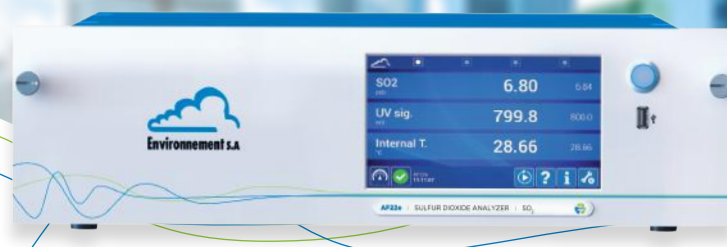




# UV Fluorescent sulfur dioxide analyzer AF22e



ESA Connect™



## SPECIFIC FEATURES:

- Superior metrological performances for SO<sub>2</sub> measurements in ranges 0-20 ppm or 0-1 ppm
- Innovative conception of the optical module for excellent sensitivity and signal stability
- Simultaneous multi-screen remote access via Wifi or Lan using the dedicated application ESA Connect™ for control, diagnostics, software update...
- ESA Connect™ application for iOS and Android available for free download
- Real-time calibration graph, animated synoptic, auto-diagnostic, control and maintenance data screens can be displayed while the instrument is operating
- Service assistant inside: detects early signs of trouble, allows predictive maintenance, identifies the service needed and guides the service operations step by step: increased productivity on site, reduced downtime, more efficiency, less training
- Includes embedded Communication Protocol for XR® Management Software with automatic recognition and configuration
- Ultra low power consumption (43 W) means environment-friendly and cost-saving analyzer
- Breakthrough mechanical design for weight and power saving as well as thermal insulation & reliability
- Special architecture means that no additional pump is necessary in case of permeation bench option
- Automatic recognition of plugged electronic boards or optional devices: plug and play principle
- SmartStatusLight™ power button on the front panel indicating if the instrument is ready to use or not (ON/OFF, Alarm, Maintenance required...)

Adopt the no-screen version of the analyzer and avoid the pollution related to the screen manufacturing and recycling cycle: The analyzer is connected with your device (computer, smartphone or tablet)

## E-SERIES ADVANTAGES:

- > **Environmental friendly:**
  - Sustainable eco-design
  - Low carbon footprint
  - Over 95% of the analyzer can be recycled
  - Ultra low power consumption
  - No use of heavy metals (eg. Mercury)
- > **Long lifespan, excellent accuracy**
- > **Reliable electronics**
- > **Economic, Easy and reduced maintenance**
- > **Common electronic boards: optimized spare parts stock**
- > **Service Assistant inside**
- > **Interactivity: connected instruments**

## COMPLIANCE WITH:

ISO 10498, 2008/50/EC, EN 14212, EN 15267, 40 CFR PART 53 SUB B and SUB C



TÜV RHEINLAND  
QAL 1 Certified  
Certificate N°  
0000051690



U.S. ENVIRONMENTAL  
PROTECTION AGENCY  
APPROVAL  
EQSA-0802-149

## MAIN APPLICATIONS:

Continuous indoor and outdoor air quality monitoring • Stationary and mobile AQMS laboratories • Industrial fence-line monitoring • Continuous emissions monitoring (CEM) by dilution • Background (urban or suburban), Rural, Traffic, Kerbside measurement campaigns and monitoring studies • Laboratory and field studies on sulfur effects...



## SPECIFICATIONS:

- Measurement Range: **0-20 ppm or 0-1 ppm**, user selectable and programmable
- Detection limit(2σ): **<0.4 ppb**
- Noise: **<0.2 ppb**
- Zero drift: **<1 ppb/24h**
- Span drift: **<0.5% /24h**
- Response time: automatic and/or programmable
- Linearity: **1%** (of the reading value)
- Pressure compensation
- Sample flow-rate: **20 l/h**
- Internal sampling pump
- Internal solenoid valve block for zero air and span gas
- Data storage: 1 year (1 minute data)
- Ethernet network connection (RJ45), 3 x USB ports, 2 dry contacts outputs included
- Integrated web-server with full remote emulation of the analyzer
- Dimensions (mm, LxWxH): 483x545x133
- Chassis: 19" rack, 3U
- Weight: 9,5 kg (20.9 lbs)
- Operating temperature: 0-35°C
- Power supply: 115 V, 60 Hz - 230 V, 50 Hz
- Power consumption: 43 W

## MAIN OPTIONS:

- 7" TFT colour touch screen
- WiFi module (in standard with the no-screen version)
- Serial interface (via USB port)
- SO<sub>2</sub> permeation bench and filter valve block for calibration control
- Internal converter H<sub>2</sub>S⇌SO<sub>2</sub> (low)
  - Range: 0-0.05/0.1/0.2/0.5/1 ppm
  - Cycle time: SO<sub>2</sub>/ H<sub>2</sub>S: 7 min
  - SO<sub>2</sub> filter capacity: 500 ppm/hour
- External converter module TRS⇌SO<sub>2</sub> for the measurement of low sulfur compounds
- External opto-isolated I/O interface with:
  - 4 independent analog inputs
  - 4 independent analog outputs
  - 4 remote control inputs
  - 6 dry contacts outputs
- 24 V DC Power supply for on-board applications

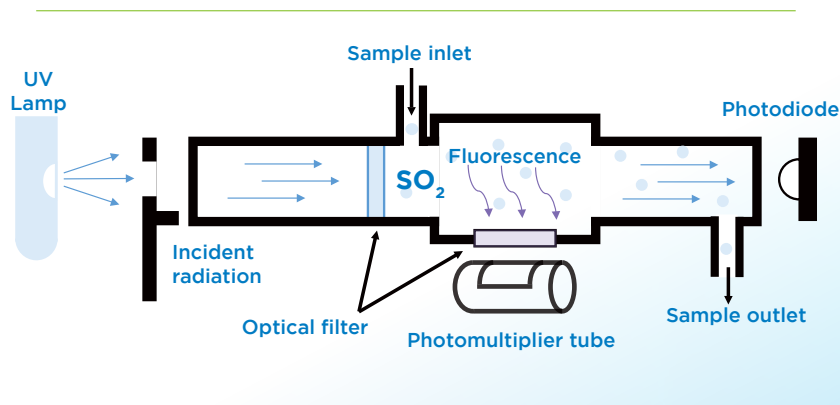
## PRINCIPLE OF OPERATION:

The **AF22e** is a continuous ambient air-quality monitoring analyzer (CAMs), based on the ultraviolet fluorescence principle, which is the standard method for the measurement of SO<sub>2</sub> concentration ( EN 14212 ).

The UV Fluorescence Technique consists in detecting the fluorescent radiation emitted by SO<sub>2</sub> molecules after reaching a temporary electronic state. A photodiode 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 interferences for an extremely accurate measurement.

Engineered with breakthrough technologies, the e-Series achieve a previously unreachable level of autonomy: it also integrates self diagnosis and a high level of self-operation. Each analyzer is self monitored continuously for performance and fault control: it detects early signs of trouble, identifies the service needed and even guides the service operations!

### AF22e Operating Principle



AF22e analyzer: internal view

Distributed by:

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

**Detailed information related in the e-Series brochure**



111 BD Robespierre / CS 80004  
78304 Poissy CEDEX 4 - FRANCE  
Tel. : +33(0)1 39 22 38 00

Web : [www.environnement-sa.com](http://www.environnement-sa.com)  
E-mail : [info@environnement-sa.com](mailto:info@environnement-sa.com)

