



SWALE OCEANOGRAPHIC

CO₂-Pro Submersible pCO₂ Sensor

For partial pressure measurement of dissolved CO₂.



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 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. 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.

Features

- Patented tubular interface provides unmatched biofouling resistance
- High accuracy, long-term stability
- Easy integration into any system
- RS-232 or analogue data output formats available
- Optional data logger (>1 year of data storage)
- Large selection of concentration ranges

Applications

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

Accuracy (Range 0 – 600ppm)	Resolution	Length	330mm
CO ₂ concentration	± 2 ppm	Diameter	190mm
Gas stream humidity	± 1 mbar	Weight (air / water)	5.5kg / 0.4kg
Gas stream pressure	± 2 mbar	Depth (Delrin*)	110m
Resolution		Operational Temp	-2 – +30 °C (+40 ° opt)
CO ₂ concentration	0.01 ppm	Input Voltage	12 – 18 Vdc
Gas stream humidity	1 mbar	Power consumption	400mA (1.2A warm-up)
Gas stream pressure	1 mbar	Data Output Analog	0 – 5 V or 4 – 20mA
Equilibration rate (t63)	2.5 minutes	Digital	RS-232 ASCII
		Sample Rate	1.6 Sec *

*Options:

Data logger and controller, complete with 2 GB flash memory and terminal program for self-contained measurement and logging, with variable sampling rate (Required for digital output.)

Optional housing for 1000m depth / Internal batteries / External power / Water pumped Head

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