



# Wireless Ring Scanner **PM5** User Manual

# Instruction

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PM5 is a wireless Bluetooth scanner that brings the full scanning capability on your finger. With two types of trigger accessories, single trigger and sled, you can use PM5 optimizing on your working routine. PM5 can be used with host device, and can also be used as a standalone scanner with batch mode.

This manual provides information about basic features and using the PM5. Please read this manual carefully before using your handy Bluetooth scanner and peripherals to ensure safe and proper use.

## Related Document

See the following related documents from [Point Mobile Knowledge Base](#).

- RingControl User Guide – Describes how to use RingControl application
- RingControl Lite User Guide – Describes how to use RingControl Lite application
- RingControl Configuration Tool Guide – Describes how to use Ring Scanner Configuration PC Tool for making a configuration json file for Ring Scanner.

## PM5 SKUs

The contents of this manual can cover the following SKUs.

| Part Number  | Scanner | Trigger Accessory | Battery                   |
|--------------|---------|-------------------|---------------------------|
| PM500B6212N0 | N6703SR | Single Trigger    | Standard battery capacity |
| PM500B6222N0 |         |                   | Extended battery capacity |
| PM500B6312N0 |         | Sled              | Standard battery capacity |
| PM500B6322N0 |         |                   | Extended battery capacity |
| PM500B9322N0 | N6703HD | Sled              | Extended battery capacity |
| PM500B9222N0 |         | Single Trigger    | Extended battery capacity |

# Instruction

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## Revision History

| Revision | Date        | Description   |
|----------|-------------|---|
| v01      | 09 Feb 2021 | Initial release   |
| v02      | 26 Apr 2021 | Revised the sled contents and functions related a button<br>Updated status indication of updating Firmware  |
| v03      | 07 May 2021 | Updated System settings, Notification settings, Symbologies settings<br>as of firmware version 92.05<br>Updated configuration auto update scenario  |
| v04      | 15 Jul 2021 | Updated Battery safety information chapter  |
| v05      | 06 Aug 2021 | Updated the description and added diagram for activity modes section  |
| v06      | 27 Aug 2021 | Updated System settings (Lock special barcode), reconnection feature,<br>and added Bluetooth settings   |
| v07      | 19 Oct 2021 | Added description for connecting with Windows PC on HID mode.<br>Updated Bluetooth Class special barcode  |
| v08      | 17 Feb 2022 | Applied changed app name (RingControl) and strings<br>(Applied changes of 92.06)<br>Updated configuration default of system and symbology settings<br>Updated status indication, condition for update, etc.<br>Added descriptions of Windows 10 PC connection (SPP, HID mode) |
| v09      | 06 Apr 2022 | Changed the term 'special barcode' to 'parameter barcode'<br>Updated the parameter barcodes in Appendix   |
| v10      | 25 Nov 2022 | Removed the unsupported feature (vibration) description   |
| v11      | 27 Mar 2023 | Updated Related Documents links<br>Updated Battery Safety Information chapter   |
| v11.1    | 20 Mar 2024 | Changed manual cover (Updated company address)  |
| v12.0    | 24 Sep 2024 | Updated PM5 images with new battery locker<br>Updated the description of battery replacement  |
| v13.0    | 25 Apr 2025 | Updated SKU list<br>Updated the default value of HID Inter Char Delay setting (20ms > 3ms;<br>the change of 92.10 version)  |

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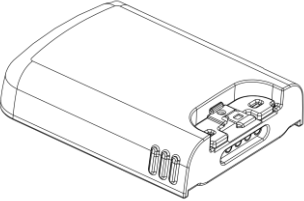
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# Getting Started

## Product Standard Accessories

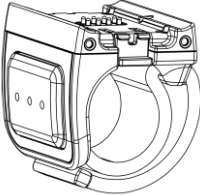
The following item is in the product box regardless of the SKU.

| Accessory   | Name         |
|---|--------------|
|  | Battery pack |

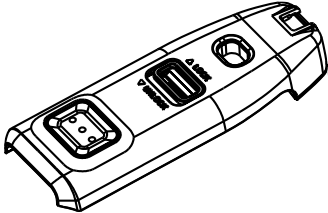
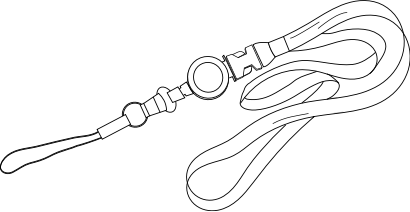
## Optional Accessories (By SKU)

Depending on the SKU, one of the following is included in the product box.

### Single Trigger SKU (SKU1, SKU2)

| Accessory   | Name           |
|---|----------------|
|  | Single Trigger |

### Sled SKU (SKU3, SKU4)

| Accessory   | Name         |
|---|--------------|
|  | Sled         |
|  | Sled Lanyard |

# Getting Started

## Ring Scanner Parts

Figure 1 PM5 front view

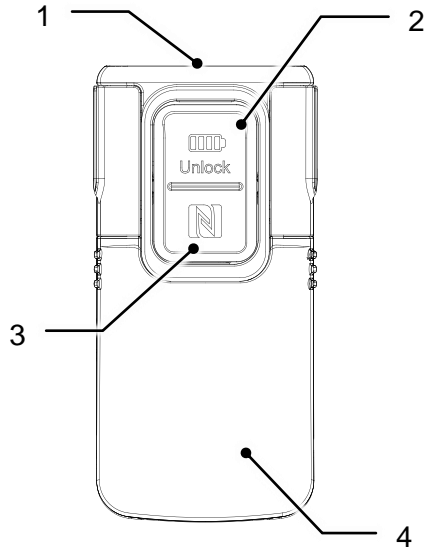
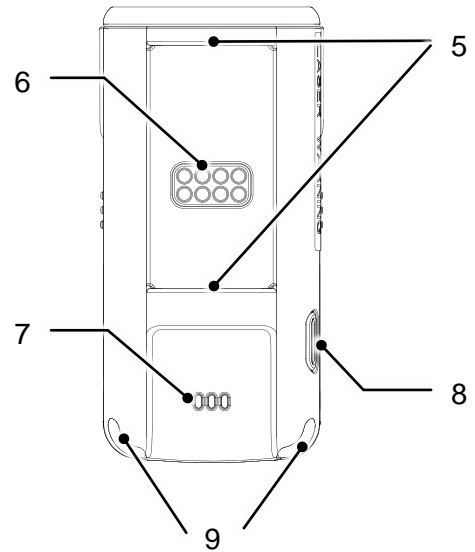


Figure 2 PM5 back view



| No | Name                           | Description   |
|----|--------------------------------|---|
| 1  | Scanner                        | Scan a barcode  |
| 2  | Battery release button         | Press to release the battery from PM5   |
| 3  | NFC tagging area               | Put close to NFC antenna for Tap-to-Pair  |
| 4  | Battery                        | Provide power   |
| 5  | Trigger or Sled assembly latch | Assemble the trigger or sled  |
| 6  | Trigger or Sled connector pin  | Communicate with trigger or sled for triggering scan action and charging device |
| 7  | Speaker                        | Emit the beep sound   |
| 8  | Reset button                   | Press to reboot or reset PM5  |
| 9  | LED Indicators                 | Indicates the status of PM5 with beep sound                                     |

# Getting Started

## Trigger Accessory Parts

### Single trigger parts

If you purchased the PM5 single trigger SKU (SKU1, SKU2), a single trigger is included in the package box.

PM5 can be worn on the index finger like a ring by assembling the single trigger. And by USB connector on the trigger, you can charge PM5.

Figure 3 Trigger side view

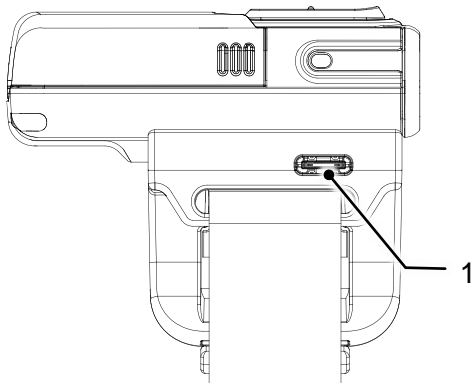
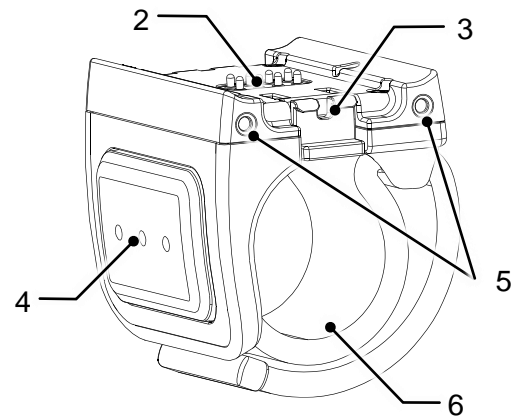


Figure 4 Trigger front + side view



| No | Name                      | Description  |
|----|---------------------------|--|
| 1  | USB type C Connector      | Charge PM5 through USB type C cable  |
| 2  | PM5 connector pin         | Connect PM5 with single trigger  |
| 3  | Trigger locker            | Latch the single trigger<br>/ Press to release the single trigger from PM5 |
| 4  | Trigger scan button       | Scan a barcode or power on PM5   |
| 5  | Cradle charging connector | Connector for 4SC cradle charging  |
| 6  | Finger strap              | Tighten strap to fit your finger   |



# Getting Started

## Sled parts

Sled can charge PM5 and lets the PM5 communicate with a host PC, using USB connector. Also, you can wear the PM5 like a necklace by mounting the enclosed lanyard in the Sled SKU package box.

Figure 5 Sled front view

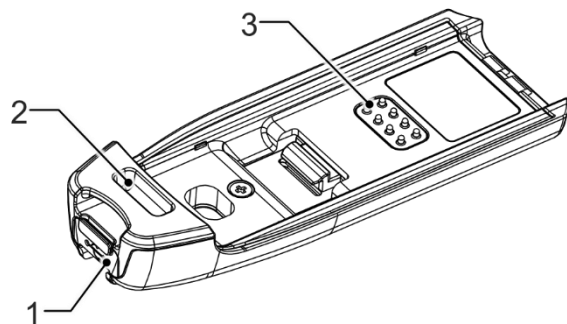
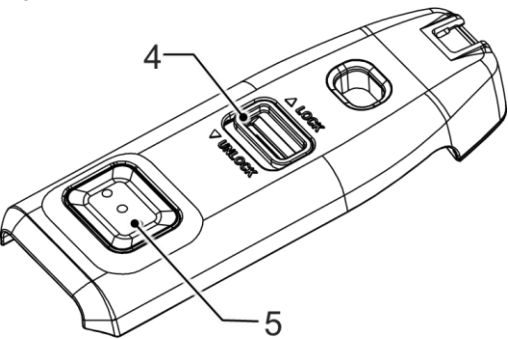


Figure 6 Sled back view



| No | Name                 | Description   |
|----|----------------------|---|
| 1  | USB type C Connector | Charge PM5<br>or let PM5 communicate with PC through USB Type C cable |
| 2  | Lanyard hole         | Mount lanyard   |
| 3  | PM5 connector pin    | Connect PM5 with sled   |
| 4  | Sled locker          | Latch the sled<br>/ Press to release the sled from PM5                |
| 5  | Sled scan button     | Scan a barcode or power on PM5  |

# Getting Started

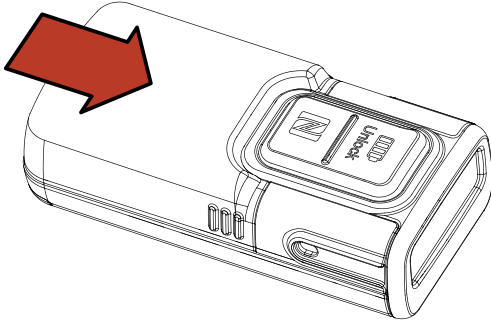
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## Install & Remove Battery

### Install the battery

1. Align the connector on the PM5 with the connector on the battery.
2. Slide and press the battery into the battery slot so that the battery is firmly engaged.

