



MOKO SMART



# Product Specification

## *L03 Anchor Pro*

*Version 1.0*

# Revision History

| Version | Data         | Notes           | Contributor(s) |
|---------|--------------|-----------------|----------------|
| V1.0    | Nov 29, 2024 | Initial version | Carl           |

# About document

This **product specification** was designed to help users to know the hardware overview and feature instructions of **L03 Series Products**. Through this document, users will be initial to understand the application scenarios, hardware specifications, basic instructions as well as packaging information of product.

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# 1. Overview

This *Product specification* is mainly applicable for MOKO **L03 Series Products**, which contains:

- ✧ L03A-Location Beacon, with Alkaline battery
- ✧ L03H-Location Beacon, with higher capacity ER14505 battery

| L03 series products - Overview |                       |        |                 |                 |                            |                              |                   |
|--------------------------------|-----------------------|--------|-----------------|-----------------|----------------------------|------------------------------|-------------------|
| Product model                  | Battery type          | Button | Magnetic switch | Use cases       | Applicable series firmware | Applicable configuration APP | Using environment |
| L03BA                          | 4xAA Alkaline 6400mAh | Yes    | No              | Location Anchor | BXP-D                      | BeaconX Pro                  | 0°C / + 40°C      |
| L03BH                          | 4xER14505 10400mAh    | Yes    | No              |                 |                            |                              | -20°C / + 60°C    |
| L03A                           | 4xAA Alkaline 6400mAh | No     | Yes             |                 |                            |                              | 0°C / + 40°C      |
| L03H                           | 4xER14505 10400mAh    | No     | Yes             |                 |                            |                              | -20°C / + 60°C    |

**Table 1:** Overview of L03 series products

L03BA and L03BH are models with physical buttons, and they differ only in the battery type. Similarly, L03A and L03H are models without physical buttons, and they differ in the battery type. The product specifications shall be similar and 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

As the first super-large battery anchor beacon, L03 has the characteristics of ultra-long battery life and ultra-long-distance coverage.



Appearance overview of L03 series products. with button(left)/without button(right)

## 3. General specifications

### 3.1 Hardware specifications

| Hardware Specifications |                       |                                                                                              |
|-------------------------|-----------------------|----------------------------------------------------------------------------------------------|
| Item                    | Specs                 | L03                                                                                          |
| Casing                  | Dimension             | 74.00mm*74.00mm *24.00mm                                                                     |
|                         | Material              | PC+ASA                                                                                       |
|                         | Waterproof            | IP67                                                                                         |
|                         | Color                 | White                                                                                        |
|                         | Installation          | 3M sticker/Bracket (screw or cable zip tie)                                                  |
| Connectivity            | Bluetooth             | BLE 5.1                                                                                      |
|                         | Long range mode*      | Yes                                                                                          |
|                         | Transmission range*   | Legacy mode - 150 meters                                                                     |
|                         |                       | Long range mode – 350 meters                                                                 |
| Hardware                | Accelerometer sensor  | Optional                                                                                     |
|                         | Temperature sensor    | Optional                                                                                     |
|                         | Buzzer                | Optional                                                                                     |
|                         | Button                | Optional                                                                                     |
|                         | Magnetic switch       | Optional<br>Model without button is equipped with magnetic switch to turn device on or off   |
|                         | LED                   | L03BA/L03BH: Annular RED indicator (RGB optional)<br>L03A/L03H: Single LED indicator         |
|                         | Capacity              | L03BA (with button) 6400mAh<br>L03BH (with button) 10400mAh<br>L03A 6400mAh<br>L03H 10400mAh |
|                         | Replaceable battery   | Yes                                                                                          |
|                         | Storage temperature   | -20°C / + 70°C (without battery)<br>10°C / + 25°C (with battery)                             |
|                         | Operating temperature | L03A/L03BA (Alkaline battery) 0°C / + 40°C<br>L03H/L03BH (ER14505 battery) -20°C / + 60°C    |
| Regulatory              | Certifications        | FCC   CE   RoHS   REACH                                                                      |

**Table 2:** Hardware specifications of L03 series products

\*Transmission range tested in the open area and no obstacles in the route.

\*Long range mode means “Coded PHY advertising mode”.

