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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
V_c	Circuit voltage	$5V \pm 0.1$	AC OR DC
V_H	Heating voltage	$5V \pm 0.1$	AC OR DC
R_L	Load resistance	can adjust	
R_H	Heater resistance	$31 \Omega \pm 5\%$	Room Tem
P_H	Heating consumption	less than 800mw	

B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
T_{ao}	Using Tem	$-10^\circ C - 45^\circ C$	minimum value is over 2%
T_{as}	Storage Tem	$-20^\circ C - 70^\circ C$	
R_H	Related humidity	less than 95%Rh	
O_2	Oxygen concentration	21%(standard condition)Oxygen concentration can affect sensitivity	

C. Sensitivity characteristic

Symbol	Parameter name	Technical parameter	Remark 2
Rs	Sensing Resistance	30K □ -200K □ (10ppm H ₂ S)	Detecting concentration scope : 1-100ppm H ₂ S
□ (20/5) H ₂ S	Concentration Slope rate	□ 0.65	
Standard Detecting Condition	Temp: 20 □ □ 2 □ Vc:5V±0.1 Humidity: 65%± 5% 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

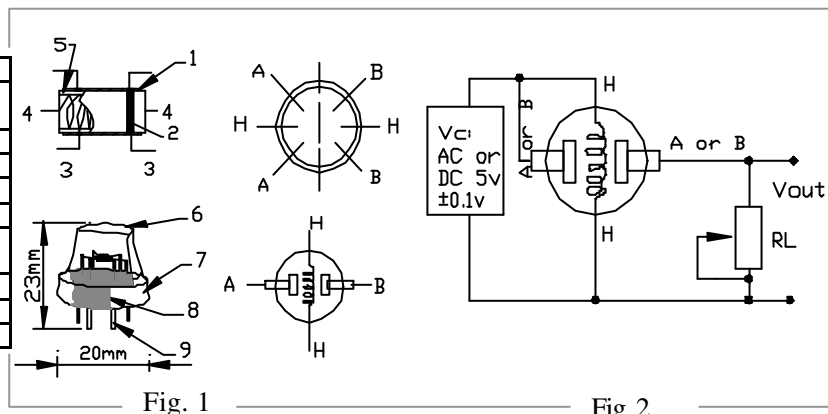
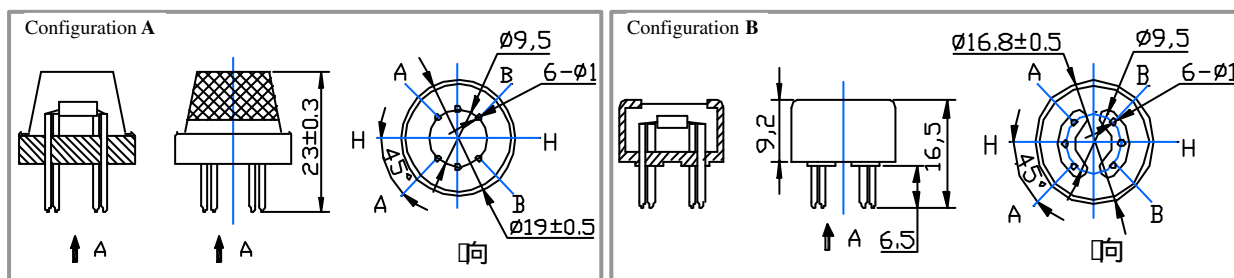


Fig. 1

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 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

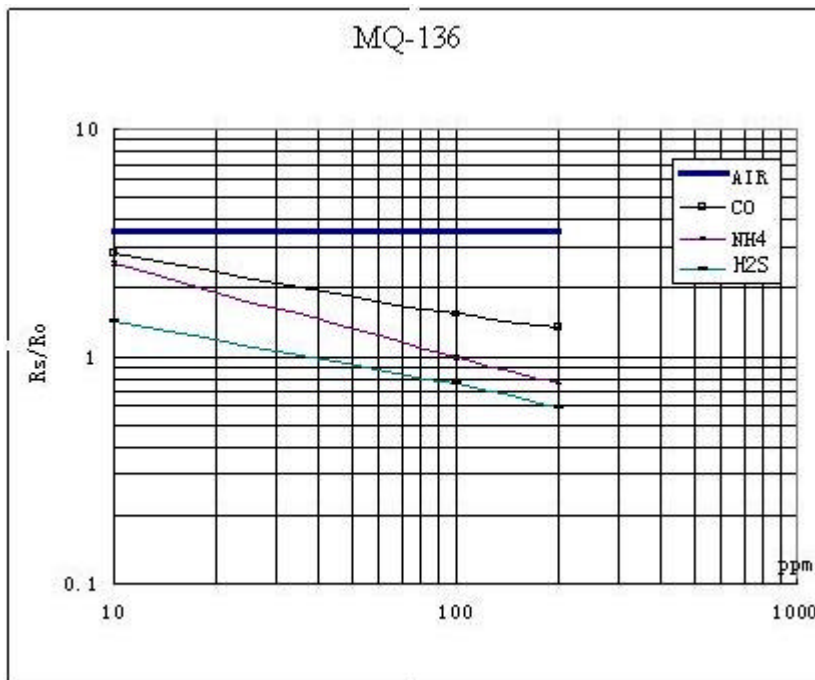


Fig.3 is shows the typical sensitivity characteristics of the MQ-136 for several gases.

in their: Temp: 20 °C、

Humidity: 65%、

O₂ concentration 21%

RL=20k Ω

Ro: sensor resistance at 10ppm of H₂S in the clean air.

Rs: sensor resistance at various concentrations of gases.

Fig.3 sensitivity characteristics of the MQ-136

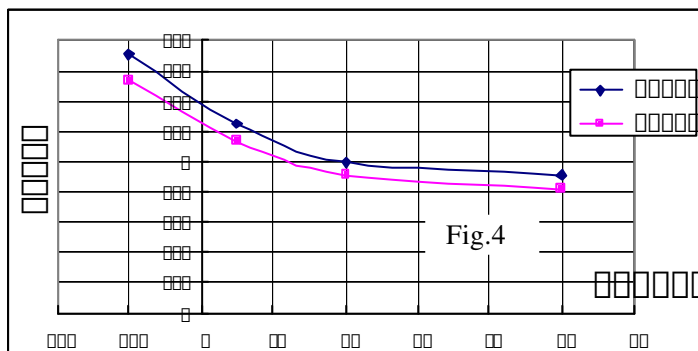


Fig.4 is shows the typical dependence of the MQ-136 on temperature and humidity.

Ro: sensor resistance at 10ppm of H₂S at 33%RH and 20 degree.

Rs: sensor resistance at 10ppm of H₂S

at different temperatures and humidity.

SENSITIVITY 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 H₂S 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.

