

## Serinus® 31

### CARBON DIOXIDE ANALYSER



**The Serinus® 31 carbon dioxide (CO<sub>2</sub>) analyser uses non-dispersive infrared (IR) gas correlation spectroscopy to provide accurate, stable, and repeatable measurements of gaseous CO<sub>2</sub>.**

The Serinus® 31 can be configured to operate in absolute or differential mode providing flexibility within the analyser, making it well suited for ambient CO<sub>2</sub> measurements in addition to applications such as dilution extractive stack monitoring.

### APPROVALS

Based on the Serinus® 30 which has the following approvals:

- US EPA approval (RFCA-0509-174)
- EN approval TÜV (936/21221977/D)
- EN approval MCERTS (MC100166/07)
- Australian Standard (AS 3580.7.1-2011)
- Russian approval (56262-14)
- French approval LSCQA
- Ukraine approval (12/3/B/24/295-17)

### BENEFITS

The Serinus® range of analysers have been designed using our experience and knowledge gained from operating large air quality monitoring networks for more than 40 years. The result, instruments that integrate seamlessly into continuous monitoring networks.

- Guaranteed performance with a two year warranty
- Minimise time spent on site performing maintenance through superior remote instrument control, diagnostic viewing and calibration
- Comprehensive data logging and remote viewing of over 200 operational parameters
- Versatile interfacing through RS232, USB, Bluetooth, analog and digital I/O and optional TCP/IP
- 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
- Latest firmware updates can easily be installed using the USB flash memory drive
- Programming, viewing, downloading and emailing of data is made even simpler using Bluetooth connectivity combined with the “ECOTECH Serinus® Remote” Android App
- Enhanced operator safety through the use of 12 VDC internal voltages
- Reduced cost of spare parts, accessories and consumable items through extensive use of standard components across the Serinus® range
- Rack slide design makes accessing internal components and removing the analyser from a rack cabinet easy
- Sample pump versatility - choose either an external sample pump suitable for use by multiple analysers or the optional low power internal pump
- AQMS power usage can be reduced due to the instrument’s low power demand and its ability to operate over a wide temperature range.

## SPECIFICATIONS

<b>Range:</b>	0 - 2000 ppm (autoranging)
<b>Concentration display:</b>	User selectable mg/m <sup>3</sup> , µg/m <sup>3</sup> ppm, ppb
<b>Noise:</b>	< 0.2 ppm or 0.1 % of concentration reading whichever is greater
<b>Lower detectable limit:</b>	< 0.4 ppb
<b>Linearity:</b>	< 1 % of full scale
<b>Precision:</b>	0.2 ppm or 0.5 % of reading whichever is greater
<b>Zero drift:</b>	24 hours: < 1 ppm
<b>Span drift:</b>	7 days: < 0.5 % of reading or 1 ppm whichever is greater
<b>Response time:</b>	60 seconds to 95 %
<b>STP reference:</b>	0 °C, 20 °C, 25 °C at 101.3 kPa
<b>Sample flow rate:</b>	1000 cc/min
<b>Temperature range:</b>	0 to 40 °C
<b>Power:</b>	100 - 240 VAC, 50 - 60 Hz (autoranging)
<b>Power consumption:</b>	260 VA (max at start-up) 150 VA (nominal)
<b>Dimensions:</b>	429 x 175 x 638 mm
<b>Rack Spacing:</b>	3.5 RU
<b>Weight:</b>	17.8 kg

## COMMUNICATION

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

## INPUTS AND OUTPUTS

- Menu selectable current or voltage output  
0 - 20 mA, 4 - 20 mA, or 0 - 5 VDC
- Menu selectable offset of 0, 5 % or 10 %
- Auto-ranging from 0 - 50 ppb to 0 - 2000 ppm (between two 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.

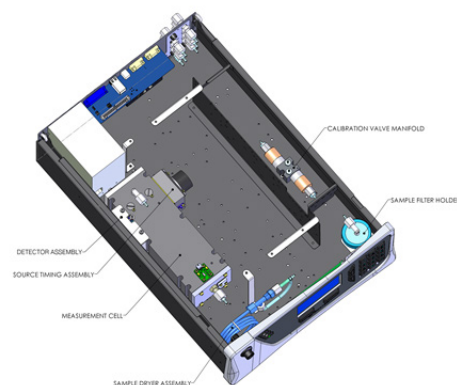
## DATA LOGGING

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

- Instantaneous data from: 1, 3, 5, 10, 30, or 60 minute intervals and 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.

## OPTIONS & ACCESSORIES

- Extended measurement ranges
- External AC powered pump (capable of operating 3 analysers, excluding NO<sub>x</sub>)
- Internal long life, low power maintenance free pump (Max 6 watts)
- Dual filter (particulate), High pressure zero/span valves, Rack slides
- TCP/IP network port
- Printed manual - electronic manual supplied with analyser
- Bluetooth connectivity combined with the "ECOTECH Serinus® Remote" Android App makes it even easier to program, maintain, download and email data without touching the instrument.



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