

JNC

Dissolved Oxygen Sensor

DO Sensor



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! Precautions

Dear customer, we are glad that you are using our products. In order to maintain the service life of the product and your good experience, please read the following content before operating!

Operational matters:

1. The sensor is only suitable for operation and monitoring in aquatic environments. Do not place it in non-aquatic locations to avoid malfunction or damage.
2. When the sensor is not in use, it should be placed in a container filled with regular water. Avoid exposing it to direct sunlight to prevent abnormal data readings.
3. The sensor is equipped with a protective cap to prevent damage from minor impacts to the electrode probe. However, in the event of a severe impact, the protective cap may no longer provide effective protection. Please handle the sensor with care during operation.
4. Follow the wiring color codes as indicated on the sensor housing. Incorrect wiring may result in malfunction or damage to the device.
5. The sensor should be cleaned regularly to maintain accurate monitoring performance. A monthly cleaning schedule is recommended. For membrane-type electrodes (e.g., DO sensors), the electrolyte should also be replaced periodically to ensure stable readings, with a recommended interval of once per month.
6. For cleaning, it is recommended to soak the sensor in citric acid for 5–10 minutes before performing targeted cleaning. Avoid scratching the electrode tip during this process.
7. When installing the sensor, it is recommended to maintain a distance of approximately 1.5 meters from the bottom surface to ensure reliable measurement data.

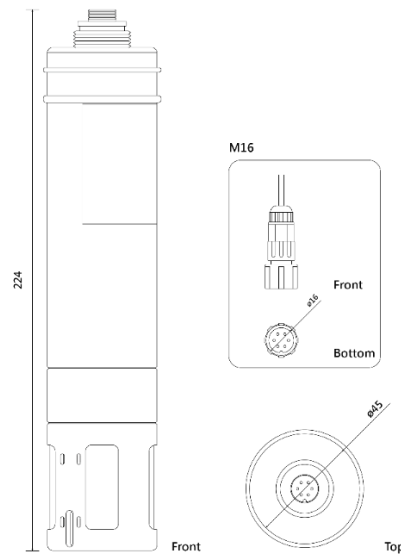


PART 1.Product Description

1-1 Product Specifications

Model	DO-485		
Power Supply	Automatic Cleaning	DC 12 or 24V(Optional)	
	No Automatic Cleaning	DC 9 ~ 36V	
Power Consumption	Automatic Cleaning	4.8W	
	No Automatic Cleaning	0.8W	
Dissolved Oxygen	Measuring Range	0~20mg/L (ppm)	
		Slope Reading 70~130%	
		Saturation 0~200%	
	Accuracy	±0.2mg/L(0~8mg/L)	
		±0.3mg/L(8~20mg/L)	
	Resolution	0.01mg/L	
	Reproducibility	±0.5% F.S	
	Electrode Pressure Resistance	Max. 100 Psig	
	Operating Temperature	0~50°C	
	Sample flow rate	Max 3M/S	
	Response Time	T90 120 second	
	Communication Protocol	RS-485 Modbus RTU	
	Supported Functions	WIFI Connection	
	Device IP Rating	192.168.1.80	
Temperature	Principle	NTC30K	
	Measuring Range	-10~120°C(ATC)	
	Accuracy	±0.2°C	
	Resolution	0.1°C	
	Reproducibility	0.1°C	
Housing Connection Thread	Male Thread Size	NPT3/4"	
	Female Thread Size	M42	
Quick Connector	M16 Threaded Connector, Male Housing with Female Pins, 6-Pin (Controller Side)		
	M16 Threaded Connector, Male Housing with Male Pins, 4-Pin (Sensor Side)		
Material	Housing	Polypropylene (PP), acid and alkali resistant / food grade / zero leaching	
	Electrode	Silver/Zinc electrode	
Physical Conditions	Product Dimensions (mm)	ø45*L224mm	
	Weight	≤350g	
	Waterproof Rating	IP68	

1-2 Product Size (mm)



1-3 Product Description

- IoT dissolved oxygen analyzer with dual RS-485 and Wi-Fi web interfaces, allowing remote or on-site monitoring directly via mobile phone—no meter or app required.
- Automatic cleaning function (optional): includes a built-in micro air pump, adjustable cleaning schedule, automatic hold of the last reading during cleaning, and adjustable stabilization time, effectively extending maintenance intervals.
- Smart calibration function: modular setup enables easy calibration, with a mobile-friendly, web-based guided calibration process for effortless on-site calibration. Remote calibration is also supported.
- Smart AI functions: notifications for calibration/self-cleaning status,

saturated dissolved oxygen values, self-diagnosis, and assessment of electrode contamination or aging.

- IP68 integrated design allows for direct deployment in rivers, reservoirs, tap water, wastewater, seawater, and other application environments. It provides accurate and durable DO (Dissolved Oxygen) readings compatible with any type of meter or software worldwide.

1-4 Product Features

- Quickly replaceable membrane cap.
- Integrated design with built-in IoT transmission and sensor.
- IP68 submersible design made of corrosion-resistant materials, allowing direct immersion in water without the need for protective casing.
- Plug-and-play operation with all functions fully built-in.
- Ultra-low power consumption, ideal for large-scale deployment in green energy IoT applications.
- High-strength isolated cables can be directly deployed, ensuring stable signal transmission.
- Equipped with temperature compensation and measurement methods compliant with the Environmental Protection Agency's automatic monitoring facility regulations NIEA W218.51C, as well as atmospheric

pressure and salinity compensation.

