

JNC

IAQ Monitor

IAQS



Catalogue

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PART 1.PRODUCT INTRODUCTION

1-1 Product Introduction

This product can be used as a tool for fixed-point monitoring or inspection of home or public indoor environments, it has a wall-mounted and portable design, and has keen and accurate detection and intelligent data management capabilities, allowing you to instantly grasp the air quality of your indoor environment. This product has a web interface that can be viewed remotely in real time, and historical data and alarm records in USB can be remotely downloaded; the channel name/unit/gain value/offset/high high (HH)/high point (can be set by yourself) H)/low point (L)/low low (LL) alarm point; this product has automatic temperature compensation and a five-stage correction function to make the temperature more accurate; built-in lithium battery can be moved to inspect various places and can be recorded Chinese place name. This product is very suitable for environmental monitoring, IAQ public space display, offices, stations, airports, museums/art galleries, hospitals, residences, environmental rapid screening and other places that require environmental monitoring.

1-2 Product Notes

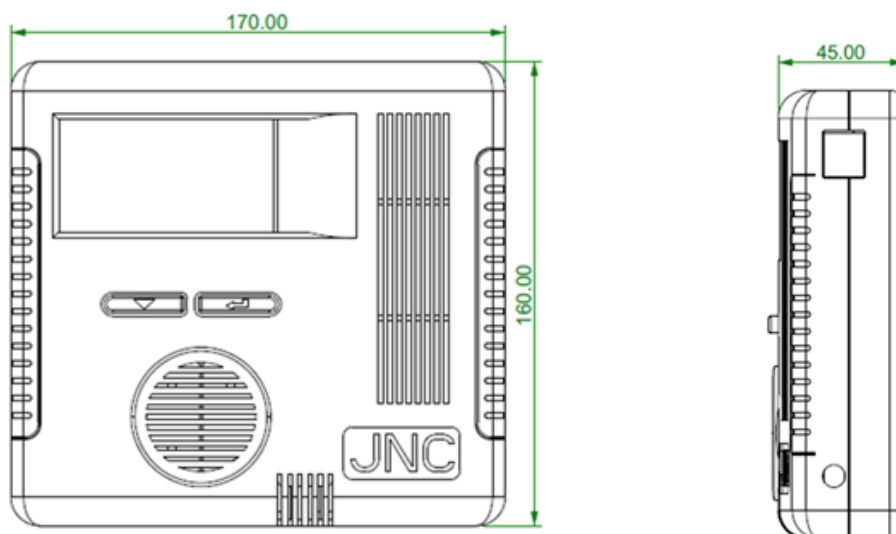
1. Please do not use it in areas with high vibration or strong electromagnetic interference to avoid product damage, ERROR and measurement errors.
2. Before performing any repair or maintenance, please remove the power supply to prevent personal injury or product damage caused by accidental contact with the power supply.
3. When installed in a polluted environment with conductive substances (such as metal dust, water, etc.), appropriate sealing measures should be taken.
4. If any component or module of the product has been removed or disassembled, please do not operate it anymore and contact our company as soon as possible.
5. When installed in a polluted environment with conductive substances (such as metal dust, water, etc.), appropriate ventilation, effective filtration or sealing measures should be taken.
6. Our company is not responsible for any impact or damage caused to the reliability of this product due to improper use in accordance with this operating manual or exceeding the application or usage environment conditions described in the product specifications.
7. Avoid installing this product with electrical appliances that generate heat within 1 meter below, thus affecting the accuracy of the temperature and humidity of this product.
8. Avoid installing this product within 1 meter of human activities, as it may affect humidity.

PART 2.PRODUCT DESCRIPTION

2-1 Product Features

- Can simultaneously display target gas real-time/average value and temperature/humidity value/AQI index/date/time
- With automatic temperature compensation and five-segment calibration function
- With self-detection function, abnormal indication and sound alarm
- With Relay control function, using optical coupling relay (non-traditional relay)
- With USB recording, Ethernet communication, and WiFi communication (optional)
- It takes 60 seconds to download and share trend charts from the web page, and 30 seconds to download the record data.
- With dual power supply function, it can be used as wall-mounted or portable.
- Suction sampling
- 7-in-1 sensor (Temp/RH/CO2/ PM2.5/ HCHO/ CO/ TVOC)
- 9-in-1 sensor (Temp/RH/CO2/ PM2.5/ HCHO/ CO/ TVOC /O3/PM10)
- Global rapid upgrade function
- With universal tripod lock hole
- Contains lithium batteries for mobile inspection and records Chinese location names.
- Ethernet and WIFI can be used at the same time/the Ethernet line can be directly connected to the side.
- Applicable places: IAQ public space display, offices, stations, airports, museums/art galleries, hospitals, residences, inspections, environmental rapid screening.

