GAS-1031

Carbon Dioxide Analyzer

The GAS-1031 carbon dioxide (CO_2) analyzer from Met One Instruments Powered by Acoem uses non-dispersive infrared (IR) gas correlation spectroscopy to provide accurate, stable, and repeatable measurements of gaseous CO_2.

It can be configured to operate in absolute or differential mode providing flexibility within the analyzer, making it well suited for ambient CO_2 measurements in addition to applications such as dilution extractive stack monitoring.

Approvals

Based on the GAS-1030 which has the following approvals:

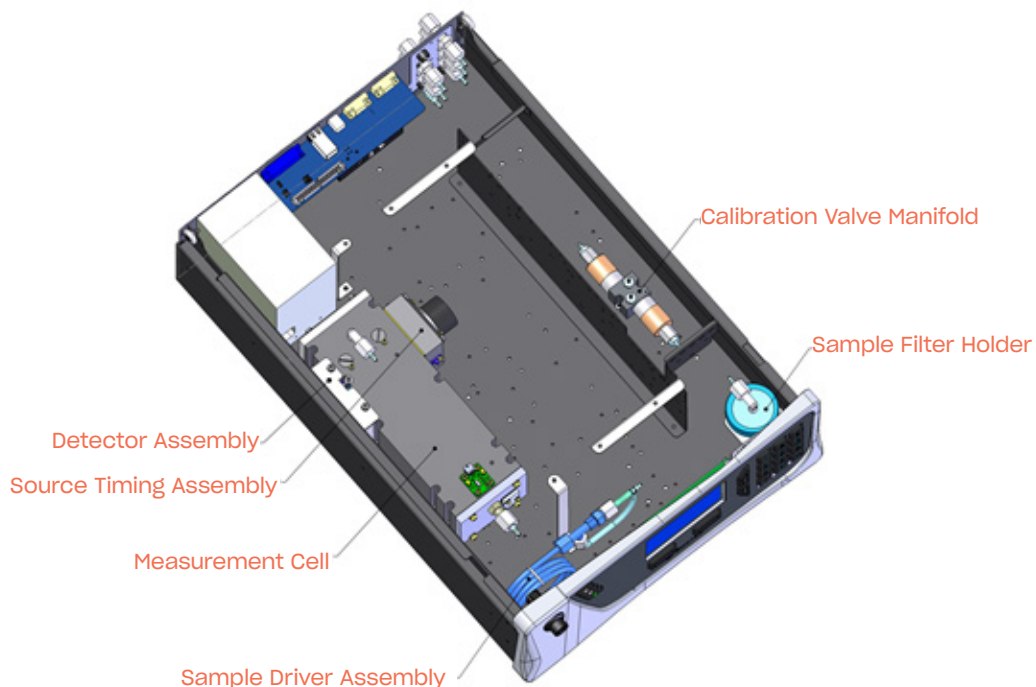- **US EPA approval (RFCA-0509-174)**

Benefits

The Met One range of analyzers have been designed using experience and knowledge gained from operating large air quality monitoring networks for more than 40 years. The result is instruments that integrate seamlessly into continuous monitoring networks.

- Guaranteed performance backed up by a two-year warranty.

- Superior remote instrument control, diagnostic viewing, and calibration minimize on-site maintenance requirements.

- Comprehensive data logging and remote viewing of over 200 operational parameters.

- Versatile interfacing through RS232, USB, analog and digital I/O, TCP/IP, and optional Bluetooth.

- Easier setup through an intuitive menu system with 'Quick Menu', advanced GUI, and a large keypad with tactile keys.

- Instant display of operational status using illuminated traffic lights on the front panel.

- Removable flash memory stores 10 years of data, including up to 12 individual parameters and event logs. Operational parameters can also be transferred to memory for easy retrieval.

- Install latest firmware updates via the USB flash memory drive.

- Easily program, view, download, and email data using optional Bluetooth connectivity combined with Android App.

- 12 VDC internal voltages for enhanced operator safety.

- Standard components across the Met One gas analyzer range reduces the cost of spare parts, accessories, and consumables.

- Rack slide design makes accessing internal components and removing the analyzer from a rack cabinet easy.

- Choose either an external sample pump suitable for use by multiple analyzers, or the optional low power internal pump for greater sample versatility.

- Lower power demand and ability to operate over a wide temperature range reduce AQMS power usage.

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Specifications

Range:	0 – 3000 ppm (auto-ranging)
Concentration display:	User selectable mg/m³, μg/m³ ppm & ppb
Noise:	0.1 ppm
Lower detectable limit:	0.2 ppm (200 ppb), with Kalman filter active
Linearity:	< 1 % of full scale
Precision:	0.2 ppm or 0.5 % of reading whichever is greater
Zero drift:	24 hours: < 1 ppm
Span drift:	7 days: < 0.5 % of reading or 1 ppm whichever is greater
Response time:	60 seconds to 95 %
STP reference:	0 °C, 20 °C, 25 °C at 101.3 kPa
Sample flow rate:	1000 cc/min
Temperature range:	0 to 40 °C
Power:	100 – 240 VAC, 50 – 60 Hz (auto-ranging)
Power consumption:	190 W max (typical at start-up)
	150 VA after warm-up
Dimensions:	429 x 175 x 638 mm (W X H X L)
Rack Spacing:	4 RU
Weight:	21.3 kg

Calibration Valve Manifold

Sample Filter Holder

Detector Assembly

Source Timing Assembly

Measurement Cell

Sample Driver Assembly

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Communication

- RS232 Port 1: Digital communication.
- RS232 Port 2: Multidrop port.
- USB port (digital communication).
- TCP/IP Ethernet network connection.
- Bluetooth (optional, digital communication via Android App).
- Protocols: Modbus RTU/TCP, Bayern–Hessen, EC9800, Advanced.

Data logging

Removable USB flash memory drive that stores data in the following formats:

- Instantaneous data from: 1, 3, 5, 10, 30, or 60 minute intervals & 2, 5, 10, 30 seconds.
- Average data from: 1, 3, 5, 10, 15, 30 minutes, 1, 4, 8, 12, or 24 hours.
- Data storage of 10 years of 12 parameters, 1 minute data on 8 GB memory.

Inputs & outputs

- 3 x analog outputs, menu selectable, current or voltage.
- Menu selectable current output of 0 – 20 mA, 2 – 20 mA or 4 – 20 mA.
- Voltage output of 0 – 5 V, with menu selectable zero offset of 0 V, 0.25 V or 0.5 V.
- Voltage output of 0 – 10 V configured using jumpers (JP3) on rear panel PCA.
- Auto-ranging from 0 – 50 ppb to 0 – 3000 ppm (between 2 user specified full scale values).
- 3 x analog inputs (scalable), 0 – 5 V, 16 bit resolution.
- 8 x logic level digital control inputs.
- 8 x open collector digital status outputs.

Options & accessories

- Extended measurement ranges.
- Bluetooth.
- External AC powered pump (capable of operating 3 analyzers, excluding NO_x).
- Internal long life, low power maintenance-free pump (Max 6 watts).
- Dual filter (particulate).
- High pressure zero/span valves.
- Rack slides.
- Printed manual (electronic manual supplied).

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