- Power supply and IoT signals are equipped with surge isolation protection.
- Equipped with dual digital communications: RS-485 and Wi-Fi.
- Standard Modbus RTU protocol enables global IoT connectivity.
- The sensor membrane has a lifespan of up to 1 to 2 years.
- Optional automatic cleaning function extends maintenance intervals by approximately 2 to 3 times.
- Smart design allows storage of calibration parameters, enabling direct on-site installation after calibration.
- Mobile web interface for ultra-convenient on-site operation.
- Modular design with easily replaceable standard solution bottles for convenient calibration.
- During calibration and automatic cleaning, the last reading is held to prevent false actions, while status indicators (calibrating / automatic cleaning / stabilizing / maintenance) remain readable.
- The latest three calibration records (date, slope, calibration points) can be queried via Web and RS-485.

1-5 Product Application Site

Aquaculture, seawater, wastewater, groundwater, rivers, and hydroponic nutrient solutions.

1-6 Wiring Instructions

Wire Color	Wiring Function
RED	DC12 or 24 (Optional)
BLACK	GND
WHITE	RS-485(D+)
GREEN	RS-485(D-)
YELLOW	Auto Cleaning V+ (Optional)
BLUE	Auto Cleaning V- (Optional)

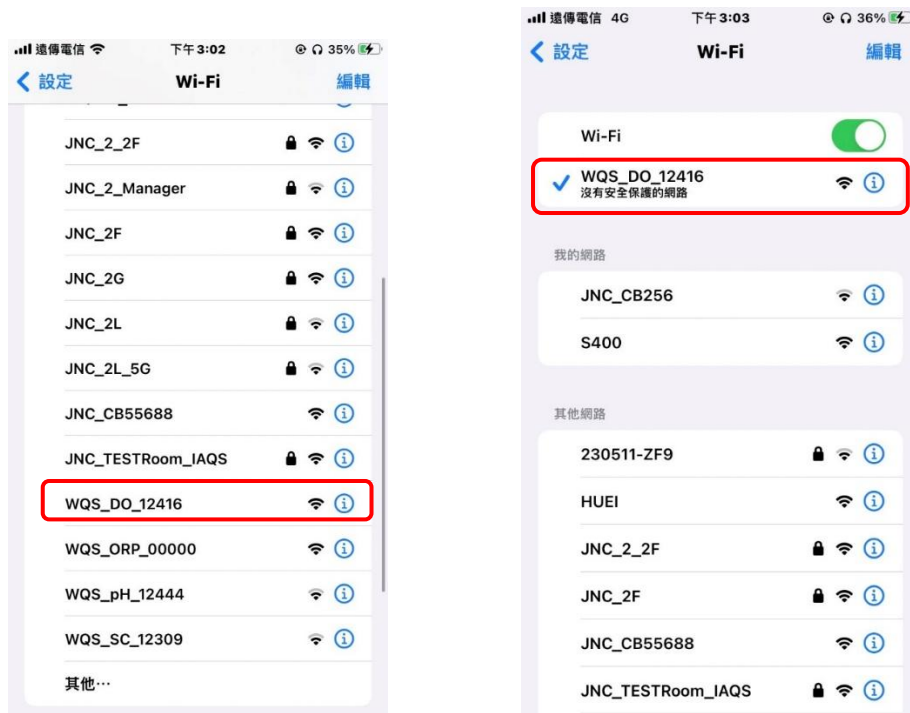
1-7 Hardware description

Setting Name	Description
Device ID	Default station number 53
Device Baudrate	Default baud rate:9600 bps

PART 2. Product Functions

2-1 WQS Software Page Operation

2-1-1 WiFi Connection



Use your mobile phone's Wi-Fi function to search for the network named: **"WQS_DO_xxxxx"** and tap to connect. Once connected, the display shown in the right image will appear.

2-1-2 、Google Chrome APP

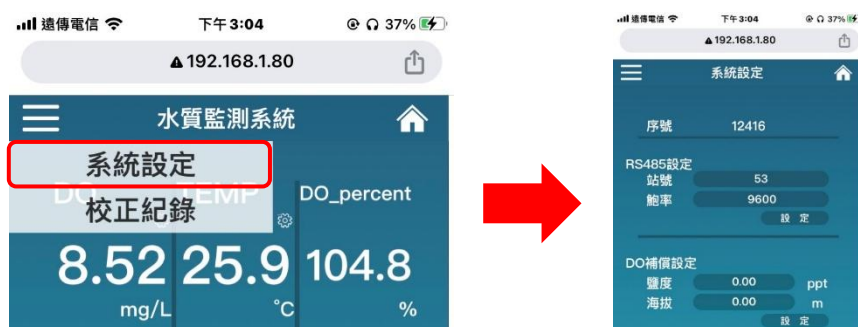


In the mobile app, search for **"Google Chrome APP"** and open it. Then, enter **"192.168.1.80"** in the address bar and tap search.

2-1-3 WQS Main Page

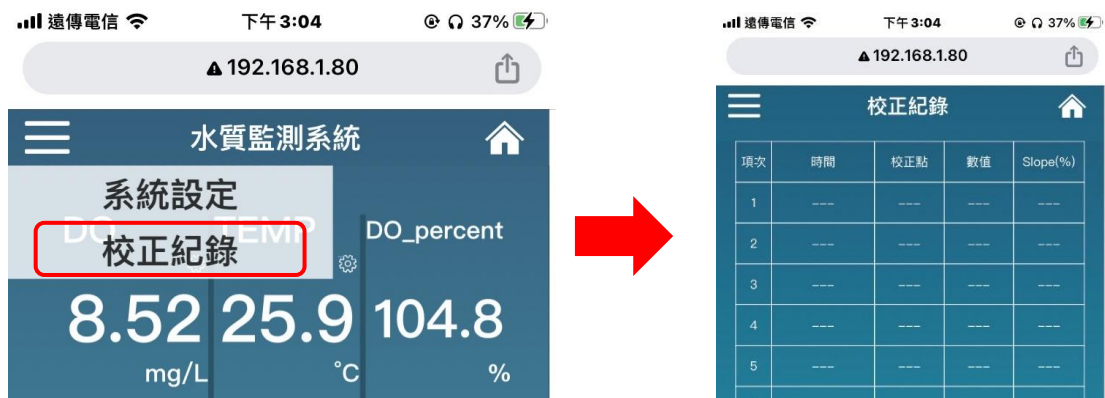


2-1-4 System Settings



After clicking the menu icon at the top left, you can see the “**System Settings**” option as shown in the left image. Selecting it will display the screen in the right image, which shows information including device serial number, station number, baud rate, and salinity/altitude DO compensation settings. Adjustable items include station number (1–254), baud rate (2400/4800/9600/19200/38400/57600/115200), and related compensation settings according to environmental conditions.

