TECHNICAL DATA MQ-136 GAS SENSOR

FEATURES

Fast response and High sensitivity
Stable and long life Simple drive circuit

APPLICATION

They are used in air quality control equipments for buildings/offices, are suitable for detecting of H_2S.

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
R_L	Load resistance	can adjust	
R_H	Heater resistance	31Ω ±5%	Room Tem
P_H	Heating consumption	less than 800mw	

B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
Tao	Using Tem	-10℃…+45℃	
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	Remark 2
Rs	Sensing Resistance	30KΩ -200KΩ (10ppm H_2S)	Detecting concentration scope： 1-100ppm H_2S
α (20/5) H_2S	Concentration Slope rate	≤ 0.65	
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

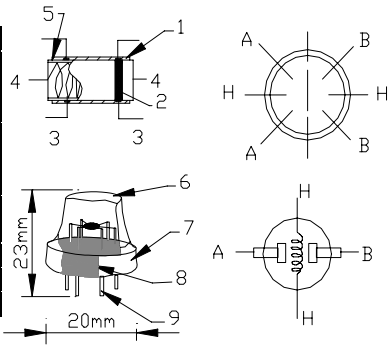


Fig. 1

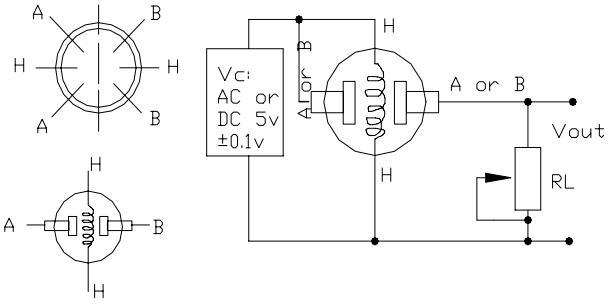
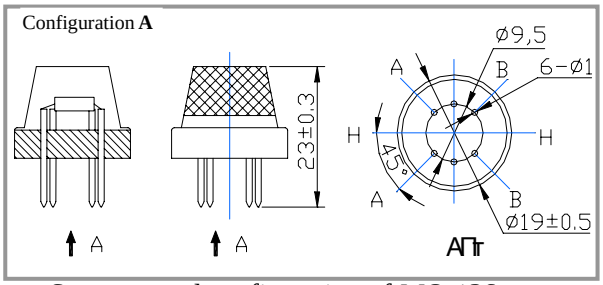
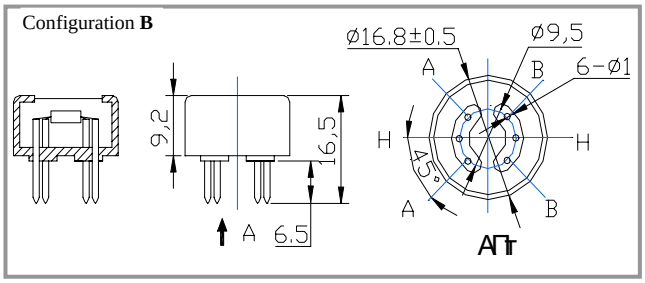


Fig.2





Structure and configuration of MQ-136 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-136 have 6 pins, 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

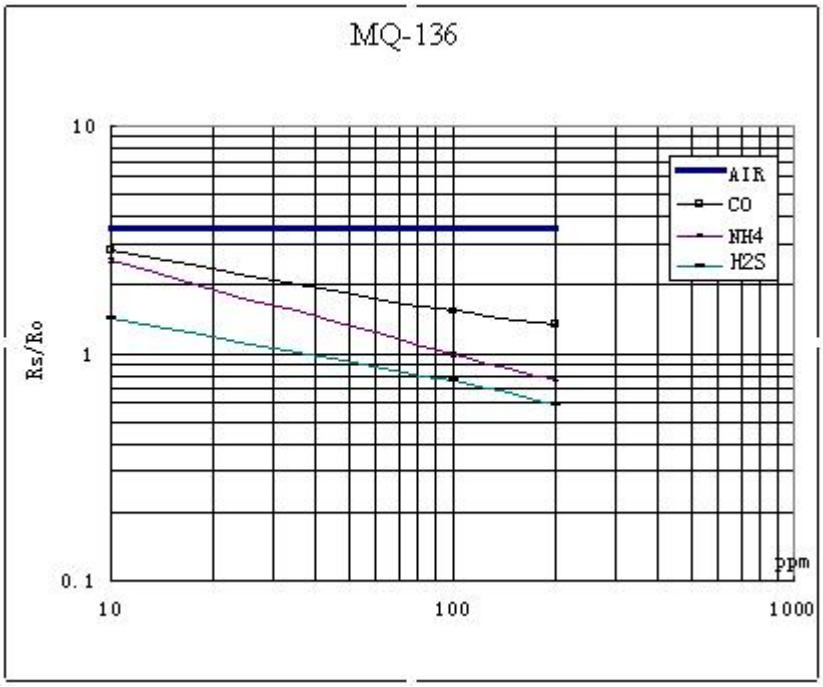


Fig.3 is shows the typical sensitivity characteristics of the MQ-136 for several gases.
in their: Temp: 20℃、
Humidity: 65%、
O_2 concentration 21%
RL=20kΩ
Ro: sensor resistance at 10ppm of H_2S in the clean air.
Rs: sensor resistance at various concentrations of gases.

Fig.3 sensitivity characteristics of the MQ-136

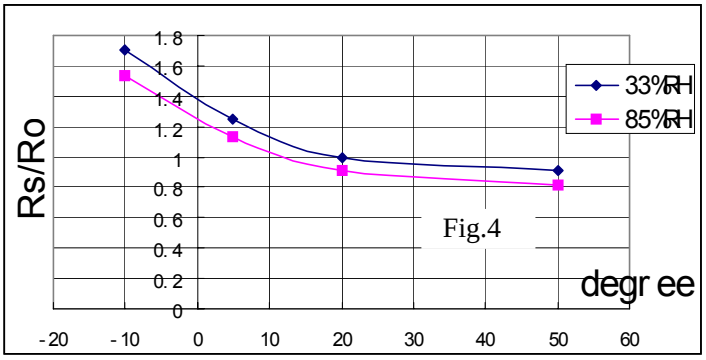


Fig.4 is shows the typical dependence of the MQ-136 on temperature and humidity.
Ro: sensor resistance at 10ppm of H_2S at 33%RH and 20 degree.
Rs: sensor resistance at 10ppm of H_2S at different temperatures and humidity.

SENSITVITY ADJUSTMENT

Resistance value of MQ-136 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 10ppm H_2S concentration in air and use value of Load resistance that(R_L) about 20 KΩ (10KΩ to 47 KΩ).

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