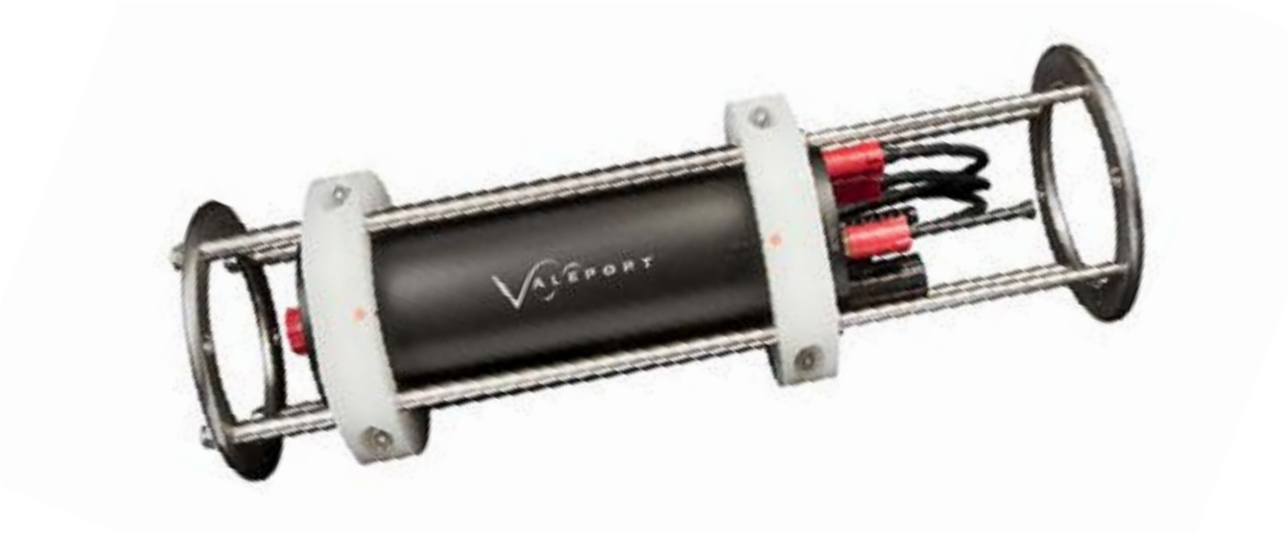
MIDAS CTD+



Valeport applies its unique distributed processing technology to the MIDAS CTD+, resulting in a multiparameter CTD that is essentially tailor made to suit each customer's requirements. The instrument 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, and the intuitive software allows a range of both simple and complex sampling regimes..

Specifications

Product	MIDAS CTD+
Country of origin	UK
Manufacturer	Valeport Limited

Sensors

The MIDAS CTD+ is 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, described on a separate brochure.

Conductivity

Sensor	Type	Range	Accuracy	Resolution
Conductivity	Inductive Cell	0 – 80mS/cm	+/-0.01mS/cm	0.002mS/cm
Temperature	PRT	-5 - +35oC	+/-0.01oC	0.005oC
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 - 150µg/l	±0.03µg/l	0.005%
PAR	LICOR	10,000µmol/s/m²	+/-1%	0.5µmol/s/m²

Data Acquisition

The MIDAS CTD+ uses the concept of distributed processing, where each sensor has its own microprocessor controlling sampling and calibration of readings. Each of these is then controlled by a central processor, which issues global commands and handles all the 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.

Sampling modes

Continuous	Regular output from all sensors at 1, 2, 4 or 8Hz
Burst	Regular sampling pattern, where 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

Communications

The instrument will operate autonomously, with setup and data extraction performed by direct communications with PC before and after deployment. It also operates in real time, with a choice of communication 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 cable, direct to serial port via USB adaptor
RS485	Up to 1000m cable, addressable half duplex comms
Options **FSK**	2 wire power & comms up to 6000m cable (cable dependant)
Baud Rate	2400 - 115200 (FSK fixed at 19200, USB 460800)
Protocol	8 data bits, 1 stop bit, No parity, No flow contro

Memory

The MIDAS CTD+ is fitted with 16Mb solid state non-volatile FLASH memory. Total 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. Each parameter uses 2 bytes per sample and a time stamp uses 7 bytes. The examples are for an instrument measuring CTD and 3 other parameters.

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

Electrical

Internal	8 x D cells, 1.5v alkaline or 3.6v lithium
External	9 - 30vDC
Power	1.7W (sampling), <1mW (sleeping)
Battery Life	>100 hours operation (alkaline) >250 hours operation (lithium)
Connector	Subconn MCBH10F

Physical

Materials	Titanium 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	82 x 62 x 36cm, 38kg (titanium), 30kg (acetal)

Software

System is supplied with DataLog Pro Windows based PC software, for instrument setup, control, data extraction and display. DataLog Pro is license free.

Ordering

0606002	MIDAS CTD+ (specify titanium or acetal), supplied with deployment cage, Subconn switch plug, 3m communications lead, USB adaptor, DataLog Express software, manual , tool kit and transit case.
Options **0400021**	 Turbidity sensor
0400017 **04000560**	DO Sensor pH Sensor
04000562 **0400023**	Redox (ORP) Sensor Chlorophyll Fluorometer
0400025	PAR Sensor