### 3.2 Lifecycle estimation

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

**Remark:** L03 series products 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.

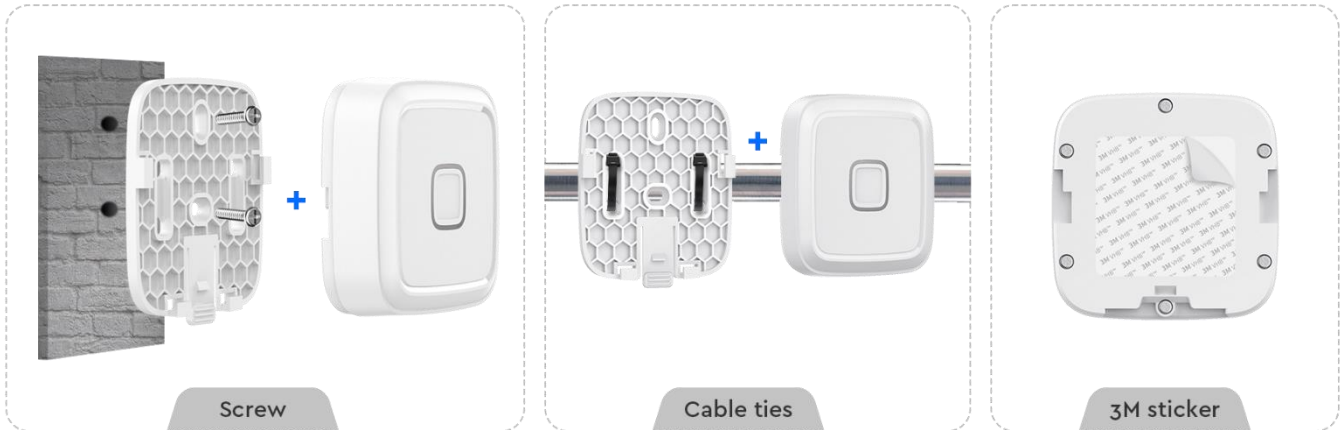
| LED response status |           |                                                                                         |
|---------------------|-----------|-----------------------------------------------------------------------------------------|
| Scenarios           | LED color | Response                                                                                |
| Power ON            | Red       | Blinking for 3 seconds                                                                  |
| Device connect      | Red       | Blinking 400ms (100ms on – 100ms off)                                                   |
| 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 400ms 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

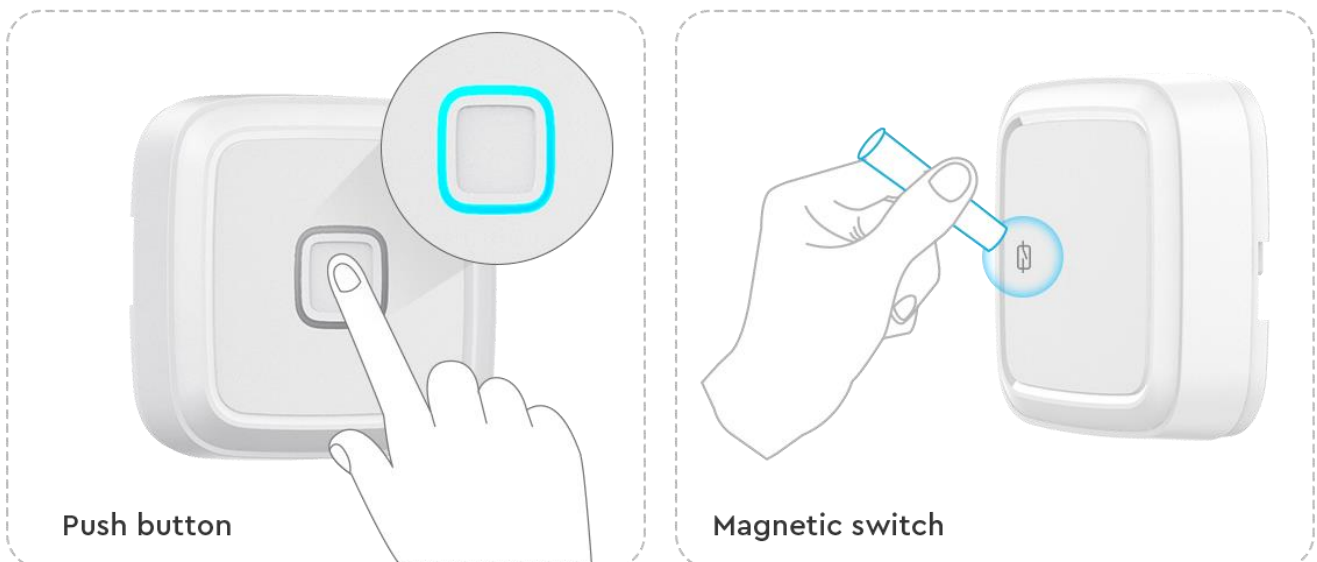
#### Multiple adaptive installation



**Figure 1:** How to install L03 series products

### 4.2 How to power ON/OFF device

#### Boot method



**Power ON:** Long press button (or take the magnet to approach to the magnetic switch positions if hardware contains the magnetic switch), hold on for 3 seconds and then Red LED will **keep blinking** for 3 seconds to indicate device power on status.