● 2-2 Product Size (mm)



PART 3.PRODUCT SPECIFICATIONS

3-1 Product Specifications

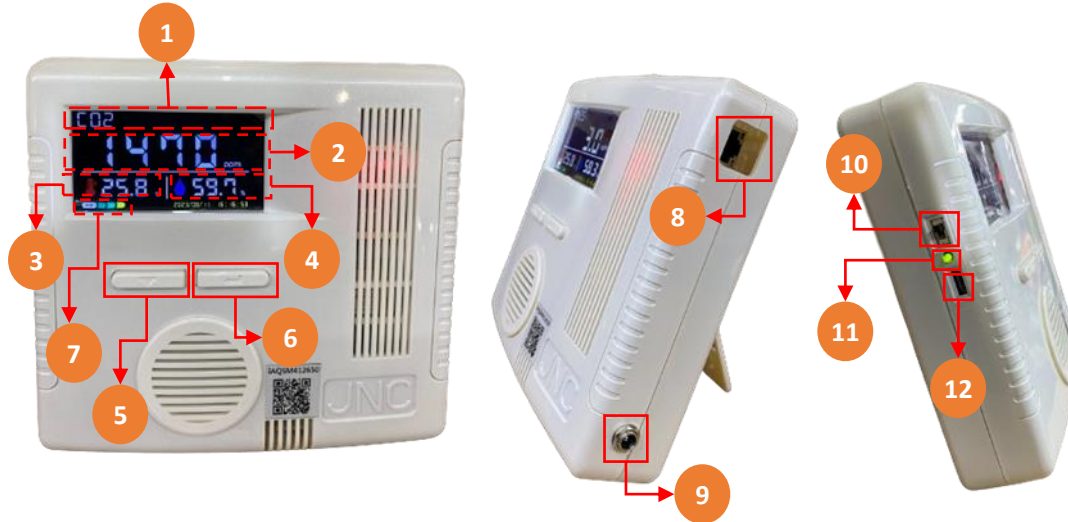
Model	IAQS	
Power Supply	Transformer	◆AC input: 100 ~ 240V(50/60Hz) ◆DC output: 24V maximum current 1A
	Equipment	◆DC input: 24 ~ 36V or 5V ◆Power consumption: 5.2W
Environment	0~50°C · 0%~95%(non-condensing)	
Alarm Control Output	Control output points	1 point
	Contacts withstand current	1A/contact withstand voltage: 24VDC/relay is required to connect to high load
Communication Function	Ethernet interface	RJ-45 Ethernet standard/WiFi optional
	Communication interface	RS-485
	Communication protocol	Modbus RTU, Modbus TCP, Web Service and Modbus Inverse
	Default IP	192.168.0.140
Display Screen	Numerical display	Backlit LCD display 73mm*44mm three-color display
	Display mode	It has AQI six-segment indication, which can display name, value, unit, and can display instant time or average value.
	Display range	0~9999(Automatic range decimal point)
Physical Conditions	Product dimensions (mm)	163x147.5x38.2 (W x H x D)
	Product weight	≤1Kg
	Installation method	Wall-mounted/portable
Shell	Material	ABS
Record	USB recording function, supports up to 64GB	
Safety certification	FCC PART 15 B AND CISPR 22 Class B · EN55022:2010:Class B · EN61326-1:2006 · IEC61000-4-2:2008 · IEC61000-4-3:2006+A1:2007+A2:2010	
Patent	R.O.C. Patent No. M490090 / R.O.C. Patent No. M474956 / R.O.C. Patent No. M455143 China Patent No. 3110165 / China Patent No. 2514208 / China Patent No. 3968253	

3-2 IAQS Measurement Range

Project Detection Principle	Range	T90	Operating temperature	Resolution	Accuracy	Environmental Equilibrium Time
Temp (Resistance)	-40~125°C	<60S	-20~60°C	0.1°C	±0.4°C	10min
RH (Capacitive)	0~100%	<60S	-20~60°C	0.1°C	±3%	10min
CO2 (Infrared)	0~10,000ppm	<120S	0~50°C	1ppm	±30ppm±3% of Reading	10sec
PM2.5 (Laser)	0~1000 µg / m ³	<90S	-10~65°C	0.1µg / m ³	±10µg / m ³ ±5% of Reading	5min
HCHO (Electrochemical)	0.01~2.00 ppm	<120S	-10°C~50°C	0.01ppm	≤±0.02ppm±2% of Reading	10min
CO (Electrochemical)	0~100ppm	<180 S	0°C~50°C	0.1ppm	±5ppm	10min
TVOC (Semiconductor)	0~300ppm	<90S	0°C~40°C	0.01ppm	±10%	10min
O3 (Semiconductor)	0.01~2.00ppm	<120S	0°C~40°C	0.01ppm	±10%	10min
PM10 (Algorithm)	0~1200 µg / m ³	<90S	-10°C~65°C	0.1 µg/ m ³	±10µg/ m ³ ±5% of Reading	5min
PID100 (Photoionization)	0-100ppm	≤5S	-10~60°C	25ppb	±2% (Reproducibility)	≤60 sec

