



ME2-CH2O-Φ16 Electrochemical Formaldehyde Sensor

**Manual V1.3
(Model: ME2-CH2O-Φ16)**

Zhengzhou Winsen Electronics Technology Co., Ltd

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At the same time, users' comments on optimized using way are welcome.

Please keep the manual properly, in order to get help if you have questions during the usage in the future.

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ME2-CH2O-Φ 16 Formaldehyde sensor

ME2-CH2O-Φ16 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 stability



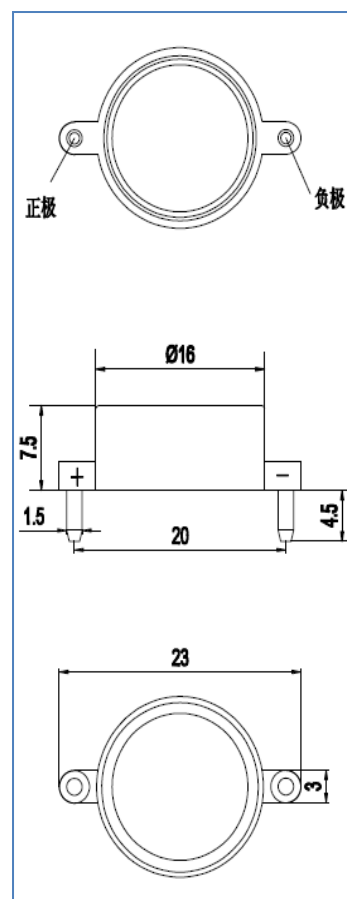
2 Application

Detecting CH2O in civilian, industrial area, and environmental protection

3. Technical Parameter

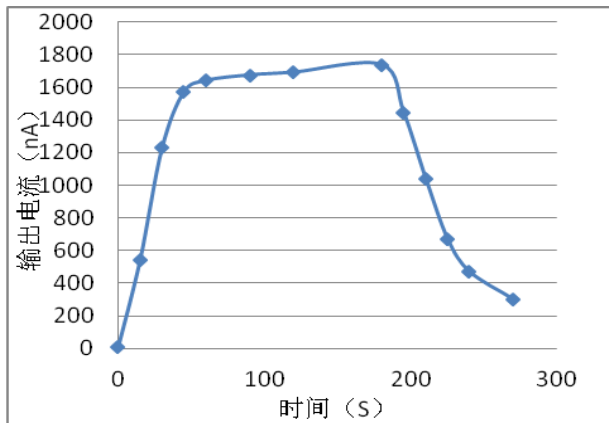
Item	Parameter
Detection gas	HCHO
Measurement Range	0-10 ppm
Max detecting concentration	50 ppm
Sensitivity	(0.55±0.25) μA/ppm
Resolution ratio	0.02ppm
Response time (T ₉₀)	≤60S
Load resistance (recommend)	100Ω
Repeatability	<2% output value
Output Linearity	linear
Zero drift (-20℃ ~ 40℃)	≤0.2ppm
Humidity Range	15% ~ 90% RH
Temperature Range	-20℃ ~ 50℃
Pressure range	normal atmosphere ± 10%
Anticipated using life	2 years(in air)

