

# CTD 48 | CTD 48 M

Online and Memory Probe



Sea & Sun  
Marine Tech



French Northpole expedition 2012

Small Multiparameter Probe

Figure:  
Original size

# CTD 48 | CTD 48 M

## Online and Memory Probe

The CTD 48 M is a high quality, high accuracy 4 channel probe for oceanographic and limnologic measurement of conductivity, temperature, depth and one optional parameter in depth up to 6000 m.

SST's CTD 48 M 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 8 Mbytes. A standard RS-232 interface is used for programming and data extraction. The supplied Standard Data Acquisition Software package "SST-SDA" for Win® 95 to Win 7 includes the handling of the logging process and the display of online or recorded data with a shared graphic user interface. The CTD 48 M allows the simultaneous measurement of 4 of the following parameters: pressure (depth), temperature, conductivity, pH, Redox (ORP), dissolved oxygen, turbidity.

### 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 255 casts can be stored at profiling and continuous mode as long as the FLASH memory or the 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 400.000 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 4 channel 20 bit (reduced to 16 bit) analog to digital converter. Data is available as RS-232 signal (multi-conductor sea-cable) to a PC. The probe can be powered by battery or DC-power supply (7 to 15 Volt) when using RS-232 output.

### On demand

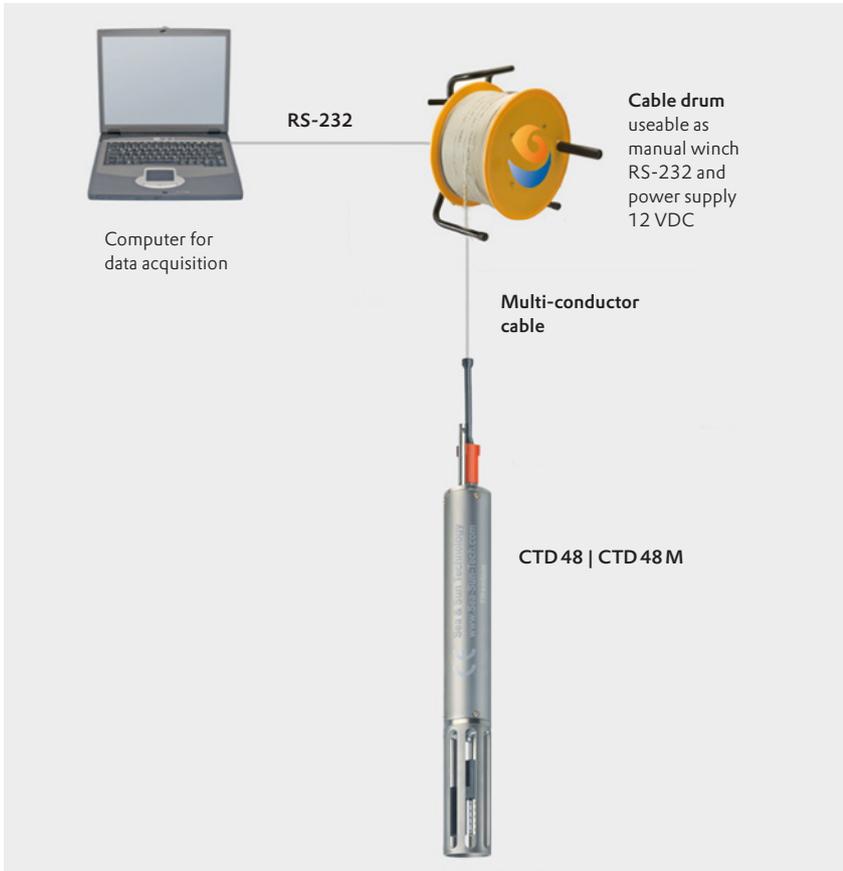
Environmental test certificate for temperature and vibration according to GL specification fulfilled.



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

Sensors	500 m Probe	2000 m Probe	6000 m Probe
<b>Conductivity</b>	x	x	x
<b>Temperature</b>	x	x	x
<b>Pressure (depth)</b>	x	x	x
<b>pH</b> AMT, Hamilton, Mettler Toledo, Schott; H <sub>2</sub> S resistant or non-H <sub>2</sub> S resistant	x	x	–
<b>Redox</b> AMT, Mettler Toledo; H <sub>2</sub> S resistant or non-H <sub>2</sub> S resistant	x	x	–
<b>Seapoint Sensors</b> (e.g. Turbidity Bulkhead, Chlorophyll Fluorometer*)	x	x	–
<b>DO</b> Oxyguard	x	x	–
<b>DO</b> AMT, fast	max. 100 m	max. 100 m	–

\* not possible for the memory version



	Principle	Range	Accuracy	Resolution	Response time (63%)
	7-pole-cell	0 – 70 mS/cm	± 0.003 mS/cm	0.001 mS/cm	150 ms
	Pt 100 4 pole	–2 – +36 °C	± 0.002 °C	0.001 °C	150 ms
	piezo-resistive	various ranges: < 6000 dbar	± 0.1 % full scale	0.002 % full scale	150 ms
	combined electrode	2 – 10 pH	± 0.02 pH	0.0002 pH	1 s
	combined electrode	± 2 V	± 10 mV	1.0 mV	1 s
	90° scatterance	0 – 750 FTU		0.1 FTU	100 ms
	Clark electrode	0 – 250 % sat	± 3 %	0.1 %	3 s (63%), 10 s (98%)
	Microsensor	0 – 200 % sat	± 2 %	0.1 %	< 1 s

# CTD 48 | CTD 48 M

## Online and Memory Probe

- titanium housing  $\varnothing$  48 mm
- depth range CTD 48 and CTD 48 M up to 6000 m, other depths ranges on request
- 20 bit AD Converter
- internal memory and/or FSK mode RS 232/485 output
- internal battery
- control LED
- easy handling
- low weight
- calculation according to UNESCO formulas



### Dimensions

$\varnothing$ (housing)	48 mm
Length (housing)	appr. 240 mm
Length (overall)	appr. 450 mm

### Material

Housing	titanium
Weight (in air)	appr. 1.5 kg

### Standard models are:

1. CTD with one additional parameter
2. H<sub>2</sub>S-probe with P, T, pH

### Electrical specifications

power	9–15 VDC
current consumption	30 mA
serial port	RS 232
data transmission	4–5 CTD sets/s
battery	Lithium C 3,6 V or Alkaline C 1,5 V
continuous operation time (depends on ambient temperature)	Lithium appr. 450 h Alkaline appr. 150 h

Distributor:

Sea & Sun Marine Tech  
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