

ABB MEASUREMENT & ANALYTICS | DATA SHEET

OA-ICOS™ GLA331-EAA

NH₃ – EP rackmount analyzers



Highly sensitive, accurate and low-drift analyzer for reliable measurement of NH₃.

Measurement made easy

—
OA-ICOS™ GLA331-EAA
Enhanced performance
rackmount analyzer

Overview

ABB's GLA331-EAA (ammonia and water vapor) enhanced performance (EP) rackmount analyzers optimized for precision, accuracy, response time, stability and reliability. All three are simple to use, start up in minutes, require no field calibration and have minimal preventative maintenance requirements.

These features make it ideal for long-term monitoring of areas for health and safety purposes or where such gases can be released either naturally or as by-products of industries.

The ABB 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, a fourth-generation cavity enhanced absorption technique.

Off-axis ICOS has many advantages over conventional cavity ring down spectroscopy techniques such as being far more robust and reliable, having a much shorter measurement time and field-serviceable cavity and mirrors.

All ABB instruments include an internal computer (Linux OS) that stores the results and related metrics of each analysis on its internal hard drive for unattended long-term operation. Data can be exported continuously through various outputs. Furthermore, the instruments may be controlled remotely via the Internet. This capability allows the opportunity to control, obtain data from, and diagnose the instrument without being on site.

Like all ABB analyzers, the OA-ICOS EP rackmount analyzers are supported by our expert service and technical support staff and they were designed to perform to the most demanding of our customers' requirements with the highest overall performance and low cost of operation.

Features and benefits

- Also reports accurate and precise H₂O measurements
- Optimized data processing for high performance and reliable monitoring even while measuring low ppb concentrations
- Extremely wide linear range without additional calibration
- Require no field calibration
- Minimal preventative maintenance requirements
- Various communication protocols available for data output

Specifications

Item (gases)	NH ₃	H ₂ O
Precision, 1σ	<0.9 ppb (1 s) <0.3 ppb (10 s) <0.1 ppb (100 s)	<50 ppm (1 s) <20 ppm (10 s) <7 ppm (100 s)
Limit of Detection (LOD)	0.3 ppb @ 100 s	50 ppm @ 100 s
Accuracy*	±0.3 ppb or 5% of reading, whichever is greater	>7,000 ppm = 1% FSD
Linear measurement range	Up to 10 ppm	Up to 30,000 ppm
Operational range	Up to 200 ppm	<99% RH non-condensing
Sample flow rate		~2 slpm (ACC-DP3H external pump)
Response time (T ₉₀)		10 seconds
Data rate (user selectable)		1, 10, 20, 100 seconds
Ambient temperature		0 to 45 °C (32 to 122 °F)
Ambient humidity		<99% non-condensing
Output signal	Serial RS232, USB (x2), AO (16-bits, 0 to 5 V DC), Ethernet LAN connection, VGA display	
Power	115/230 VAC; 50/60 Hz 150 W (steady state) • • Max 270 W with ACC-DP3H external pump • • Max 290 W with ACC-DP4H external pump	
Dimensions	40 × 48 × 61 cm (15.75 × 19 × 24 in.)	
Weight	40kg (88 lbs)	
Measuring principle	Off-axis Integrated Cavity Output Spectroscopy (OA-ICOS)	
Calibration period	Calibration not recommended. Typical validation period = 1 year	
Country of manufacture	Canada	

* Applies to following conditions : ±1 °C change over minimum 1h, within a 19 °C and 23 °C temperature setpoint range)

Accessories and options

Item	Description
ACC-DP3H	3-Head Diaphragm Vacuum Pump Included with GLA331-EAA
ACC-DP4H	4-Head Diaphragm Vacuum Pump External pump to increase response time.
ACC-DS10	Dry Scroll Vacuum Pump nXDS10i External pump to increase response time.
ACC-DS35	Dry Scroll Vacuum Pump XDS35i External pump to increase response time.

Item	Description
OPT-DATALOG	Digital datalogging capability Multi-channel logging option records and synchronizes serial (RS-232) outputs from multiple devices or ABB analyzers
OPT-DOC	Calibration Documentation Package Data supporting the testing, provided as a user friendly hard copy

Ordering information

Analyzer model#	Gas measured	Standard vacuum pump
GLA331-EAA	Ammonia and water vapour (NH ₃ & H ₂ O)	External (ACC-DP3H)