KH02
Display Controller

* Please read this manual carefully before using this product

USER MANUAL

www.sysinnotec.com

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PACKAGE CONTENTS

- KH02 main unit
- Adapter [1]

PRODUCT DESIGN / FEATURES

Left Side

Mini HDMI
影像輸出接口[2]

Front

iAeris

sysinno
KH02
Serial no: xxxxxxxxxxxxx0001
Input : RS-485 / WiFi
Output : Mini HDMI
Power : Micro-USB DC5V 1A
Made In Taiwan

Right Side

Micro USB Interface

Power Indicator Light

Multi-Function Button

RS485 Interface [3]

NOTES:

[1] Power cable length: 1.5m.

[2] Use Mini HDMI or Mini HDMI to HDMI adapter.

[3] RS485 wire: AWG22, max 200m.

[4] Only compatible with iAeris air quality detector.

Communication Interface:
RS485 Function
- RS-485 is directional; ensure correct A (+) and B (-) connections.
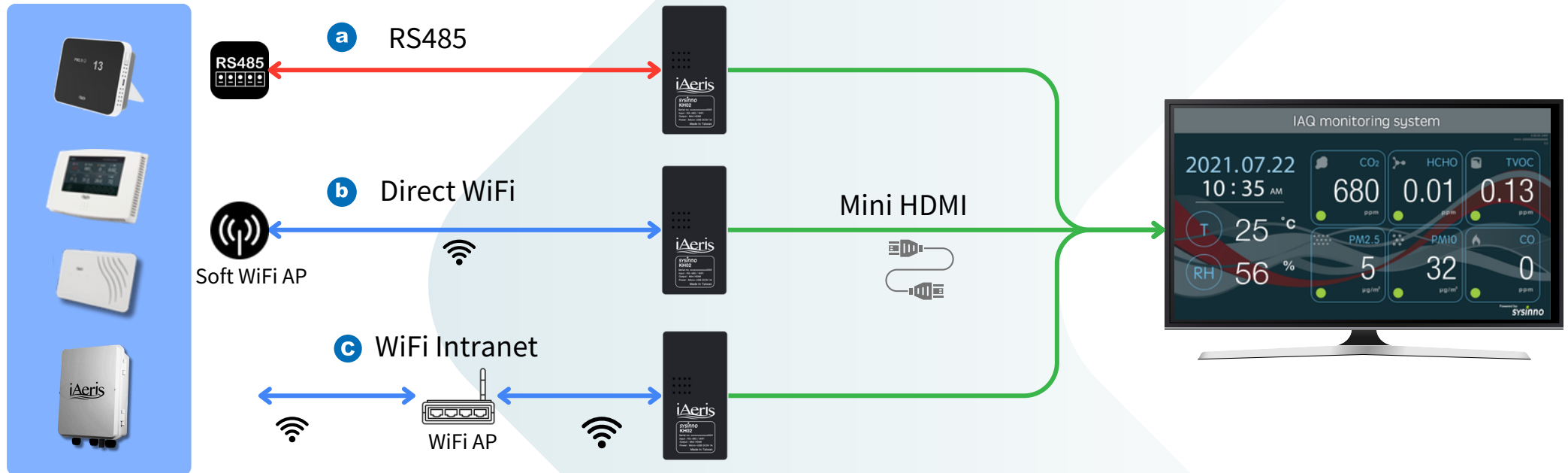
Wireless Network Function
- Refer to the WiFi setup instructions for wireless network use.

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SYSTEM ARCHITECTURE

iAeris

Target iAeris
Air Quality Detector

KH02

Screen Controller

Screen Display

RS485

a RS485

b Direct WiFi

Soft WiFi AP

Mini HDMI

c WiFi Intranet

WiFi AP

IAQ monitoring system

2021.07.22
10:35 AM

CO₂ 680 ppm
HCHO 0.01 ppm
TVOC 0.13 ppm

T 25 °C
RH 56 %

PM2.5 5 µg/m³
PM10 32 µg/m³
CO 0 ppm

NOTES:

[1] KH02 connects with iAeris air quality detectors to display data on an external screen.

[2] KH02 supports only one iAeris detector at a time.

[3] KH02 connection method with iAeris:

  a RS485: Connect via RS485 cable.

  b Direct WiFi: Enable iAeris WiFi hotspot mode and connect KH02 to it.

  c WiFi Intranet: Connect both iAeris and KH02 to the same local network via WiFi.

