



WMK-K2(UWB)

Product Manual

V 1.0






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WMK-K2(UWB)

1 Year Free FeasyCloud Support



-  FSC-UP3312A/B UWB Anchor Gateway *4pcs
-  FSC-UP3312A/B Power Adaptor * 4pcs
-  FSC-UP3311UWB Tag * 2pcs
2 + AAA Battery *4pcs
Shell Opener for battery * 1pcs
-  RJ45 Cable * 1pcs
-  USB Cable * 1pcs

1. Kit Introduction

Warehouse Management Kit K2 is a set of combined products based on the UWB protocol that can quickly perform sub-meter-level precise positioning requirements assessment tests.

The IoT platform Feasycloud in the kit, supplemented by the UWB Anchor Gateway and Tags, can be combined to help realize asset positioning, asset protection, alarm management and other functions.

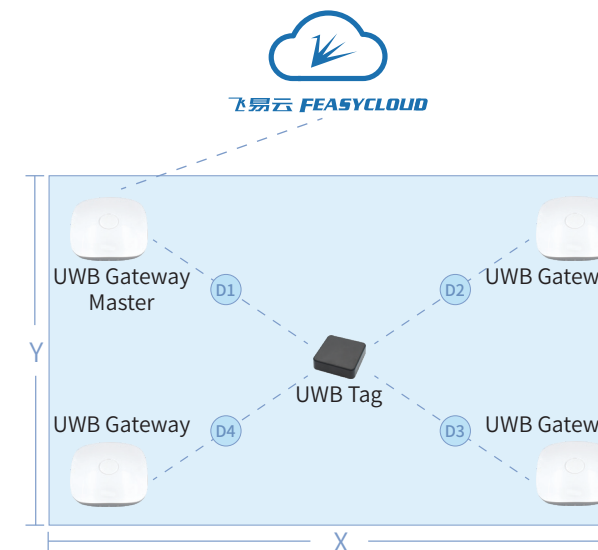
It is also possible to combine more sensor devices in the warehouse management kit K1 (based on the Bluetooth BLE protocol) to jointly provide a more complete warehouse solution.

Similarly, other asset positioning and asset protection scenarios similar to this requirement can also be used, and if you have other requirements based on this kit, such as more quantity requirements, software requirements, you can also purchase more quantity labels or a custom services.

2. Deploy Example

Deployment Suggestions:

- 2.1 At least 4 Gateway for 1 region;
- 2.2 The Anchors/Gateways are preferably on a same plane;
- 2.3 The distance between the device and the wall should be greater than 50cm;
- 2.4 D1, D2, D3, D4 should be less than the maximum meters.



- Blue: working mode
- Red: setup mode (only for gateway)
- Blue Flashing: not working well

3.Anchor Gateway Specification



FSC-UP3311

Power via 2 pcs of AAA battery

UWB Standard: IEEE 802.15.4 & 802.15.4z
Covering Radus: $\geq 40m$ Precision: $\leq 40cm$
Power: Battery, Replaceable
Options: IMU,Button,Vibration,Buzzer,NFC
Style: multiple
1-Year Free Cloud Use



FSC-UP3312A & FSC-UP3312B

Power via PoE or DC

Note: Please confirm that the router or switch supports the PoE power supply function in order to power through PoE

UWB Standard: IEEE 802.15.4 & 802.15.4z
WiFi: 2.4G
Covering Radus: $\geq 40m$ Precision: $\leq 40cm$
Power: PoE and DC
Installation: Wall mount or Ceiling mount
1-Year Free Cloud Use

4.Quick evaluation of the kit

Below we take Windows 10 and Chrome browser version 112 as examples for illustration:

4.1 Obtain Feasycloud account:

log in to the Feasycloud website with the email address you registered at the time of purchase. If yes, you will receive an activation email. Click the corresponding link to operate. If not, please consult your sales representative or send an email to sales@feasy-com.com for consultation.

4.2 Gateway configuration access:

FSC-UP3312 can access the cloud via RJ45 or WiFi AP. If it is through RJ45, it will automatically obtain the IP address through HDCP, and through WiFi AP, you need to first set the SSID information and corresponding password of WiFi AP. For details, please open the configuration page through "system settings"-->"Cloud Configuration" in the left navigation menu:

- Connect the USB of your gateway to your computer, then normal working light will be on, and the system will add a serial port device, assuming it is COM2;

- On the cloud configuration page, click "Select Serial Port", you will see COM2, select COM2 and connect;

- Enter your WiFi SSID and the password field (if you use RJ45, this item is not required);

- Click "Connect" to connect to Feasycloud.

When the configuration is successful, and the page will prompt success. If there is an exception, please troubleshoot according to the information on the page, or the log records on the right side of the page.