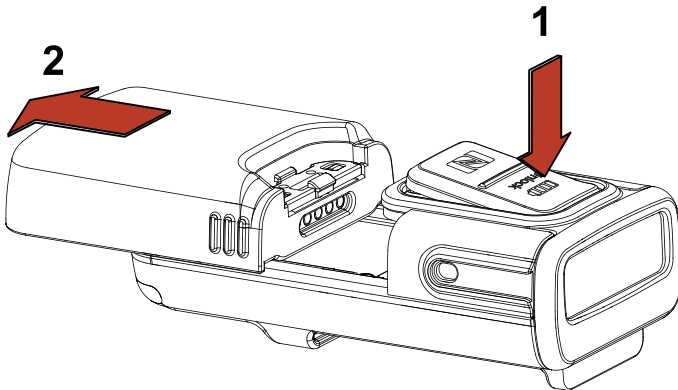
Figure 7 Install battery



### Remove the battery

1. Press the battery release button (Unlock button).
2. Pull the battery while pressing the battery release button.

Figure 8 Remove battery



# Getting Started

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## Using with Trigger Accessory

### Single trigger (SKU1, SKU2)

#### Assemble single trigger

The trigger is designed for ambidextrous use, so determine the hand you want to mount and assemble the trigger with right orientation.

1. Determine the trigger orientation according to the hand you wear the PM5.
  - Align the trigger so that the trigger scan button is positioned next to the thumb.
2. Insert the opposite side of trigger locker to PM5's trigger assembly latch first.

Figure 9 Trigger Assemble\_Left hand mount

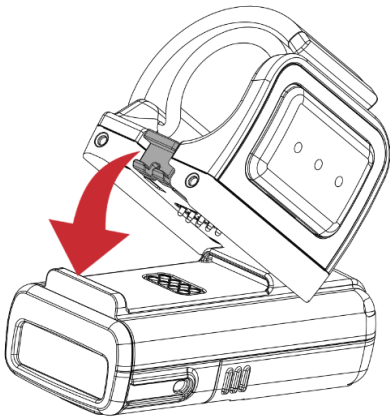
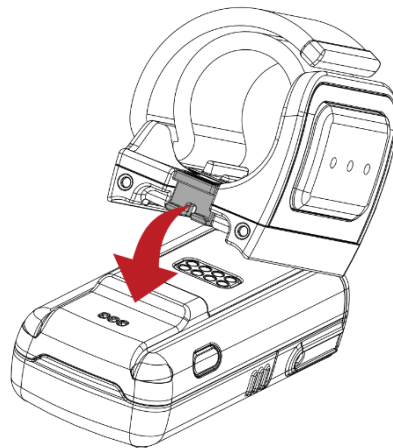
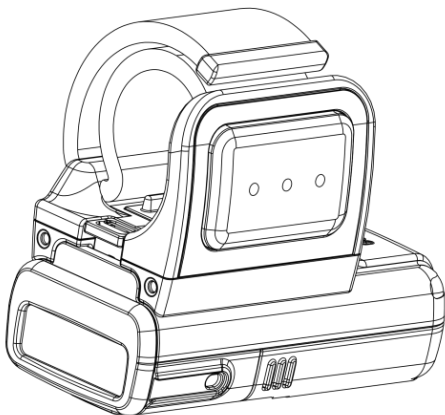


Figure 10 Trigger Assemble\_Right hand mount



3. Push the other end down until it clicks.
4. Make sure that the trigger is engaged firmly.

Figure 11 Trigger Assembled\_Left hand mount

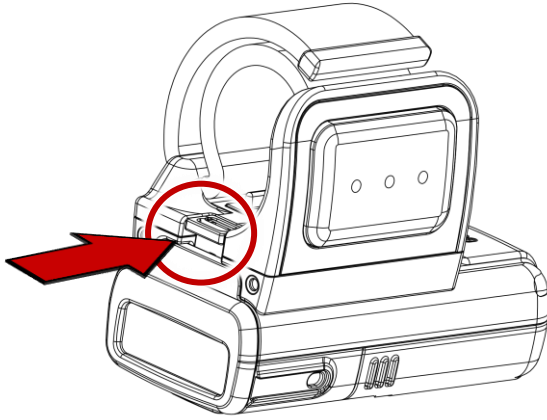


# Getting Started

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5. To remove the trigger from PM5, press the trigger locker and pull the trigger up.

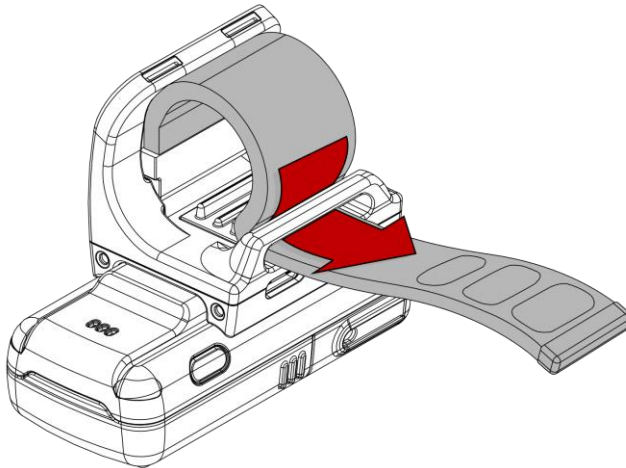
Figure 12 Remove trigger



## Wearing on scanner

1. Insert the end of finger strap into the hole on the single trigger

Figure 13 Insert finger strap



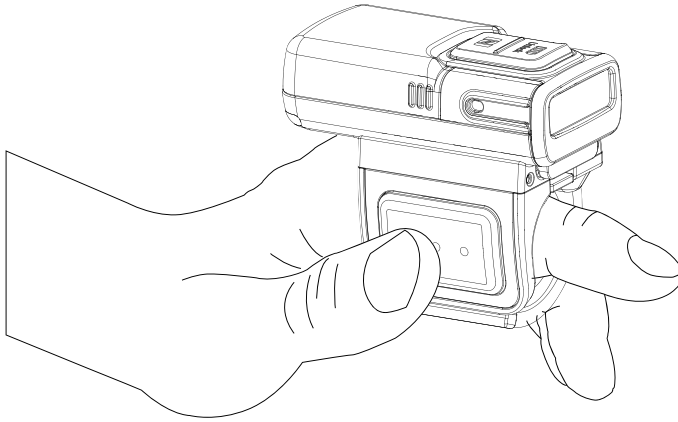
2. Wear the PM5 with single trigger on the index finger as the trigger scan button facing the thumb.

# Getting Started

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3. Tighten the finger strap and attach the end of the strap to remaining strap.

Figure 14 Mount PM5 onto index finger (Left hand)



4. To loosen the finger strap, detach the end of the strap

# Getting Started

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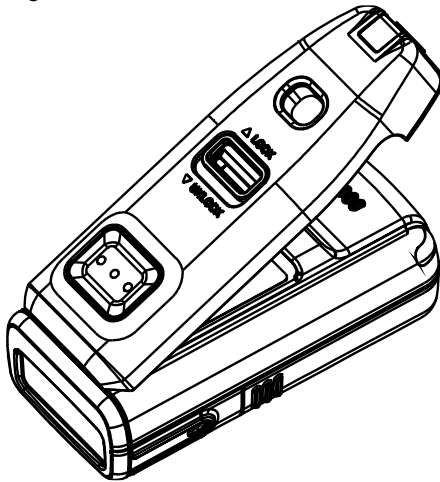
## Sled (SKU3, SKU4)

If you assemble the sled to PM5, it becomes a lightweight portable scanner. Also, you can wear the PM5 like a necklace by enclosed lanyard in sled SKU.

### Assemble Sled

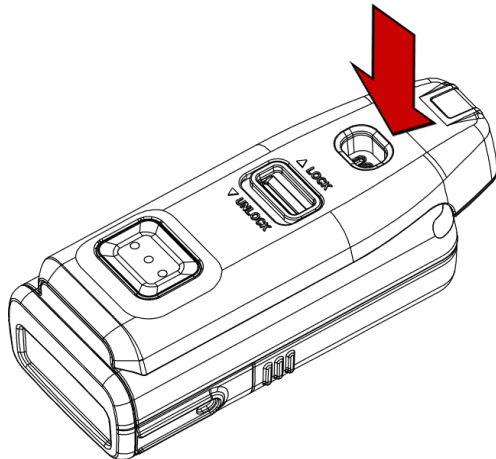
1. Slide and insert the end of sled's scan button side to the scanner side latch on the PM5 as shown below figure.

Figure 15 Assemble sled - 1



2. Push the other end of sled down until it clicks.

Figure 16 Assemble sled - 2

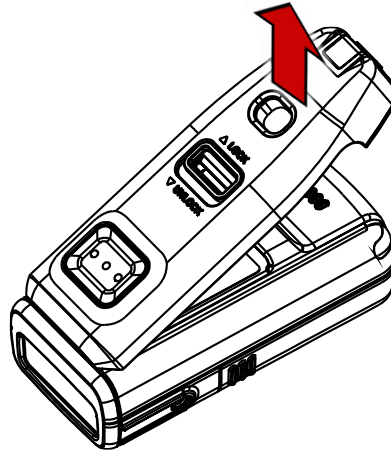
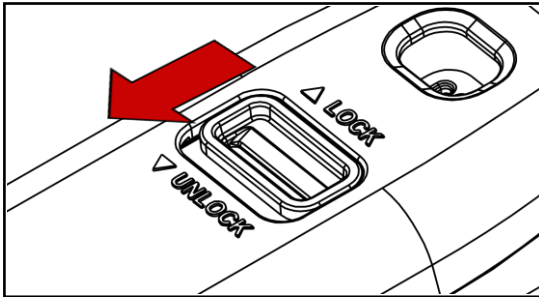


# Getting Started

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3. Make sure the sled is engaged firmly.
4. To remove the sled, slide the sled locker toward the **UNLOCK** and lift the sled.

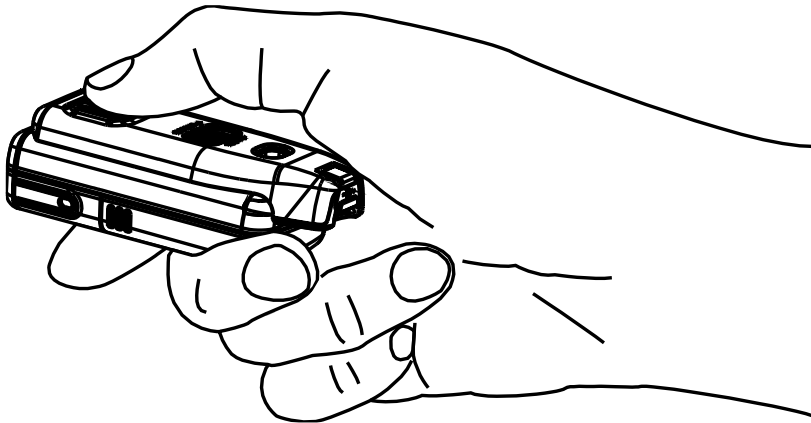
Figure 17 Release sled



## Use with Sled

Use PM5 with sled mounted with the scan button on sled facing up. You can easily press the scan button by thumb.

Figure 18 Holding PM5 with Sled mounted



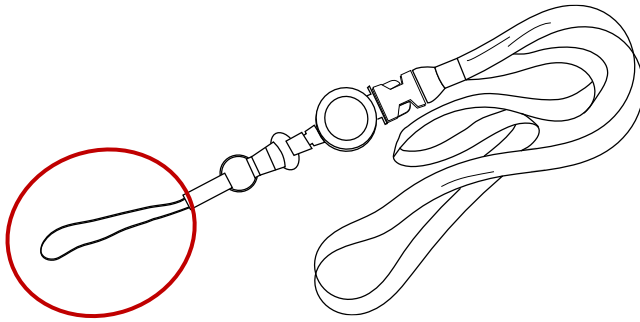
# Getting Started

## Attach lanyard

Wear the PM5 like a necklace and protect the scanner from falling damage by attaching lanyard. The lanyard is enclosed in PM5 Sled SKU. And it has a retractable wire reel for wider working range.

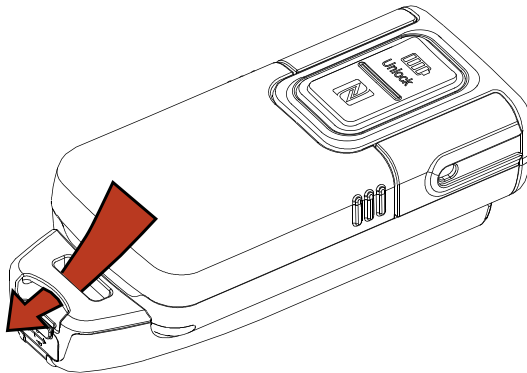
1. Find the end of the strap that thin enough to go through the lanyard hole.

