

**Product Description:**

The PMS5003 is a digital universal particle concentration sensor based on the principle of laser scattering. It can continuously collect and calculate the number of suspended particulates in different air volumes per unit volume, that is, the particle concentration distribution, and then convert it into mass concentration. Interface form output. The sensor can be embedded in a variety of suspended particles in the air associated with the concentration of instrumentation or environmental improvement equipment, to provide timely and accurate concentration data.

**Product features:**

Precise measurement by laser scattering principle

Zero error alarm rate

Real-time response and support for continuous acquisition

The minimum resolution is 0.3 m

The new patent structure, six full range of shielding, anti-jamming performance stronger

The direction of the inlet and outlet is optional, the scope of application is wide and the user does not need to design the air duct again

Real-time output temperature and humidity data

**Performance parameters:**

Appearance and installation with the PMS5003, Data format differences, For details, please refer to the product documentation on our website.

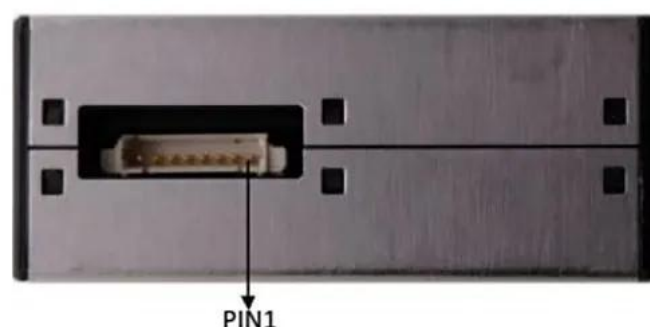
**Working principle:**

The sensor uses the principle of laser scattering. It means that the laser light on the particles in the air and making the scattering, while collecting scattered light at a particular angle, resulting in scattered light intensity with time curve. Furthermore, the microprocessor uses the algorithm based on Mie (MIE) to obtain the equivalent particle size of the particles and the number of particles with different particle diameters per unit volume.

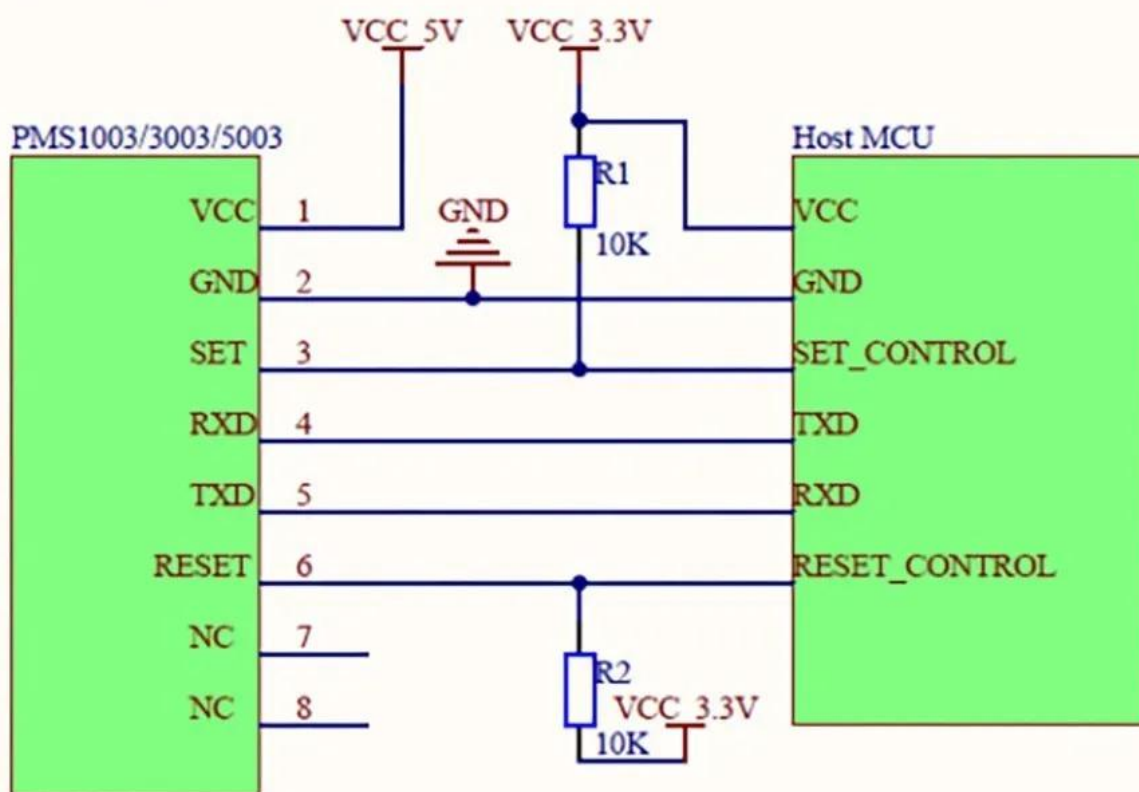
**Technical indicators:**

Parameter	Quota	unit
Particle measurement range	0.3~1.0; 1.0~2.5; 2.5~10	um
Particle technology efficiency	50%@0.3um 98%@>=0.5um	
Particle mass concentration effective range (PM2.5 standard value)	0~500	ug/m <sup>3</sup>
Particle mass concentration maximum range (PM2.5 standard value)	>=1000	ug/m <sup>3</sup>
Particle mass concentration resolution	1	ug/m <sup>3</sup>
Particle mass concentration consistency (PM2.5 standard value)	+10@100~500 ug/m <sup>3</sup> +10ug/m <sup>3</sup> @0~100ug/m <sup>3</sup>	
Called quasi-volume	0.1	L
Single response time	<1	S
Integrated response time	<=10	S
DC supply voltage	Typ:5.0 Min:4.5 Max:5.5	V
Working current	<=100	mA
Standby current	<=200	uA
Data interface level	L<0.8@3.3 H>2.7@3.3	V
Operating temperature range	-10~60	℃
Working humidity range	0~99%	
Storage temperature range	-40~80	℃
Mean time between failures	>=3	Y

Digital interface definition



Pin	Function	Description
Pin1	VCC	Power + ( 5V )
Pin2	GND	Power -
Pin3	SET	Set pin / TTL level @ 3.3V high or floating for normal operation low level is dormant
Pin4	RXD	Serial Receive Pin / TTL Level @ 3.3V
Pin5	TXD	Serial Port Transmit Pin / TTL Level @ 3.3V
Pin6	RESET	Module reset signal / TTL level @ 3.3V low reset
Pin7	NC	
Pin8	NC	



**Schematic diagram of typical circuit connections**



PMS5003ST

formaldehyde

particulates

Temperature and humidity

Triple sensor