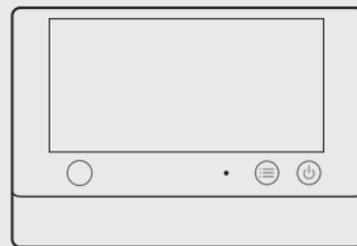


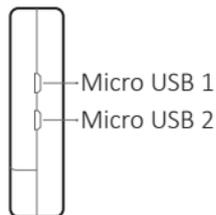
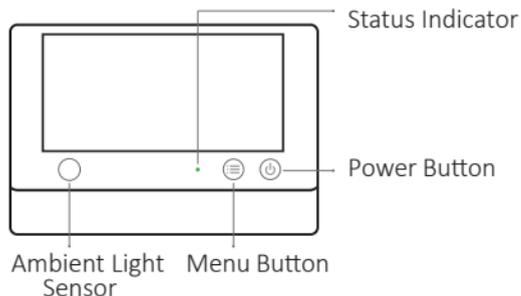
# USER GUIDE

**Wireless Smart Sensor WS1 Pro**



## INTRODUCTION

## ENGLISH



### Micro USB 1

Used for USB power supply, external DS18B20 probe (optional extra), or PC connectivity.

### Micro USB 2

Used for USB power supply, external DS18B20 probe (optional extra).  
Optional RS485\* interface, also suitable for RS485\* probes.

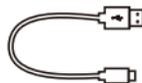
## Package List



① Device



② Stand



③ 4-wire Micro USB cable<sup>Ⓞ</sup>



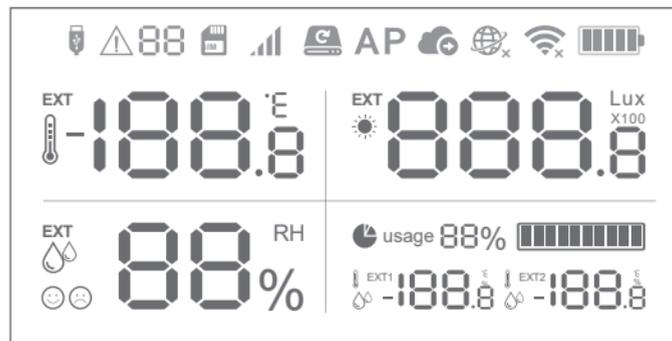
④ User Manual

\* Depending on the specific model purchased.

Ⓞ Please note, only **4-wire** cable as we provided can support data transmission. Some other cables may not work when connecting the PC Tools.

## DISPLAY OF WS1 PRO

ENGLISH



- USB Connected
- Error Code
- SIM Installed\*
- Mobile Data Strength
- Disk Formatting
- Device Setup Mode
- Sending Data
- Network Connection/  
Failure
- WiFi Connection/  
Failure
- Battery Level

⚠ When the "EXT" icon appears on the screen, it refers to the external sensor readings. This feature depends on specific version you purchased. For any questions, please contact our technical support or local distributor.

⚠ Battery level calculated based on 4 standard 1.5v AA alkaline batteries.

\* Depending on the specific model purchased.

## DISPLAY OF WS1 PRO-C

ENGLISH



[T/H] — Internal temperature and humidity  
 [E-T] — External temperature  
 [LIGHT] — Ambient light

[S-T/H] — External Soil temperature and moisture\*  
 [E-T/H] — External temperature and humidity\*  
 [WS] — Wind speed\*

- ..... USB Connected
- ..... Error Code
- ..... SIM Installed\*
- ..... Mobile Data Strength
- ..... Device Setup Mode
- ..... Sending Data
- ..... Network Connection/ Failure
- ..... WIFI Connection/ Failure
- ..... Battery Level

Battery level calculated based on 4 standard 1.5v AA alkaline batteries.

\* Depending on the specific model purchased. For any questions, please contact our technical support or local distributor.

