

# HydroCAT-EP

## Conductivity, Temperature, Depth, Optical Dissolved Oxygen, pH, Turbidity, and Chlorophyll

The Sea-Bird Scientific HydroCAT-EP is ideally suited for extended deployments in remote, biologically rich environments. Factory calibrated, field proven sensors ensure long term data stability. Depending on the application, the HydroCAT-EP can collect high quality data for several months up to a year.

Excellent bio-fouling protection for conductivity, temperature, optical dissolved oxygen and pH is provided by EPA-approved anti-foulant devices, an integral pump, and a unique internal flow path, which minimizes flow between samples and provides stable measurements throughout a deployment. The combination chlorophyll and turbidity sensor is protected by a copper face plate and wiper.

All HydroCAT-EP sensors are built with careful choices of materials and geometry combined with superior electronics and calibration methodology to optimize field performance.



## Features

- Robust - Excellent anti-fouling capability - EPA-approved anti-foulant device and pumped internal flow path for maximum bio-fouling protection
- Accurate- High initial accuracy and low drift rate
- Cost Effective- No in-field calibrations required, common deployment duration of three plus months, reducing field costs
- Each instrument is factory calibrated in a temperature-controlled bath that operates at 2-4 times the accuracy of the instrument

## Applications

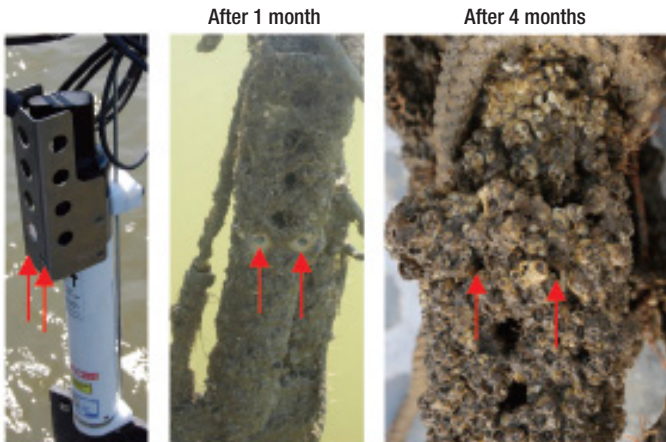
For continuous or real-time measurement of conductivity, temperature, depth, dissolved oxygen, pH, turbidity, and chlorophyll in:

- Estuaries
- Lakes and reservoirs
- Rivers and streams
- Coastal and open ocean environments

Sensors	Range	Accuracy	Typical Stability	Resolution
Conductivity	0- 70 mS/cm (0- 70,000 $\mu$ S/cm)	$\pm$ 0.003 mS/cm (3 $\mu$ S/cm)	0.003 mS/cm (3 $\mu$ S/cm) per month	0.0001 mS/cm (0.1 $\mu$ S/cm)
Temperature	-5 to 45°C	$\pm$ 0.002°C/ $\pm$ 0.01°C (over 32°C)	0.0002°C per month	0.0001°C
Pressure	0- 20 m/0- 100 m/ 0- 350 m	$\pm$ 0.1% of full scale range	0.05% of full scale range	0.002% of full scale range
Optical Dis- solved Oxygen	200% of surface saturation in all natural waters (fresh and salt)	larger of $\pm$ 0.14 ml/L (equivalent to 0.2 mg/L) or $\pm$ 2%	< 0.03 ml/L / 100,000 samples (20°C) (equivalent to 0.0429 mg/L)	0.005 ml/L (equivalent to 0.07245 mg/L)
pH	0 - 14 pH	$\pm$ 0.1 pH	0.1 pH 90 Days	.01 pH
Turbidity	0 - 3,000 NTU	$\pm$ 1%		0.06 - 0.17 based on range
Chlorophyll	0 - 400 ug/L	$\pm$ 3% signal equiva- lent of Uranine		0.007 - 0.037 based on range

### Mechanical

Housing	350 m plastic housing
Acquisition Time	6 - 33 sec/sample (see manual)
Clock Stability	5 sec/month
External Power	(optional) 0.25 Amps at 9 – 24 VDC
Communication	RS232/ SDI 12



Internal flow path ports remain open in high-fouling environments