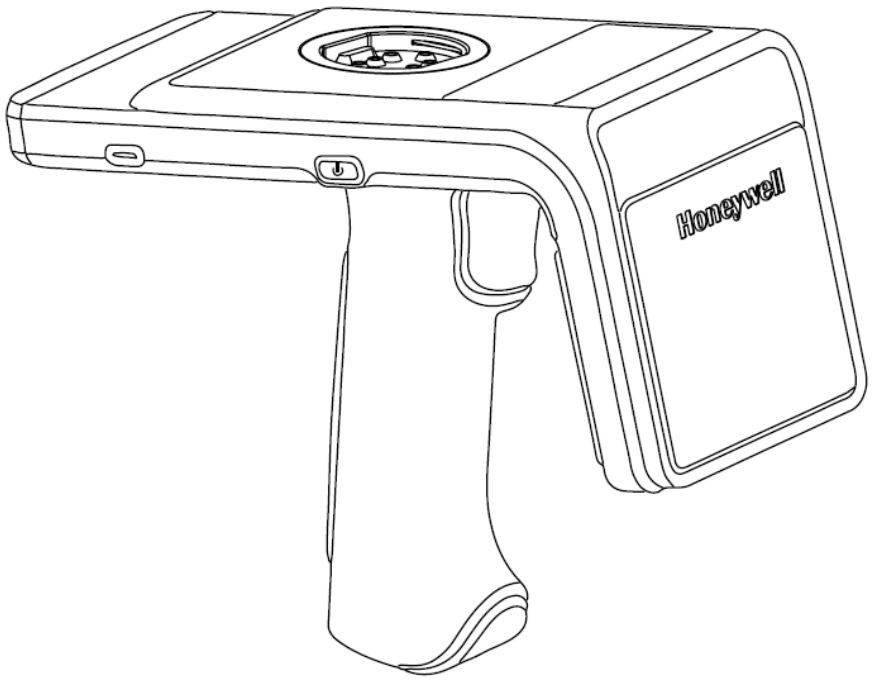
Honeywell

IH25-0

Bluetooth® UHF RFID Reader



User Guide

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Product Service and Repair

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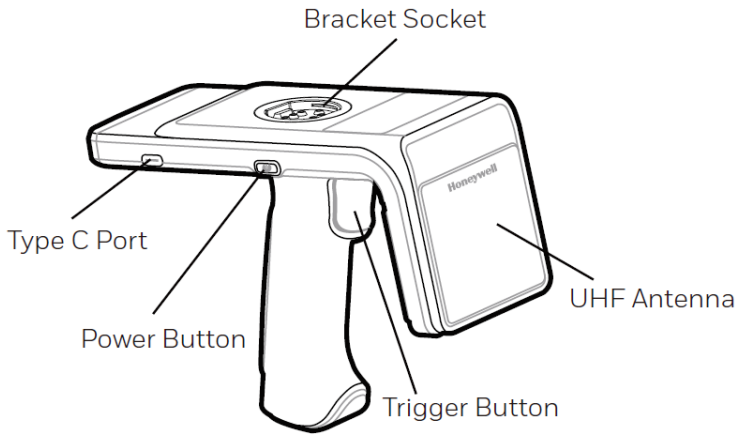
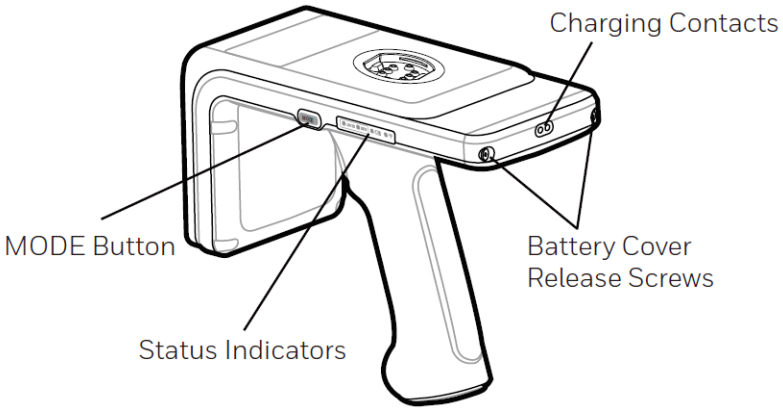
CHAPTER

1 INTRODUCTION

The IH25 UHF RFID Reader provides Ultra High Frequency (UHF) Radio Frequency Identification (RFID) connected to a mobile terminal. The unit can read and write to bar code, QR code and UHF RFID tags.

IH25 Features



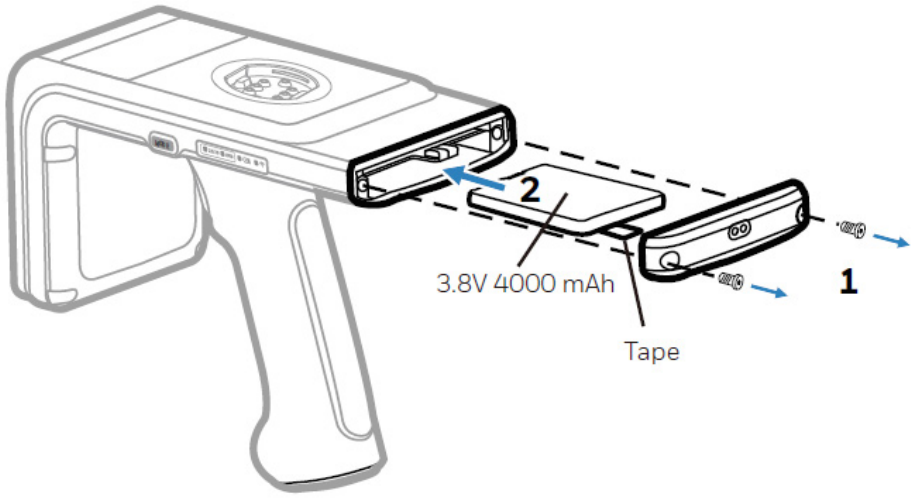


Battery Installation

The battery is charged using a docking station and therefore is unlikely to need to be changed once installed.

Install the battery before using the reader for the first time.

1. To access the battery compartment, remove the battery cover screws and then the battery cover.
2. Insert the battery into the battery compartment.
3. Attach the battery cover and tighten the screws. Note that the torque should be 3.5kg.f.

