



MOKO SMART



# Product Specification

## *M1P LED Tag*

*Version 1.1*

# Revision History

| Version | Data         | Notes                                                  | Contributor(s) |
|---------|--------------|--------------------------------------------------------|----------------|
| V1.0    | Nov 14, 2024 | Initial version                                        | Carl           |
| V1.1    | Feb 5, 2025  | 1. Add the “transmission distance” in long range mode. | Daniel         |

## About document

This **product specification** was designed to help users to know the hardware overview and feature instructions of **M1P LED Tag**. Through this document, users will be initial to understand the application scenarios, hardware specifications, basic instructions as well as packaging information of product.

# Table of Contents

|                                           |           |
|-------------------------------------------|-----------|
| <b>1. Overview .....</b>                  | <b>3</b>  |
| <b>2. Product brief.....</b>              | <b>4</b>  |
| <b>3. General specifications .....</b>    | <b>5</b>  |
| 3.1 Hardware specifications .....         | 5         |
| 3.2 Lifecycle estimation .....            | 5         |
| 3.3 LED functionality.....                | 5         |
| <b>4. Basic instructions .....</b>        | <b>7</b>  |
| 4.1 How to install device?.....           | 7         |
| 4.2 How to power ON/OFF device?.....      | 7         |
| 4.3 How to restore factory settings?..... | 7         |
| 4.4 How to replace battery? .....         | 8         |
| <b>5. Ordering information .....</b>      | <b>9</b>  |
| <b>6. Package information.....</b>        | <b>10</b> |

# 1. Overview

This *Product specification* is mainly applicable for MOKO **M1P Series Products**, which contains:

- ✧ M1P – LED Tag, with **Silicon Labs BG22** series MCU, compatible with accelerometer sensor, temperature sensor, high brightness LED and buzzer.
- ✧ M1PI – Asset tag, with **INPLAY IN100** series MCU, **NOT** compatible with accelerometer sensor, temperature sensor, high brightness LED and buzzer. (**\*\*This product will be described in separate specification document\*\***)

| M1P Series Products - Overview |           |                            |                                   |
|--------------------------------|-----------|----------------------------|-----------------------------------|
| Product model                  | Use cases | Applicable series firmware | Applicable configuration APP      |
| <b>M1P</b>                     | Asset tag | BXP-S                      | BeaconX Pro >>> MK Sensor Series  |
| <b>M1PI</b>                    | Asset tag | NanoBeacon                 | BeaconX Pro >>> NanoBeacon Series |

**Table 1:** Overview of M1P Series Products

The product specifications mainly contained below parts:

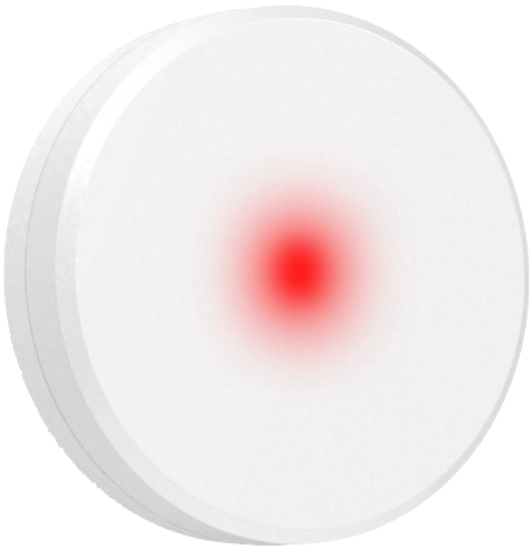
- [Product brief](#)
- [General specifications](#)
- [Basic instructions](#)
- [Ordering information](#)
- [Package information](#)

For more information about user guidance of product functions and configuration APP, please contact our sales team directly for official document.

## 2. Product brief

The **M1P LED Tag**, powered by Bluetooth Low Energy technology and coin-sized designed especially for the asset management in the warehouse.

Adopting an edge antenna design, M1P excels in long broadcast range and robust anti-interference capabilities. When connected to a smart device, users can control the LED light for quick and effortless asset location within close proximity. Furthermore, it features a built-in temperature logger, making it ideal for use in cold chain transportation or storage environments.