2-1-5 Calibration Records



After clicking the menu icon at the top left, you can see the "Calibration Records" option as shown in the left image. Selecting it will display the screen in the right image, where you can review each calibration's date, options, values, and slope.

2-1-6 Calibration page



Click "Real-Time Values" on the homepage, then select "OK" in the system window to enter calibration mode. As shown in the image on the right, you will see the functions "Standard Solution Calibration" and "Gain and Offset".

2-1-6-1 Standard Solution Calibration



After clicking "**Standard Solution Calibration**," as shown in the image on the right, you will see the real-time values (DO/Temp/Percent), slope, and calibration concentration (zero-point with oxygen-free water / saturated air).

2-1-6-2 Gain and Offset



After clicking "**Gain and Offset**," as shown in the image on the right, you will see the real-time values (DO/Temp/Percent), gain value (default: 1.00), and offset value (default: 0.00).

2-1-7 Automatic Cleaning Settings



After clicking "**Settings**" on the homepage, as shown in the image on the right, you will see the automatic cleaning status (OPEN/CLOSE), cleaning frequency (minutes), cleaning duration (seconds), keep time (seconds), factory reset, and setup options.



"**Automatic Cleaning**" can be enabled or disabled by clicking the large icon at the top center. When enabled, it will operate according to the conditions specified below:

1. **Automatic Cleaning Frequency:** The cycle interval for activating the automatic cleaning pump. The default is once every 60 minutes.
2. **Automatic Cleaning Duration:** The duration the automatic cleaning pump runs each cycle. The default is 120 seconds.
3. **Keep Time:** During automatic cleaning, the readings may become highly unstable. During this period, the system holds the last recorded value before cleaning began. By default, this hold lasts for 90 seconds after the cleaning process ends.

2-1-8 Language Selection



Click the dropdown menu at the bottom right corner to select your preferred language. Currently, WQS-related products support Traditional Chinese, Simplified Chinese, English, and Japanese.

PART 3.Modbus Table

3-1 Analog Output (03 、06 、16)

Function 03 to Read/ Function 06 、16 to Write					
Address	Setting Value	Item	Type	R/ W	Notes
0x0000	400001	DO Real-time value	INT16	R	Value/100
0x0001	400002	Real-time temperature value	INT16	R	Value/10
0x0002	400003	Real-time saturation value	INT16	R	Value/10
0x0009	400010	Current saturated dissolved oxygen concentration	INT16	R	Value/100
0x000A	400011	Real-time temperature value	INT16	R	Value/10
0x000C	400013	Current electrode potential(Float low word)	FLOAT	R	Unit : mV
0x000D	400014	Current electrode potential(Float high word)	FLOAT	R	Unit : mV
0x000E	400015	Device model First and second characters	INT16	R	
0x000F	400016	Device model The third and fourth characters	INT16	R	
0x0010	400017	Device model The fifth and sixth characters	INT16	R	
0x0011	400018	Device serial number First and second characters	INT16	R	
0x0012	400019	Device serial number The third and fourth characters	INT16	R	
0x0013	400020	Device serial number The fifth and sixth characters	INT16	R	
0x0014	400021	Device version	INT16	R	
0x0015	400022	RS485 station number	INT16	R/ W	Can be set : 1 ~ 254
0x0016	400023	RS485 transmission rate	INT16	R/ W	2400 = 0 4800 = 1 9600 = 2 19200 = 3 38400 = 4 57600 = 5 115200 = 6

Function 03 to Read/ Function 06 、16 to Write

Address	Setting Value	Item	Type	R/W	Notes
0x001A	400027	Sensor electrode types	INT16	R	pH = 0 EC = 1 ORP = 2 WQS_DO = 3 NO3 = 4 NH4 = 5 SC = 6
0x001B	400028	Is there an automatic cleaning function available?	INT16	R	0: Off, 1: On
0x001C	400029	Language	INT16	R	Traditional Chinese = 0 Simplified Chinese = 1 English = 2 Japanese = 3
0x001E	400031	DO Real-time value (Float low word)	FLOAT	R	Unit : mg/L
0x001F	400032	DO Real-time value (Float high word)	FLOAT	R	Unit : mg/L
0x0020	400033	Real-time temperature value(Float low word)	FLOAT	R	Unit : °C
0x0021	400034	Real-time temperature value(Float high word)	FLOAT	R	Unit : °C
0x0022	400035	Real-time saturation value(Float low word)	FLOAT	R	Unit : %
0x0023	400036	Real-time saturation value(Float high word)	FLOAT	R	Unit : %
0x002A	400043	Initial electrode potential Point 1 (Float low word)	FLOAT	R	
0x002B	400044	Initial electrode potential Point 1 (Float high word)	FLOAT	R	
0x002C	400045	Initial electrode potential Point 2(Float low word)	FLOAT	R	
0x002D	400046	Initial electrode potential Point 2(Float high word)	FLOAT	R	