Figure 19 Sled lanyard



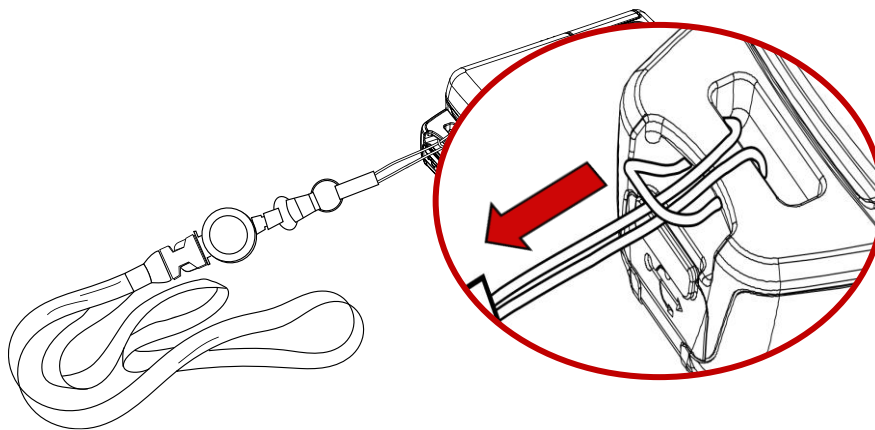
2. Slide the strap into the lanyard hole.

Figure 20 Attach lanyard - 1



3. Pass the other end of strap through the loop of thin strap.
4. Pull the lanyard until it is tight.

Figure 21 Attach lanyard - 2





# Getting Started

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## Charging the Scanner

**i** **Note:** Before using PM5 for the first time, charge the scanner at least 1 hour for stable operation.

There are two methods to charge PM5. Use power adapter or charging cradles (optional accessory).

### Charge via power adapter

According to the SKU, assemble the single trigger or sled and charge PM5 using the USB connector on each accessory.

1. Assemble the single trigger or sled to PM5.
2. (Sled only) Pull the rubber cap to open.
3. Plug the USB Type C charger into the USB connector.
4. Confirm the connection with PM5's LED indicator.

(Red - Charging / Green - Fully charged)

Figure 22 Trigger USB connector

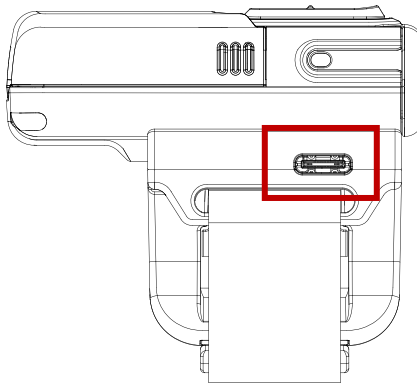
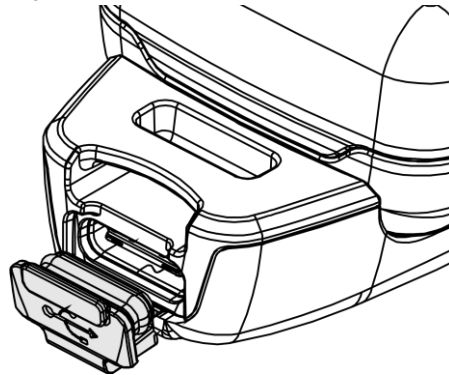


Figure 23 Sled USB connector (Open cap)



# Getting Started

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## Charge via cradle

There are 2 types of cradle (sold separately) for charging PM5, 8SBC (8 Slot Battery Cradle) and 4SC (4 Slot Cradle). The cradles can be connected to make share cradle that can charge the PM5 and batteries with more slots.

### 8SBC

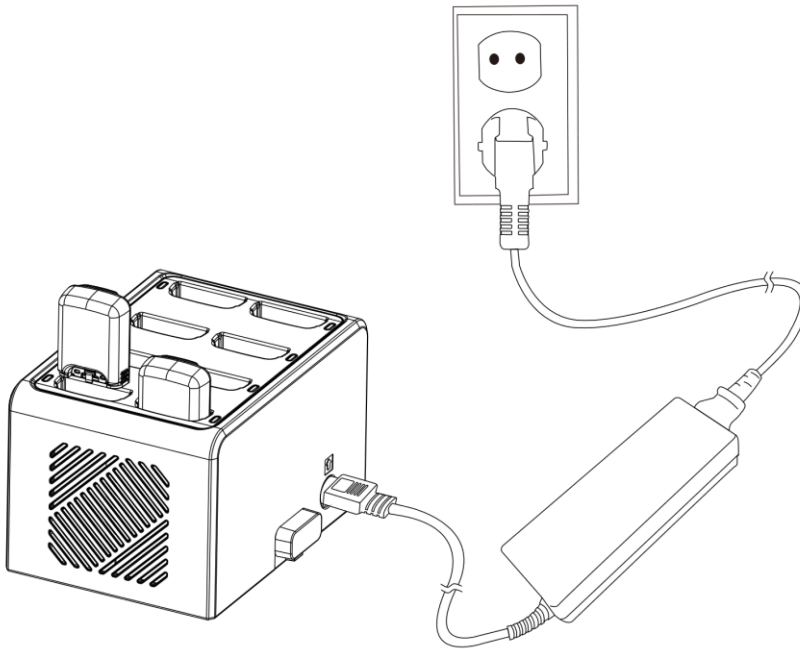
8SBC can charge up to 8 batteries of PM5 simultaneously. To charge the PM5 battery,

1. Assemble the power adapter and power cable, and then connect it to the cradle.
2. Remove the battery from PM5.
3. Align the battery as the shape of the slot, and battery connector should be facing down.
4. Insert the battery into the slot until it clicks.

When the battery is inserted properly, the LED indicator next to the slot will light on.

(Red – Charging / Green – Full charged)

Figure 24 Charging battery with 8SBC



# Getting Started

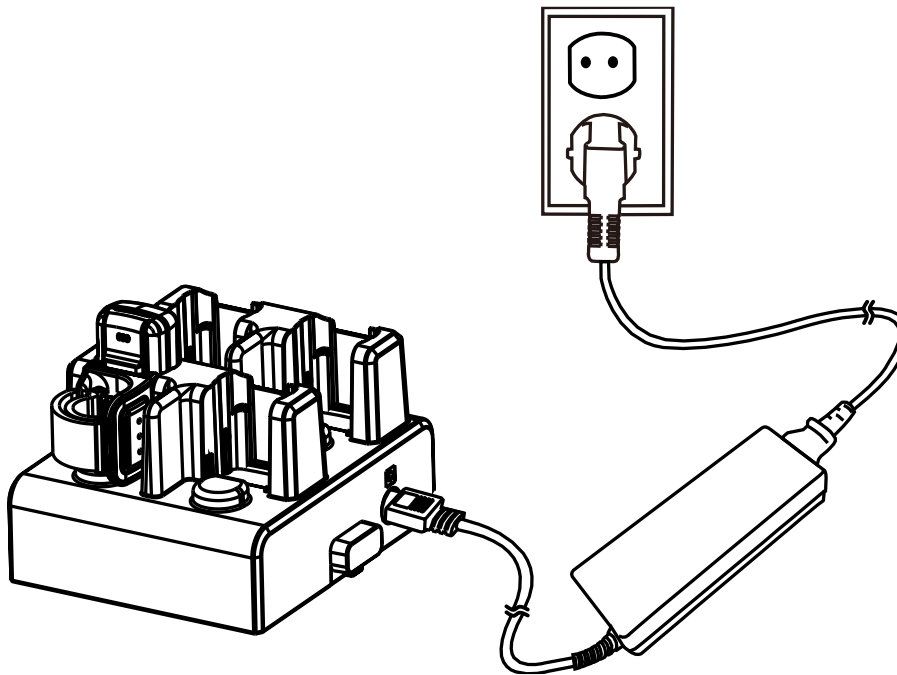
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## 4SC

4SC can charge up to 4 units of PM5 with single trigger mounted. Single trigger must be mounted the PM5 for charging with 4SC (Sled SKU cannot be charged).

1. Assemble the power adapter and power cable, and then connect it to the cradle.
2. Insert PM5 into the slot as the scanner is facing down
3. Push the device down until the LED indicator of PM5 lights up  
(Red – charging / Green – Fully charged)

Figure 25 Charging with 4SC



## Share cradle

8SBC and 4SC can be connected up to 5 pcs of cradles in one type only or two different types (4SC + 8SBC) to make share cradle. With share cradle, you can charge more PM5 and batteries at the same time.

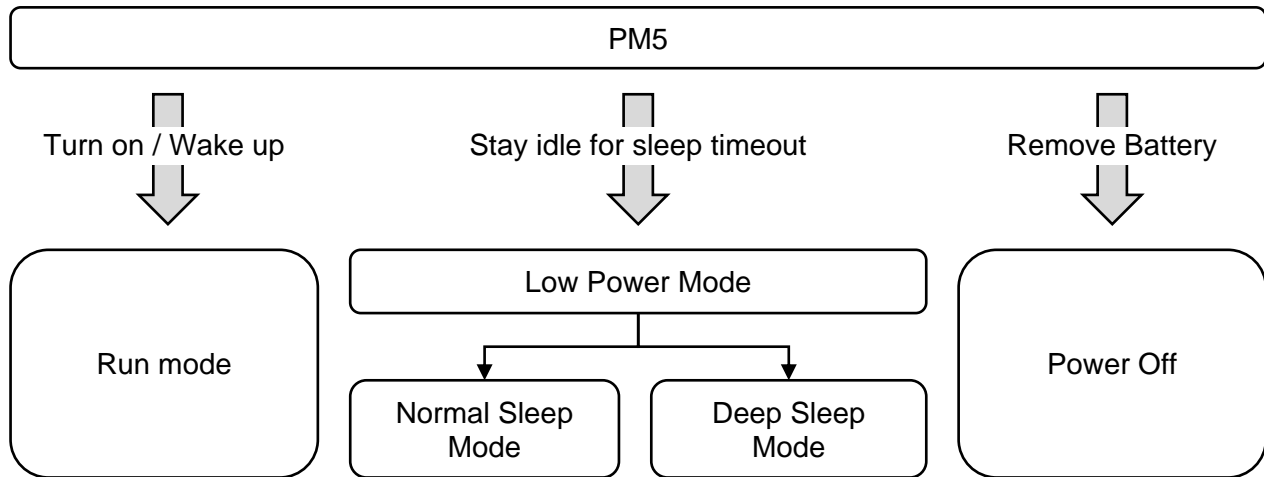
Find more information in [Accessory – Share Cradle](#).

# Getting Started

## Scanner Status

### Activity modes

There are 3 activity modes on PM5, Run mode, Low power mode, and power off.



### Run mode

Run mode is a mode that PM5 can operate immediately.

### Low Power mode

When PM5 stays idle for sleep timeout you set, PM5 enters sleep mode. Sleep mode has two types, Normal sleep and Deep sleep.

| sleep type   | description   |
|--------------|---|
| Normal sleep | Normal sleep mode (Default). Scanner and Bluetooth stay turned on.  |
| Deep sleep   | Reduce the battery consumption more by cut off the power of scanner, and Bluetooth (depending on connection state) as well. |

The sleep timeout and sleep mode are changeable. See [RingControl User Guide](#) to find out how to configure them.

User can wake up the scanner by below event.

- Press reset button on PM5 or scan button on trigger accessory (single trigger or sled)
- Send an activity through Bluetooth connection
- Connect USB cable

**Note:** Waking up the PM5 takes more (about 1 second) when using Deep sleep mode.

# Getting Started

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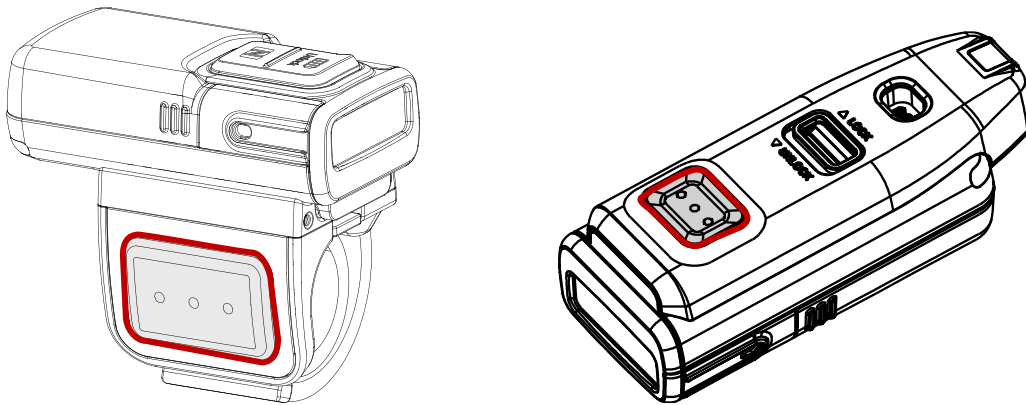
## Power Off

Remove the battery to power off the PM5.