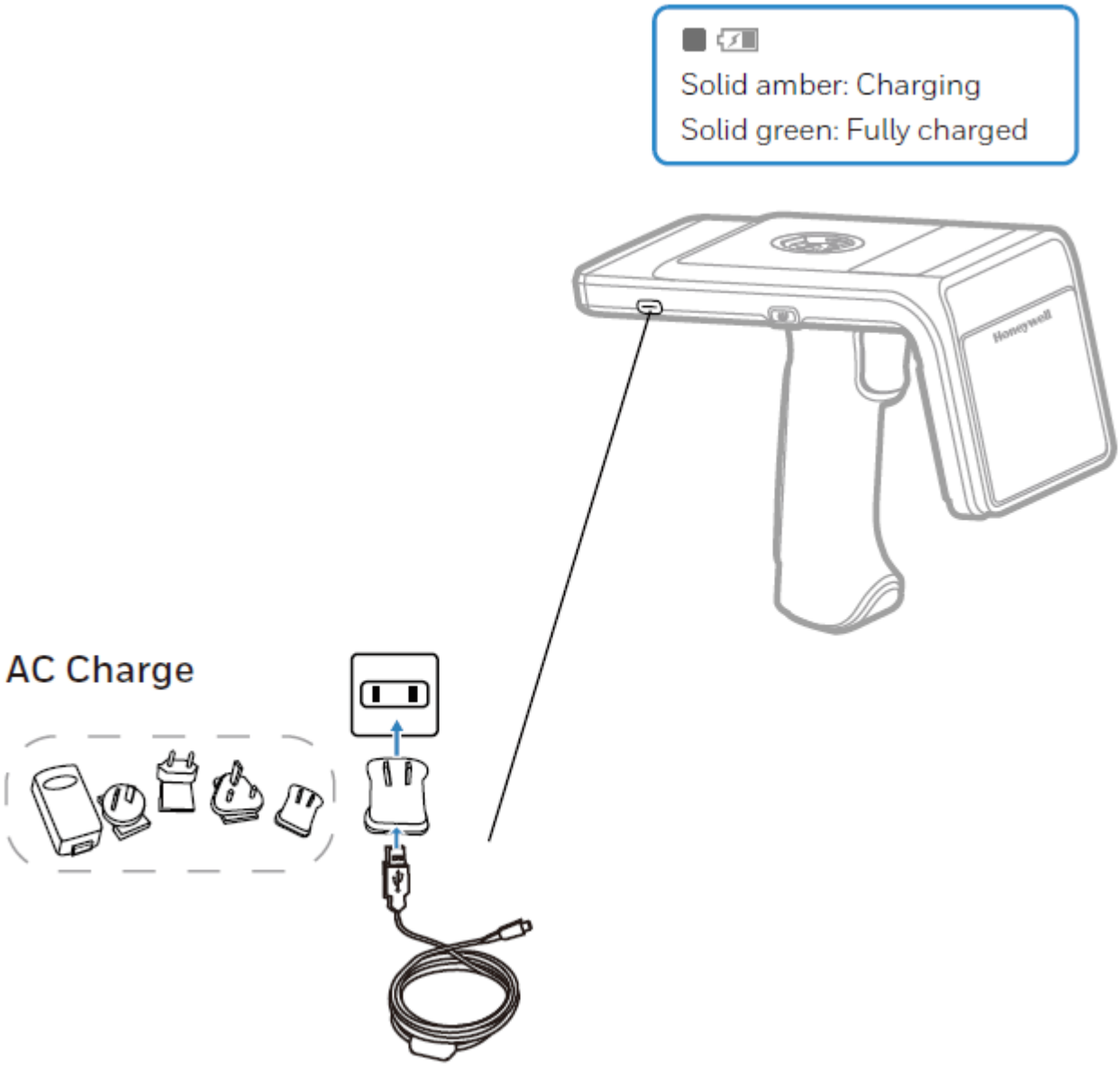


Charging

To comply with international shipping regulations, the battery is discharged to less than 30% of its maximum capacity. It is therefore recommended that you fully charge the battery before using the reader for the first time.

To charge the reader, use the USB cable and AC charge adapter (Honeywell recommended) or a docking station.

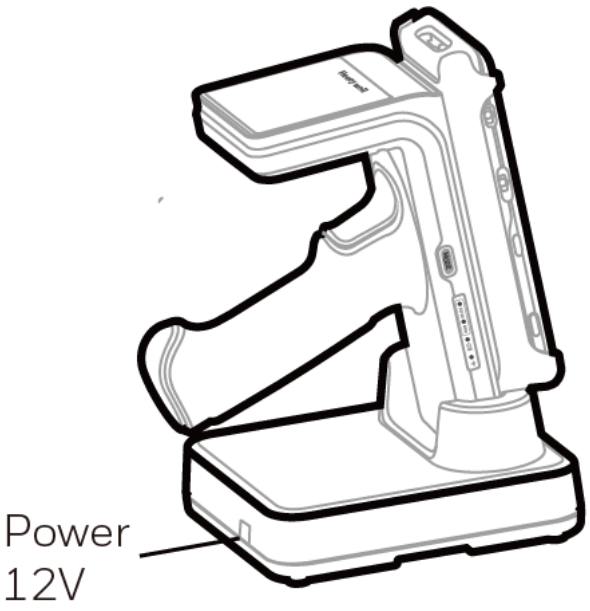
1. Attach the battery cover. Make sure that the cover clicks into place.
2. Attach the handle. Make sure that the handle clicks into place.

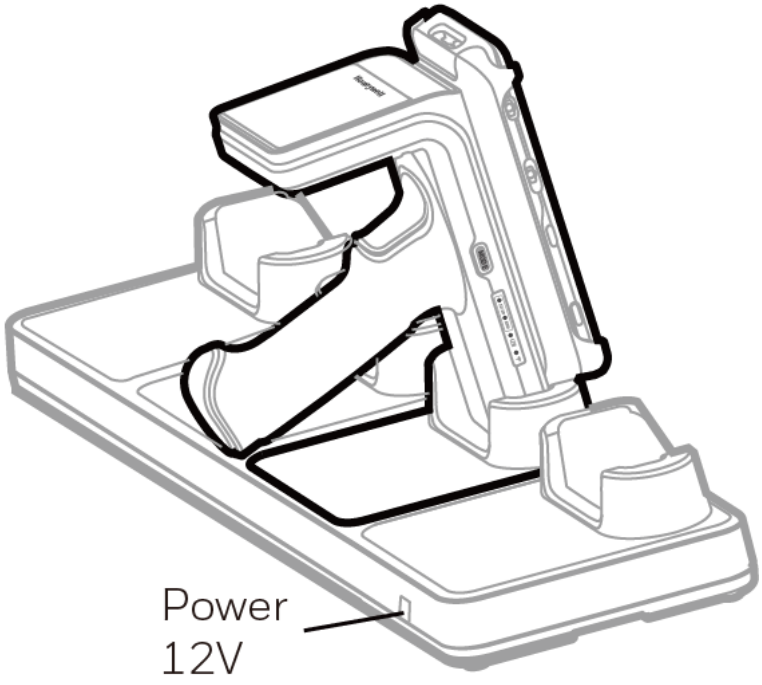


Docking Station Charge

Use the one-slot or four-slot docking station to charge IH25 and the mobile terminal.