4. External dimension

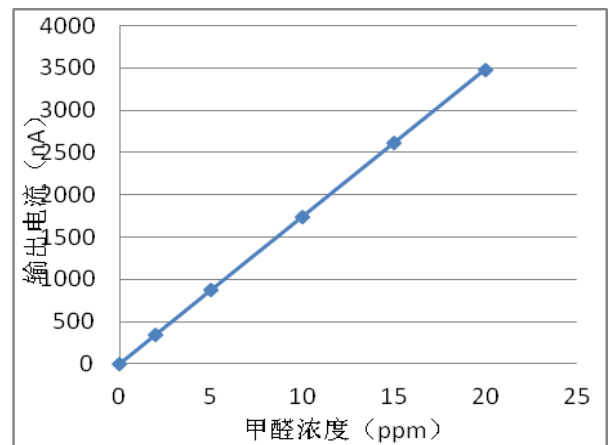


5. Characterization

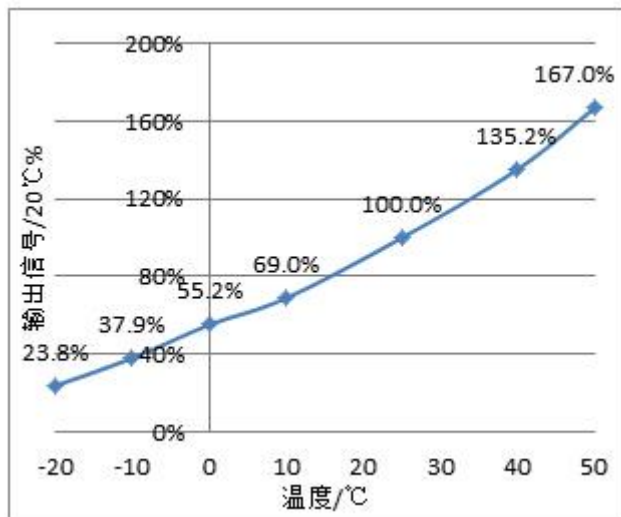
Features of Sensitivity, response and output signal



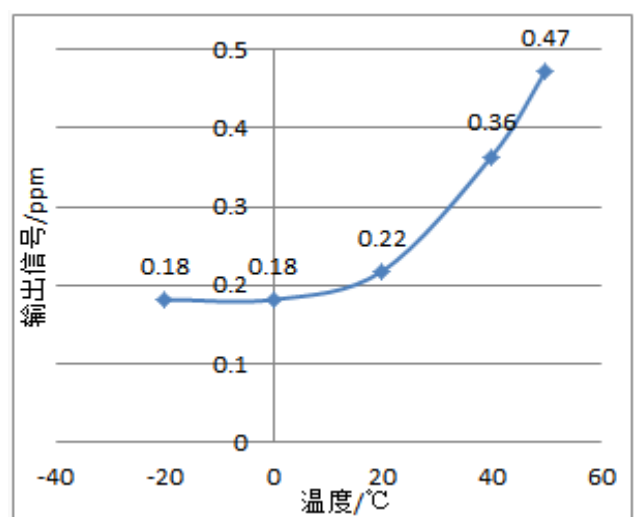
Data graph of concentration linearity features



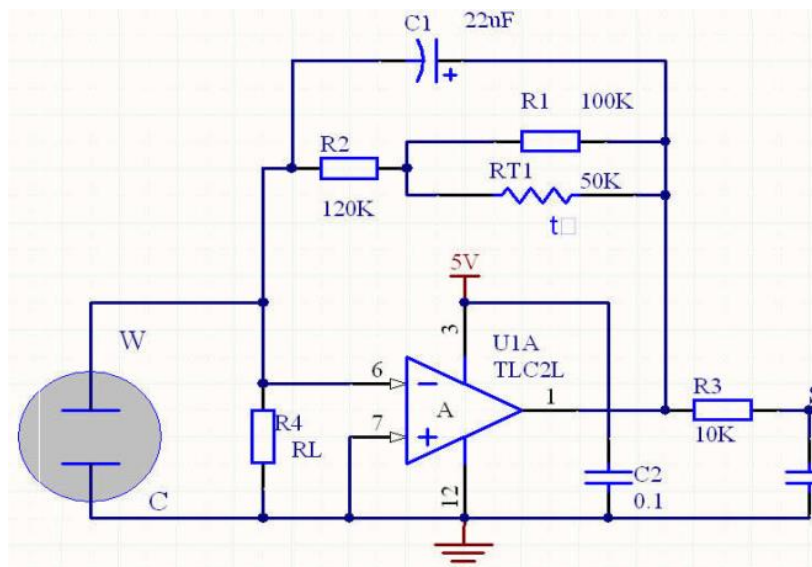
Sensor output Change upon Variable Temperature



Sensor Zero Drift upon variable temperature



6. Basic circuit



7. Cross interference gas:

ME2-CH2O-Φ16 sensor also responds to other gases besides CH2O. Below are the response characteristics of interferential gases

Gas	Concentration	ME2-CH2O-Φ16
H2S	100ppm	3.7ppm
C2H5OH	2000ppm	76.3ppm
CH2O	10ppm	10ppm
CL2	10ppm	0.1ppm
SO2	20ppm	0.8ppm
H2	500ppm	5.5ppm
NH3	50ppm	0ppm
CH3CL	5ppm	0.1ppm
ETO	10ppm	0.5ppm
C6H6	100ppm	0.1ppm
C3H6O	100ppm	0.2ppm
CH3OH	200ppm	23.9ppm

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 pure oxygen 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;

Note: To keep continual product development, we reserve right to change design features without prior notice !