TECHNICAL DATA MQ-8 GAS SENSOR

FEATURES

* High sensitivity to Hydrogen (H_2)
* Small sensitivity to alcohol, LPG,cooking fumes
* Stable and long life

APPLICATION

They are used in gas leakage detecting equipments in family and industry, are suitable for detecting of Hydrogen (H_2), avoid the noise of alcohol and cooking fumes, LPG,CO.

SPECIFICATIONS

A. Standard work condition

Symbol	Parameter name	Technical condition	Remarks
Vc	Circuit voltage	5V±0.1	AC OR DC
V_H	Heating voltage	5V±0.1	ACOR DC
P_L	Load resistance	10K Ω	
R_H	Heater resistance	31±5%	Room Tem
P_H	Heating consumption	less than800mW	

B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
Tao	Using Tem	-10℃-50℃	
Tas	Storage Tem	-20℃-70℃	
R_H	Related humidity	less than 95%Rh	
O_2	Oxygen concentration	21%(standard condition)Oxygen concentration can affect sensitivity	minimum value is over 2%

C. Sensitivity characteristic

Symbol	Parameter name	Technical parameter	Ramark 2
Rs	Sensing Resistance	10K Ω - 60K Ω (1000ppm H_2)	Detecting concentration scope: 100-10000ppm Hydrogen (H_2)
α (1000ppm/ 500ppmH_2)	Concentration slope rate	≤0.6	
Standard detecting condition	Temp: 20℃±2℃ Humidity: 65%±5%	Vc:5V±0.1 Vh: 5V±0.1	
Preheat time	Over 24 hour		

D. Structure and configuration, basic measuring circuit

	Parts	Materials
1	Gas sensing layer	SnO_2
2	Electrode	Au
3	Electrode line	Pt
4	Heater coil	Ni-Cr alloy
5	Tubular ceramic	Al_2O_3
6	Anti-explosion network	Stainless steel gauze (SUS316 100-mesh)
7	Clamp ring	Copper plating Ni
8	Resin base	Bakelite
9	Tube Pin	Copper plating Ni

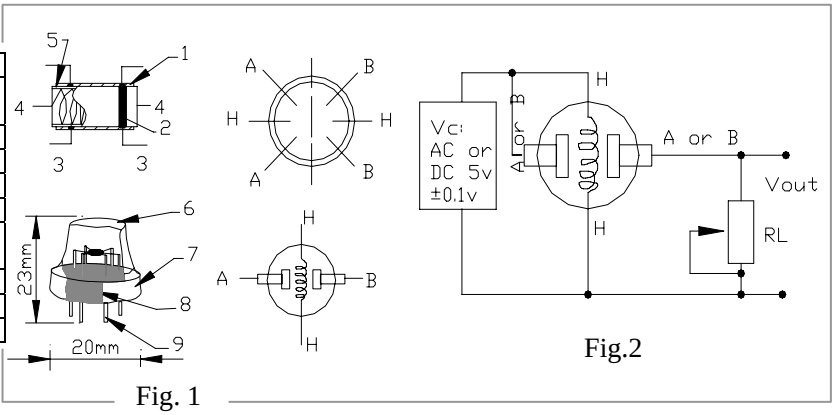
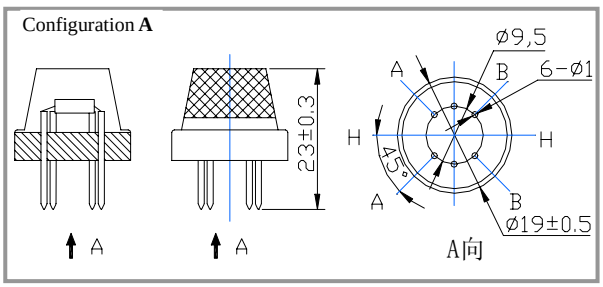
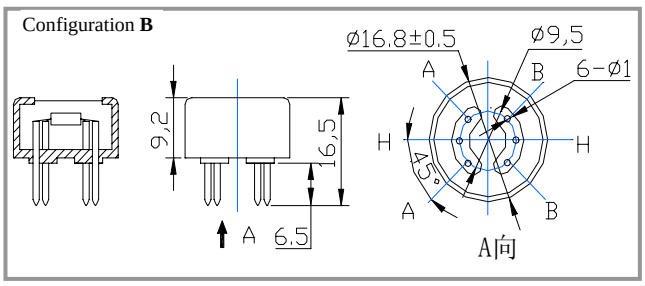


Fig. 1 Fig.2





Structure and configuration of MQ-8 gas sensor is shown as Fig. 1 (Configuration A or B), sensor composed by micro AL_2O_3 ceramic tube, Tin Dioxide (SnO_2) sensitive layer, measuring electrode and heater are fixed into a crust made by plastic and stainless steel net. The heater provides necessary work conditions for work of sensitive components. The enveloped MQ-8 have 6 pin ,4 of them are used to fetch signals, and other 2 are used for providing heating current.

