

IoT connected Indoor Air Quality Monitor

Senseair ExploraPM_{2.5} is a LoRaWAN certified, advanced and versatile 3-in-1 sensor designed for installation in the air-conditioned zone. It measures the concentration of particles, temperature and relative humidity in the ambient air. The data is encrypted and securely transmitted via LoRaWAN to a cloud service. You can either use our dashboard service to display the data or design your own user interface utilising the open API.

Senseair ExploraPM_{2.5} combines all the necessary elements for effective climate control in commercial office buildings, hospitals, hotels, schools and other facilities. Simple and easy to install, makes the Senseair ExploraPM_{2.5} ideal for retrofitting in existing buildings.



Standard specification

Operating principle	Laser scattering
Measurement range (PM)	1~10µm ¹
Counting efficiency (PM)	98%@>=0.5µm
Effective range (PM)	0~500µg/m
Measurement range (Temp)	-20~60°C
Accuracy (Temp)	±0.2° (@ 0~50°C)
Measurement range (RH)	0~100%
Accuracy (RH)	±2%RH (@ 10~90%RH)
Measurement interval	15min ² (default)
Report interval	15min ² (default)
Dimensions	111 x 77 x 26mm
Cable length	1.8m
Weight	184g
Life expectancy	<15 years ³
Operating range	0~50°C, 0~100%RH
Power supply	5~24VDC ⁴ via USB-cable
Communication	LoRaWAN
Frequency band	868MHz ⁵

Note 1: Particulate matters ranges: PM_{1.0} (0.3~1.0µm), PM_{2.5} (1.0~2.5µm), PM₁₀ (2.5~10µm).

Note 2: Configurable over the air.

Note 3: Depending on measurement interval and contamination degree of surrounding air.

Note 4: AC power via USB charger (not included).

Note 5: Used in EU. Other options will be available.

Key benefits

- LoRaWAN certified, IoT connected using the leading radio interfaces on the market
- Industry leading security solution with cryptographic co-processor
- Three sensors in one housing: PM, temp and RH
- Periodic measurement reports
- Remote indoor air quality monitoring through the cloud-based web portal, app or integration with HVAC control systems
- Powered via USB-cable



Senseair ExploraPM_{2.5} Technical Specification

General Performance:

Storage Temperature Range	-40–70°C
Life Expectancy	<15 years ¹
Warm-up Time	30s ²
Operating Temperature Range	0–50°C
Operating Humidity Range	0–100%RH, non condensing humidity environment
Operating Environment	Residential and commercial indoor environment

Electrical / Mechanical:

Power source	5–24VDC ³ via USB-cable
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PM Measurement:

Sensing Method	Laser scattering
Single Response Time	<1s
Total Response Time	≤10s
Measurement Range	1–10µm ⁴
Accuracy	±10µg/m ³ @0–100µg/m ³
Measurement Interval	15min ^{5,6} (default)
Report Interval	15min ⁶ (default)

Temperature Measurement:

Measurement Range	-20–60°C
Accuracy	±0.2°C (@ 0–50°C)

Relative Humidity Measurement:

Measurement Range	0–100%RH
Accuracy	±2%RH (@ 10–90%RH)

Communication interface

Network	LoRaWAN 868 MHz ⁷
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- Note 1: Depending on measurement interval and contamination degree of surrounding air.
- Note 2: Required time to achieve stable air flow.
- Note 3: AC power via USB charger (not included).
- Note 4: Particulate matters ranges: PM_{1.0} (0.3–1.0µm), PM_{2.5} (1–2.5µm), PM₁₀ (2.5–10µm).
- Note 5: Measurement interval Min. 1min, Max. 65534min (~1.5 months).
- Note 6: Configurable over the air.
- Note 7: Used in EU. Other options will be available.