

# *Making Sense of Your World*

## Customer Service

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Manufacturer: Dalian Cloud Force Technologies CO., LTD



# USER GUIDE

WS1 Pro – the Smartest Multi-Sensor IoT Device

[www.ubibot.io](http://www.ubibot.io)

## CATALOG

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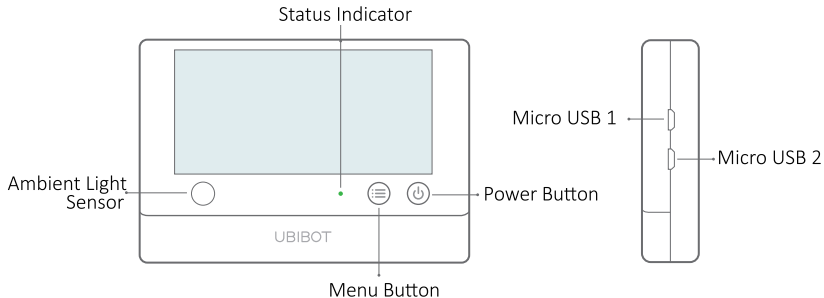
## INTRODUCTION

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The UbiBot® WS1 Pro is a smart multi-sensor device with both WiFi and mobile data\* capabilities. It makes environmental monitoring easier than ever with its accurate sensors and automatic wireless data synchronisation. The device comes with a free subscription to our advanced IoT Platform offering custom monitoring, analysis, reports and alerts. Device readings are displayed on the built-in LCD screen and are synchronised to the IoT Platform. You can access the data any time using our App or via the web. Some models come with a built-in RS485 ModBus\*.

 \* Depending on the specific model purchased.

## INTRODUCTION



### Micro USB 1

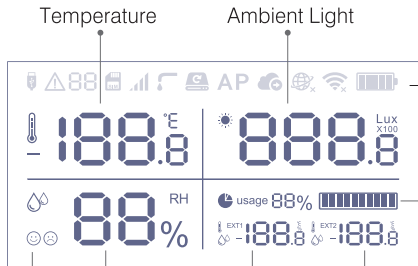
Used for USB charging or external DS18B20 temperature probe (optional extra). Also provides PC connectivity.

### Micro USB 2

Used for USB charging or external DS18B20 temperature probe (optional extra). Optional built-in RS485 ModBus

# INTRODUCTION

## Overview of LCD Display














Icon indicates optimal temperature and humidity range (20-26°C, 30-70% RH)  
See ISO7730 ASHRAE 55-1992 standard

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

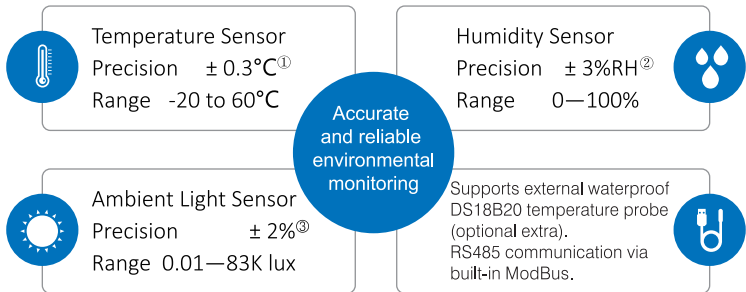
Battery level calculated based on 4 standard 1.5v AA alkaline batteries

## TECHNICAL SPECIFICATIONS

-  WiFi, 2.4GHz, channels 1-13
-  Flame resistant ABS + PC
-  4 x AA batteries (not included) OR
-  Micro USB power (DC 5V/2A)
-  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)
-  Optimal working conditions-20–60°C, 10-90% RH

## TECHNICAL HIGHLIGHTS

The UbiBot WS1 Pro uses state-of-the-art industrial-grade sensors from Sensirion and Texas Instruments. The device integrates these sensors to create an efficient and highly-accurate IoT environmental monitoring solution.



① Quoted temperature precision applies between  $0$ - $65^{\circ}\text{C}$ ; ② Quoted precision for temperature of  $25^{\circ}\text{C}$

Otherwise the precision is  $\pm 4\%$  RH. ③ Quoted precision applies when light level  $>40$  lux.

The sensor precision will suffer in extreme conditions. We recommend you only use the device under the optimal conditions listed on page 04.



## DEVICE OPERATIONS

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- **Switch On**

To switch the device on, press and hold the power button for 3 seconds until the indicator starts blinking green. Release the button and the indicator will turn off after a couple of seconds. The device is now on.

- **Switch Off**

To switch the device 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. The indicator will start flashing alternate red and green and the AP icon will display on the screen. Release the button at this point.

- **Manual Data Synchronisation**

With the device switched on, press the power button once to trigger a manual data sync. The indicator will flash green while the data is being transferred. If the server cannot be contacted, the indicator will flash red once.

