MIDAS CTD+

Valeport applies its unique distributed processing technology to the MIDAS CTD+ (formerly known as the Model 606+), 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.

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.

Sensor	Type	Range	Accuracy	Resolution
Conductivity	Inductive Cell	0 - 80mS/cm	±0.01mS/cm	0.002mS/cm
Temperature	PRT	-5 to +35°C	±0.005°C	0.002°C
Pressure	Strain Gauge	Up to 600 Bar	±0.04%	0.005%
Pressure	Piezo-Resistive	Up to 600 Bar	±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	2 - 12	±0.05	0.01
ORP(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

Other sensors also available - please consult Valeport.

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.

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

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 Titanium MCBH10F

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, some fitted as standard and selected by pin choice on the output connector:

Standard
RS232	Up to 200m cable, direct to serial port.
RS485	Up to 1000m cable, addressable half duplex comms
RS422	Up to 1500m cable, addressable full duplex comms

Options
FSK	2 wire power & comms up to ~3500m cable (maximum cable length depends on cable specification - consult Valeport for confirmation)
USB	For rapid upload or laptops without serial port
Baud Rate:	2400 - 115200 (FSK fixed at 19200, USB 460800)
Protocol:	8 data bits, 1 stop bit, No parity, No flow control

Physical

Materials;	Titanium or acetal housing, polyurethane & acetal sensor components, stainless steel cage
Depth Rating:	6000m (Titanium), 500m (acetal)
Instrument Size:	150mmØ x 590mm long
Weight:	15kg (titanium), 9kg (acetal)
Shipping:	860 x 530 x 310mm, 31kg (titanium),25kg (acetal)

Software

System supplied with DataLog 400 Windows based PC software, for instrument setup, data extraction and display. DataLog 400 is licence free.

Ordering

0606002	MIDAS CTD+ (specify titanium or acetal), supplied with 3m communications lead, software, manual and transit case.
0400021	Turbidity sensor
0400017	DO Sensor
0400018	pH Sensor
0400019	Redox (ORP) Sensor
0400023	Chlorophyll Fluorometer
0400025	PAR Sensor

As part of our policy of continuing development, we reserve the right to alter at any time, without notice, all specifications, designs, prices and conditions of supply of all equipment.

Datasheet Reference Number: MIDAS CTD+ v1A