

NEMo

Next Environmental Monitoring



INDOOR AIR QUALITY LOGGER

CO₂ - FORMALDEHYDE - TEMPERATURE - HUMIDITY

THE SIMPLEST WAY TO DIAGNOSE AND MONITOR
INDOOR AIR QUALITY INSIDE BUILDINGS

- Selective, sensitive and continuous measurement of formaldehyde and CO₂
- Measurement of real exposure to pollutants and identification of pollution peaks
- Helps to define and validate good practices
- Simple controls to start/stop the campaign with a magnet
- Simple, user-friendly data management software
- Automated report generation with target values



NEMO is the first portable logger of Indoor Air Quality (IAQ) to continuously and selectively measure confinement and formaldehyde with the levels stipulated for indoor air quality.

Design houses, building users, or public organizations can thus easily set up monitoring campaigns. A single button is all that is required to collect the data and generate complete, visual reports.

Continuous measurement of these parameters, along with new management and analysis software, allow accurate analysis of occupants' exposure to pollutants and identification of pollution peaks.

The manager can thus undertake highly effective and more economic corrective actions best suited to the type of building: optimization of ventilation, development of "good practices" (opening windows, cleaning schedules,...).

CO₂, Formaldehyde: the ideal combination for indoor air quality diagnosis.

Why CO₂ ?

Carbon dioxide is not chemically toxic (except at very high concentration) but has a strong influence on awareness and psychomotor performance as soon as the concentration in an enclosed space exceeds 1000ppm. It is produced by humans during respiration and is typically extracted through the ventilation system or by aeration. Thus, it is a reliable indicator of good design and operation of the ventilation and confinement of a room.

Why formaldehyde ?

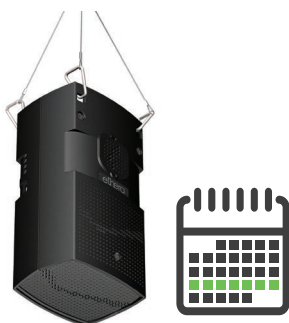
Formaldehyde is one of the main pollutants of indoor air. This carcinogenic product is present in many manufactured goods used in building construction or decorative products. It is ubiquitous in dwellings and offices, where we spend over 80 % of our time. In the long term, formaldehyde can lead to serious health problems, especially affecting respiratory tract diseases (asthma, bronchial irritations...).

The combined analysis of these two parameters allows optimal management of the building's energy performance, at the same time preserving the health of its occupants.

INDOOR AIR QUALITY DIAGNOSIS IN ONLY 4 STEPS



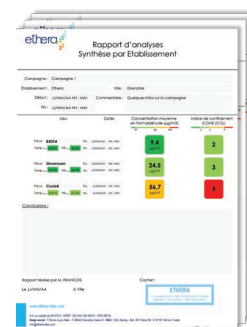
Start and
install the
logger



Record
the data



Download
the data



Print the
report

STRENGTHS

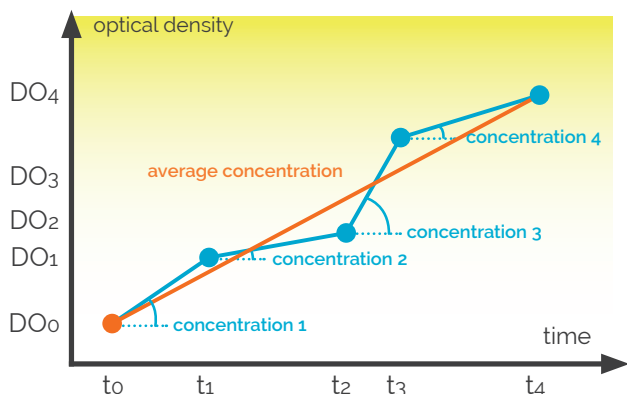
- + Most relevant parameters of IAQ in a single device.
- + Exclusive and ultra sensitive technology of nanoporous sensors.
- + Non Dispersive Infra Red (NDIR) measurement of CO₂ in accordance with IAQ standards.
- + Compact, robust, easy to use and install.
- + Possible extension to other gases.
- + Multi-parameter IAQ indicator.
- + Turnkey diagnosis mode.

A UNIQUE TECHNOLOGY FOR SENSITIVE AND SELECTIVE MEASUREMENT OF FORMALDEHYDE

NEMo incorporates an innovative and exclusive measurement technology developed by ETHERA*. This technology is based on ultra-sensitive nanoporous materials and offers high performances comparable to conventional methods (i.e. gas chromatography)

The direct optical reading of sensors while they are exposed enables diagnosis of indoor air quality at concentrations in the order of $\mu\text{g}/\text{m}^3$ (ppb).