## Power on

Install battery to PM5, and press scan button on single trigger or sled.

Figure 26 Scan buttons



## Reset the PM5

### Warmboot

Perform warmboot when you want to restart the PM5. LED indicator will light on blue during warmboot process. To perform warmboot,

- Press reset button for 3 seconds

### Factory reset

To reset all setting values as default, perform factory reset. LED indicator will light on red during factory reset process.



**Note:** Factory reset will erase all customized configuration of PM5, device settings, symbologies settings, Bluetooth pairing information.

# Getting Started

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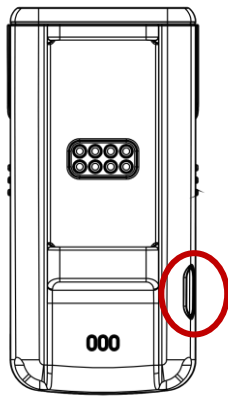
To perform factory reset when PM5 is in run mode or low power mode,

1. Press reset button until the blue LED blinks for 5 seconds.
2. While LED blinks, press and release reset button and scan button on single trigger or sled simultaneously.

To perform factory reset when PM5 is not powered on,

- Press reset button immediately after pressing scan button on single trigger or sled to power on PM5.

Figure 27 Reset button



You can do the factory reset using RingControl (Lite) app or parameter barcode, too. See the application's user guide to find how to perform the factory reset with the app, or see [Appendix – Factory Data Reset](#) to find the parameter barcode.

# Getting Started

## Status indication

Unless the beep sound is muted or LED notification is disabled, user can check the PM5's status with beep sound and LED as below table.

| Description   | LED Sequence                            | Beep Sequence  |
|---|---|--|
| <b>Booting</b>  |   |  |
| PM5 is powered on                                     | Green<br>(Until the beep sequence ends) | Short low<br>– Short medium<br>– Short high              |
| PM5 is booting as warmboot                            | Blue                                    | None   |
| PM5 is booting after factory reset                    | Red                                     | None   |
| <b>Low battery warning (Repeat up to 3 times)</b>     |   |  |
| Battery is low (less than 20% or 10%)                 | Red<br>(Until the beep sequence ends)   | 4x Short high  |
| <b>Battery level (Press Reset button to activate)</b> |   |  |
| Battery level is more than 20%                        | Green<br>(For 5 seconds)                | None   |
| Battery level is between 10% and 20%                  | Blue<br>(For 5 seconds)                 | None   |
| Battery level is less than 10%                        | Red<br>(For 5 seconds)                  | None   |
| <b>Charging</b>                                       |   |  |
| Charging battery                                      | Red                                     | None   |
| Fully charged   | Green                                   | None   |
| <b>Bluetooth Communication</b>                        |   |  |
| Attempting to connect via Scan-to-Pair                | Blue blinking                           | Short high<br>- Short low<br>- Short high<br>- Short low |
| Bluetooth connected                                   | Green                                   | Short medium<br>- Short high                             |
| Bluetooth disconnected                                | Red                                     | 3x Short high  |

# Getting Started

| Description   | LED Sequence                       | Beep Sequence  |
|---|------------------------------------|--|
| <b>Firmware Update</b>  |                                    |  |
| Updating firmware   | Blue blinking                      | None   |
| <b>Scanning</b>   |                                    |  |
| Decoding success  | Green flash                        | Short high   |
| Decoding success and Bluetooth is not connected                             | Red (until the beep sequence ends) | 3x Short low   |
| Decoding fail   | Red flash                          | Short medium – High                                      |
| <b>Temperature warning</b>  |                                    |  |
| Battery temperature is low (Under 0 °C)                                     | Red                                | High<br>– Low<br>– High<br>– Low                         |
| Battery temperature is critical low (Under -5 °C and voltage is under 3.8V) | None                               | High<br>– Middle<br>– Middle<br>– Low<br>(Then shutdown) |



# Applications for Ring Scanner

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There are 3 applications for Point Mobile ring scanners, RingControl, RingControl Lite and RingControl Configuration Tool. These applications can be downloaded from [Point Mobile Service Portal](#).

This manual only describes what features are in each application briefly. If you want more information, please refer to [each application's user guide](#).

## RingControl

RingControl is an application installed on a host device for connecting and controlling the ring scanner. RingControl is only compatible with Point Mobile Android devices, such as PM85.

RingControl supports,

- Bluetooth pairing between ring scanner and host device
- Advanced Settings
  - Apply Ring Scanner settings with JSON file
  - Update Ring Scanner F/W with RFU file
  - Wedge settings
  - Ring Scanner settings
  - Rename ring scanner
  - Factory reset
- Get ring scanner's information
- Scan demo

## RingControl Lite

RingControl Lite is a RingControl for Android device which is not manufactured by Point Mobile. RingControl Lite supports most of RingControl features, but does not support wedge settings.

# Applications for Ring Scanner

## RingControl Configuration Tool

RingControl Configuration Tool is a PC tool that can save a json file containing the configurations for ring scanner. The file will be used by the RingControl (Lite) to apply the configuration.

Figure 28 Ring Scanner Configuration Tool

PM5 RingControl Configuration Tool (v2.8.0)

Copyright (c) 2021 Point Mobile, All rights reserved.

Choose File No file chosen Load JSON File

Generate JSON Clear

Revision 0

RingControl Configuration

Admin Password

Set Password ☐

Password

Password Repeat

Ring Scanner Configuration

Configuration

RFU AutoUpdate ☒ Disable ☐ Enable

RFU AutoUpdate Filename

RingScanner AutoUpdate ☒ Disable ☐ Enable

Note: Wedge function is supported with Point Mobile Android products only.

Result Type ☐ User Message ☐ Keyboard Event ☒ Clipboard (KEYCODE\_PASTE) ☐ Clipboard (Ctrl + V) ☐ Custom Intent

You can configure the below settings,

- RingControl Configuration
  - Admin Password
- Ring Scanner Configuration
  - Auto Update, Wedge
  - Configuration
  - System
  - Notification
  - Symbolologies

# Bluetooth Connection

PM5 supports the following Bluetooth modes. Find appropriate Bluetooth mode for connection according to what you do with PM5. Default mode is SPP.

| Bluetooth Modes   | Purpose  |
|---|--|
| <b>SPP (Serial Port Profile)</b>                        | <ul style="list-style-type: none"> <li>Changing PM5 configurations</li> <li>Updating PM5 firmware</li> </ul> |
| <b>HID (Human Interface Device)</b><br>– Classic and LE | <ul style="list-style-type: none"> <li>Getting scan data (Keyboard action)</li> </ul>                        |
| <b>BLE (Bluetooth Low Energy)</b>                       | <ul style="list-style-type: none"> <li>Updating PM5 Bluetooth firmware</li> </ul>                            |

## SPP Connection

SPP (Serial Port Profile) mode is default communication mode of PM5. To change configurations or update PM5 firmware, you must use SPP mode.

Depending on the host device to be connected with, an application is required as follows.

| Host device                  | Required application   |
|------------------------------|--|
| Point Mobile Android devices | <ul style="list-style-type: none"> <li>RingControl</li> </ul>                        |
| General Android devices      | <ul style="list-style-type: none"> <li>RingControl Lite</li> </ul>                   |
| Windows 10 PC                | <ul style="list-style-type: none"> <li>Application developed with PM5 SDK</li> </ul> |

## Connect with Point Mobile Android devices

To connect PM5 with Point Mobile Android devices, RingControl app is required. RingControl provides three ways to connect.

# Bluetooth Connection

## Scan-to-Pair

Scan-to-Pair is most common way to connect via RingControl.

Scan a barcode provided by RingControl. This barcode makes PM5 change to SPP mode and connect to the host device.

Figure 29 Scan-to-Pair

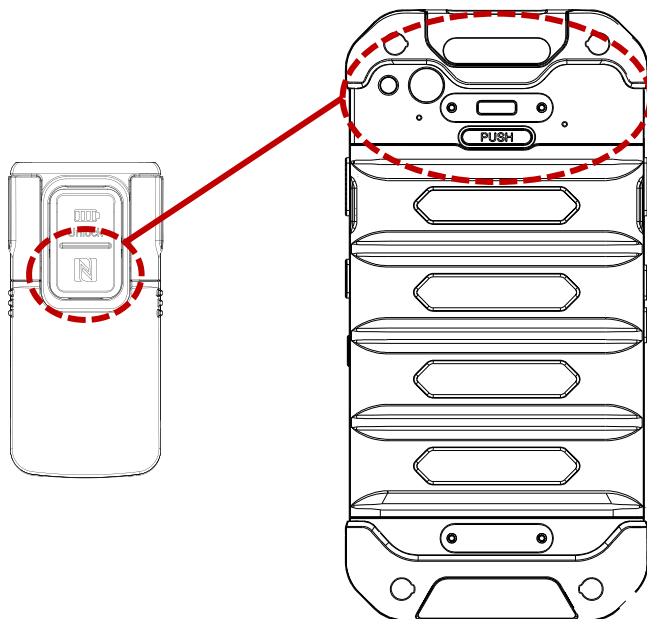


## Tap-to-Pair

Find the NFC location of host device and ring scanner, and align NFC logo of ring scanner with NFC antenna of host device to pair.

For instance, PM85's NFC antenna is located on the back side of the device. Align the NFC logo of the PM5 with the NFC area as below figures.

Figure 30 Tap-to-Pair example (PM85 & PM5)



# Bluetooth Connection

---

## Search to Pair

You can connect PM5 through searching during RingControl app is on the background.

1. Go to **Settings > Bluetooth**.
2. Turn on the Bluetooth.
3. Select a PM5 to be connected among the searched Bluetooth device list.



**Note:** RingControl app must be launching on background via auto-launch.

## Connect with general Android devices

To connect PM5 with general Android devices, RingControl Lite app is required. RingControl Lite provides different ways to connect depending on whether your Android device supports the NFC feature or not.

Find detail in the [RingControl Lite User Guide](#).

### Tap-to-Pair (Support NFC)

1. Scan the barcode on the RingControl Lite screen.
2. Perform Tap-to-Pair.
  - Check the NFC reader area of host device and the NFC tag area of ring scanner and bring them close.
3. Wait until the scanner is connected.

### Scan-to-Pair (Not supporting NFC)

1. Find Bluetooth MAC address
  - The address can be found in Settings > About phone usually.  
(Where the address may vary depending on the manufacturer and model.)
2. Enter address to the RingControl Lite.
3. Scan the created pairing barcode.
4. Wait until the scanner is connected.

