MQ-E3-C6H6
Electrochemical sensor

Manual

（Model：MQ-E3-C_6H_6）

Taiyuan Tengxing sensor technology Co., Ltd

MQ-E3-C_6H_6 gas sensor

MQ-E3-C6H6 electrochemical sensor detect gas concentration by measuring current based on the electrochemical principle, which utilizes the electrochemical oxidation process of target gas on the working electrode inside the electrolytic cell, the current produced in electrochemical reaction of the target gas are in direct proportion with its concentration while following Faraday law, then concentration of the gas could be get by measuring value of current.

1.Features

* Low consumption
* High precision
* High sensitivity
* Wide linear range
* Good anti-interference ability
* Excellent repeatability and stability

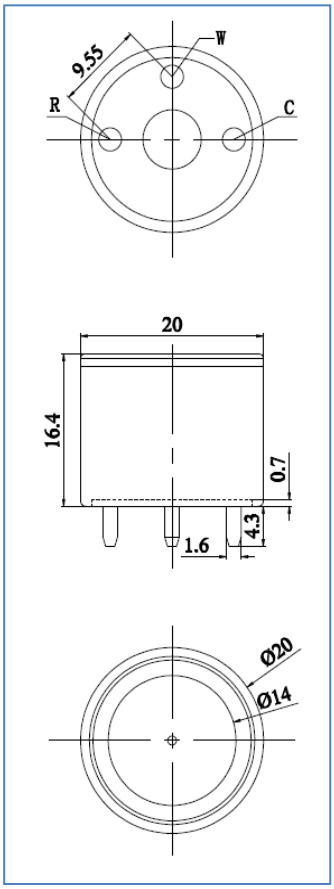
2 Application

Widely used in industrial and environmental fields

3. Technical Parameter

Item	Parameter
Detection gas	C_6H_6
Measurement Range	0～100ppm
Max detecting concentration	500ppm
Sensitivity	（0.20±0.12）μA/ppm
Resolution ratio	0.1ppm
Response time（T_{90}）	≤120S
Bias voltage	300mV
Load resistance （recommend）	10Ω
Repeatability	＜2％output value
Stability（／month）	＜5％
Output Linearity	linear
Zero drift（-20℃～40℃）	≤4ppm

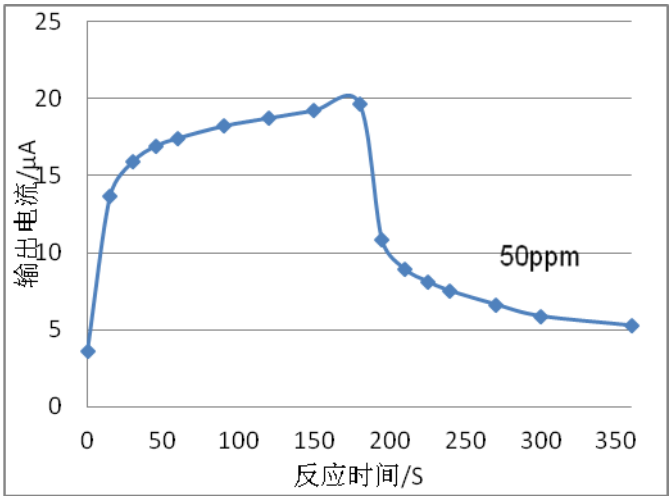
4. External dimension



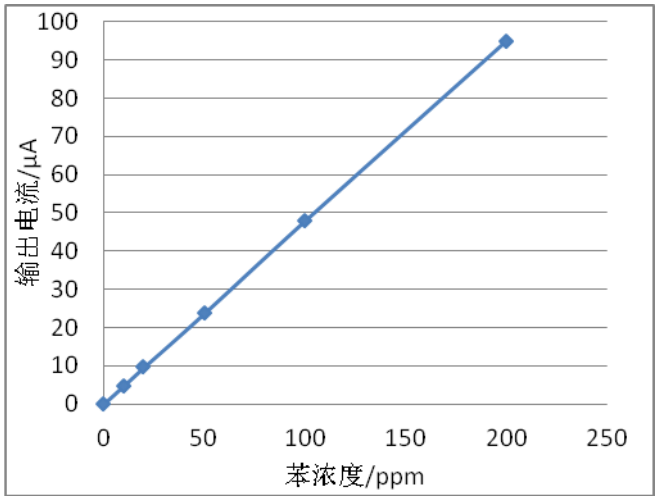
Storage temperature	-20℃～50℃
Storage Humidity	15％～90％RH
Pressure range（kPa）	Standard pressure± 10%
Anticipated using life	2 years

5.Characterization

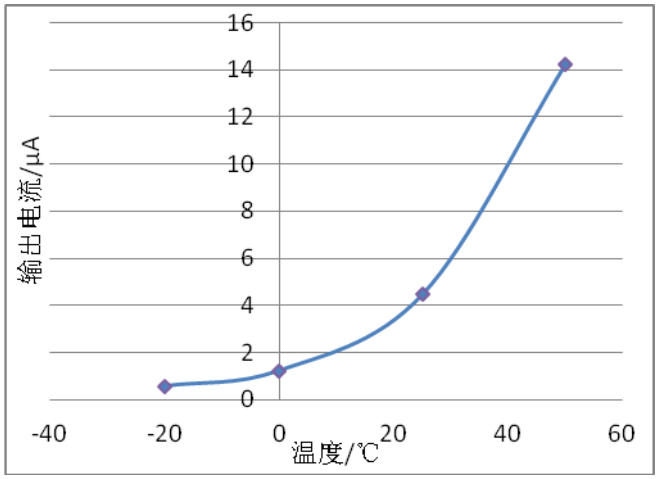
Features of Sensitivity, response and output signal