## TECHNICAL SPECIFICATIONS

ENGLISH

-  WiFi: 2.4GHz, channels 1-13
-  Flame resistant ABS + PC
-  4 x AA batteries (not included) or Micro USB power (DC 5V/2A) <sup>①</sup>
-  143g±3g, not including batteries
-  4.96" x 0.88" x 3.38"
-  2 x Micro USB (one with optional embedded RS485 interface) \*
-  Built-in Memory: 300,000 sensing data
-  Supports Micro SIM card (15mm x 12mm x 0.8mm) \*
-  Supports up to 2 DS18B20 temperature probes (optional extra)
-  <sup>①</sup> Optimal operation and storage conditions: -20 to 60°C, 10% to 90% RH (No condensation)

<sup>①</sup> The device can preferentially use USB power if both USB and batteries are available. In this case, you can insert 4 AA batteries as a backup for the power supply in case of socket power goes off. Rechargeable batteries are also supported, but please note the device won't charge them when USB supply is plugged in.

\* Depending on the specific model purchased.

### • **Switch On**

Press and hold the power button for 3 seconds until the screen is lit up. Release the button and the device is now on.

### • **Switch Off**

Press and hold the power button for 3 seconds. The indicator will flash red once and the device is now off.

### • **Device Setup Mode**

With the device switched on, press and hold the menu button for 3 seconds. Release the button when the indicator flashes alternately red and green and the AP icon will display on the screen.

### • **Reset to Default Settings**

Switch the device off. Now press and hold the menu button and power button together for at least 8 seconds. Release the buttons when the indicator is constantly flashing red.



IMPORTANT

ALL STORED DATA WILL BE LOST IF YOU RESET YOUR DEVICE TO DEFAULT SETTINGS!

REMEMBER TO SYNCHRONISE THE SENSING DATA TO THE IoT PLATFORM OR EXPORT THE DATA TO YOUR COMPUTER BEFORE RESETTING IT.

### •Manual Data Synchronisation

With the device switched on, press the power button once to trigger a manual data sync. There is a voice guide of "data synchronizing". The voice guide will be "sync completed " while the data is being transferred. If the server cannot be contacted, the voice guide will be "sync failed".

### •Switch On/Off Voice Guide ①

Press the menu button twice in quick succession to enable or disable the voice guide. This will also refresh the last sensing data.

### •Display Backlight \*

Pressing either of the buttons will switch on the display backlight for a short time.

### •Toggle Device Screen Celsius or Fahrenheit ①

Press the power button twice to toggle between displaying Celsius or Fahrenheit. For app and web console readings, please go to account settings page to switch the temperature unit.

### •Toggle Screen Readings

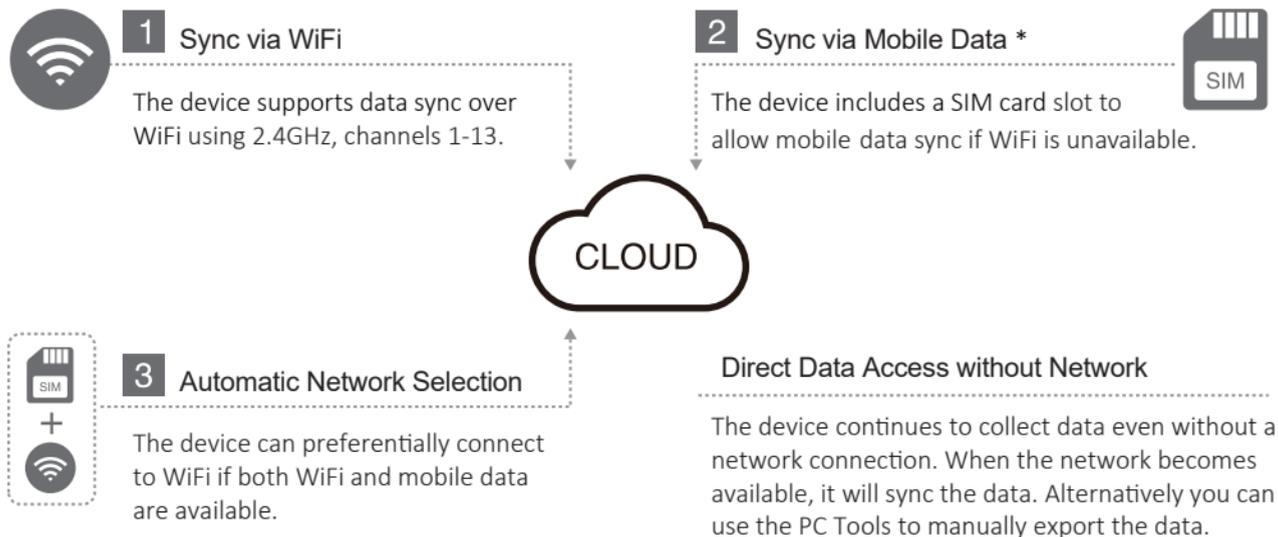
Press the menu button once to change the readings of different sensors (depending on the specific mode purchased).

