JNC

Oxidation-Reduction Potential Sensor

ORP485

[Product Description]

- IoT ORP Analyzer with dual interfaces: RS-485 and Wi-Fi web access. Enables remote or on-site monitoring via mobile browser—no display unit or app required. Delivers accurate and stable ORP values and is compatible with any third-party display or software globally.
- Optional automatic cleaning function includes a built-in micro air pump. Cleaning schedule and stabilization time are adjustable. During cleaning, the last measured value is held, significantly extending maintenance intervals.
- Smart calibration function via mobile web interface: Replace the standard liquid bottle with the protective cap on-site, and navigate the calibration process via mobile web interface for ultimate convenience.
- Intelligent AI features: Sends notifications for calibration and cleaning status; self-diagnoses sensor fouling or electrode aging for proactive maintenance.

[Features]

- Integrated design with built-in IoT transmission and sensors; operates upon power-on with all functions pre-integrated.
- IP68-rated submersible and corrosion-resistant material, allowing direct immersion in water without the need for protective tubing.
- High-strength isolated cable enables direct deployment; ensures stable signal transmission with surge protection for both power supply and IoT communication.
- Equipped with temperature compensation, and the measurement method complies with the Environmental Protection Administration’ s NIEA W218.51C regulation for automatic monitoring facilities.
- Smart design supports the storage of calibration parameters, allowing for direct field installation after calibration.
- Supports three-point calibration using standard solutions or samples with known concentrations.
- During calibration and automatic cleaning, the last measured value is retained to prevent malfunction; system displays current status (Calibrating / Auto-cleaning / Stabilizing / Maintenance).
- Latest three calibration records (date, slope, calibration points) can be accessed via Web interface or RS-485.

[Applications] Sewage, Seawater, Subterranean water, Aquaculture, River and lake detecting system.

[Optional code]

ORP485 – Code 1 – Code 2 – Code 3

Code1	Function	Code 2	Sensing end connector	Code 3	Line/Air duct length
N	No auto-cleaning	C	Quick connector	N	3M
				C	3 meters +quick connector
A	Auto-cleaning (Includes standard 12VDC air pump and nozzle)	F	Cable head	Value N	Line length
A24	Auto-cleaning (Including 24VDC air pump, nozzle)			Value C	Line length +quick connector

Code 2: Quick connector

Code 2 :Cable head

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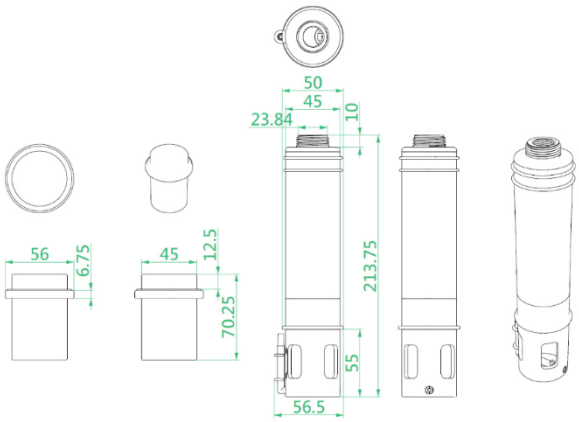
[Technical Specifications]

- RS-485 Modbus RTU. The mobile phone operates with web page(no app).
- Data resolution:16 bit(0.001%F.S).
- Surge protection:8000VDC
- Protection: polarity、overload、short circuit.
- Measurement principle: With potentiometric measurement, and the oxidative or reductive potential are measured by the relative potential of the sample electrochemistry. To provide an accurate data.
- Installation method: submerged、three way、intubation.

[ORP Specification]

ORP Specification		Temperature specifications	
Measuring range	-2000~2000mV Slope reading 70~130% Zero potential -50~50mV	Temperature principle	NTC30K
		Measuring range	-10~120°C(ATC)
		Accuracy	±0.2°C
Accuracy	±1mV	Resolution	0.1°C
Resolution	0.1mV	Reproducibility	0.1°C
Electrode withstand voltage	Max. 100 psi	Other Specification	
Operating temperature	0~100 °C	Link above	3/4" NPT
		Link below	M42
Response time	T90 < 5 seconds	Housing Material	PP, acid and alkali Resistance / food grade/ zero dissolution
		Electrode material	Glass and circular platinum
Response time	RS-485 Modbus RTU Web Browser direct reading (192.168.1.80)	Dimension	ø50*L213.9mm
		Weight	≤340 g
		Power	Auto-cleaning:12 or 24VDC(optional) Non auto cleaning:9~36VDC
Safety certification	CE、FCC	Power consumption	Auto-cleaning:6.8w Non auto-cleaning:0.8w
		Ingress Protection Rating	IP68

[Dimension]: mm



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