



Serinus[®] 31

Carbon Dioxide Analyser

The Acoem Serinus 31* carbon dioxide (CO₂) analyser uses non-dispersive infrared (IR) gas correlation spectroscopy to provide accurate, stable & repeatable measurements of gaseous CO₂.

It can be configured to operate in absolute or differential mode providing flexibility within the analyser, making it well suited for ambient CO₂ measurements in addition to applications such as dilution extractive stack monitoring.

* Acoem Serinus 31 formerly known as Ecotech Serinus 31.

Approvals

Based on the Serinus 30 which has the following approvals:

- US EPA approval (RFCA-0509-174)
- EN approval TÜV (0000040203-02)
- Australian Standard (AS 3580.7.1-2011)
- Russian approval (56262-14)
- French approval LSCQA
- Ukraine approval (12/3/B/24/295-17)
- Chinese Pattern Approval (JJF1364-2012)
- Korean approval NIER (AACMS-2017-02)

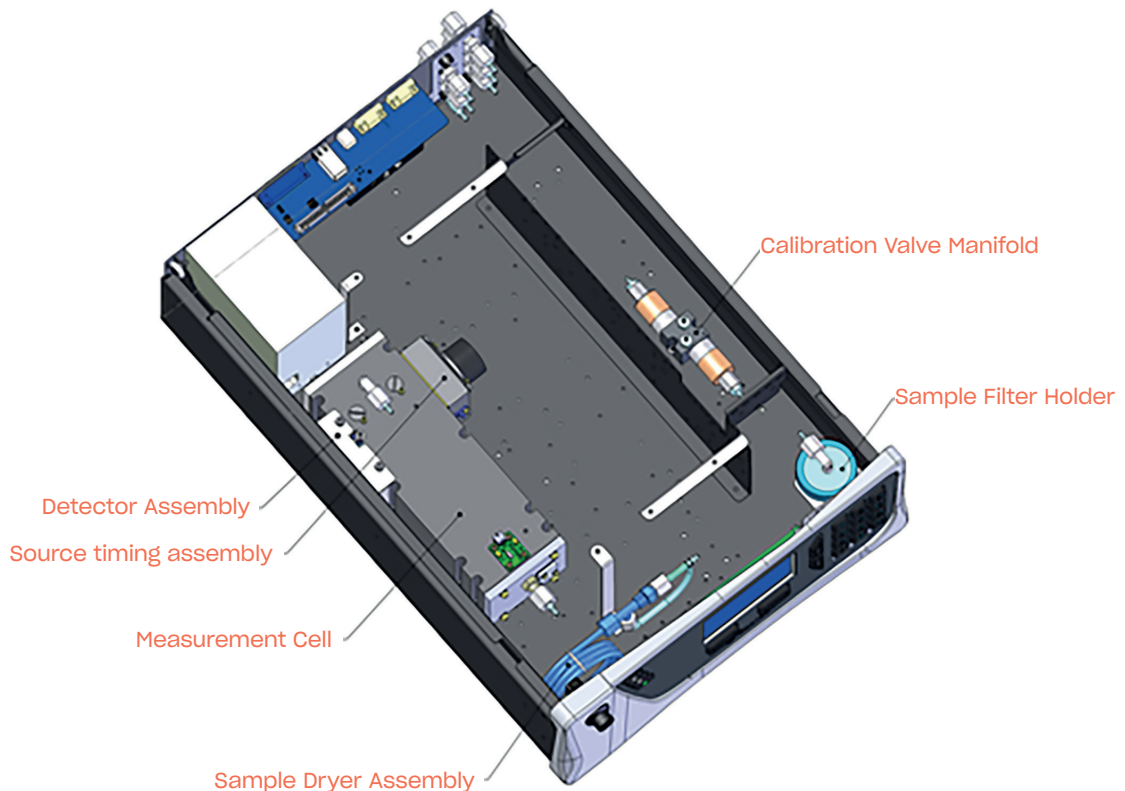
Benefits

The Serinus range of analysers have been designed using our experience & knowledge gained from operating large air quality monitoring networks for more than 45 years. The result, instruments that integrate seamlessly into continuous monitoring networks.

- Reliable performance complemented with a two year warranty
- Minimise time spent on site performing maintenance through superior remote instrument control, diagnostic viewing & calibration
- Comprehensive data logging & remote viewing of over 200 operational parameters
- Versatile interfacing through RS232, USB, analog & digital I/O & optional TCP/IP & Bluetooth
- Easier setup through an intuitive menu system with 'Quick Menu', advanced GUI & 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 & 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 & emailing of data is made even simpler using optional Bluetooth connectivity combined with the Serinus Remote Android App
- Enhanced operator safety through the use of 12 VDC internal voltages
- Reduced cost of spare parts, accessories & consumable items through extensive use of standard components across the Serinus range
- Rack slide design makes accessing internal components & 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 & its ability to operate over a wide temperature range.

Specifications

Range:	0 - 3000 ppm (autoranging)
Concentration units:	User selectable mg/m ³ , µg/m ³ 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 (autoranging)
Power consumption:	190 VA (max at start-up) 150 VA (nominal)
Dimensions:	429 x 175 x 638 mm
Rack spacing:	4 RU
Weight:	21.3 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, Bayern-Hessen, EC9800, Advanced.

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
- Autoranging from 0 – 50 ppb to 0 – 3000 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 & 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_x)
- 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
- Bluetooth
- Printed manual (soft copy of the user manual is supplied with analyser).

