

# WQM

## Water Quality Monitor

Precision, accuracy and stability for marine monitoring. The WQM incorporates WET Labs' fluorometer-turbidity and Seabird's CTD sensors, providing temperature, salinity, depth, dissolved oxygen, chlorophyll fluorescence, turbidity, and backscattering data. The accuracy and precision of the sensors can track changes in the cleanest marine systems, while the stability, endurance, and active anti-fouling features assure quality data in highly productive, particulate laden coastal waters. The single integrated package is designed for ease of use and service, the WQM provides a superior solution for today's demanding ocean research and observing applications.

Built for extended deployment. Operational monitoring of coastal environments demands more than quality measurements out of the box. Biofouling and heavy sediment loads contribute to sensor failure—sometimes in just a few days. Effective long term monitoring demands the highest data quality over weeks and months. The key to cost effective data collection requires a sensor package that can withstand the environmental hazards of coastal waters.

The WQM is designed to effectively inhibit severe fouling, thus dramatically decreasing the number of service visits required, enabling collection of long-term data of the highest quality, and minimizing operational and maintenance costs.

The costs of monitoring are tied to instrument cycle life and real value is provided through quality data, day after day, month after month, year after year. Designed with attention to fouling reduction, the WQM will dramatically decrease the number of service visits required to assure the collection of an uncompromised long term data set. With many components field serviceable the WQM promises to stay in the field, not in the factory.



## Conductivity

Range	0-9 S/m
Accuracy	0.003 mS/cm
Resolution	0.00005 mS/m

## Pressure

Range	0–100 or –200 m
Accuracy	0.1% Full Scale
Resolution	0.002% Full Scale

## Electrical

Connector	MCBH-6-MP, MCBH-4-FS
Output	RS-232
Input	9–16 VDC
Sample rate	1 Hz
Current draw	< 100 mA Sampling 350 mA Peak < 50 $\mu$ A Sleep

## Mechanical

Diameter	18.5 cm max OD
Length	65.4 cm
Weight in air	5.4 kg
Weight in water	1.8 kg
Materials	Acetal copolymer, ABS, PVC, titanium, copper
Depth <sup>e</sup>	200 m

## Temperature

Range	-5 - 35 °C
Accuracy	0.002 °C
Resolution	0.001 °C

## Dissolved Oxygen

Range <sup>a</sup>	120% of saturation (150% upon request)
Accuracy <sup>b</sup>	2% of saturation
Resolution	0.035% of saturation (0.003 ml/l at 0 C, 35 PSU)

## Optical - Turbidity

Wavelength	700 nm
Accuracy	0.1% FS NTU
Range	0-25 NTU
Precision	0.04% FS NTU

## Optical - Fluorescence

Wavelength	EX/EM 470/695 nm
Accuracy <sup>d</sup>	0.2% FS $\mu$ g/l
Range <sup>c</sup>	0–50 $\mu$ g/l
Precision	0.04% FS $\mu$ g/l

a. Oxygen range is relative to surface saturation.

b. +/- 0.2 mg/l or 2% of reading, whichever is greater.

c. Available measurement ranges:

- 0–30  $\mu$ g Chl/l, 0–10 NTU
- 0–50  $\mu$ g Chl/l, 0–25 NTU
- 0–50  $\mu$ g Chl/l, 0–100 NTU
- 0–75  $\mu$ g Chl/l, 0–200 NTU
- 0–125  $\mu$ g Chl/l, 0–350 NTU
- 0–250  $\mu$ g Chl/l, 0–1000 NTU

d. Chlorophyll fluorescence is created by living organisms and is subject to taxonomical and physiological changes. Field calibration is highly recommended. See user's guide for standard protocols.

e. Depth rating is the lesser of 200 m or the pressure sensor rating.