

Simplify Soil Studies



CH₄/CO₂/H₂O/NH₃ Analyzer

Features and Benefits

- 17 kg, 70 watts, portable
- Collect data 2 minutes after power on
- Data reported at 1Hz
- Gases measured simultaneously
- All spectra always viewable
- All gases reported directly
- Ideal for soil flux, agricultural studies and compliance monitoring
- Wide measurement range
- Species specific - no cross interferences
- Operates directly on DC power

LGR's new CH₄/CO₂/H₂O/NH₃ Analyzer reports measurements of important trace gases, including methane, carbon dioxide, water vapor and ammonia, 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 W, the analyzer offers new opportunities to quickly, reliably and accurately measure trace gas emissions anywhere. As with all LGR instruments, the analyzer is simple to use which makes it ideal for soil studies, compliance monitoring, leak detection, air quality and agricultural studies, and wherever measurements of trace gases are needed. For measurements of nitrous oxide (N₂O) and/or carbon monoxide (CO), LGR now offers our N₂O/CO Analyzer in a portable package - see www.LGRinc.com for details.

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 and reliability 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.

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.

Ultraportable CH₄, CO₂, H₂O, NH₃ Analyzer

Performance Specifications

Precision (1σ, 10 sec / 100 sec):

CH₄: 0.6 ppb / 0.2 ppb
CO₂: 0.75 ppm / 0.24 ppm
H₂O: 100 ppm / 30 ppm
NH₃: 0.6 ppb / 0.2 ppb

Measurement Rates:

0.01 – 1 Hz (user selectable)

Accuracy:

uncertainty < 1% w/o calibration (5-45 °C)

Measurement Range (meets specifications):

CH₄: 0.01 – 100 ppm
CO₂: 200 – 20000 ppm
NH₃: 1 – 10000 ppb
H₂O: 500 – 30000 ppm

Operational Range:

(external calibration may be required):

CH₄: 0 – 100% (with Extended Range option)
CO₂: 0 – 10%
NH₃: 0 – 200 ppm
H₂O: 0 – 30000 ppm

Sampling Conditions:

Sample Temperature: -10 – 50 °C
Operating Temperature: 5 – 45 °C
Ambient Humidity: 0 – 98% RH non-condensing

Outputs (all models):

Digital (RS232), analog, Ethernet, USB

Power Requirements:

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

Dimensions:

18.5" x 14" x 7"

Weight:

17 kg



Ordering Information

U-SOFX1-915 (Ultraportable, GLA132 Series)

Accessories (optional)

MIU-16: Multiport Inlet Unit – 16 inlet port multiplexer

MIU-8: Multiport Inlet Unit – 8 inlet port multiplexer

ACC-DP20: 3-head vacuum pump –
provides flow-through (1/e) time = 1.2 secs

ACC-DP40: 4-head vacuum pump –
provides flow-through (1/e) time = 0.7 secs

OPT-DATALOG: Digital Data Logging Capability – multi-channel data logging system records and synchronizes serial (RS-232) outputs from multiple LGR analyzers and other devices (GPS, anemometers)