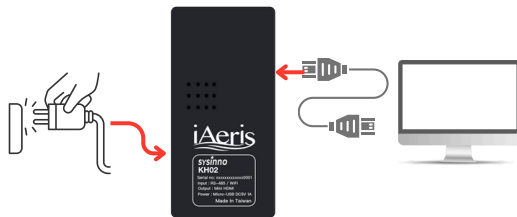[4] No external screen or WiFi AP included. Resolution: 1920x1080.

RS485 INSTALLATION GUIDE

Connect iAeris and KH02 via RS485
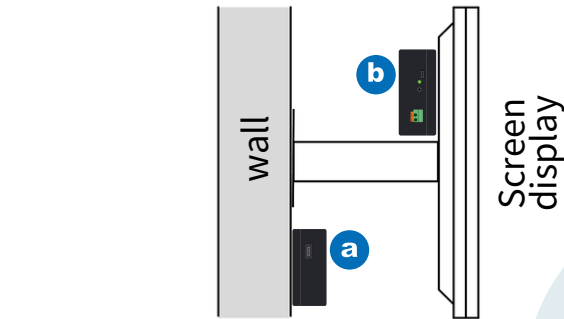
Target iAeris
Air Quality Detector

KH02

RS485

RS485

B(-) A(+)

1

Installation: KH02 can be **a** stuck on the wall
or **b** placed behind the screen.

wall
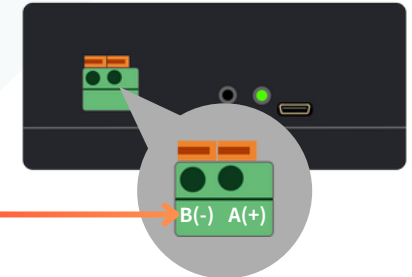
Screen
display

2

Connect to iAerisvia RS-485 transmission cable. [1]

[1]: RS-485 is directional; ensure correct A (+) and B (-)
connections.

IAQ monitoring system

2021.07.22
10 : 35 AM

CO₂ 680 ppm
HCHO 0.01 ppm
TVOC 0.13 ppm

25 ℃
PM2.5 5 μg/m³
PM10 32 μg/m³
CO 0 ppm

56 %

3

Insert HDMI into KH02 and plug in the adapter.

iAeris
sysinno
KH02

4

When the air quality screen appears, monitoring begins.

DIRECT WIFI INSTALLATION GUIDE
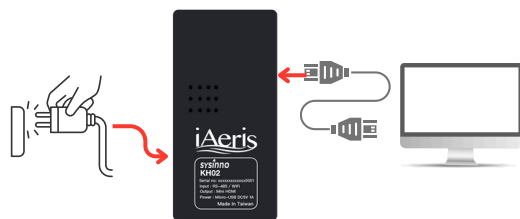
sysinno

Connect iAeris and KH02 via Direct WiFi

Target iAeris
Air Quality Detector

O N

Soft WiFi AP
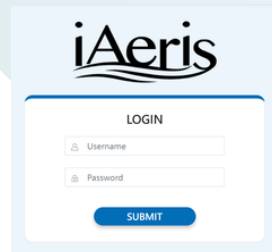
1

Installation: KH02 can be (a) stuck on the wall or (b) placed behind the screen.

2

Enable iAeris WiFi hotspot. [1]

[1]: iAeris WiFi hotspot is enabled by default. If unsure, reset network settings using the iAeris manual.

3

Insert HDMI into KH02 and plug in the adapter.

iAeris

LOGIN

Username
Password

SUBMIT

IAQ monitoring system

2021.07.22
10:35 AM

CO₂ 680 HCHO 0.01 TVOC 0.13

25 °C
56 % PM2.5 5 PM10 32 CO 0

4

Log in to KH02 to set up WiFi.[2]

[2]:Please refer to [Direct WiFi Installation Guide] Section

5

When the air quality screen appears, monitoring begins.

WIFI INTRANETINSTALLATION GUIDE

sysinno

Connect iAeris and KH02 via WiFi Intranet

wall

Screen display

b

a

Target iAeris
Air Quality Detector

PM2.5 13

WiFi AP

1

Installation: KH02 can be **a** stuck on the wall or **b** placed behind the screen.

2

Connect iAeris to the network with a fixed IP [1]

[1]: iAeris WiFi hotspot is enabled by default. If unsure, reset network settings using the iAeris manual.

iAeris
sysinno
KH02

iAeris

LOGIN

Username

Password

SUBMIT

iAeris
sysinno
KH02

WiFi AP

IAQ monitoring system

2021.07.22
10 : 35 AM

CO₂ 680   HCHO 0.01   TVOC 0.13
T 25 °C
PM2.5 5   PM10 32   CO 0
RH 56 %

sysinno

3

nsert HDMI into KH02 and plug in the adapter.