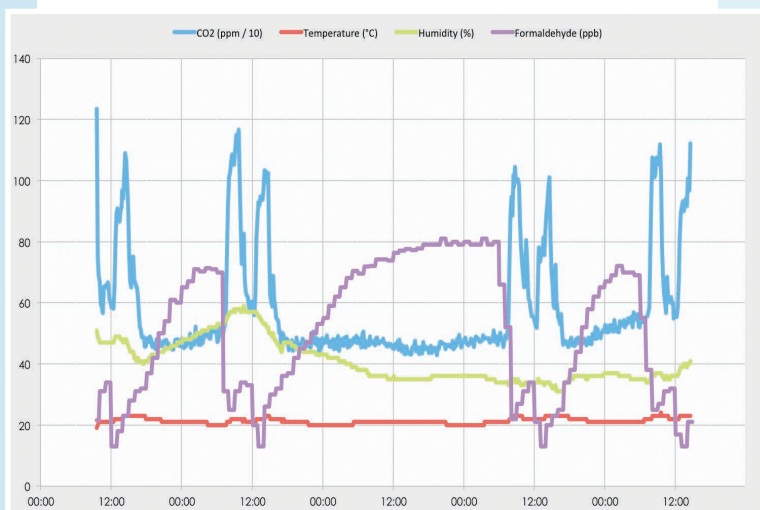
* under CEA/CNRS license



PROFIL'AIR MANAGER 2 A SOFTWARE DEDICATED TO DIAGNOSIS OF IAQ

The new Profil'Air Manager 2 software is specially designed to facilitate the diagnosis of IAQ. Its ergonomic interface facilitates monitoring campaigns from its launch to the publishing of reports.

- Intuitive and user-friendly.
- Generation of highly visual reports with indicators.
- Management of presence sheets.
- Simplified mode with step-by-step support to enable campaign completion.
- Expert features: fully customized sensor calibration module, operation traceability, standard gases library, user management module....



Visualization of a continuous measurement curve





Attaching system
for samplers



Calibration
system included



Charge with
microUSB



Quick grip
system

CO₂ / CONFINEMENT

Detection method	Non Dispersive Infrared spectrometry (NDIR)
Measuring range	0 à 5000 ppm
Accuracy	1 ppm
Sensitivity	+/- 50 ppm +/- 3 % reading value
Response time 90%	< 30 seconds

FORMALDEHYDE

Detection method	Optical reading with nanoporous material (patented technology)
Measuring range	0-2000 ppb (0-2,5 mg/m ³), according to exposure time
Sensitivity	Up to 1 ppb, according to exposure time
Sampling method	Diffusive
Comparison with DNPH* reference method	< 25 %
Storage conditions for the consumable	Store between 2 and 8°C

TEMPERATURE

Sensor type	CMOS
Measuring range	-25°C to +55°C
Accuracy	0,08°C
Sensitivity	+/- 2°C full range (+/- 1°C from 0°C to 55°C)

HUMIDITY

Sensor type	Capacitive
Measuring range	0 to 95 % (+/- 3 % reading value)
Accuracy	0,08 %
Sensitivity	+/- 5 % full range (+/- 3 % from 20°C to 55°C)

PRESSURE

Sensor type	CMOS
Measuring range	300 to 1100 hPa
Accuracy	+/- 0,01 hPa
Sensitivity	+/- 1 hPa

GENERAL CHARACTERISTICS

Sampling pitch	10 minutes (customizable)
Conditions of use	Temperature between 0°C to +40°C.- Humidity between 20 et 80 % (RH)
Embedded memory	> 50 000 points
Dimensions (LxWxH) approx.	175x95x75 mm
Total weight	450 grams
Power supply/Battery life	<ul style="list-style-type: none"> • Battery 5000 mA (up to 15 jours lifetime, with measurements every 10 minutes) • A/C 220/110V and charge with microUSB port • Start/Stop with magnet
Display	3-color LED indicator, customizable with user mode
Interface/Communication	<ul style="list-style-type: none"> • MicroUSB • Radio Frequency - Multi-logger communication with concentrator (optional)
System requirements	Operating system : Windows 7 ou higher, Mac OS 10.9 or higher
Guarantee	1-year guarantee for labor and parts
Conformity	Décret 2012-14 pour le confinement

Contents	<ul style="list-style-type: none"> • 1 logger • 1 USB adapter charger • 1 USB-MicroUSB cable • Quickstart guide • USB flashkey with Profil'air Manager 2 software and manual • 1 quality report
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Options	<ul style="list-style-type: none"> • Transport case • Concentrator to connect several NEMo simultaneously • Suspension kit
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Consumable	Formaldehyde sensor (ref. NE-FOR01x)
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