**Figure 1:** Appearance overview of M1P product

## 3. General specifications

### 3.1 Hardware specifications

| General specification |                                                                                 |
|-----------------------|---------------------------------------------------------------------------------|
| Main Chip             | Silicon Labs BG22 series                                                        |
| Bluetooth             | BLE 5.1                                                                         |
| Dimension             | φ30*8mm                                                                         |
| Transmission range    | 150 meters in legacy mode<br>350 meters in long range mode                      |
| Weight                | 6.2g (with battery)                                                             |
| Material              | ABS                                                                             |
| Color                 | White                                                                           |
| Installation          | 3M Sticker                                                                      |
| LED                   | Red (high brightness)                                                           |
| Sensor                | 3-axis accelerometer sensor<br>Temperature logger(optional)<br>Buzzer(optional) |
| Operating temperature | -20°C / + 60°C                                                                  |
| Storage temperature   | -20°C / + 70°C (without battery)<br>10°C / + 25°C (with battery)                |
| Storage Humidity      | 0% ~ 95% (non-condensing)                                                       |
| Antenna Type          | PCB onboard antenna                                                             |
| Power supply          | Replaceable   220mAh CR2032 battery                                             |
| Battery life          | 1.5 years (Default – 1 slot, 1000ms ADV interval, 0dBm)                         |

**Table 2:** Hardware specifications of M1P series products

### 3.2 Lifecycle estimation

Please refer to documents – “**MOKO Beacon\_Battery Lifecycle summary**” for more details on battery lifecycle.

**Remark:** M1P LED Tag can be applicable for different series firmware, please double check before battery lifecycle calculations.

### 3.3 LED functionality

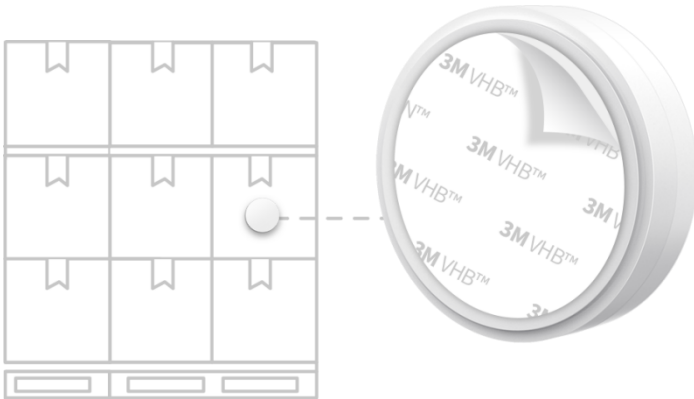
Here we have described the LED response status in some common situations.

| LED response status |           |                                                                                         |
|---------------------|-----------|-----------------------------------------------------------------------------------------|
| Scenarios           | LED color | Response                                                                                |
| Power ON            | Red       | Blinking for 3 seconds                                                                  |
| Device connect      | Red       | Blinking twice                                                                          |
| Power OFF           | Red       | Solid for 3 seconds                                                                     |
| Factory restore     | Red       | Solid for 3 seconds and then device reboot                                              |
| DFU upgrade         | Red       | Blinking during DFU upgrade, and solid for 3 seconds after finished, then device reboot |
| Low battery         | Red       | Blinking twice every 10 seconds                                                         |
| LED notification    | Red       | Blinking once --- Trigger mechanism applied                                             |

**Table 3:** LED response status in various situations

## 4. Basic instructions

### 4.1 How to install device?



**Figure 2:** How to install M1P LED Tag

### 4.2 How to power ON/OFF device?

**Power ON:** Remove the battery insulation sheet.

**Remark:** This product cannot be power off remotely by the APP as M1P do not have the external button to power on again.

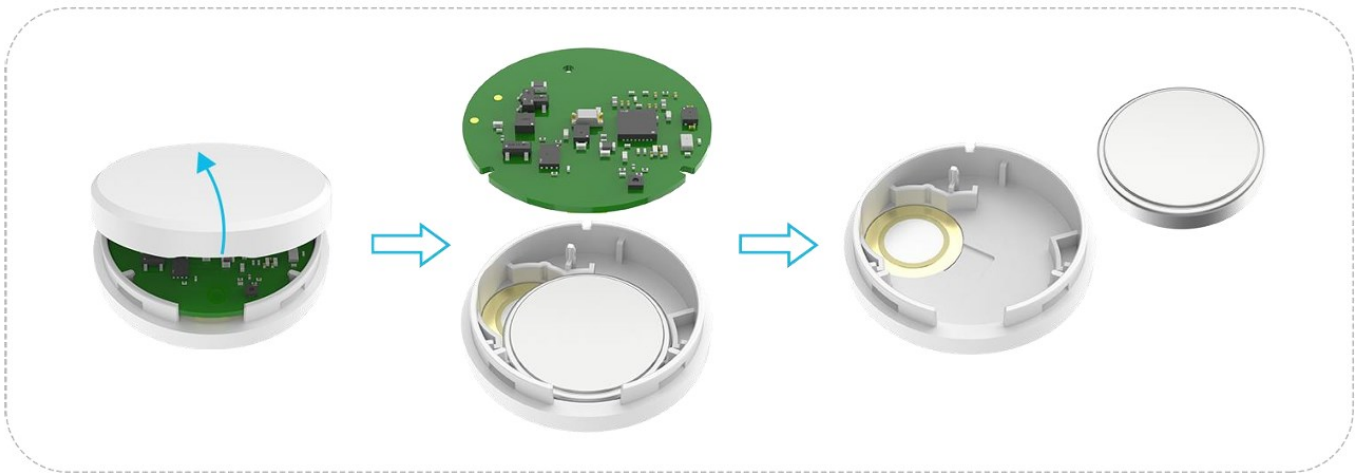
### 4.3 How to restore factory settings?