Function 03 to Read/ Function 06 、16 to Write

Address	Setting Value	Item	Type	R/W	Notes
0x002E	400047	Initial electrode potential Point 3 (Float low word)	FLOAT	R	
0x002F	400048	Initial electrode potential Point 3 (Float high word)	FLOAT	R	
0x0030	400049	Sensor status	INT16	R	0 : Reading value 1 : Automatic cleaning 2 : Value holding 3 : Calibrating 4 : Under maintenance
0x0031	400050	Electrode slope	INT16	R	Value/10
0x0032	400051	Temperature slope	INT16	R	Value/10
0x0036	400055	Enable automatic cleaning?	INT16	R/W	0: Off, 1: On
0x0037	400056	Automatic cleaning frequency	INT16	R/W	
0x0038	400057	Automatic cleaning time	INT16	R/W	
0x0039	400058	Delay after cleaning __S Read value	INT16	R/W	
0x003A	400059	DO Salinity compensation (Float low word)	FLOAT	R/W	Unit : ppt
0x003B	400060	DO Salinity compensation (Float high word)	FLOAT	R/W	Unit : ppt
0x003C	400061	DO Altitude compensation (Float low word)	FLOAT	R/W	Unit : m
0x003D	400062	DO Altitude compensation (Float high word)	FLOAT	R/W	Unit : m
0x0101	400258	DO Decimal places	INT16	R	
0x0102	400259	DO Gain value (Float low word)	FLOAT	R/W	
0x0103	400260	DO Gain value (Float high word)	FLOAT	R/W	
0x0104	400261	DO Offset value (Float low word)	FLOAT	R/W	
0x0105	400262	DO Offset value (Float high word)	FLOAT	R/W	

Function 03 to Read/ Function 06 、 16 to Write

Address	Setting Value	Item	Type	R/W	Notes
0x0106	400263	DO raw range -Point 1 (Float low word)	FLOAT	R	
0x0107	400264	DO raw range -Point 1 (Float high word)	FLOAT	R	
0x0108	400265	DO raw range -Point 2 (Float low word)	FLOAT	R	
0x0109	400266	DO raw range -Point 2 (Float high word)	FLOAT	R	
0x010A	400267	DO raw range -Point 3 (Float low word)	FLOAT	R	
0x010B	400268	DO raw range -Point 3 (Float high word)	FLOAT	R	
0x010C	400269	DO Corresponding range Point 1 (Float low word)	FLOAT	R	
0x010D	400270	DO Corresponding range Point 1 (Float high word)	FLOAT	R	
0x010E	400271	DO Corresponding range Point 2 (Float low word)	FLOAT	R	
0x010F	400272	DO Corresponding range Point 2 (Float high word)	FLOAT	R	
0x0110	400273	DO Corresponding range Point 3 (Float low word)	FLOAT	R	
0x0111	400274	DO Corresponding range Point 3 (Float high word)	FLOAT	R	
0x0151	400338	Temperature decimal places	INT16	R	
0x0152	400339	Temperature gain value (Float low word)	FLOAT	R/W	
0x0153	400340	Temperature gain value (Float high word)	FLOAT	R/W	
0x0154	400341	Temperature offset (Float low word)	FLOAT	R/W	
0x0155	400342	Temperature offset (Float high word)	FLOAT	R/W	

Function 03 to Read/ Function 06 、 16 to Write

Address	Setting Value	Item	Type	R/W	Notes
0x0156	400343	Temperature raw range Point 1 (Float low word)	FLOAT	R	
0x0157	400344	Temperature raw range Point 1 (Float high word)	FLOAT	R	
0x0158	400345	Temperature raw range Point 2 (Float low word)	FLOAT	R	
0x0159	400346	Temperature raw range Point 2 (Float high word)	FLOAT	R	
0x015A	400347	Temperature raw range Point 3 (Float low word)	FLOAT	R	
0x015B	400348	Temperature raw range Point 3 (Float high word)	FLOAT	R	
0x015C	400349	Temperature Corresponding range Point 1 (Float low word)	FLOAT	R	
0x015D	400350	Temperature Corresponding range Point 1 (Float high word)	FLOAT	R	
0x015E	400351	Temperature Corresponding range Point 2 (Float low word)	FLOAT	R	
0x015F	400352	Temperature Corresponding range Point 2 (Float high word)	FLOAT	R	
0x0160	400353	Temperature Corresponding range Point 3 (Float low word)	FLOAT	R	
0x0161	400354	Temperature Corresponding range Point 3 (Float high word)	FLOAT	R	

3-1-1 、INT16 Read real-time value (Function 03)

Read the real-time **DO** value, which is 8.65 mg/L.

Content	Device station number	Function	Starting address		Number of data(Word)		16 CRC code	
Host command	35	03	00	00	00	01	80	7E
Number of bytes	1	1	2		2		2	

Content	Device station number	Function	Data bytes	Sensor data		16 CRC code	
Slave response	35	03	02	03	61	C8	98
Number of bytes	1	1	1	2		2	

3-1-2 、INT16 Read real-time value (Function 03)

In the slave response, the sensor data is shown as "03 61".

Converting 0x0361 (hex) to decimal gives 865.

Dividing 865 by 100 results in 8.65, which means the DO (Dissolved Oxygen) value is 8.65 mg/L.

3-1-3 、Float Read real-time value (Function 03)

Example: Reading the real-time **DO** value, with a measured value of 8.65 mg/L.

Content	Device station number	Function	Starting address		Number of data(Word)		16 CRC code	
Host command	35	03	00	1E	00	02	A0	79
Number of bytes	1	1	2		2		2	

Content	Device station number	Function	Data bytes	Sensor data			
Slave response	35	03	04	66	66	41	0A
Number of bytes	1	1	1	2			

16 CRC code	
C1	30
2	

3-1-4 、Float Read real-time value (Function 03)

In the response from the slave device, the 'sensor data' is shown as '66 66 41 0A'.

By swapping the low word '41 0A' to the front and the high word '66 66' to the back, the result becomes '41 0A 66 66'.

Converting this to a float yields 8.65, indicating that DO = 8.65 mg/L.

