LLC آکنیتی
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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

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- Reagent-free measurement – No chemicals required
- Automatic electrode cleaning
- Quick measurements within ۱ 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

Technology overview	Underwater Oxidant Meter	ORP / Redox Meter
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
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 (Standard) – Optional: ۱.۰۰/۳.۰۰/۵.۰۰ mg/L
Repeatability	±۵٪ of full scale plus one digit
Response time	۱ response (۹۰٪ minute)
Temperature compensation	Automatic compensation with a thermistor
Conditions	**pH range**: ۵.۸–۸.۶ (variation within ±۰.۵ pH) **Conductivity**: ≥۱۰ mS/m (variation within ±۱۰ mS/m) **Water temperature**: ۰ – ۴۵°C (no freezing) **Ambient temperature**: -۱۰ – ۴۵°C (**Humidity**: ≤۹۰٪ RH (no condensation
Installation	Tube mounting with U-bolt kit (Optional: Wall mounting)
Resolution	۰.۰۱ mg/L
Signal Output	۴– ۲۰mA (Isolated, maximum load ۵۰۰Ω)
Alarm outputs	۱a each (Upper and lower limit alarms)
Control output	Adjustable range: – ±۱۰٪ of full scale – ±۵٪ of full scale – ±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) ۲. Attachment kit for tube (۵۰A) ۳. Connection box (sensor cable extension). ۴. Dedicated extension cable (available in ۱۰ m lengths).

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