



Multiparameter Micro Monitoring Station Fixed or transportable Model MMS

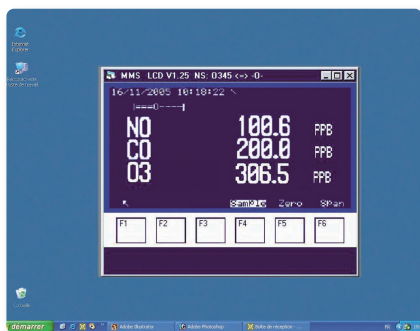
**Air quality monitoring
Up to 4 gases
(CO, CO₂, NO_x, O₃)
and optional PM sampler**

Complies with:

- ISO 7996 & EN 14211:2005 (NO_x)
- ISO 4224 & EN 14626:2005 (CO)
- ISO 13964 & EN 14625:2005 (O₃)
- EN 12341 (PM₁₀)

2M Series technology:

- Modular design
- LCD Display
- SMD enhanced electronics
- Remote maintenance and diagnosis



Remote control using CONTACT software



Fixed version
(in street cabinet)



Portable version

Applications:

- Air quality monitoring in urban spots (small footprint)
- Roadside air quality monitoring
- Indoor air quality monitoring (risk assessment in work places)
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Exclusive features:

- One single enclosure for on-line monitoring of up to 4 gas pollutants
- Built-in Graphic LCD display for local data viewing
- Display of real-time synoptic flow chart of each module
- Automatic span check for each module using gas cylinders (cabinet version)
- Double serial interface (RS232/422) for remote control
- Optional sequential PM sampler (cabinet version only)
- TCP/IP connection
- USB port data retrieval and software upgrade
- Correction and linearization capabilities

Micro monitoring station (MMS)

General specifications:

- Analyzer dimensions (WxHxD):
 - MMS: 600 x 600 x 200 mm (analyzer alone)
 - MMS: 1040 x 1600 x 480 mm w. cabinet (side A/C included, sampling inlets not included)
- Weight: 29 kg (analyzer alone)
- Power supply: 230 V / 50 Hz or 115 V / 60 Hz
- Power consumption: 370VA approx
- Operating temperature :
 - A/C street cabinet version: -20 to +45°C
 - Portable version: +5 to +38°C
- Output: RS232/422

Detailed specifications:

NO_x

- Ranges: 0-0.01/0.2/0.5/1/2/5/10/20 selectable ranges
- Lower detectable limit: 0.4 ppb
- Response time: mini 30 sec

O₃

- Ranges: 0-0.01/0.2/0.5/1/2/5/10 ppm or user selectable ranges
- Lower detectable limit: 0.4 ppb
- Response time: mini 20 sec

CO

- Ranges: 0-10/25/50/100/200 ppm or user selectable ranges
- Lower detectable limit: 50 ppb
- Response time: mini 30 sec

CO₂

- Ranges: 0-1000 ppm or user selectable ranges
- Lower detectable limit: 2 ppm
- Response time: mini 30 sec

Options:

- Transportable chassis or A/C street cabinet
- Analog outputs/inputs board (1 up to 2)
- PM162 sampler (for MMS street cabinet only)
- Common zero air
- External ozone generator for calibration
- Exists in 2-module versions (NO_x/CO, CO/O₃ or NO_x/O₃)

Distributed by:

Operation principle:

The Micro Monitoring Station (MMS) consists of a single IP54 enclosure, in which up to 3 metrological modules from 2M Series can be housed.

NO_x module ❶: the NO_x sample concentration is determined by chemiluminescence. The chemiluminescence reaction between ozone and nitric oxide (NO) yields electronically excited nitrogen dioxide (NO₂). The transition from this state to a normal state produces light intensity proportional to the mass flow rate of NO₂ into a temperature controlled reaction chamber. The light is measured with a PM tube.

O₃ module ❷: the O₃ sample concentration is determined by UV absorption, which consists in measuring UV absorption of ozone molecules. Ozone concentration is determined by difference between UV absorption of the gas sample and the sample without ozone after filtration performed by a catalytic converter.

CO (opt. CO₂) module ❸: the CO sample concentration is determined by IR GFC (Infra Red Gas Filter Correlation). IR GFC consists in measuring how much infrared light the sample gas absorbs as it flows through a multi-cell correlation wheel filled on one side with a reference CO cell (reference beam) and on the other side with an empty cell (the measurement beam). As the wheel turns round, the light beam passes alternatively through the

CO cell and the empty cell and then through an interference optical filter before reaching the optical detector. If the sample contains CO, the reference beam will not be attenuated by it, since it was already attenuated by the CO of the reference cell. The measurement beam however will be attenuated by the CO in the sample.

Real-time calibration graphs can be displayed during span check operation. Multi-tasking software allowing advanced calculation such as 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. The new electronics allow enhanced data storage of more than two months of 15 minute averages and total remote troubleshooting diagnostic capabilities via modem, using the analyzer complete display and functions emulation.

