MIDAS CTD+

Valeport applies its unique distributed processing technology to the MIDAS CTD+, resulting in a multi-parameter CTD that is essentially tailor made to suit each customer's requirements. It is able to accept any combination of a range of industry standard sensors, giving calibrated data in both autonomous and real time operations. A choice of titanium or acetal construction makes it suitable for coastal or deep water operations. Intuitive software allows a range of both simple and complex sampling regimes.

Sensors

Fitted with CTD sensors as standard, plus your choice of optional additional sensors, either remote or bulkhead mounted. The CTD+ can also operate with Valeport's water sampler system.

Sensor	Type	Range	Accuracy	Resolution
Conductivity	Inductive Cell	0 – 80mS/cm	+/-0.01mS/cm	0.002mS/cm
Temperature	PRT	-5 - +35°C	+/-0.005°C	0.002°C
Pressure	Piezo-Resistive	Up to 600Bar	+/-0.01%	0.001%
Turbidity	Seapoint STM	0 – 2000FTU	+/-2%	0.002%
DO	Clark Cell	0 – 16ml/l	+/-0.07ml/l	0.017ml/l
pH	Electrode	1 - 13	+/-0.05	0.01
Redox	Electrode	+/-1500mV	+/-1mV	0.1mV
Chlorophyll	Fluorometer	0 - 800µg/l	see Hyperion datasheet	
PAR	Biospherical	see manufacturer's datasheet		

Data Acquisition

Using the concept of distributed processing; each sensor has its own microprocessor to control sampling and calibration of readings. Each is then controlled by a central processor, which issues global commands and handles all data. This means that all data is sampled at precisely the same instant, giving superior quality profile data. It also allows additional sensor to be added or replaced in the field, without the need for factory recalibration.

Continuous:	Regular output from all sensors at 1, 2, 4 or 8Hz (the number of sensors may restrict the update rate)
Burst:	Regular sampling pattern, instrument takes a number of readings, then sleeps for a defined time
Trip/Profile:	Data is output as a chosen parameter changes by a set value, usually Pressure for profiling
Conditional:	Instrument sleeps until a selected parameter reaches a set value
Delay:	Instrument sleeps until predefined start time

Memory

Fitted with 16Mb solid state non-volatile FLASH memory. Capacity depends on sampling mode; continuous & burst modes have a single time stamp at the start of the file, trip mode (profiling) stores a time stamp with each reading. The examples are for CTD and 3 other parameters.

Continuous:	~1,400,000 data points
Profile:	>850,000 data points (60 profiles to 6000m)

Electrical

Internal:	8x D cells, 1.5V alkaline or 3.6V lithium
External:	9 – 30V DC
Power:	1.7W (sampling), <1mW (sleeping)
Battery Life:	>100 hrs (alkaline) | >250 hrs (lithium)
Connector:	SubConn MCBH10F

Communications

The instrument will operate autonomously, with setup and data download using a PC. It can operates in real time, with a choice of comms protocols for a variety of cable lengths, all fitted as standard and selected by pin choice on the output connector:

Standard	
RS232	Up to 200m, direct to serial port via USB adapter
RS485	Up to 1000m, addressable half duplex comms
Baud Rate:	2400 - 115200

Optional FSK	
2 wire power & comms up to 6000m cable (cable dependent)	
Protocol:	8 data bits, 1 stop bit, No parity, No Flow Baud Rate fixed at 38400

Physical

Materials:	Titanium\ Acetal housing Polyurethane & acetal sensor components, Stainless steel (316) cage
Depth Rating:	6000m (Titanium), 500m (Acetal)
Instrument Size:	150mmØ x 590mm long
Cage Size:	210mmØ x 660mm long
Weight (in cage):	20kg (titanium), 12kg (acetal)
Shipping guide:	82 x 62 x 36cm | 38kg (titanium) | 30kg (acetal)

Software

System is supplied with DataLog Pro PC software, for instrument setup, control, data download and display
DataLog Pro software is license free

Sensors Options

In addition to the standard Conductivity, Temperature and Pressure sensors, additional sensors available are, but not limited to, the following:

- Turbidity
- pH Sensor
- PAR
- Redox (ORP)
- Transmissometer
- Chlorophyll Fluorometer
- DO Sensor (Clark Cell \ Optical)
- Water Sampler interface

Contact Valeport for specific information on optional sensors and configurations

Ordering

0606002	MIDAS CTD+ (titanium or acetal), supplied with: • Deployment cage and SubConn switch plug • 3m communications lead and USB adapter • DataLog Pro software • Manual, tool kit and transit case.

Datasheet Reference: MIDAS CTD+ | March 2018

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