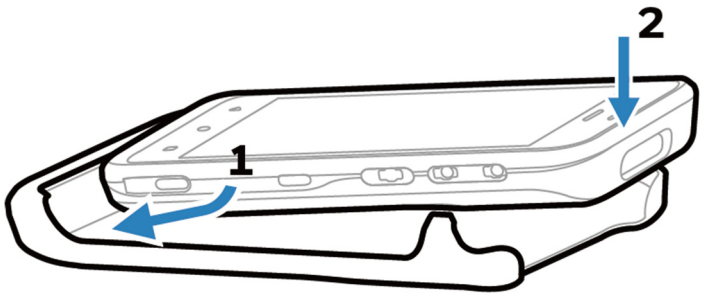
Note: When charging, make sure the charging indicator is always on.





Installing/Removing Device Case and Attaching Device

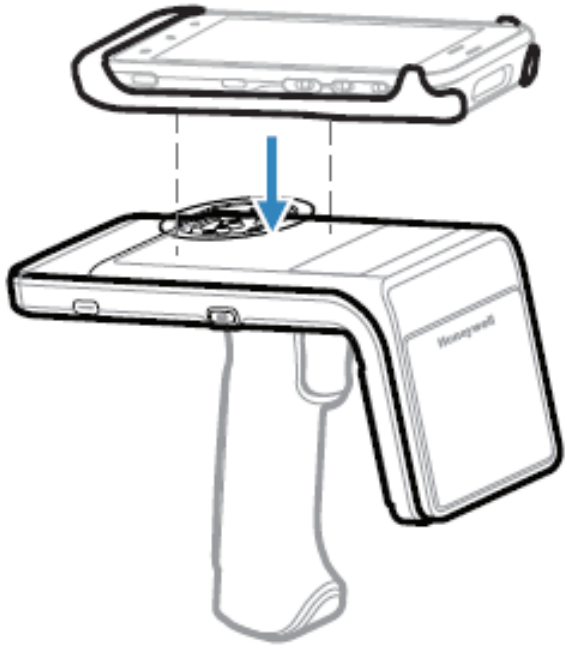
1. Insert the mobile terminal into the bracket and press it down.



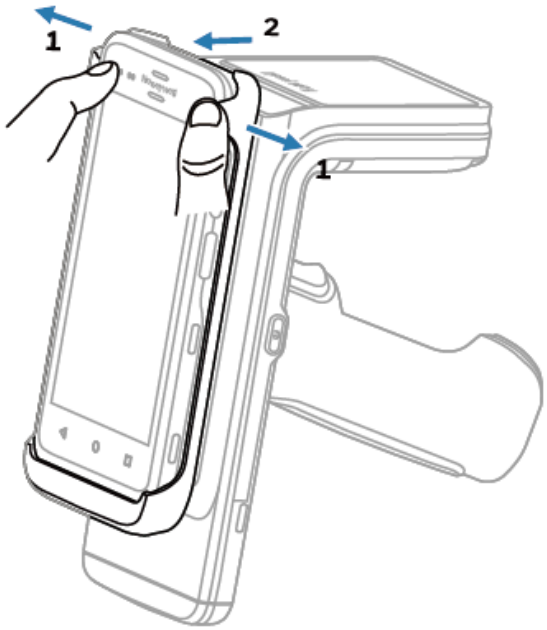
Note: When installing the bracket, pay attention to the angle and pressure to avoid damaging the product.

2. Ensure that the bracket on the bottom of the case and the socket on the reader are clean and free from dirt or debris.

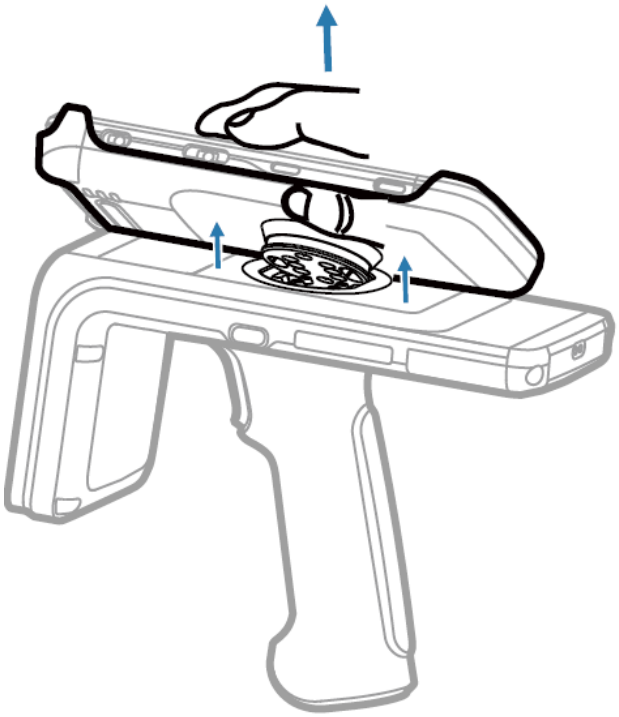
3. Align the bracket with the socket, ensuring that it is parallel, and press the two parts together firmly until they click into place.



4. To remove the mobile terminal: Place the IH25 on a flat surface or hold it at the sides with both hands, push the buckle out with your thumbs, and lift the terminal out with your index finger.



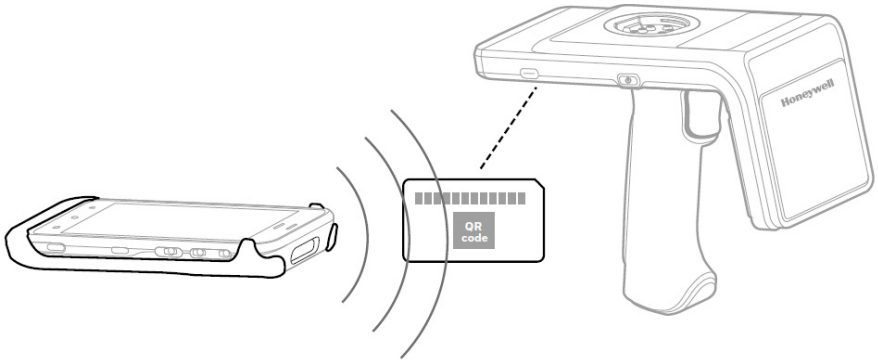
5. To remove the bracket: Hold the handle with one hand and lift it from the side of the bracket with the other hand.



