OA-ICOS™ GLA133 Series
UAV-microportable greenhouse gas analyzers

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

Measurement made easy.

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OA-ICOS™ GLA133 series
UAV-microportable
installed on a drone

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

As with all OA-COS analyzers, the GLA133 seriesanalyzers are fast and simple to use, which makes them ideal for field studies, compliance monitoring, air quality studies and wherever precise and accurate measurements of greenhouse gases are needed.

Features and benefits
- Lightweight: <3 kg (6.6 lbs)
- 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
- 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

Sensitive, fast and compact
The GLA133-GGA, GLA133-GPC and GLA133-CH4 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.

Accessories, maintenance and options

ABB's patented laser-based OA-ICOS technology, a fourth-generation cavity-enhanced laser 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 peripheral 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 fibre sample inlet tube to collect gas outside the UAV's vertical turbulence column.

ACC-HOVERGUARD-D	**Accessory kit for leak detection (Aurelia X6 Pro)** Tablet, ICOS FastScanner™ software and Trisonica anemometer Contact your local representative for licensing software agreement
ACC-UAV	**Accessory kit for GHG flux (Aurelias X6 Pro)** Tablet, ICOS FastScanner™ software and Trisonica anemometer Contact your local representative for licensing software agreement.
SPK-131V2	**Spare parts kit - GLA131/133/532 series** Includes pump, filters and pressure control valve
SPK-131V2-LITE	**Spare parts kit - GLA131/133/532 series** Includes pump and filters
MTN-CLEAN-1V	**Mirror cleaning kit for GLA131/133/532 series**

*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
- OA-ICOS™ GLA133-GGA
- OA-ICOS™ GLA133-GPC

UAV-microportable greenhouse gas analyzers

Specifications	OA-ICOS™ GLA133-GGA	OA-ICOS™ GLA133-GPC
Precision (1s, 1 sec / 10 sec)	CH_4: 0.9 ppb/0.3 ppb CO_2: 0.35 ppm/0.12 ppm H_2O: 200 ppm/60 ppm	CH_4: 0.9 ppb/0.3 ppb CO_2: 3 ppm/1 ppm H_2O: 200 ppm/60 ppm
Measurement ranges (meets all specifications)	CH_4: 0 – 100 ppm (standard range) CO_2: 0 – 20,000 ppm H_2O: 0 – 30,000 ppm	CH_4: 0 – 100 ppm (standard range) CO_2: 0 – 20,000 ppm H_2O: 0 – 30,000 ppm
Sampling conditions	Operating temperature: 5 to 45 °C (41 to 113 °F) 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	10-30 VDC 27 watts
Dimensions (H x W x D)	12 cm (6 in) x 34 cm (13.4 in) x 29.5 cm (11.6 in)	
Weight	3 kg (6.6 lbs)	