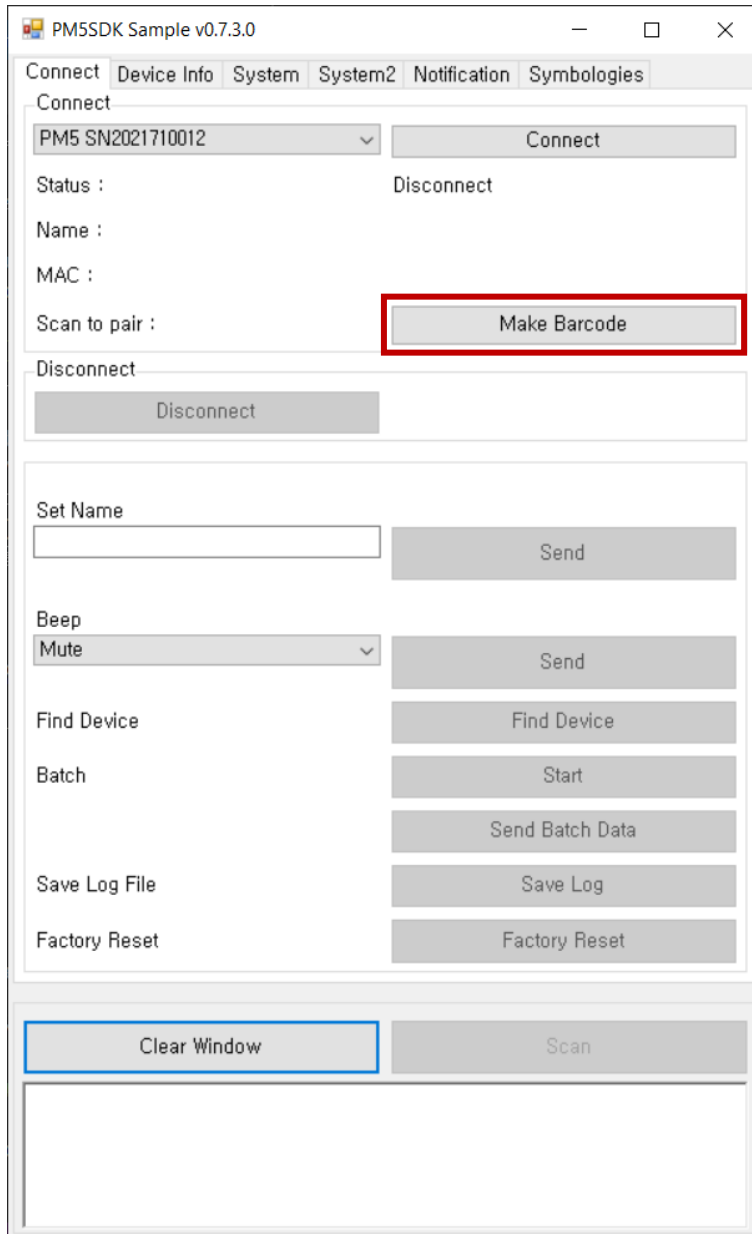
# Bluetooth Connection

## Connect with Windows 10 PC

Point Mobile provides a sample app for connecting PM5 via scan-to-pair. Download the sample app (SDK) package from [Service Portal](#), and install it on your PC.

1. Execute sample app.
2. Click **Make Barcode**.

Figure 31 PM5 SDK Sample app (Windows)

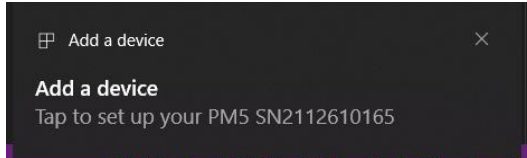


# Bluetooth Connection

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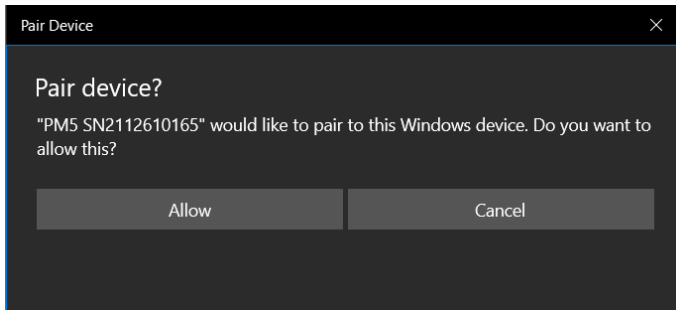
3. Scan the pairing barcode with PM5.
4. Click the notification to add PM5.

Figure 32 Add device notification (Windows)



5. Allow to pair PM5 on the dialog.

Figure 33 Pairing dialog (Windows)



# Bluetooth Connection

---

## HID connection

When PM5 is connected as HID mode, the PM5 scans a barcode and sends the decoded data to the host device as a keyboard action.

To change the mode to HID, refer to [Change Bluetooth Connect Mode](#) chapter. And no additional application is required for HID connection.

Supporting host devices are as follows.

- Android devices
- Windows 10 PC



**Note: HID LE mode**

*HID LE mode is kind of HID mode. HID LE mode makes PM5 and host device communicate through Bluetooth low energy radio. HID LE mode supports same pairing method as HID mode.*

## Connect with Android devices

There are two ways to connect as HID mode, Tap-to-Pair and Searching.

### Tap-to-Pair

If your Android device supports NFC feature, use Tap-to-Pair to connect easily.

1. Check the NFC reader area of host device and the NFC tag area of ring scanner and bring them close.
2. Wait until the scanner is connected.

Tap-to-Pair operates like toggle in HID mode. This means that if Tap-to-Pair is performed when the ring scanner is connected to host device, the connection will be closed.



**Note:** *NFC feature will be paused for 5 seconds after NFC reading. It is a function for preventing duplicate NFC request. So, if you want to connect or disconnect the ring scanner by Tap-to-Pair, try when more than 5 seconds passed since last NFC tagging.*



# Bluetooth Connection

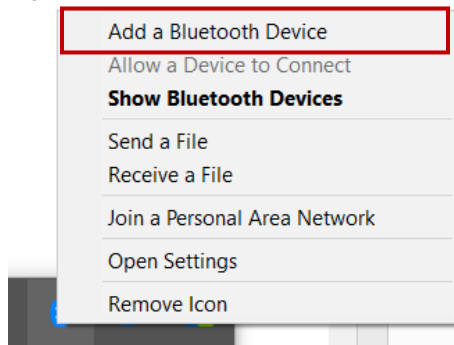
## Search to Pair

1. Go to **Settings** > **Bluetooth** on your Android device.
2. Turn on the Bluetooth.
3. Select a PM5 to be connected among the searched Bluetooth device list.

## Connect with Windows 10 PC

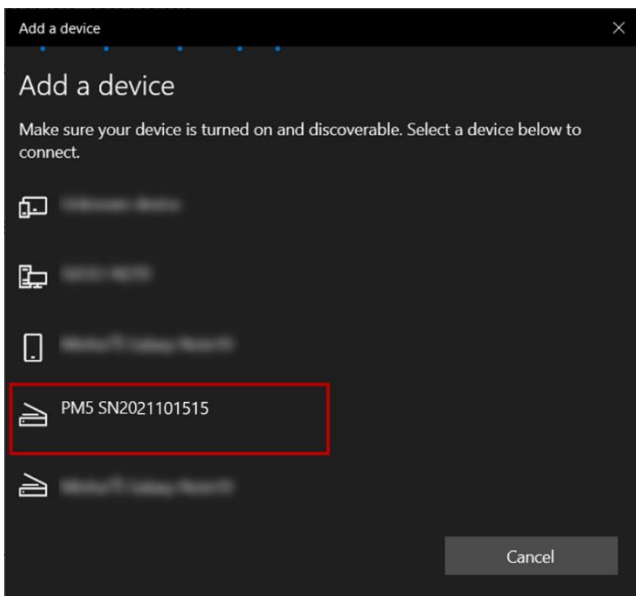
1. Check if your PC supports Bluetooth.
2. Right click the Bluetooth icon on the task bar, and select **Add a Bluetooth Device**.

Figure 34 Connect with Windows PC (HID mode)\_1



3. Select PM5 to be connected among the searched nearby Bluetooth device list in **Add a device** window.

Figure 35 Connect with Windows PC (HID mode)\_2



4. PM5 emit the beep and LED sequence to confirm the connection.

# Bluetooth Connection

---


## BLE Connection

BLE (Bluetooth Low Energy) mode is only used for updating the Bluetooth firmware through RingControl (Lite).

You don't need to change to BLE mode manually because the app(s) will change the mode to BLE automatically when you try to update the firmware. And the PM5 comes back to SPP mode automatically when the update is done.

## Disconnect

To close connection between PM5 and host device,

- Turn off Bluetooth on the host device
- Reboot ring scanner
- Tap disconnect icon  on the RingControl app
- Tap-to-Pair (Do when the PM5 is connected. Supports only for HID mode)

If PM5 is disconnected, PM5 emits red LED and high beep sound three times.

## Reconnect

Reconnect to the host device connected right before by pressing a button sequence. Reconnection is available for SPP and HID mode (unavailable for HID LE mode).

1. While pressing reset button on PM5, press and hold the scan button on trigger accessory.
2. Release the buttons when blinking green LED.
3. Press shortly the scan button on trigger accessory

**Note:**

- Do 2~3 steps within 5 seconds after blinking green LED.
- If there is no device information connected before, PM5 emits a long beep sound and red LED blinks three times.

# Bluetooth Connection

---

## Change Bluetooth Connect Mode

To change the connect mode, scan the mode change barcodes ([Appendix – Bluetooth Mode Barcodes](#)). If the mode is changed while PM5 is connected to host device, the connection will be closed and you have to connect the devices again.

## General Bluetooth Settings

### Bluetooth name

Change PM5's Bluetooth name and find out your PM5 more easily. You can rename the PM5 through RingControl (Lite) app. Go to **Advanced Settings > Rename Ring Scanner** on the app and input a new name.

There are some rules for new Bluetooth name of PM5. See the [applications user guides](#) for more detail.

### Bluetooth power class

Change the Bluetooth radio power between Class 1 and Class 2, using parameter barcodes or RingControl (Lite) app.

|                          | Class 1 | Class 2 |
|--------------------------|---------|---------|
| <b>Radio power</b>       | High    | Low     |
| <b>Range</b>             | Long    | Short   |
| <b>Power consumption</b> | High    | Low     |

The default class of PM5 is Class 2. To increase the range change to Class 1. But Class 1 consumes battery power more than Class 2.

If you want to use parameter barcode, find desired barcode in [Appendix – Bluetooth Power Class](#).

# Configuration

PM5 configuration consists of wedge, system, notification, symbology settings. Unless you do factory reset, the configuration maintains after reboot.

This chapter describes how to apply the configuration, and each configuration.



**Note:** To change all setting values as default, execute factory reset on PM5. Find how to do factory reset in [Reset the PM5](#).

## Apply Configuration

To adjust configuration of PM5, use RingControl (Lite) app or JSON file made by RingControl Configuration Tool.

### Apply via RingControl

This method is that you change the configuration one by one using RingControl interface.


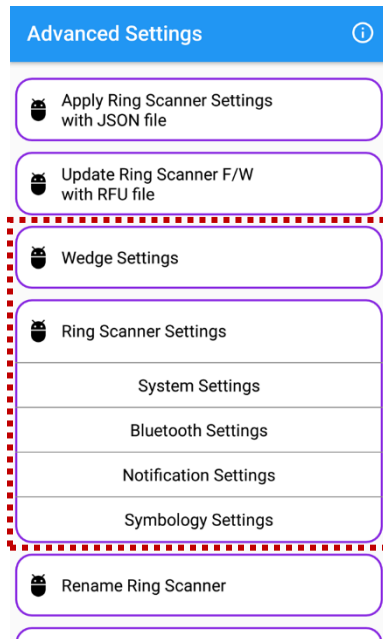
1. Execute RingControl (Lite) and connect PM5 with host device
2. Tap  on the top of the main screen to access **Advanced Settings**
3. Input the admin password (Default password is 1010)
4. Select the settings that you want to change

Figure 36 Ring Control - Advanced settings




# Configuration

## Apply via JSON file


To apply the configuration via JSON file, RingControl (Lite) app and RingControl Configuration Tool is required.

Generate a **RingControl.json** file containing the configuration and copy it to **RingControl** folder in the internal storage of host device.

 **Note:** Must follow the file name and path. Otherwise, update cannot be performed.

Below table describes two types for applying ring scanner settings with JSON file.

| Methods       | Description  |
|---------------|--|
| Auto Update   | <ul style="list-style-type: none"> <li>Set configuration auto update in JSON file</li> <li>Apply configuration every time the ring scanner is connected</li> </ul> |
| Manual Update | <ul style="list-style-type: none"> <li>Apply configuration immediately</li> </ul>  |

 **Note:** Update is not available when PM5 battery is too low (<20%) or temperature is out of range (< 0 °C or > 32 °F)

## Auto Update

Auto update will be performed every time the ring scanner is connected as SPP mode.

To use auto update, set up the auto update in the **RingControl.json** file and copy the file to **RingControl** folder of host device.

Configuration to be updated depends on the revision number of JSON file. It can be entire configuration, or beep volume setting only. See the following instruction.

- **Entire update**
  - When: Revision number of the JSON file is different from previously applied one
  - What: Entire configuration will be update
- **Beep volume update**
  - When: Revision number of the JSON file is same as the previously applied one
  - What: Only beep volume will be update

For more detail, refer to [application's user guides](#).