4

Log in to KH02 to set up WiFi.[2]

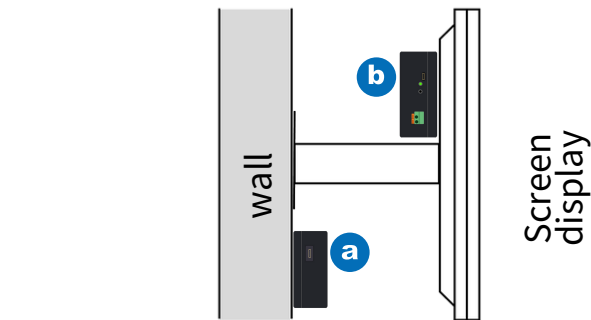[2]: Please refer to [Direct WiFi Installation Guide] Section

5

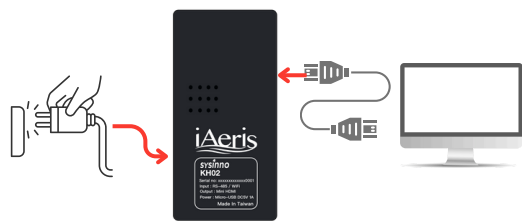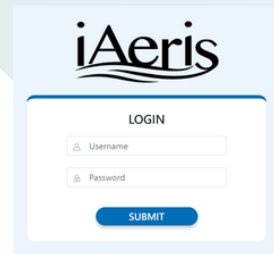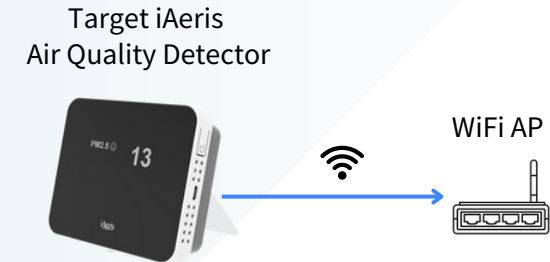When the air quality screen appears, monitoring begins.

CONNECT TO WIFI HOTSPOT

SYSINNO

KH02 hotspot is on by default; connect via phone or computer

1

Power on KH02, then press the multi-function button after boot-up.

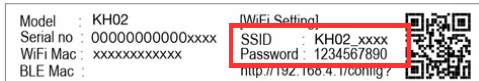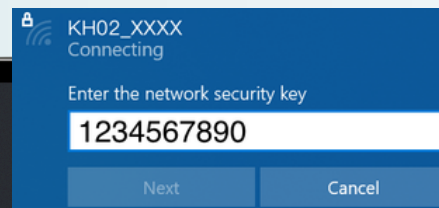The screen shows device info; ensure KH02 is in hotspot mode (AP mode)[1]

```
PID:          KH02
SNO:          0000000000000001
F/W version:  2.01.001
Memory:       0/0
WiFi Mac:     b8:27:eb:c7:a8:4c
WiFi Status:  AP Mode
SSID:         KH02_A84C
IP Address:   http://192.168.4.1
RSSI:         ---
LAN MAC:      ---
LAN IP:       ---
                              OK
```

AP Mode

Find WiFi hotspot and key on the side label.
SSID: KH02_xxxx
Password 1234567890

```
Model      : KH02          [WiFi Setting]
Serial no  : 00000000000xxxx   SSID    : KH02_xxxx
WiFi Mac   : xxxxxxxxxxxx      Password: 1234567890
BLE Mac    :                   http://192.168.4.1/config?
```

2

Connect to KH02 WiFi hotspot on your device.

KH02_XXXX
Connecting

Enter the network security key

1234567890

Next   Cancel

NOTES:
[1] Press the multi-function button for 10 seconds if KH02 WiFi hotspot is not found.

RESET
Reset WiFi setting!
Please wait device reboot!!

