

UV Fluorescence Sulfur Dioxide Analyzer

AIR QUALITY MONITORING SYSTEMS



SPECIFIC FEATURES:

- Superior metrological performances for SO₂ measurements with selectable display in ppb or µg/m³
- Innovative optimized conception of the optical module for excellent sensitivity and signal stability
- Real-time calibration graph, animated synoptic, auto-diagnostic, control and maintenance data screens can be displayed while the instrument is operating
- Service assistance inside: detects early signs of trouble, allows predictive maintenance, identifies the needed service and guides service operations step by step for increased productivity on site, reduced downtime, more efficiency, less training
- Ultra low power consumption: an environmentally-friendly and cost-saving analyzer
- Breakthrough mechanical design for power saving as well as thermal insulation & reliability
- Automatic recognition of plugged electronic boards or optional devices: plug and play principle
- Local and remote control through digital port (configuration, calibration, test and diagnosis parameters for maintenance support)
- Includes embedded Communication Protocol for XR[®] Software with automatic recognition and configuration
- Optional: 24V power supply and enhanced temperature range for mobile AQMS laboratories or solar powered air quality monitoring stations



Adopt the no-screen version and avoid the pollution related to the screen manufacturing and recycling cycle. The analyzer is connected with your computer thanks to Ethernet link.

MAIN APPLICATIONS:

- › Continuous indoor and outdoor air quality monitoring
- › Stationary and mobile AQMS laboratories
- › Leakage detection in industrial applications
- › Continuous emissions monitoring (CEM) by dilution
- › Background, rural, urban or sub-urban, industrial, traffic, roadside, Kerbside measurement campaigns and monitoring studies
- › Laboratory & field studies on SO₂/H₂S/TRS effects...

COMPLIANCE WITH:

2008/50/EC, EN 14212 (2012), EN 15267, 40 CFR PART 53 SUB B and SUB C



Suitability Tested
Complying with
2008/50/EC
EN 15267
Regular
Surveillance
www.tuv.com
ID 0000051690



QAL 1 CERTIFIED
N°0000051690

U.S. EPA APPROVED
EQSA-0802-149

UV Fluorescence SO₂ Analyzer **AF22e**

PRINCIPLE OF OPERATION:

The **AF22e** is a criteria pollution monitor based on the ultraviolet fluorescence, which is the standard method for the measurement of SO₂ concentrations in ambient air (EN 14212).

This method is based on the fluorescence of SO₂ due to absorption of ultraviolet (UV) energy. A photo-diode measures the ultraviolet radiation generated by the UV lamp. This measurement is used during signal processing in order to compensate for any variation of the UV energy. Molecules restore a specific fluorescence in the ultraviolet: this fluorescence is visualized by the PM tube placed near the reaction chamber. The hydrocarbons aromatic 'kicker' conception guarantees the total elimination of hydrocarbon interferences for an extremely accurate measurement.

TECHNICAL SPECIFICATIONS

Measurement range	0-1 ppm / 0-10 ppm (user selectable or auto-ranging)
Detection limit (2σ)	< 0.4 ppb
Noise	< 0.2 ppb
Zero drift	< 1 ppb / 24h (< 0.5 ppb / 24h upon request)
Span drift	< 0.5% / 24h
Response time	20 - 120 sec (programmable)
Linearity	1% (of Full Scale)
Precision	<0.5% of reading
Sample flow-rate	20 L/h
Data storage	1 year
Display	7" TFT colour touch screen
Communication	Ethernet network connection (RJ45), 3x USB ports, 2 dry contacts outputs included
Dimensions L x D x H (mm)	483 x 545 x 133
Chassis	19" rack, 3U
Weight	9.8 kg (20.9 lbs)
Standard operating temperature	5°C to +40°C
Power supply	115 V, 60 Hz / 230 V, 50 Hz / 24 V optional
Power consumption	30 Wh
Pressure and temperature compensation	
Internal solenoid valve block for zero air and span gas	
Internal sampling pump	
Built-in web-server for full remote emulation of the analyzer	

AF22e Operating Principle



MAIN OPTIONS:

- RS232 or RS485 Serial interface (via USB port)
- Built-in permeation bench with SO₂ tube (additional pump not required)
- Internal converter for the H₂S monitoring (range 0-1000 ppb)
- External converter module TRS → SO₂ for the measurement of total reduced sulfur compounds (range 0-1000 ppb)
- External opto-isolated I/O interface with: 4 independent analog inputs / 4 independent analog outputs / 4 remote control inputs / 6 dry contacts outputs
- 24V power supply & enhanced T° range up to +50°C for use without air conditioner

AF22e analyzer
(internal view)



E-SERIES ADVANTAGES:

- > Environmental friendly:
 - Low carbon footprint
 - Over 95% of the analyzer can be recycled
 - Ultra low power consumption
- > Economic, Easy and reduced maintenance
- > Service Assistant inside
- > 7" TFT colour touch screen
- > Interactivity: connected instruments
- > SmartStatusLight™ power button for status of operation (ON/OFF, Alarm, Maintenance required...)
- > Common electronic boards: optimized spare parts stock

The e-Series of analyzers has been fully eco-designed, with a special consideration to the environmental impacts of the product during its whole life-cycle. The exclusive «inside the box» foam modular concept makes the product more robust, power saving, simpler to service and eco-friendly.

Detailed information on the e-Series brochure

