

## LGR-ICOS™ GLA133 Series

### Greenhouse gas analyzers – UAV-microportable



Sensitive, fast and compact analyzers for measurement of CH<sub>4</sub>, CO<sub>2</sub> and H<sub>2</sub>O.

Measurement made easy.

—  
LGR-ICOS™ GLA133 series  
UAV-microportable

#### 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 GLA133 Series UAV-microportable gas analyzers report measurements of methane, carbon dioxide and water vapor simultaneously in a lightweight package designed to be mounted under mid-size unmanned aerial vehicles (UAV) and requiring less than 35 watts. The GLA133-GGA, GLA133-GPC and GLA133-CH4 further extend the meaning of measuring greenhouse gases anywhere.

As with all LGR-ICOS analyzers, the GLA133-GGA, GLA133-GPC and GLA133-CH4 are fast and simple to use which makes them ideal for field studies, compliance monitoring, air quality studies and wherever sensitive measurements of greenhouse gases are needed.

#### Features and benefits

- Lightweight: <3 kg (6.6 pounds)
- Continuous measurements
- Data reported up to 10 Hz with high sensitivity
- Ideal for flux and emissions mapping over large and/or otherwise hard to access areas
- Extremely wide linear range, CH<sub>4</sub> range up to 1% (optional)
- No cross interferences
- Operates directly on UAV batteries
- Fast gas flow response time
- Records data within 20 seconds after power on
- Multiple data outputs and wireless connectivity

### Patented OA-ICOS technology

The GLA133-GGA, GLA133-GPC and GLA133-CH4 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 GLA133-GGA, GLA133-GPC and GLA133-CH4 analyzers have an internal computer that can store measurement data, health metrics and UAV peripherals' 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.

A UAV-specific installation kit is supplied with the analyzer\* as well as a carbon fiber sample inlet tube to collect gas outside the UAV's vertical turbulence column.

### Accessories, maintenance and options

|                              |   |
|------------------------------|---|
| ACC-HoverGuard-D             | <b>Accessory kit for leak detection (for DJI M600 Pro)</b><br>Tablet, ICOS FastScanner™ software and Trisonica anemometer<br>Contact your local representative for licensing software agreement |
| ACC-UAV                      | <b>Accessory kit for GHG flux (for DJI M600 Pro)</b><br>Tablet, ICOS FastScanner™ software and Trisonica anemometer   |
| SPK-131V2                    | <b>Spare parts kit - GLA131/133/532 series</b><br>Includes pump, filters and pressure control valve   |
| SPK-131V2-LITE               | <b>Spare parts kit - GLA131/133/532 series</b><br>Includes pump and filters   |
| MTN-CLEAN-1V                 | <b>Mirror cleaning kit for GLA131/133/532 series</b>  |
| OPT-Extended-CH <sub>4</sub> | <b>Extended range for CH<sub>4</sub> measurement</b><br>Extends normal 0-100 ppm range to 0-1% (GGA)<br>Extends normal 0-100 ppm range to 0-500 ppm (GPC and CH4)                               |

\*GLA133 series analyzers currently support installation on DJI M600 Pro drones. For use of the analyzer on other UAV brands/models, contact your local representative.

### Ordering information

- LGR-ICOS™ GLA133-GGA
  - LGR-ICOS™ GLA133-GPC
  - LGR-ICOS™ GLA133-CH4
- Greenhouse gas analyzers – UAV-microportable

## Specifications

### Precision (1σ, 1 sec / 10 sec)

- CH<sub>4</sub>: 0.9 ppb/0.3 ppb
- CO<sub>2</sub>: 0.35 ppm/0.12 ppm (GLA133-GGA only)
- CO<sub>2</sub>: 3 ppm/1 ppm (GLA133-GPC only)
- H<sub>2</sub>O: 200 ppm/60 ppm

### Measurement ranges (meets all specifications)

- CH<sub>4</sub>: 0 – 100 ppm (standard range)
- CH<sub>4</sub>: 0 – 1% (extended range) (GLA133-GGA only)
- CH<sub>4</sub>: 0 – 500 ppm (extended range) (GLA133-GPC/CH4)
- CO<sub>2</sub>: 0 – 20,000 ppm (GLA133-GGA/GPC)
- H<sub>2</sub>O: 0 – 30,000 ppm

### Sampling conditions

- Operating temperature: 5 – 40 °C
- Ambient humidity: <99% relative humidity non-condensing

### Flow time response

- 2.5 Hz (1/e)

### Data outputs

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

### Power requirements

- 10-30 VDC
- 35 watts (GLA133-GGA)
- 27 watts (GLA133-GPC)
- 24 watts (GLA133-CH4)

### Dimensions

- 12 cm H x 34 cm W x 29.5 cm D
- 6 in. H x 13.4 in. W x 11.6 in. D

### Weight

- 3 kg (6.6 lbs)

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