Reading RFID Tags

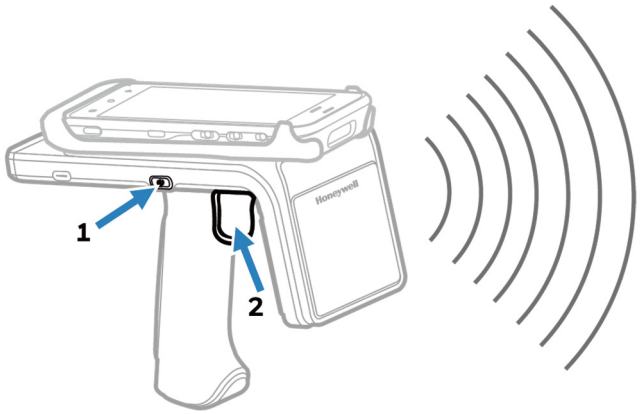
1. Turn on power to the reader. It will beep one time.

2. Power on the mobile terminal and launch the HONRFID app. Tap ⋮ on the right top corner of Connect screen and select Barcode Way then scan the QR code on the label attached at the bottom of the reader's main body.



3. Press the MODE button and release within three seconds to check IH25's operation mode. If RFID LED lights up, IH25 works in RFID mode. If 1D/2D LED lights up, it means IH25 works in Barcode mode. Press and hold the MODE button for at least three seconds to switch to RFID mode.

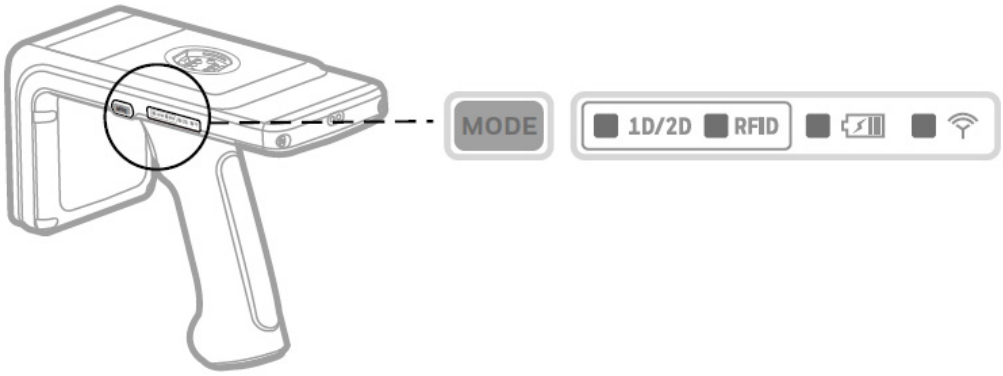
4. Press the trigger button to read tags.



Note:

- The Barcode Way is only supported by Honeywell's mobile device. See Connect for other connection methods.
- Make sure to switch on the Bluetooth function and **Location** (**Settings** > **Security** & **location** > **Location**) on the mobile device before connecting. Otherwise, the connection will fail.
- RFID tags can be read when they are in range. The range (typically 0.2ft—20ft) at which a tag can be read depends on the tag type and size and the number of tags in the field.

MODE Button and Status Indicators



MODE 1D/2D RFID	Press the MODE button to turn on the current mode light. Release the button within three seconds. The mode light turns off. Press and hold the MODE button for at least three seconds to switch between 1D/2D and RFID mode. The current mode light is on. Release the button. The current mode light turns off.
	Solid amber: Charging
	Solid green: Fully charged
	Red flash/Green and amber flash alternately: Charge error
	Solid red: Battery low warning (<20% capacity remaining.)
	Blue slow flash: Bluetooth disconnected (two beeps when disconnected from PDA)
	Solid blue: Bluetooth connected (one beep when connected successfully)

Modify RFID Connection Settings

A Honeywell mobile computer can connect to an RFID reader using either Bluetooth or an RFID reader bracket that supports a USB connection. An RFID reader bracket is required for the mobile device to establish a USB connection to an RFID reader. Refer to the accessories catalog for your mobile device available at sps.honeywell.com for information on compatible RFID brackets.

Note: The Communication Interface setting is applicable only when the mobile computer is being connected to the RFID reader with a bracket that supports a USB connection.

The following options are available:

- **AutoDetect-USB or Bluetooth** - In this mode, the mobile computer automatically detects the connection type to use. If the mobile computer is not connected to the RFID reader with a bracket, a Bluetooth connection will be established. If the mobile computer is attached to the RFID reader using an RFID reader bracket that supports a USB connection, the connection method will be USB. If the mobile computer is removed from the RFID bracket, it will automatically reconnect to the RFID reader using the Bluetooth signal.
- **USB only** - In this mode, the mobile computer can only activate the RFID reader when it is connected by USB in an RFID reader bracket that supports USB. The mobile computer may still detect and pair with the RFID reader, but it will not be able to activate the reader.

1. Swipe up from the bottom of the Home screen to access all apps.
2. Tap **Settings** > **Honeywell Settings** > **RFID**.
3. Tap **GENERAL**.
4. Tap **Communication interface**.
5. Select **AutoDetect-USB or Bluetooth** or **USB Only**.
   The selected mode is displayed.

Add or Modify RFID Profiles

Honeywell mobile computers have a default RFID profile for each type of Honeywell RFID reader (IH40, IH45, etc.). You can modify the default profile or create custom profiles to meet your requirements.

To view profile settings on the device:

1. Swipe up from the bottom of the Home screen to access all apps.
2. Tap **Settings** > **Honeywell Settings** > **RFID**.

3. Tap an RFID reader model (IP30, IH25, IH40, IH45).
4. Tap **Default profile**.

Refer to the mobile computer user guide for descriptions of RFID settings and information on how to add or modify RFID profiles.

Cyber Security

The Bluetooth connection between a supported Honeywell RFID reader and a mobile computer is not secure. The message exchanges are in clear text and have not been subjected to any form of encryption.

The operational risk of an exploit is considered low due to Bluetooth's low energy radio waves preventing long distance operation. To exploit the connection, a cyber-criminal or cyber-crime related equipment would need to be near the operation of the RFID reader and the mobile computer. Users are advised to check the surroundings of the environment where the RFID reader and mobile computer will be used for unusual devices and unusual personnel.

Refer to the Android Network and Security Guide available at sps.honeywell.com for more information.

CHAPTER

2 HONRFID MOBILE APPLICATION FOR ANDROID

Overview

This chapter describes the HONRFID *Mobile Application for Android* that can be used with the IH25.

This application runs on Android mobile devices and demonstrates IH25 functions and tag operation. It allows the user to navigate to all screens whether or not the device is connected to the IH25 reader and when the inventory/locate operation is in progress.

