MQ-E3-ETO
Electrochemical Sensor

Manual V1.2

（Model：MQ-E3-ETO）

Taiyuan Tengxing sensor technology Co., Ltd

MQ-E3-ETO gas sensor

MQ-E3-ETO 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

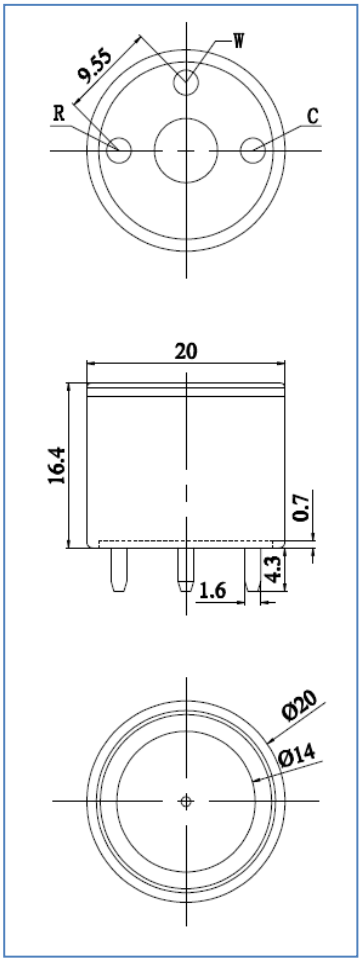
2 Application

Widely used in industrial and environmental fields

3. Technical Parameter

Detection gas	ETO
Measurement Range	0～20ppm
Max detecting concentration	100ppm
Sensitivity	（1.8±0.3）μA/ppm
Resolution ratio	0.1ppm
Response time（T_{90}）	＜120S
Bias voltage	300mV
Load resistance	10Ω（recommended）
Repeatability	＜2％output value
Stability（／month）	＜2％
Output Linearity	linear
Zero drift（-20℃～40℃）	4ppm
Storage temperature	-20℃～50℃
Storage Humidity	15％～90％RH no condensation
Pressure range	Standard atmosphere ±10%
Anticipated using life	2 years