M1P doesn't have a physical button, it can be reset from the configuration APP.

- **Software reset:** Connect with device through configuration APP and then execute "Reset Beacon" operations to finish the software reset.

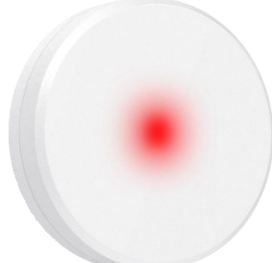
**Remark:** Software reset won't reset connection password.

## 4.4 How to replace battery?

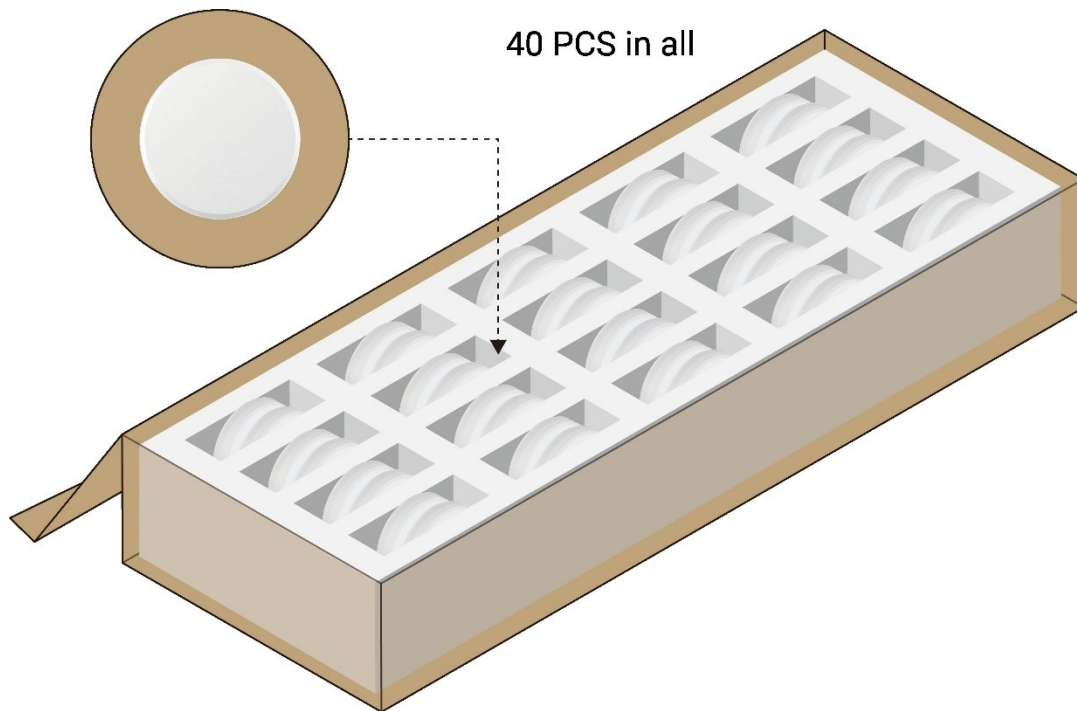


**Figure 3:** How to replace the battery of M1P LED Tag

## 5. Ordering information

| Ordering information |                           |                                                                                     |
|----------------------|---------------------------|-------------------------------------------------------------------------------------|
| Ordering model       | 3-axis accelerator sensor | Product ID                                                                          |
| M1P                  | Yes                       |  |

## 6. Package information



**Figure 4:** Packaging information of M1P LED Tag

| Package information |            |               |              |
|---------------------|------------|---------------|--------------|
| Ordering model      | Item       | Giftbox       | Carton box   |
| M1P                 | M1P Device | 40pcs/Giftbox | 10pcs/Carton |
|                     | 3M sticker | 40pcs/Giftbox | 10pcs/Carton |

**Table 4:** Package information of M1P LED Tag

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#### FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

RF warning statement:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

## Contact

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