① Please note, this function is disabled if an external temperature probe is connected.

\* Depending on the specific model purchased.

## DATA SYNC MODES \*

ENGLISH



\* Depending on the specific model purchased.

### Option 1: Using Mobile App

Launch the App and log in. On the home page, tap the "+" to start adding your device. Then please follow the in-app instructions to complete the setup. After setting up, you can view the sensor readings as well as configure your device via our app and web console .



We recommend you try to use the PC Tools when the App setup fails, because the failure may be due to mobile phone compatibility. The PC Tools is much easier to operate and suitable for both Macs and Windows.

### Option 2: Using PC Tools

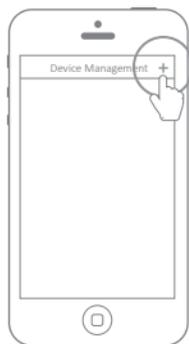
Download the tool from website.

This Tool is a desktop app for device setup. It is also helpful in checking setup failure reasons, MAC address, and offline charts. You can also use it to export offline data stored in the device internal memory.

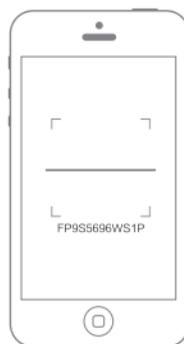
## SETUP USING THE APP FOR WiFi CONNECTION

ENGLISH

Launch the App and log in. On the home page, tap the "+" to start adding your device. Then please follow the in-app instructions to complete the setup. You can also view the demonstration video at website for step by step guidance.



Add your device



Scan the QR code

△ Via our app and web console , you are able to view the sensor readings as well as configure your device, such as create alert rules, set data sync interval, etc. You can find and watch the demonstration videos at website.

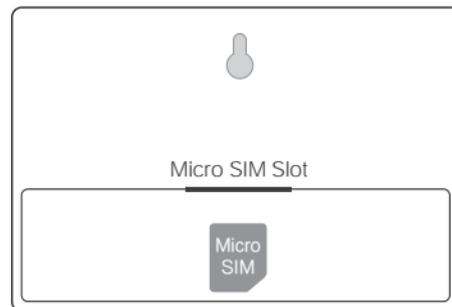
## SETUP USING THE APP FOR MOBILE NETWORK \*

ENGLISH

Before you set up the device on mobile data, please check the APN information of the SIM card used for the device.

An APN (Access Point Name) provides the details your device needs to connect to mobile data through your network operator. APN details differ by network and you will need to get these from your network operator.

With the device off, insert the SIM card as indicated in the picture. Launch the app and log in. Tap the "+" to start setting up the device. Please follow the in-app instructions to complete the setup process. Please note, the setup will fail if you don't have data allowance.

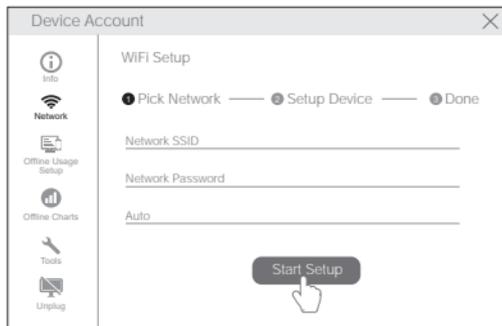


Insert a Micro SIM card into the slot

\* Depending on the specific model purchased.

### STEP1.

Launch the App and log in. With the device switched on, use the Micro USB cable provided to connect your device via USB1 to the computer. The Tools will automatically scan your device and enter device page.



### STEP2.

Click "Network" on the left menu bar. There you are able to set up the device on WiFi or mobile data.

