

Air Quality monitoring system

Air quality monitoring system

The air quality monitoring system (MQA) consists of an acquisition unit and a set of chemical-physical sensors that can be configured according to requirements. The system can be also equipped with meteorological sensors and supplied with the local data visualization software.

Applications:

- environmental survey
- monitoring of industrial plants
- early warning systems

Description

The MQA system is an effective and low-cost solution for real-time and distributed detection of chemical-physical parameters. The sensors are made with the best detection technologies (NDIR, EC, PID) specific for each gas family, and the system includes all the electronics necessary for power supply, signal conditioning and transmission via TCP / IP on GPRS or LAN.

The containers offer the necessary environmental protection, to allow installation in outdoor. Gas sampling takes place by means of forced aspiration, carried out with a low-consumption micropump (which can be adjusted to minimize

electrical consumption for stand-alone installations) or natural gas diffusion. The array of chemical sensors (up to 8) can be chosen based on the needs of the application. For more information and configuration support, contact Netsens.

| GAS | SENS.TYPE | RESP.TIME (s) | RANGE (ppm) | LINEARITY (ppm) | TEMP.RANGE (°C) | HUM.RANGE (Rh %) |
|-------------------------|-----------|---------------|-------------|-----------------|-----------------|------------------|
| Carbon monoxide (CO) | EC | 20 | 500 | ±1 | -30÷50 | 15÷90 |
| Sulphide hydrogen (H2S) | EC | 35 | 50 | ±0,5 | -30÷50 | 15÷90 |
| Nitrogen oxide (NO2) | EC | 60 | 20 | ±0,5 | -30÷40 | 15÷85 |
| Nitrogen monoxide (NO) | EC | 25 | 20 | ±1 | -30÷50 | 15÷85 |
| Ozone (O3) | EC | 45 | 20 | ±0,5 | -30÷40 | 15÷85 |
| Sulfur dioxide (SO2) | EC | 20 | 50 | ±5 | -30÷50 | 15÷90 |
| Carbon dioxide (CO2) | NDIR | 40 | 5000 | - | -20÷50 | 0÷90 |
| VOC | PID | 1200 | 50 | - | -40÷55 | 0÷95 |

It is also available a device for measuring particulate matter (PM), which allows classification in 16 classes, or directly in the PM1 / PM2.5 / PM10 classes commonly required by the main applications.

Air Quality monitoring system

Cross sensitivity (expressed in% maximum; 1% example means that 100 ppm of the interfering gas will be seen as max. 1 ppm of the gas to be measured)

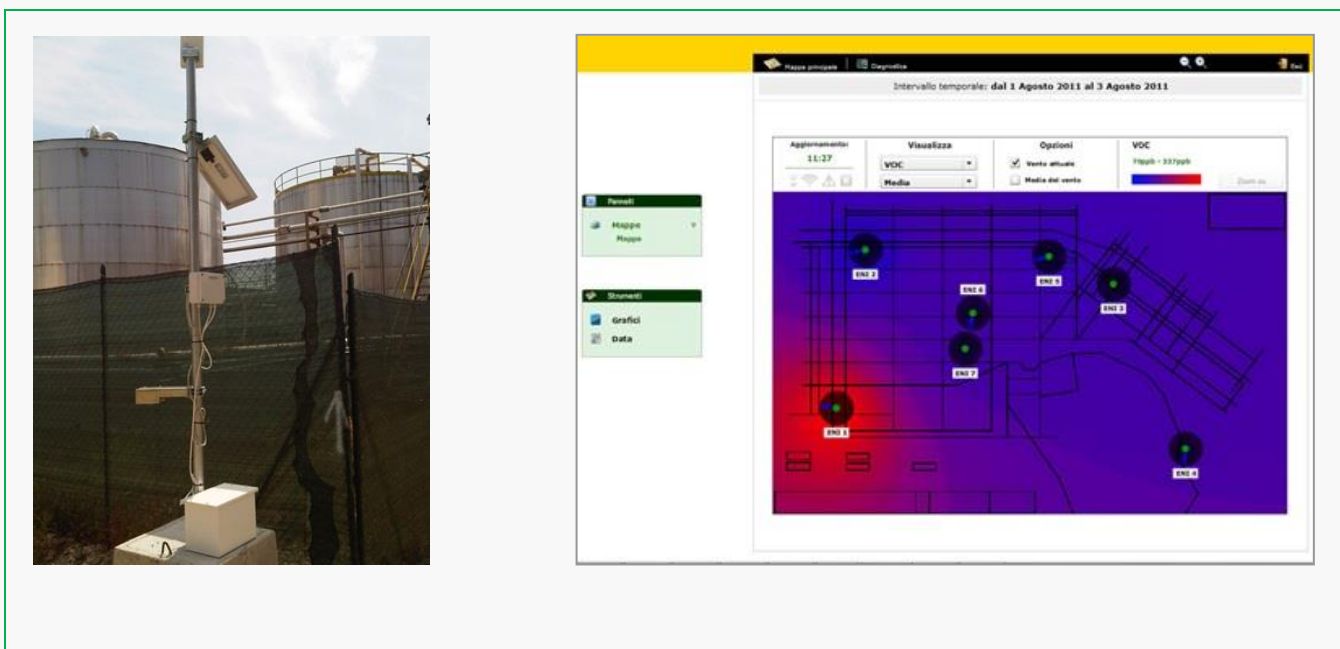
| SENSORE | CO @400 ppm | H2S @20 ppm | H2 @400 ppm | SO2 @20 ppm | NO2 @10 ppm | NO @50 ppm | Cl2 @10 ppm | C2H4 @400 ppm | NH3 @20 ppm | CO2 @5% |
|-------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|---------------------|-------------------|------------|
| Carbon monoxide (CO) | - | 0.1 | 60 | 0.1 | 0.1 | 5 | 0.1 | 25 | 0.1 | - |
| Sulphide hydrogen (H2S) | 1.5 | - | 0.2 | 10 | -20 | 4 | -25 | 0.5 | 0.1 | - |
| Nitrogen oxide (NO2) | 0.1 | -40 | 0.1 | -2.5 | - | 0.5 | 100 | 0.1 | 0.1 | 0.1 |
| Nitrogen monoxide (NO) | 0.1 | 30 | 0.1 | 3 | 5 | - | 15 | - | 0.1 | 0.1 |
| Ozone (O3) | 0.1 | 100 | 0.1 | -6 | - | 5 | 85 | 0.1 | 0.1 | 0.1 |
| Sulfur dioxide (SO2) | 4 | 0.1 | 0.2 | - | -100 | 4 | -70 | 15 | 0.1 | 0 |

