

CO₂-Pro Submersible pCO₂ Sensor

The CO₂-Pro instrument measures the partial pressure of CO₂ gas dissolved in water using infrared detection. Standard ranges from 0-600 ppm up to 0-2000 ppm provide the full spectrum of pCO₂ required for accurate measurement of ocean CO₂.

With industry-leading pCO₂ accuracy and stability for submersible instruments, the CO₂-Pro sensor provides the long-term, reliable results that are needed for ocean acidification, climate change and carbon flux monitoring and assessment.

The patented supported tubular interface provides three effective modes of biofouling resistance: darkness, solid copper, and high shear on the membrane surface. The CO₂-Pro is ideal for shallow waters and highly productive areas.

Features

- Patented tubular interface provides unmatched biofouling resistance
- High accuracy, long-term stability
- Multiple data outputs
- Large selection of pCO₂ ranges
- Easily integrated into any system



pCO₂ Sensor Applications

- Ocean acidification
- Long-term ocean pCO₂ monitoring
- Near-surface flux studies
- Shipboard flow-through pCO₂ measurements
- Coastal zone CO₂ fluxes

An internal zeroing feature provides a stable long-term baseline for ensuring accurate and stable measurements. The CO₂-Pro can also be modified to measure both water and air pCO₂.

For optimal accuracy, instruments are factory calibrated using WMO standard gases. In addition, detector temperature stabilization and measurement of gas stream pressure and humidity provide accuracy unmatched by small submersible pCO₂ instruments.

Sensor Specifications

CO₂ Detector Performance

Accuracy:	
CO ₂ concentration	± 2 ppm
Gas stream humidity	± 1 mbar
Gas stream pressure	± 2 mbar
Resolution:	
CO ₂ concentration	0.01 ppm
Gas stream humidity	1 mbar
Gas stream pressure	1 mbar
Zero drift:	automatic zero compensation
Equilibration time (t ₆₃)	2.5 min (with pump)
Standard range	0–600 ppm
(alternate ranges available)	

Options and Accessories

- Datalogger and controller

Complete with 2 GB flash memory and terminal program for self-contained measurement and logging.

- SBE Water pump included

Reduces biofouling and improves response rate.

- Optional housing for depths to 1000 m

- External battery pack

- Integration into CTD and other sensor packages

Physical

Length	33 cm (13 in)
Diameter	19 cm (7.5 in)
Weight	5.5 kg in air (12.1 lbs) 0.4 kg in water (0.9 lbs)
Housing	Delrin®
Depth	0-110 meters (0-360 ft)
Temperature	-2 to 30 degrees C (Standard) -2 to 40 degrees C (Optional)

Electrical

Input voltage	12-18 VDC
Power consumption	0.4 A (includes water pump) 1.2 A during warmup
Data output:	RS-232, ASCII format
Optional analog	0-5 V or 4-20mA
Sample rate	1.6 seconds (user selectable with datalogger / controller)

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