4. External dimension



5.Characterization

Description of sensor characters

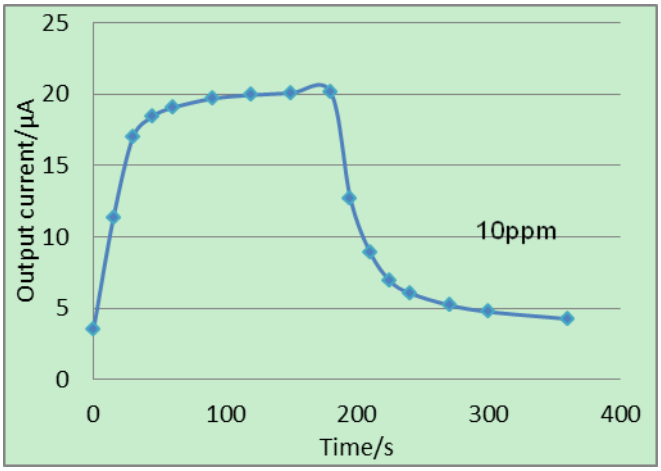


Fig3.Responce and Resume

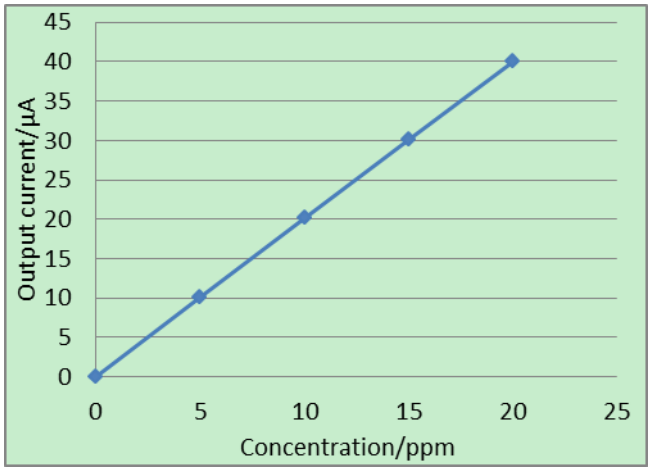


Fig4.Linearity

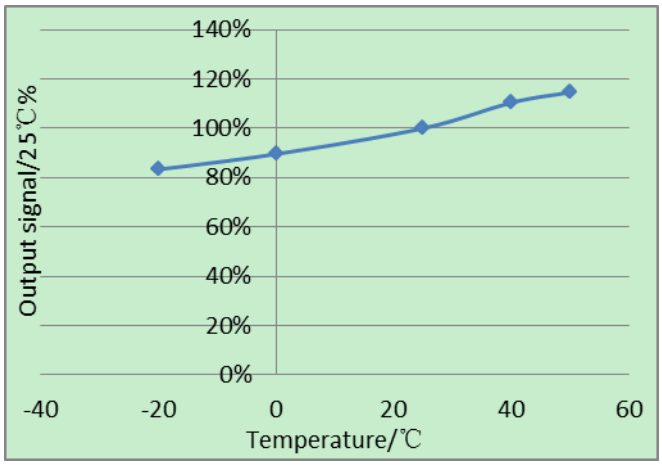


Fig5.Output of sensor at different temperature

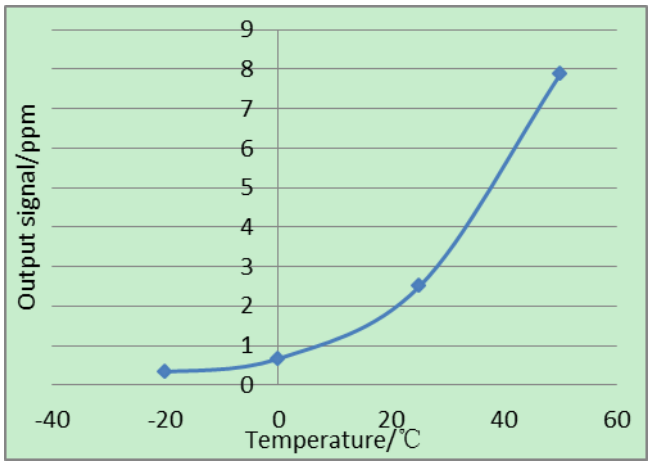
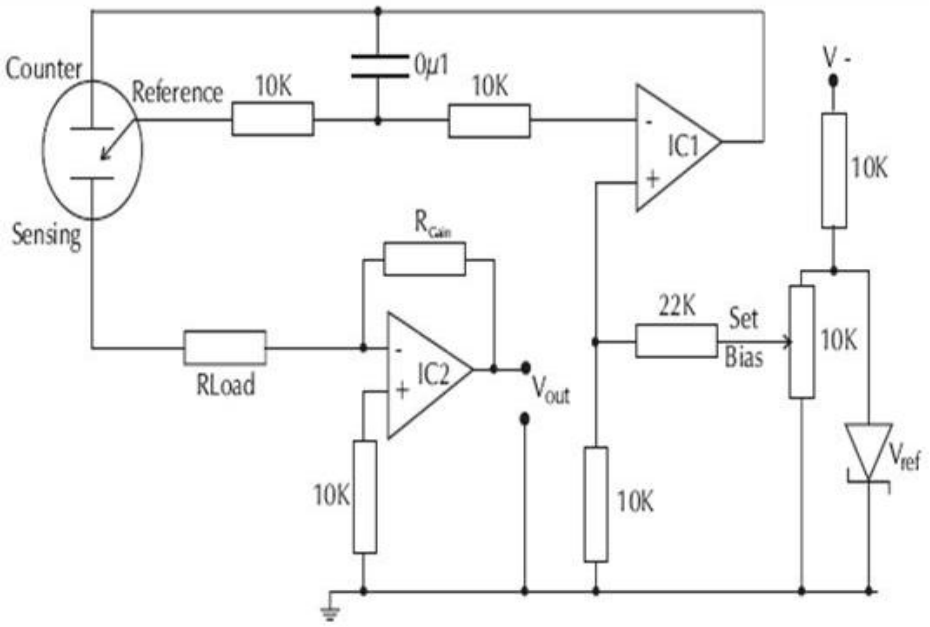


Fig6.Zero output of sensor at different temperature

6.Basic circuit



7.Anti-Interference:

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

Gas	Concentration	MQ-E3-ETO
ETO	1ppm	1 ppm
CH2CHCL	100ppm	63ppm
(C2H5)2O	50ppm	11ppm
CH3COOH	50ppm	7ppm
C6H6	50ppm	12ppm
C7H8	50ppm	19ppm
C8H10	50ppm	25ppm
CHCL3	50ppm	7ppm
CH2O	10ppm	80ppm
CO	200ppm	52ppm
C2H5OH	300ppm	155ppm
H2S	50ppm	55ppm
SO2	20ppm	6ppm
CL2	10ppm	0.5ppm

8.Application Notes:

- Sensor shall Avoid organic solvent, coatings, medicine, oil and high concentration gases；
- All ME 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 ME 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；
- To avoid to bend and break of pins；
- Blowhole of the sensor should not be blocked and polluted, which will cause the sensitivity decrease;
- 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；
- Do not take apart the sensor, otherwise electrolyte leakage can cause sensor damage;
- Working electrode and reference electrode of the sensor shall be in short circuit when stored.；
- To preheat over 48hs before using and soldering forbidden;