CTD 90 | CTD 90 M

Multi Parameter Probe

Sea & Sun
Marine Tech

Figure:
50% of original size

Highly accurate system
for oceanographic and
limnological applications

CTD 90 | CTD 90 M

Multi Parameter Probe

The CTD 90 is a high quality, high accuracy multi parameter probe for oceanographic and limnological measurements of physical, chemical and optical parameters up to a depth of 6000 m.

The probe can be equipped with a pressure sensor plus eight further sensors on the bottom cap. The numbers of sensors can be extended by connecting external units like fluorometers, currentmeters or other devices via underwater cable connection to the top cap (not possible for the memory version).
The system is able to control and operate motor driven water-sampler rosettes (Hydro-Bios) in on- and offline mode.
The CTD 90 is mainly designed for portable applications where low weight and easy handling are important features of the employment.
The CTD 90 probe is equipped with a precision microprocessor controlled 20 bit (reduced to 16 bit) analog to digital converter and has 16 channels.
Memory size 128 Mb.

Data is available as RS-232 signal (multi-conductor cable) and as digital FSK signal modulated on constant current (single conductor cable).
The probe can be powered by battery or DC-power supply (10 to 16 Volt) when using RS-232 output or by constant current with FSK output (coaxial connection) for longer distances. An interface for constant current supply is available.
A data acquisition program running under Windows XP/7/Mac and Vista for display and calculation of the physical values is part of the system.
All calculations correspond to the current UNESCO formulas.

The CTD 90 M will be delivered in a compact, robust, and water resistant plastic case including cables, connection plugs, instruction manual, and a software CD.

Standard Sensor Equipment (other external sensors on request)

Sensors	100 m Probe	600 m Probe	1000 m Probe	6000 m Probe	
Pressure temperature compensated material: Hastelloy	x	x	x	x	
Temperature	x	x	x	x	
Conductivity	x	x	x	x	
Conductivity	x	x	x	x	
Fast AMT Oxygen	x	–	–	–	
DO Oxyguard	x	x	x	–	
Optical DO SST					
pH	x	x	x	x	
Redox	x	x	x	x	
Turbidity	x	x	x	x	
Currentmeter + compass	x	x	x	–	
H_2S	x	–	–	–	
Fluorometer Cyclops-7	x	x			

(e.g. Chlorophyll A; Blue Green Algae, Phycocyanine, Phycoerithrine, CDOM; Fluorescein dye; Rhodamin dye; Turbidity; Crude Oil; Refined Fuels and BTEX; Optical Brightener)

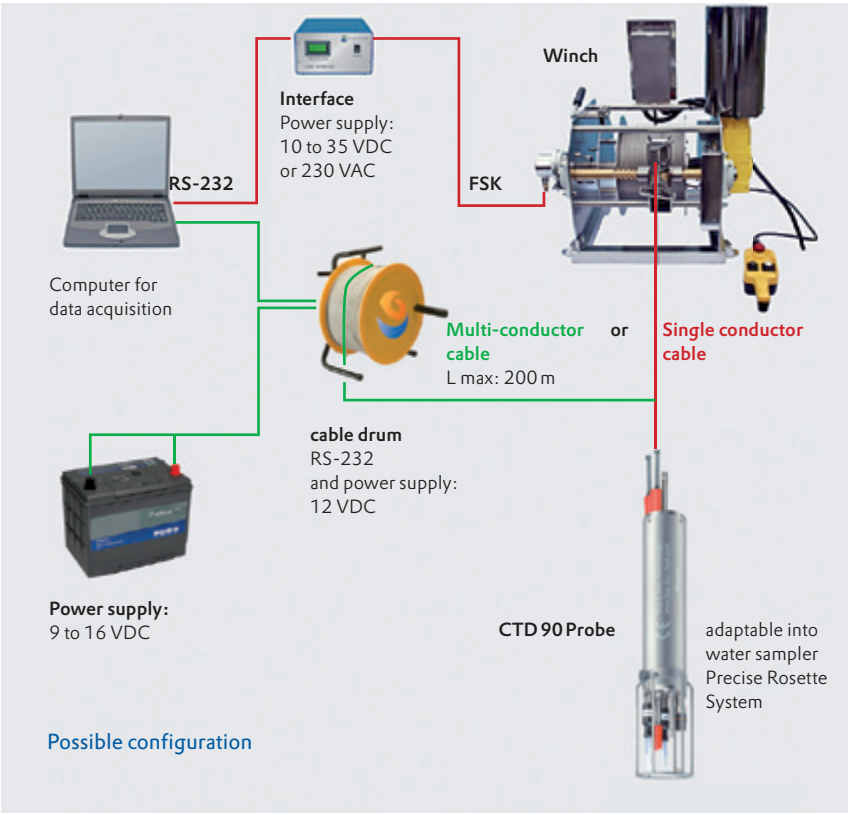


Material

Housing	titanium

Dimensions and weight

Ø (housing)	90 mm
Length (housing)	approx. 410 mm
Length (overall)	approx. 600 mm
Weight (in air)	approx. 6.0 kg, including battery



Possible configuration

Principle	Range	Accuracy	Resolution	Response time (63%)
piezo-resistive	0-2.5, 10, 20, 50, 100, 200, 400, 600 bar	± 0.1 % full scale	0.002 % full scale	150 ms
PT 100 4 pol	- 2 – + 36 °C	± 0.002 °C	0.001 °C	150 ms
7-pole platinum cell	0–70 mS/cm	± 0.003 mS/cm	0.001 mS/cm	150 ms
7-pole platinum cell	0–7 mS/cm	± 0.003 mS/cm	0.0001 mS/cm	150 ms
Calvanic microsensor	0–200 % sat 0–20 mg/l	± 2 % ± 2 %	0.01 % sat 0.01 % sat	> 200 ms
Clark electrode	0–250 % sat	± 3 %	0.1 %	3 s (63%) 10 s (98%)
Luminescence	0–200 % sat	± 2 %	0.01 to 0.4 %	2 s
single rod electr.	2–10 pH	± 0.02 pH	0.0002 pH	1 s
single rod electr.	± 2 V	± 20 mV	1.0 mV	1 s
90°	0–1000 FTU Linear		0.1 NTU	100 ms
inductiv	± 2.00 m/sec			
Amperometric micro-sensor	10 µg/l – 3 mg/l 50 µg/l – 10 mg/l 500 µg/l – 50 mg/l	2 % of	< 0.1 %	< 1s

CTD 90 | CTD 90 M

Multi Parameter Probe

Highly accurate system for oceanographic and limnological applications

- depth range up to 6000 m
- up to 16 channels
- control and operation of water-samplers either on- or offline
- 20 bit AD converter
- FSK / RS 232 output
- calculation according to UNESCO formulas
- titanium housing Ø 90 mm
- easy handling
- low weight

Distributor:

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

Sea & Sun Technology GmbH
Arndtstrasse 9–13 • 24610 Trappenkamp • Germany
Tel: +49 • 4323 • 910 913 • Fax +49 • 4323 • 910 915
e-mail@sea-sun-marine-tech.com
www.sea-sun-marine-tech.com