

Zinc and Silver/Silver Chloride Dual Reference Electrodes

The dual reference electrode system combines a zinc reference electrode (pure zinc or zinc alloy) with a silver/silver chloride (Ag/AgCl) reference electrode. The zinc electrode exhibits stable potential in seawater (approx. -1.05 V vs. CSE), making it suitable for long-term immersion or underwater installation. The Ag/AgCl electrode offers high accuracy (± 5 mV), ideal for laboratory calibration and demanding monitoring applications. When used together, they enable comparative measurements to correct drift errors of a single electrode, providing real-time calibration of cathodic protection potential data. Widely applied in potential monitoring systems for ships, harbors, offshore platforms, and buried pipelines, this combination ensures the protection potential remains within the effective range, preventing underprotection or overprotection. It delivers both long-term stability and measurement accuracy, significantly enhancing the reliability of cathodic protection systems.



■ PRODUCT SPECIFICATIONS

Enclosure Material: UPVC & Carbon steel pipe
Sealing layer: Epoxy resin
Core: Zinc Reference Electrode & Silver/Silver Chloride Reference Electrode
Solution: None-Solution
Application: Sea water environment
Life: >20 years

■ KEY FEATURE

1. Mutual verification with self-diagnosis capability
2. High system redundancy and fault tolerance
3. Balances measurement accuracy with environmental durability
4. Significantly reduces lifecycle maintenance costs

Zinc Reference Electrode

Chemical Composition						
Element	Al	Cd	Fe	Pb	Cu	Zn
Content(%)	≤ 0.005	≤ 0.003	≤ 0.0014	≤ 0.003	≤ 0.002	Remainder

Electrochemical properties			
Open voltage(-V)	Closed voltage(-V)	Capacity(A.h/kg)	Efficiency(%)
≥ 1.10	≥ 1.05	≥ 740	≥ 90