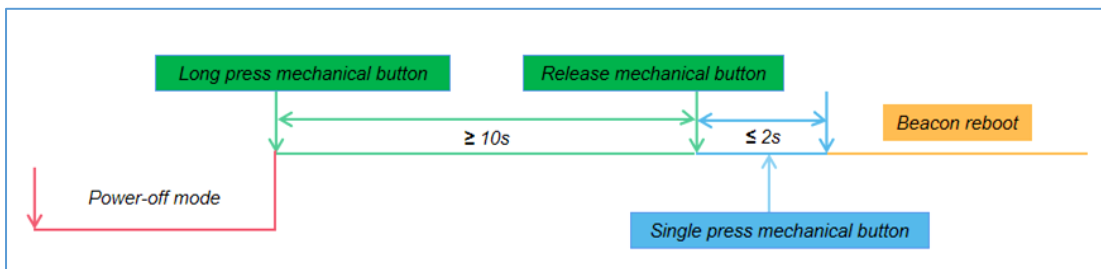
**Power OFF:** Long press button (or take the magnet to approach to the magnetic switch positions if hardware contains the magnetic switch), hold on for 3 seconds and then Red LED will **keep solid** for 3 seconds to indicate device power off status.

*\*Can be set to non-key shutdown mode, only shutdown via APP*

## 4.3 How to restore factory settings

There have two ways to restore factory settings.

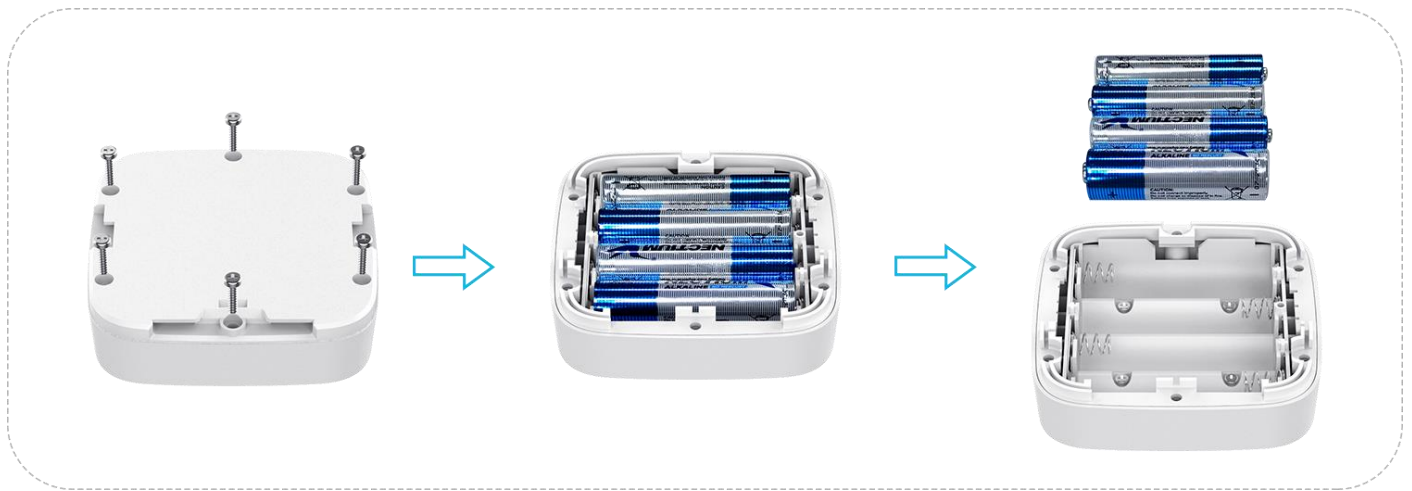
- **Software reset:** Connect with device through configuration APP and then execute “Reset Beacon” operations to finish the software reset.
- **Hardware reset:**
- **Step 1:** Keep the device power OFF.
- **Step 2:** Long press button (or take the magnet to approach to the magnetic switch positions) , hold for more than 10 seconds, during that device will power on and LED start flashing for 3 seconds.
- **Step 3:** After Long press button (or take the magnet to approach to the magnetic switch positions) for more than 10 seconds, release button (or take away the magnet) and then single press button (or approach to magnetic switch) again within 2 seconds, then device will proceed on factory reset, along with the LED solid for 3 seconds.
- **Step 4:** Device will reboot and LED start flashing for 3 seconds to indicate the factory reset success.