# Configuration

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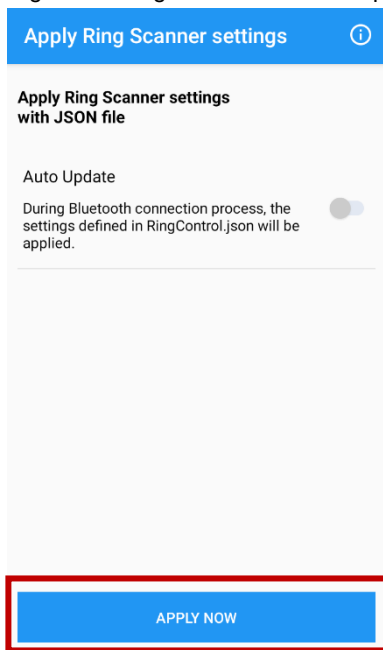
## Manual Apply

Manual update can be performed regardless the auto update is enabled or disabled. To apply new configuration with a JSON file immediately,

1. Launch RingControl (Lite) and connect PM5 with host device.
2. Go to **Advanced Settings > Apply Ring Scanner settings with JSON file**  
(Password is required).
3. Tap **APPLY NOW** and wait until the process is done.

The app will find the **Configuration.json** file and use it.

Figure 37 Ring Control - Manual Apply Configuration



# Configuration

## Available Settings

### Wedge settings

Wedge settings can be set through RingControl and RingControl Configuration Tool both, but not supported on RingControl Lite. Check the default values in the below table.

| Setting                              | Values   | Default                         |
|--------------------------------------|--|---------------------------------|
| <b>Wedge mode</b>                    |  |                                 |
| Result type                          | User Message<br>Keyboard Event<br>Clipboard (KEYCODE_PASTE)<br>Clipboard (Ctrl + V)<br>Custom Intent   | Clipboard (KEYCODE_PASTE)       |
| <b>Custom intent</b>                 |  |                                 |
| Intent action                        |  | device.scanner.EVENT            |
| Intent category                      |  | android.intent.category.DEFAULT |
| Extra decode string value (String)   |  | EXTRA_EVENT_DECODE_VALUE        |
| Extra decode bytes value (ByteArray) |  | EXTRA_EVENT_BYTES_VALUE         |
| Extra Scanner Source                 |  | EXTRA_EVENT_SOURCE              |
| <b>Character set</b>                 |  |                                 |
| Result Charset                       | UTF-8<br>UTF-16<br>UTF-16BE<br>UTF-16LE<br>US-ASCII<br>ISO-8859-1<br>EUC-KR<br>Shift-JIS<br>windows-1250<br>windows-1251<br>windows-1252<br>windows-1253<br>windows-1254<br>windows-1257 | UTF-8                           |

# Configuration

## System settings

System settings can be set through RingControl (Lite) and RingControl Configuration Tool.

| Setting                 | Values / Range   | Default     |
|-------------------------|--|-------------|
| Trigger Timeout (sec)   | 1~10 sec   | 10 sec      |
| Sleep Timeout (sec)     | 1~60000 sec  | 300 sec     |
| Transmit Barcode ID     | Disable<br>Enable  | Disable     |
| Prefix                  | Up to 10 characters                                      |             |
| Suffix                  | Up to 10 characters                                      |             |
| Terminator              | None<br>CR<br>LF<br>CR+LF<br>Tab<br>Space                | LF          |
| Center Window           | Disable<br>Enable  | Enable      |
| Center Window Tolerance | 0 ~ 100  | 40          |
| Inverse Mode            | Inverse Off<br>Inverse Only<br>Inverse AutoDetect        | Inverse Off |
| HID Inter Char Delay    | 0~250 ms   | 3 ms        |
| Batch Mode              | Normal<br>Standard mode<br>Auto mode<br>USB storage mode | Normal      |
| Deep Sleep Mode         | Disable<br>Enable  | Disable     |
| Connect Alert           | Disable<br>Enable  | Enable      |
| Trigger Mode            | Normal<br>Enhanced<br>Mobile Phone Read                  | Normal      |



# Configuration

---

| Setting                             | Values / Range                     | Default |
|-------------------------------------|------------------------------------|---------|
| Poor Quality 1D Codes Reading       | Disable<br>Enable                  | Disable |
| Poor Quality PDF Codes Reading      | Disable<br>Enable                  | Disable |
| Decode Security (Reading Tolerance) | Very High<br>High<br>Medium<br>Low | Medium  |
| Aimer                               | Disable<br>Enable                  | Enable  |
| LED Illumination                    | Disable<br>Enable                  | Enable  |
| Delay before Decoding (sec)         | Disable<br>0.2 ~ 4.0 seconds       | Disable |
| Lock Parameter Barcode Scan         | Disable<br>Enable                  | Disable |

## Bluetooth settings

Bluetooth settings can be set through RingControl (Lite) and RingControl Configuration Tool.

BT Class setting can also be configured by scanning a parameter barcode.

| Setting                         | Values / Range      | Default |
|---------------------------------|---------------------|---------|
| BT Class                        | Class 1<br>Class 2  | Class 2 |
| Bluetooth Disconnection Timeout | None<br>1 ~24 hours | None    |

# Configuration

---

## Notification settings

Set PM5 notification through RingControl (Lite) or RingControl Configuration Tool.

| Setting           | Description   | Default |
|-------------------|---|---------|
| <b>Beep</b>       |   |         |
| Enable Beep       | Enable or Disable the ring scanner's beep sound   | Enable  |
| Beep Volume       | Adjust the volume of beep sound <ul style="list-style-type: none"> <li>- Mute</li> <li>- Low</li> <li>- Medium</li> <li>- High</li> </ul> | High    |
| Power Up Beep     | Enable or Disable the beep sequence on power up   | Enable  |
| Scan Success Beep | Enable or Disable the beep when scanning is successful  | Enable  |
| Scan Fail Beep    | Enable or Disable the beep when scanning is failed  | Disable |
| <b>LED</b>        |   |         |
| Enable LED        | Enable or Disable the LED indicator of ring scanner   | Enable  |
| Scan Success LED  | Enable or Disable the LED indicating the scan is successful.  | Enable  |
| Scan Fail LED     | Enable or Disable the LED indicating the scan is failed.  | Disable |

# Symbologies

## Symbologies settings

Symbologies can be set through RingControl (Lite), RingControl Configuration PC Tool.

| Configuration  | Values / Range   | Default  |
|--|--|----------|
| <b>Code 39</b> <i>* If Append mode is enabled, redundancy does not work.</i> |  |          |
| Enable   | Disable<br>Enable  | Enable   |
| ID   |  | E        |
| Min  |  | 0        |
| Max  |  | 48       |
| Check Character  | No Check<br>Check and don't transmit<br>Check and transmit | No Check |
| Send Start / Stop Characters   | Disable<br>Enable  | Disable  |
| Full ASCII   | Disable<br>Enable  | Disable  |
| Append   | Disable<br>Enable  | Disable  |
| Code 32 Pharmaceutical   | Disable<br>Enable (Couldn't use with Trioptic)             | Disable  |
| Unconventional InterCharacter Gaps   | Disable<br>Enable  | Disable  |
| Redundancy   | 0 ~ 10   | 0        |
| <b>EAN8</b>  |  |          |
| Enable   | Disable<br>Enable  | Enable   |
| ID   |  | I        |
| Send Check Character   | Disable<br>Enable  | Enable   |
| Addenda Required   | Disable<br>Enable  | Disable  |
| Send Addenda Separator   | Disable<br>Enable  | Enable   |

# Symbologies

| Configuration          | Values / Range    | Default |
|------------------------|-------------------|---------|
| 2-Digit Addenda        | Disable<br>Enable | Disable |
| 5-Digit Addenda        | Disable<br>Enable | Disable |
| Redundancy             | 0 ~ 10            | 0       |
| <b>EAN13</b>           |                   |         |
| Enable                 | Disable<br>Enable | Enable  |
| ID                     |                   | J       |
| Send Check Character   | Disable<br>Enable | Enable  |
| Addenda Required       | Disable<br>Enable | Disable |
| Send Addenda Separator | Disable<br>Enable | Enable  |
| 2-Digit Addenda        | Disable<br>Enable | Disable |
| 5-Digit Addenda        | Disable<br>Enable | Disable |
| ISBN Translate         | Disable<br>Enable | Disable |
| Redundancy             | 0 ~ 10            | 0       |
| <b>GS1 128</b>         |                   |         |
| Enable                 | Disable<br>Enable | Enable  |
| ID                     |                   | ]       |
| Min                    |                   | 1       |
| Max                    |                   | 80      |
| Redundancy             | 0 ~ 10            | 0       |

# Symbologies

| Configuration               | Values / Range   | Default  |
|-----------------------------|--|----------|
| <b>GS1 DataBar OmniDir</b>  |  |          |
| Enable                      | Disable<br>Enable  | Enable   |
| ID                          |  | P        |
| Redundancy                  | 0 ~ 10   | 0        |
| <b>GS1 DataBar Limited</b>  |  |          |
| Enable                      | Disable<br>Enable  | Enable   |
| ID                          |  | Q        |
| Redundancy                  | 0 ~ 10   | 0        |
| <b>GS1 DataBar Expanded</b> |  |          |
| Enable                      | Disable<br>Enable  | Enable   |
| ID                          |  | R        |
| Min                         |  | 4        |
| Max                         |  | 74       |
| Redundancy                  | 0 ~ 10   | 0        |
| <b>Interleaved 2 Of 5</b>   |  |          |
| Enable                      | Disable<br>Enable  | Enable   |
| ID                          |  | K        |
| Min                         |  | 4        |
| Max                         |  | 80       |
| Check Character             | No Check<br>Check and don't transmit<br>Check and transmit | No Check |
| <b>UPC A</b>                |  |          |
| Enable                      | Disable<br>Enable  | Enable   |
| ID                          |  | S        |

# Symbologies

| Configuration          | Values / Range    | Default |
|------------------------|-------------------|---------|
| Send Check Character   | Disable<br>Enable | Enable  |
| Send System Character  | Disable<br>Enable | Enable  |
| Addenda Required       | Disable<br>Enable | Disable |
| Send Addenda Separator | Disable<br>Enable | Enable  |
| 2-Digit Addenda        | Disable<br>Enable | Disable |
| 5-Digit Addenda        | Disable<br>Enable | Disable |
| Convert to EAN13       | Disable<br>Enable | Enable  |
| Redundancy             | 0 ~ 10            | 0       |
| <b>UPC E</b>           |                   |         |
| Enable                 | Disable<br>Enable | Enable  |
| ID                     |                   | T       |
| Send Check Character   | Disable<br>Enable | Disable |
| Expand                 | Disable<br>Enable | Enable  |
| Leading Zero           | Disable<br>Enable | Enable  |
| Addenda Required       | Disable<br>Enable | Disable |
| Send Addenda Separator | Disable<br>Enable | Enable  |
| 2-Digit Addenda        | Disable<br>Enable | Disable |
| 5-Digit Addenda        | Disable<br>Enable | Disable |

# Symbologies

| Configuration   | Values / Range   | Default                       |
|---|--|-------------------------------|
| UPC E1 Enable   | Disable<br>Enable  | Disable                       |
| Redundancy  | 0 ~ 10   | 0                             |
| <b>Code93</b> <i>* If Append mode is enabled, redundancy does not work.</i> |  |                               |
| Enable  | Disable<br>Enable  | Disable                       |
| ID  |  | F                             |
| Min   |  | 0                             |
| Max   |  | 80                            |
| Append  | Disable<br>Enable  | Disable                       |
| Redundancy  | 0 ~ 10   | 0                             |
| <b>Aztec</b>  |  |                               |
| Enable  | Disable<br>Enable  | Enable                        |
| ID  |  | A                             |
| Min   |  | 1                             |
| Max   |  | 3832                          |
| Append  | Disable<br>Enable  | Enable                        |
| <b>DataMatrix</b>   |  |                               |
| Enable  | Disable<br>Enable  | Enable                        |
| ID  |  | H                             |
| Min   |  | 1                             |
| Max   |  | 3166                          |
| Low Contrast Enhancements   | Low Contrast Enhancements Off<br>Low Contrast Enhancements On<br>Reflective Low Contrast Enhancements On | Low Contrast Enhancements Off |
| Append  | Disable<br>Enable  | Enable                        |

