

INDOOR AIR QUALITY MONITORING

A101 Specification

Introduction

The Aeropulse Aeronode A101 Series is a SIM card-enabled indoor air quality monitor that provides seamless cellular connectivity by simply inserting a compatible SIM card. The device can measure up to 16 environmental parameters simultaneously.

Two replaceable capsules support flexible sensor configurations or extended battery capacity, depending on the deployment requirements.

Designed for offices, schools, stores, hospitals, and other indoor environments, the Aeronode A101 Series provides accurate and continuous environmental monitoring.

Key Features

- SIM card-enabled cellular connectivity
- 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

- A101C for China
- A101E for Europe
- A101N for the US and Canada

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	±10 ppb at 0-100 ppb; >100 ppb, ±5% F.S.	0.001 ppm	Solid Polymer Electrochemical
Nitrogen Dioxide (NO ₂) (selective)	0 - 5 ppm	±20 ppb at 0-100 ppb; >100 ppb, ±5% F.S.	0.001 ppm	Solid Polymer Electrochemical
Carbon Monoxide (CO) (selective)	0 - 100 ppm	±1 ppm at 0-10 ppm; >10 ppm, ±5% F.S.	5 ppm	Micro Fuel Cell
Formaldehyde (HCHO) (selective)	0 - 1 ppm	±20 ppb at 0-100 ppb; >100 ppb, ±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, RESET Air Accredited