## DEVICE OPERATIONS

### • Reset to Default Settings

Switch the device off. Now press and hold the menu button and power buttons 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 UBIBOT® IoT PLATFORM OR EXPORT THE DATA TO YOUR COMPUTER BEFORE RESETTING IT.

### • Switch On/Off Voice Guide\*

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 Celsius or Fahrenheit\*

Press the power button twice to toggle between displaying Celsius or Fahrenheit.

⚠️ \*Please note, this function is disabled if an external temperature probe is connected.

## DATA SYNC MODES



### 1 Sync via Mobile Data\*

The device includes a SIM card slot to allow mobile data sync if WiFi is unavailable.

### 2 Sync via WiFi

The device supports fast, secure data sync over WiFi using 2.4GHz, channels 1-13.



### 3 Automatic Network Selection

The device can preferentially connect to WiFi if both WiFi and mobile data are available. This saves you monthly data.

### Direct Data Access without Network (Beta)

The device continues to collect data even without a network connection. When the network becomes available, it will sync the data. Alternatively you can connect to your PC via USB1 to manually export the data.

\* Depending on the specific model purchased.

## App INSTALLATION

### 1 App Installation

Download the App from [www.ubibot.io/setup](http://www.ubibot.io/setup)

Or

Search for “UbiBot” on the App Store or Google Play.



### 2 PC Offline Tools Installation (Beta)

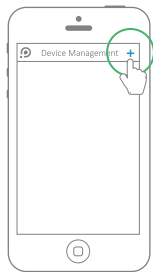
Download the tool from [www.ubibot.io/setup](http://www.ubibot.io/setup)

Please note that this tool is for professional use only to export offline data to PC.

## WiFi SETUP

### STEP 1.

Launch the App, register an account if needed and log in. On the home screen click the “+” to add your device. Scan the QR code on the back of the device, or manually enter the serial number.



Add your device



Scan the QR code

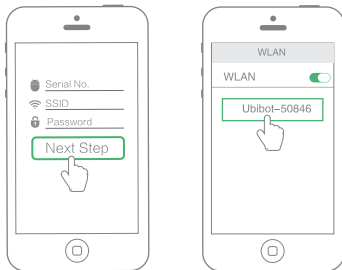
## WiFi SETUP

### STEP2.

Put your device into device setup mode (see p.06). The indicator should flash alternately red and green and the AP icon is shown on the screen.

### STEP3.

The device will ask you to enter your WiFi password. Check that the correct SSID is selected and enter the password. The App will now prompt you to go to your phone settings screen. Change to the UbiBot-xxx network and return to the App.



## WiFi SETUP

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### STEP4.

The device will now complete the setup process, register with the server and do the initial data sync. Your phone will automatically switch back to its normal WiFi network. If the connection failed, repeat the process and ensure you entered the correct WiFi details in step 3.



## MOBILE DATA\* SETUP

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### STEP1.

Launch the app, register if needed and log in. On the main screen, click the “+” to add your device. Scan the QR code on the back of the device, or manually enter the serial number.

### STEP2.

With the device off, insert your SIM card as indicated in the back of the device (notch facing lower right). The slot is spring-loaded, so it should click home. Insert batteries or USB power and turn the device on. Now press the menu button for 3 seconds to enter WiFi setup mode (indicator flashing alternate red/green and AP shows on screen).

 \*Depending on the specific model purchased.



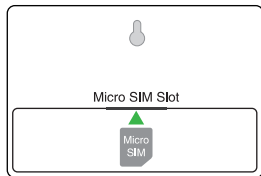
## MOBILE DATA\* SETUP

### STEP3.

Press Next on the App, select SIM setup (advance), press Next. Now select “built in” to get the correct APN details for your SIM card. The App will now prompt you to go to your phone’s settings screen. Connect to the UbiBot-xxx network and return to the App.

### STEP4.

The app will now connect to the UbiBot server to sync (if you have no data allowance this will fail). If it is successful you will see a message asking to upload an avatar or complete.

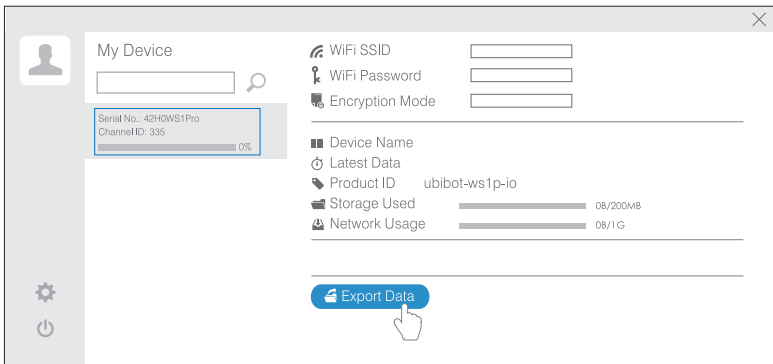


Insert a Micro SIM card into the slot

## DATA EXPORTATION VIA PC OFFLINE TOOLS (Beta)

With the device switched on, use the Micro USB cable provided to connect your device to the computer. You can now perform a data export to your computer using the PC Offline Tools.(For professional use only)

⚠ Note: only Micro USB1 supports PC connectivity.







