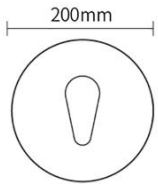UbiTrack

Indoor Anchor
UbiTrack-A1
Product manual

Product Introduction

UbiTrack-A1 provides high accuracy measurements. With its high performance MCU, it is capable of supporting large number of tags at the same time. The physical appearance of the anchor can be customized if wanted.
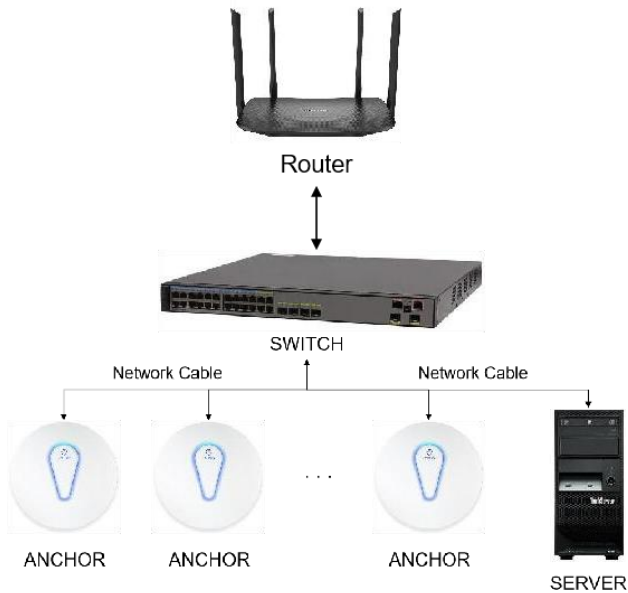
200mm

45mm

Micro USB Interface

Ethernet Interface（PoE）

DC Power Interface

Reset Button

Backplate

- Power Supply: PoE or DC12V /1A
- Network: Supports Ethernet(PoE)
- Positioning System Frequency: 3.5GHz-6.5GHz
- Operating Temperature: -20°C to 60°C
- Dimensions: 7.87"× 7.87"× 1.77" (200mmx200mmx45mm)

Installation method

The hardware network connection is shown in the diagram below. The server and the base station are connected to the switch separately, and the switch is connected to the router (with DHCP enabled) to form a network. If the switch is a regular switch, the base station needs to be powered separately after being connected to the switch via an Ethernet cable. If it is a PoE switch, a Category 5 or higher Ethernet cable can be used to directly connect the base station without the need for a separate power supply. After the base station is connected to the network switch via Ethernet cable, it will automatically connect to the platform.
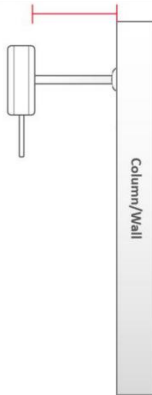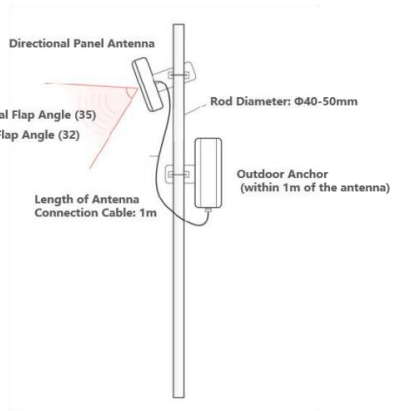
The distance between the base station antenna and the wall should be 15cm or more. This requirement is to reduce signal interference on the base station antenna. (Except for flat directional antennas).

**Outdoor anchor Installation
(Rod Omnidirectional Antenna)**

Distance between antenna and wall≥15cm

Column/Wall

**Outdoor Anchor Installation
(Directional Panel Antenna)**

Directional Panel Antenna

Rod Diameter: Φ40-50mm

Horizontal Flap Angle (35)
Vertical Flap Angle (32)

Outdoor Anchor
(within 1m of the antenna)

Length of Antenna
Connection Cable: 1m

Indoor Anchor Installation (Wall)