You may refer to online conversion tools : <https://gregstoll.com/~gregstoll/floattohex/>

3-2 Analog Input (04)

Function 04 to Read

Address	Setting Value	Item	Type	R/W	Notes
0x0000	300001	DO Real-time value	INT16	R	Value/100
0x0001	300002	Real-time temperature value	INT16	R	Value/10
0x0002	300003	Real-time saturation value	INT16	R	Value/10
0x0009	300010	Current saturated dissolved oxygen concentration	INT16	R	Value/100
0x000A	300011	Real-time temperature value	INT16	R	Value/10
0x000C	300013	Current electrode potential (Float low word)	FLOAT	R	Unit : mV
0x000D	300014	Current electrode potential (Float high word)	FLOAT	R	Unit : mV
0x001E	300031	DO Real-time value(Float low word)	FLOAT	R	Unit : mg/L
0x001F	300032	DO Real-time value(Float high word)	FLOAT	R	Unit : mg/L
0x0020	300033	Real-time temperature value(Float low word)	FLOAT	R	Unit : °C
0x0021	300034	Real-time temperature value (Float high word)	FLOAT	R	Unit : °C
0x0022	300035	Real-time saturation value(Float low word)	FLOAT	R	Unit : %
0x0023	300036	Real-time saturation value(Float high word)	FLOAT	R	Unit : %
0x004E	300079	Device startup time (low word)	ULong	R	
0x004F	300080	Device startup time (high word)	ULong	R	
0x0050	300081	Device reboot count (low word)	ULong	R	
0x0051	300082	Device reboot count (high word)	ULong	R	

3-2-1、INT16 Read real-time value (Function 04)

Example: Reading the real-time **DO** value, with a value of 8.65 mg/L.

Content	Device station number	Function	Starting address		Number of data(Word)		16 CRC code	
Host command	35	04	00	00	00	01	35	BE
Number of bytes	1	1	2		2		2	

Content	Device station number	Function	Data bytes	Sensor data		16 CRC code	
Slave response	35	04	02	03	61	C9	EC
Number of bytes	1	1	1	2		2	

3-2-2、INT16 Real-time value description (Function 04)

In the response from the slave device, the "sensor data" is shown as "03 61".

Converting 0x0361 (hex) to decimal gives 865.

865 divided by 100 equals 8.65, which indicates that the DO (Dissolved Oxygen) value is 8.65 mg/L.

3-2-3、Float Read real-time value (Function 04)

Example: Reading the real-time **DO** (Dissolved Oxygen) value, the result is 8.65 mg/L.

Content	Device station number	Function	Starting address		Number of data(Word)		16 CRC code	
Host command	35	04	00	1E	00	02	15	B9
Number of bytes	1	1	2		2		2	

Content	Device station number	Function	Data bytes	Sensor data			
Slave response	35	04	04	66	66	41	0A
Number of bytes	1	1	1	2			

16 CRC code	
C0	87
2	

3-2-4 、Float Real-time value description (Function 04)

In the response from the slave device, the "sensor data" is shown as "66 66 41 0A".

By swapping the low bytes "41 0A" to the front and the high bytes "66 66" to the back, the result becomes "41 0A 66 66".

Converting this to a Float yields 8.65, thus the DO (Dissolved Oxygen) value is 8.65 mg/L.

You may refer to online conversion tools: <https://gregstoll.com/~gregstoll/floattohex/>

3-3 Digital Output(01 、05)

Function 01 to Read/ Function 05 to Write					
Address	Setting Value	Item	Type	R/W	Notes
0x0001	000002	Maintenance Mode		R/W	If maintenance mode is not turned off, the system will automatically switch to data reading mode after 2 hours.
0x0002	000003	Auto Cleaning Mode		R/W	

3-3-1 Instructions for Writing (Function 05)

Example: When DO enters maintenance mode, the value will no longer change and will retain the last data recorded before "maintenance mode" was activated.

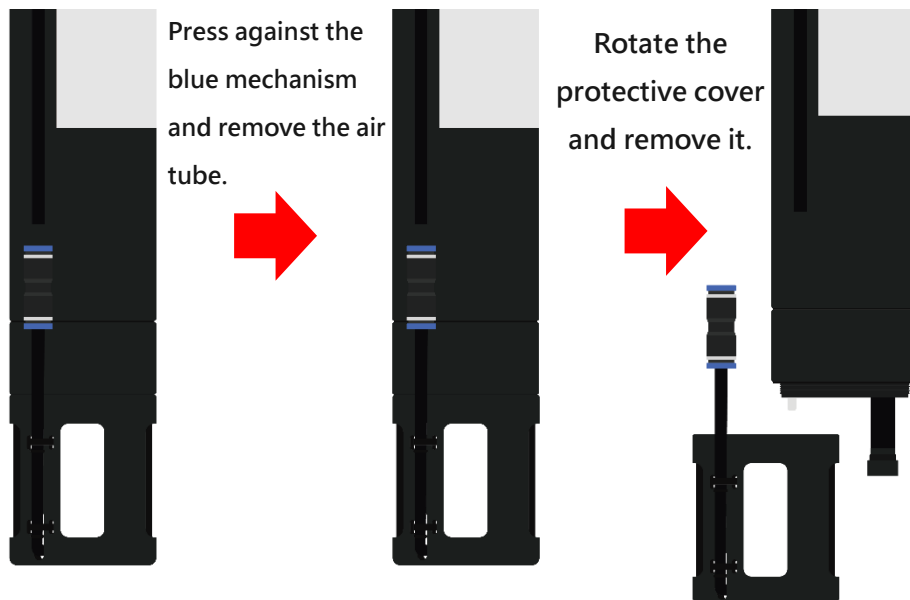
Content	Device station number	Function	Starting address		Write Values: FF 00 Enable 00 00 Disable		16 CRC code	
Host command	35	05	00	01	FF	00	D9	8E
Number of bytes	1	1	2		2		2	

Content	Device station number	Function	Starting address		Data		16 CRC code	
Slave response	35	05	00	01	FF	00	D9	8E
Number of bytes	1	1	1		2		2	