Note: The content of this chapter is only based on the demo app showing the basic RFID function of the IH25. Customers should eventually integrate the RFID SDK into the source code of their own app to fully implement the function. For information on how to get the demo app and SDK files, ask local sales staff for help.

Using the HONRFID Mobile Application for Android

To use this application for RFID operations:

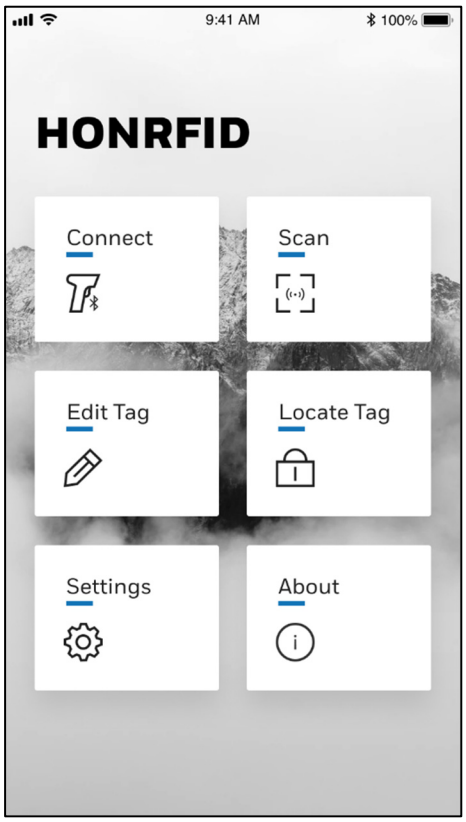
1. Ensure the HONRFID Mobile Application for Android is installed on the Android mobile device.
2. Ensure the IH25 is in RFID mode.
3. Launch the HONRFID Mobile Application for Android on the mobile device.

Basic Operation

This section describes how to use the HONRFID application.

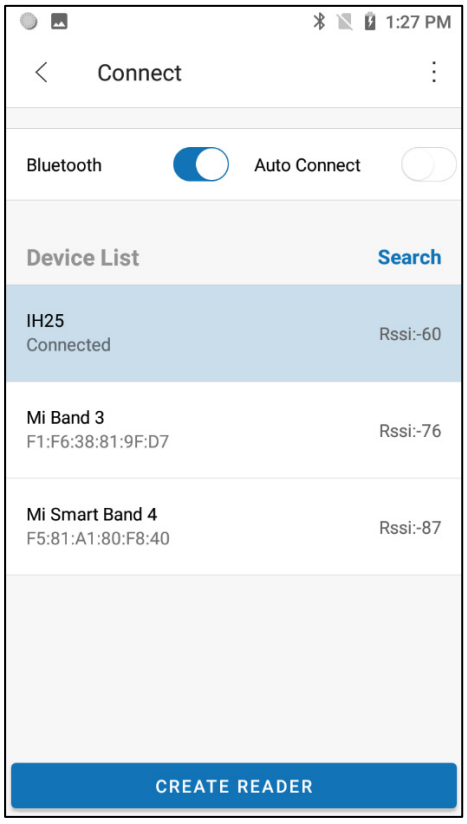
Home Screen

To access the HONRFID Mobile Application for Android, touch the App icon on the mobile device to display the *Home* screen.



Connect

Touch the **Connect** icon on the **Home** Screen to go to the **Connect** screen.



Note: Before connecting, make sure to switch on the Bluetooth function on the mobile device.

Auto Connect

1. Tap **Auto Connect** to switch on this function.
2. Tap the **Search** button. The mobile device will search for an available Bluetooth device and connect to it automatically. It beeps one time when successfully connected.
3. Tap **CREATE READER** at the bottom of the screen to pair with IH25 and go to the **Scan** screen.

Manually Connect

1. Tap **Auto Connect** to switch it off.
2. Tap the **Search** button and wait until the available Bluetooth devices are displayed in the list.
3. Select **IH25** to connect. The device beeps one time when successfully connected.
4. Tap **CREATE READER** at the bottom of the screen to pair with IH25 and go to the **Scan** screen.

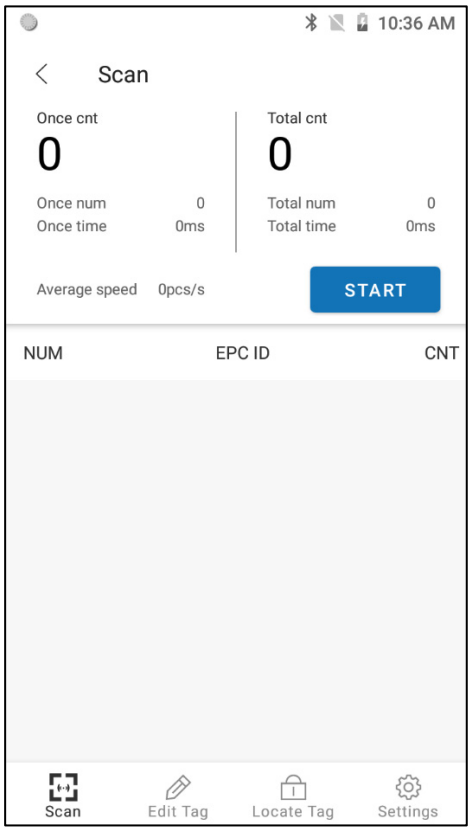
QR Code Connect

Tap ⋮ on the right top corner of the Connect screen and select **Barcode Way** to scan the barcode on IH25 to pair with IH25.

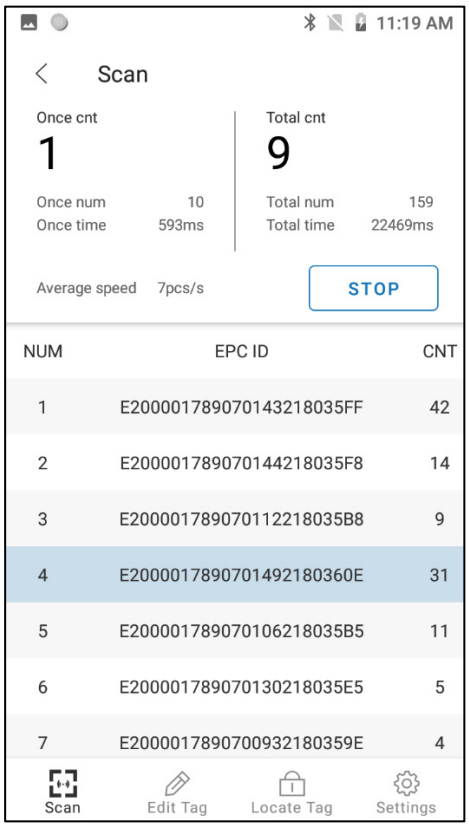
Note: The **Barcode Way** is only supported by Honeywell's mobile device.