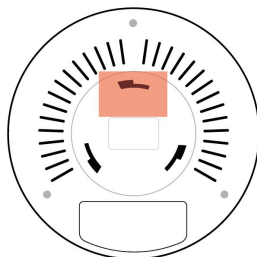Distance between antenna and wall≥15cm
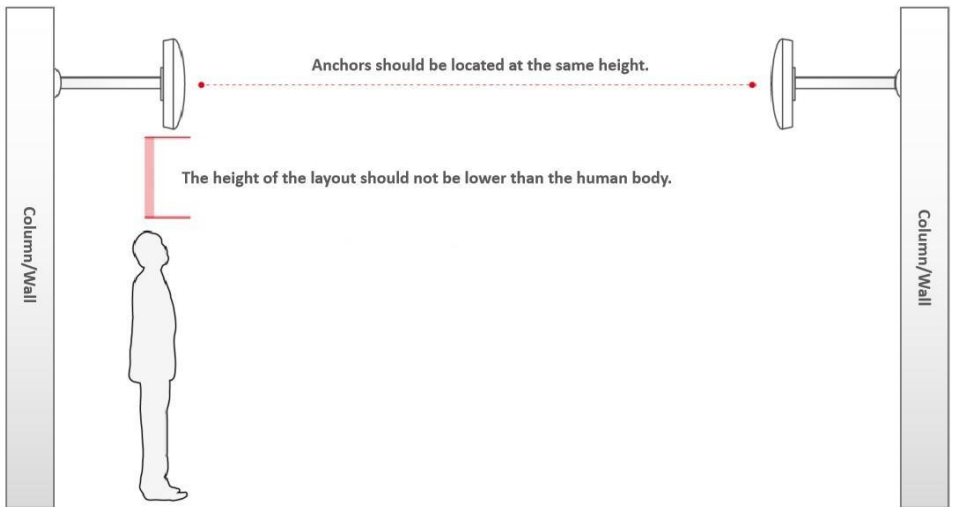
Column/Wall

Indoor Anchor Installation (Ceiling)

Distance between antenna and wall≥15cm
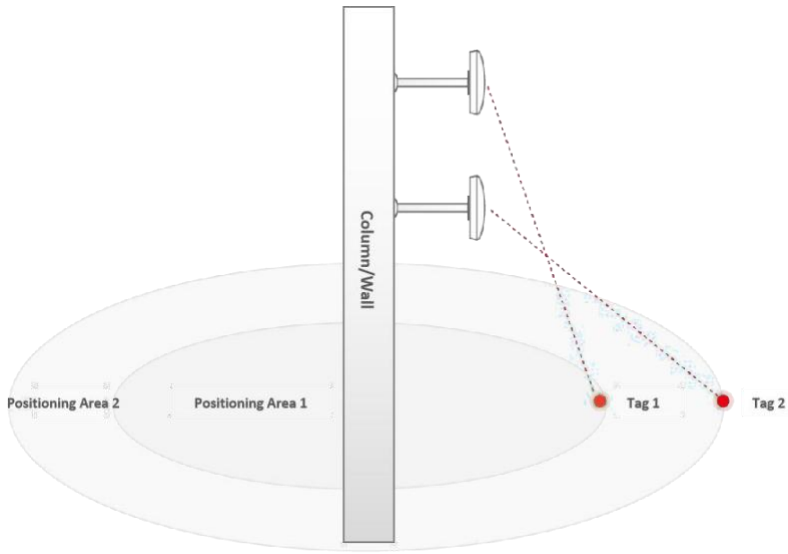
Column/Wall

Indoor base station has a built-in antenna, located at the upper center of the back, and this part should not be in direct contact with the metal bracket.
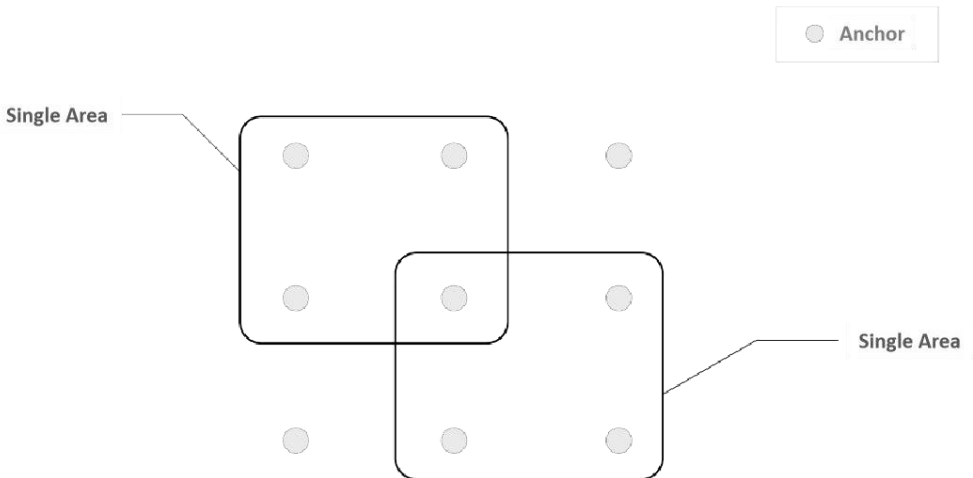
The base stations are located at the same height, which means that all base stations must be located on the same horizontal plane when positioning in one-dimensional or two-dimensional space. The height of the base station layout should not be lower than that of a person. It is recommended that the indoor base station be installed at a height of 3-10m, and the horizontal distance between base stations within 15m can meet the communication accuracy (without obstruction).

