

HYDROS-21

conductivity (EC), temperature & depth

overview

The HYDROS-21 sensor is a low cost, accurate tool for monitoring of water level, electrical conductivity, and temperature in both ground water and surface water.

The sensor utilizes a vented pressure transducer to obtain accurate water level measurements from 0 to 10 m while removing the effects of barometric pressure.

With a range of 0 to 120 dS/m, the CTD sensor has the ability to make accurate electrical conductivity measurements in a broad range of applications.

The HYDROS-21 sensor is a robust, marine grade sensor, 3.4 cm in diameter. It connects by cable to an external data logger. Much of the complex circuitry is in the data logger, lowering the cost of individual sensors without impacting their accuracy or resolution. This makes it so that instead having to rely on a single measurement, you can measure in several different locations without exceeding your budget.

The CTD sensor is compatible with our range data loggers. The ES-SYS range of data logging systems offers a remote transmission option to deliver data wirelessly to your desktop. With this option, water depth, temperature, and electrical conductivity can be monitored from any internet-connected computer in near-real time.

applications

- Aquifer recharge and recovery.
- Saltwater intrusion, desalination, and wastewater.
- Wetland monitoring.
- Groundwater contamination monitoring.

- Surface water monitoring.

advantages

- Robust marine-grade epoxy overmold to resist corrosion in tough environments.
- Compact 3.4 cm diameter sensor body to fit into tight spaces.
- External logger with remote transmission option to deliver data to your desktop.
- Permanent connection allows you to collect data continuously without pulling up the sensor.
- Low per-sensor cost.

whole system monitoring solutions



Edaphic Scientific is a one-stop shop for a whole system monitoring solution. We provide plant and soil monitoring systems for researchers and growers.

Our systems not only support HYDROS-21 CTD sensors, but related sensors such as dissolved oxygen, dissolved CO₂, dissolved CH₄, dissolved H₂S, pH, drainage, soil moisture, weather parameters, and more.

At Edaphic Scientific we want to work with you from the start of your project through to its completion. We can provide:

- Assistance with project and experimental design



- Procurement of all monitoring equipment, including sensors, data loggers and data management software. Edaphic Scientific is a one-stop shop where we can source and find any necessary equipment for your project from our preferred suppliers or third party suppliers
- Installation and training
- On-going assistance with data interpretation and equipment maintenance
- Data correction and analysis, including statistical analysis with the R-package
- Report and publication preparation including tables, figures, graphs, and manuscript writing

advanced data collection and management solutions



Edaphic Scientific recognises the need for flexible and adaptable sensor and data logging solutions for experimental or environmental monitoring projects.

Data can be downloaded directly in the field from data loggers. A direct connection between the data loggers and your computer, via a USB cable, can be used for manual downloading of data.

Alternatively, data can be downloaded over the internet on your iPhone, iPad or desktop computer with the Eagle.io cloud-based, data management software solutions. Through this remote based downloading capabilities, you can download, view and manage your data, and system, anywhere in the world and at anytime.

specifications

feature	specification
measurement range	
Depth	0 to 10,000 mm 0 to 10 m
Conductivity	0 to 120 dS/m
Temperature	-11 to 49 °C
measurement resolution	
Depth	2 mm
Conductivity	0.001 dS/m
Temperature	0.1°C
measurement accuracy	
Depth	±0.05% of full scale @ 20 °C
Conductivity	±0.01 dS/m or ±10% (whichever is greater)
Temperature	±1 °C
general specifications	
Operating Temperature	0° to 50°C (Pressure transducer cannot be allowed to freeze while submersed.)
Power Requirements	3.6 - 15 VDC, 0.03 mA quiescent, 0.5 mA during 300 ms measurement
Dimensions	9 cm (l) x 3.4 cm (w)
Measurement Time	300 ms (milliseconds)
Output	SDI-12
Cable Length	10 m standard; custom lengths available upon request
Data Logger Compatibility	Any SDI-12 enabled data logger
Maximum Operating Depth	20m of water head

manual & docs

- HYDR0S-21 CTD Sensor Manual

related products

- Data loggers for HYDR05-21 sensor
- PROCHECK portable, handheld meter
- Soil EC sensors & meters
- Water level sensors
- Soil moisture sensors, probes and meters
- Pore water samplers
- Soil CO2 concentration
- Soil nutrient analyzer
- Soil pH meter
- Weather stations