

Laser Dust Sensor

DL0001

■ Features

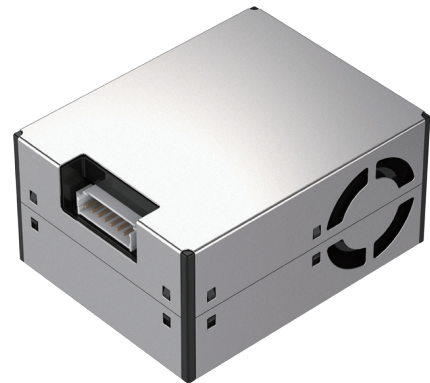
- Lensless design to ensure good consistency
- High accuracy measurement
- Can detect particles as small as 0.3 μ m in diameter

■ Introduction

The Laser Dust Sensor is used to measure the concentration of suspended particles in the air with different sizes (including PM2.5). It uses a laser diode as the light source to illuminate the sampling air boosted by the blower. When the small particles in the air enter the illuminated area, the laser beam is scattered. The scattered light is received by a photodetector and converted into current signal which is amplified and processed then to indicate the concentration of particles. A built-in microprocessor converts it into mass concentration (μ g/m³) and outputs the signal via universal digital interface.

■ Applications

- Ventilation system
- Air purifier
- Air quality monitor
- Automotive air purification
- Air conditioner
- Other home appliances



■ Technical Parameters

Item	Parameter	Unit	Test conditions(T=25°C)
Measuring range of particles	0.3~1.0; 1.0~2.5; 2.5~10	µm	-
Effective range of particle mass concentration	0~500	µg/m ³	Audiowell Laser Sensor Test System(25±5°C, 50±10%RH)
Maximum range of particle mass concentration	2000	µg/m ³	Audiowell Laser Sensor Test System(25±5°C, 50±10%RH)
Resolution	1	µg/m ³	-
Consistency (PM2.5 standard value)	0 ~ 100 µg/m ³ : ± 10 µg/m ³ 100 ~ 500 µg/m ³ : ± 10 %		Audiowell Laser Sensor Test System(25±5°C, 50±10%RH)
Single measurement response time	1	s	Audiowell Laser Sensor Test System(25±5°C, 50±10%RH)
Total response time	≤10	s	Audiowell Laser Sensor Test System(25±5°C, 50±10%RH)
DC power supply voltage	5.0	V	DC regulated power supply
Working current	≤100	mA	DC regulated power supply
Data interface level	L <0.8 @3.3 H >2.7@3.3	V	-
Working temperature range	-10~+50	°C	Test chamber of constant temperature and humidity
Working humidity range	35~85%		Test chamber of constant temperature and humidity
Mean time to failure	≥3 years		-
Maximum size	50×40×25	mm	Vernier caliper

■ Appearance & Dimensions (Unit: mm)

