

# MQ-5 Gas Sensor User Manual

## 1. Features

Sensitive gas	Liquefied gas, natural gas and coal gas
Boost converter chip	PT1301
Operating voltage	2.5V-5.0V
Dimensions	40.0mm*21.0mm
Fixing hole size	2.0mm

Operating principle:

MQ-5 gas sensor applies SnO<sub>2</sub> which has a lower conductivity in the clear air as a gas-sensing material. In an atmosphere where there may be inflammable gases, the conductivity of the gas sensor raises along with the inflammable gas concentration increases. MQ-5 plays a high performance in detecting butane, propane and methane, and can identify both propane and methane at a same time. MQ-5 is highly sensitive to natural gas. It features with the ability to detect various inflammable gases and lower cost, making it an ideal choice of different applications of gas detection.

## 2. Applications

This module can be applied to liquefied gas, natural gas and/or coal gas monitoring devices for household or industrial usage.

## 3. Interfaces

Pin No.	Symbol	Descriptions
1	DOUT	Digital output
2	AOUT	Analog output
3	GND	Power ground
4	VCC	Positive power supply (2.5V-5.0V)

## 4. How to use

We will illustrate the usage of the module with an example of sensitive gas detection by connecting a development board.

- ① Download the relative codes to the development board.
- ② Connect the development board to a PC via a serial wire and the module to the development board. Then, power up the development board and start the serial debugging software.

Here is the configuration of the connection between the module and the development board.

Port	STM32 MUC pin
DOUT	GPIOA.4
AOUT	GPIOA.6
GND	GND
VCC	3.3V

Port	Arduino pin
DOUT	D2
AOUT	A0
GND	GND
VCC	5V

- ③ Warn-up the sensor for a minute.
- ④ The detected result can be checked by the LED indicator on the module. Put the sensor into a container filled with sensitive gas, you will find the indicator turns on. While take the sensor out of the container, you can see the indicator turns off.