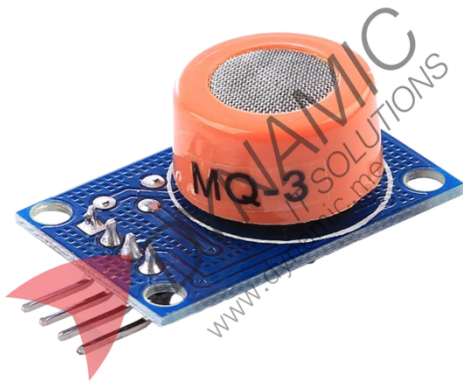


# MQ-3 Alcohol Ethanol Detection Sensor



## **Features:**

The MQ-3 is a semiconductor alcohol gas sensor designed for detecting ethanol vapor in the air. It responds to alcohol concentration by increasing conductivity in the presence of alcohol. With high sensitivity to ethanol, good resistance to interference from gasoline and smoke, and a low-cost structure with a simple drive circuit, the MQ-3 is ideal for alcohol breathalyzers and portable detection systems.

Specifications	
<b>Model</b>	MQ-3
<b>Sensor Type</b>	Semiconductor
<b>Encapsulation</b>	Black Bakelite
<b>Detection Gas</b>	Alcohol vapor (ethanol)
<b>Concentration Range</b>	0.04–4 mg/L (alcohol)
<b>Loop Voltage (Vc)</b>	<= 24 V DC
<b>Heater Voltage (Vh)</b>	5.0 V +/- 0.2 V (AC or DC)
<b>Load Resistance (RL)</b>	Adjustable
<b>Heater Resistance (Rh)</b>	31 Ohm +/- 3 Ohm at room temperature
<b>Heater Power Consumption</b>	<= 900 mW
<b>Sensing Resistance (Rs)</b>	2 kOhm–20 kOhm (in 0.4 mg/L alcohol)
<b>Sensitivity</b>	Rs (in air) / Rs (in 0.4 mg/L alcohol) >= 5
<b>Concentration Slope (alpha)</b>	<= 0.6 (R300ppm / R100ppm alcohol)
<b>Standard Operating Temp</b>	20 +/- 2 °C
<b>Standard Humidity</b>	65% +/- 5% RH
<b>Standard Test Voltages</b>	Vc: 5.0 V +/- 0.1 V, Vh: 5.0 V +/- 0.1 V
<b>Preheat Time</b>	Over 48 hours
<b>Use Cases</b>	Vehicle alcohol detectors, portable alcohol testers, personal breathalyzers

## Pinouts:

Pin Name	Type	Description
VCC	Power Input	Power supply input (5 V recommended)
GND	Power Ground	Common ground
AO	Analog Output	Analog voltage output proportional to alcohol concentration
DO	Digital Output	Digital signal output when concentration exceeds threshold (if comparator is present)

