

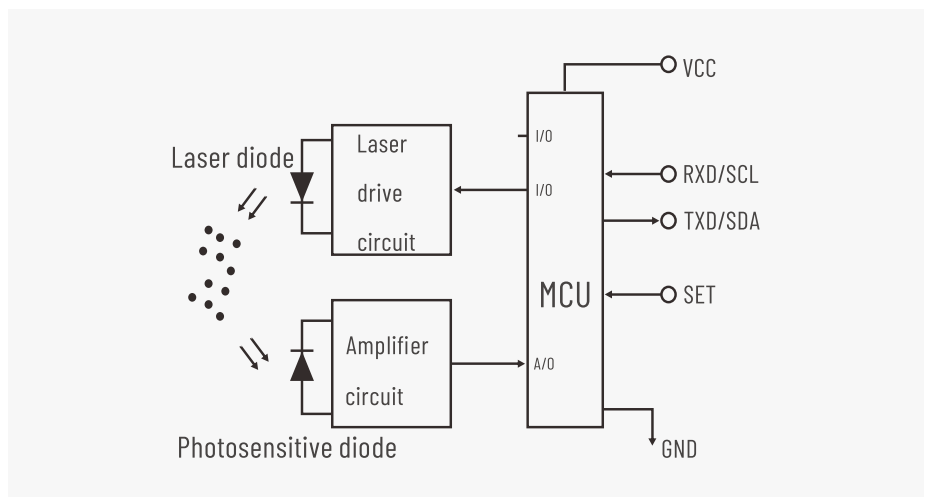


Fine Dust Aerosol Spectrometer

Cubic Light Scattering Technology

LSD

According to the block diagram as below, the light source part of OPC-6510A consists of a laser tube that emits light to detect particles and a drive circuit, the detection part consists of a photosensitive element that receives reflected light and an amplifier circuit, and the data processing and communication output are completed by a microprocessor.



Air sampling is carried out by a fan. When the particles in the sampled gas pass through a light source (laser) and other beams, light scattering occurs; the scattered light is converted into an electrical signal (pulse) through a photoelectric converter, and the larger the particle, the bigger pulse signal (wave peak value) is obtained. The number of particles with different particle sizes can be obtained through the wave peak value and the number of pulses.

Fine Dust Aerosol Spectrometer



Description

Cubic OPC-6510A is a light-scattering aerosol spectrometer designed for particle size analysis and concentration determination. Serving as a reliable instrument across a wide array of applications, it finds use in environmental management at workplaces, atmospheric research, and indoor/outdoor air quality measurements.

The OPC-6510A aerosol spectrometer simultaneously and accurately measures the environmentally relevant mass fractions, including PM1.0, PM2.5 and PM10. Furthermore, it thoroughly assesses particle number and the particle size distribution across a range of 0.3µm to 10µm up to 12 channels for comprehensive analysis.

By offering particle-size-distribution values in real time, the OPC-6510A provides operators with invaluable insights, enabling them to evaluate and assess fine dust identification effectively for diverse applications.

Features

- Accurate dust mass measurement for PM1, PM2.5, PM10
- Particle number concentration and size distribution data
- Size range: 0.3µm - 10µm in up to 12 channels
- Real-time, continuous measurement of multiple PM fractions



OPC-6510A

Specifications

Principle	Light Scattering
Particle Concentration Output	PM1.0, PM2.5 and PM10 at µg/m ³
Particle Quantity Output	12 channels of >0.3µm, >0.4µm, >0.5µm, >0.6µm, >0.8µm, >1.0µm, >1.5µm, >2.0µm, >2.5µm, >5.0µm, >8.0µm and >10µm at pcs/L
Measurement Range(size)	0.3µm to 10µm
Measurement Range(mass)	0~200µg/m ³
Accuracy(mass)	PM1.0 and PM2.5: 0~50µg/m ³ : ±5µg/m ³ 50~100µg/m ³ : ±10% of reading PM10: 0~50µg/m ³ : ±7µg/m ³ 50~200µg/m ³ : ±15% of reading
Volume Flow	6LPM
Interface	RS485 and RJ45
Communication	Modbus-RTU, MQTT
Operating Voltage	DC 24V±15%
Working Condition	0°C ~ 45°C, 0 ~ 95%RH (Non-condensing)
Storage Condition	-20°C ~ 60°C, 0 ~ 95%RH (Non-condensing)
Dimension	217*124*87mm (Main body dimension)

* For details of technical parameters, please refer to the specification sheet.

Applications

■ Dust source identification	■ Indoor air quality in buildings, vehicles, etc.
■ Outdoor environmental monitoring	■ Atmospheric research



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All products are in continuous development and therefore specifications
may be subject to change without prior notice.