



**Electrochemical  
Oxygen Sensor  
(Model: MEu-O2)**

**Manual**

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accordance with the instructions. The data provided in this manual is obtained under the  
conditions of 20°C, 50%RH and 1atm. This data is the data obtained by the test system of  
Winsen in the initial stage after the manufacture of the sensor. This data is for reference  
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## MEu-O2 Oxygen Sensor

### Description

MEu-O2 oxygen sensor is a fixed potential type sensor. Oxygen undergoes a reduction reaction on the working electrode, and at the same time, a corresponding oxidation reaction occurs on the counter electrode, releasing charges to form a current. The current is proportional to the oxygen concentration and follows Faraday's law. The size can determine the level of oxygen concentration



### Features

\* No pollution, long life, high precision, high sensitivity, Excellent repeatability and stability

### Application

\* Widely used in oxygen concentration detection in industries, mines, warehousing and environmental protection

### Technical parameter

Table 1

Item	Parameter
Detection gas	Oxygen(O2)
Measurement Range	0~25% VOL
Max Range	30% VOL
Sensitivity(20.9%vol. )	(80~130) uA
Response time (T <sub>90</sub> )	<15S
Repeatability	<±2% output value
Output linearity	Linear
Load resistance(recommended)	(500/ 1K/2K) Ω
Bias	-600mV
Zero drift (-20°C~40°C)	<1% VOL
Working temperature	-20°C~50°C
Working humidity	15%~90% RH
Working pressure	1atm ± 10%
Lifespan	5 years

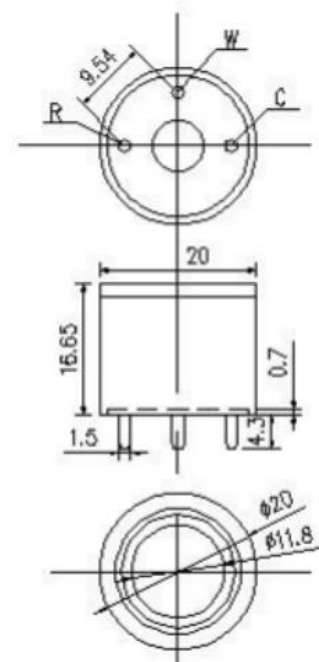
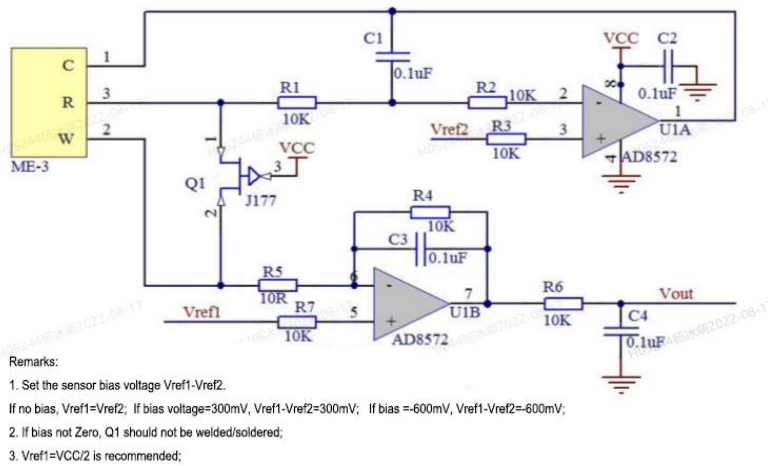


