

## IoT connected Indoor Air Quality Monitor

Senseair ExploraPM<sub>2.5</sub> 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<sub>2.5</sub> 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<sub>2.5</sub> ideal for retrofitting in existing buildings.



### Standard specification

Operating principle	Laser scattering
Measurement range (PM)	1 ~ 10 $\mu\text{m}^{-1}$
Counting efficiency (PM)	98% @ $\geq 0.5 \mu\text{m}$
Effective range (PM)	0 ~ 500 $\mu\text{g}/\text{m}^3$
Measurement range (Temp)	-20 – 60 °C
Accuracy (Temp)	$\pm 0.2^\circ$ (@ 0 – 50 °C)
Measurement range (RH)	0 – 100%
Accuracy (RH)	$\pm 2\%$ RH (@ 10 – 90% RH)
Measurement interval	15 min <sup>2</sup> (default)
Report interval	15 min <sup>2</sup> (default)
Dimensions	111 x 77 x 26 mm
Cable length	1.8 m
Weight	184 g
Life expectancy	<15 years <sup>3</sup>
Operating range	0 – 50 °C, 0 – 100% RH
Power supply	5 – 24 V DC <sup>4</sup> via USB-cable
Communication	LoRaWAN
Frequency band	868 MHz <sup>5</sup>

### 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



Note 1: Particulate matters ranges: PM<sub>1.0</sub> (0.3 ~ 1.0  $\mu\text{m}$ ), PM<sub>2.5</sub> (1.0 ~ 2.5  $\mu\text{m}$ ), PM<sub>10</sub> (2.5 ~ 10  $\mu\text{m}$ ).

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.

# Senseair ExploraPM<sub>2.5</sub> Technical Specification

## General performance:

Storage temperature range	-40 – 70 °C
Life expectancy	<15 years <sup>1</sup>
Warm-up time	30 s <sup>2</sup>
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 – 24 V DC <sup>3</sup> via via USB-cable
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## PM measurement:

Sensing method	Laser scattering
Single response time	<1 s
Total response time	≤10 s
Measurement range	1 ~ 10 µm <sup>4</sup>
Accuracy	±10 µg/m <sup>3</sup> (@ 0 ~ 100 µg/m <sup>3</sup> )
Measurement interval	1 min <sup>5,6</sup> (default)
Report interval	20 min <sup>6</sup> (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 <sup>7</sup>
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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<sub>1.0</sub> (0.3 ~ 1.0 µm), PM<sub>2.5</sub> (1 ~ 2.5 µm), PM<sub>10</sub> (2.5~10 µm).

Note 5: Measurement interval Min. 1 min, Max. 65534 min (~1.5 months)

Note 6: Configurable over the air.

Note 7: Used in EU. Other options will be available.