

PM1.0/PM2.5/PM10 sensor

Model ES-A224



Main features

- Laser scattering measurement principle, high precision
- PM1.0 PM2.5, PM10 simultaneous output
- Unique dual-frequency data acquisition and automatic calibration technology
- Advanced laser anti-attenuation technology to ensure the long-term stability
- Wall-mounted or pipe-mounted installation is optional

Compliance

The electromagnetic compatibility in accordance with the following applicable directives:

- LVD 2014/35/EU Low Voltage
- EMC 2014/30/EU
- Electromagnetic Compatibility
- EMC 2014/35/EU
- Electromagnetic Compatibility

Introduction

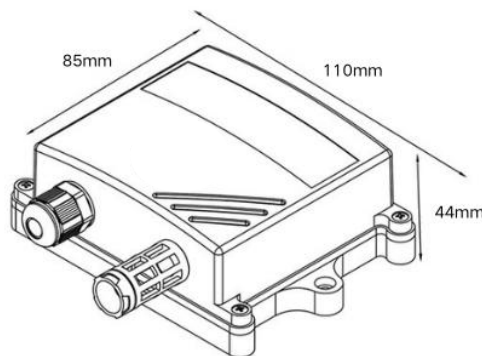
ES-A224 PM sensor is an industrial-grade general-purpose particle concentration transmitter of measuring the PM1.0, PM2.5, PM10. The anti-interference circuit design can withstand various strong electromagnetic interferences such as on-site frequency converters. It adopts the principle of laser scattering measurement and uses the unique dual-frequency data acquisition technology to screen and obtain the number of particles with equivalent particle size per unit volume. It also uses a scientific and unique algorithm to calculate the mass concentration of particles with equivalent particle size per unit volume, and outputs data in the form of pseudo-quantity signal (4-20mA, 0-10V, 0-5V) or digital signal RS485.

It also is designed for wall mounting and pipe mounting to meet different application scenarios. IP65 protective housing, supports OLED display.

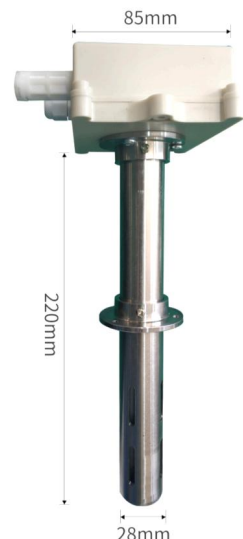
Application

It can be used in outdoor weather stations, dust monitoring, libraries, archives, industrial plants and other places that require PM2.5 or PM10 concentration monitoring.

Dimension



Unit:mm



Specification

DC power supply (default)	10~30V DC	
Power consumption	RS485 output	0.4W
	Current output/Voltage output	1.2W
Accuracy	±10% (@500ug/m3,60%RH,25°C)	
Range	PM2.5: 0~1000ug/m3	
	PM10: 0~1000ug/m3	
	PM1.0: 0~1000ug/m3	
Resolution	1ug/m3	
Response time	≤90S	
Signal output	485 signal output, 4~20mA current output, 0~5V/0~10V voltage output	
Warm-up time	≤2min	
Circuit operating temperature and humidity	-20°C~+60°C, 0%RH~95%RH non-condensing	
Load capacity	Voltage output	Output resistance≤250Ω
	Current output	≤600Ω
Communication Interface	485 communication (modbus) protocol Baud rate: 2400, 4800 (default), 9600 Data bit length: 8 bits Parity check method: none Stop bit length: 1 bit Default ModBus communication address: 1 Support function code: 03	

Order guide

ES-A224	PM sensor		
	CODE	Type	
	A	Without display	
	B	With LCD display	
	C	Pipe type without display	
	D	Pipe type with LCD display	
		CODE	Signal output
		1	4-20mA
		2	0-10V
		3	0-5V
		4	RS485
ES-A224	A	4	Order example