# Symbologies

| Configuration                | Values / Range   | Default  |
|------------------------------|--|----------|
| <b>Codabar</b>               |  |          |
| Enable                       | Disable<br>Enable  | Enable   |
| ID                           |  | B        |
| Min                          |  | 4        |
| Max                          |  | 60       |
| Check Character              | No Check<br>Check and don't transmit<br>Check and transmit | No Check |
| Concatenation                | Disable<br>Enable<br>Require                               | Disable  |
| Send Start / Stop Characters | Disable<br>Enable  | Disable  |
| <b>QR Code</b>               |  |          |
| Enable                       | Disable<br>Enable  | Enable   |
| ID                           |  | O        |
| Min                          |  | 1        |
| Max                          |  | 7089     |
| Append                       | Disable<br>Enable  | Enable   |
| No Quiet Zone                | Disable<br>Enable  | Disable  |
| <b>Code 11</b>               |  |          |
| Enable                       | Disable<br>Enable  | Disable  |
| ID                           |  | C        |
| Min                          |  | 4        |
| Max                          |  | 80       |



# Symbologies

| Configuration   | Values / Range  | Default   |
|---|---|---|
| Check Character Required  | One Check Char<br>Two Check Char  | Two Check Char                                    |
| Redundancy  | 0 ~ 10  | 0   |
| <b>Code 128</b> <i>* If Append mode is enabled, redundancy does not work.</i> |   |   |
| Enable  | Disable<br>Enable   | Enable  |
| ID  |   | D   |
| Min   |   | 0   |
| Max   |   | 80  |
| Append*   | Disable<br>Enable   | Enable  |
| Redundancy  | 0 ~ 10  | 0   |
| <b>Composite</b>  |   |   |
| Enable  | Disable<br>Enable   | Disable   |
| ID  |   | G   |
| Min   |   | 1   |
| Max   |   | 2435  |
| UPC EAN   | Disable<br>Enable   | Disable   |
| <b>Maxicode</b>   |   |   |
| Enable  | Disable<br>Enable   | Disable   |
| ID  |   | L   |
| Min   |   | 1   |
| Max   |   | 150   |
| Message Format  | Primary Message Only<br>Primary Required, Secondary if Available<br>Both Primary and Secondary Required | Primary<br>Required,<br>Secondary<br>if Available |

# Symbologies

| Configuration               | Values / Range    | Default |
|-----------------------------|-------------------|---------|
| <b>Micro PDF 417</b>        |                   |         |
| Enable                      | Disable<br>Enable | Disable |
| ID                          |                   | M       |
| Min                         |                   | 1       |
| Max                         |                   | 366     |
| <b>PDF417</b>               |                   |         |
| Enable                      | Disable<br>Enable | Disable |
| ID                          |                   | N       |
| Min                         |                   | 1       |
| Max                         |                   | 2750    |
| Macro PDF417                | Disable<br>Enable | Enable  |
| <b>Straight 2 Of 5 IATA</b> |                   |         |
| Enable                      | Disable<br>Enable | Disable |
| ID                          |                   | U       |
| Min                         |                   | 4       |
| Max                         |                   | 48      |
| Redundancy                  | 0 ~ 10            | 0       |
| <b>CodaBlock A</b>          |                   |         |
| Enable                      | Disable<br>Enable | Disable |
| ID                          |                   | V       |
| Min                         |                   | 1       |
| Max                         |                   | 600     |

# Symbologies

| Configuration       | Values / Range  | Default                          |
|---------------------|---|----------------------------------|
| <b>Coda Block F</b> |   |                                  |
| Enable              | Disable<br>Enable   | Disable                          |
| ID                  |   | W                                |
| Min                 |   | 1                                |
| Max                 |   | 2048                             |
| <b>MSI</b>          |   |                                  |
| Enable              | Disable<br>Enable   | Disable                          |
| ID                  |   | X                                |
| Min                 |   | 4                                |
| Max                 |   | 48                               |
| Check Character     | Validate Type 10, Don't transmit<br>Validate Type 10, Transmit<br>Validate 2 Type 10 Chars, Don't transmit<br>Validate 2 Type 10 Chars, Transmit<br>Validate Type 10 then Type 11 Char, Don't Transmit<br>Validate Type 10 then Type 11 Char, Transmit<br>No Check Characters | Validate Type 10, Don't transmit |
| Redundancy          | 0 ~ 10  | 0                                |
| <b>TLC39</b>        |   |                                  |
| Enable              | Disable<br>Enable   | Disable                          |
| ID                  |   | Y                                |
| <b>Trioptic</b>     |   |                                  |
| Enable              | Disable<br>Enable (Couldn't use with Code32)  | Disable                          |
| ID                  |   | Z                                |
| Redundancy          | 0 ~ 10  | 0                                |

# Symbologies

| Configuration                     | Values / Range    | Default |
|-----------------------------------|-------------------|---------|
| <b>Matrix 2 Of 5</b>              |                   |         |
| Enable                            | Disable<br>Enable | Disable |
| ID                                |                   | [       |
| Min                               |                   | 4       |
| Max                               |                   | 80      |
| Redundancy                        | 0 ~ 10            | 0       |
| <b>Telepen</b>                    |                   |         |
| Enable                            | Disable<br>Enable | Disable |
| ID                                |                   | \       |
| Min                               |                   | 1       |
| Max                               |                   | 60      |
| Output                            | AIM<br>Original   | AIM     |
| Redundancy                        | 0 ~ 10            | 0       |
| <b>ISBT</b>                       |                   |         |
| Enable                            | Disable<br>Enable | Disable |
| ID                                |                   | ^       |
| <b>Straight 2 Of 5 Industrial</b> |                   |         |
| Enable                            | Disable<br>Enable | Disable |
| ID                                |                   | –       |
| Min                               |                   | 4       |
| Max                               |                   | 48      |
| Redundancy                        | 0 ~ 10            | 0       |

# Symbologies

| Configuration         | Values / Range    | Default |
|-----------------------|-------------------|---------|
| <b>HanXin</b>         |                   |         |
| Enable                | Disable<br>Enable | Disable |
| ID                    |                   | a       |
| Min                   |                   | 1       |
| Max                   |                   | 7833    |
| <b>DotCode</b>        |                   |         |
| Enable                | Disable<br>Enable | Disable |
| ID                    |                   | b       |
| Min                   |                   | 1       |
| Max                   |                   | 2400    |
| Poor Quality DotCodes | Disable<br>Enable | Disable |
| <b>Digimarc</b>       |                   |         |
| Enable                | Disable<br>Enable | Disable |
| ID                    |                   | c       |
| <b>China Post</b>     |                   |         |
| Enable                | Disable<br>Enable | Disable |
| ID                    |                   | d       |
| Min                   |                   | 4       |
| Max                   |                   | 80      |
| Redundancy            | 0 ~ 10            | 0       |
| <b>Korea Post</b>     |                   |         |
| Enable                | Disable<br>Enable | Disable |
| ID                    |                   | e       |

# Symbologies

| Configuration        | Values / Range   | Default         |
|----------------------|--|-----------------|
| Min                  |  | 4               |
| Max                  |  | 48              |
| Send Check Character | Disable<br>Enable  | Disable         |
| <b>2D Postal</b>     |  |                 |
| Enable               | Disable<br>Enable  | Disable         |
| ID                   |  | f               |
| 2D Postal Code       | Australian Post<br>InfoMail<br>Japanese Post<br>KIX Post<br>Planet Code<br>Postnet<br>British Post<br>InfoMail and British Post<br>Postal-4i<br>Intelligent Mail<br>Postnet with B and B' Fields<br>Planet Code and Postnet<br>Planet Code and Postal-4i<br>Postnet and Postal-4i<br>Planet Code and Intelligent Mail<br>Postnet and Intelligent Mail<br>Postal-4i and Intelligent Mail<br>Planet Code and Postnet with B and B' Fields<br>Postal-4i and Postnet with B and B Fields<br>Intelligent Mail and Postnet with B and B' Fields<br>Planet Code, Postnet, and Postal-4i<br>Planet Code, Postnet, and Intelligent Mail<br>Planet Code, Postal-4i, and Intelligent Mail<br>Postnet, Postal-4i, and Intelligent Mail<br>Planet Code, Postal-4i, and Postnet with B and B' Fields | Australian Post |

# Symbologies

| Configuration                     | Values / Range   | Default         |
|-----------------------------------|--|-----------------|
| 2D Postal Code<br>(Continued)     | Planet Code, Intelligent Mail, and Postnet with B and B' Fields<br>Postal-4i, Intelligent Mail, and Postnet with B and B' Fields<br>Planet Code, Postal-4i, Intelligent Mail, and Postnet<br>Planet Code, Postal-4i, Intelligent Mail, and Postnet with B and B' Fields<br>Canadian Post | Australian Post |
| Australian Post Interpretation    | Bar Output<br>Numeric N Table<br>Alphanumeric C Table<br>Combination N and C Tables  | Bar Output      |
| Send Planet Code Check Character  | Disable<br>Enable  | Disable         |
| Send Postnet Code Check Character | Disable<br>Enable  | Disable         |


# Firmware Update

Update Bluetooth firmware and PM5 MCU firmware to up-to-date version using one RFU file. Download the RFU file from [Service Portal](#) and copy it to the **RingControl** folder in internal storage of host device.

 **Note:** Must follow the file path. Otherwise, update cannot be performed.

After update, PM5 will be restarted automatically.  
Below table describes two types for firmware update.

| Methods       | Description   |
|---------------|---|
| Auto Update   | <ul style="list-style-type: none"> <li>Set F/W auto update in JSON file</li> <li>Update F/W every time the ring scanner is connected</li> </ul> |
| Manual Update | <ul style="list-style-type: none"> <li>Update F/W immediately</li> </ul>  |

 **Note:** Update is not available when PM5 battery is too low (<20%) or temperature is out of range (< 0 °C or < 32 °F) unless the scanner is charging.

## Auto Update

Firmware auto update is performed when...

- Ring scanner is connected through RingControl (Lite) app
- Firmware auto update is set in **RingControl.json** file
- Firmware version of the RFU file is different from current ring scanner firmware version

Set up the firmware auto update in the **RingControl.json** file and copy the file to **RingControl** folder. Every time the PM5 is connected as SPP mode, RingControl (Lite) updates configuration automatically.

For more detail, refer to [application's user guides](#).



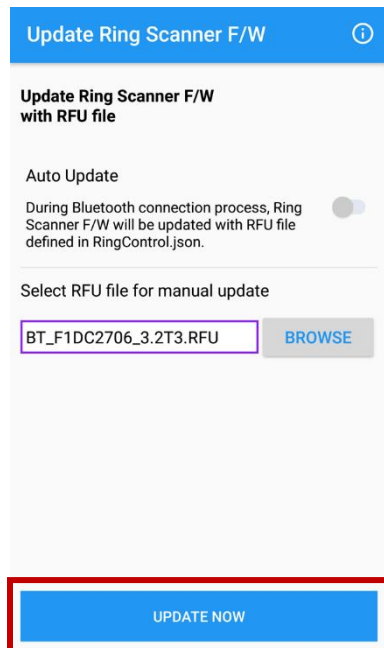
# Firmware Update

## Manual Update

Manual update can be performed regardless the auto update is enabled or disabled. To update firmware with RFU file manually,

1. Launch RingControl (Lite) app and connect PM5 with host device
2. Go to **Advanced settings > Update Ring Scanner F/W with RFU file** (Password is required)
3. Tap **BROWSE** and select RFU file you copied
4. Tap **UPDATE NOW** and wait until the process is done

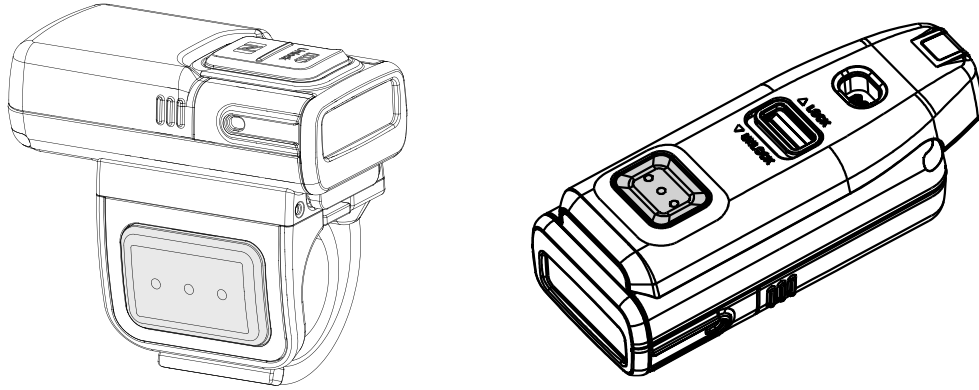
Figure 38 RingControl - Manual update



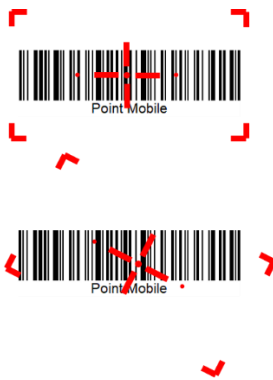
# Scan a Barcode

To scan a barcode, aim the barcode while pressing the scan button on the single trigger or sled. Aim as the center cross is placed on the center of the barcode.