Scan

1. Touch the **Scan** icon on the **Home** screen to go to the **Scan** screen (make sure to successfully connect with IH25 before scanning).



2. Touch **START** to start scanning tags that are in range.

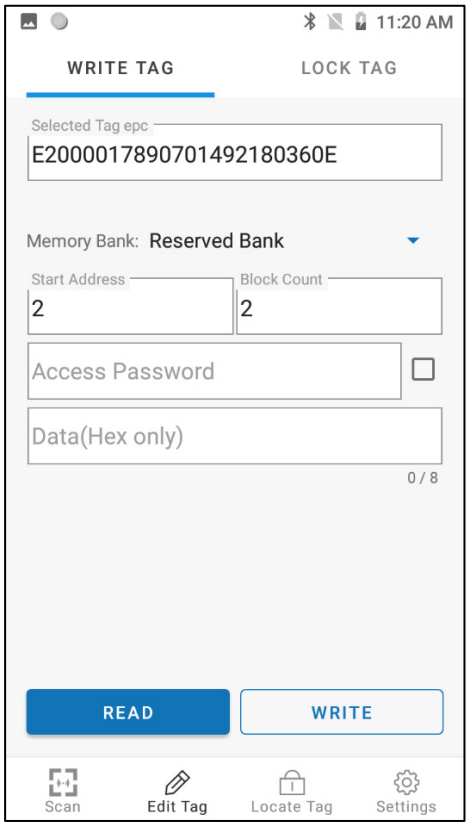


3. Tap **STOP** to stop scanning. The scanned tags information is displayed in the list.

Note: You can also press and hold the trigger button on the IH25 to start scanning tags and release the trigger button to stop scanning in RFID mode.

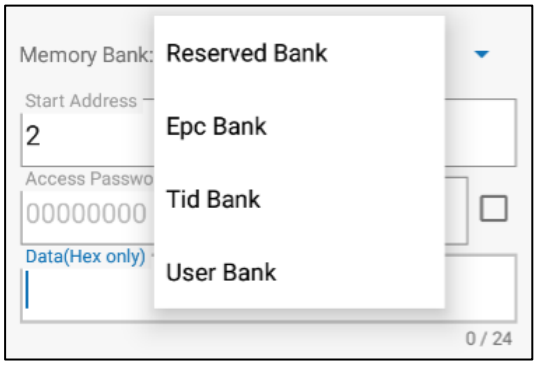
Edit Tag

Touch one tag to select the tag then tap **Edit Tag** at the bottom of the screen to go to the edit screen.



Write Tag

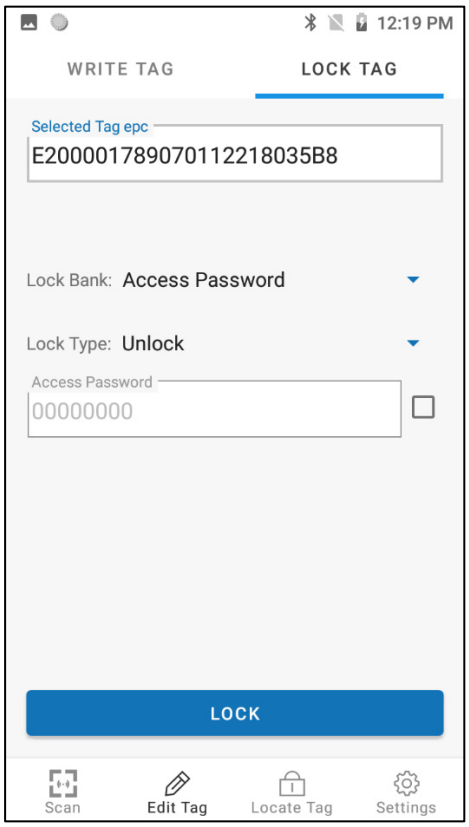
Touch  to choose the **Memory Bank** type.



Edit the **Start Address**s and **Block Count** according to needs.

Lock Tag

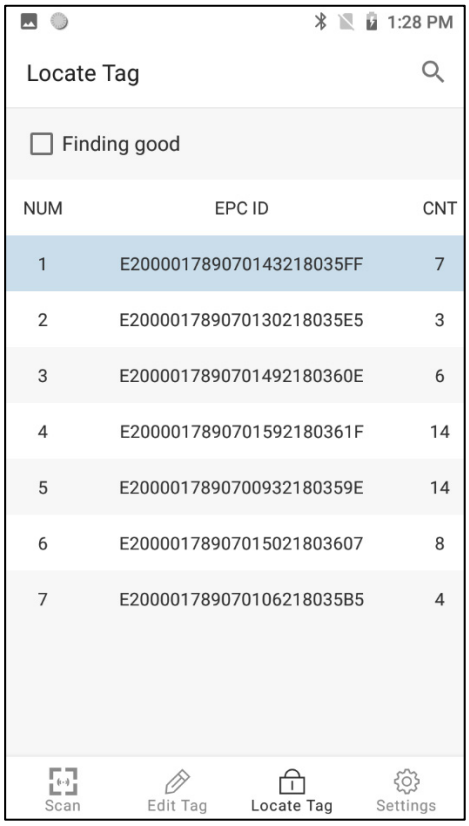
Touch **LOCK TAG** to switch to lock tag screen.



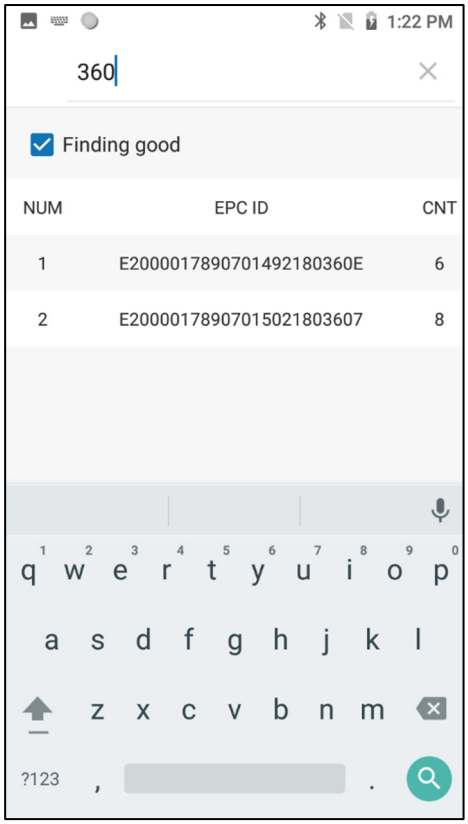
Touch  to choose the lock band and the lock type from the drop-down list. Enter the access password if necessary and touch **LOCK**.

