

datasheet: [dsm501.pdf](#)

DMS501A - 2mm pin pitch, DMS501B - 2.54 mm

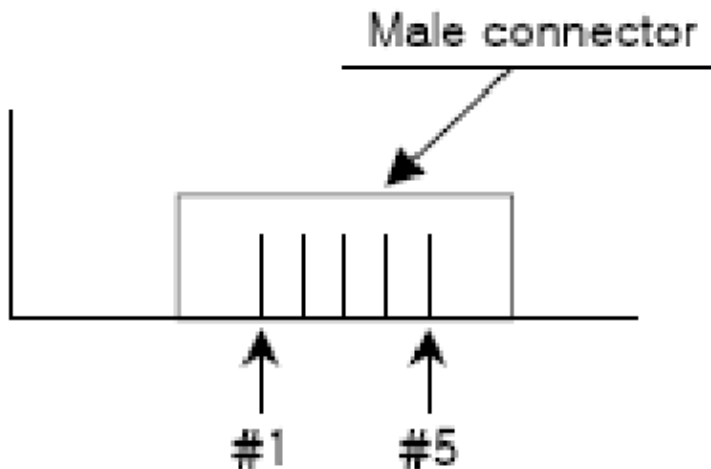
5V, 90mA

1 minute stabilization after power up

sum time of low (0.7v) for measurement interval, divide by time

PINOUT I/O DESCRIPTION

Pin number	Pin name	Description
#1	Control	Vout 1 control
#2	Vout 2	Vout 2 output factory calibrated PWM output for density of particles over $1 \text{ } \mu\text{m}$.
#3	Vcc	Positive power supply DC 5V
#4	Vout 1	Vout 1 output (PWM)
#5	GND	Ground



control pin 1

resistor between pin 1 and ground (square pin on board) to control vout 1 output (pin 4)

Resistor value	Description
open	Preset sensitivity (over $2.5 \text{ } \mu\text{m}$)
47K	Half sensitivity (over $1.75 \text{ } \mu\text{m}$)
18.2K	Equal sensitivity of Vout 2 (over $1 \text{ } \mu\text{m}$)

arduino

- Nice library, but inside repository
<https://github.com/richardhmm/DIYRepo/tree/master/arduino/libraries/DSM501>
- interrupt driven version <https://github.com/Sovichea/dsm501-interrupt/>

I tried both of them and on my module they don't report sane results when compared with other sensors.

platformio

<https://primalcortex.wordpress.com/2020/05/23/an-esp8266-air-quality-monitor-based-on-the-dsm501a-dust/>
https://github.com/fcgdam/ESP8266_AirQuality

```
dpavlin@nuc:/nuc/esp8266/ESP8266_AirQuality$ git remote -v
origin https://github.com/fcgdam/ESP8266_AirQuality (fetch)
origin https://github.com/fcgdam/ESP8266_AirQuality (push)

# edit config
dpavlin@nuc:/nuc/esp8266/ESP8266_AirQuality$ vi src/secrets.h

dpavlin@nuc:/nuc/esp8266/ESP8266_AirQuality$ pio run

dpavlin@nuc:/nuc/esp8266/ESP8266_AirQuality$ pio run -t upload --device-port /dev/ttyUSB2
```

Pins:

Wemos D1 +5V	DSM501a +5V
Wemos D1 D6	DSM501a PM 1.0 pin
Wemos D1 D5	DSM501a PM 2.5 pin<
Wemos D1 GND	DSM501a GND pin

description of similar sensor

https://github.com/opendata-stuttgart/meta/blob/master/files/ShinyeiPPD42NS_Deconstruction_TracyAllen.p

power supply

It really needs quiet power supply to get any readings which are not just noise.

DSM 501

