Air-Quality Detection Module

（Model：ZP01-MP503）

User's Manual

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Zhengzhou Winsen Electronics Technology Co., Ltd

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Zhengzhou Winsen Electronics Technology CO., LTD.

ZP01-MP503 Air-Quality Detection Module

Product Description

ZP01-MP503 air-quality module adopts flat surface semiconductor gas sensor. The module has very high sensitivity to volatile organic gases such as formaldehyde, benzene, carbon monoxide, ammonia, hydrogen, alcohol and smoke of cigarette, essence &etc. The module has been aging, debugged, adjusted and calibrated. So it has good consistency and high sensitivity.

Features

High sensitivity and good long-term stability
Calibrated before shipment
10 seconds to 3 minutes with auto-preheating function
Faulty auto-check, low power consumption
Long lifespan, high cost-effective

Application

Air cleaner, fresh-air system, intelligent integrated ceiling, air quality monitor, ventilator, air-condition.

Parameters

Sensor	Air quality sensor
Target Gas	formaldehyde, benzene, carbon monoxide, hydrogen,alcohol, ammonia, smoke of cigarette, essence &etc.
Physical Interface	2.54-4P Pins
Output Data	0~3 grade pollution signal
Working Voltage	5.0±0.2V DC (No voltage reverse connect protection)
Output Data	TTL level (200ohm protected resistance inside)
Working Current	≤60mA
Warm Up Time	≤3 min
Response Time	≤20s
Recovery Time	≤60s
Operating Temperature	0～50℃
Operating Humidity	≤95％RH
Storage Temperature	－20～60℃
Storage Humidity	≤60％RH
Size	24×20×15mm（L×W×H）
Weight	≤ 20g
Sensitivity Attenuator	≤1%/year
Lifespan	≥10 years
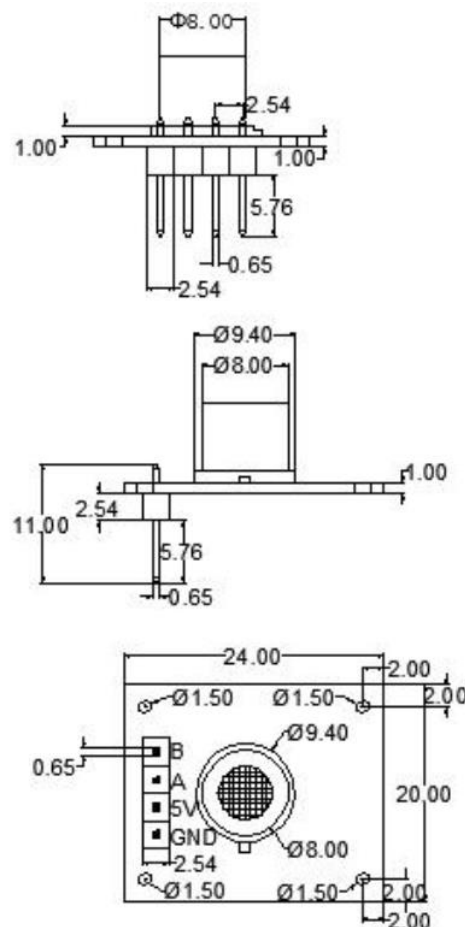
Fig1.Structure(tolerance ±0.2mm)

Pins definition   Stable2.

Name	Function
GND	Input power -
5V	Input power +
A	Output signal A
B	Output signal B

