

AS-M1

AIRSENSOR

The AS-M1 is a LoRaWAN compatible mobile air quality monitor which has high accurate sensors. The sensors measure fine particles, temperature, humidity and up to 4 of the following elements: NO₂, O₃, VOC, CO, H₂S, MO, NO, SO₂, Also the GNSS coordinates are continuously measured. The enclosure is optimized to be mounted on E-bikes, but can also be used in other powered vehicles and can also be installed in a fixed location. The radio can emit up to 19dBm of power. Ranges of up to 15km are possible under optimal conditions. In urban areas a range of several kilometers is feasible. Some parameters like the communication frequency and alarm settings can be downloaded by the module, to improve the alarm response time .

The AS-M1 works on every LoRaWAN certified network. Gupsy can also supply its own base station and network server solution. We can also supply customized apps for PC and smartphone, which control the monitoring off all our sensors and does the alarm and incident handling to the users and contractors.

FEATURES

- Mobile air quality monitoring
- High quality, high performance gas and GNSS sensors
- -40°C to +85°C operating range
- +19dBm LoRaWAN certified radio
- Up to 15km range (L.O.S.)
- Designed for E-bikes and powered vehicles
- Marketing status: samples available

APPLICATIONS

- Mobile air quality monitoring in cities and other urban areas
- Fixed air quality monitoring



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TECHNICAL SPECIFICATIONS

PARAMETER	VALUE
GNSS Receiver	STM Teseo II core GNSS supported: GPS L1, GLONASS L1, Galileo E1 32 channel GNSS architecture Sensitivity: Acquisition -146 dBm, Navigation -158 dBm, Tracking -162 dBm Current consumption: Acquisition 67 mA, Tracking 42 mA, Low power Nav 23mA
Temperature Sensor	Operating Range: -40°C - +85°C Typical Accuracy: $\pm 0.3^{\circ}\text{C}$ (-10°C - +85°C) $\pm 0.7^{\circ}\text{C}$ (-40°C - -10°C)
Humidity Sensor	Operating Range: 0% - 100% RH Typical Accuracy: $\pm 2\%$ (0% - 80% RH) $\pm 3\%$ (80% - 100%)
Particle Monitor	Measures PM1, PM2.5, PM10 (0.38 micron to 17 micron) Sampling interval: 1.4 to 10 seconds Max particle count rate: 10000 particles/second Sample flow rate: 220 mL/min Total flow rate: 1.2 L/min Current consumption: 175 mA @ 5V
LoRaWAN radio	LoRaWAN certified radio Sensitivity down to -137 dBm Output power up to +19 dBm Range up to 15 km External antenna via SMA female connector
Gas sensors	Up to 4 of the following sensors, supplied by alphasense, can be integrated in the monitor: <ul style="list-style-type: none"> - Nitrogen Dioxide - Ozone - VOC - Carbon Monoxide - Hydrogen Sulfide - Metal Oxides - Nitric Oxide
Power	Input voltage 12V - 60V DC

