Electrochemical

Odor Sensor

(Model No. ME2-DG01)

Manual

Version: 1.1

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Zhengzhou Winsen Electronics Technology Co., Ltd

Statement

Thanks for purchasing our product. In order to let customers use it better and reduce the faults caused by misuse, please read the manual carefully and operate it correctly in accordance with the instructions.

If users disobey the terms or remove, disassemble, change the components inside of the sensor, we shall not be responsible for the loss.

The specific such as color, appearance, sizes &etc, please in kind prevail.

We are devoting ourselves to products development and technical innovation, so we reserve the right to improve the products without notice. Please confirm it is the valid version before using this manual.

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.

Zhengzhou Winsen Electronics Technology CO., LTD.

ME2-DG01 Electrochemical Odor Sensor

Profile

ME2-DG01 is a fuel cell type sensor to 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 NH3 concentration of the gas could be get by measuring value of current.

Features

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

Application

Widely used in commercial especially residential occasions to detect NH3 gas concentration.

Technical Parameter

Item	Parameter
Detection gas	Ammonia Gas (NH3)
Measurement Range	0～50 ppm
Max detecting concentration	200 ppm
Sensitivity	55±25nA/ppm
Response time（T_{90}）	<50 s
Zero point (in clean air)	＜±1ppm (NH3)
Zero drift (at 20℃)	≤3 ppm (NH3)
Repeatability	＜±3％output value
Output Linearity	Within ±5%
Stability（average attenuation/month）	＜10％
Filter	Not included

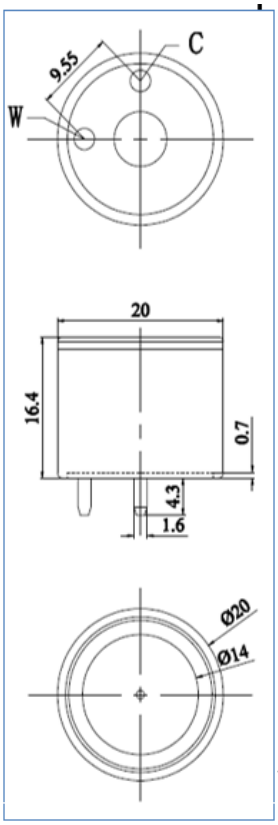

Fig1. Sensor structure

Unit : mm tolerance: ±0.15mm

Basic circuit

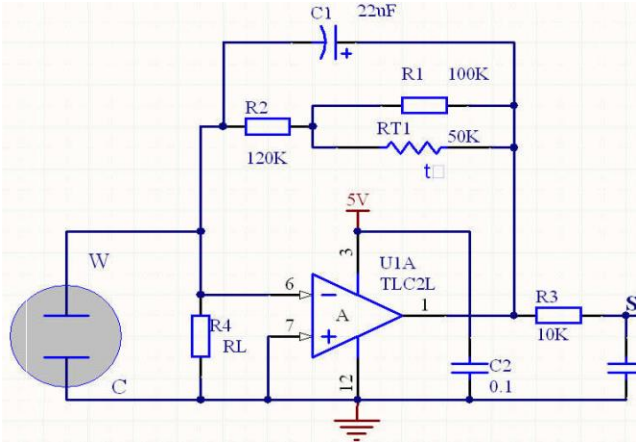

Fig2. Test circuit

Application Notes

- Tin soldering is prohibited.
- Before using, power on to aging for more than 48 hours is necessary.
- Pins can't be broke off or bent.
- Don't disassemble the sensor to avoid the damage caused by electrolyte leakage.
- Avoid contacting organic solvent (including Silicone rubber and other adhesive), coatings, medicine, oil and high concentration gases.
- All the electrochemical 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 electrochemical sensors shall not be applied in corrosive gas environment, or the sensor will be damaged
- Zero calibration should be finished in clean air.
- During test and usage, sensors should avoid the gas inflow vertically
- The side for inflow can't be choked and polluted.
- The laminating film above the sensor surface can't be uncovered and damage.
- Excessive impact or vibration should be avoided
- It takes some time for the sensor to return to normal state after it is applied in high concentration gas
- Working electrode and reference electrode of the sensor shall be in short circuit when stored
- Prohibit to use the hot cement or sealant of which the curing temperature is higher than 80℃ to make the capsulation for the sensor.
- Prohibit storage and usage for long time in alkaline gases with high concentration.
- Do not use the sensor when the shell is damaged

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

Zhengzhou Winsen Electronics Technology Co., Ltd
Add: No.299, Jinsuo Road, National Hi-Tech Zone, Zhengzhou 450001 China
Tel: +86-371-67169097/67169670
Fax: +86-371-60932988
E-mail: sales@winsensor.com
Website: www.winsen-sensor.com