Figure 1: Sensor structure

Unit:mm, tolerance ±0.15mm

Schematic diagram of sensor application circuit



Sensor Characterization

Figure 1: The sensitivity and response recovery of the sensor

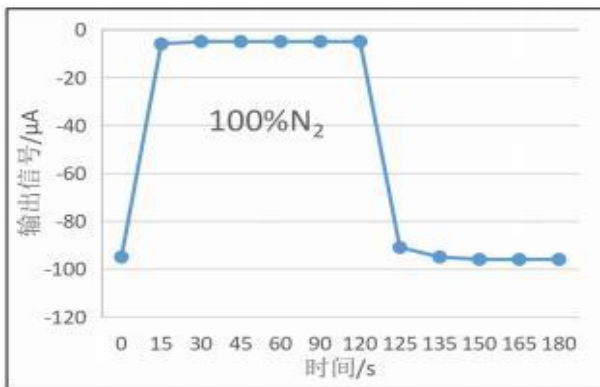


Figure 2: Sensor linearity curve

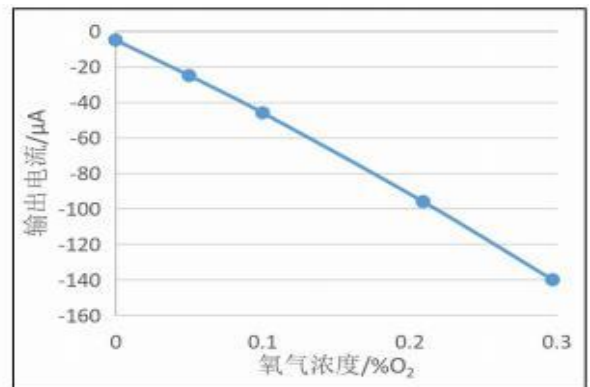


Figure 3: The output of the sensor at different temperatures

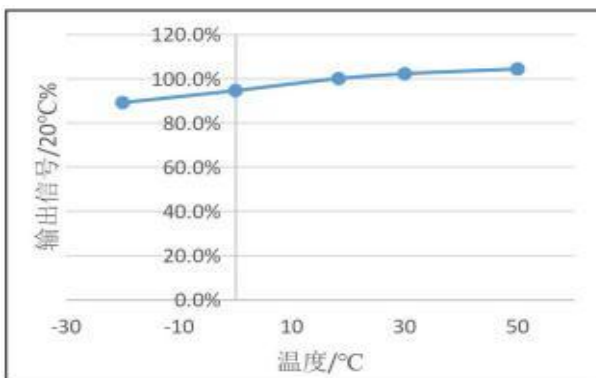
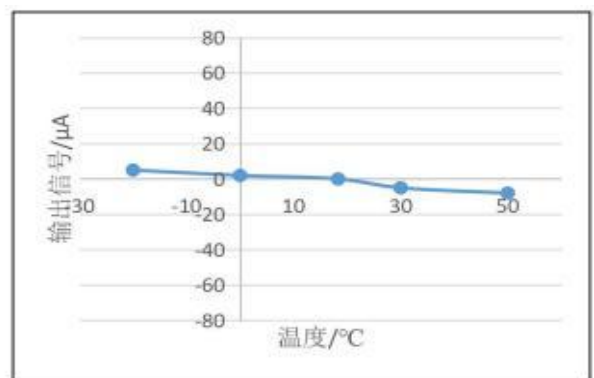


Figure 4: The zero point output of the sensor under different temperature conditions



**Cautions**

- Soldering is disabled during installation, and wave soldering of sensors is prohibited;
- The aging time before use is not less than 48 hours;
- Please do not disassemble the sensor;
- The sensor avoids contact with organic solvents (including silicone rubber and other adhesives) coatings, pharmaceuticals, fuel oils and high concentrations of gases;
- All electrochemical sensors cannot be completely encapsulated with resin materials, nor can they be immersed in an oxygen-free environment for a long time, otherwise the performance of the sensor will be damaged;
- All electrochemical sensors should not be used in environments containing corrosive gases for a long time, corrosive gases will damage the sensor;
- When testing and applying the sensor, avoid vertical air intake from the front;
- The air inlet of the sensor must not be blocked or contaminated;
- The sensor must not be subjected to excessive shock or vibration;
- Do not use if sensor's housing is damaged or deformed;
- Slow recovery to initial state after prolonged use in high-concentration gas environments;
- Do not use hot melt adhesive or sealant with curing temperature higher than 80°C to encapsulate the sensor;
- Prohibit long-term storage and use in high-concentration alkaline gas;

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