ABB MEASUREMENT & ANALYTICS | DATA SHEET

LGR-ICOS™ M-GGA-918 and M-GPC-918
Microportable Greenhouse Gas Analyzers

Sensitive, fast and compact analyzers for measurement of CH_4, CO_2 and H_2O

Measurement made easy

LGR-ICOS™ 918 Series - Microportable analyzers

Features and benefits

- Lightweight: less than 5.5 kg (12 pounds) with battery (included)
- Continuous measurements
- Data reported every second with high sensitivity
- Ideal for soil flux studies and field measurements of greenhouse gases
- Extremely wide linear range, CH_4 range up to 4% flammability limit (optional)
- No cross interferences
- Operates directly on DC power
- Fast gas flow response time (3 second, 1/e)
- Records data within 20 seconds after power on
- Multiple data outputs and internet connectivity
- Recirculating capabilities (inlet/outlet)

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 new microportable gas analyzers (M-GGA-918 and M-GPC-918) report measurements of methane, carbon dioxide and water vapor simultaneously in a package that is compact, crushproof and travels anywhere. Small enough to be hand-carried (even on-board aircraft) and requiring less than 35 watts, the M-GGA-918 and M-GPC-918 offers opportunities to measure greenhouse gases anywhere.

As with all LGR-ICOS analyzers, the M-GGA-918 and M-GPC-918 are fast and simple to use which makes them ideal for field studies, compliance monitoring, air quality studies and soil flux studies, and wherever sensitive measurements of greenhouse gases are needed.

… Overview

The M-GGA-918 and M-GPC-918 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. LGR-ICOS analyzers are easier to operate and more robust, thus providing users with higher performance and reliability at lower operating costs.

The M-GGA-918 and M-GPC-918 analyzers have an internal computer that can store data practically indefinitely on an SD card and send real time data to a tablet, smartphone or other WiFi device. The analyzer includes control and analysis software.

Accessories, Maintenance & Options

ACC-MICRO-KIT	**Accessory kit for microportable** Includes shoulder strap and collapsible wand
ACC-MICRO-AC	**AC Power adapter for microportable**
ACC-MICRO-B	**Spare battery for microportable 918 Series** 99.4Wh
ACC-MICRO-BC	**Dockstation battery charger for microportable 918 Series**
ACC-WIFI-iPad	**Wireless User Interface - Apple iPad with WiFi router** Provides full instrument control and provides touch-screen video display, keyboard and mouse.
ACC-WIFI-Android	**Wireless User Interface - Samsung Galaxy Tab S3 with WiFi** router provides full instrument control and provides touch-screen video display, keyboard and mouse.
MTN-MICRO2	**Maintenance kit for microportable 918 Series**
MTN-CLEAN-M	**Mirror cleaning kit for microportable**
OPT-EXTENDED-CH4	**Extended range for CH4 measurement** Extends normal 0-100 ppm range to 0-5% (M-GGA-918) Extends normal 0-100 ppm range to 0-500 ppm (M-GPC-918)
MIU-8	**Multiport Inlet Unit 8 channels -** External hardware (includes 8 solenoid valves) and internal software package which enables fully integrated, programmable selection from up to 8 separate sources.

Ordering information

- LGR-ICOS™ M-GGA-918
- LGR-ICOS™ M-GPC-918

Specifications

Precision (1σ, 1 sec / 10 sec / 100 sec):
CH_4: 1 ppb /0.4 ppb / 0.2 ppb
CO_2: 0.4 ppm / 0.2 ppm / 0.1 ppm [M-GGA-918]
CO_2: 4 ppm / 2 ppm / 1 ppm [M-GPC-918]
H_2O: 200 ppm / 60 ppm / 30 ppm

Measurement ranges (meets all specifications):
CH_4: 0 – 100 ppm (standard range)
CH_4: 0 – 5% (extended range) [M-GGA-918]
CH_4: 0 – 500 ppm (extended range) [M-GPC-918]
CO_2: 0 – 20000 ppm
H_2O: 0 – 30000 ppm

Sampling conditions:
Sample temperature: -40 – 50 °C
Operating temperature: 5 – 45 °C
Ambient humidity: 0 - 98% relative humidity non-condensing

Flow time response:
3 second (1/e)

Data measurement rate:
0.01 – 10 Hz (user selectable)

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

Power requirements:
10-30 VDC or 110/240 VAC
35 watts [M-GGA-918]
27 watts [M-GPC-918]
120W Power supply/charger included
99.9Wh internal battery included, 3 hours (M-GGA-918) autonomy, 4 hours (M-GPC-918) autonomy

Dimensions:
12cm H x 34 cm W x 29.5 cm D
6 in. H × 13.4 in. W × 11.6 in. D

Weight:
4.8 kg (10.5 pounds) without internal battery
5.4 kg (11.9 pounds) with internal battery

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