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underwater oxidant meter: reagent-free ppv sensor | acniti

If you're dosing ozone, managing seawater quality, or running aquaculture in saltwater, you need more than an ORP meter. The Underwater Oxidant Meter uses three-electrode potential pulse voltammetry (PPV) to measure chlorine, ozone, and H_2O_2 directly - no reagents, no drift, self-cleaning electrodes. Accurate results in harsh marine conditions, in under a minute.

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underwater oxidant meter - direct ppv measurement, no chemicals

- Reagent-free measurement - No chemicals required
- Automatic electrode cleaning
- Quick measurements within 1 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

Technology overview	Underwater Oxidant Meter	ORP / Redox Meter
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	0-2.00 mg/L (Standard) - Optional: 1.00/3.00/5.00 mg/L
Repeatability	±5% of full scale plus one digit
Response time	1 minute (90% response)
Temperature compensation	Automatic compensation with a thermistor

Feature	Details
Conditions	**pH range:** 5.8-8.6 (variation within ±0.5 pH) **Conductivity:** ≥10 mS/m (variation within ±10 mS/m) **Water temperature:** 0 - 45°C (no freezing) **Ambient temperature:** -10 - 45°C **Humidity:** ≤90% RH (no condensation)
Installation	Wall mounting (Optional: Tube mounting with U-bolt kit)
Resolution	0.01 mg/L
Signal Output	DC 4- 20mA (Isolated, maximum load 500Ω)
Alarm outputs	Upper and lower limit alarms (1a each)
Control output	Adjustable range: - ±10% of full scale - ±5% of full scale - ±2.5% of full scale
Power supply	AC 100-240V (±10% variation) 50/60Hz
Pressure resistance	0.5 MPa
Optional accessories	**1.** Stainless steel Tube Stand (1500 mm long) **2.** Attachment kit for tube (50A) **3.** Connection box (sensor cable extension). **4.** Dedicated extension cable (available in 10 m lengths).

eoxi-40: underwater oxidant meter ppv 100-240v | acniti

	General		
1	Model name	Underwater Oxidant Meter - Direct PPV Measurement, No Chemicals	
2	Model number	sensor_underwater_oxidant_meter_eoxi-40	
	Liquid	**Metric**	**Imperial**
3	Strainer availability and size		
	Gas	**Metric**	**Imperial**
4	Gas quality		
5	Gas remark		
	Connections		
6	Water inlet		
7	Water outlet		
8	Gas inlet		
	Dimensions & weight	**Metric**	**Imperial**
9	HS code	9027-9090	