LGR-ICOS™ GLA151-N2OCM

N_2O & CO analyzer – QC Portable

Highly sensitive and accurate analyzer for reliable measurement of N_2O and CO.

Measurement made easy

LGR-ICOS™ GLA151-N2OCM N_2O & CO – Quantum cascade portable analyzer

Features and benefits

- Simultaneous measurements of N_2O and CO
- High precision and robust to cross-interferences
- Installed and operational in minutes
- Extremely high dynamic range
- Unsurpassed ruggedness and reliability
- Real-time diagnostics

Overview

The ABB LGR-ICOS gas analyzers build on the heritage and extensive track record of Los Gatos Research analyzers, using patented Off-Axis Integrated Cavity Output Spectroscopy (OA-ICOS) technology, the latest evolution in tunable diode laser absorption spectroscopy (TDLAS).

Since CO is an excellent tracer of anthropogenic emissions, simultaneous measurements of CO and N_2O can allow scientists to correlate the sources of N_2O emissions. The GLA151-N2OCM quantum cascade (QC) portable analyzer also simultaneously measures water vapor mole fraction. As a result, the analyzer reports N_2O and CO on a dry mole basis. It accurately corrects for water vapor dilution and absorption line broadening effects without the need for sample drying or empirical corrections.

The GLA151-N2OCM analyzer is designed for many demanding field applications, as proven by its track record, including trace-gas air quality monitoring and chamber flux measurements, where highest precision, accuracy, ruggedness and mobility are required.

… Overview

ABB's patented OA-ICOS technology, a fourth-generation cavity enhanced absorption technique, has many advantages over older

Ordering information

- **LGR-ICOS™ GLA151-N2OCM**
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conventional and delicate cavity ringdown spectroscopy and direct absorption techniques. OA-ICOS analyzers are simpler, easier to operate and more rugged. They exhibit negligible zero and span drift and a significantly reduced need for regular calibration with expensive reference gases. As a result, ABB analyzers provide higher performance and reliability with minimal operationnal cost.

The GLA151-N2OCM has an internal computer that can store data practically indefinitely (for applications requiring unattended longer term operation), and send real-time recordings to a data logger through its analog and digital (RS232) outputs. The analyzer includes control and analysis software.

Accessories

MIU-16	**Multiport Inlet Unit** Automated control of up to 16 inlet ports
MIU-8	**Multiport Inlet Unit** Automated control of up to 8 inlet ports
ACC-DP3H	**3-head Diaphragm External Pump**
OPT-DATALOG	**Digital Data Logging Capability** Multi-channel data logging option records and synchronizes serial (RS-232) outputs from multiple ABB analyzers and other devices (GPS, anemometers)

Specifications

Precision (1σ, 1 sec / 10 sec):
N_2O: 0.5 ppb / 0.2 ppb [<500 ppb]
CO: 0.5 ppb / 0.2 ppb [<500 ppb]
H_2O: 100 ppm / 40 ppm

Linear measurement ranges (meets all specifications):
N_2O: Up to 4 ppm
CO: Up to 4 ppm
H_2O: Up to 30 000 ppm

Operational ranges:
N_2O: Up to 40 ppm
CO: Up to 40 ppm
H_2O: <99% RH, non-condensing

Measurement rate:
0.01 – 1 Hz (user selectable)

Flow response time:
<30 seconds (1/e)
<10 seconds (1/e) with external diaphragm pump ACC-DP3H

Sampling conditions:
Operating temperature: 5 – 45 °C
Ambient humidity: <99% relative humidity non-condensing

Data outputs:
WiFi, Ethernet, USB, Serial (RS-232)

Power requirements:
24-30VDC
110/240 VAC, 50/60 Hz
180 watts (steady state)
max 300 watts with ACC-DP3H

Dimensions:
51 cm (20 in.) x 61cm (24 in.) x 20 cm (8 in.)

Weight:
23 kg (51 pounds)