Locate Tag

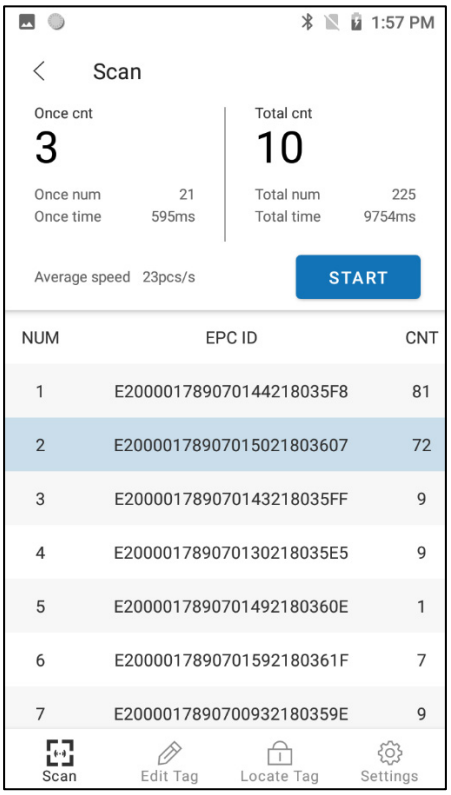
1. Touch **Locate Tag** at the bottom of the screen to go to the locate tag screen.



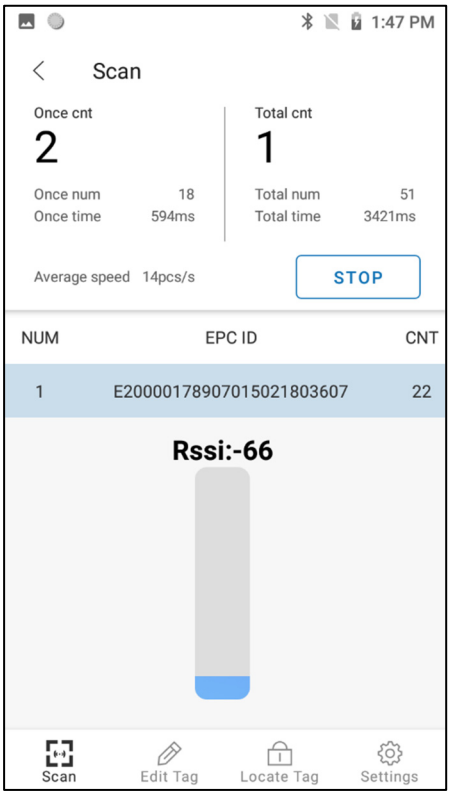
2. Touch  to type the content you want to locate in the search bar. As you type, the app automatically filters to the target tag.



3. Select the tag you want and check “**Finding good”.** Touch **Scan** to go back to the Scan screen. The located tag is highlighted in the list.



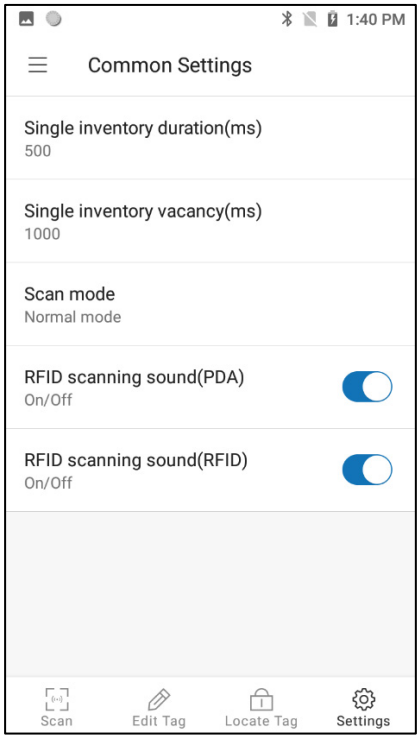
4. Touch **START** and move the mobile device to start finding the target good.



5. IH25 beeps constantly when the target good is in the available range.

Settings

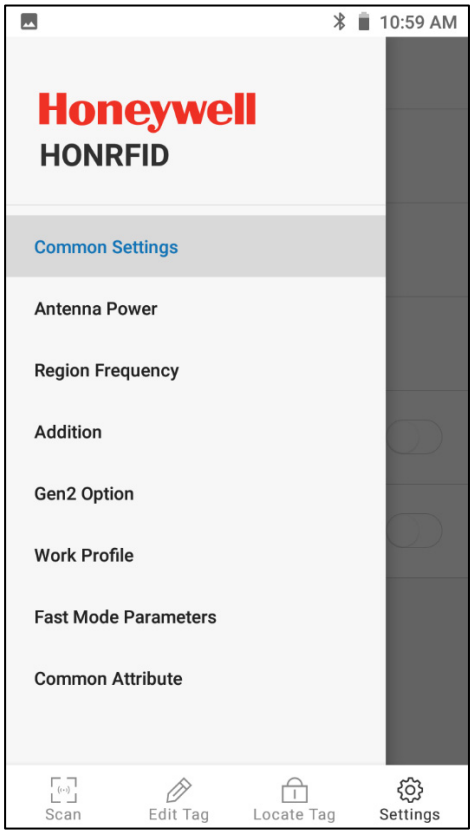
Touch **Settings** at the bottom of the screen to go to the Common Settings screen.



Common Settings

- Single inventory duration (Only Valid in normal mode)—Touch to set the duration.
- Single inventory vacancy (Only Valid in normal mode)—Touch to set the vacancy.
- Scan mode – Touch to set the normal mode or fast mode.
- RFID scanning sound(PDA) – Touch to turn on/off.
- RFID scanning sound(RFID) – Touch to turn on/off.

Touch ☰ at the top left to go to the other settings.



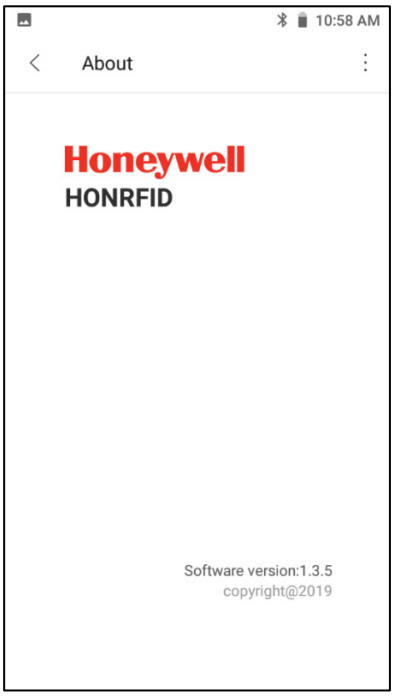
Other Settings

Settings	Description
Antenna Power	Ant read power
	Ant write power
Region Frequency	Set Region: China / Europe / N/A

Addition	Addition data type: None/Reserved Bank/Epc Bank/Tid Bank/User Bank Setting will take effect in fast mode after you check data in Return items in Fast Mode Parameters.
Gen2 option	Session mode • S0: For a small number of Tags • S1: For large number of Tags • S2/S3: For special marked Tags
Fast Mode Parameters	Pause percentage: range: 0%~50% Return items: count/rssi/ant/frequency/time/pro/data
Common Attribute	• RFID module temperature • RFID module version • Battery level • Battery temperature • Bluetooth module version

About

Touch About on the Home screen to check the software version.



