

# CTD60M – Probe



The **CTD60M** is a high quality, high accuracy multiparameter logging probe for oceanographic and limnologic measurement of physical, chemical and optical parameters in up to 2000 m water depth. SST's **CTD60M** runs from an internal battery and records data at programmable time intervals or pressure levels in a non volatile FLASH memory with a capacity of 8 Mbytes. A standard RS-232 interface is used for programming, telemetry output and data read-out. The supplied Standard Data Acquisition Software package "**SST-SDA**" for Win® 95 to XP includes the handling of the logging process and the display of online or recorded data with a common graphic user interface.

The **CTD60M** allows the simultaneous measurement of the following parameters:

- pressure (depth)
- temperature
- conductivity
- pH
- Redox (ORP)
- dissolved oxygen
- light transmission
- light scattering (90°)

Other sensors on request.

All the sensors are protected by a titanium cage.

## Materials

- μ housing: titanium
- μ stainless steel
- μ connector: titanium, neoprene

## Dimensions and weights

- L (housing).approx. 350 mm
- Ø (housing)..... 60 mm
- L (overall)...approx. 620 mm
- W (in air).....approx. 3 kg
- Internal battery: Lithium 10Ah



Figure:  
CTD60M multiparameter probe  
with 3 external sensors

## Main Features

- μ low weight
- μ easy handling
- μ LED on top indicating the current state of the probe
- μ max. 5 internal sensors
- μ max. 3 external sensors
- μ corrosion free housing
- μ depth range up to 2000 m
- μ control and operation of water samplers and plankton nets as option in the direct reading mode
- μ SDA data acquisition software runs under Windows® 95/98/Me/2000/XP
- μ calculation according to UNESCO formulas

## Recording modes:

### time mode

data sets are stored at programmable time intervals with several selectable schemes.

### pressure mode

data sets are stored at programmable depth increments.

### Continuous mode

every data set is stored

More than 200 casts can be stored at profiling and continuous mode as long as the FLASH memory or battery capacity is sufficient.

The start of a cast is possible using a magnet, the probe need not be connected to a computer. Up to 250000 CTD data sets can be recorded, the actual number depends on the selected storage options and the number of sensors adapted to the probe.

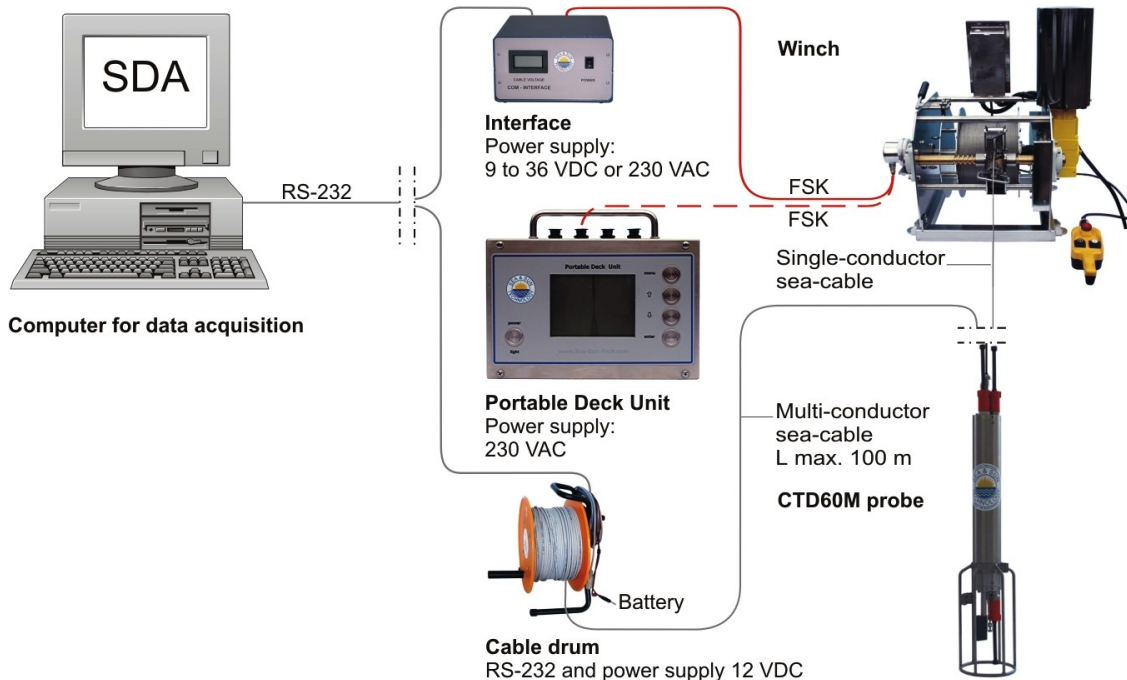
The probe is equipped with a precision microprocessor - controlled 16 bit analogue to digital 16 channel converter. Data is available as RS-232 signal (multi-conductor sea-cable) and as digital FSK signal modulated on constant current (single conductor sea-cable).

The probe can be powered by battery or DC-power supply (9 to 18 Volt) when using RS-232 output (3 wire connection for short distances) or by constant current with FSK telemetry output (coaxial connection) for longer distances. An interface for constant current supply is available (See picture below).

### Standard sensor equipment

Sensors	Principle	Range	Accuracy	Resolution	Response time
Pressure	piezo-resistive	10, 20, 50 bar	± 0,1 % f.s.	0,002 % f.s.	20 ms
Temperature	Pt 100	- 2 ... + 32 °C	± 0,01 °C	0,001 °C	100 ms
Conductivity	7-pole cell	0 ... 60 mS/cm	± 0,010 mS/cm	0,002 mS/cm	100 ms
Conductivity	7-pole cell	0 ... 6 mS/cm	± 0,005 mS/cm	0,0001 mS/cm	100 ms
Oxygen	Clark-microcath.	0 ... 150 % sat.	± 2 % sat.	0,1 % sat.	10 s (63 %)
pH	single rod electr.	4 ... 10 pH	± 0,1 pH	0,002 pH	1 s
Redox	single rod electr.	± 2 Volt	± 20 mV	1,0 mV	1 s
Transmissiometer	180°	0 ... 100 %	± 1 %	0,1 %	
Nephelometer	90°	0 ... 1000 NTU		0,1 NTU	

### System configuration in direct reading mode: FSK telemetry and RS-232



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