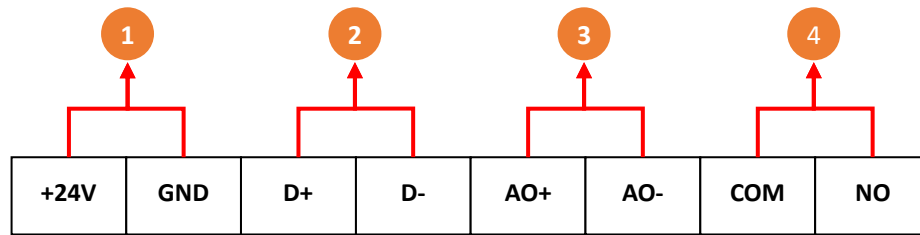
PART 4.PRODUCT INSTRUCTIONS

4-1 Equipment Component Location Description



Code	Name/Icon	Function Description
1	Channel name	Display current value, channel name and unit
2	Channel value	Display the current value of this channel
3	Temperature	The current measured temperature value
4	Humidity	The current measured humidity value
5	Left button	● Display: Previous channel ● Settings: Select menu/number (0~9)
6	Right button	● Display: Previous channel ● Settings: Enter/Go to the right
7	AQI	Is the current air quality good? The lower the grid number, the better the air quality.
8	Ethernet hole	Install Ethernet Route
9	Quick Connector	Quick installation and disassembly of power connector
10	Switch	Turn power on/off
11	Power Indicator	On: power on/Off: power off
12	USB power plug	Connect power using Micro USB plug

4-2 Wiring Instructions



Code	Name/Icon	Function Description
1	+24V/GND	Power supply 9~36VDC
2	D+/D-	D+/D- of RS-485
3	AO+/AO-	dry contact
4	COM/NO	Relay

PART 5. WEB SERVICE DESCRIPTION

5-1 Web Service Home Page



Code	Name/Icon	Function Description
1	Version	Firmware version and firmware date
2	Device name	You can set the device name yourself in the system settings
3	Monitoring location	Monitoring locations can be set and recorded in a flash drive
4	Login button	Login system button
5	Language switch	Can switch between Traditional Chinese and English
6	Positive pressure ventilation	External control of the status of positive pressure ventilation
7	AQI	Pollution indicators will be calculated based on the device' s sensor values.
8	Data instant value	Sensor name and value

※Connection method: Turn on the WiFi function of the mobile device, search for the IAQS connection, open the browser after the connection is successful, enter 192.168.0.140 in the address bar to open the connection page

5-2 Login In Page



Code	Name/Icon	Function Description
1	Password input field	Login is divided into two types of permissions: browsing permissions and setting permissions. (1)The password for browsing permission is: 0000 (2) Set the permission password to: 1234
2	Login button	Login button
3	Cancel	Return to homepage

5-3 Home Page After Login In



Code	Name/Icon	Function Description
1	Setting button	After successful login, a setting button will appear,click to enter the setting interface.
2	Logout button	Log out of the management system

5-4 Design Interface



Code	Name/Icon	Function Description
1	Front page	Return to the home page to see the instant time value of the data
2	Alarm record	The last 100 records can be viewed, please view 5-5 for details.
3	Record download	Downloadable recording files in USB, please view 5-6 for details.
4	Trend	Can read the records in USB and draw trends, please view 5-7 for details.
5	Channel settings	Set sensor parameters, please view 5-8 for details
6	Positive pressure ventilation	Control positive pressure ventilation, please view 5-9 for details
7	System settings	IP Setting/Time/Communication/Password/Basic/Display/Transmission/ Wifi, please view 5-10 for details
8	Calibration settings	Sensor value calibration, please view 5-11 for details