B
A
5V
GND
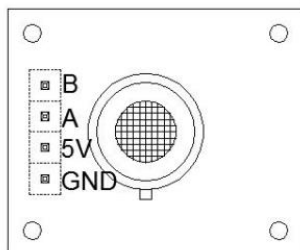
Fig2. Module pins

Sensitivity Characteristics

air
acetone
toluene
formaldehyde
methane
alcohol
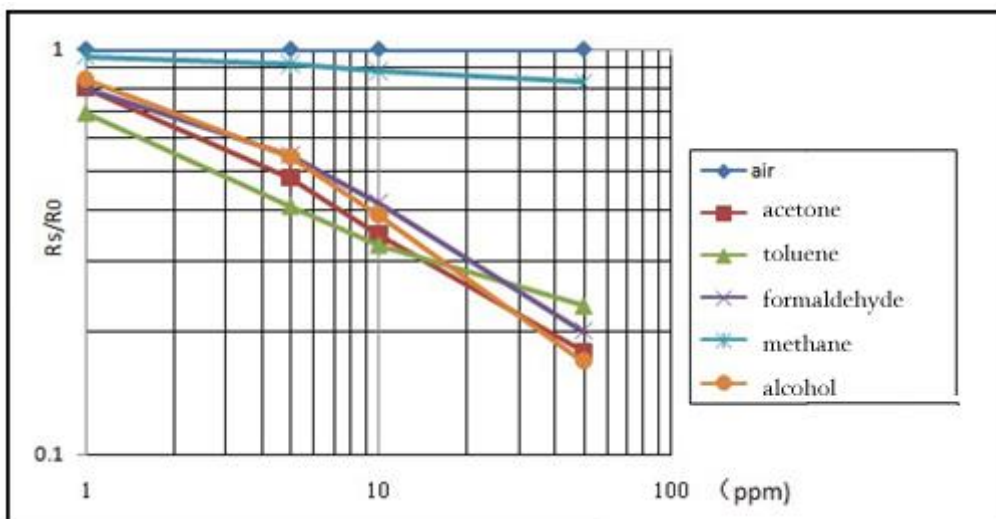
Fig3.Contrast of the sensitivity in different gases

Application of schematic diagram

module

GND
5VDC
output signal A
output signal B

LED

GND
+5V
connect with
5V DC

module

GND
5VDC
output signal A
output signal B

control board

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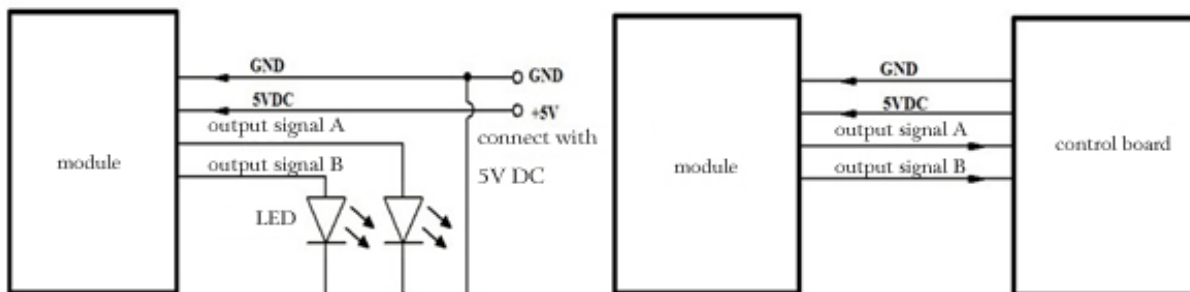
Pins definition

Pin	Name	Function
1	GND	Input power -
2	5V	Input power +
3	A	Output signal A
4	B	Output signal B

Output Signal

Grade	Output A	Output B	Pollution Grade
0	0V	0V	Clean
1	0V	+5V	Light pollution
2	+5V	0V	Moderate pollution
3	+5V	+5V	Severe pollution

Cautions

● Please do not put the module in organic solvent (include silica gel and other cementing compound), painting, medicament, oils and fuels, high concentration gas etc.
● Please do not impact or vibrate the module seriously.
● Please warm up for 5 min before first use.
● Please do not use the module related with personal safety.
● Please do not install the module in the severe convection environment.
● Please do not put in the module in high concentration organic gas for long time.
● Please supply the module with requested voltage as manual strictly, if voltage is higher than 5.5V, the module will be destroyed irreversibly.

Note: To keep continual product development, we reserve the right to change design features without prior notice.

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