



A54-21 PM2.5 Sensor

The MAXMAC A54-21 PM2.5 Sensor is a compact particulate matter sensor specially designed for HVAC applications. It is developed for accurate PM2.5 monitoring in ventilation systems, fresh air units, air handling equipment, and indoor air quality control applications.

Built for modern HVAC environments, this sensor uses laser scattering technology to provide stable and reliable PM2.5 measurement performance. With RS485 communication, compact dimensions, and low-power design, it is easy to integrate into commercial and industrial air quality monitoring systems.

With its flame-retardant housing, robust structure, and dependable sensing capability, the MAXMAC A54-21 PM2.5 Sensor is an ideal solution for HVAC manufacturers, system integrators, and environmental control applications that require consistent particulate monitoring.

Key benefits:

- Designed specifically for HVAC and air quality monitoring applications
- Accurate PM2.5 detection using laser scattering technology
- RS485 communication for reliable system integration
- Compact size for easy installation
- Low power consumption
- Flame-retardant PC+ABS housing
- Stable sensing performance
- Suitable for commercial and industrial indoor air monitoring systems

Typical applications:

- HVAC systems
- Fresh air systems
- Air handling units (AHU)
- Ventilation control systems
- Commercial building indoor air quality monitoring
- Smart building environmental monitoring
- Industrial environmental control systems
- Public building air quality management

Standard Specification

Item	Description
Product name	A54-21 PM2.5 Sensor
Model	A5421
Functions	PM2.5 monitoring
Communication	RS485
Dimensions	66.4 × 51.4 × 19 mm
Housing material	PC+ABS, V0 flame-retardant
Operating voltage	DC12–DC24V
Operating current	Average: 35 ± 5 mA @ 12.0 VDC, Peak: <150 mA (10 ms), at room temperature
Standby power consumption	≤ 1 W
Power consumption	≤ 3 W
PM2.5 sensing principle	Laser scattering technology
PM2.5 measuring range	0–999 µg/m ³
PM2.5 resolution	1 µg/m ³
PM2.5 accuracy	≤100 µg/m ³ : ±15 µg/m ³ ; >100 µg/m ³ : ±15%
Interface	4-pin socket
Communication interface	RS485 protocol, 4-pin (+ / A+ / B- / GND)
Physical connector	GH1.25-4P locking connector
Operating environment	-10°C to 50°C, 0–95%RH, non-condensing
Storage environment	-20°C to 65°C, 0–99%RH, non-condensing

Note:

The matching GH1.25-4P locking terminal cable should be prepared by the user for connection.

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