

SERVOPRO SO₂

THE SERVOPRO SO₂ PULSED UV FLUORESCENT TECHNOLOGY DELIVERS A PRECISE AND RELIABLE MEASUREMENT OF ULTRA-LOW SULFUR DIOXIDE FOR EMISSIONS AND AMBIENT AIR MEASUREMENTS.



SERVOPRO SO₂

For industrial applications that require ultra-low emissions monitoring of sulfur dioxide, the SERVOPRO SO₂ is the ideal solution, utilizing ultraviolet (UV) Fluorescent technology to deliver a continuous measurement you can rely on.

The analyzer is based upon UV radiation of the sulfur dioxide molecule using light in the range of 190-230nm. The molecule absorbs the light into an excited state (SO₂*) and then decays back down to the ground state, where a photomultiplier tube (PMT) converts the signal into SO₂ concentration. The UV spectral region used has the least amount of interference from other gases present in the emission stream that can potentially quench the signal.

To prevent interference and quenching from polycyclic aromatic hydrocarbons (PAHs) such as naphthalene, the SERVOPRO SO₂ is fitted with a "kicker" to remove them from the sample before analysis, ensuring a reliable, accurate reading.

Designed to slot seamlessly into a rack mounted system, the SERVOPRO SO₂ is easy to integrate with existing emissions monitoring equipment. An intuitive menu and large keypad allows for straightforward set-up and calibration. Remote operation is made possible through multiple options including RS232, and an Ethernet TCP/IP.

FLEXIBLE

- Multiple interfacing options including RS232, USB, and analog
- Ethernet TCP/IP
- Removable flash memory stores up to 10 years of data
- Two user selectable ranges from 0-50ppb to 0-20ppm

EASY TO USE

- Simple, intuitive installation and set-up
- Auto-ranging calibrations
- Advanced GUI, with "quick menu" and large keypad
- Instant-response, lights-based status reporting

LOW COST OF OWNERSHIP

- Reduced on-site maintenance via remote operation options
- Low power demand
- Operation over wide temperature range

UNRIVALLED PERFORMANCE

- Reliable UV Fluorescent technology with extended-life UV source
- Long life internal low voltage pump
- Rack-mounted slide design makes accessing internal components easy
- Extremely low zero and span drift over 7 days

BENCHMARK COMPLIANCE

- Applied for TUV and MCERTS Certification

Learn more about the SERVOPRO SO₂
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ANALYZERS
HIGH-PERFORMANCE GAS ANALYSIS

PRODUCT OVERVIEW: SERVOPRO SO₂

RELIABLE PERFORMANCE WITH PROVEN TECHNOLOGY

The SERVOPRO SO₂ uses UV Fluorescent technology to monitor sulfur dioxide concentrations in emissions gas streams and ambient air. The addition of a polycyclic aromatic hydrocarbons (PAHs) kicker to remove any potential interference from hydrocarbons ensures an accurate, reliable measurement for your emissions applications. The rack slide design allows for seamless integration into your existing system, as well as providing easy access to internal components with an intuitive user interface. Reduced power usage and operation over a wide temperature range means the SERVOPRO SO₂ has a low carbon footprint, delivering superior performance for a low cost of ownership.

FLEXIBLE WAYS TO ACCESS INFORMATION

The SERVOPRO SO₂ offers comprehensive data logging and remote viewing of more than 200 operational parameters, while removable USB flash memory can store around 10 years of data, including up to 12 individual parameters and event logs. Versatile interfacing through RS232, USB, analog and digital I/O and Ethernet TCP/IP allows for a variety of remote operation methods. Manual access is made simple by the intuitive menu system and advanced GUI, which includes a built-in screen and keypad.

DESIGNED TO MEET YOUR NEEDS

The robust SERVOPRO SO₂ analyzer is built to meet the demands of your application requirements. It has an easy-to-use, screen-based menu system with a large keypad. Low power consumption and reduced on-site maintenance through remote instrument control, diagnostic viewing and calibration, keep costs reduced. Illuminated light statuses provide an instant indication of the operational condition. Any firmware updates can be easily installed using a USB flash drive. And, should you need to access the inside of the analyzer, we have enhanced operator safety through use of internal 12VDC voltages.

ALTERNATIVE PRODUCTS

The Servomex product range features a number of options designed to meet your application needs.

SERVOPRO 4900



A high-performance continuous emissions analyzer designed for multi-gas measurement of NO, NO_x, CO and SO₂ pollutants, greenhouse gases and reference oxygen, the SERVOPRO 4900 combines impressive monitoring power with low cost of ownership for an attractive analytical package.

SERVOPRO NO_x



Designed for the measurement of NO, NO₂, and NO_x concentrations in key industrial and vehicle/engine certification applications, the SERVOPRO NO_x analyzer uses chemiluminescence detector (CLD) technology to provide a versatile and accurate NO_x analysis for continuous hazardous air pollutant monitoring.