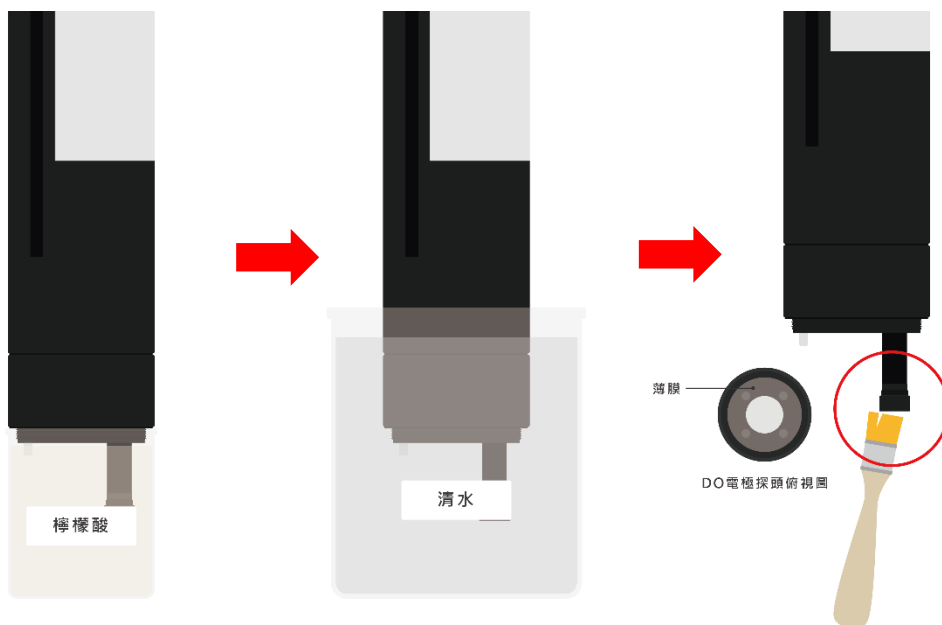
※The above Modbus table is only supported in firmware version **V1.07c** or later

PART 4. Maintenance and Cleaning

4-1 Remove the Protective Cap



4-2 Maintenance and Cleaning

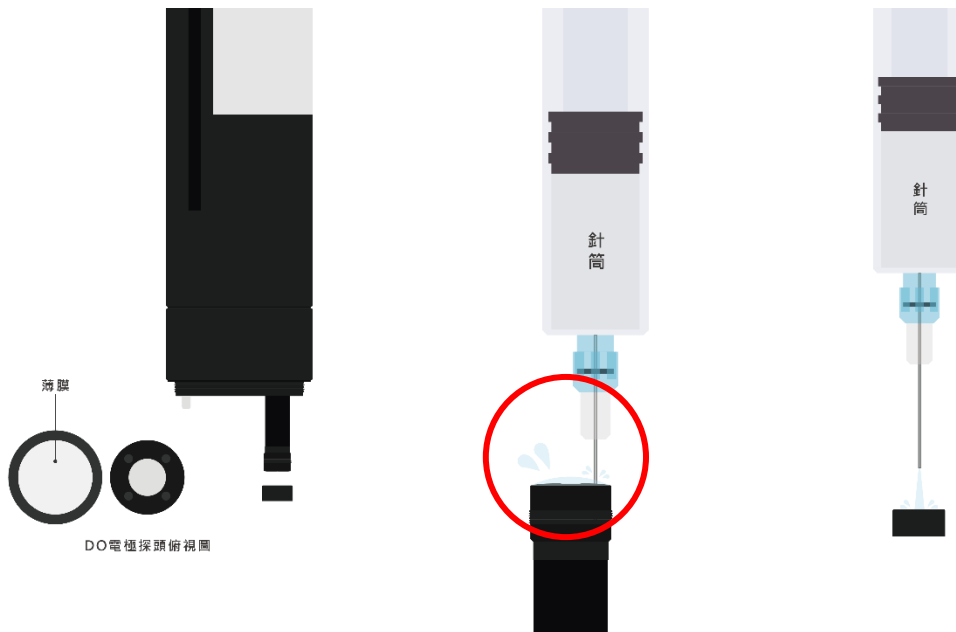


Using the supplied calibration bottle, dilute citric acid solution at a 10:1 ratio and let it sit for more than 10 minutes.

Immerse the sensor in water and rinse it with clean water.

Use a soft brush to carefully clean the probe, taking care not to scratch the membrane.

4-3 Rinse the electrode probe

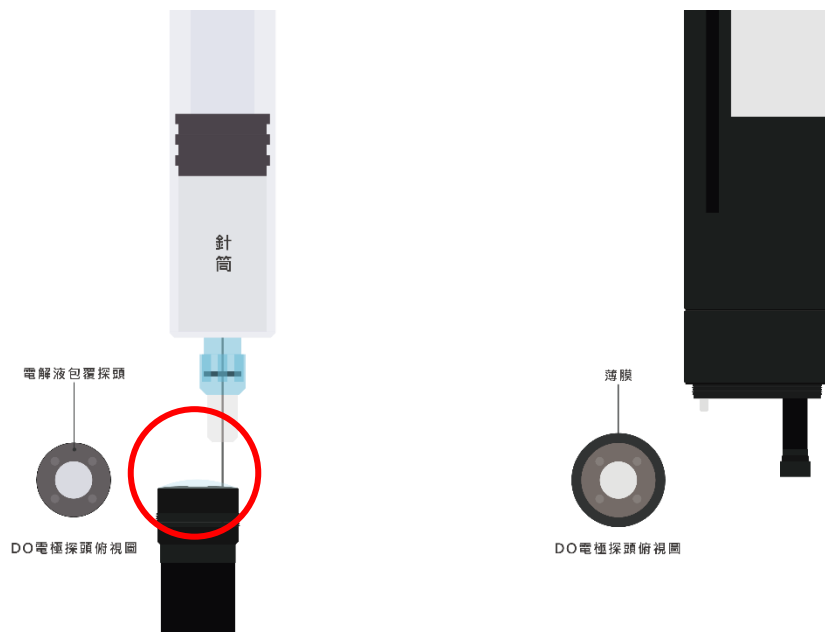


After the probe is cleaned,
gently remove the
membrane cover.