Electric parameter measurement circuit is shown as Fig.2

E. Sensitivity characteristic curve

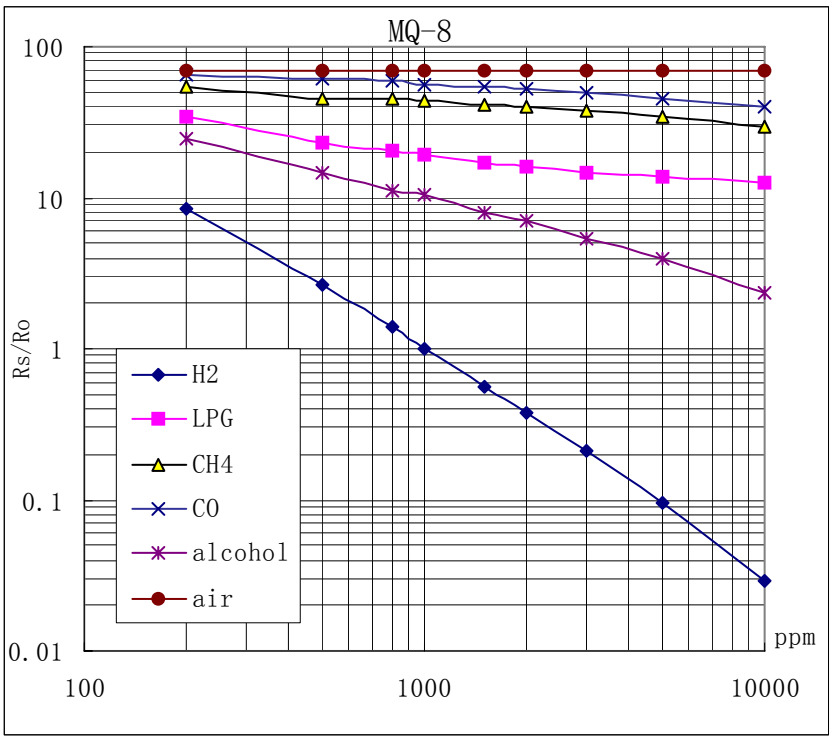


Fig.3 is shows the typical sensitivity characteristics of the MQ-8 for several gases.
in their: Temp: 20℃、
Humidity: 65%、
O_2 concentration 21%
RL=10kΩ
Ro: sensor resistance at 1000ppm H_2 in the clean air.
Rs:sensor resistance at various concentrations of gases.

Fig.2 sensitivity characteristics of the MQ-8

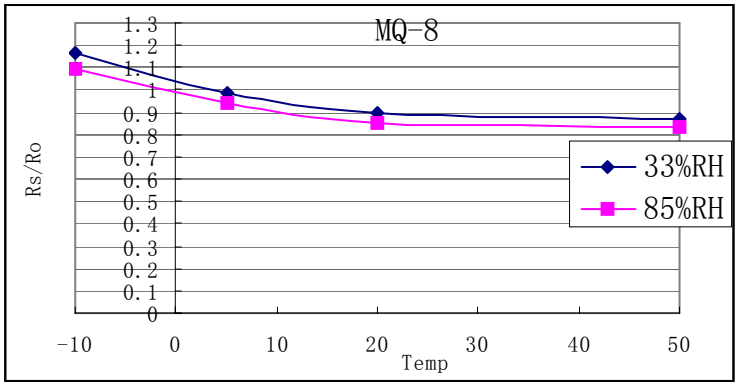


Fig.4 is shows the typical dependence of the MQ-8 on temperature and humidity.
Ro: sensor resistance at 1000ppm of H_2 in air at 33%RH and 20 degree.
Rs: sensor resistance at 1000ppm of H_2 in air at different temperatures and humidities.

SENSITVITY ADJUSTMENT

Resistance value of MQ-8 is difference to various kinds and various concentration gases. So,When using this components, sensitivity adjustment is very necessary. we recommend that you calibrate the detector for 1000ppm H_2 concentration in air and use value of Load resistance (R_L) about 10 KΩ (5KΩ to 33 KΩ).

When accurately measuring, the proper alarm point for the gas detector should be determined after considering the temperature and humidity influence.