5-5 Alarm Record



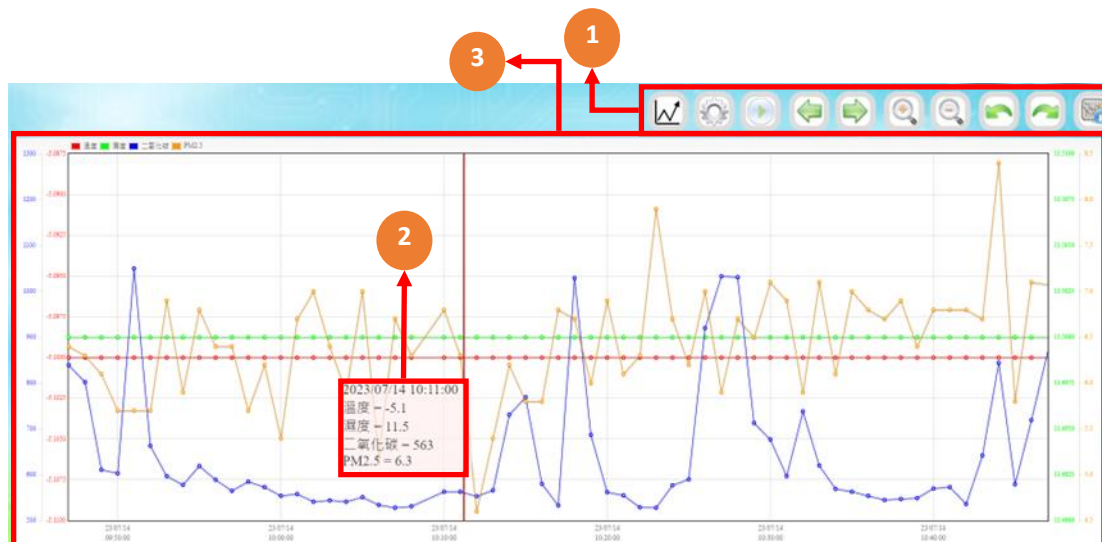
Code	Name/Icon	Function Description
1	Alert field	- Red means the alarm is occurring - Blue means the alarm has been lifted
2	Channel name	The name of the channel where the alert occurred
3	Alarm value	The value when alarm occurs
4	Alarm status	The general category of alarms is divided into 4 states: - High high alarm (HIHI) : When the instant time value is greater than the set value, a second-level alarm is triggered - High point alarm (HI) : When the instant time value is greater than the set value, a first-level alarm is triggered - Low point alarm (LO) : When the instant time value is less than the set value, a first-level alarm is triggered - Low low alarm (LOLO) : When the instant time value is less than the set value, a second-level alarm is triggered. °
5	Time of occurrence	Alarm occurrence time
6	End Time	Alarm end time

5-6 Record Download



Code	Name/Icon	Function Description
1	USB history record	Download the record file in USB, you can select the initial time and end time
2	USB event record	Download the alarm record file in USB
3	System history	Download the system' s built-in record file
4	System event record	Download the alarm record file built into the system

5-7 Tendency Chart



Code	Name/Icon	Function Description
1	Trend chart menu	- Start time setting: Set the start time of the trend chart - Settings: Channel trend graph settings - Play/Pause: Select the channel to display - Go forward one page: the trend chart timeline moves forward - Go backward one page: the trend chart timeline moves backward - Zoom in: Zoom in on the trend chart timeline

		Zoom out: Zoom out on the trend chart timeline Previous step: Return to the previous step Next step: Repeat next step Trend chart download: Download trend chart
2	Channel name	Numerical data of measurement types
3	Trend chart	What the trend graph shows



Code	Name/Icon	Function Description
1	Trend chart settings	● Display: Check the trend chart to display channel lines ● Name: Channel name ● Color: The color represented by the channel ● Line Width: Line width ● Point Distance: The distance between points ● Minimum value of Y axis: Y-axis minimum value of each channel ● Maximum value of Y axis: Maximum value of Y axis of each channel ● Maximum value: the maximum value of each channel in the trend chart ● Maximum value occurrence time: the time when the maximum value of each channel in the trend chart occurs ● Minimum value: the minimum value of each channel in the trend chart ● Minimum value occurrence time: the time when the minimum value of each channel in the trend chart occurs

5-8 Channel settings

5-8-1 Channel selection



Code	Name/Icon	Function Description
1	General category selection	Channel type selection AI/DO
2	Channel selection	- The icon means channel is turned on - The icon means channel is turned off, but you can open and set it yourself - If there is no icon, it means that the channel has not been selected and cannot be opened and configured by yourself.

5-8-2 AI settings

選擇頻道

濕度 11.5 %

啟用

頻道名稱

濕度

頻道單位

%

增益值

1.0000

偏移量

0.0

小數點

1

高高警報(HH)

高點警報(HI)

低點警報(LO)

低低警報(LL)

警報不感帶

0.0

警報延遲(秒)

3

Code	Name/Icon	Function Description
1	Channel selection	Channel type selection AI/DO
2	Instant value	Current channel name/value/unit
3	Open	 The icon means channel is turned on.  The icon means channel is turned off.
4	Channel name/unit	You can set the channel name and unit by yourself, and you can enter up to 16 characters.
5	Gain value/offset	Use two parameters to calibrate instant values, $V=vX+Y$ ° V: Value after calibration, v: Value before calibration, X: Gain value, Y: Offset
6	Decimal point	Number of decimal places displayed for instant time values
7	Alarm parameters	- High high alarm: When the instant time value is greater than the set value, a second-level alarm is triggered. ° - High point alarm: When the instant time value is greater than the set value, a first-level alarm is triggered. - Low point alarm: When the instant time value is less than the set value, a first-level alarm is triggered. - Low low alarm: When the instant time value is less than the set value, a second-level alarm is triggered.
8	Alarm delay/insensitive zone	- Alarm delay: When the immediate value is abnormal, it needs to last for this number of seconds before it is considered an alarm. - Alarm insensitivity zone: Under abnormal conditions, the alarm is deemed to be cleared when the value returns to a designated area within the normal range. For example: the high point alarm is 100, the alarm insensitivity band is 2, and the value must be reduced to $100-2=98$ before the alarm is cleared.

