

# 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<sub>2</sub>S.

## SPECIFICATIONS

### A. Standard work condition

Symbol	Parameter name	Technical condition	Remarks
V <sub>c</sub>	Circuit voltage	5V±0.1	AC OR DC
V <sub>H</sub>	Heating voltage	5V±0.1	AC OR DC
R <sub>L</sub>	Load resistance	can adjust	
R <sub>H</sub>	Heater resistance	31 Ω ± 5%	Room Tem
P <sub>H</sub>	Heating consumption	less than 800mw	

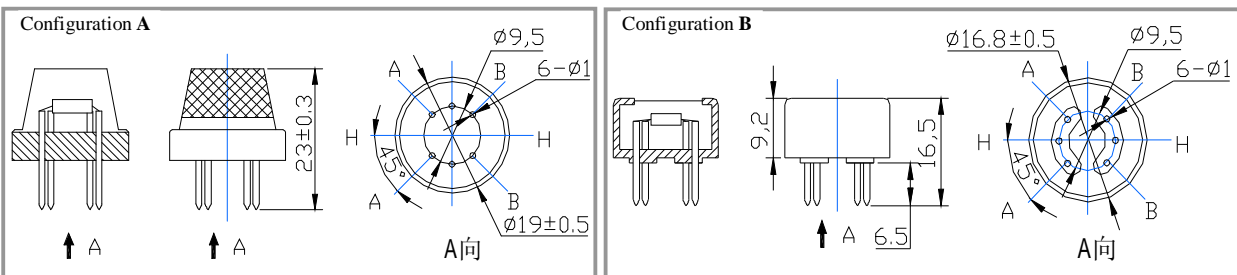
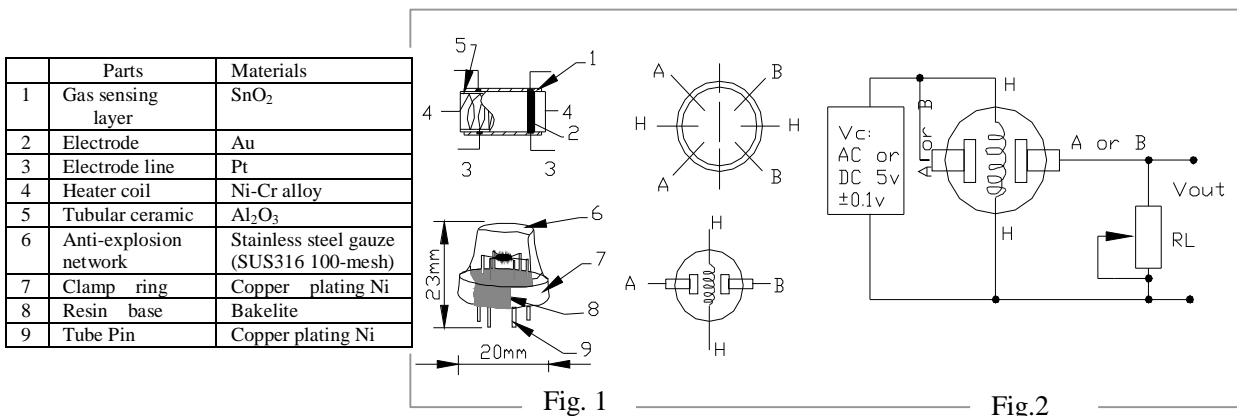
### B. Environment condition

Symbol	Parameter name	Technical condition	Remarks
Tao	Using Tem	-10℃-45℃	
Tas	Storage Tem	-20℃-70℃	
R <sub>H</sub>	Related humidity	less than 95%Rh	minimum value is over 2%
O <sub>2</sub>	Oxygen concentration	21%(standard condition)Oxygen concentration can affect sensitivity	

### C. Sensitivity characteristic

Symbol	Parameter name	Technical parameter	Remark 2
R <sub>s</sub>	Sensing Resistance	30K Ω -200K Ω (10ppm H <sub>2</sub> S )	Detecting concentration scope: 1-100ppm H <sub>2</sub> S
α (20/5) H <sub>2</sub> S	Concentration Slope rate	≤0.65	
Standard Detecting Condition	Temp: 20℃ ±2℃ Humidity: 65%±5%	V <sub>c</sub> :5V±0.1 V <sub>h</sub> : 5V±0.1	
Preheat time	Over 24 hour		