SERVOPRO HFID



A high-performing on-line heated Flame Ionization Detector (FID) based analyzer that provides a robust and high-accuracy solution for THC, NMHC and CH₄ measurements, ensuring real-time gas stream analysis without the need of a gas chromatograph for separation of the methane.

KEY APPLICATIONS

■ Continuous emissions monitoring (CEMs)

■ Ambient air monitoring

SERVOMEX
TECHNOLOGIES



PRODUCT DATA: SERVOPRO SO₂

SPECIFICATIONS	DESCRIPTION
Detector technology	Pulsed UV fluorescent radiation
Gas	SO ₂
Range	0-20ppm (autoranging)
Response time	60 seconds to 95% full scale
Lower detectable limit	< 0.3ppb or 0.2% of concentration, whichever is greater
Linearity	< 1% of full scale
Noise	< 0.15ppb
Precision	0.5ppb or 0.5% of reading, whichever is greater
Zero drift (24 hours)	< 0.5ppb
Zero drift (7 days)	< 0.5ppb
Span drift (24 hours)	< 0.5% of reading
Sample flow rate	725 cc/min
Temperature range	0-40°C
Operating power	100-240 VAC, 50-60Hz (autoranging)
Power consumption	255VA (max at start-up), 180VA (nominal)
Communication options	Two RS232 ports, USB, Ethernet TCP/IP

SPECIAL FEATURES

Extended life UV source

Long life internal low voltage pump

Extremely low zero and span drift over 7 days



PRODUCT DATA: SERVOPRO SO₂

DEVICE SPECIFICATION

Size:

- 429mm (16.9") wide x
175mm (6.9") high x
638mm (25.1") deep

Weight:

- 18.1kg (39.9lb)

Operating Temperature:

- 0-40°C (32-104°F)

Compliance:

- Applied for TUV and MCERTS
Certification

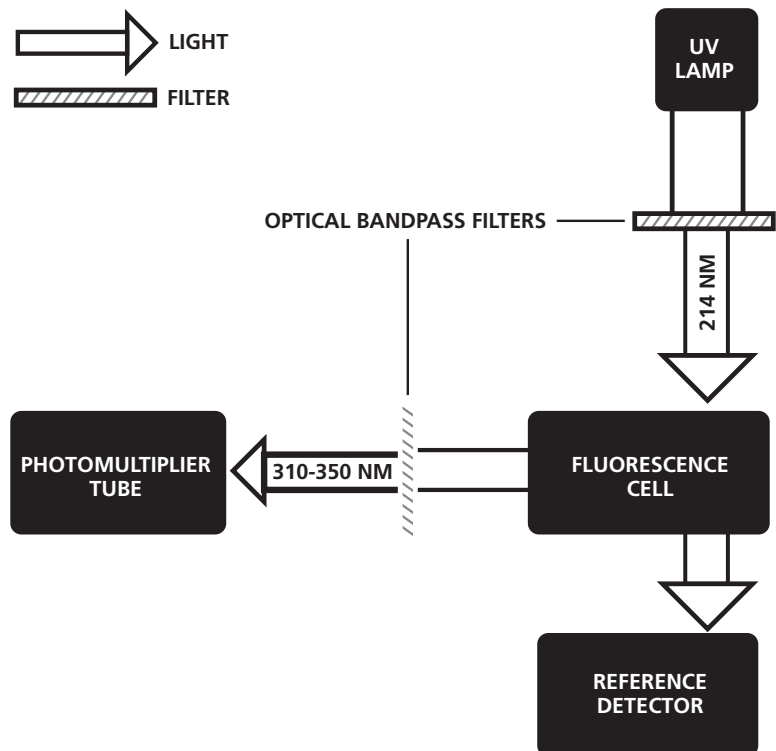
SENSING TECHNOLOGY

UV Fluorescence

UV energy from a zinc discharge lamp is passed through a UV band pass filter to produce radiation at a specific UV wavelength. This light is then focused into the sample cell where it is absorbed by the SO₂ molecules.

The SO₂ molecules fluoresce, and photons are emitted at wavelengths between 310-350nm (specific to SO₂) which are then passed through another band pass filter before they reach a photomultiplier tube, which measures the signal intensity. The fluorescence is directly proportional to the SO₂ concentration.

A reference detector monitors the emission from the zinc lamp to correct for any fluctuations in lamp intensity and ensure a consistently reliable reading.



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These analyzers are not intended for any form of use on humans and are not medical devices as described in the Medical Devices Directive 93/42EEC.

Please note: This document was updated in April 2017. While every effort has been made to ensure accuracy, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards and guidelines. This document is not intended to form the basis of a contract.

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