Restart to enter setup mode and automatically enable WiFi hotspot.
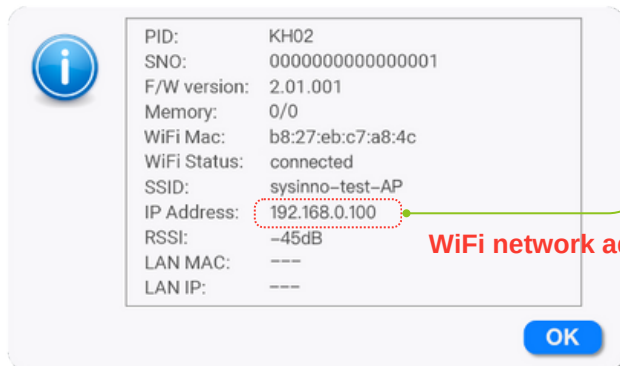
LOG IN TO THE SETUP WEBPAGE

SYSINNO

KH02 supports remote setup via computer or phone when connected to the network

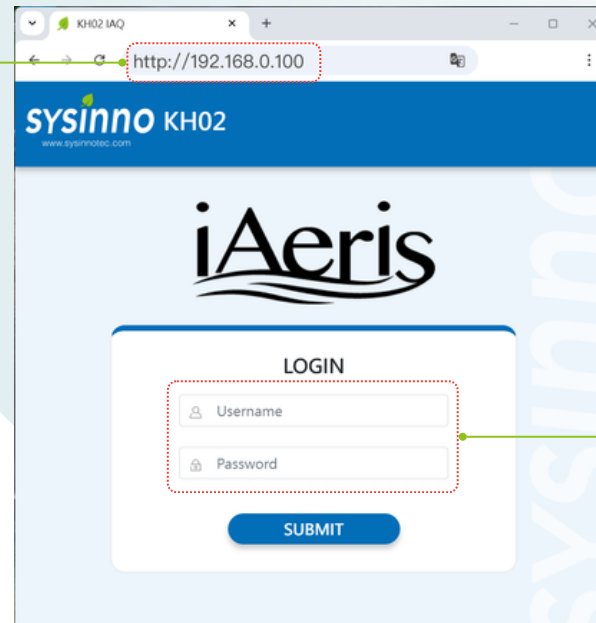**1**

Power on KH02 and press the multi-function button. [1]

The screen displays KH02 connection info and IP address. [2]

PID: KH02
SNO: 0000000000000001
F/W version: 2.01.001
Memory: 0/0
WiFi Mac: b8:27:eb:c7:a8:4c
WiFi Status: connected
SSID: sysinno-test-AP
IP Address: 192.168.0.100
RSSI: -45dB   **WiFi network address**
LAN MAC: ---
LAN IP: ---

OK

2

Use a browser on your computer or phone and enter the URL「http://xx.xx.xx.xx」[3] Access the setup page.

KH02 IAQ

http://192.168.0.100

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iAeris

LOGIN

Username

Password

SUBMIT

3

Enter the username and password to log in: Default factory settings.
username: admin
password: admin

NOTES:

[1] If it's your first time, KH02 will be in setup mode with WiFi hotspot enabled. Connect to the KH02 WiFi hotspot.
[2] The connection info shows both WiFi and Ethernet IP addresses. Choose based on your connection.
[3] 「http://xx.xx.xx.xx」is just an example. Users must enter the actual IP address.

DIRECT WIFI MODE CONNECTION SETUP

sysinno

Log in, then click "Network" > "Wireless Network" to access settings

1 Enable the "Wireless Network" feature

⚠ • Direct WiFi mode requires wireless network to be enabled.

2 Select the WiFi AP you want to connect to

⚠ • Note that the AP here refers to the iAeris WiFi hotspot, and it may vary by device.
• If KH02 cannot find the iAeris hotspot, ensure the hotspot on iAeris is enabled.

