ABB MEASUREMENT & ANALYTICS | DATA SHEET

LGR-ICOS™ GLA331-GGA

Greenhouse Gas – Rackmount analyzers

Precise, accurate and fast analyzers for measurement of CH_4, CO_2 and H_2O in ambient air.

Measurement made easy

—
LGR-ICOS™ GLA331-GGA enhanced performance analyzer

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.

ABB's greenhouse gas analyzers report measurements of methane, carbon dioxide and water vapor simultaneously in various packages: the microportable GLA131-GGA and ultraportable GLA132-GGA versions are compact, crushproof and travel-friendly analyzers while the enhanced performance (EP) rackmount a, GLA331-GGA is designed for extra precision, accuracy and stability.

As with all LGR-ICOS analyzers, the greenhouse gas analyzers are simple to use and offer a wide dynamic range. It measures ambient levels with extremely high precision while still being intrinsically accurate at concentrations 50 times higher. They are extremely rugged which makes them ideal for long-term greenhouse gas monitoring, eddy flux and soil flux studies, and wherever measurements are needed quickly and sensitively.

Features and benefits

- Simultaneous measurements of CH_4, CO_2 and H_2O
- Extremely wide linear measurement range
- Highly specific: robust to cross-interferences
- State-of-the-art stability and precision
- Lowest drift with GLA331-GGA Enhanced Performance Rackmount model
- Fast response time options (up to 10Hz)
- Installed and operational in minutes
- Unsurpassed reliability
- Real-time diagnostics

… Overview

The greenhouse gas analyzers begin recording data within 20 seconds after power on so users do not have to wait for a long warm-up period for the system to thermally equilibrate.

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 greenhouse gas analyzers have 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 analyzers include control and analysis software.

Accessories & Options

DGES	**Dissolved Gas Extraction System** Including internal multi-channel datalogger
ACC-DP3H	**3-Head Diaphragm Pump**
ACC-DP4H	**4-Head Diaphragm Pump** Fast flow only
ACC-DS10	**Dry Scroll Vacuum Pump** - Model nXDS10i Fast flow only
ACC-DS35	**Dry Scroll Vacuum Pump** - Model XDS35i Fast flow only
MIU-8 MIU-16	**Multiport Inlet Unit -** External hardware (includes 8 or 16 solenoid valves) and internal software package which enables fully integrated, programmable selection from up to 8 or 16 separate sources.
OPT-EXTENDED-CH4	**Extended CH4 concentration range option** Extends the linear range of methane for higher concentrations in ambient air.
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)
OPT-FAST-FLOW	**Fast Flow Option** For use with 3/4-head diaphragm pumps and dry scroll pumps to reach fastest response times. [Fast flow available on GLA331 Series only]

*Contact your sales representative for more accessories, maintenance kits and options, per product series.

Ordering information

- **LGR-ICOS™ GLA331-GGA**
  GLA331 Series - Enhanced Performance Rackmount

Specifications

Precision (1σ, 1 sec / 10 sec / 100 sec):
CH_4: 0.6 ppb / 0.2 ppb / 0.1 ppb
CO_2: 150 ppb / 50 ppb / 20 ppb
H_2O: 150 ppm / 50 ppm / 17 ppm

Maximum Drift
(15 min average, at STP, over 24 hrs):
CH_4: <3 ppb
CO_2: <0.2 ppm

Linear measurement ranges (meets all specifications):
CH_4: Up to 100 ppm (10 000 ppm with external range)
CO_2: Up to 20000 ppm
H_2O: Up to 30000 ppm

Measurement rate:
0.01 – 1 Hz (user selectable)
Up to 10 Hz with Fast flow option

Flow time response:
<10 seconds (1/e)
0.1 second (1/e) with external dry scroll pump ACC-DS35

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

Data outputs:
WiFi, Ethernet, USB, MIU connection (8/16 ports), Serial (RS-232)

Power requirements:
110/240 VAC
170 W (steady state)
Max 420 W with external ACC-DP4H

Dimensions (H x W x D):
40 x 48 x 61 cm (15.75 x 19 x 24 in.)

Weight:
40 kg (88 lbs)

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