BONATECH 9 in 1 MQ Sensor Modules Kit

Description:

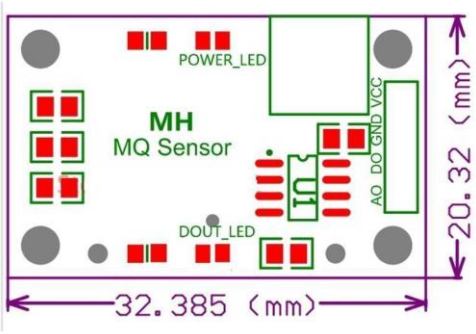
- With signal output indicator light.
- Working voltage: DC 5V;
- With signal output indicator light;
- The dual signal output (analog output and TTL output);
- The analog output and increased with the increase of concentration, the higher the concentration higher voltage;
- Has a very high sensitivity to sulfide, benzene vapor, smoke and other harmful gases;
- With a long service life and reliable stability;
- Quick response and recovery characteristics;
- With mounting holes, easy mounting;
- The probe can be plug design, convenient test

Application:

For harmful gas family, environment detection device, is suitable for the detection of the ammonia, aromatic compounds, sulfide, benzene vapor, smoke and other harmful gas, gas sensitive element concentration range: 10 to 1000ppm provides reference cases.

Package List:

1. MQ-2 Smoke Sensor
2. MQ-3 Alcohol Sensor
3. MQ-4 Methane Sensor
4. MQ-5 LPG Natural Gas City Gas Sensor
5. MQ-6 isobutane propane sensor
6. MQ-7 Carbon Monoxide Sensor Module
7. MQ-8 hydrogen sensor
8. MQ-9 Carbon Monoxide Combustible Gas Sensor
9. MQ-135 air quality detection sensor



Product number			MQ gas sensor
Product type			Semiconductor gas sensor
Standard package			Black wood
Detection gas			Alcohol steam
Detection concentration			0.04-4mg / L alcohol
Standard circuit conditions	Circuit voltage	Vc	≤24V DC
	Heating voltage	V_H	5.0V±0.2V ACorDC
	Load Resistance	R_L	Adjustable
Characteristics of Gas Sensors under Standard Test Conditions	Heating resistance	R_H	31Ω±3Ω Room temperature
	Heating power consumption	P_H	≤900mW
	Sensitive body surface resistance	Rs	2KΩ-20KΩ (in 0.4mg / L alcohol)
	Sensitivity	S	Rs(in air)/Rs(0.4mg / L alcohol)≥5
	Concentration slope	α	≤0.6($R_{300\ ppm}$/$R_{100\ ppm}$ alcohol)
Standard test conditions	temperature / humidity		20℃±2℃; 65%±5%RH
	Standard test circuit		Vc:5.0V±0.1V;
			V_H: 5.0V±0.1V
	Warm up time		Not less than 48 hours

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Note: 1, when the measured concentration is greater than the set density, single-chip IO port output low

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Include // library files

#define uchar unsigned char // macro definition unsigned char

#define uint unsigned int // macro definition unsigned int

/ **********

I / O definitions

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```
sbit LED = P1 ^ 0; // define microcontroller P1 port of the first one (ie P1.0) to indicate the end


sbit DOUT = P2 ^ 0; // define the microcontroller P2 port first one (ie P2.0) as an input sensor
/ ********************************************** ******************
Delay function
********************************************** ****************** /
void delay () // delay procedure
{
uchar m, n, s;
for (m = 20; m> 0; m--)
for (n = 20; n> 0; n--)
for (s = 248; s> 0; s--);
}
/ ********************************************** ******************
The main function
********************************************** ****************** /
void main ()
{
while (1) // infinite loop
{
LED = 1; // off P1.0 port lights
if (DOUT == 0) // When the concentration is higher than the set value, the implementation of the Con
{
delay (); // delay interference
When if (DOUT == 0) // determine the concentration higher than the set value, the implementation of
the Con
{
LED = 0; // P1.0 port lights lit
}
}
```

```
}
}
/ ********************************************** ******************
End
********************************************** ****************** /
```

MQ-135 Product Overview:

Using high-quality dual-panel design, with power indicator and TTL signal output instructions.

The switching signal having a DO (TTL) output and analog output AO.

TTL output valid signal is low. (Low-level signal when the output light can be directly connected to the microcontroller or relay module)

Analog output voltage with the higher concentration of higher voltage

There are four screw holes for easy positioning.

Has a long life and reliable stability.

Rapid response and recovery characteristic

Input voltage: DC5V Power consumption (current): 150mA

DO output: TTL digital 0 and 1 (0.1 and 5V)

AO output: 0.1-0 .3 V (relative to pollution) , the maximum concentration of a voltage of about 4V

Special note: After the sensor is powered, needs to warm up around 20S, measured data was stable, heat sensor is a normal phenomenon, because the internal heating wire, if hot is not normal. Special note: After the sensor is powered, needs to warm up around 20S, measured data was stable, heat sensor is a normal phenomenon, because the internal heating wire, if hot is not normal .

MQ135 gas sensor sensitive material used in the clean air, low conductivity tin oxide (SnO2). When present in the environment pollution gas sensor, conductivity sensor with the increase in air pollution in the gas concentration increases. Use simple circuit can convert the change in conductivity of the gas concentration corresponding to the output signal.

MQ135 ammonia gas sensor, sulfide, benzene vapor high sensitivity, smoke and other harmful monitoring will also be ideal. The sensor can detect a variety of harmful gases; it is a low-cost sensor for a variety of applications.

Application:

Can be used for home and factory gas leakage monitoring devices, suitable for liquefied petroleum gas, butane, propane, methane, smoke, etc.