes a programmable "wetswitch" that may be assigned to any channel, permitting multiple casts per memory and battery set.

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