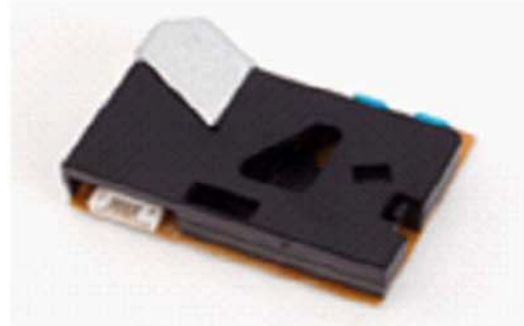


DSM501

Dust Sensor Module

Features

- PWM output
- Compact size and Light weight
- Easy installation
- Single power supply



Product Summary

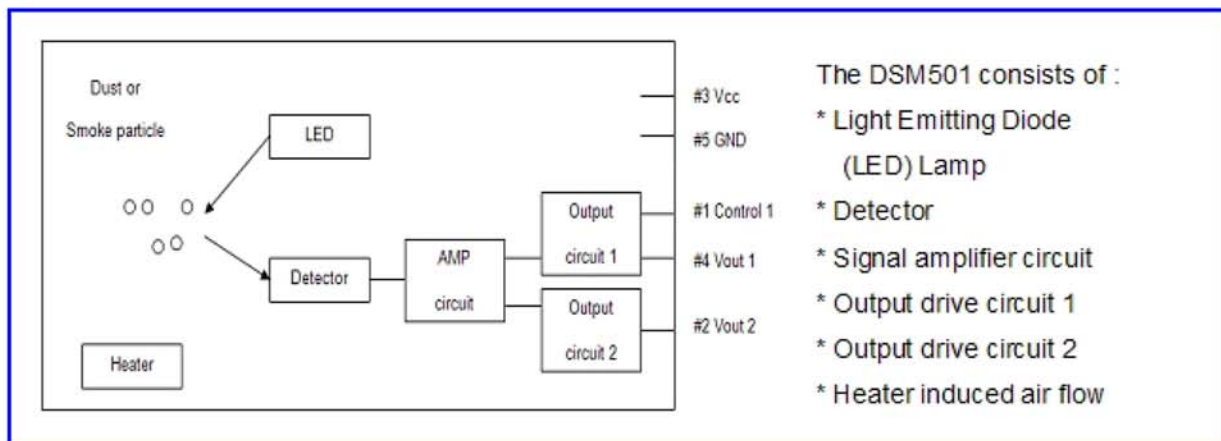
The dust sensor module DSM501 is a compact size for a particle density sensor. This module has a heater to generate heat. Heat creates updraft (upward current of air) which draw air

outside of the module into the module. It is designed to detect the particle whose size is over one micrometer, which means it can detect cigarette smoke, house dust, tick, spore, pollen and mildew.

Application

Air cleaner or Air purifier
Air conditioner
Air quality monitor
Ventilator etc

Block Diagram



Sensor Performance

Electrical Characteristics

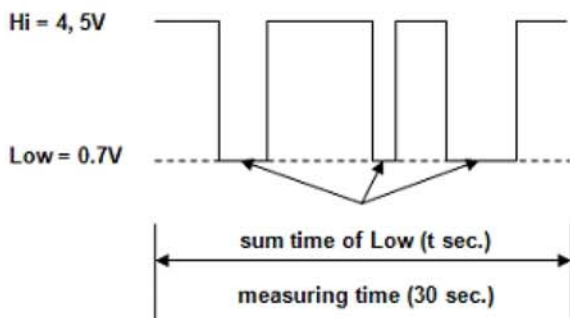
	Min	Spec	Max
Supply voltage (V _{CC})	4.5		5.5
Supply current (mA)		90	
Operating temperature (°C)	-10		65
Operating humidity (%RH)			95
Storage temperature (°C)	-20		80
Vout 1,2 at High ^{*1} (V)	4.0	4.3	
Vout 1,2 at Low ^{*2} (V)		0.7	1.0
Time for stabilization ^{*3} (min)	1		

*1. Vout 1 and 2 are high state when not detect particle.

*2. Vout 1 and 2 are go to low state when detect particle.

*3. After the power turned on.

Low pulse width : 10ms – 90ms



$$\text{Low ratio [\%]} = t(\text{sec}) / 30(\text{sec}) * 100$$

Dust sensor specifications

Detectable particle size	Approx. 1 μ m (minimum)
Detectable range	0 ~ 1.4mg/m ³
Output signal	PWM (pulse width modulation)

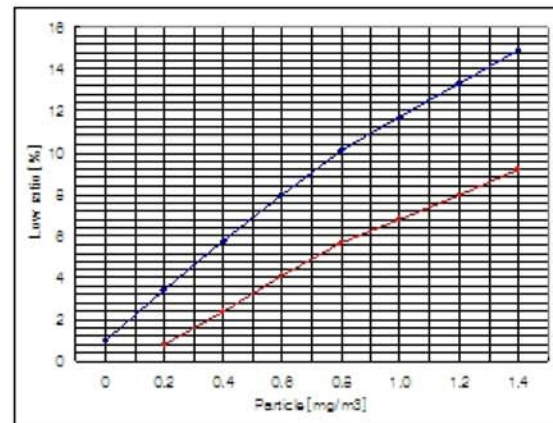


Figure 1. Sensor Characteristics vs Low Ratio

Dimension

	Pin number	Pin name	Description
	#1	Control	Vout 1 control
	#2	Vout 2	Vout 2 output (PWM)
	#3	Vcc	Positive power supply
	#4	Vout 1	Vout 1 output (PWM)
#5	GND	Ground	

Table 1. PINOUT I/O DESCRIPTION

Ordering Information

DSM501A : 2mm pitch connector (20010WR-05)

DSM501B : 2.5mm pitch connector (S5B-EH)

Packaging

Module dimensions : W59 x H45 x D20 mm

Weight : Approx. 25g

Tray : modules of 25pcs.(5x5) per tray

Inner Box : tray 5pcs per box (module 125pcs)

Outer Box : Inner box 4pcs per box

(module 500pcs)

Dimensions : W670 x H250 x D420 mm

Weight : max. 13Kg