



fastCTDplus Phycocyanin

Fast response multi-parameter profiler

An evolution of the miniCTD, the fastCTDplus multi-parameter profiler is designed to deliver the highest quality CTD and Phycocyanin observations at fast drop rates.

A conductivity cell designed for optimum flow-through, a fast-response thermistor temperature sensor and 0.01% pressure sensor together with a Fluorometer sensor, all synchronously sampling at up to 32Hz to deliver the highest quality profiles in a lightweight and robust package.

- Multi-parameter profiler
 - CTD, Salinity, Density, Sound Velocity
 - Phycocyanin sensor
 - Up to 32Hz sampling rate
- Optional Bluetooth connectivity
- Depth rated to 6,000m
- Dedicated PC software

Cyanobacteria (or blue-green algae) are photosynthetic bacteria that occur naturally in surface waters. Under certain conditions of light, temperature and nutrient levels cyanobacteria can multiply rapidly, forming a bloom. Some Cyanobacteria produce toxins which pose health risks for humans and animals. The EU Bathing Waters Directive therefore requires monitoring for these blue-green algae blooms.

Testing for the actual toxins is possible by means of laboratory analysis of water samples, but this can be costly and time-consuming. However, cyanobacteria contain a fluorescent pigment called Phycocyanin, which can be detected in real time using a Valeport Hyperion fluorometer.

The Hyperion uses narrow bandpass filters on both excitation and emission wavelengths to ensure that the response is specific to Phycocyanin and not affected by false positive results from normal Chlorophyll a fluorescence.

DATA SHEET

Product Details



**MULTI-PARAMETER
CTD**



OPTICAL



**SOUND
SPEED**



**DATALOG
X2 SOFTWARE**



Bluetooth
Option

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Sensors

Phycocyanin* Blue/Green Algae	
Excitation	590nm
Detection	650 nm
Dynamic Range	0-9,000 ppb 2 gain settings: 0-25, 0-9,000 software controlled
Minimum Detection (3x SD in RO water)	<0.08 ppb
Linearity	0.99 R ²
Response Time	0.03 - 2 sec
Output Rate	0.5 Hz - 32 Hz (free running) software controlled

Conductivity	
Range	0-80 mS/cm
Resolution	0.001 mS/cm
Accuracy	±0.01 mS/cm
Response	30 milliseconds

Temperature	
Range	-5 °C - +35 °C
Resolution	0.001 °C
Accuracy	±0.01 °C
Response	50 milliseconds (T1)

Pressure	
Range	10, 20, 30, 50, 100, 200, 300, 400 & 600 bar
Resolution	0.001% full scale
Accuracy	±0.01% full scale
Response	1 millisecond

Electrical

Internal	1 x D Cell 1.5V Alkaline or 3.6V Lithium
External	if fitted with a connector 9-28V DC isolated
Power	<250mW
Connector	SubConn MCBH10F (if fitted)

Physical

Materials	Titanium housing Sapphire glass optical window
Depth Rating	6,000m
Instrument Size	ø54mm x 510mm
Weight in air	2.6kg / 4.9kg including frame
Weight in water	1.5kg

Sampling Modes

Continuous	Regular and synchronous data collection from all sensors up to 32Hz.
Profile	Data is logged as the instrument descends (or rises), by a user defined pressure difference, through the water column.
Rapid	Once the instrument is set to run mode no data is logged until a programmed trigger depth is reached (e.g. 2 meters below the surface). Completely programmable, the device can be set to record down casts data only, for example, when the probe stops descending and rises by a defined amount logging is stopped.

Communications

The instrument is designed to operate autonomously. Setup and data extraction can be performed using a SubConn connector or via an optional Bluetooth connection with a PC. Multiple profiles can be recorded in the instrument by switching it on then off using the connector switch plug or magnetic switch key for Bluetooth operation. The instrument can also operate in real time or cabled comms.

Bluetooth auto-pairing and discovery make connecting to the instrument simple and robust.

Direct Reading

RS232	Up to 200m of cable
Baud Rate	38400 to 460800
Bluetooth	8 data bits, 1 stop bit, no parity, no flow control

Memory

Solid state non-volatile Flash memory	
Capacity	10 million lines of data (equivalent to 5,000 profiles to 1,000m with a 1m profile resolution)

Software

Supplied with DataLog X2 Windows based software, for instrument setup, control, data extraction and display

Ordering

Titanium Housing	
0660036T1-PC-XX	fastCTDplus Phycocyanin Profiler 6,000m with connector
0660036T1-PC-BT-XX	fastCTDplus Phycocyanin Profiler 2,000m with Bluetooth

Where

XX	Pressure sensor options 10, 20, 30, 50, 100, 200, 300, 400 & 600 Bar
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* Calibrated against Fluorescein/Rhodamine solution

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