



**Electrochemical
Oxygen Sensor
(Model: MEu-2O2)**

Manual

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Zhengzhou Winsen Electronic Technology Co., Ltd

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MEu-2O2 Oxygen Sensor

Description

MEu-2O2 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

* Low power consumption, high precision, wide linear range, strong anti-interference ability, 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(O ₂) |
| Measurement Range | 0~25% VOL |
| Max Range | 30% VOL |
| Sensitivity | 0.10±0.02mA (in the |
| Response time (T ₉₀) | ≤15S |
| Load resistance (recommended) | 100 Ω |
| Repeatability | <2% output value |
| Output linearity | linear |
| Working temperature | -20℃~50℃ |
| Working humidity | 15%~90% RH |
| Working pressure | 1atm±10% |
| long-term drift | <2%/Month |

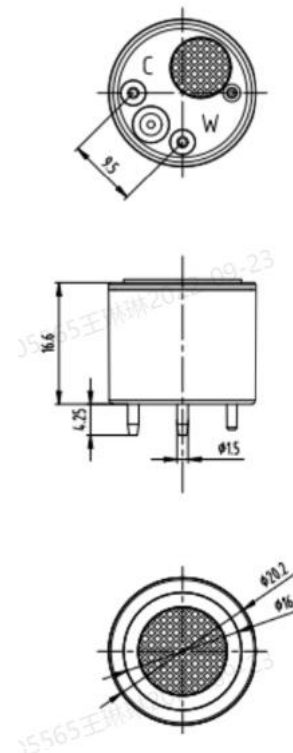


Figure 1: Sensor structure

Schematic diagram of sensor application circuit

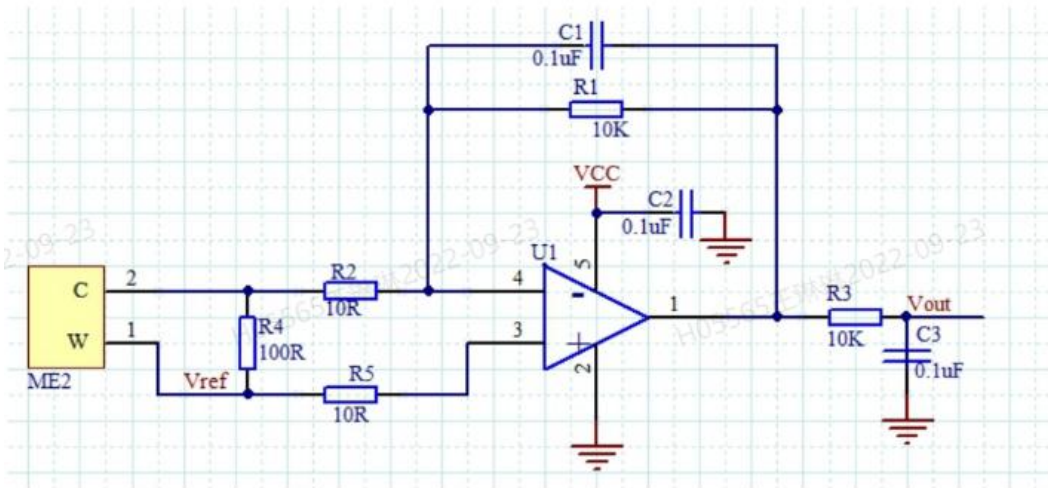


Figure 2 MEU-202 test circuit

Sensor Characterization

100% N₂

Signal value output in different concentrations of oxygen

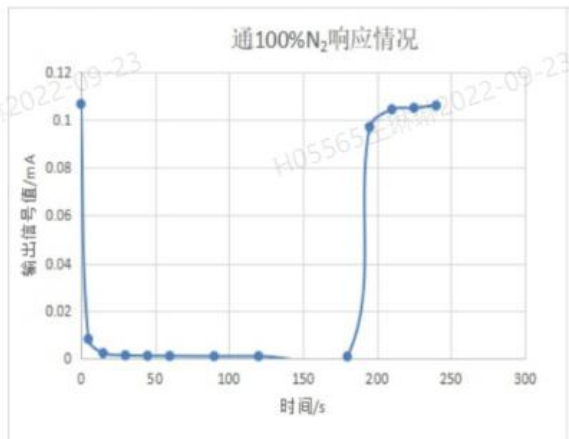


Figure 3: Sensitivity of the sensor, corresponding recovery

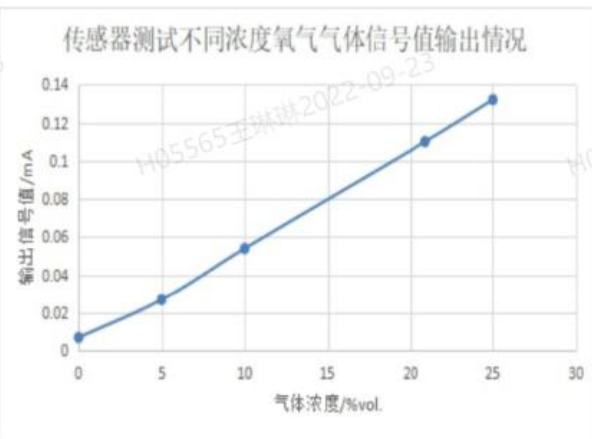


Figure 4: Sensor Linear Curve

Cautions

- Soldering is disabled during installation;
- The pin of the tube must not be broken or bent;
- Do not disassemble the sensor at will. Disassembling the sensor will cause electrolyte leakage and cause harmful consequences;
- 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;
- The gas zero measurement must be carried out in a clean atmosphere.
- 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;
- When the sensor is stored, the working electrode and the counter electrode should be disconnected.
- 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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