5-8-3 DO settings

1 選擇頻道

2 本機DO OFF

3 啟用

4 頻道名稱 本機DO

5 反向輸出

6 手動 / 自動 自動

啟動紀錄

判斷邏輯 手自動>控制模式>時段控制>周期控制

7 獨立控制

8 時段控制 停用中

9 周期控制 關

選擇頻道 本機DO OFF

啟用時段控制

啟用	起始時間	結束時間	啟用星期
	0 : 0	2 : 59	Sun Mon Tue Wed Thu Fri Sat
	4 : 0	6 : 59	Sun Mon Tue Wed Thu Fri Sat
	8 : 0	10 : 59	Sun Mon Tue Wed Thu Fri Sat
	12 : 0	14 : 59	Sun Mon Tue Wed Thu Fri Sat
	16 : 0	18 : 59	Sun Mon Tue Wed Thu Fri Sat

選擇頻道 本機DO OFF

周期控制

啟用周期控制

開啟時間(秒) 30

關閉時間(秒) 30

Code	Name/Icon	Function Description
1	Channel selection	Return to 5-8-1 to reselect the channel
2	Instant value	Current channel name/value
3	Open	- The icon means channel is turned on. - The icon means channel is turned off.
4	Channel name	You can set the channel name yourself, and you can enter up to 16 characters.
5	Reverse output	After checking, the status will be output in reverse.
6	Manual / Auto	In the automatic state, the output will be judged according to logic, and in manual state, it can be switched by itself.
7	Independent control	If checked, you will not be controlled by AI alarms.
8	Period control	After being enabled, AI alarms and independent controls will only be output within a certain period of time, please view 5-8-4 for details .
9	Cycle control	After being enabled, the AI alarm and independent control will cycle on and off according to the set time, please view 5-8-5 for details .

5-8-4 DO Period Control

時段控制

啟用時段控制 ☒

啟用	起始時間	結束時間	啟用星期
☒	0 : 0 ~	2 : 59	Sun Mon Tue Wed Thu Fri Sat
☒	4 : 0 ~	6 : 59	Sun Mon Tue Wed Thu Fri Sat
☒	8 : 0 ~	10 : 59	Sun Mon Tue Wed Thu Fri Sat
☒	12 : 0 ~	14 : 59	Sun Mon Tue Wed Thu Fri Sat
☒	16 : 0 ~	18 : 59	Sun Mon Tue Wed Thu Fri Sat

Code	Name/Icon	Function Description
1	Enable time period control	This option needs to be enabled (ticked) before the following two conditions will be judged and the time period control function will be activated.
2	Time period selection	There are five groups of time periods that can be selected and set, and each group of time periods can be set from start to end time and day of the week to start.

5-8-5 DO Cycle Control

Code	Name/Icon	Function Description
1	Enable cycle control	After the cycle control function is enabled and the channel is activated, the channel will turn on for the set on time and then turn off for the set off time.

5-9 Positive Pressure Ventilation(G6) Setting

Code	Name/Icon	Function Description
1	Channel	Choose the sensor that controls G6
2	Switch value	When the value is greater than the opening value, G6 will be started, but the value must be smaller than the closing value before G6 will be turned off.
3	Control settings	When the sensor triggers control, which G6 air units are controlled.
4	Connection settings	Set the connection parameters of G6, please view 5-9-1 for details .

5-9-1 Positive Pressure Ventilation(G6) Connection Settings

連線設定

1

啟用
☒

2

類型

其他

3

介面

TCP

4

名稱

綠新風1

5

ID

1

6

IP

192.168.0.121

7

Loc

000001

8

控制種類

大於全開數值後全開

取消

設定

Code	Name/Icon	Function Description
1	Open	When there is a check mark, it means it is turned on.
2	Type	Divided into 4 types: ● G6 switch control: When the value reaches the set value, G6 will turn on and off. ● G6 opening control: When the value reaches the set value, G6 will open. ● G6 BT: Use G6 BT to control G6 ● Others
3	Interface	Divided into 2 interfaces: ● RTU: Use RTU transmission ● TCP: Use TCP transmission
4	Name	You can set the name of G6 by yourself.
5	ID	The station number of G6 (ID)
6	IP	G6's own IP
7	Loc	The Loc code of G6 itself
8	Control type	Divided into 2 types of control: ● When it is greater than the fully open value, it will be fully opened: When it is greater than the set value, it will be fully open. ● Slowly open after being greater than the closing value: Slowly opening after being greater than the set value.