Anchors should be located at the same height.

The height of the layout should not be lower than the human body.
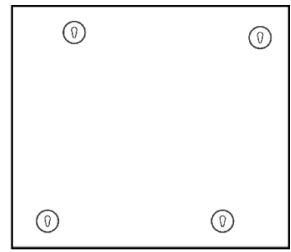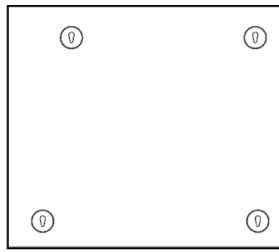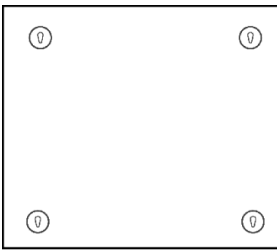
Column/Wall

Column/Wall

Raising the height of the base station deployment can reduce the obstruction between the base station and the tag, and improve the positioning accuracy. However, it should be noted that because the communication distance between the tag and the base station is relatively fixed, when the height of the base station deployment is raised, the corresponding positioning range will also decrease.

When using the TDOA algorithm for positioning, the minimum number of base stations is 4, and the base station layout is expanded based on rectangular units. When using the TWR algorithm for positioning, the base station layout position is relatively free and depends on the specific situation.
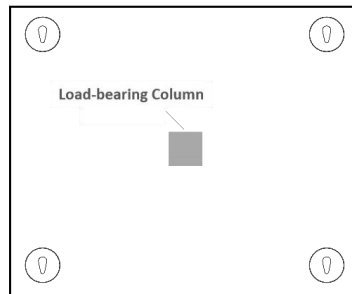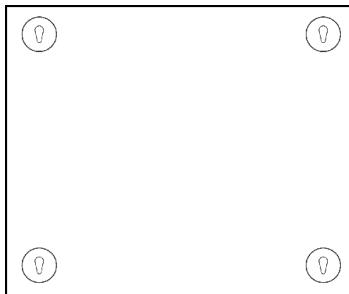
✔

Affects Positioning Accuracy

The base stations within a single area have mutual line-of-sight visibility (with no obstructions in between).

Load-bearing Column

✔

Affects Positioning Accuracy

Status indicator:
- Blue light flashing indicates the device is working properly.
- White light on constantly indicates the device is upgrading firmware.
- Alternating red and purple flashing indicates the device has not found the specified IP address or there is a network exception.
- Green light flashing indicates the device is booting up or restarting.
- Function button:
- Long press the reset button to restore the device to factory settings.

Warranty Information

The basic functions of short circuit protection and manual closing and opening are warranted for three years from the original purchase date, and other functions for one year. During the warranty period, the fault caused by the product quality problems under normal use will be given a free maintenance. The shipping cost of the repaired products shall be borne by the sender.

The following situations will not be covered by the warranty:

①Issues arising after the warranty period has ended.

②Failure or damage to the product caused by incorrect or improper operation not in accordance with the insturctions.

③Accidental or human-induced damage to the product, such as exceeding the temperature and humidity range of the device, immersion in water, dropping, abnormal external impact, deformation, cable damage, etc

④Natural wear and aging of materials

⑤Failure or damage caused by unauthorized removal of the product

⑥Failure or damage caused by force majeure

⑦Other faults or damage not caused by product design, technology, manufacturing, quality, etc

Please use and wear it in the correct way. Do not use excessive force or sharp tools to operate the equipment.
Please use the supplied data cable to charge. When not in use, please ensure that the data cable does not absorb other metals to avoid short circuit.

UbiTrack