
**LLC** آکنیتی
۱-۲-۹ نیوایدانی
میناتو اوزاکا
〒۵۶۲-۰۰۱۱
ژاپن

# Underwater Oxidant Meter

Discover the advanced Underwater Oxidant Meter designed for fast, accurate measurement of oxidants like chlorine and ozone in salt or brackish water—without the need for reagents. Its innovative self-cleaning and three-electrode technology ensure highly reliable performance, even in challenging marine environments. Learn how this rugged, easy-to-maintain instrument sets a new standard for water quality monitoring in industrial, environmental, and research applications.

# Underwater Oxidant Meter

**Underwater Oxidant Meter**

- Reagent-free measurement – No chemicals required
- Automatic electrode cleaning
- Quick measurements within ١ minute
- Suitable for a variety of water conditions
- No waste of water
- Resistant to harsh environments
- Easy integration into existing systems
- Suitable for a variety of applications
- (Wall mounting (and pipe mounting possible

## ?What does an Underwater Oxidant Meter do

The Underwater Oxidant Meter is an advanced measuring instrument that detects oxidants in salt and brackish water without the need for reagents. Thanks to potential pulse voltammetry with three electrodes, this meter provides fast and accurate .measurements and remains reliable due to an innovative self-cleaning system

An underwater Oxidant meter must not be confused with an ORP / Redox meter. See the .technology overview

| Technology overview | Underwater Oxidant Meter | ORP / Redox Meter |
|---|---|---|
| Measurement Principle | Potential Pulse Voltammetry (PPV) with three electrodes | Electrochemical potential difference between two electrodes |
| Target | Direct measurement of oxidants (e.g., chlorine, ozone, $H_2O_2$) | General oxidation-reduction potential (a combined effect of all redox species) |
| Reagents Needed | No reagents required ▯ | No reagents, but indirect reading ▯ |
| Calibration | Typically less frequent due to stable design | Needs regular calibration for accuracy |
| Designed for Salt / Brackish Water | Yes, optimized for marine ▯ environments | Can be affected by high ionic ⚠ strength and biofouling |
| Fouling Resistance | Self-cleaning system helps ▯ avoid biofouling | Prone to fouling, requires regular ▯ maintenance |
| Depth Rating | Submersible and rugged ▯ | Limited submersion, not always ⚠ pressure-rated |
| Response Time | Fast, real-time detection ⚡ | Moderate to slow, stabilizes over time |
| Selectivity | High — can distinguish ▯ between oxidants | Low — gives a general redox state ▯ only |

| Technology overview | Underwater Oxidant Meter | ORP / Redox Meter |
| --- | --- | --- |
| Stability Over Time | Excellent with pulse technology | Can drift, affected by contamination or coating on the probe |

## Why an Underwater Oxidant Meter?

In various industrial and environmental applications, it is essential to monitor the presence of oxidants in water. The Underwater Oxidant Meter allows you to control water quality parameters, allowing you to efficiently:

- Avoid unnecessary water consumption
- Works sustainably and is environmentally friendly without chemical reagents
- Saves costs on maintenance through automatic cleaning

## Applications of the Underwater Oxidant Meter.

The Underwater Oxidant Meter is used in various industries and applications. When you're looking for general water quality or are on a budget, consider an ORP meter. Perfect applications for the Underwater Oxidant Meter:

- **Water Treatment Plants** – Optimize Disinfection Processes.
- **Aquaculture** in seawater
- **Precise** oxidant monitoring (e.g., ozone dosing)
- **Seawater sterilization in fisheries** – Ensure a clean environment for aquaculture
- **Wastewater treatment in factories** – Meet environmental standards
- **Swimming pools and spas** – Maintain safe water quality
- **Drinking water supply and sewage management** – Prevent contamination
- **Industrial processes** – Control oxidation-related chemical reactions

## Specifications

| Feature | Details |
| --- | --- |
| Measurement Purpose | Oxidants in seawater and brackish water |
| Measurement Principle | Three-electrode potential pulse voltammetry |
| Measuring method | Microelectrode system with self-cleaning beads |
| Measuring range | ۰–۲.۰۰ mg/L – Optional: ۱.۰۰/۳.۰۰/۵.۰۰ mg/L (Standard) |
| Repeatability | ±۵٪ of full scale plus one digit |
| Response time | ۱ response (۹۰٪ minute) |
| Temperature compensation | Automatic compensation with a thermistor |

| Feature | Details |
| --- | --- |
| Conditions | **pH range**: ۵.۸–۸.۶ (variation within ±۰.۵ pH)<br>**Conductivity**: ≥۱۰ mS/m (variation within ±۱۰ mS/m)<br>**Water temperature**: ۰ – ۴۵°C (no freezing)<br>**Ambient temperature**: −۱۰ – ۴۵°C<br>(**Humidity**: ≤۹۰٪ RH (no condensation |
| Installation | (Wall mounting (Optional: Tube mounting with U-bolt kit |
| Resolution | ۰.۰۱ mg/L |
| Signal Output | (DC ۴– ۲۰mA (Isolated, maximum load ۵۰۰Ω |
| Alarm outputs | (Upper and lower limit alarms (۱a each |
| Control output | Adjustable range:<br>– ±۱۰٪ of full scale<br>– ±۵٪ of full scale<br>– ±۲.۵٪ of full scale |
| Power supply | AC ۱۰۰–۲۴۰V (±۱۰٪ variation) ۵۰/۶۰Hz |
| Pressure resistance | ۰.۵ MPa |
| Optional accessories | ۱. Stainless steel Tube Stand (۱۵۰۰ mm long)<br>۲. Attachment kit for tube (۵۰A)<br>۳. Connection box (sensor cable extension).<br>.(۴. Dedicated extension cable (available in ۱۰ m lengths |

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| | شرح | متریک | امپریال |
|---|---|---|---|
| ۱ | اسم مدل | EOXI-۴۰ | EOXI-۴۰ |
| ۲ | شماره مدل | | EOXI-۴۰ |
| | مایع | متریک | امپریال |
| ۳ | موجودیت و اندازه صافی | | |
| | گاز | متریک | امپریال |
| ۴ | کیفیت گاز | | |
| ۵ | تذکر گاز | | |
| | اتصالات | متریک | امپریال |
| ۶ | ورودی آب | | |
| ۷ | مجرای خروج آب | | |
| ۸ | ورودی گاز | | |