

## GLA351-N2OM1

### N<sub>2</sub>O & CH<sub>4</sub> analyzer – Rackmount analyzer



Highly sensitive, accurate and stable analyzer for reliable measurement of N<sub>2</sub>O and CH<sub>4</sub>.

#### Measurement made easy

LGR-ICOS™ GLA351-N2OM1 N<sub>2</sub>O & CH<sub>4</sub> – Enhanced performance quantum cascade rackmount analyzer

#### Features and benefits

- Simultaneous measurements of N<sub>2</sub>O and CH<sub>4</sub>
- 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 gas analyzers build on the heritage and extensive track record of Los Gatos Research (LGR) analyzers, using patented Off-Axis Integrated Cavity Output Spectroscopy (OA-ICOS™) technology, the latest evolution in tunable diode laser absorption spectroscopy .

The GLA351-N2OM1 enhanced performance quantum cascade (EP QC) rackmount analyzer simultaneously measures water vapor mole fraction. As a result, the analyzer reports N<sub>2</sub>O and CH<sub>4</sub> 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 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 & Options

MIU-16	<b>Multiport Inlet Unit</b> Automated control of up to 16 inlet ports
MIU-8	<b>Multiport Inlet Unit</b> Automated control of up to 8 inlet ports
ACC-DP3H	<b>3-head Diaphragm External Pump</b>
ACC-DP4H	<b>4-head Diaphragm External Pump</b> ~2.5x pumping speed of ACC-DP3H Fast flow option only
ACC-DS10	<b>Dry Scroll External Pump</b> ~9x pumping speed of ACC-DP3H Fast flow option only
ACC-DS35	<b>Dry Scroll External Pump</b> ~25x pumping speed of ACC-DP3H For 10Hz response time Fast flow option only
OPT-FAST-FLOW	<b>Fast Flow Option</b> For use with 3/4-head diaphragm pumps or scroll pump for faster response time

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## Ordering information

- OA-ICOS™ GLA351-N2OM1  
N<sub>2</sub>O & CH<sub>4</sub> analyzer – EP QC rackmount

## Specifications

### Precision (1σ, 1 sec / 10 sec / 100 sec):

N<sub>2</sub>O: 0.2 ppb / 0.1 ppb / 0.05 ppb  
CH<sub>4</sub>: 1 ppb / 0.3 ppb / 0.2 ppb  
H<sub>2</sub>O: 500 ppm / 200 ppm / 100 ppm

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

N<sub>2</sub>O: <2 ppb  
CH<sub>4</sub>: <5 ppb  
> 10x improvement achieved with periodic referencing

### Linear measurement ranges (meets all specifications):

N<sub>2</sub>O: Up to 4 ppm  
CH<sub>4</sub>: Up to 100 ppm  
H<sub>2</sub>O: Up to 30 000 ppm

### Operational ranges:

N<sub>2</sub>O: Up to 40 ppm  
CH<sub>4</sub>: Up to 600 ppm  
H<sub>2</sub>O: <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  
0.1 second (1/e) with external dry scroll pump ACC-DS35

### 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)

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