CTD48M
Online and Memory Probe

Sea & Sun
Technology

CTD48M is a very small multiparameter probe for
precise measurements of pressure, temperature, conductivity
and one optional parameter up to 6000 m.

Main features:
- depth range up to 6000 m
- low weight
- easy handling
- non-corrosive titanium housing
- up to 4 sensors on the bottom cap
- online measurement or memory mode
- internal standard battery or external
  power supply
- data acquisition software for various
  versions of Microsoft Windows
- calculations according to UNESCO
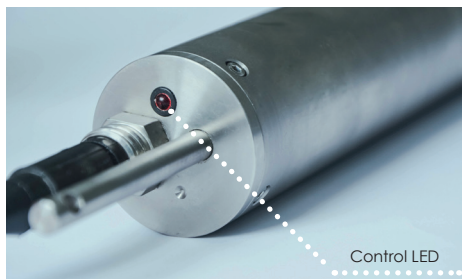 formulae

sensors: max. 4
on the bottom cap

standard sensors:
- Conductivity (C)
- Temperature (T)
- Pressure (D)

additional sensors:
- Oxygen
- Turbidity
- pH
- Redox (ORP)

MADE IN GERMANY

LIGHT WEIGHT

TITAN HOUSING

STANDARD BATTERY SUPPLY

ISO-9001 CERTIFIED

INCL. EGI. CONSULTING

20 YEARS IN BUSINESS

Control LED

Titanium protection cage

Temperature sensor

The CTD48M is a high quality, high accuracy 4 channel probe for oceanographic and limnological measurement of conductivity, temperature, pressure and one optional parameter for depth up to 6000 m.

The probe is equipped with a precision microprocessor-controlled 4 channel 20 bit analog to digital converter.

Software:

The supplied Standard Data Acquisition Software package "SST-SDA" includes the handling of the logging process and the display of online or recorded data with a shared graphical user interface. The "SST-SDA" calculates the physical values from the raw values supplied by the probe and the associated calibration coefficients. Salinity, density, sound velocity and depth will be calculated by using the UNESCO Formula.
The "SST-SDA" is a part of our shipment.

Memory

Data is available as RS-232 signal (multi-conductor sea-cable) to a PC.

More than 255 casts can be stored at profiling and continuous mode as long as the flash memory or the battery capacity is sufficient.

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.

CTD48M runs from an internal battery and records data at programmable time intervals or pressure stamps in a non-volatile FLASH memory with a capacity 8 Mbytes**.**

Recording modes

- Continuous mode: each data set is stored.
- Time mode: data sets are only stored at programmable intervals with a choice of several schemes.
- Increment mode: data sets are stored at programmable depth stamps.
- Online mode (RS-232).

The probe power supply is activated by touching a reed contact with a magnetic rod. LED displays power supply status and optical control of memory access.

Electrical specifications:
- Supply voltage: 9…30V DC
- Power consumption: approx. 0.5 W (sensor-dependent)
- Serial sampling rate: RS-232
- Data sampling rate: 5 CTD sets/s
- Connector: SUBCONN MCBH5M Ti

Mechanical specifications:

Materials:
Housing: titanium, grade 2 (up to 2000 m), titanium grade 5 (up to 6000 m)
Connector: titanium, neoprene

Dimensions and weights:
Length (housing):
- 240 mm (probes up to 2000 m)
- 260 mm (probes up to 6000 m)
Length (protection frame): 130 mm
Length (overall, with connector):
- approx. 450 mm (probes up to 2000 m)
- approx. 470 mm (probes up to 6000 m)
Diameter (housing): 48 mm
Weight (in air): approx. 1.2 kg

All calculations correspond to the current UNESCO formulae.

PC requirements:
- Operating system: Microsoft Windows (all versions)
- Interface: USB or RS-232

We would be pleased to make an offer according to your requests and requirements.

Equipment

1. Sea & Sun DataWatch
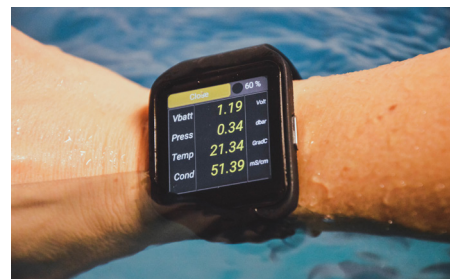2. Bluetooth® Cable Drum
3. Cable Drum
4. Winch
5. Cable

Ordering:

30200001	CTD48M up to 2000 m
30200003	CTD48M up to 6000 m

sensors and equipment available on request

Standard sensors:

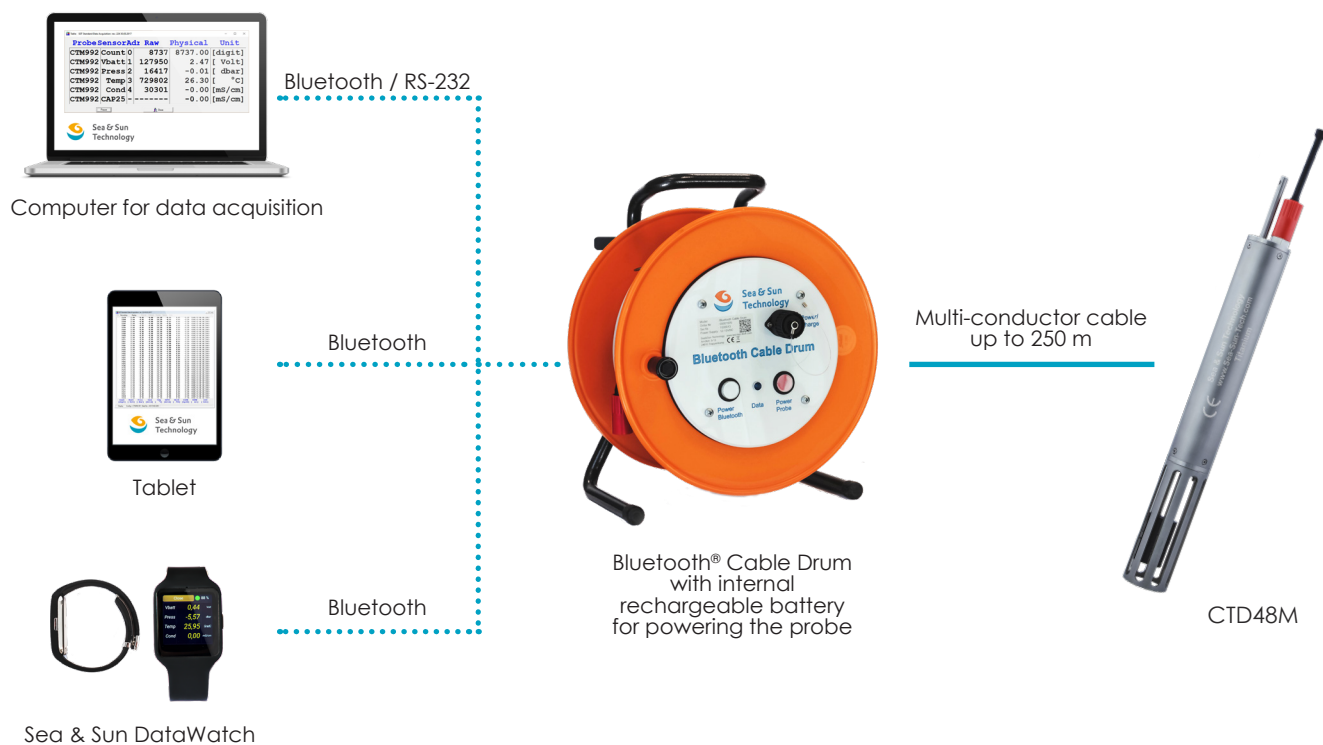| Sensor	Principle	Range	Accuracy	Resolution	Response time
Pressure (depth)	piezo resistive	5, 10, 20, 50, 100, 200, 400, 600 bar	up to 0.05 % full scale in the range of −5...35°C	0.002 % full scale	150 ms
Temperature	Pt 100 4-pole	-2 – 36 °C -2 – 60 °C	± 0.002 °C ± 0.005 °C	0.0005 °C 0.0005 °C	150 ms 150 ms
Conductivity	7-pole-cell	0 – 1 mS/cm 0 – 6 mS/cm 0 – 10 mS/cm 0 – 70 mS/cm	± 0.002 mS/cm	0.0005 mS/cm	150 ms
		0 – 200 mS/cm 0 – 300 mS/cm	± 0.010 mS/cm	0.005 mS/cm	150 ms

Additional sensors:

Sensor	Principle	Range	Accuracy	Resolution	Response time
pH (standard or H$_2$S resistant)	combined electrode	4 – 10 pH 0 – 14 pH	± 0.02 pH	0.0002 pH	1 s
Redox (standard or H$_2$S resistant)	combined electrode	± 2 Volt	± 20 mV	1.0 mV	1 s
Oxygen	clark electrode	0 – 250 %	± 3 % sat.	0.1 % sat.	3 s (63 %) 10 s (90 %)
Fast Oxygen*	clark electrode	0 – 150 %	± 2 % sat.	0.1 % sat.	200 ms (90%)
Turbidity	90 ° back scatter	0 – 25 FTU 0 – 125 FTU 0 – 500 FTU 0 – 4000 FTU **		0.1 FTU / NTU	100 ms

* max. depth 100 m
** output is non-linear above 1250 FTU

Possible configuration:

Bluetooth / RS-232

Computer for data acquisition

Bluetooth

Tablet

Bluetooth

Sea & Sun DataWatch

Bluetooth® Cable Drum with internal rechargeable battery for powering the probe

Multi-conductor cable up to 250 m

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Delivery

The CTD48M will be delivered in a compact, robust and water resistant transport case including cables, connection plugs, instruction manual, USB stick with software, etc.

O-ring

Software

Battery

T-handle hexagon key

Silicone grease

Instruction manual

Configuration cable

Magnetic rod

RS-232 to USB converter

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