錫麟企業有限公司 Sencera Co. Ltd.

Tel:886-2-27046595 Fax:886-2-27041279 Email:justinel@ms14.hinet.net
4F-1, No. 26, Sec. 3, Jen-Ai road, Taipei, Taiwan, ROC. http://welcome.to/sencera

HS-130 Alcohol sensor specification

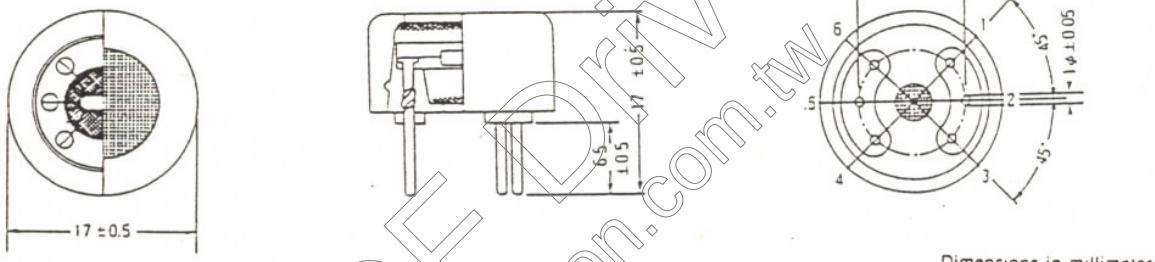
- Feature

Fast response
High sensitivity
Long life
Low cost drive circuit

- Application

Leakage detecting equipment
Alcohol detecting

- Dimension



Dimensions in millimeter

- Operating condition

Symbol	Parameter	Rating	Remarks
Vc	Circuit voltage	5V	AC OR DC
V	Heating voltage	5V	AC OR DC
R_L	Load resistance	100kΩ (adjustable)	
Rh	Heater resistance	33Ω ±5%	room Tem
P	Power consumption	less than 800mw	

- Environment condition

Symbol	Parameter	technical condition	remarks
Tao	Operating Temp.	-20℃~ +50℃	Recommend using scope
Tas	Storage Temp.	-20℃~ +70℃	
RH	Related humidity	less than 95%Rh	
O_2	Oxygen concentration	21%(standard condition) Oxygen concentration can affect sensitivity	minimum value is over 2%

- Sensitivity characteristic

Symbol	Parameter	technical parameter	Detection Range
Rs	Sensing element Resistance	100kΩ-500kΩ (100ppm alcohol)	50—1000ppm
Standard Detecting Condition	Temp: 20℃±2℃ Humidity: 65%±5%	Vc:5V±0.1 Vh: 5V±0.1	
Preheat time (after storage)	Over 24 hour		

$Rs/RL= (Vc-V_{RL}) /V_{RL}$

- Sensitivity

Drawing 1 is relation curve of Ro/Rs and gas concentration.
Drawing 2 is relation curve of Voltage and gas concentration.
Test condition : Temp: 20℃、 Humidity: 65%、 O2:concentration 21%
RL=100kΩ Ro is sensing element resistance value in clear air.
Drawing 3 is relation curve of surface resistance and environment different humidity.
Remark: Rs is 0%Rh surface resistance at Temp=20℃.

- Sensitivity adjustment

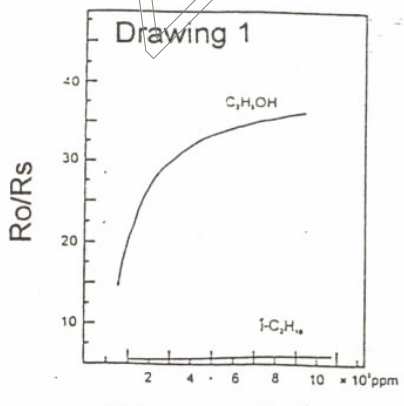
We suggest customer use 100—300 ppm alcohol gas as sensitivity adjustment base.

Adjust steps:
a. Put sensor to application circuits.
b. After long time storage, we suggest the preheating time will not shorter than 24 hours. In order to let the sensor reach stability completely.
c. Under rated gas concentration, adjust the resistance RL until the exactly output signal appear.

- Reference circuit

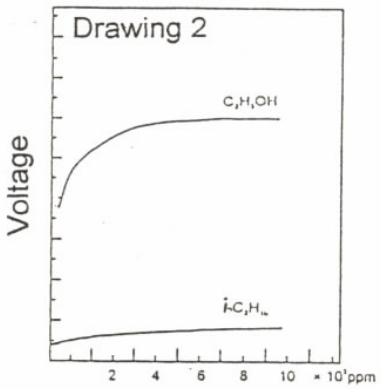
Drawing 4 is HS-130 gas sensor element standard test circuit.
Please note that the environment temperature and humidity will effect to sensor.
Therefore, we must consider environment factor when we test the sensor.
Drawing 5 is related curve of temperature and humidity.

Drawing 1

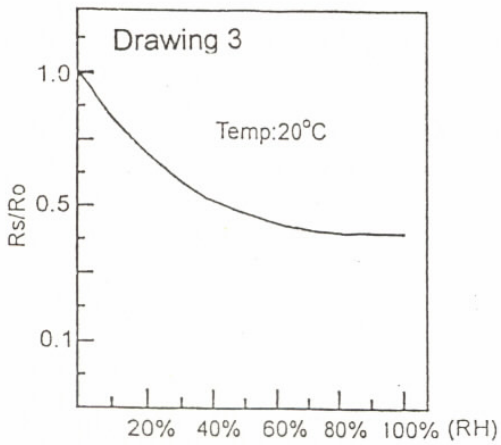


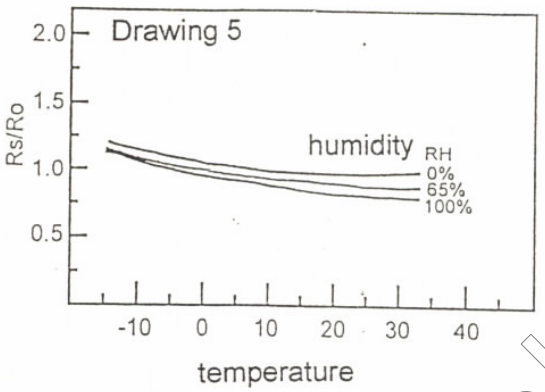
gas concentration

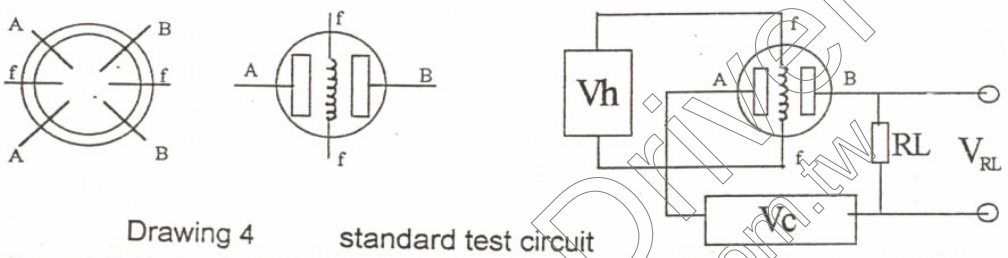
Drawing 2



gas concentration







Drawing 4 standard test circuit

Any interesting, please contact:

Sencera Co. Ltd.

Attn: Mr. Justine Lee
Fax: 886-2-27041279
Tel: 886-2-27046595

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