CTD 75 | CTD 75 M

Medium Sized Multiparameter Probe

High accuracy probe for limnological and oceanographic measurements of physical, chemical, and optical parameters

- Depth: up to 1000 m
- Up to 8 Sensors
- Microprocessor controlled
- Online measurement or data storage in standard memory card at user programmable intervals (128 Mb)
- Non-corrosive titanium housing
- Internal battery or external power supply

Standard Sensors:
Conductivity
Temperature
Pressure

Optional Sensors:
Turbidity
pH
Redox
Dissolved oxygen
Chlorophyll A

External Third Party Sensors:
PAR sensors
Transmissiometers
Fluorometers
Optical oxygen sensors

Recording Modes
Continuous mode:
All data sets are stored with the maximum possible data rate.

Time mode:
Data sets are stored only at programmable intervals with several selectable schemes.

Increment Mode:
Data sets are stored at programmable depth increments, up to 255 files can be stored without the need for data retrieval in between.

Online Modes:
RS232 – on multiconductor cables
Optional: FSK-on single-conductor cable (coaxial cable)

Distributor:

Sea & Sun Marine Tech is member of Sea & Sun Technology

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Figure: 50 % of original size

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Depending on configuration all sensors are protected by titanium protection frame that vary in size

Sea & Sun Technologies CTD 75 M offers excellent reliable performance in limnological, oceanographic and offshore areas. The probe is suitable for a maximum depths of 1000 m. The CTD 75 M is a high accuracy probe that measures conductivity, temperature and pressure as a standard configuration. Furthermore the manufacturer can easily configure it for a wide range of auxiliary sensors. More detailed information on the sensors can be found in the table below.

Sea & Sun Technologies CTD 75 M records data at programmable time or depths intervals whereas the data are stored in a non-volatile FLASH memory. A standard RS-232 connection is used for programming, data output and data acquisition. Data is available as RS 232 signal and optional in online mode as digital FSK signal modulated on constant current.

A microprocessor controls 16 bit analog to digital converters which in total have 8 channels thus allowing the probe to be equipped with 8 sensors. Additionally the CTD 75 M is equipped with an USB Port for fast data retrieval and configuration in laboratory. Memory size 128 Mb.

All calculations correspond to the UNESCO formulas. A Standard Data Acquisition Software package "SST-SDA" compatible for Windows 7/XP/Mac provides probe configuration, probe service, data acquisition and offers visualization of data via graphs. Also an export of data to ASCII is possible.

An underwater bulkhead connector SUBCONN MCBH8M is used for communication (configuration and data retrieval) and external power supply. The power supply of the probe is activated by touching a reed contact with a magnetic rod. LED displays power supply status and optical control of memory access.

Battery Endurance

The probe can be powered by internal batteries (C-cells) or DC-Power-supply (9–15 V). Battery endurance varies widely depending on sensor configuration, temperature, cut-off voltage, and operating mode.

Continuous operating times

(referred to 21 °C):

CTD 75 M	
with C, T, D, pH, ORP, DO*	400 hours
with turbidity	300 hours
with Cyclops-7	100 hours

DO* membrane covered model (Oxyguard, AMT). Connection of further third party instruments and lower environmental temperature reduce operation time.

Standard sensor configuration

is Conductivity, Temperature and Pressure. Further 5 channels can be equipped with different configurations.
CTD 75 M offers high flexibility by configuring the probe individually.

Dimensions and weight

Ø (housing)	75 mm
Length (housing)	approx. 385 mm
Length (overall)	approx. 654 mm
Weight (in air)	approx. 3.5 kg, including battery

Sensors	1000 m Probe	Principle	Range	Accuracy	Resolution	Response time (63%)
Conductivity	x	7-pole-cell	0–70 mS/cm	± 0.003 mS/cm	0.001 mS/cm	150 ms
Temperature	x	Pt 100 4 pole	–2 – +36 °C	± 0.002 °C	0.001 °C	150 ms
Pressure (depth)	x	piezo-resistive	various ranges: ≤ 1000 dbar	± 0.1 % full scale	0.002 % full scale	150 ms
pH AMT, Hamilton, Mettler Toledo, Schott; H_2S resistant or non-H_2S resistant	x	combined electrode	2 – 10 pH	± 0.02 pH	0.0002 pH	1 s
Redox AMT, Mettler Toledo; H_2S resistant or non-H_2S resistant	x	combined electrode	± 2 V	± 10 mV	1.0 mV	1 s
Seapoint Sensors (e.g. Turbidity Bulkhead, Chlorophyll Fluorometer)	x	90° scatterance	0–750 FTU		0.1 FTU	100 ms
DO Oxyguard	x	Clark electrode	0–250 % sat	± 3 %	0.1 %	3 sec (63%), 10 sec (98%)
DO AMT, fast	max. 100 m	Microsensor	0–200 % sat	± 2 %	0.1 %	< 1 s
Optical DO Aanderaa	x	Fluoresence lifetime	0–150 % sat	DO: < 5%,T: 0,1°C		< 25 s
Optical DO SST	x	Luminescence	0–200 % sat	± 2 %	0.4 %	approx. 2 s
PAR, Biospherical Instruments Inc.	x	Scalar irradiance				
PAR LI-COR LI193SA	max. 350 m	Spherical quantum sensor				
PAR, LI-COR LI192SA	max. 560 m	Quantum sensor				

Cyclops-7-Family Max. depth 600 m Turbidity, Chlorophyll a; Blue Green Algae, Phycocyanine, Phycoerithrine, CDOM; Fluorescein dye; Rhodamin dye; Crude Oil; Refined Fuels and BTEX; Optical Brightener

The CTD 75 M will be delivered in a compact, robust, and water resistant plastic case including cables, connection plugs, instruction manual, and a software CD.