

CO₂ PRO



The CO₂-Pro is a lightweight, compact, and versatile sensor for measuring the partial pressure of CO₂ in water. It is designed for use in underway-mode, in the laboratory and on moorings (design tested to depths of 1000 m).

The CO₂-Pro is fitted with an IR detector and the new PSI pump-driven fast interface (patent pending). This revolutionary new interface provides an equilibrated gas sample to the detector. Note that a source of water flow is required at 3 to 10 liters per minute (optional Sea-Bird 5-T pump available from Pro-Oceanus Systems Inc. or from Sea-Bird Electronics, Inc.).

The CO₂-Pro is factory calibrated from 0-600 ppm CO₂ with calibration burned into EPROM (other calibration ranges are available by special order). To maintain accuracy, the detector module is equipped to perform an automatic zero point calibration (AZPC). When the AZPC is initiated, the gas stream is routed through a CO₂ absorbent to provide a zero ppm CO₂ measurement. The CO₂ zero measurement compensates for changes in optical cell performance and is used in determinations of ppm CO₂ until a new AZPC is performed.

PSI CO₂-Pro Features:

- High precision and accuracy
- RS-232 data interface
- Low power requirements
- Light weight and compact size
- Unique antifouling protection
- Raw data and ppm CO₂ included in data stream
- Low cost

Comes equipped with the PSI Patented tubular pumped fast interface : Specifications

Physical Specifications

Length:	33 cm (43 cm with connectors)
Diameter:	17.3 cm
Weight (air):	19.8 lbs. (9 kg)
Weight (water):	0.88 lbs. (0.4 kg)

Housing:

- Hard anodized aluminum
- Proof to 1000 meters (Contact PSI for details)

Electrical Characteristics

- Input voltage:
 - 12 ± 0.5 Volts DC through 4-pin impulse male connector
 - With power-saving option: 9.5-18 Volt DC
- Power consumption (not including pump power):
 - During warm-up: 0.8 A at 12 volts
 - During operation: 0.4 A
 - Lower power consumption options available
- Data storage:
 - With Data Logger: 2 mega-bytes EPROM
- Data output:
 - RS-232 serial output
- Sample Rate:
 - 0.6 hertz without controller; 0.3 hertz in continuous mode with controller
- Equilibration time constant:
 - Approximately 3 minutes (depending on pump flow rate)

Performance

- Accuracy
 - CO₂ concentration $\pm \sim 1$ ppm
 - Gas stream humidity ± 1 mb
 - Gas stream pressure ± 2 mb
- Precision
 - CO₂ concentration 0.01 ppm
 - Gas stream humidity 1 mb
 - Gas stream pressure 1 mb
- Calibration range 0-600 ppm (other ranges available by special order)
- Temperature range 0-35°C