CuraTerrae

ABB MEASUREMENT & ANALYTICS | DATA SHEET

OA-ICOS™ GLA331-MCEA1

Multi-gas carbon emissions analyzers

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

Measurement made easy

OA-ICOS™ GLA331-MCEA1 enhanced performance rackmount analyzer

Features and benefits

- Measure CH_4, CO, CO_2 and H_2O simultaneously
- Measurement rates selectable up to 10 Hz
- Extremely wide dynamic/linear range
- Highly specific: robust to cross interferences
- State-of-the-art stability and precision
- Lowest drift for long-term monitoring
- Fast response time option (down to 0.1 second)
- Installed and operational in minutes
- Unsurpassed reliability
- Real-time diagnostics

Overview

ABB's OA-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 multi-gas carbon emissions analyzers report measurements of methane, carbon monoxide, carbon dioxide and water vapor simultaneously in an enhanced performance rackmount chassis optimized for accuracy, precision, speed and stability, while still offering the inherent ruggedness, wide dynamic range (more than 10 times typical ambient levels), ease of use and low maintenance of the ABB OA-ICOS design.

The overall performance and advantages of its unique design makes it ideal for air quality studies, greenhouse gas monitoring, high precision soil flux studies and wherever reliable measurements are needed quickly and sensitively, even on field studies.

… Overview

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 at lower cost.

The multi-gas carbon emissions 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 (RS-232) 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 External Pump** For Increased response time and flow
ACC-DP4H	**4-Head Diaphragm External Pump** ~2.5× pumping speed of ACC-DP3H Fast flow option only
ACC-DS10	**Dry Scroll External Pump** ~9× pumping speed of ACC-DP3H Fast flow option only
ACC-DS35	**Dry Scroll External Pump** ~25× pumping speed of ACC-DP3H For 8 Hz response time Fast flow option 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-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** Enables the use of high flow pumps for faster response time.

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

Ordering information

- OA-ICOS™ GLA331-MCEA1
  GLA331 Series - Enhanced Performance Rackmount (EP)

Specifications

Below specifications are valid of CH_4 at 2 ppm, CO_2 at 400 ppm, CO at 250 ppb with 1 Hz data rate.

Precision (1σ, 1 sec / 10 sec / 100 sec):
CH_4: 1.5 ppb / 0.6 ppb / 0.2 ppb
CO: 0.085 ppm / 0.035 ppm / 0.01 ppm
CO_2: 0.2 ppm / 0.07 ppm / 0.02 ppm
H_2O: 30 ppm / 9 ppm / 5 ppm

Maximum Drift (15 min average, at STP, over 24 hours):
CH_4: 3 ppb
CO: 0.2 ppm
CO_2: 0.5 ppm

Linear measurement ranges:
CH_4: Up to 100 ppm
CO: Up to 1,000 ppm
CO_2: Up to 3,000 ppm
H_2O: Up to 30,000 ppm

Operational ranges:
CH_4: 0 to 0.1%
CO: 0 to 1%
CO_2: 0 to 3%

Measurement rate:
0.01 to 1 Hz (user selectable)
Up to 10 Hz for fast flow option

Flow time response:
<20 seconds (1/e) with standard internal pump
Up to 8 Hz with fast flow option

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

Data outputs:
Wi-Fi, Ethernet, USB, MIU connection, Serial (RS-232),

Power requirements:
110/240 VAC, 170 W (steady state)

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

Weight:
40 kg (88 lb)