5-10 System Settings



Code	Name/Icon	Function Description
1	IP settings	Choose the sensor that controls G6, please view 5-10-1 for details .
2	Time adjustment	When the value is greater than the opening value, G6 will be turned on, but the value must be less than the closing value before G6 will be turned off, please view 5-10-2 for details .
3	Communication settings	Modbus RTU/TCP protocol settings,please view 5-10-3 for details .
4	Password settings	Administrator password change,please view 5-10-4 for details .
5	Basic settings	Set device name and location,please view 5-10-5 for details .
6	Display settings	LED display time setting,please view 5-10-6 for details .
7	Transfer settings	Set the upload platform method,please view 5-10-7 for details .
8	Wifi settings	Select AP mode or Client mode,please view 5-10-8 for details .

5-10-1 IP Settings



Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	IP parameters	IP/Mask/Gateway/Mac settings

5-10-2 Time Adjustment



Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	Change time	Check the update time, and the webpage will automatically capture the time. If you cancel the update time, you can change the current year/month/day hour/minute/second and day of the week.

5-10-3 Communication Settings



Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	Modbus TCP	Set modbus TCP communication port
3	Modbus RTU	Set the parameters of modbus RTU communication protocol; ID (station number) can be set from 1 to 255

5-10-4 Password Settings



Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	Password setting	Password update and setting

5-10-5 Basic Settings



Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	Buzzer is on	When checked, the buzzer starts
3	Device name	The set name and location will be displayed on the home page

5-10-6 Display Settings



Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	Sleep settings	After setting the sleep time, the LCD screen will turn off and sleep after the set time. When the sleep time is set to 0, this function will be turned off.
3	Display time	Set the time for the LCD screen to display the value of each channel

5-10-7 Transfer Settings



Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	HTTP upload	Upload the device's instant time values to the address and port at fixed intervals.
3	Central integration	The device is wired to the central integration on the address and port

5-10-8 WiFi Settings



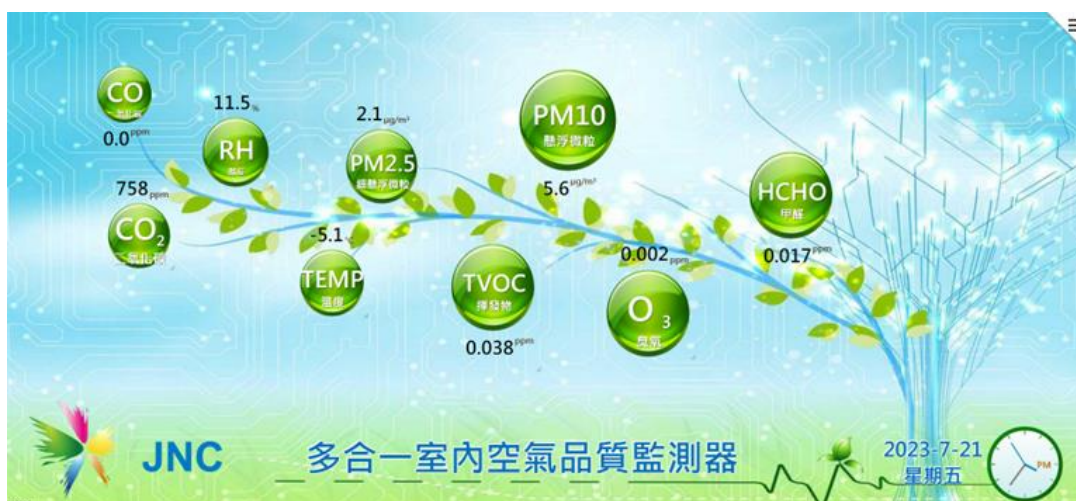
Code	Name/Icon	Function Description
1	Return to main screen	Return to the main screen of system settings
2	SSID	Connect Wifi name
3	Encryption mode/password	Currently the encryption mode only supports None/WEP64/WEP128
4	Wifi mode	AP mode or Client mode can be selected

5-11 Calibration Settings



Code	Name/Icon	Function Description
1	Zero point calibration	When you enter a value and click the zero point, addition and subtraction will be used to correct the real-time value to the entered value.
2	High point calibration	When you enter a value and click the high point, multiplication and division will be used to correct the real-time value to the entered value.
3	Calibration record	Record previously calibrated values.

