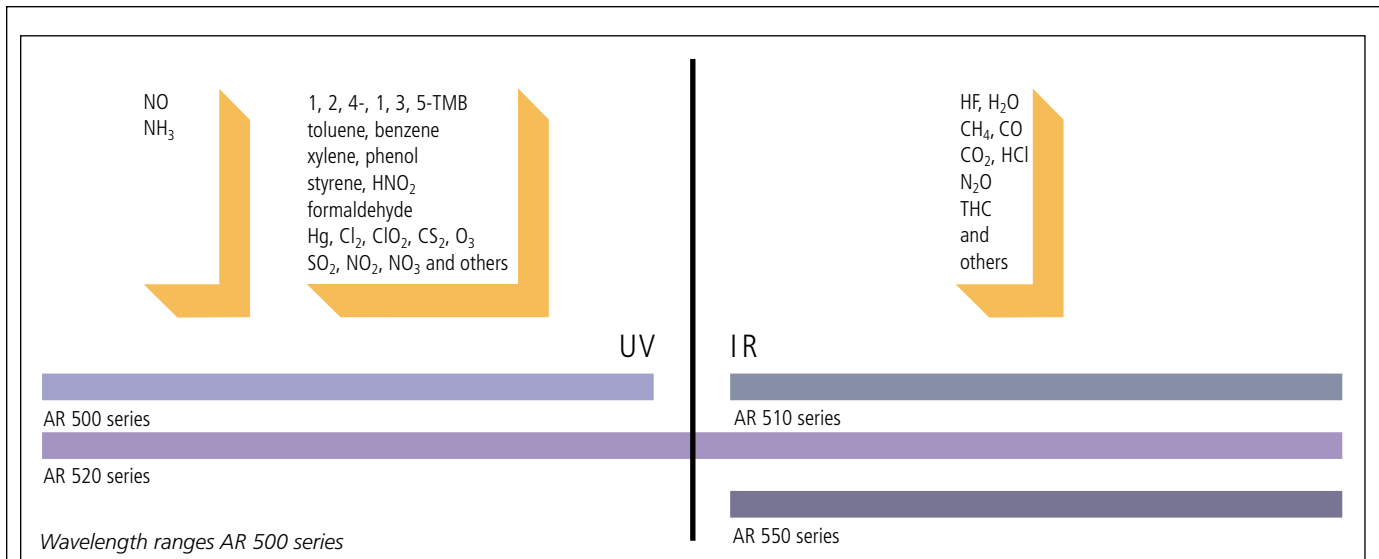# AR 500 Series

Multi-Component Air Quality Analysers

The Opsis AR 500 Analyser is the central unit of an Opsis ambient air monitoring system. It accepts light from one or more lightpaths via a fibre optic cable and provides data for presentation through Opsis software. It also includes a modem, allowing data to be uploaded to a remote PC and allowing remote supervision and adjustment. The analyser has a high-performance spectrometer. Here, received light is converted into digital signals and analysed by the built-in computer. The computer software includes the spectrographic 'fingerprints' of a number of user-specified compounds. Using Beer Lambert's Law, it detects and measures these compounds through the depletions they cause in the spectrum of received light.

The system refines results by calculating margins of error for each value and by noting the proportion of transmitted light received by the analyser. This allows both data and system verification.

Opsis is a fully modular system which may be updated or expanded at any time. An Opsis analyser includes interfaces for a multiplexer (required when using multiple lightpaths) and for a datalogger (required when integrating external signals from meteorological sensors for example) as standard. Furthermore, it is prepared for the addition of automatic calibration equipment.

Updating an Opsis system to monitor additional gases often only involves a simple software upgrade.

OPSIS®

| NO
NH₃ | 1, 2, 4-, 1, 3, 5-TMB
toluene, benzene
xylene, phenol
styrene, HNO₂
formaldehyde
Hg, Cl₂, ClO₂, CS₂, O₃
SO₂, NO₂, NO₃ and others | | HF, H₂O
CH₄, CO
CO₂, HCl
N₂O
THC
and
others |

NO / NH₃

1, 2, 4-, 1, 3, 5-TMB toluene, benzene xylene, phenol styrene, HNO_2 formaldehyde Hg, Cl_2, ClO_2, CS_2, O_3 SO_2, NO_2, NO_3 and others

HF, H_2O CH_4, CO CO_2, HCl N_2O THC and others

UV   I R

AR 500 series   AR 510 series

AR 520 series

Wavelength ranges AR 500 series   AR 550 series

Technical Specifications (standard)

Dimensions (L × W × H)	600 × 440 × 266 mm
Weight incl. case (approx.)	50 kg
Voltage supply	230 V (+ 6 %, – 10 %) / 115 V (± 10 %) 50/60 Hz
Power consumption	110 W
Computer	Embedded PC with VGA screen
Hard disk memory	2 Gb or more
Floppy disk drive	3 1/2 ", 1.44 Mb
Modem	Hayes compatible
Serial output	RS 232C
Ambient temperature	+ 15° C to + 25° C (+ 60° F to + 80° F)
Degree of protection	IP 20

Standard (separately ordered)

Gas calibrations (please see application sheets)

Specifications subject to change without notice

Options

AR 501 with one UV detector
AR 502 with two UV detectors
AR 503 with three UV detectors
AR 510 with one IR detector
AR 520 with one IR detector and one UV detector
AR 550 with one IR detector
UV filter 230 series
Floppy disk drive 120 Mb

Accessories

Temperature controlled cabinet
EnviMan ComVisioner, Reporter software
Calibration equipment
Dataloggers
IO 256 Signal handling system
Ambient pressure, humidity and temperature sensors
Short-haul modems

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