4.3 View the telemetry data:

the devices in the kit have been imported to the server for you by default. After completing the above network configuration and confirming that the power of your device is turned on, you can view the telemetry data of the device. (Examples are as follows)

```
anchors [{"anchor_id":"UP3312B_000000008000","distance_mm":8426,"tx_power":-67}, {"anchor_id":"UP3312B_000000008001","distance_mm":4294967295,"tx_power":4294967295}, {"anchor_id":"UP3312B_000000008002","distance_mm":10342,"tx_power":-69}, {"anchor_id":"UP3312B_000000008003","distance_mm":7283,"tx_power":-70}]
```

- In the left navigation menu, select "Device", and you will see a list of all devices in the kit;
- Click the column where "UP3311_XXX" is located

(where XXX represents the MAC address of the device), and the detailed information box of the device will appear;

- Select "Latest Telemetry Data", and you will see telemetry data similar to the following, and the data will be updated intermittently.

4.4 Interpretation of Tag's data:

The telemetry data of different devices is inconsistent. The equipment in our kit is mainly for UWB tags. UWB Tag will upload the one-dimensional distance information between it and at least three surrounding anchor points through telemetry data. An example is as follows:

- There is an "anchors" key name under the "Latest Telemetry Data" page of the device UP3311_DC0D5000F0008, and the key value is a JSON array object in the form of "[{anchor1},{anchor2},{anchor3}...]"

- The content of each anchor contains the following key and values:
"anchor_id":"UP3312_00123456 789A", //The unique identifier of the anchor equipment, generally the name of the equipment, indicating that other key values

indicate the Tag ID

"distance_mm": 444, //The unit is mm, indicating the distance between the tag equipment (UP3311_DC0D5000F0008) and the anchor equipment (UP3312_00123456789A)

We can use the "distance_mm" information of the Anchor to measure the distance and obtain the relative position. If we need to obtain the two-dimensional position information of the tag on a plane, we need the distance information of the tag from at least 3 anchors on the plane. Feasycloud provides corresponding algorithms and visual monitoring.

4.5 Visualize the position of the UWB tag:

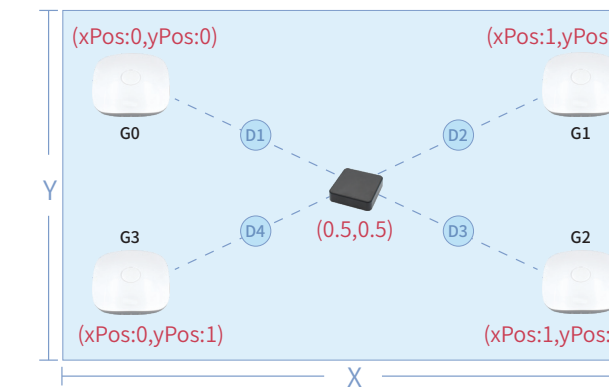
Through the Dashboard of Feasycloud, we can observe the actual position of the tag in the plane, that is, the distance between the horizontal X and the vertical Y relative to the coordinate origin, as shown in the figure below:

- Coordinate origin: the position of G0 in our upper left corner;
- Relative positions of other gateways: we need to set the positions of G1, G2, and G3 relative to the coordinate origin. That is, just set the corresponding

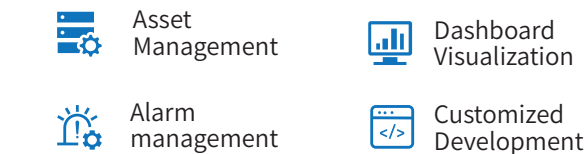
xPos and yPos in the device list in the Dashboard;

- Relative position of the tag: The relative position of the tag will be automatically calculated and displayed in the Dashboard.

Remarks: (xPos,yPos) is a relative proportional value, which is equivalent to the ratio of the length and width of the asset plane, and the absolute value ranges from 0.0 to 1.0; the length and width of the asset plane can be set freely, that is, through "Assets" in the left menu, then select the corresponding asset plane --> select "Properties" ---> select "Server Properties" ---> modify the values of "length" (corresponding to the X direction) and "width" (corresponding to the Y direction).



Our advanced operations include but are not limited to the following functions:



Note: You can explore through the demo dashboard, but please note that this demo dashboard may be modified and updated at any time.

5. How to renew the subscription

The hardware supports one year of free cloud service, and you can renew it through the following channels: For customers in mainland China, follow "Feasycom" official account, select "FeasyCloud renewal" and make the payment.

All customers can renew the service through the dedicated website: <https://feasycloud.com/subscribe.html>.

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feasycom.com

If you have any questions, please send an email to sales@feasycom.com for consultation.