### 1. Device setup failure when using the App (Error code 04)

There are several factors that can affect the setup. The followings are common issues:

- ① WiFi frequency: The Device can only connect to 2.4GHz networks, channels 1-13.
- ② WiFi password: Go through the device setup again and ensure that you have set the correct WiFi password for the network.
- ③ WiFi security type: The Device supports OPEN, WEP, or WPA/WPA2 types.
- ④ WiFi channel width: Make sure it is set to 20MHz or "Auto".
- ⑤ Internet connection: Make sure your device's WiFi router has a working Internet connection (for instance, try to access website using a mobile connected to the same WiFi).
- ⑥ Battery problems: WiFi uses a lot of power. Your device may be able to power on but may not have enough power for the WiFi. Try to use the USB power supply.
- ⑦ Signal strength: Check you are in range for your WiFi, or if using mobile data, make sure you have a good signal.

For direct problem diagnosis, please use the PC Tools to go through the setup process and contact us with the response error code in Tools->Get Device Last Error. This can help us to remotely diagnose. You can download the software at website.

## 2. Failure to Sync Data (Error code 02 / 07)

Please check the following:

- ① Check that the device has sufficient battery power for the WiFi to work. WiFi takes a lot of power-- the device may be on, but unable to connect to the WiFi. We recommend you use Alkaline batteries or USB power for better device's performance.
- ② If you are using mobile data, check that your SIM card is activated. If it is, check that your batteries or USB power connection are able to provide 2A current. Check if your mobile data allowance is used up.
- ③ Make sure your device's WiFi router has a working Internet connection (for instance, try to access website using a mobile connected to the same WiFi).

## 3. Can I Use the Device without a Network Connection? How do I Access the Data?

The device will continue working without a network connection and can store up to 300,000 readings in its memory. Real-time readings are displayed on screen and you can access the data in the following ways:

- ① Move the device to an area where there is a WiFi connection which the device can connect

to. Press the power button once to manually trigger data sync. After the sync completes, you can take the device back to the measurement location (Recommended).

② Use your mobile phone and enable Internet Connection Sharing. This can work well when your devices are installed in an area with limited or no WiFi coverage.

③ Use a laptop and the Micro USB cable to connect to the device manually. You can now perform a data export to your computer using the PC Tools.

④ Set it up with a mobile data card \*. Once you are in range of the network, press the power button once to sync all data to the IoT platform.

### 4. The PC Tools failed to recognise the device

① Please check if you are using the USB cable provided in the packaging. Some other USB cable is not **4-wire** which cannot offer data transmission.

② Please check if the USB cable connects to the on-board USB1 (upper port). The USB2 doesn't support PC connectivity.

③ Please remove the splitter if there is one connected.

\* Depending on the specific model purchased.

### **5. Error code 08: No SIM card Found**

Please check the SIM card is correctly inserted.

### **6. Error code 09: Mobile Data Network Failure**

Please check your SIM card is setup correctly and has been activated.

## WARRANTY INFORMATION

1. This device is warranted to be free of defects in materials and workmanship for a period of up to one year from the original purchase date. This warranty does not cover damage caused by normal wear, misuse, abuse or incorrect repair. To claim under this limited warranty and to obtain warranty service, please contact customer service or local distributor to obtain instructions on how to pack and ship the product back to us.

2. The following situations will not be covered by the warranty:

- ① Issues arising after the warranty period has ended. Natural wear and aging of materials.
- ② Malfunction or damage caused by improper handling or not operating the device according to the instructions.
- ③ Damage occurring from operating device outside the recommended temperature and humidity range, damage from contact with water, damage from applying excessive force to the device or any cables and connectors.
- ④ Failure or damage caused by unauthorized removal of the product.
- ⑤ We are only liable for faults due to manufacturing or design. We are not responsible for damage caused by Force Majeure or acts of God.

Our team is glad to hear your voice of our products and services.

For any questions or suggestions, please feel free to contact us. Our customer service representatives respond within 24 hours and often in less than an hour. You can also contact the local distributors in your country for localized service. Please go to our website to view their contacts.

## PRODUCT CARE

- Please always follow the instructions contained in this manual.
-  The device is not waterproof. Please keep away from water during operation, storage and shipping. For using outdoor or in extreme conditions, please contact us or our distributors for links of external waterproof probe.
-  Always mount the device on a stable surface.
-  Keep away from acidic, oxidising, flammable or explosive substances.
-  When handling the device, avoid using excessive force and never use sharp instruments to try and open it.