**Figure 2:** How to reset L03 Series Products

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

## 4.4 How to replace battery

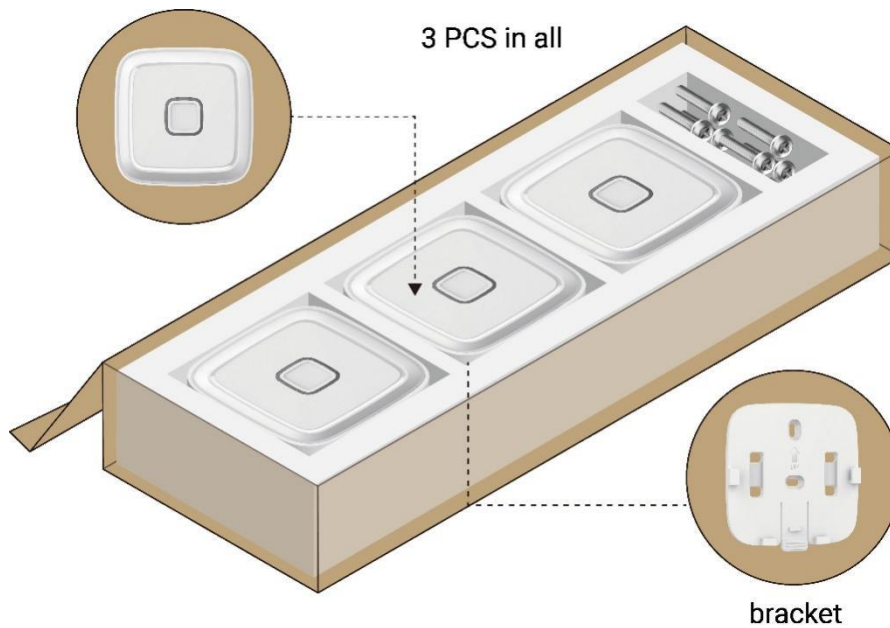


**Figure 3:** How to replace the battery of L03 series products

## 5. Ordering information

| Ordering information |                             |                                                                                 |        |                                                                                       |
|----------------------|-----------------------------|---------------------------------------------------------------------------------|--------|---------------------------------------------------------------------------------------|
| Ordering model       | Battery                     | Sensor                                                                          | Button | Product ID                                                                            |
| L03BA-T(SL)AN        | Alkaline battery<br>6400mAh | 3-axis accelerometer-NO<br><br>temperature logger-NO                            | YES    |    |
| L03BH-T(SL)AN        | ER14505 battery<br>10400mAh | 3-axis accelerometer-NO<br><br>temperature logger-NO                            | YES    |   |
| L03A-T(SL)AN-HA      | Alkaline battery<br>6400mAh | magnetic switch-YES<br><br>3-axis accelerometer-NO<br><br>temperature logger-NO | NO     |  |
| L03H-T(SL)AN-HA      | ER14505 battery<br>10400mAh | magnetic switch-YES<br><br>3-axis accelerometer-NO<br><br>temperature logger-NO | NO     |  |

## 6. Package information



**Figure 4:** Packaging information of L03 series

| Package information |                                    |               |              |
|---------------------|------------------------------------|---------------|--------------|
| Ordering model      | Item                               | Giftbox       | Carton box   |
| L03 series          | L03BA/L03BH/L03A/L03H Device       | 3pcs/Giftbox  | 10pcs/Carton |
|                     | 3M sticker                         | 3pcs/Giftbox  | 10pcs/Carton |
|                     | Bracket                            | 3pcs/Giftbox  | 10pcs/Carton |
|                     | Screw & Rubber plug (package unit) | 18pcs/Giftbox | 10pcs/Carton |

**Table 4:** Package information of L03 series products

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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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