

PEN Meteo Station

Continuous measurement of odour intensity in ambient air (in OU/m³)



Designed for Environmental Monitoring applications, the PEN-Meteo Station has been prepared to control the presence of odor „leakages“ in ambient air.

For different reasons, certain industrial branches need to „keep an eye“ on the actual releases of gases derived from their activities.

Intermediary sites like Waste composting units, Water treatment plants or Landfills, deal with the common problem of odor emission releases to the atmosphere, affecting not only the environment but also in some cases the populations.

The PEN3-Meteo is able to measure directly from environment air in continuous mode, 24 hours per day, the intensity of odour expressing results in olfactometric units (OU/m³).

The Station PEN3-Meteo is composed by an electronic nose PEN3 and includes a *meteo* station which is able to capture the wind direction. To complete the instrument's panel, the station counts with a DCR computer Unit which is programmed to work fully automated, from the sampling to the calculations.

Besides, a Wi-Fi broad band connection Modem allows to establish a remote connection and control of the station as well as receiving on-time alarms .

Reliable environmental monitoring

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The PEN3-Meteo Station is composed by three main units assembled in one single IP65 waterproof housing for easy external mounting.



PEN3 Specifications

The electronic nose PEN3 results of the combination of 10 different MOS sensors working at different temperatures working in a small chamber of measurement. Besides this Array of MOS sensors the PEN3 technology relies on a dedicated software for the samples' fingerprint memorization and for the elaboration of chemometrics results.

Sampling

Inlet Sampler	special fluidic connector
Flow	10 ml/min to 400 ml/min, built-in flow
Sensor technology	hot sensors, working temperature 200°C to 500°C
Sensor array	10 different metal oxides single thick film sensors
Sensor chamber	volume 1.8 ml, temperature 110°C, stainless steel
Sensor response time	typically: less than 1 second
System	2 internal pumps (sampling and zero gas)
Zero-gas	air, charcoal filtered or zero gas generator
Calibration	external calibration procedure
Pattern stability	e.g. 1 year for aromatic solvents
Sensitivity/ LOD	0, 1 to 5ppm for gases and organic solvents, like for example: H2S: 0.1ppm; benzene: 1ppm; ...

DCR Unit Min. Specifications

DCR computer and remote control with Mini ITX mainboard, HD 40 GB, 512 Mb RAM, Win XP Pro, WIFI device, USB-parallel adapter, PEN 3 connector, power supply switch 12 Vdc, Supervising power supply battery 12 Vdc 18 Ah battery, Secure cool fan, Oleds, switches and DIN crossbar.

As additional option, the system can be completed with a modem GSM-GPRS which is able to send an Alarm-Message to a dedicated customer phone by SMS when the limit of odour is surpassed.



Meteo Station Specifications

Meteo station with Wind speed direction transducer, RS232 converter, Outdoor 4 pole connector and tacogoniometer. This part of system is very important regarding the provenience of the odour. By using the data coming from the different units (PEN3 data plus meteo data) it is possible to create a dispersion model and therefore to understand the influence of the leakage on the territory.

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The PEN-METEO Station results of a product cooperation between the companies AIRSENSE ANALYTICS and PCA TECHNOLOGIES



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