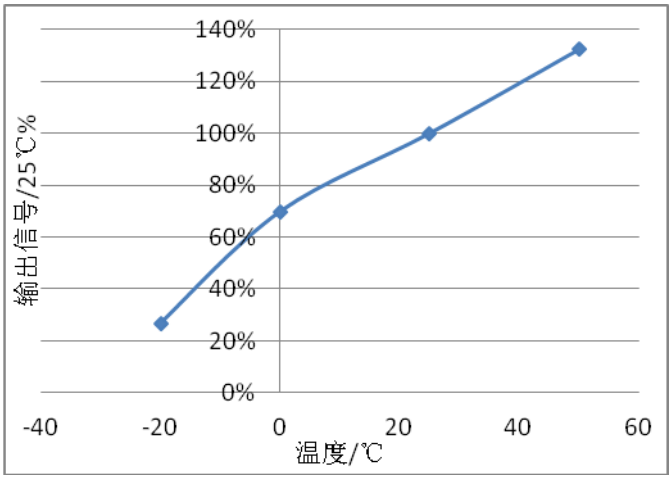
Data graph of concentration linearity features



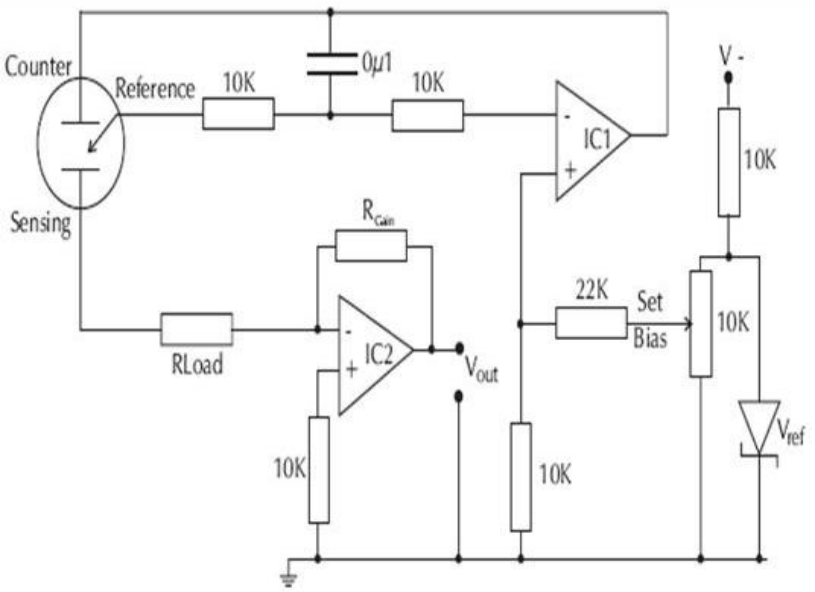
V0 Change upon Variable Temperature



Sensitivity upon variable temperature



6.Basic circuit



7.Anti-Interference:

MQ-E3-C_6H_6 sensor also responds to other gases besides target gas. Below are the response characteristics of interferential gases

Gas	Concentration	MQ-E3-C_6H_6
C6H6	1ppm	1ppm
CH2CHCL	100ppm	268ppm
ETO	10ppm	42ppm
(C2H5)2O	50ppm	48ppm
CH3COOH	50ppm	31ppm
C7H8	50ppm	80ppm
C8H10	50ppm	105ppm
CHCL3	50ppm	29ppm
CH2O	10ppm	342ppm
CO	200ppm	221ppm
C2H5OH	300ppm	658ppm
H2S	50ppm	233ppm
SO2	20ppm	25ppm
CL2	10ppm	2ppm

8.Application Notes:

- It is forbidden to use soldering during installation；
- Prohibit breaking and bending of pins；
- The aging time before use is not less than 48 hours；
- Electrolyte leakage will cause damage, please do not disassemble the sensor at will；
- Sensor shall Avoid organic solvent, coatings, medicine, oil and high concentration gases；
- All MQ-E Sensors shall not be encapsulated completely by resin materials, and shall not immerse in oxygen-free environment, otherwise, it will damage the function of sensor；
- All MQ-E sensors shall not be applied in corrosive gas environment, or the sensor will be damaged
- ；
- Please test the sensitivity of gas sensors in clean atmosphere；
- Sensors Shall be avoided to face the gas, which flow directly from front side；
- The inlet surface of the sensor must not be blocked or polluted；
- The waterproof and breathable membrane above the sensor is strictly prohibited；
- Excessive impact or vibration should be avoided；
- Do not use the sensor when the shell is damaged；
- It takes some time for the sensor to return to normal state After applied in high concentration gas；
- Working electrode and reference electrode of the sensor shall be in short circuit when stored.；
- Blowhole of the sensor should not be blocked and polluted, which will cause the sensitivity decrease;
- It is forbidden to encapsulate the sensor with hot melt adhesive or sealant whose curing temperature is higher than 80℃;
- Prohibit long-term storage and use in high-concentration alkaline gas.

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