

OceanPack LAB

Mobile Flow-Through Lab-Analyzer for precise $p\text{CO}_2$ measurements

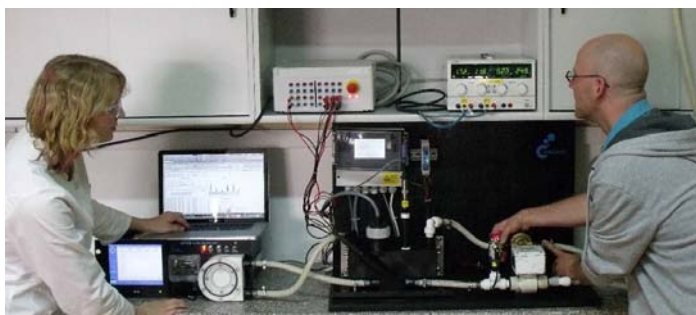


LI-COR
Biosciences *inside*

- High accuracy due to automatic H₂O, temperature and pressure compensation
- Robust, versatile and compact 19" housing for Lab and Ship applications
- Includes the well-known LI-COR® LI-840x $p\text{CO}_2$ analyzer
- High stability with auto calibration features including standard offset zeroing, auto- or manually span gas calibration supported – low maintenance costs
- Flexible AUMS (Autonomous Underway Measurement System) concept: easy integration of instrumentation through the integrated SmartDI® Datalogger, e.g. Oxygen Optode, TriOS, Turner or Wetlabs Fluorometer and Turbidity sensors, Seabird or Sea&Sun CTD and Thermosalinograph, SYSTEA Nutrient Analysers
- Optional expandable through our RS-485 bus, e.g. to connect a Meteorology or sea- and wastewater pumps. A full water supply is supported.
- Automatic report of interferences and initiation of diagnostic routines
- Optionally GPS geo references for all data and position event control
- Optionally online telemetry data transfer and alarm services
- Easy handling and intuitive overall design



Specification	
Sensor Principle	High performance LI-COR [®] LI-840x analyzer – exclusively produced by LI-COR Biosciences for SubCtech Contains dual-wavelength NDIR detector for CO ₂ and H ₂ O • Silicone flat membrane equilibrator
Housing	19" Industrial rack housing • Front splash protected • All tubes can be handled from the front.
Weight	Light: 8 kg without optional sensors or pumps
Size	Small: 445 x 180 x 400 mm W x H x D
Water Support	Integrated flow-through system • Ideal for ship applications • Optionally mBubbler [®] CO₂ tolerant Debubbler • Optionally inlet and outlet tanks • Flow rate typ. 5-15 l/min • Max. water pressure 6 Bar
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	Correction for water vapour, pressure and temperature effects • Overall accuracy < 1.5%
Sample Rate	Output rate typ. 1 Hz or higher with average • User configurable • Storage rate configurable
Calibration	Calibration stored internally • Recalibration recommended every 12 months • Factory calibration with 13 traceable gases to WMO standards for CO ₂ . NIST traceable LI-610 portable dew point generator for H ₂ O
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
Analogue Out	0...5V / 0...2,5V or 4...20mA • Range can be configured
Data Interface	Up to 36x RS-232 / RS-485 • ASCII NMEA-0183 • Easy integration into existing systems • Optionally usage of radio links, Ethernet, WLAN etc. • Data and Backup on 2GB CF card
External Sensors	Nutrient analyzer • Water sampler • GPS • CTD or Thermosalinographs • Meteorological instrumentation via RS-485 bus supported • Standard sensor installed into the debubbler
Software	NEW Windows [®] Software OceanView [™] 4 for external PC logging and online real-time data
Controller Unit	SmartDI [®] Touch-panel industrial PC • 8,4" touch TFT Display • Automatic messages for failures and diagnostic • Double 2GB CompactFlash for system and data storage • Programmable Controller
Analogue Input	Optionally 24 Bit data acquisition 0/4-20 mA, ±10V etc. • Expandable via RS485 Bus
Service	Recalibration & Service recommended every 12 months • Membrane lifetime up to 10years • Operating time for 24/7 usage typ. 1 year before service (internal micro pump, zero filter)
Power	10...32 VDC or 90...240 VAC • typ. 25W (without external pumps)



Application example:

Lab-Analyzer setup used for small vessels and extreme conditions. The *Oceanoscientific*[®] programme is recognized by Pôle Mer Bretagne with *SailingOne*[®], IFRMER, Meteo-France and SubCtech. Supported by GEOMAR and other institutes.

- www.oceanoscientific.org
- <http://www.aldebaran.org/html/pressemitteilungen/2010/pm20100822.html>

