

OceanXpert-Lab Laser-CO₂/CH₄

Precise, underway pCO₂, pCH₄ Analyzer



- ▶ Premium Los Gatos Laser analyzer
- ▶ pCO₂ & CH₄ Sea and Air analysis
- ▶ widest measurement range
- ▶ Auto calibration
- ▶ Low maintenance
- ▶ Robust construction
- ▶ High precision
- ▶ Optionally Top-Box contains GPS or Air-CO₂ analyzer

Features & Benefits:

- It's a Los Gatos Laser Greenhouse Gas Analyzer (CH₄, CO₂, H₂O): unsurpassed performance LGR technology provides highest reliability and ruggedness
- Patented robust flat-membrane-equilibrator cassette – lifetime 10+ years, easy to handle
- Robust, versatile and compact 19" housing for Lab and Ship applications
- Hand-held, easy to operate and maintain system with intuitive overall design. Low maintenance costs! No special setup required. Just plug'n'play
- High time series stability due to obligatory standard offset zeroing. Optional auto- or manual span gas calibration or reference gas measurements supported.
- Incl. data logger, optional instrument integration for e.g. D.O. optodes, fluorometer Thermosalinographs, pH probes etc.
- Optionally connection of external devices, e.g. meteorology sensors, sea-water pumps etc.
- Real-time data interface NMEA-0183: simple ASCII protocol, configurable to your needs.
- 12...28V dc or 100...240V ac power supply
- Self-recording on SD card, standard ASCII NMEA-0183 data format (can be processed e.g. with standard office software)
- Analogous output or serial interface (optical isolated) for simple integration into existing systems.
- Optional GPS geo reference for all data and position event control



Specifications

Sensor Principle	High performance Los Gatos analyzer provides highest reliability and ruggedness • laser detector for CO ₂ , CH ₄ and H ₂ O • Silicone flat membrane equilibrator
Range	200...20.000 ppm CO ₂ • 0.01...100 ppm CH ₄ • 7.000...70.000 ppm H ₂ O • Units selectable
Resolution	Precision (1s, 0.1 sec / 1 sec / 100 sec): • CH ₄ : 3 ppb / 1 ppb / 0.3 ppb • CO ₂ : 0.5 ppm / 0.3 ppm / 0.05 ppm • H ₂ O: 50 ppm / 15 ppm / 5 ppm
Accuracy	uncertainty < 1% w/o calibration (Standard) • uncertainty < 0.03% (Enhanced Performance model)
Sample Rate	0.01 – 10 Hz (Standard) • 0.01 – 1 Hz (Enhanced Performance, slow flow) • 0.01 – 10 Hz (Enhanced Performance, fast flow) • Storage rate configurable
Air CO₂	Optional • Automatic analysis on programmed intervals • Air CO ₂ port and external gas inlet
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 always included • Optionally full auto-calibration with up to 6 gases – best performance with only one external span gas reduce size, weight and effort for operation and service
Datalogger	NetDI® industrial embedded controller • 7" touch-screen • 8GB up to 32GB SD card for system and data storage • Sample rate configurable • Standard ASCII NMEA-0183 data • Configurable PLC Controller to operate the automatic calibration
Interface	RS-232 or RS-485 • Optical isolated • 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
External Sensors	Optional 24 Bit data acquisition 0/4-20 mA, ±10V Analogous • Optional RS-232/485, optical isolated • GPS NMEA-0183 • CTD or Thermosalinographs • Meteorological instrumentation • Oceanographic sensors e.g. installed into the optional debubbler
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 3 Bar
Cleaning	Optionally self-cleaning option • Automatic flagging of data for maintenance and error states
Housing	19" Industrial rack housing • Front splash protected • All tubes can be handled from the front. Weight 8 kg • Size 445 x 180 x 400 mm W x H x D
Power	12...28 VDC or 100...240 VAC, 50/60Hz • Typ. 100W operating
Software	Windows® Software OceanView™ 4 for external PC logging and online real-time data
Accessories	Li-Ion Batteries • External datalogger • External sensors or analyzers • Intake for air CO ₂ • Pump for faster equilibration time
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)

