GAS ANALYSER
FTUV-MULTIGAS

NH3
NOx
SO2
BTX
and other

0h 6h 12h 18h

TETHYS Instruments

GAS ANALYSER
FTUV - MULTIGAS

Introduction

The reduction of gas emission from industrial plants and vehicules is now a global concern for the environment as climate change, forest devastation and respiratory diseases are endangering present and future generations.

The aim of AWA Instruments is to provide reliable and cost effective environmental monitoring solutions to control emission gases.

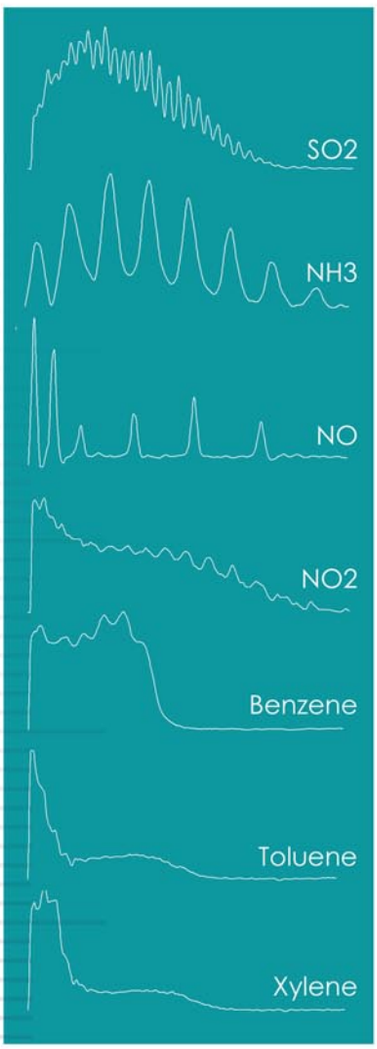
Based on a 10 year experience manufacturing ammonia gas detection by UV spectroscopy and an extensive pool of analysers installed worldwide, AWA now proposes its technology to monitor a wide range of UV absorbing gases.

Simple, rugged design

AWA gas analysers are designed to work under harsh conditions without sacrificing top performance. Solid state technology, no moving parts, mechanical integrity and proprietary signal interpretation methods make the FTUV-MULTIGAS analyzer the system of choice for demanding applications.

Main applications:

- Continuous emissions monitoring (extractive)
- Source testing
- Flue gas desulphurization
- SCR deNOx, ammonia slip control
- Catalyst research
- Vehicle emission testing



Configurable from one to eight gases

Implementing advanced UV spectrum analysis, the FTUV-MULTIGAS is easily factory configurable to meet the user's application. Most combination of UV absorbing gases can be measured by the analyzer. A simple cost structure applies for more thanone gas. High selectivity is ensuredby applying a mixed approach for signal analysis.

Heated version (option)

For applications on wet combution gases, the internal gas circuitry is heated at 180 ºC to avoid condensation.

10 year UV lamp lifetime

The UV xenon lamp is specified for 10^9 flashes which gives more than 10 years of lifetime undercontinuous operations.

Maintenance and replacement costs are reduced as well as the risk to perform bad measurements due to lamp aging.

Automatic zeroing, calibration

Instrument zeroing is done automatically on zero air with an adjustable period to guaranty very accurate measurements. On most applications, ambient air can be used directly.

The factory set scale factor of the UV measurements is intrinsically stable, depending solely on the flow cell length (Beer-Lambert law).
The FTUV-MULTIGAS is therefore factory calibrated and normally no further calibration is necessary.

No risk of interference with O2, N2, CO, CO2, H2O

Major emission gases like O2, N2, CO, CO2 and H2O do not have UV absorption.

At the opposite of IR based systems, their presence in gas mixtures monitored by the FTUV-MULTIGAS will not affect the measurements at all.

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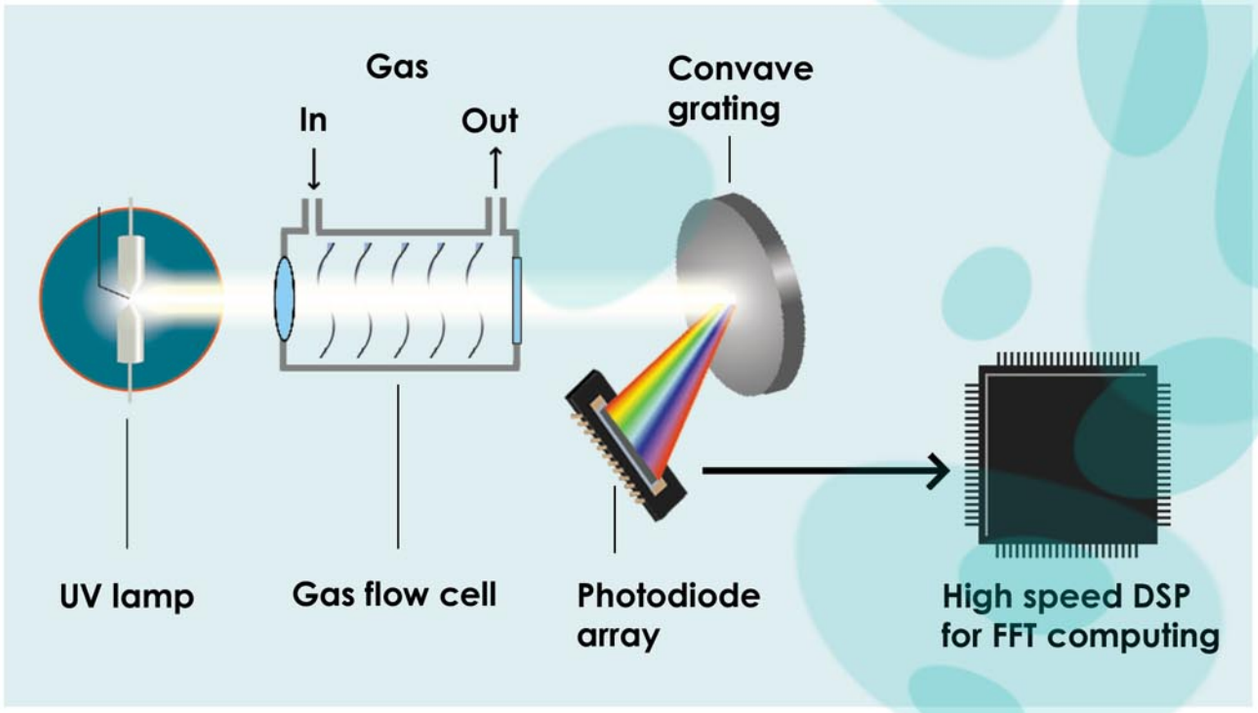

