Membrane Dissolved Oxygen Sensor

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Preface

- Thank you for purchasing our company's products.
- This manual is an instruction manual about the various functions, wiring methods, setup methods, operation methods, fault handling methods, etc. of the product.
- Please read this manual carefully before operation, use this product correctly, and avoid unnecessary losses caused by incorrect operation.
- After you finish reading, please keep it in a convenient place for easy access at any time for reference during operation.

Note

- If there are any modifications to the content of this manual due to functional upgrades or other reasons, we will not notify you.
- We strive to ensure the accuracy of the content in this manual. If you find any errors, please contact us.
- The content of this manual is strictly prohibited from being reproduced or copied.
- This product is prohibited from being used in explosion-proof environments.

Version

U-SUP-DO-7011-EN3

Confirm Packaging Content

After opening the packaging box, please confirm the contents of the packaging before starting the operation. If you find any errors in the model and quantity or physical damage to the appearance, please contact our company.

Product List

Product Packaging Content

Number	Product Name	Quantity	Remarks
1	Membrane Dissolved Oxygen Electrode	1	
2	Information Card	1	
3	Certificate	1	

Contents

1. Product Overview

Dissolved oxygen sensors have high stability and reliability. Continuous measurement of dissolved oxygen in fields such as urban sewage treatment, industrial wastewater treatment, aquaculture, and environmental monitoring.

2. Technical Parameter

Table 1

Measuring Principle	Current sensor (universal electrode)
Measurement Range/Pressure	0-20mg/L 0.6MPa
Electrode Shell Material	PVC or 316L
Cable Length	5m (Double shielding)
Membrane Head Material	Steel sand mesh metal film
Breathable Thickness	100um
Temperature Compensation Resistor/Temperature	Pt100、Pt1000、2.252K etc（0-60℃）
Upper Measurement Limit	20mg/L
Lower Measurement Limit	0.01mg/L（20℃）
Measurement Error	±＜0.01mg/L
Polarization Time	60min
Polarization Voltage	0.7V
Air Current/Maximum Current	50-80nA / 0.1mg/L MAX：3.5uA
Response Time	2min（90%，20℃）
Minimum Flow Rate	2.5cm/s
Zero Oxygen	＜0.01mg/L
Drift	＜2%/month
Calibration Interval Time	＞60 days
Sensor Lifespan	＞2 years

3. Size and Structure

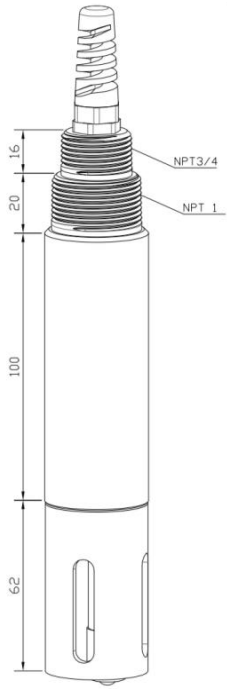

Fig. 1

4. Electrical Connection

Table 2

Number		Color	Instrument Connection Point
1	TEMP	White	Connect instrument temperature compensation A
2	TEMP	Black	Connect to instrument temperature compensation B
3	DO-	Yellow	Connect to the instrument DO-
4	DO+	Transparent Core Wire	Connect to the instrument DO+
5	GND	Blue Wire	Connect to DGND instrument

5. Installation and Replacement of Membrane Head and Precautions

1. Place the electrode in a vertical position and unscrew the protective cover of the membrane head.
2. Unscrew the film head.
3. Rinse the inside of the electrode with distilled water and dry it with cotton paper. After using the electrode for a period of time, if black hair is found inside the electrode, use fine sandpaper with a grit of 1000 or more to polish it.
4. After each membrane or electrolyte change, the electrode needs to be repolarized and recalibrated.
5. Electrode polarization: After the electrode is connected to the instrument, it is polarized when it is continuously powered on for more than two hours Calibration can only be performed after polarization.

6. Electrode Preservation

1. Short term storage: Rinse the used electrode surface with deionized water and place the electrode measuring end in deionized water.

2. Long term storage: Unscrew the membrane cap and shake off the internal flushing solution. Rinse the electrode membrane cap and metal tube separately with deionized water, and then shake dry separately. Rotate the membrane cap back onto the electrode, place the electrode back into the packaging box, and store it in a dry place.

7. Electrode Calibration

1. Full calibration in air (suitable for general users): After the electrode polarization is completed, full calibration of the electrode can be performed.
2. Zero oxygen calibration preparation of anaerobic water: Add 250ml of deionized water to a 500ml beaker, then add 0.5g of anhydrous sodium sulfite powder, stir evenly before use.

8. Precautions

1. When measuring water samples using a polarographic dissolved oxygen electrode (including calibrating the electrode saturation with deionized water saturated with dissolved oxygen), it is required that the water sample has fluidity. There are two methods to make the water sample meet the measurement requirements:

a. When measuring static or slow-moving water samples, users can hold the electrode cap with their hands and shake the electrode horizontally at a speed of 20-30 cm per second.

b. Conditional users can add a constant speed stirrer and adjust the stirring speed to stabilize the instrument reading, and then perform electrode saturation calibration or sample water measurement.

2. The breathable membrane of the electrode should not be damaged in any way. If the membrane is damaged or used for a long time, please replace it with a new membrane cap.

3. The filling solution of the electrode needs to be replaced regularly. The replacement time of the internal filling fluid is related to the electrode measurement situation and frequency of use. If the user finds that the electrode performance has decreased or cannot work normally, please replace the internal filling fluid of the electrode.

9. Electrode Maintenance

1. Unscrew the membrane cap and remove the internal solution.
2. Polish the metal tube with fine sandpaper.
3. Rinse the metal tube section with deionized water and shake dry.

10. Warranty and After-Sales Service

Our company promises to customers that the hardware accessories provided during the supply of this instrument have no defects in material and manufacturing process.

Starting from the date of purchase of the instrument, if we receive notification from the user regarding such defects during the warranty period, our company will provide unconditional free maintenance or replacement for products that are indeed defective. We guarantee that all non customized products can be returned or exchanged within 7 days.

Disclaimer

During the warranty period, product malfunctions caused by the following reasons are not within the scope of the three guarantee service:

(1) Improper use by the customer resulted in product malfunction.

(2) The customer's self disassembly, repair, and modification of the product resulted in product malfunction.

After sales service commitment:

(1) We promise to respond and handle customer technical questions within 2 hours after receiving them.

(2) We promise to provide test results within 3 working days and repair results within 7 working days after receiving the instruments for factory repair.