3 Enter the password

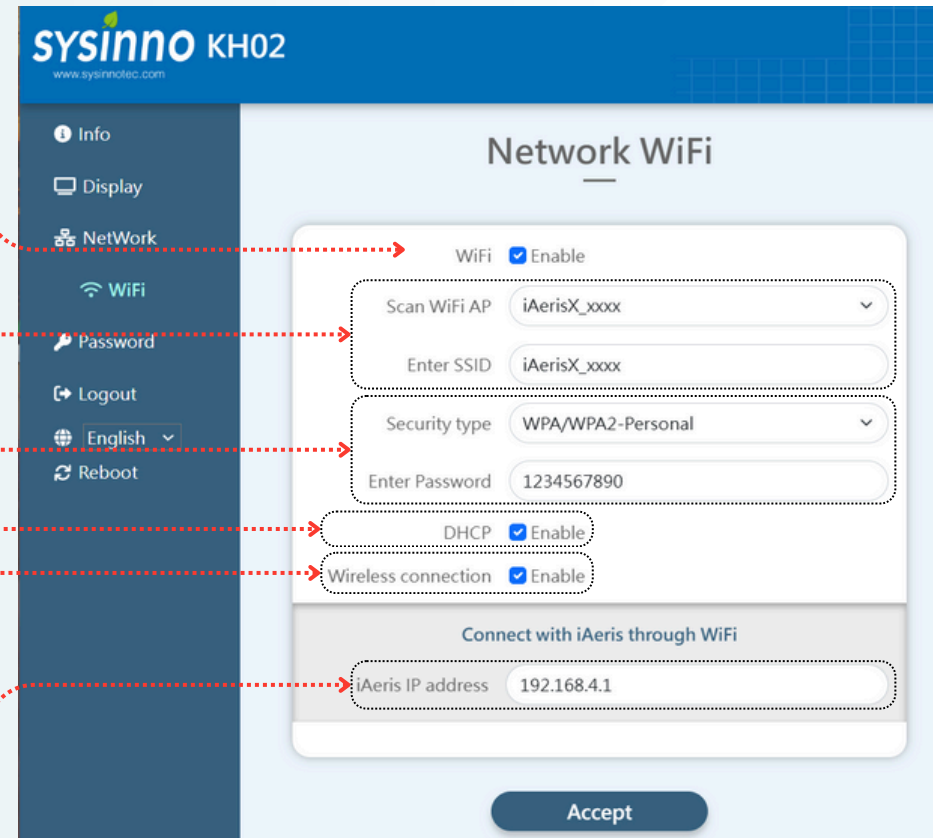⚠ • The default password for Direct WiFi mode is "1234567890".

4 Enable the [DHCP] feature

⚠ • Enable DHCP for Direct WiFi mode.

5 Enable the [WiFi Connection] feature

⚠ • Enable wireless connection for Direct WiFi mode.
• The default IP address for Direct WiFi mode is "192.168.4.1".

6 After setting, click "Agree".

---

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- ℹ Info
- 🖥 Display
- 🔗 NetWork
- 📶 WiFi
- 🔑 Password
- ➡ Logout
- 🌐 English ▾
- ⟳ Reboot

Network WiFi

WiFi ☑ Enable

Scan WiFi AP | iAerisX_xxxx ▾
Enter SSID | iAerisX_xxxx

Security type | WPA/WPA2-Personal ▾
Enter Password | 1234567890

DHCP ☑ Enable
Wireless connection ☑ Enable

Connect with iAeris through WiFi

iAeris IP address | 192.168.4.1

Accept

NOTES:

[1] For Direct WiFi mode, ensure the iAeris hotspot is enabled.
[2] If iAeris hotspot range is insufficient, use RS485 or WiFi Intranet mode.

WIFI INTRANET MODE CONNECTION SETUP

sysinno

1   Enable the "Wireless Network" feature

⚠ • Wireless network must be enabled for WiFi Intranet mode.

2   Select the WiFi AP you want to connect to

⚠ • Note: The AP is the user's WiFi, and "sysinno-test-AP" is an example. The displayed AP may vary
     • If KH02 can't find the user's WiFi AP, manually enter the network name.