Air Quality monitoring system

Installation

Please follow the instructions provided by Netsens upon delivery. In the case of solar power, contact Netsens to check compatibility with the power of the solar panel and the capacity of the battery used.

The sampling interval can be set between 1 and 60 minutes, and the data can be easily viewed using the LiveData[®] software. Netsens is available to plan the integration in the Control Room and to customize the interface for access and data analysis.



Examples of installation and data rendering

Traceability, packaging and shipping:

Each MeteoSense 2.0 unit is individually tested and a unique identifying serial number is assigned, which allows tracking over time; this code can be printed on the shipping carton, on the unit itself or alternatively on the appropriate section of the user manual. Please keep this code carefully, to be communicated to the technician in case of failure or replacement.

Units are sold individually equipped with its own package, which will protect the sensor during transport.

If the box is open or visibly damaged, don't accept delivery by courier. Do not open the box with knives, cutter blades, which could damage the sensor or its cable.

Ordering Codes:

| CODE | DESCRIPTION |
|------------|---------------|
| EN-0021-BK | MQA Main Unit |
| ES-0012-BK | NO Sensors |
| ES-0013-BK | NO2 Sensor |
| ES-0014-BK | SCO2 Sensor |

Air Quality monitoring system

| | |
|------------|-----------------------------------|
| ES-0015-BK | H2S Sensor |
| ES-0016-BK | SO2 Sensor |
| ES-0017-BK | O3 Sensor (requires NO2 sensor) |
| ES-0018-BK | CO Sensor |
| ES-0019-BK | VOC Sensor |
| EO-0020-BK | Particulate device PM1/PM2.5/PM10 |

Warranty:

Netsens s.r.l. warrants that the above described components will be free from defects in material and workmanship

for the following time period from the purchasing:

- Two years for items purchased by final users for non professional use;
- One year for items purchased by companies and organizations for professional use.

This warranty is valid only if all the components are used accordingly to the Manufacturer's indication and to the recommendations included in this User Manual.

This warranty does not cover: batteries, fuses, lights and any other consumable equipment. Also this warranty does

not apply for damages due to neglect, misuse, contamination, alteration, accident or abnormal conditions of operation or handling, including failures caused by use outside Manufacturer specifications.

This warranty covers the original purchaser and it is not transferable.

If one or more components are supposed to be defective, contact Netsens s.r.l. or your local reseller in order to obtain a valid return authorization.

Netsens s.r.l. shall not be liable for any special, indirect, incidental or consequential damages or losses, arising from any cause.

Please contact Netsens s.r.l. for any additional information concerning warranty.

Disposal of Waste Electrical & Electronic Equipment:



Disposal of Waste Electrical & Electronic Equipment:

The symbol (crossed out wheeled-bin) on your product indicates that the product shall not be mixed

or disposed with your household waste at their end of use.

The product shall be handed over to your local community waste collection point for recycling of the product.

For more information, please contact your Government Waste Disposal department in your country.

Inappropriate waste handling could possibly have a negative effect on the environment and human health due to potential hazardous substances.

With your cooperation in the correct disposal of this product, you contribute to reuse, recycle and recover the product and our environment will be protected.

Revisions:

| Date | Version | Page/s | Revisions |
|------------|---------|--------|------------------------------|
| 15/02/2019 | 1.0 | 1-4 | First translation on English |