### D. Structure and configuration, basic measuring circuit



Structure and configuration of MQ-136 gas sensor is shown as Fig. 1 (Configuration A or B), sensor composed by micro Al<sub>2</sub>O<sub>3</sub> ceramic tube, Tin Dioxide (SnO<sub>2</sub>) 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 envelope 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

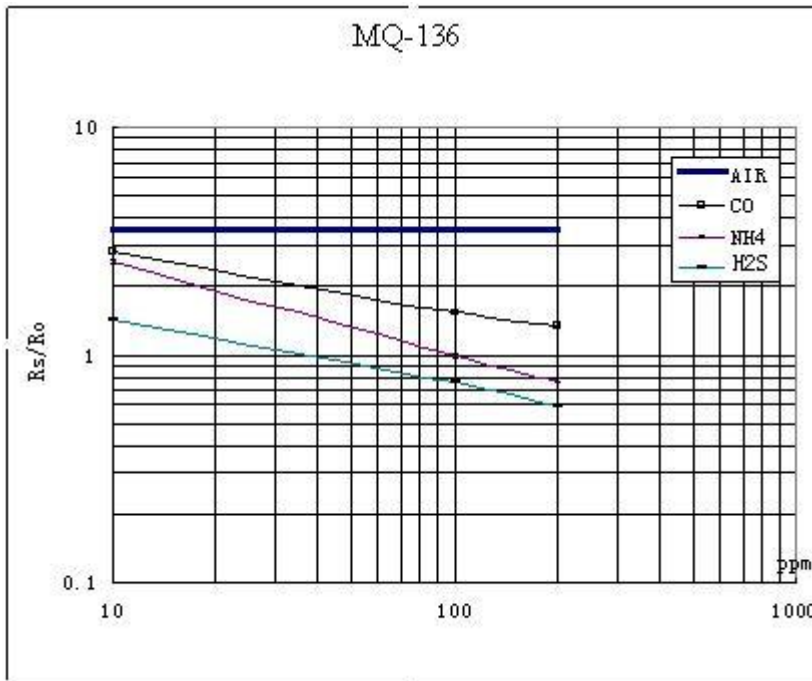


Fig.3 is shows the typical sensitivity characteristics of the MQ-136 for several gases.

in their: Temp: 20°C、  
Humidity: 65%、  
O<sub>2</sub> concentration 21%  
RL=20k Ω

R<sub>o</sub>: sensor resistance at 10ppm of H<sub>2</sub>S in the clean air.

R<sub>s</sub>: sensor resistance at various concentrations of gases.

Fig.3 sensitivity characteristics of the MQ-136

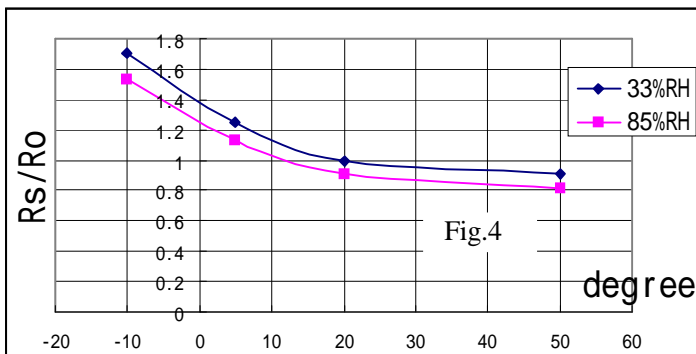


Fig.4 is shows the typical dependence of the MQ-136 on temperature and humidity.

R<sub>o</sub>: sensor resistance at 10ppm of H<sub>2</sub>S at 33%RH and 20 degree.

R<sub>s</sub>: sensor resistance at 10ppm of H<sub>2</sub>S 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 H<sub>2</sub>S concentration in air and use value of Load resistance that (R<sub>L</sub>) about 20 K Ω (10K Ω to 47 K Ω).

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