3   Enter the password

⚠ • Note: The password is for the user's WiFi AP, not the KH02 hotspot password "1234567890"
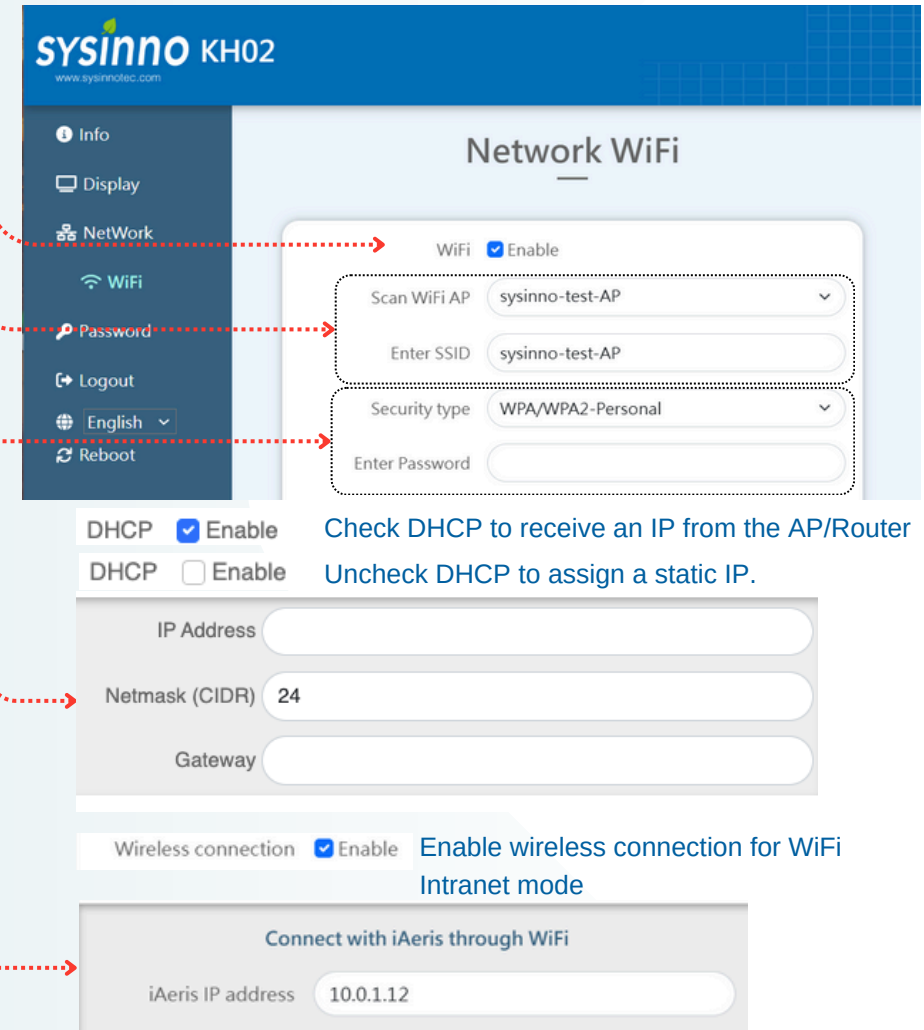
4   Check the [DHCP] option

⚠ • Please read the description on the right for the DHCP option.

5   Enable the [WiFi Connection] feature

⚠ • Enter the target iAeris air quality detector's IP address.
     • The target iAeris must have a fixed IP address to connect correctly.

6   After setting, click "Agree"

NOTES:

[1] Ensure the target iAeris has a fixed IP before using WiFi Intranet mode.

[2] For iAeris network setup, refer to the iAeris product manual.

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- Info
- Display
- NetWork
- WiFi
- Password
- Logout
- English ▾
- Reboot

Network WiFi

WiFi ☑ Enable

Scan WiFi AP   sysinno-test-AP

Enter SSID   sysinno-test-AP

Security type   WPA/WPA2-Personal

Enter Password

DHCP ☑ Enable   Check DHCP to receive an IP from the AP/Router

DHCP ☐ Enable   Uncheck DHCP to assign a static IP.

IP Address

Netmask (CIDR)   24

Gateway

Wireless connection ☑ Enable   Enable wireless connection for WiFi Intranet mode

Connect with iAeris through WiFi

iAeris IP address   10.0.1.12

9

DISPLAY TEMPLATE SETTINGS

Display Settings

1. Click "Display" in the menu to access the display settings page.
2. Select template [1], language, date format, and time format.
3. For customization, use your own images for the logo, title, and background.
4. Check the "History Curve" option to enable the display of factor history.
5. Default factors are based on iAeris. Check "Custom Factors" to modify.
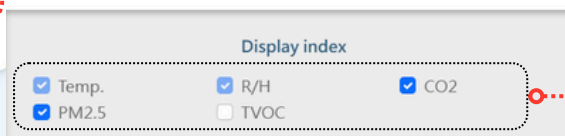6. Click "Save" to apply settings, then restart the device.

NOTES:

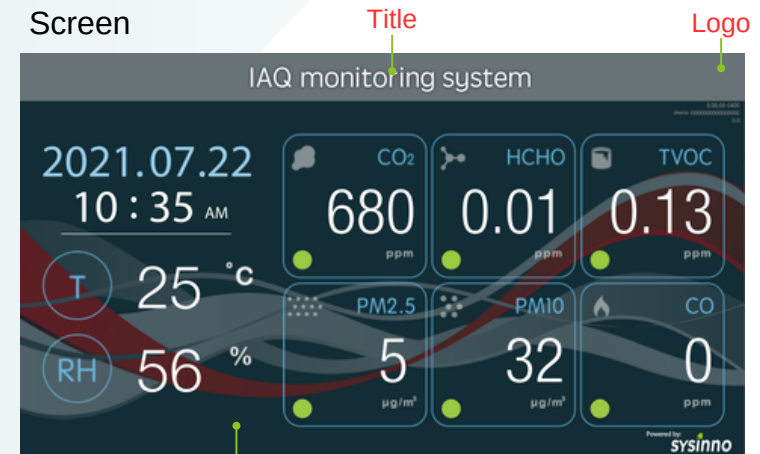[1]KH02 supports a simple template for selection