Figure 39 Scan buttons



## Ideal Scanning



Aim the middle of barcode.

Even you aim the barcode slightly upper or down area, or angle is slightly tilted, you can read the barcode.

## Bad Scanning



If you aim the barcode wrong direction or aim point is too tilted to scan only the part of the barcode, you can't read the barcode.

# Accessory

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PM5 supports below optional accessories which is sold separately.

| Category        | Accessory Name               | Usage  |
|-----------------|------------------------------|--|
| Charging cradle | 8SBC (8 Slot Battery Cradle) | Charge up to 8 PM5 batteries                 |
|                 | 4SC (4 Slot Cradle)          | Charge up to 4 PM5                           |
|                 | Share cradle                 | Charge PM5 and its batteries with more slots |

## 8SBC (8 Slot Battery Cradle)

8SBC is a charging cradle for PM5 battery. Up to 8 batteries can be charged simultaneously. For more detail, find [Charge the Scanner – Charging via cradle](#) chapter or 8SBC Quick start guide.

## 4SC (4 Slot Cradle)

4SC is a charging cradle for PM5. Up to 4 units of PM5 can be charged simultaneously. For more detail, find [Charge the Scanner – Charging via cradle](#) chapter or 4SC Quick start guide.

## Share Cradle

8SBC and 4SC can connect up to 5 pcs of cradles in one type only or two different types (4SC + 8SBC) to make share cradle. With share cradle, you can charge more PM5 and batteries at the same time.

There is a separate SKU for making a share cradle. Buy as many SKUs for share cradle as you want to connect and assemble the cradles using enclosed screws and brackets.

Power will be provided to all connected cradles when an adapter is connected to the last cradle.

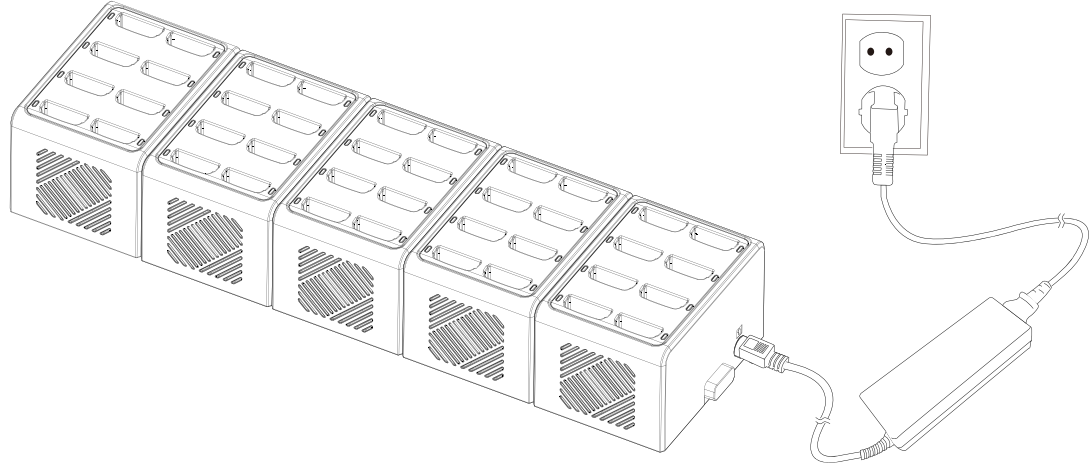
# Accessory

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- **40 slot battery cradle**

- Make 40SBC connecting 5 pcs of 8SBC.

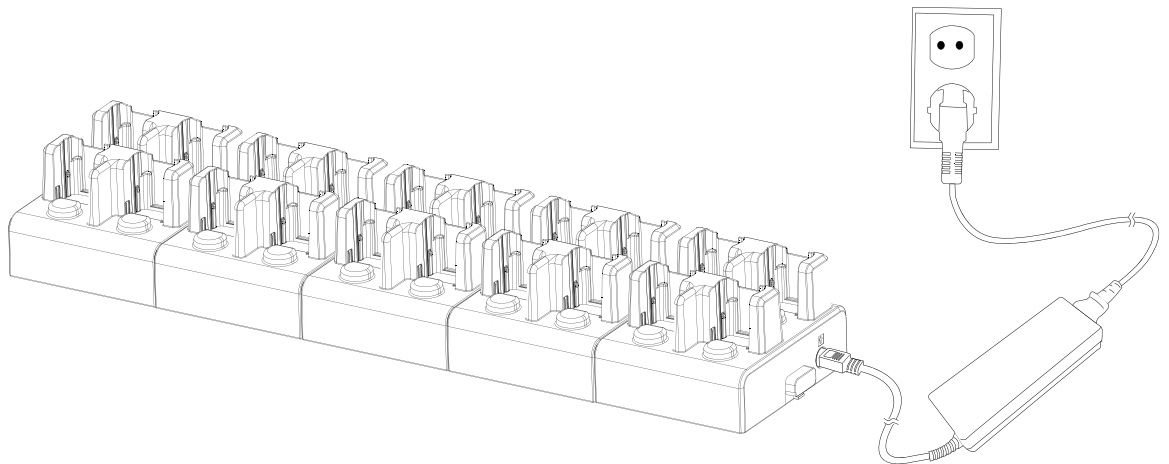
Figure 40 40SBC



- **20 slot ring cradle**

- Make 20 slot ring cradle connecting 5 pcs of 4SC.

Figure 41 20 slot ring cradle

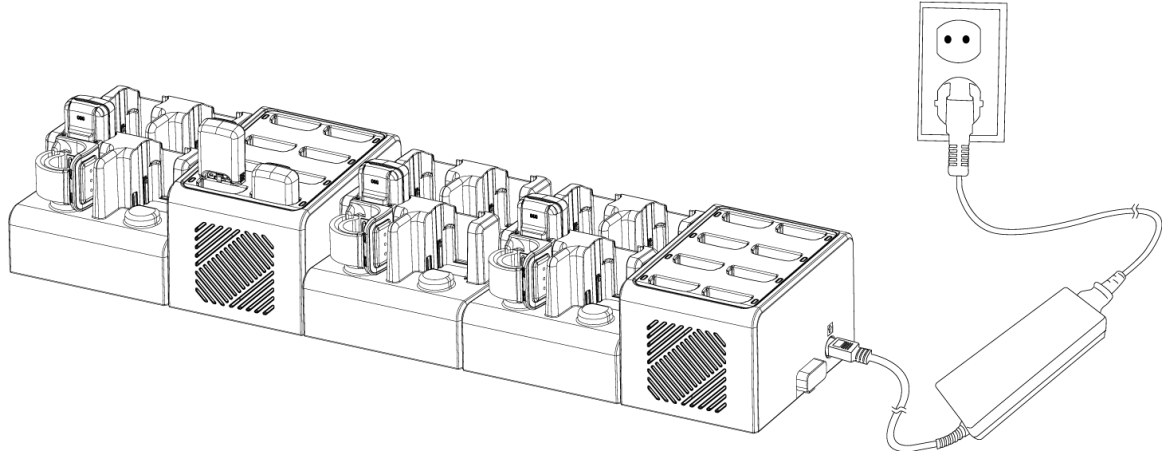


# Accessory

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- **Multi type slot share cradle**
  - Connect 4SC and 8SBC to make multi type slot share cradle.

Figure 42 Multi type slot share cradle



# Safety Information

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## Battery Safety Information

Follow the battery safety guidelines for safe usage, storage, and disposal of Li-ion batteries. Improper battery use may result in a fire, explosion, or other critical hazards.

### Battery Safety Guidelines

- Use only Point Mobile approved batteries and charging accessories. Other batteries and chargers may damage the device or result in a fire, leakage, or other hazards.
- Do not expose the battery to excessive heat or cold.
- Do not use or store the battery in or near areas that might get very hot, such as in a parked vehicle, near a heat duct or close to other heat sources.
- Do not allow objects that may cause a short circuit, such as metal objects, corrosive substances, or liquids like water, to contact the battery.
- Do not disassemble, crush, bend, shred, press, or other actions that may damage or deform the battery.
- Do not use or replace the battery on the go or from a high location. Dropping may result in an explosion or fire.
- Do not put any labels, stickers, tags, etc. on the device or battery. Performance of the device or battery, such as sealing, drop, or tumble, could be affected.
- Close supervision is necessary when used near children to avoid the risk of injury.
- If battery leakage is observed, avoid any contact with the skin or eyes and properly dispose of the battery. If contact has been made, wash the affected area with water for 15 minutes and seek medical advice.
- If you notice any type of damage to the battery, such as swelling, dents, and leaks, stop using it immediately and contact Point Mobile.

### Battery Charging Guidelines

- Charge the battery in a clean, cool, dry, and ventilated environment.
- Separate the charger from the battery as soon as possible when the battery is fully charged.
- Battery performance can degrade due to the stress of daily charging and discharging. Batteries typically need to be replaced after 300 to 500 charging cycles (full charge-discharge cycles) or when the battery capacity has been reduced to 70 ~ 80% of its original capacity. The actual number of charging cycles varies based on usage patterns, temperature, age, and other factors.

# Safety Information

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## Battery Storage / Disposal Guidelines

- Store the batteries in a clean, dry and ventilated environment within ambient temperature ranges of  $20\pm5^{\circ}\text{C}$ .
- For safety regulations, batteries are charged to below 20~30% of full capacity during production.
- When not using batteries for a long period, charge the battery for 30 minutes to 1 hour at least once every 6 months to prevent full discharge and keep the performance.
- Batteries should be stored separately when storing for long periods. Disconnect from any device, charger, or cradle.
- Dispose of used batteries promptly according to local disposal regulations.
- Do not dispose of the battery in fire. It may cause explosion.



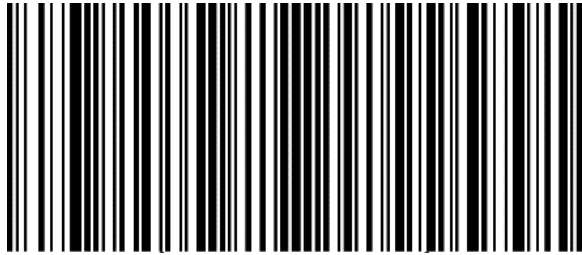
**Notice:** The battery is consumable. Point Mobile provides a warranty for the battery for 12 months after purchase.

If you suspect the battery swelling, change the battery immediately and contact Point Mobile.

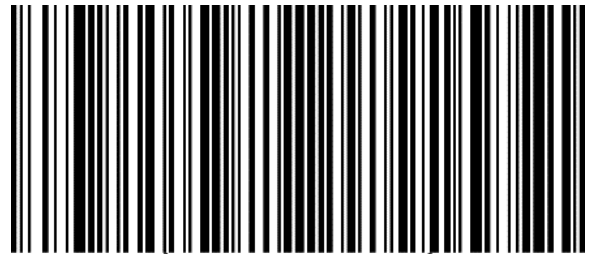
# Appendix

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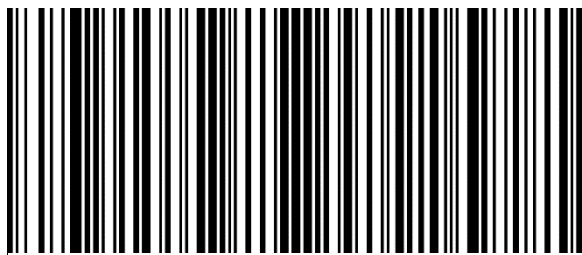
## Bluetooth Mode Barcodes



**SPP Mode**



**HID Mode**



**HID LE Mode**



# Appendix

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## Bluetooth Power Class



Class 1



Class 2

# Appendix

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## Batch Mode Barcodes



Normal



Auto mode



Standard mode



USB storage mode



Start  
(Standard mode)



Send  
(Standard mode)

# Appendix

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## Factory Data Reset





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