

pCO₂ Analyzer OceanPack MK-2

Mobile Flow Analyzer for precise pCO₂ measurements



- Superb LI-COR® analyzer
- Auto calibration
- Lowest maintenance
- Roughest environmental
- High precision
- Operates on small vessels
- Optionally Top-Box contains Sensors, GPS or Air-CO₂ analyzer

LI-COR
Biosciences *inside*

Features & Benefits:

- It's a LI-COR® Biosciences LI-840x CO₂/H₂O sensor: Highest accuracy due to automatic temperature, pressure and H₂O compensation - dual-wavelength NDIR detector
- Patented robust Flat-Membrane-Equilibrator cassette – lifetime 10+ years, easy to handle
- Hand-held, easy to operate and maintain system with intuitive overall design. Low maintenance costs! No special setup required. Just plug'n'play.
- Robust, versatile and compact housing for offshore and laboratory applications. No need for special filters. Just provide water up to 20 l/min – max. 6 Bar (best: 5-10 l/min – 1 Bar)
- High time series stability due to obligatory standard offset zeroing. Optional auto- or manual span gas calibration or reference gas measurements supported.
- SmartDI® (Smart Data Interface) Datalogger concept: easy instrument integration for e.g. Aanderaa Optode; TriOS, Turner or WET Labs Fluorometer; Seabird or Sea&Sun CTD and Thermosalinograph; SYSTEAN nutrient analyzer any may other.
- Optionally connection of external devices through RS-485 bus, e.g. meteorology sensors or sea- water pumps. A full water supply is supported.
- Real-time data interface NMEA-0183: simple ASCII protocol, configurable to your needs.
- 12/24V dc or 110/230V ac power supply
- Data logging on 2GB CF (Compact-Flash) Card. Automatic report of interferences and initiation of diagnostic routines. Redundant data and configuration files.
- Optional GPS geo reference for all data and position event control

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Specification	
Sensor Principle	High performance LI-COR [®] LI-840x analyzer – exclusive produced by LI-COR [®] Biosciences for SubCtech Contains dual-wavelength NDIR detector for CO ₂ and H ₂ O • Silicone flat membrane equilibrator
Range	Standard 0...3000 ppm CO ₂ • 0...80 ppt H ₂ O • Up to 20.000 ppm CO ₂ • Units selectable
Resolution	0.01 ppm CO ₂ • 0.001 ppt H ₂ O
Accuracy	Overall accuracy < 1.5% • Automatic compensation of water vapour (H ₂ O), pressure and temperature
Calibration	Calibration coefficients stored internally • Factory calibration with 15 traceable gases to WMO standards for CO ₂ . NIST traceable dew point generator for H ₂ O • User correction supported
Auto Calibration	Auto offset zeroing on programmed intervals • Zeroing reference included for >1 year operation time • Manual Span gas calibration supported • Optionally full auto-calibration (same housing size)
Datalogger	SmartDI [®] industrial embedded PC included • Optionally 8,4" touch-screen TFT Display • Automatic diagnostic- and failure messages • Double (redundant) 2GB CompactFlash for system and data storage • Programmable PLC Controller
Logging	Data and Backup on 2GB CF card • Sample rate configurable • Standard ASCII NMEA-0183 data
Data Interface	RS-232 or RS-485 • Standard ASCII NMEA-0183 data protocol • Easy integration into existing systems • Output rate typ. 1 Hz configurable • Optionally usage of radio links, Ethernet, WLAN etc.
Analogue Out	0...5V / 0...2,5V or 4...20mA • Range can be configured
Analogue Input	Optional 24 Bit data acquisition 0/4-20 mA, ±10V • Expandable via RS485 Bus
External Sensors	Options (selection): SYSTEA nutrient analyzer • Water sampler • GPS • Sea&Sun, Seapoint, bbe MOLDAENKE, RDI, Aanderaa AADI Optode, WET Labs, Seabird (e.g. SBE45) • External meteorological instrumentation via RS-485 bus supported
Water Support	Quick-lock connectors 1/2" • Ideal for ship applications • Optional mBubbler [®] CO ₂ tolerant Debubbler • Optional inlet- and outlet tanks • Flow rate typ. 3-15 l/min • Max. water pressure 6 Bar
Cleaning	Optionally self-cleaning option available • Automatic flagging of data for maintenance and error states
Housing	Stainless steel • complete splash protected IP66 • All tubes and connectors can be handled from the front • 35 kg • 300 x 280 x 350 mm W x H x D incl. equilibrator head at the front • Weight 10.5 kg
Power	10...32 VDC or 90...240 VAC • Typ. 20W operating • Max. 50W warming up (@12V)
Accessories	Li-Ion Batteries • Datalogger • Water Supplies • External Sensors or Analyzers • Subsea Housings



Complete Sea-Air-Exchange "Underway" System: SmartDI Datalogger with Touch-Screen; pCO₂ Analyzer with Debubbler and extra sensor on a moving drawer



Special version for sailing vessels and arctic conditions © www.Oceanoscientific.org



Top-Box with independent Air-CO₂ Analyzer LI-7200, GPS and interfaces to meteo. Sensors. Simple data interface to the OceanPack system.