Settings Page

Screen

Title

Logo
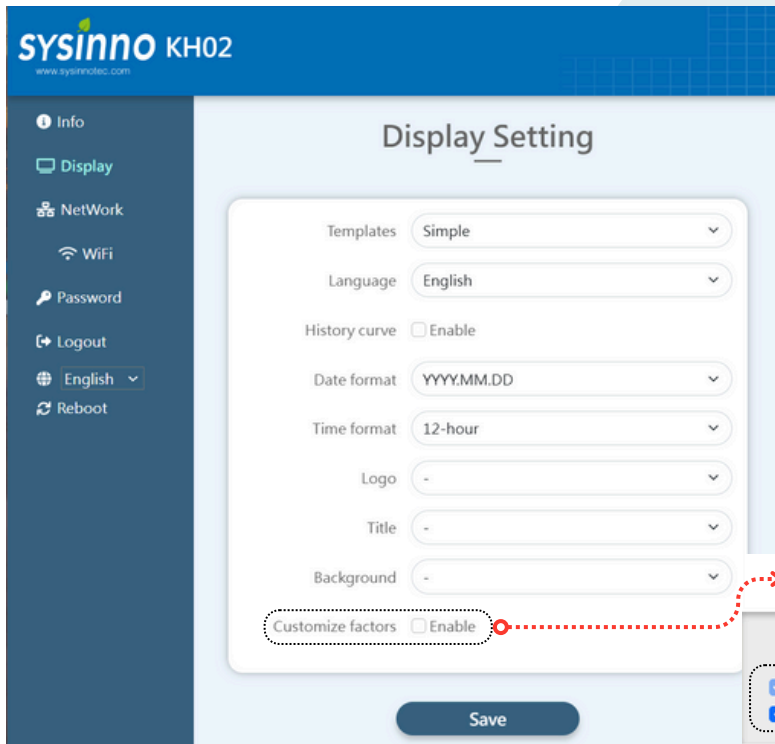
Background

Check "Custom Display Factors"

Change Display Factors
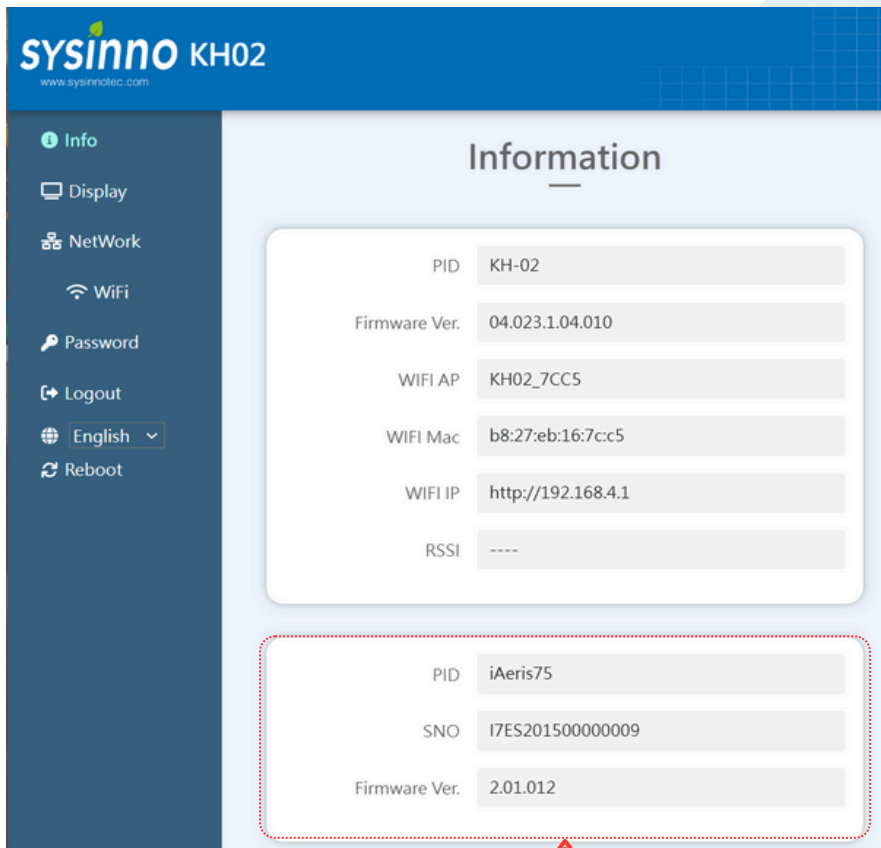
ADVANCED FEATURE SETTINGS