CHAPTER

3 RFID Discovery App

About the RFID Discovery App

The RFID Discovery app can be used to pair a Honeywell mobile device with a Honeywell RFID reader. The RFID wedge feature allows an RFID reader to communicate with an app on the mobile device without the user being required to develop a new app using the RFID Reader SDK.

The paired device will use the RFID Collection Service settings to process RFID tags. RFID settings are configured on the mobile device. For information on configuring RFID settings and creating RFID profiles, refer to the mobile device user guide available at sps.honeywell.com.

The RFID app provides three methods to pair a mobile device with an RFID reader:

- Scan a barcode or QR code on the RFID reader.
- Detect the Bluetooth signal of the RFID reader.
- Manually enter the MAC address of the RFID reader.

Prerequisites

A reader's availability is determined by whether the reader is on and within Bluetooth range. Before pairing an RFID reader with a mobile device:

- Turn on power to the RFID reader.
- Turn on Bluetooth on the mobile computer. You can turn Bluetooth on in the RFID app by tapping the slider.
- Verify that the Wedge setting is enabled in the profile for the RFID reader in **Settings > Honeywell Settings > RFID**.

Note: The RFID Discovery app is included on Honeywell mobile computers running Android 10 or higher but may be dependent on the OS maintenance release version. If the RFID app is not installed on your Honeywell mobile computer, Honeywell recommends updating your computer to the latest Android maintenance release.

Pair a Device

Use one of the following methods to pair a mobile computer with an RFID reader.

Barcode Pairing

Depending on the RFID reader model, the unit will have either a barcode or QR code. You can pair a mobile computer with the RFID reader by scanning the code.

Follow these steps to pair the mobile computer with an RFID reader by scanning a barcode or QR code.

1. On the mobile computer, swipe up to display all apps then tap the RFID icon .
2. Locate the barcode or QR code on the RFID reader.
3. Press and hold the scan button.
4. Center the aiming beam over the bar code. When the scanner successfully reads the bar code, the mobile computer beeps.
5. Release the scan button.
6. The software pairs the device with the RFID reader. If no other readers are activated, the reader will automatically be activated.
   If another reader is already active when the scanned reader is being activated, a warning is displayed. The scanned reader appears in the Discovered readers section but is not activated.

Bluetooth Pairing

Follow these steps to pair the mobile computer with an RFID reader by detecting the Bluetooth signal from readers within range of the mobile computer.

1. On the mobile computer, swipe up to display all apps then tap the RFID icon .
2. Tap **Add new reader - Bluetooth**.
3. The app discovers RFID readers within Bluetooth range. The progress messages will indicate that the app is discovering readers that have not previously been paired then readers that have previously been paired with the mobile computer. When the scan is complete, the RFID readers are displayed in the Discovered readers section of the app.
   To view information on an RFID reader, tap an item in the list.
4. To activate a reader, tap the gear icon next to the reader you want to pair with.
5. Tap **ACTIVATE**.

Manual Pairing

Follow these steps to pair the mobile computer with an RFID reader manually by entering the reader's MAC address.

1. On the mobile computer, swipe up to display all apps then tap the RFID icon .
2. Tap **Add new reader - manual**.
3. Enter the reader MAC address then tap **OK**.
   You must enter a 12-digit MAC address before the **OK** button becomes active. The text box accepts the numbers 1 to 9 or letters A through E. The colons in the MAC address are automatically populated.
4. When the device is discovered, it is displayed in the Discovered readers section of the app.
5. To activate the reader, tap the gear icon next to the reader you want to pair with.
6. Tap **ACTIVATE**.

Deactivate a Reader

The RFID app supports using multiple RFID readers; however, only one reader can be active at a time.

Follow these steps to deactivate a reader:

1. On the mobile computer, swipe up to display all apps then tap the RFID icon .
2. Tap the gear icon next to the reader identified as the active reader.
3. Tap **DEACTIVATE**.
4. When you deactivate a reader, it is moved to the Discovered readers list.

Remove a Reader

Follow these steps to deactivate a reader so that is no longer included in the RFID app's cache:

1. On the mobile computer, swipe up to display all apps then tap the RFID icon .
2. Tap the gear icon next to a reader.
3. Tap **REMOVE**.
4. Tap **REMOVE READER**.
   The reader is longer displayed in the Discovered readers list.

View Reader Information

After a reader has been discovered, its attributes can be viewed in the app. To view reader information, tap the RFID reader name in the Discovered readers list.

To save the reader information to a file on the mobile computer, tap the EXPORT button. Reader attributes are exported to a text file located at /Internal shared storage/Android/data/com.honeywell.datacollection.rfid/files/Documents/ReaderInfo.txt.

CHAPTER

4 MAINTENANCE AND TROUBLESHOOTING

Maintenance

For trouble-free service, please observe the following tip when using the IH25 Reader:

Protect the IH25 Reader from temperature extremes. Do not leave it on the dashboard of a car on a hot day and keep it away from heat sources.

Troubleshooting

Symptoms	Possible Cause	Action
Nothing happens when the button is pressed.	If the LEDs are not on, then the battery may need to be charged.	Charge the reader.
	The reader may have button actions disabled.	Contact technical support.
Red flash/ Green and amber flash alternately.	There is a battery fault.	Replace the battery pack.
	The battery pack temperature is outside recommended limits.	Ensure charging only occurs between 0°C - 45°C.
The host *Bluetooth®* discovery does not find the reader.	The reader has powered off.	Press the button and ensure the blue LED is flashing.
	The reader is out of range.	Move the reader closer to the host.

Opening the Bluetooth virtual com port does not connect to the reader.	The host has paired to a different Bluetooth device.	Pair to the required reader.
	The host *Bluetooth* function has an error.	Warm boot the host. If this does not help, delete the reader from the favorites list and re-pair.
Other symptoms	Other fault.	Run ASCII Remote Diagnostic and contact Support.

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