

Serinus® 51

SO₂/H₂S ANALYSER



The Serinus® 51 analyser delivers precise and reliable performance at excellent value. It combines pulsed fluorescence detection with an internal catalytic converter to sequentially measure H₂S and SO₂ in the range of 0 - 2 / 0 - 20 ppm respectively with a detection limit of 0.3 ppb.

The measurements involves two cycles.

H₂S is measured by passing the sample through an internal SO₂ scrubber which removes any SO₂, the H₂S is then converted to SO₂ using the internal converter and measured using the fluorescence technique.

SO₂ is then sequentially measured by bypassing the SO₂ scrubber and converter and using the fluorescence technique to only measure the SO₂ concentration.

APPROVALS

- Based on the Serinus® 50 SO₂ analyser with U.S. EPA and EN approvals
- Russian approval: 56054-13.

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
- Internal thermal catalytic H₂S to SO₂ converter
- User selectable measurement of SO₂/H₂S, H₂S or SO₂ only
- 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 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
- 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

Ranges:	H ₂ S: 0 - 2 ppm (SO ₂ < 500 ppb) SO ₂ : 0 - 20 ppm (Autoranging)
Concentration display:	User selectable mg/m ³ , µg/ m ³ , ppm, ppb, ppt
Noise:	< 0.15 ppb
Lower detectable limit:	< 0.3 ppb or 0.2 % of concentration whichever is greater
Linearity:	< 1 % of full scale
Precision:	0.5 ppb
Zero drift:	24 hours: < 0.5 ppb 7 days: < 0.5 ppb
Span drift:	7 days: < 0.5 % of reading
Response time:	60 seconds to 95 %
STP reference:	0 °C, 20 °C, 25 °C at 101.3 kPa
Sample flow rate:	725 cc/min
Temperature range:	0 - 40 °C
Power:	100 - 240 VAC, 50 - 60 Hz (autoranging)
Power consumption:	255 VA max (typical at start up) 180 VA after warm-up
Dimensions:	429 x 175 x 638 mm
Rack Spacing:	3.5 RU
Weight:	18.1 kg

COMMUNICATIONS

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

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.

INPUTS / OUTPUTS

25 pin I/O port

- 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 - 20 ppm (between two user specified full scale values)
- 3 scalable analog inputs, 0 - 5 V, 160 µV resolution
- 8 logic level digital status inputs/8 open collector digital 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

- External AC powered pump (capable of operating 3 analysers, excluding NO_x)
- Dual filter (particulate) | rack slide kit
- TCP/IP network port
- High pressure zero/span valve
- Printed manual—electronic manual supplied with analyser
- SO₂ scrubber.



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Air Pollution Monitoring Systems