



Datasheet Multi Parameter Probe CTD (450 300)



Multi Parameter Probe MPP

Online and memory mode

Long-distance telemetry up to 10 Hz with cable lengths >10 km
OceanLab4 data processing and visualization software

The Hydro-Bios MPP is a compact CTD precision multi-parameter probe designed for the acquisition of a wide range of parameters for oceanographic and limnological applications. Standard depth ranges are 100, 500, 1000 or 3000 meters. A deep sea version for 6000 meters is also available.

Additionally to the standard sensor package (conductivity C, temperature T, depth D and 3 axis inclinometer) up to six more sensors for physical, chemical or optical parameters can be accommodated.

All MPP may be operated in online or memory mode.

In online mode the Command Unit acts as an interface between the telemetry signal on the winch cable and the PC's USB port. In this mode live data will be transmitted from the MPP to the Command Unit via electromechanical cable at cable lengths of more than 10 km even at full 10 Hz data rate. This bidirectional communication works with just 3.3 volts on the cable.

In offline mode the MPP may be deployed with any steel wire. Data will automatically be recorded to the internal 128 MB flash memory (eff. 120 MB). This memory may be read directly by [OceanLab4](#) on the PC or transferred to the PC with the Command Unit's data transport mode.

The MPP is powered by a rechargeable internal LiFePO4 battery.

Included sensors:

Conductivity, Temperature, Pressure, Inclinometer (tilt / pitch & roll)

Optional available sensors:

Oxygen, Turbidity, pH, Chlorophyll A, Phycocyanin, Phycoerythrin, eFlow sensors

contact us for your additional specific sensor requirements

Online mode

Real time data transfer with a data rate of up to 10 Hz via long-distance telemetry >10 km electromechanical cable.



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Offline / memory mode

The probe's data is stored automatically on 128 MB internal flash memory (eff. 120 MB). This is sufficient for 2100 hours in base configuration.

Included sensors

Conductivity (C),

Temperature (T),

Pressure (D),

Inclinometer (tilt / pitch & roll)

Calculated parameters

salinity, sound velocity, density, specific conductivity (kappa 25)

Optional sensors

Oxygen, Turbidity, pH, Chlorophyll A, Phycocyanin, Phycoerythrin, eFlow sensors

contact us for your additional specific sensor requirements

TECHNICAL DETAILS

length	23 cm
width	23 cm
height	56 cm
weight on air	8 kg (without additional sensors)
materials	titanium, stainless steel 1.4571 (AISI 316)
operational depth	standard 100, 500, 1000 or 3000 m - optional 6000 m
pressure sensor	range: 0 ... 3000 dbar / 0 ... 6000 dbar, others upon request initial accuracy: ± 0.02 % f.s. resolution: 0.0017 % f.s. response time: 100 ms
temperature sensor	range: -2 ...+40° C initial accuracy: ± 0.004 ° C resolution: 0.0007° C response time: 150 ms



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TECHNICAL DETAILS

conductivity sensor	Salt water variant: range: 0...65 mS/cm initial accuracy: ± 0.007 mS/cm resolution: 0.001 mS/cm response time: 150 ms
	Extended salt water variant: range: 0...70 mS/cm initial accuracy: ± 0.007 mS/cm resolution: 0.0015 mS/cm response time: 150 ms
	Fresh water variant: range: 0...1 mS/cm initial accuracy: ± 0.005 mS/cm resolution: 0.00005 mS/cm response time: 150 ms
inclinometer	range: $\pm 60^\circ$ accuracy: $\pm 1^\circ$
salinity	calculated parameter
sound velocity	calculated parameter
density	calculated parameter
specific conductivity (kappa 25)	calculated parameter
data rate	1 Hz, 2 Hz, 4 Hz, 10 Hz
data memory	128 MB (eff. 120 MB), sufficient for 2100 hours in base configuration
Command Unit	portable handheld plastic housing (rubber protected) with sunlight readable backlit graphics display. Interfaces: USB, long-distance telemetry. Data transport function and interchangeable with all HYDRO-BIOS Gen5 electronics, battery powered for up to 100 hours of operation
long distance telemetry	> 10 km (max. cable resistance 1000 ohms)
power supply probe	rechargeable internal LiFePO4 battery, incl. charger to mains supply (100-240 V AC) runtime: 200 h with basic configuration
product ID	450 300



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CHARACTERISTICS

- combined direct reading and memory probe
- non-corrosive titanium housing, cage material AISI 316
- calculations according to UNESCO formulas
- real time clock
- standard C, T and D, inclinometer, six more optional sensors
- depth range up to 6000 m
- main power switch (to easily identify the status of the probe)
- online / offline functionality
- integration of shipside positional data via OceanLab4
- up to 10 Hz sampling data rate
- OceanLab 4 data processing and visualization software
- underwater unit powered by rechargeable LiFePO4 batteries
- EC-conformity (CE) EN50081-1, EN50082-1