AIR QUALITY SENSOR

AIR QUALITY MONITORING

Applications

The Air Quality Sensor is an MCERTS certified device that is designed to measure factors that impact air quality. The sensor tracks all key pollution markers including particulate matter (PM1, PM2.5, PM10) and specific gases (NO_2, O_3, SO_2, H_2S, NO, and CO). It also provides reliable data about key weather parameters such as temperature, humidity, air pressure, and wind speed/direction.

The sensor measures chemical compounds using the electrochemical method via two gas cells in the sensor housing.

Each sensor is equipped with an LED indicator that changes to reflect the current air quality using colour signals consistent with the CAQI or AQI scale.

Typical applications include:

- Long-term dust and air quality monitoring for construction and demolition sites.
- Assessment of air pollutants and constituent gases in localised areas.

Installation

Installation is quick and straightforward for both the PM and PM + Gas module versions of the sensor.
Each sensor includes a simple but versatile mounting bracket and can be plugged into a regular power socket via USB cable or an adapter.

The sensors require a 48-hour baseline period before calibrated measurements are made available.

Operation

The sensor does not include an internal battery so must remain connected to an external power source after installation for uninterrupted measurement.

The built-in LED light on the front of the device will indicate that the sensor is operational.

The GSM modem inside the device will connect to the network and push collected data to GEO-Instruments' browser-based monitoring portal QuickView.

Specifications

Sensor Types:
- Air Quality: PM (Particulate Matter)
- Air Quality: PM & Gases

Standards:
- MCERTS certified

Measurements:
- Particulate Matter (PM1, PM2.5, PM10), NO_2, O_3, SO_2, H_2S, NO, and CO gases
- Temperature (°C), Pressure (hPa), Humidity (%)

Communication:
- GSM protocol

Power Supply:
- Powered by: 5V@2A from external USB
- Power supply: (230V/110V)
- Solar power supply: available
- Average power consumption: 1.2 W
- Max. power consumption: 2 W
- Energy consumption (per 24h): 0.03 kWh

Enclosure:
- Stainless steel

Temp Rating:
- -40°C to +80°C

Dimensions:
- PM module
  74 x 77 x 83.5 mm
- PM + Gas module
  74 x 112 x 83.5 mm

Weight:
- PM module 440g
- PM + Gas module 490g

Key Advantages

Simple installation:
Small, lightweight sensors that are ready to install with mounting bracket and USB power cable.

MCERTS certified PM2.5 & PM10:
Independently verified to comply with the Environment Agency's MCERTS Performance Standards for Indicative Ambient Particulate Monitors.

Network Calibration:
Calibration factors for each instrument are remotely adjusted to the local climate conditions.