

INDOOR AIR QUALITY MONITORING

A100 Specification

Introduction

The Aeropulse Aeronode A100 is a versatile indoor air quality monitoring device capable of measuring a wide range of parameters, including CO₂, PM_{2.5}, PM₁₀, TVOC, temperature, humidity, light, noise, and air pressure. It features two interchangeable modules, allowing for flexible configurations with additional sensors or extended battery life.

The Aeronode Series supports Wi-Fi (2.4 & 5 GHz) for cloud connections and integrates seamlessly with building automation systems through Modbus, BACnet, and MQTT.

Designed for real-time insights, the Aeronode Series pairs with the Aeropulse Dashboard to provide comprehensive data access and analysis.

Key Features

- Replaceable capsules
- Sensor and battery capsules are interchangeable
- Up to 16 measurements in one device
- Multiple connectivity options
- Flexible power supply options
- Over 1.5 years of local data storage
- Aeropulse App for straightforward device configuration
- Visual and audio indicators with traffic-light and buzzer alerts
- Minimalist design

Specifications

Model Variants

- A100 for global markets

Sensors and Measurement Parameters

Sensor Type	Range	Accuracy	Resolution	Technology
PM2.5	0 - 1000 $\mu\text{g}/\text{m}^3$	$\pm 5 \mu\text{g}/\text{m}^3 + 20\%$ at 0-100 $\mu\text{g}/\text{m}^3$; $\pm 10\%$ at 101-1000 $\mu\text{g}/\text{m}^3$	1 $\mu\text{g}/\text{m}^3$	Light Scattering
PM10	0 - 1000 $\mu\text{g}/\text{m}^3$	$\pm 5 \mu\text{g}/\text{m}^3 + 20\%$ at 0-100 $\mu\text{g}/\text{m}^3$; $\pm 10\%$ at 101-1000 $\mu\text{g}/\text{m}^3$	1 $\mu\text{g}/\text{m}^3$	Light Scattering
Carbon Dioxide (CO2)	400 - 10,000 ppm	$\pm 40 \text{ ppm} \pm 3\%$ of reading	1 ppm	Non-dispersive Infrared
TVOC (Index)	1 - 500	± 15	1	MOx (MEMS)
TVOC ($\mu\text{g}/\text{m}^3$)	1 - 2000 $\mu\text{g}/\text{m}^3$	$\pm 20 \mu\text{g}/\text{m}^3 + 15\%$ at 1-500 $\mu\text{g}/\text{m}^3$	1 $\mu\text{g}/\text{m}^3$	MOx (MEMS)
NOx Index	1 - 500	± 15	1	MOx (MEMS)
Temperature	-40°C - 125°C	$\pm 0.2^\circ\text{C}$	0.1°C	Digital CMOSens® technology (MEMS)
Humidity	0% - 100% RH	$\pm 1.8\% \text{ RH}$	0.01% RH	Digital CMOSens® technology (MEMS)
Light	0.01 - 83,000 lux	$\pm 0.2\%$	0.01 lux	Photodiode
Noise	36 - 95 dB	$\pm 3 \text{ dB} @ 23 \pm 5^\circ\text{C}$	1 dB	Digital
Air Pressure	300 - 1100 hPa	$\pm 1 \text{ hPa}$	0.01 hPa	Piezoresistive Absolute Pressure Sensor (MEMS)

TVOC defaults to Index. TVOC ($\mu\text{g}/\text{m}^3$) can be selected under Units in the Aeropulse Dashboard or via the API.

Ozone (O ₃) (selective)	0 - 5 ppm	±5% F.S.	0.001 ppm	Solid Polymer Electrochemical
Nitrogen Dioxide (NO ₂) (selective)	0 - 5 ppm	±5% F.S.	0.001 ppm	Solid Polymer Electrochemical
Carbon Monoxide (CO) (selective)	0 - 1000 ppm	±5% F.S.	5 ppm	Micro Fuel Cell
Formaldehyde (HCHO) (selective)	0 - 1 ppm	±5% F.S.	0.001 ppm	Solid Polymer Electrochemical

Connectivity and Power Supply

- Wi-Fi: 2.4 & 5 GHz, 802.11 b/g/n
- Modbus RTU/IP
- BACnet MS/TP and BACnet/IP
- MQTT
- Power Supply: 10-30 V DC, 24 V AC, PoE, Type-C

General Specifications

- Dimension: 150 × 112 × 32 mm
- Weight: 235 g
- Operating Temperature: 0°C - 50°C
- Operating Humidity: 10% - 90% RH (non-condensing)
- Data Storage: 1-minute data average, with over 1.5 years of storage capacity
- Installation: Wall or ceiling mount

Certification

- CE, FCC, RoHS, REACH, Works with WELL