

Ultraportable Greenhouse Gas Analyzer (CH₄, CO₂, H₂O) LGR ICOS™ GLA132 Series GhG Analyzer Travels Anywhere



Description

LGR's new Ultra-Portable Greenhouse Gas Analyzer (UGGA) reports **measurements of methane, carbon dioxide and water vapor simultaneously** in a package that is **compact, crushproof and travels anywhere**. Small enough to be carried on-board aircraft (TSA approved size) and requiring less than 70 watts, the UGGA offers opportunities to **measure GHG anywhere**. As with all LGR instruments, the UGGA is **simple to use** which makes it ideal for field studies, compliance monitoring, leak detection, air quality studies and soil flux studies, and wherever measurements of methane, carbon dioxide and water vapor are needed.

In addition, the UGGA reports and stores all measured absorption spectra which allows the instrument to **accurately correct for water vapor dilution and absorption line broadening effects** and thus to report CH₄ and CO₂ on a dry mole fraction basis without drying or post processing. Furthermore, LGR's "Extended Range" option provides accurate methane measurements at **levels up to 10% mole fraction** (without dilution) without reducing precision and sensitivity at typical ambient levels - a unique capability to LGR. Moreover, only LGR's analyzers provide reliable guaranteed measurements at mole fractions greater than 100 times ambient levels.

LGR's patented technology, a fourth-generation cavity enhanced absorption technique, has many advantages (simpler, easier to build, rugged) over older, conventional cavity ringdown spectroscopy (CRDS) and direct absorption techniques. As a result, LGR Analyzers provide **higher performance at lower cost**.

LGR Analyzers have an internal computer (Linux OS) that can **store data practically indefinitely** on a hard disk drive and send real time data to a data logger via the digital (RS232), analog or Ethernet outputs. In addition, LGR analyzers may be **controlled remotely** via the Internet. This capability allows the user to operate the analyzer using a web browser anywhere. Furthermore, remote access allows full control of the instrument and provides the opportunity to obtain data and diagnose the instrument operation without being on site.

Benefits

- 17 kg, 70 watts
- Gases measured simultaneously
- All spectra always viewable
- CH₄ and CO₂ reported on dry mole basis directly
- Ideal for chamber flux, soil studies, emissions compliance monitoring, leak detection
- Wide measurement range
- New Extended Range option allows methane measurements at levels up to 10%
- Species specific - no cross interferences
- Operates directly on DC power

Performance Specifications

Repeatability / Precision (1-sigma):

CH₄: <2 ppb (1 sec), <0.6 ppb (10 sec), <0.25 ppb (100 sec)

CO₂: <300 ppb (1 sec), <100 ppb (10 sec), <40 ppb (100 sec)

H₂O: <100 ppm (1 sec), <35 ppm (10 sec), <15 ppm (100 sec)

Response Time (flow time through meas. cell):

10 s

Measurement Range:

CH₄: 0.01 – 100 ppm

CO₂: 1 – 20000 ppm

H₂O: 500 – 70000 ppm

Operational Range:

CH₄: 0 – 500 ppm

CH₄: 0 – 10% (with Extended Range option)

CO₂: 0 – 20000 ppm

H₂O: 0 – 70000 ppm

Outputs:

Digital (RS232), Analog, Ethernet, USB

Data Storage:

Internal Solid State Hard Disk Drive

Ambient Humidity:

<98% RH non-condensing

Operating Temperature:

5 – 45 °C Inlet / Outlet Fittings: ¼" Push-Connect

Power Requirements:

60 watts (10-30 VDC) 66 watts (115/230 VAC, 50/60 Hz)

Dimensions:

7" H x 18.5" W x 14" D

Weight:

17 kg



Accessories (optional)

- **MIU-16** : Multiport Inlet Unit – 16 inlet port multiplexer
- **MIU-8** : Multiport Inlet Unit – 8 inlet port multiplexer
- **OPT-DATALOG**: Data Logging System – multi-channel data logging system records and synchronizes serial (RS-232) outputs from multiple LGR analyzers and other devices (GPS, anemometers)