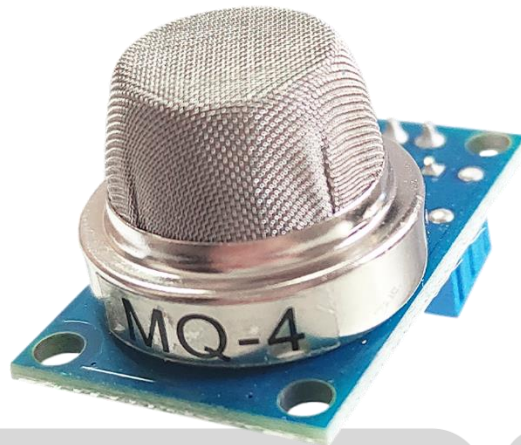


METHANE CNG GAS SENSOR MODULE



Description:

The MQ4 methane gas sensor is extremely used for detecting gas leakage at home or in industries like Methane (CH₄) & CNG Gas. This gas sensor is highly responsive in very little time, so based on the sensitivity requirements; it can be adjusted through a potentiometer. This is an analog output sensor, used like a CNG (compressed natural gas) sensor within the series of MQ sensors. So, this sensor is suitable for detecting the concentration of natural gas like methane within the air. For this sensor, if the gas concentration increases then the output voltage will be increased. This sensor works with 5V DC and draws 750mW around. This article discusses an overview of the MQ4 methane gas sensor and its working with applications. MQ4 methane gas sensor is a MOS (metal oxide semiconductor) type sensor, used to detect the methane gas concentration within the air at either home or industries & generates output like analog voltage by reading it. Here, the range of concentration for sensing ranges from 300 ppm – 10,000 ppm which is appropriate for the detection of a leak.

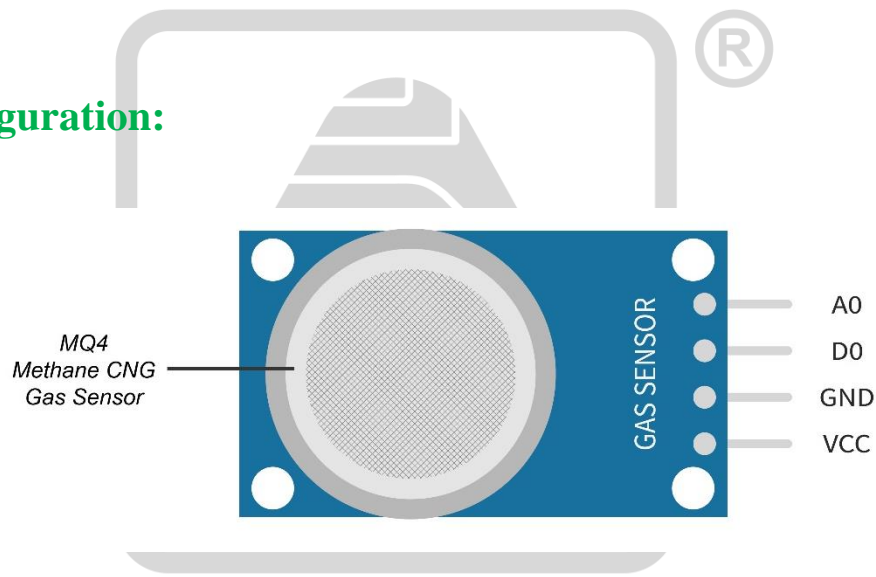
Features:

1. Sensitivity is good for combustible gas in an extensive range.
2. High sensitivity for natural gas, methane gas.
3. Small sensitivity for smoke and alcohol.
4. Quick responsive, long life and stable.
5. The drive circuit is simple.
6. Detection gas is methane or natural.

Specifications:

- Load resistance: 20K Ω
- Detecting resistance: 10K Ω to 60K Ω
- Preheat time: above 24Hrs
- Required voltage: 5V
- DO output: 0.1 to 5V
- AO output: 0.1 to 0.3V
- Operating temperature: 14 °C to 122 °C

Pin Configuration:



VCC Pin: This pin provides voltage to the module and the typical operating voltage is +5V.

GND Pin: This pin is used to connect the sensor module to the GND terminal of the system.

DO (Digital Out) Pin: This pin provides digital output by setting a threshold value with the help of the potentiometer.

AO (Analog Out): This pin provides output analog voltage which ranges from 0 to 5V depending on the intensity of gas.

How it works:

MQ4 gas sensor is simply used to detect the gas by using an analog pin or digital pin. Once the sensor module is powered with 5Volts then it starts detecting the methane gas. Once it is detected then the LED will start glowing otherwise the LED will be OFF.

Before working with these gas sensors, we have to set aside pre-heating time before you can work with them. Now, bring in the sensor to the methane gas & notice that the voltage throughout the output LED will be high like 5V, so the LED will be turned ON otherwise it will be turned OFF, so the voltage will be low like 0V. Similarly, the analog pin can also be used for detecting methane gas.

Applications:

- This sensor is used in gas leakage detecting devices for homes, industries, offices, etc
- These sensors detect the methane & natural gases
- Used in portable gas detectors
- Industrial Combustible gas detector
- Gas leak alarm