## ERROR CODES

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- 01 System Protection  
Please follow the instructions to properly configure the device. Unconfigured devices will revert to system protection mode to save power.
- 02 WiFi Connection Failed  
Please refer to the Troubleshooting section 4 on page 21.
- 03 Failed to Connect to Server  
Please refer to the Common Questions at [www.ubibot.io/category/faqs](http://www.ubibot.io/category/faqs).
- 04 Device Activation Failed  
Please refer to the Troubleshooting section 1 on page 18.
- 05 Data Save Failure  
This can happen when there is a power disruption while saving data when the power is disrupted while data is being saved.

## ERROR CODES

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-  06 Incorrect Data Format  
This can happen when there is a power disruption while saving data.
-  07 Data Sync Failed  
Please refer to the Troubleshooting section 2 on page 19.
-  08 No SIM Card Found  
Please check the SIM card is correctly inserted.
-  09 Mobile Data Network Failure  
Please check your SIM card is set up correctly and has been activated.

## TROUBLESHOOTING

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### 1. Device setup failure when using the UbiBot App

There are several factors that can affect the setup process. 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 (p.06) 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 [www.ubibot.io](http://www.ubibot.io) 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 replacing the batteries.
- ⑦ Signal strength: Check you are in range for your WiFi, or if using mobile data, make sure you have a good signal.

## TROUBLESHOOTING

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### 2.Failure to Sync Data

Please check the following:

- ① Press the power button to manually sync data. If the indicator flashes green, then the sync is working. If it flashes red once then there is another problem. Try the next steps.
- ② 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 instead of rechargeable or Carbon Zinc batteries, for better battery quality ensures optimal device's performance.
- ③ Make sure your device's WiFi router has a working Internet connection (for instance, try to access [www.ubibot.io](http://www.ubibot.io) using a mobile connected to the same WiFi).
- ④ 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.

## TROUBLESHOOTING

### 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 over 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 button to trigger a manual data sync. The indicator should flash green for a few seconds. You can now 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 Windows 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 Offline Tools (Beta).
- ④ Set it up with a mobile data card\* (see p.14). Once you are in range of the network, press the power button once to sync all data with the IoT platform.

⚠ \* Depending on the specific model purchased.

## TROUBLESHOOTING

### 4. WiFi Connection Problems

Please refer to the list of potential issues above.

If your WiFi password has changed, or if you move the device to a new WiFi environment, you need to go through the device setup again (p.06).

### 5. Why are my device Temperature readings not accurate?

The measured temperature may be affected by several factors, thus the device may temporarily show inaccurate temperatures during and after the initial setup. Please visit [www.ubibot.io/category/faqs/](http://www.ubibot.io/category/faqs/) to view the specific causes and corresponding solutions.

### 6. Failure to Download Data Using the PC Offline Tools (Beta)

Please ensure you are using a USB data cable with 4 wires. Many cheap USB cables are only able to provide power.

For any other problems, please visit [www.ubibot.io/category/faqs/](http://www.ubibot.io/category/faqs/). Alternatively, email customer support at [support@ubibot.io](mailto:support@ubibot.io) to get assistance.



## 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. The optional DS18B20 temperature probe is water proof.
- ⊕ 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.



## WARRANTY INFORMATION

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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, email UbiBot® Customer Support at [support@ubibot.io](mailto:support@ubibot.io) 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.
- 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 Natural wear and aging of materials.
- ⑤ Failure or damage caused by unauthorized removal of the product.
- ⑥ 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.

## WARRANTY CARD

Thank you for buying the UbiBot WS1 Pro. If you have any problems and wish to claim under the limited warranty, first contact our customer service team using the email address on the back of this book. If Customer Service asks you to return your product to us, please complete the following details and include this form in the package.

| Product Details       |  |
|-----------------------|--|
| Product Name          |  |
| Product ID            |  |
| Product Serial No.    |  |
| Date of Purchase      |  |
| Online Purchase Store |  |
| Customer Details      |  |
| Name                  |  |
| Phone                 |  |
| Address               |  |
| Email                 |  |

## REPAIR HISTORY

|               |                      |                     |                    |
|---------------|----------------------|---------------------|--------------------|
| First Repair  | Problems Description | Reason for Problems | Repair Description |
|               |                      |                     |                    |
|               | Date of Repair:      |                     | Repaired by:       |
| Second Repair | Problems Description | Reason for Problems | Repair Description |
|               |                      |                     |                    |
|               | Date of Repair:      |                     | Repaired by:       |

 Only to be completed by UbiBot technicians