TYPICAL PERFORMANCE DATA

Compound	Range of measurement (1)	Repeatability (sigma) for measurement time of 10 sec (2)	Method detection limit (MDL, 3x sigma)	Span drift per month (FS)
NH3 (ppm)	1000	0.2	0.6	< 1%
NH3 (mg/m3)	750	0.15	0.45	< 1%
NO (ppm)	5000	5	15	< 1%
NO (mg/m3)	6500	6.5	20	< 1%
NO2 (ppm)	10,000	7	20	< 1%
NO2 (mg/m3)	20,000	14	40	< 1%
SO2 (ppm)	2000	2	6	< 1%
SO2 (mg/m3)	6000	5	20	< 1%
Benzene (ppm)	80	0.5	1.5	< 1%
Benzene (mg/m3)	300	1.5	4.5	< 1%
Toluene (ppm)	80	0.6	2	< 1%
Toluene (mg/m3)	300	2.5	8	< 1%
Xylene (ppm)	80	0.3	1	< 1%
Xylene (mg/m3)	300	1.2	4	< 1%

(1) Higher ranges available on request, up to x100 or x1,000 higher
(2) For 2 seconds measuring time, the repeatability is about 5 times higher

Note : Other UV absorbing gases can be measured by the FTUV-MULTIGAS (refer to TETHYS Instruments)

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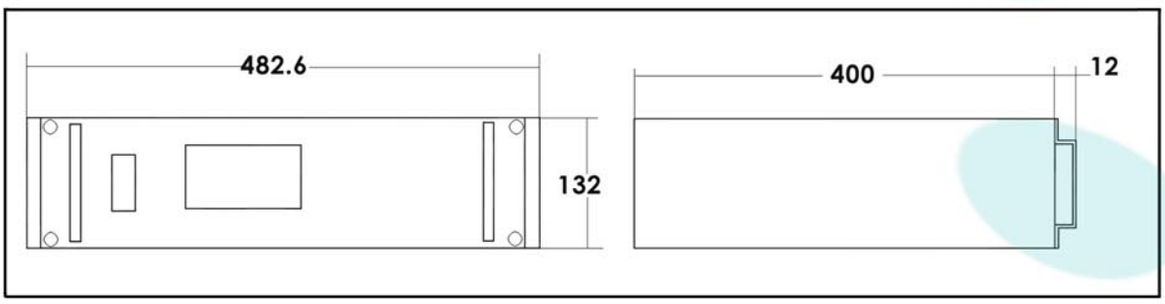
SPECIFICATIONS

Sampling gas:	Pressure: min 0 bar (0 PSI), max 0.2 bar (3 PSI) Flow: 0.1 to 5 litre/min(0.025 to 1.5 GPM) Temperature: min 0 °C (32 °F) max 60 °C (140 °F), heated version at 180 °C (350 °F) Fittings: Swagelok, stainless steel 316 for tube OD ¼" (6.4 mm)
Zero gas:	Pressure: min 0 bar (0 PSI), max 0.2 bar (3 PSI) Flow: 1 to 5 litre/min(0.25 to 1.5 GPM) Temperature: min 0 °C (32 °F), max 60 °C (140 °F) Fittings: Swagelok, stainless steel 316 for tube OD ¼" (6.4 mm)
Range:	Refer to the table on page 3
Accuracy:	Refer to the table on page 3
Method:	NH3, SO2, NO, NO2, NOx: FFT on UV absorption spectrum Benzene, Toluene, Xylene: UV absorption on dual wavelength
Measurement rate:	5 seconds to 1 hour
Data storage:	4000 measurements
Communication:	RS485 with MODBUS, RS-232 with Windows Hyperterminal or MODBUS
Outputs:	4-20 mA, isolated, 500 Ohm max, screw terminal 4 alarms or default relay contacts, screw terminal, 2A max
Power supply:	110V to 240V (50-60 Hz) selectable by internal switch, 30 VA
Ambient temperature:	0 °C (32 °F) to 60 °C (140 °F)
Dimensions:	Rack 19" 3U (482.6 mm x 133 mm x 430 mm)
Weight:	< 10 kg

DIMENSIONS



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