In addition to 'Wireless Network' and 'Display Layout' settings, this section explains many other features
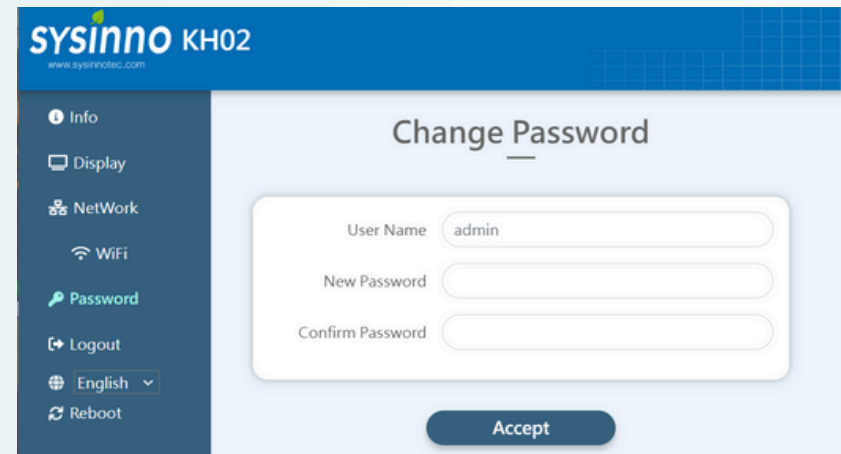
Device Information

1. Click 'Information' in the menu to enter the Device Information page.
2. The Device Information page displays KH02 details.

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www.sysinnotec.com

- ⓘ Info
- 🖵 Display
- 🔲 NetWork
- 📶 WiFi
- 🔑 Password
- ➡ Logout
- ⊕ English ∨
- ♺ Reboot

Information

PID	KH-02
Firmware Ver.	04.023.1.04.010
WIFI AP	KH02_7CC5
WIFI Mac	b8:27:eb:16:7c:c5
WIFI IP	http://192.168.4.1
RSSI	----

PID	iAeris75
SNO	I7ES201500000009
Firmware Ver.	2.01.012

Target iAeris Information

Change Account Password

1. Click 'Password' in the menu to access Account settings
2. Reset User Account[1]
3. Reset User Password [2] and confirm the new password
4. Password set, you will be logged out of the settings page

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- ⓘ Info
- 🖵 Display
- 🔲 NetWork
- 📶 WiFi
- 🔑 Password
- ➡ Logout
- ⊕ English ∨
- ♺ Reboot

Change Password

User Name	admin
New Password	
Confirm Password	

Accept

NOTES:

[1] If you forget your account password, press and hold the multifunction button for 10 seconds to switch to the default hotspot mode and reset the login account and password

[2] The password must be at least 8 characters long

11

Precautions

SYSINNO

- This product provides general indoor air quality information only and is not intended to determine individual health impacts or serve as a fire alarm.
- Keep the product away from heat sources and areas prone to water splashes or dripping.
- Do not insert external objects into the ventilation holes to prevent sensor malfunction or electric shock.
- Non-technical personnel should not attempt to disassemble, modify, or repair the product.
- Use correct connectors and cables during installation and avoid forcing connectors into ports to prevent damage not covered by warranty.

【Attention】 Power Supply Notice:
This product is powered using the included power supply or external power source.

Power Supply Specifications:
The included adapter outputs 5V through a Micro USB connector. Please do not modify or extend the power supply cable, as it may damage the device.

【Attention】
- The communication features (RS485, WiFi) of this product are specifically designed for the iAeris air quality detector. Please do not use it for other applications.
- This product uses a Mini HDMI output interface. Please use the correct cable or an adapter to convert it to an HDMI output.
- For setup and installation assistance, please contact your local distributor or sales representative for technical support.

【Use the correct connectors and ports】
- Avoid forcing connections. Check for obstructions. Ensure proper alignment.
- Damage from mishandling, like inserting wrong pins, isn't covered by warranty.

Prohibition of Hot Wiring
When changing the power source or port terminals, be sure to cut off power before wiring adjustments, and reconnect power only after completing the setup.