5-12 Show Screen



※Open the browser and enter 192.168.0.140/show.html in the address bar to open the connection page

PART 6.USB LOG FILE DESCRIPTION

6-1 Calibration Settings



Code	Name/Icon	Function Description
1	YYYYMMDD.csv (File names are based on date)	Daily hourly log files
2	data.csv	Log files per minute
3	event.csv	Alarm event event record file

※Instructions for use :

1. When the USB storage device is not plugged in, the recording will be written to the internal memory.
2. When the internal memory is full, the oldest data will be removed and new data will be written, which means that the latest data will be retained.
3. Internal memory capacity description:
 - 3-1 There is internal buffer space for 32 data records per hour, and a maximum of 32 hours of data can be recorded.
 - 3-2 There is a buffer space for 1,000 data records per minute and can be recorded for up to 16 hours.
 - 3-3 The alarm record has internal buffer space for 100 pieces of data. The occurrence and reset of the alarm each occupy one space. That is to say, when the alarm occurs and then reset, it will occupy two data spaces.
4. After plugging in the USB storage device without plugging it in for a long time, it will take a long time to write, which may be up to 2 minutes. The measurement and recording functions will not be affected during this period.
5. Stored in USB recording space, each transaction is about 36 bytes. The hourly csv files and per-minute csv files generated every day are about 41.35KB in total. The storage space size is about 15MB based on 365 days in a year. Using USB 4G space, it can be stored for about 273 years. .

PART 7. MODBUS COMMUNICATION PROTOCOL FORMAT DESCRIPTION

7-1 INT16 Read Instant Value (Function 04)

Protocol format description								
	Equipment station number	Function	Starting address		Number of data (Word)		16 CRC Code	
Host command	Address	0x04	0x00	0x01	0x00	0x01	CRC0	CRC1
	Equipment station number	Function	Data bytes		Sensor data		16 CRC Code	
Reply from machine	Address	0x04	Number of data *2		ByteL	ByteH	CRC0	CRC1

Communication Examples:

Protocol format description								
	Equipment station number	Function	Starting address		Number of data (Word)		16 CRC Code	
Host command	0x01	0x04	0x00	0x01	0x00	0x01	0x60	0x0A
	Equipment station number	Function	Data bytes		Sensor data		16 CRC Code	
Reply from machine	0x01	0x04	0x02		0x02	0x8F	0xF8	0xD5

Convert the sensor data bit 0x028F (hexadecimal) to decimal format to be 655.

Since Value/10, the real-time value of humidity (RH) is 655/10=65.5%.

7-2 Float Read Instant Value (Function 04)

Protocol format description								
	Equipment station number	Function	Starting address		Number of data (Word)		16 CRC Code	
Host command	Address	0x04	0x00	0x02	0x00	0x02	CRC0	CRC1
	Equipment station number	Function	Data bytes		Sensor data		16 CRC Code	
Reply from machine	Address	0x04	Number of data *2		ByteL	ByteH	CRC0	CRC1

Communication Examples:

Protocol format description									
	Equipment station number	Function	Starting address		Number of data (Word)			16 CRC Code	
Host command	0x01	0x04	0x00	0x82	0x00	0x02		0xD1	0xE3
	Equipment station number	Function	Data bytes		Sensor data			16 CRC Code	
Reply from machine	0x01	0x04	0x04		0x28	0xF6	0x42	0x83	0xE6 0x7D

In the slave reply, you can see that the "sensor data" is 0x28F6 4283.

Replace the low word "42 83" to the front and the high word "28 F6" to the back, then it will be "42 83 28 F6", and then directly Convert Float to 65.58, and the instant value of humidity (RH) is 65.58%.

Please refer to the online conversion tool:

<https://gregstoll.com/~gregstoll/floattohex/>

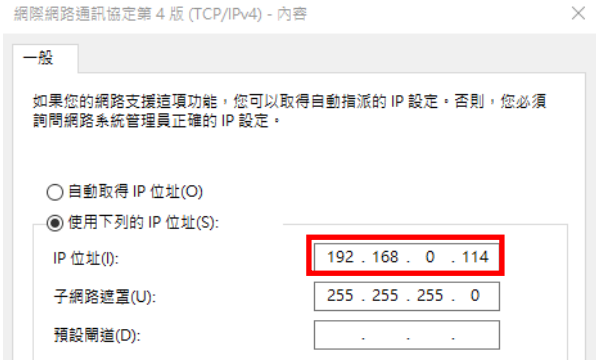
PART 8. Modbus Table

8-1 Instant Value Of Modbus Table

Function 04 to Read					
Address	Setting Value	Item	Type	R/W	Remarks
0x0000	300001	TEMP instant value(Value/10)	INT16	R	Unit : °C
0x0001	300002	RH instant value (Value/10)	INT16	R	Unit : %
0x0002	300003	CO ₂ instant value(Value/10)	INT16	R	Unit : ppm
0x0003	300004	PM2.5 instant value (Value/10)	INT16	R	Unit : µg/m ³
0x0004	300005	HCHO instant value (Value/10)	INT16	R	Unit : ppm
0x0005	300006	CO instant value (Value/10)	INT16	R	Unit : ppm
0x0006	300007	TVOC instant value (Value/10)	INT16	R	Unit : ppm
0x0007	300008	O ₃ instant value (Value/10)	INT16	R	Unit : ppm
0x0008	300009	PM10 instant value (Value/10)	INT16	R	Unit : µg/m ³
0x0080	300129	TEMP instant value(Float low byte)	FLOAT	R	Unit : °C
0x0081	300130	TEMP instant value (Float high byte)	FLOAT	R	Unit : °C
0x0082	300131	RH instant value(Float low byte)	FLOAT	R	Unit : %
0x0083	300132	RH instant value(Float high byte)	FLOAT	R	Unit : %
0x0084	300133	CO ₂ instant value(Float low byte)	FLOAT	R	Unit : ppm
0x0085	300134	CO ₂ instant value(Float high byte)	FLOAT	R	Unit : ppm
0x0086	300135	PM2.5 instant value(Float low byte)	FLOAT	R	Unit : µg/m ³
0x0087	300136	PM2.5 instant value(Float high byte)	FLOAT	R	Unit : µg/m ³
0x0088	300137	HCHO instant value(Float low byte)	FLOAT	R	Unit : ppm
0x0089	300138	HCHO instant value (Float high byte)	FLOAT	R	Unit : ppm
0x008A	300139	CO instant value (Float low byte)	FLOAT	R	Unit : ppm
0x008B	300140	CO instant value (Float high byte)	FLOAT	R	Unit : ppm
0x008C	300141	TVOC instant value(Float low byte)	FLOAT	R	Unit : ppm
0x008D	300142	TVOC instant value(Float high byte)	FLOAT	R	Unit : ppm
0x008E	300143	O ₃ instant value(Float low byte)	FLOAT	R	Unit : ppm
0x008F	300144	O ₃ instant value (Float high byte)	FLOAT	R	Unit : ppm
0x0090	300145	PM10 instant value(Float low byte)	FLOAT	R	Unit : µg/m ³
0x0091	300146	PM10 instant value(Float high byte)	FLOAT	R	Unit : µg/m ³
0x0222	300547	Heat index instant time value	INT16	R	
0x0223	300548	Thermal Hazard Risk Level	INT16	R	

PART 9.TROUBLESHOOTING

9-1 Problems And Solutions

No.	Problem	Solutions
1	Unable to connect to the network	Please check whether the RJ45 light is on and flashing, and confirm whether the network cable is functioning properly.
2	The time and date are incorrect	You can go to the Web Service interface to reset the time and date. For details, see 5-10-4. If the power is turned off for a while and then re-applied, the time and date are still wrong, which means the button battery is dead.
3	Forgot the set IP address	Press and hold the left and right buttons together to display the IP address.
4	Reading web page does not appear	Clear browser Cookie
5	The web page is garbled	Please set your web browser encoding to Unicode (UTF-8)
6	Cannot open webpage using local network	Please check whether the local area network and the IAQS IP network are in the same domain. (The default IAQS IP domain is 192.168.0.140) For example: You can change the local network setting value of the connected computer to the setting value in Figure 1. The 114 in the mantissa cannot be the same as the 140 in the default IP. 
7	Abnormal sensor value	Please refer to the environmental balance time in the table 3-2 (page 6) first. After the environmental balance time has passed, check again whether the sensor value is still abnormal. If the value is still abnormal, please contact the supplier.

PART 10.REVISION HISTORY

Version	Revision date	Revision description	Maintenance personnel
V1.05	2023/08/17	Update new format	Siao jǐng jhou
V1.06	2024/01/15	Updated cover and Modbus Table	Siao jǐng jhou

PART 11. APPENDIX

11-1 AQI Quality Index

The AQI value is calculated using CO₂ data according to the formula. The calculation formula is as follows:

$$S_i = \left(\frac{P_i - P_0}{Q_i - Q_0} \right) * (C - Q_0) + P_0$$

C: The measured concentration of the pollutant

Q₁: The concentration cut-off point greater than or equal to C, the high value of the pollutant concentration closest to C

Q₀: The concentration cut-off point greater than or equal to C, the low value of the pollutant concentration closest to C

P₁: AQI cut-off point greater than or equal to C, corresponding score of Q₁

P₀: AQI cut-off point greater than or equal to C, corresponding score of Q₀

The comfort corresponding to the calculated AQI data can be roughly divided into 6 levels, as shown in Figure 2:

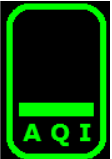
Icon						
Air Quality Index (AQI)	0~50	51~100	101~150	151~200	201~300	301~500
Health effects	Good	Average	Unhealthy for sensitive groups	Unhealthy	Very unhealthy	Dangerous
CO ₂ Concentration value	350~600	1,100	3,500	5,000	10,000	10,000 and above
PM _{2.5}	0~15	16~40	41~65	66~100	101~250	251~500
HCHO	0.00~0.01	0.011~0.02	0.0021~0.06	0.061~0.10	0.10~1.00	1.01~5.00
CO	0.00~2.0	2.1~5.5	5.6~9.3	9.4~23.1	23.2~50	51~90

Figure 2. Correspondence of AQI values

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