Use a syringe to draw the
electrolyte, then rinse the probe's
openings and the electrode surface
with the electrolyte.

Use a syringe to rinse
the membrane cover
and remove any debris.

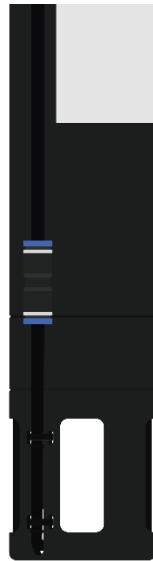
4-4 Replace the electrolyte



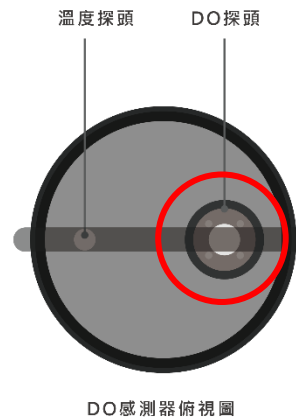
Fill the electrolyte until it fully
covers the electrode probe.

After filling with electrolyte,
restore the membrane cover.

4-5 Recover Sensor



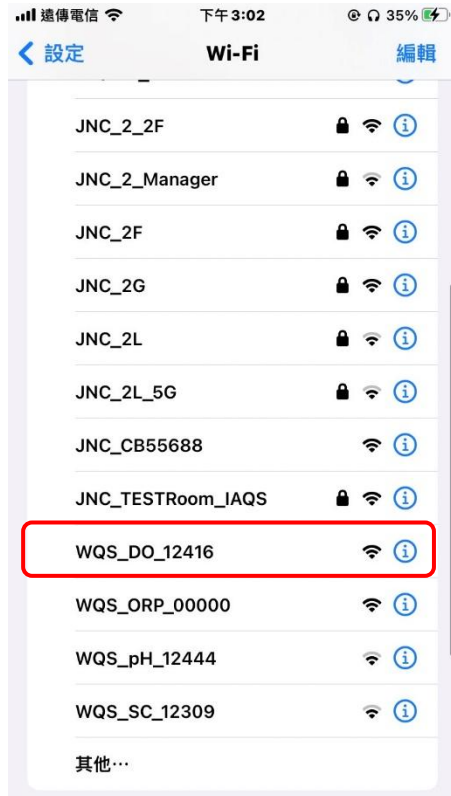
Reattach the protective cover and securely insert the air tube into the blue mechanism.



Please ensure the nozzle is aligned with the probe to maintain the self-cleaning function.

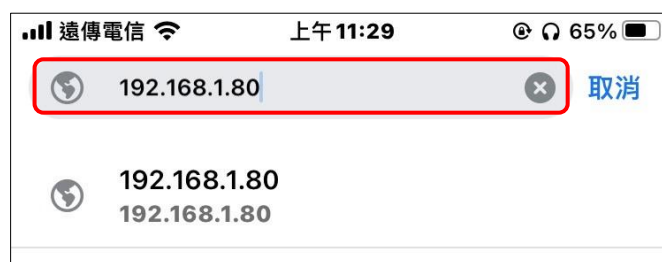
PART 5. Calibration Process

5-1 WIFI Connection



Use your phone's Wi-Fi function to search for the network named **“WQS_DO_XXXXX”** and tap to connect. Once connected, it will appear as shown in the image on the right.

5-2 Google Chrome APP



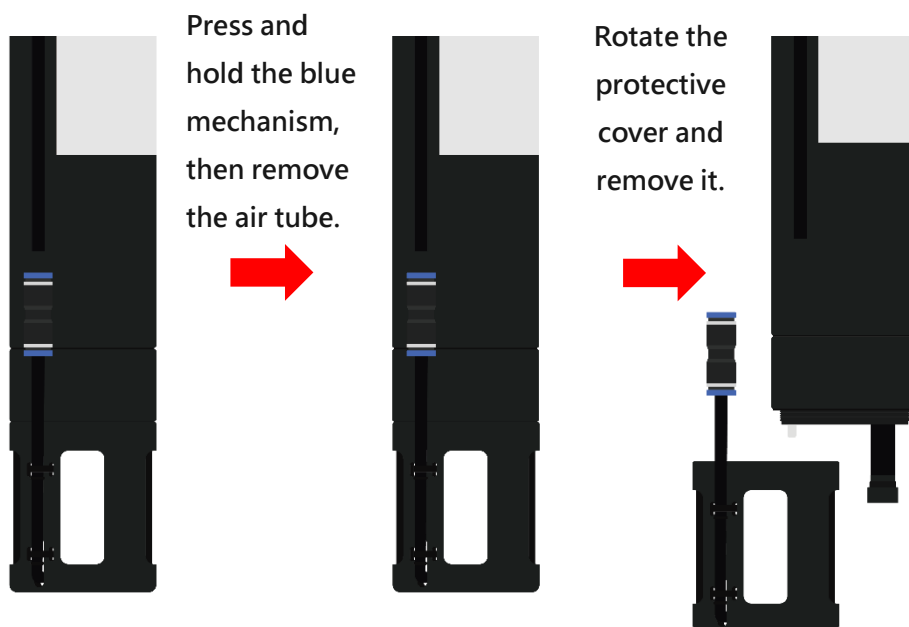
Open the **“Google Chrome”** app on your phone, enter **“192.168.1.80”** in the address bar, and tap search.

