

OceanXpert-Lab IR-CO₂

Precise flow-through pCO₂ Analyzer



- ▶ Premium LI-COR® analyzer
- ▶ pCO₂ Sea and Air analysis
- ▶ Standalone or in OceanPack™
- ▶ Auto calibration
- ▶ Low maintenance
- ▶ Robust construction
- ▶ High precision
- ▶ Expandable

- ✓ Water quality control
- ✓ Climate studies
- ✓ Monitoring of biological processes

- ✓ Environmental monitoring
- ✓ Standalone Lab Analyzer
- ✓ Integrate in AUMS

Features & Benefits:

- It's a LI-COR® : highest accuracy due to automatic temperature, pressure and H₂O compensation
- Robust, versatile and compact 19" housing for Lab and Vessel applications
- Easy to operate and maintain with intuitive design. Just Plug & Play
- High stability with auto calibration, including standard offset zeroing; automatic or manual span gas calibration – low maintenance costs
- Patented robust flat-membrane-equilibrator cassette – lifetime 10+ years
- Internal data logger allows easy integration of additional sensors: CTD/TSG, Oxygen, Fluorometer, Turbidity, Nutrient Analysers, pH, etc.
- Expandable through external modules via RS-485 MODBUS, e.g. for meteorological sensors
- Optional GPS georeferencing for all data and position event control
- Optional online telemetry data transfer and alarm services
- Real-time data interface NMEA-0183: simple ASCII protocol, configurable to your needs



Specifications	
Sensor Principle	High performance LI-COR ® LI-850x analyzer – exclusively produced by LI-COR Biosciences for SubCtech • Dual-wavelength NDIR detector for CO ₂ and H ₂ O • Silicone flat membrane equilibrator
Range	Standard 0...3000 ppm CO ₂ • up to 20.000 ppm CO ₂ • 0...60 ppt H ₂ O • Units selectable
Resolution	0.1 ppm CO ₂ • 0.001 ppt H ₂ O
Accuracy	Correction for water vapour, pressure and temperature effects • Overall accuracy < 0.5 %
Sample Rate	Output rate typ. 1 Hz with optional averaging • User configurable • Storage rate configurable
Air CO₂	Optional • Automatic analysis on programmed intervals
Factory Calibration	Internally stored coefficients • CO ₂ factory calibration with 15 traceable gases to WMO standards • H ₂ O calibration with NIST traceable LI-610 portable dew point generator
User Calibration	Automatic offset correction on programmed intervals • Zeroing reference included for >1 year operation time • Manual or automatic span gas calibration
Temperature	Operating temperature range 0 to +40°C • Optional heater for -20 to +40°C
Analogue Output	Optional • 0...5V / 0...2.5V or 4...20mA • CO ₂ and H ₂ O • Range can be adjusted
Data Interface	RS-232 (RS-485 optional) • simple ASCII NMEA-0183 • Easy integration into existing systems
Data Storage	Internal 8GB SD card • Storage capacity approx. 5 years (depending on sample rate)
External Sensors	GPS • CTD • Meteorological instrumentation • Oceanographic sensors
Analogue Input	Optional 16 Bit data acquisition 0/4-20 mA, ±10V etc.
Housing	19" industrial rack housing • Splash protected • Size 445 x 135 x 400 mm W x H x D • Weight 10 kg
Power	12...32 VDC or 100...240 VAC, 50/60Hz • Typ. 20W operating • Max. 50W warming up
Water Supply	Flow rate typ. 3-15 l/min • Max. water pressure 3 Bar
Accessories	External datalogger • External sensors or analyzers • Intake for air CO ₂ • Debubbler • Self-cleaning unit
Service	Recalibration & Service recommended every 12 months • Membrane lifetime up to 10 years • Operating time for 24/7 usage typ. 1 year before service (internal micro pump, zero filter)

