



Installation process, connecting liwari devices

1. a. Check if the right devices are available (And the right number of devices)

- Gateway
- Switches
- Ethernet cables
- Master Base Stations
- Base Stations
- 12 V power supplies
- 12 V power cords
- Positioning tags to verify the functionality of the system

b. Necessary tools

- Installation tablet
- Portable laser measuring device
- Cable ties
- Side cutter
- Ladder / lift
- Adequate safety equipment

2. View the installation plan and compare it to the space.

- Are the planned mounting and power supply locations possible?
- A practical wiring plan will be made on site.

Connecting devices

3. Internet connection, optional

- **Option 1:** Plug the power cord into the WLAN / 4G router and plug it into an electrical outlet.
- **Option 2:** If you already have an Internet connection, use its Ethernet cable in the next step.

4. Internet connection to Gateway

- Plug the 2 A power cord into the Gateway and into an electrical outlet.
- The Ethernet cable connects to the next available port on the WLAN / 4G router, the other end to the **WAN** port on the Gateway.
- Activate the Gateway by reading the Ean code from the device with liwari tablet computer.
- Each Gateway has its own serial number, which appears on Dashboard when the code is scanned.



5. Gateway to PoE switch

- The right side of the gateway has an MBS port, connect an Ethernet cable to it, and connect it to the PoE switch.
- There are many different kinds of switches, they can have different numbers of ports. However, they operate on the same principle.
- Plug the power cord into the PoE switch and into an electrical outlet.
- The switch usually has a port on the right side to which the Ethernet cable from the GW is connected.
- Check that the switch lights up green to let you know that the connection is OK.

6. Installation of a Master Base Station

- Activate the Master Base Station by reading the QR code from the device.

7. PoE switch to the Master Base Station

- On the switch port, mark the number of the cell to which the connection cable is going to the Master Base Station, it will facilitate post-production. For example, port # 1 -> cell # 1. (Marking can be done for example with a permanent marker)
- Connect the PoE cable to the Master Base Station, check that the green light on both the Master and the switch is on and the system is working.
- You do not need to connect the power cord when the PoE cable is in use. Power flows through the PoE cable.

8. Installation of a Base Station

- Activate the base station by reading the QR code from the device.

9. Power to Base Station

- The base station is wireless and requires only a 12 V power connection.
- The power cord is installed on the Base Station, and the power supply is plugged into an electrical outlet. Check that the light flashes in the Base Station.
- If you need to bring power from a longer distance, connect the power cord to a longer extension cable. Splitter cables can be used to chain the power forward to the next Base Station. The power cables are 1 to 10 m long and can be connected with locking pieces to withstand the pull of the power cord.
- The last part of the cord is always a splitter cable that lacks a locking part to hold it to the Base Station.

4 different mechanical fasteners

- Ceiling, corner, wall and light rail bracket that can be adjusted according to the width of the object to be mounted.
- The MBS and BS must be installed so, that **the Iiwari logo is facing the floor.**



Device location measurement, MBS ja BS

- Measure the height of the device from the floor and save it to the system via the Android tablet interface.
- Measure the locations of the devices (x and y values from the origin) with a portable laser measuring device and save them to the application.
- The location of a few easily measurable devices is measured and **autocalibration** calculates the locations of the remaining devices. The locations of the measured devices are locked in the Dashboard.
- Check that within the cell, **all base stations have a line of sight to the master base station.**

Tags do not need to be activated separately.

- The tag can be attached with its own stand, it can be hung around the neck, attached with a cable tie, etc.

Test walk

Positioning functionality is tested by transporting a tag in space in a route that covers the entire space (e.g., all shelf spaces in the store, all rooms and corridors in the office) and ensuring that the location matches the route displayed in the user interface.

Follow up

- The system is monitored remotely, and care is taken to ensure that each device is operational. If necessary, replace inoperative devices.
- Iiwari's customer service will be happy to help in the event of any problems.

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