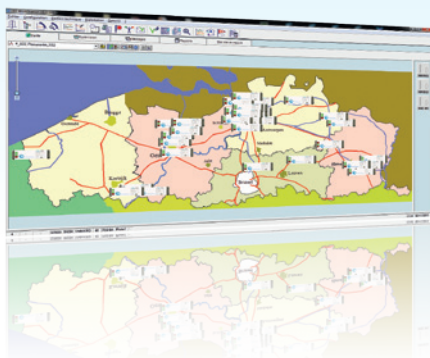# Multiparameter Micro Monitoring Station **MMS**
Fixed or portable

Turnkey Micro Monitoring Station, ISO and EN regulations compliant

XR® software optionnally for real time data management, display, interactive configuration, calibration, automatic remote test interface ...

EXCLUSIVE FEATURES:

- One single box for the continuous measurement of **CO, CO$_2$, O$_3$, NO, NOx** and **NO$_2$** (SO$_2$ optionally)
- Modular system
- USB and Ethernet TCP-IP for remote monitoring, data recovery and maintenance
- Built-in Graphic LCD display for local data viewing
- Display of real-time synoptic flow chart for each module
- Cross interference correction, linearization, data smoothing
- 1/4h average data storage over 1 year
- USB and Ethernet TCP-IP for remote monitoring, data recovery and maintenance
- *Options:* Integrated Data Acquisition System and XR® data management software
- Can be completed with PM162M particulate sampler, with MP101M or CPA for complementary real time particulate analysis
- MCERTs certified system

Type approvals:

> EN Approved
> ISO 7996 **&** EN 14211:2005 (NOx)
> ISO 4224 **&** EN 14626:2005 (CO)
> ISO 13964 **&** EN 14625:2005 (O$_3$)
> EN 12341 (PM10) **&** EN 14907 (PM2.5)
> ISO 10498 **&** EN 14212:2005 (SO$_2$)

APPLICATIONS:

- Tunnel Monitoring
- Roadside air quality monitoring, traffic pollution control
- Mobile Air Quality Monitoring
- Ambient Air Pollution Hotspot Monitoring
- Fence Line Monitoring for Industry
- Indoor air quality monitoring (risk assessment in work places)
- Measurement Campaigns and Monitoring Studies...

Multiparameter Micro monitoring station **MMS**

GENERAL SPECIFICATIONS:

- Analyzers' dimensions (WxHxD): 600x600x200mm
- Weight (analyzer alone): 29 kg (63.9 lbs)
- Power supply: 230 V / 50 Hz or 115 V / 60 Hz
- Power consumption: 300 W approx
- Operating temperature:
  - A/C street cabinet version: -20 to +45°C
  - Portable version: +5 to + 38°C
- Linearity: ± 1%
- Output: 1 RS232/422 and 2 Ethernet ports

DETAILED SPECIFICATIONS:

Modular design, up to 3 of following modules (available configurations upon request):

NO / NO$_2$ / NOx:

- Ranges: programmable from 0.1 to 20 ppm
- Lower detectable limit: <0.4 ppb
- Zero drift: <0.5 ppb / 24h
- NH$_3$ interference: <1%

O$_3$:

- Ranges: programmable from 0.1 to 10 ppm
- Lower detectable limit: <0.4 ppb
- Zero drift: <0.5 ppb / 24h

CO / CO$_2$:

- Ranges: programmable from 0.1 to 200 ppm (0 to 3000 ppm for CO$_2$)
- Zero drift: <0.05 ppm / 24h
- Lower detectable limit: 40 ppb (CO)

SO$_2$:

- Ranges : programmable from 0.1 to 10 ppm
- Zero drift: <0.5 ppb / 24h
- Lower detectable limit: 0.4 ppb

OPTIONS:

- Small footprint A/C shelter version with possible integration of: PM sampler or analyzer, meteo sensors
- Analog outputs/inputs board
- Additional CO$_2$ measurement (option of the CO module)
- Common zero air
- External sample dryer
- Ozone generator
- Span gas cylinders calibration SV
- Sampling inlets

OPERATING PRINCIPLE:

The Micro Monitoring Station (MMS) consists of a single IP54 enclosure where up to 3 measuring 2M Series modules can be housed.

This system meets the requirements of the biggest problems that pose the Air Quality monitoring: to find free space for a shelter. This problem is becoming more important in countries where local Government must monitor the increasing pollution. These «key points» can typically be narrow pavements with high buildings which edge both sides.

The MMS is composed of autonomous modules based upon their different analysis principles:
1. Chemiluminescence (NO, NO$_2$, NOx)
2. UV Photometry (O$_3$)
3. IR Gas Filter Correlation (CO, CO$_2$)
4. UV Fluorescence (SO$_2$)

The modules (2 or 3) have a common electronics located inside a unique small housing, in accordance with the internationally approved monitoring methods. It is possible to integrate the MMS tight box version inside a small air-conditioned shelter according your applications.

Real-time calibration graphs can be displayed during span check operation. Multi-tasking software allowing advanced calculation (such as interference corrections, wind direction averaging...) combined with the LCD graphic display, gives a user-friendly access to the instrument set-up, as well as the status and maintenance parameters. Real-time synoptic, auto-diagnostic and maintenance data screens can be displayed while the instrument is operating. Its electronics allow enhanced data storage of more than one year of 15 minute averages and total remote troubleshooting diagnostic capabilities via modem, using the analyzers' complete display and emulation functions.

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