



CTD90M – Probe

The **CTD90M** is a high quality, high accuracy multiparameter logging probe for oceanographic and limnologic measurement of physical, chemical and optical parameters in up to 500 m water depth. SST's **CTD90M** runs from an internal battery and records data at programmable time intervals or pressure stamps in a non volatile FLASH memory with a capacity of 64 Mbytes. A standard RS-232 interface is used for programming, telemetry output and data extraction. 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 shared graphic user interface.

The **CTD90M** allows the simultaneous measurement of 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

housing: titanium
stainless steel
connector: titanium, neoprene

Dimensions and weights

L (housing).approx. 350 mm
Ø (housing)..... 90 mm
L (overall).approx. 600 mm*
W (in air). approx. 4 kg*
Internal batteries: alkaline, 8 Ah

(*) without current meter

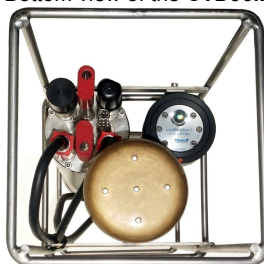
Top view of the **CTD90M**



Side view of the **CTD90M**



Bottom view of the **CTD90M**



Main Features

- low weight
- easy handling
- optical window indicating the actual state of the probe
- max. 9 bottom mounted sensors
- max. 4 external units
- corrosion free housing
- depth range up to 500 m
- control and operation of water samplers and plankton nets as option in the direct reading mode
- SDA data acquisition software runs under Windows® 95/98/Me/2000/XP
- calculation according to UNESCO formulas

Recording modes:

Continuous mode

each data set is stored

time mode

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

pressure mode

data sets are stored at programmable depth stamps.

More than 100 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 must not be connected to a computer.

Up to 2500000 CTD data sets can be recorded, the actual number depends on the selected storage options and the number of sensors adapted to the probe.

Figure: **CTD90M** probe equipped with the sensors C, T, D, O₂, turbidity, chlorophyll a and inductive current meter

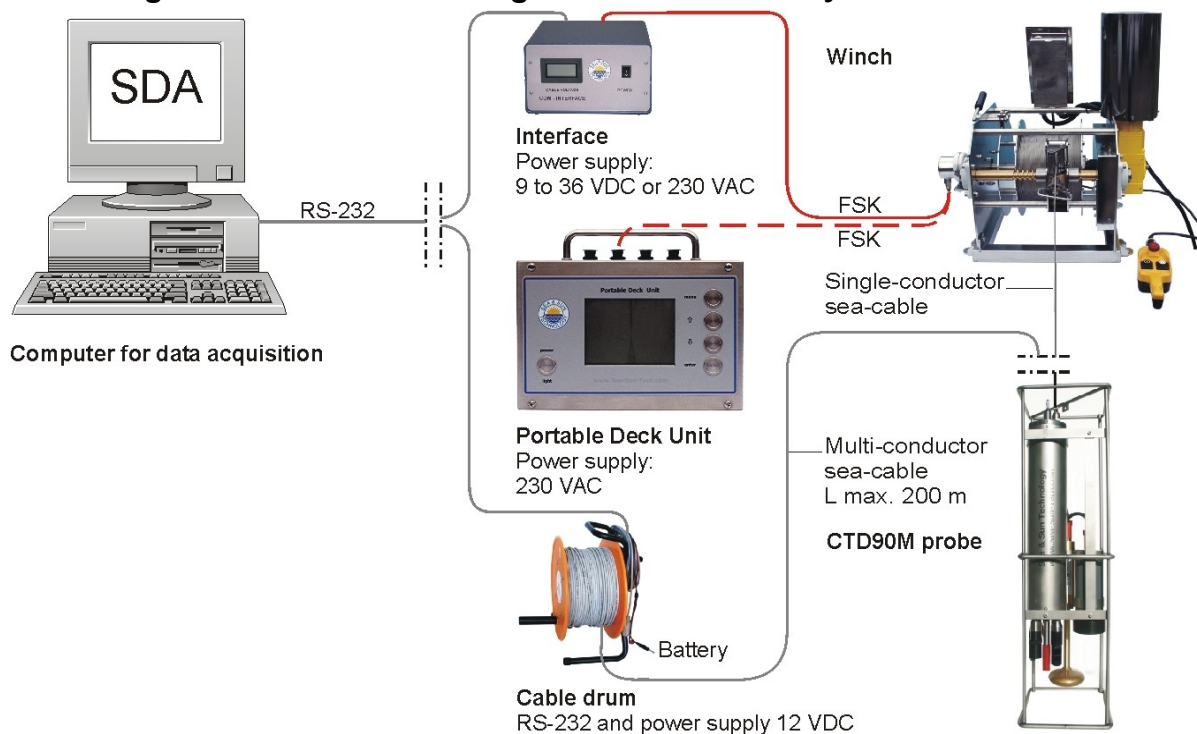
The probe is equipped with a precision microprocessor controlled 16 bit analogue to digital 16 channel converter. Data is available as RS-232 signal (multi-conductor sea-cable) and as digital FSK signal modulated on constant current (single conductor sea-cable).

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	± 0,005 °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 %)
		0 ... 20 mg/l	± 2 % sat.	0,1 % sat.	30 s (90 %)
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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In view of our policy of continual improvement, the design and specifications of our products may vary from those illustrated in this brochure.