5-3 Enter the Calibration Page



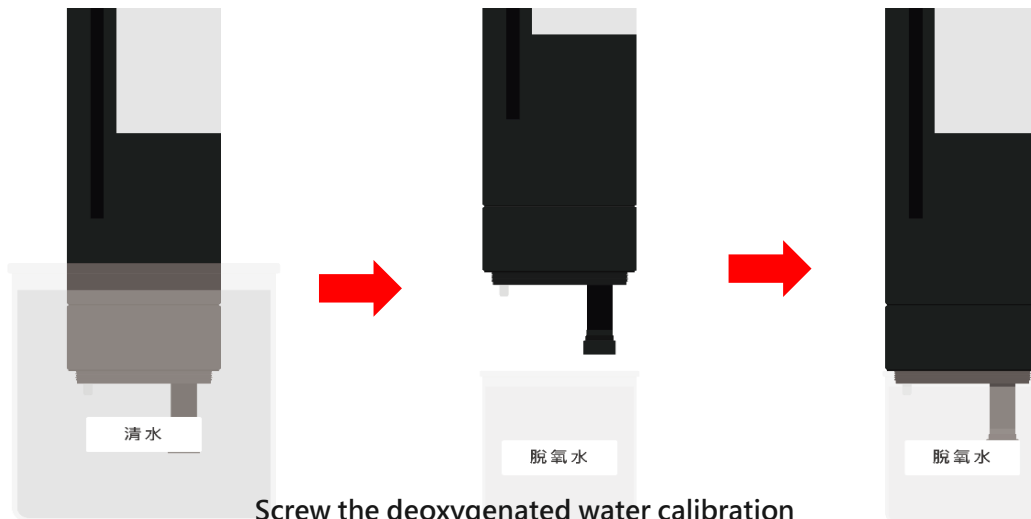
On the homepage, tap Real-Time Values, then select **OK** in the system window to enter calibration mode. Next, tap **Standard Solution Calibration** to go to the **Calibration Page**.

5-4 Remove the Protective Cap



5-5 Zero calibration

5-5-1 Install the calibration bottle



Before calibration, rinse the probe with clean water and wipe it dry with a soft cloth.

Screw the deoxygenated water calibration bottle into the housing threads, tighten it, and gently shake to ensure the standard solution fully covers the probe.

Once completed, proceed to operate on the calibration page.

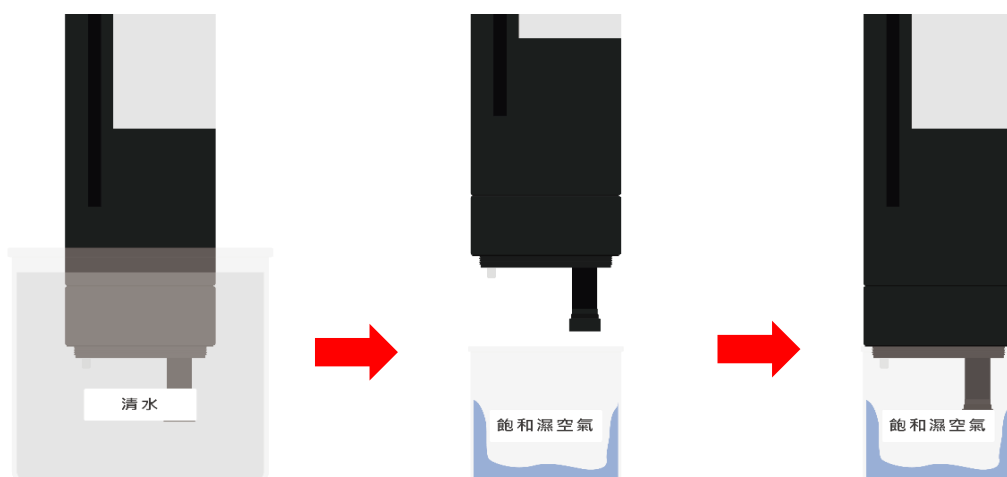
5-5-2 Calibration Page Operation



On the calibration page, wait until the values stabilize. In the calibration section, click **START** for the **Low Point (Deoxygenated Water)**. After 20 seconds, the calibration will be complete.

5-6 Saturation calibration

5-6-1 Install the calibration bottle



Before calibration, rinse the probe with clean water and gently wipe it dry with a soft cloth.

Place the calibration bottle on a slightly damp soft cloth (ensuring the cloth does not touch the electrode probe) and screw it into the housing threads

Once finished, proceed to operate on the calibration page.

5-6-2 Calibration Page Operation

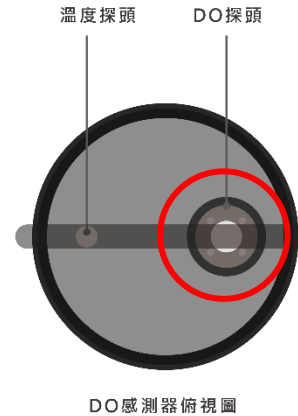


On the calibration page, wait until the values stabilize. In the calibration section, click **START** for the **High Point (Saturated Air)**. After 20 seconds, the calibration will be complete.

5-7 Recover Sensor



Reattach the protective cover and securely fit the air tube into the blue mechanism.



Please ensure **the nozzle is aligned with the probe** to maintain the self-cleaning function.

PART 6.Troubleshooting

Abnormality Category	Cause of Malfunction	Solution
Abnormal Values	Foreign matter attached to the electrode probe	Follow the maintenance and cleaning procedure.
	Calibration cycle reached	Follow the calibration procedure.
Wi-Fi Connection Failure	Power supply abnormality	Please ensure the device power supply meets the specified voltage.
		Follow the wiring instructions 1–6 and physically check whether the hardware connections match the listed specifications.

Revision history

Version	Revision Date	Revision Description	Maintainer
V1.10	2022/09/12	Added Modbus Table	denny
V2.00	2023/12/11	Modified manual format and visualized the calibration process diagram	bin
V2.01	2024/01/02	Added cover and tab styles, and included Modbus commands	bin

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