

LGR-ICOS™ GLA351-N2OM1

N₂O & CH₄ analyzer – EP QC Rackmount



Highly sensitive, accurate and stable analyzer for reliable measurement of N₂O and CH₄.

Measurement made easy

LGR-ICOS™ GLA351-N2OM1 N₂O & CH₄ – Enhanced performance quantum cascade rackmount analyzer

Features and benefits

- Simultaneous measurements of N₂O and CH₄
- Highest accuracy, precision and low drift
- Measurement rates selectable up to 10 Hz
- Installed and operational in minutes
- Batch operation via syringe injection option
- Robust to cross-interferences
- Extremely high dynamic range
- Unsurpassed 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).

The GLA351-N2OM1 enhanced performance quantum cascade (EP QC) rackmount analyzer simultaneously measures water vapor mole fraction. As a result, the analyzer reports N₂O 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 GLA351-N2OM1 analyzer is designed for the most demanding applications generally focused on greenhouse gases emission studies and atmospheric monitoring, where highest precision, accuracy and stability are required.

... Overview

ABB's enhanced performance (EP) OA-ICOS analyzers incorporate proprietary internal thermal control for ultra-stable

Ordering information

- LGR-ICOS™ GLA351-N2OM1 N₂O & CH₄ analyzer – EP QC rackmount

measurements with unsurpassed precision, accuracy and drift. Moreover, only ABB's analyzers provide reliable guaranteed measurements at mole fractions more than 20 times ambient levels.

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

The GLA351-N2OM1 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
ACC-DP4H	4-head Diaphragm External Pump ~2.5x pumping speed of ACC-DP3H Fast flow option only
ACC-DS10	Dry Scroll External Pump ~9x pumping speed of ACC-DP3H Fast flow option only
ACC-DS35	Dry Scroll External Pump ~25x pumping speed of ACC-DP3H For 10Hz response time Fast flow option only
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 (1 σ , 1 sec / 10 sec / 100 sec):

N₂O: 0.2 ppb / 0.1 ppb / 0.05 ppb
CH₄: 1 ppb / 0.3 ppb / 0.2 ppb
H₂O: 500 ppm / 200 ppm / 100 ppm

Maximum Drift (15 min. average, at STP, over 24 hrs):

N₂O: <2 ppb
CH₄: <5 ppb
> 10x improvement achieved with periodic referencing

Linear measurement ranges (meets all specifications):

N₂O: Up to 4 ppm
CH₄: Up to 100 ppm
H₂O: Up to 30 000 ppm

Operational ranges:

N₂O: Up to 40 ppm
CH₄: Up to 600 ppm
H₂O: <99% RH, non-condensing

Measurement rate:

0.01 – 1 Hz (user selectable)
Up to 10 Hz with fast flow option

Flow response time:

<24 seconds (1/e) with standard internal pump
Up to 10 Hz with fast flow option

Sampling conditions:

Operating temperature: 0 – 45 °C
Ambient humidity: <99% relative humidity non-condensing

Data outputs:

WiFi, Ethernet, USB, Serial (RS-232)

Power requirements:

110/240 VAC, 50/60 Hz
300 watts (steady state)
max 420 watts with ACC-DP3H
max 550 watts with ACC-DP4H

Dimensions:

50 cm (19.5 in.) H x 48 cm (19 in.) W x 86 cm (34 in.) D

Weight:

68 kg (88 pounds)