



KC industrial

USER MANUAL

for R-5000

CONTENTS

CONTENTS	3
ABOUT THIS MANUAL	4
Revision History	4
Relevant Document	4
Service Information	4
OVERVIEW	5
Package	5
Feature	6
Indicators	7
GETTING STARTED	8
Charging the Device	8
Installing the Battery	9
Bluetooth Pairing	10
NFC Tap to Pair	10
QR Code Pairing	11
TAGFOCUS AND FASTID TAG SUPPORTED	13
Type of tags supported	13
Monza Model Numbers	13
CERTIFICATION	14
KC Certification	14
SAFETY INFORMATION	15
Battery Safety	15
Battery Usage & Disposal Guidelines	15
Battery Storage Guidelines	15
Laser Safety	16
APPENDIX. SPECIFICATION	17

ABOUT THIS MANUAL

Revision History

Revision	Date	Description
1.0	28, July 2022	– First version released
1.1	17, August 2022	– ‘NFC Tap to Pair’ [NOTE] Added
1.2	22, August 2022	<ul style="list-style-type: none">– Charging the Device [NOTE] Added– ‘SAFETY INFORMATION’ Added
1.3	21, October 2022	<ul style="list-style-type: none">– ‘R-5000 Device (without barcode)’ Deleted– Charging the Device [NOTE] Added– ‘KC Certification’ Added– ‘Laser Safety’ Added to SAFETY INFORMATION
1.4	9, November 2022	<ul style="list-style-type: none">– ‘FCC Warning’ Added
1.5	24, November 2022	<ul style="list-style-type: none">– ‘USING THE DEVICE’ Added

Relevant Document

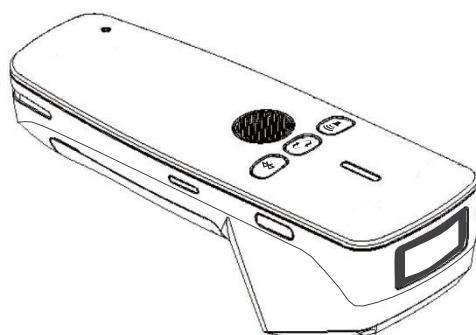
- Programming Barcode Manual
- RSP Interface Programmers Guide

Service Information

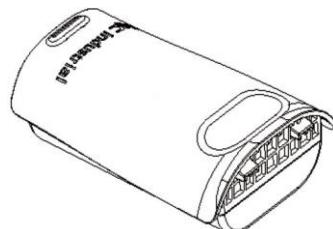
If you have a problem with your device, please contact KC Industrial Co.,Ltd Support in your area.
For contact information, please visit <http://www.kcindustrial.com/contato-1>

OVERVIEW

Package



| R-5000 Device (with barcode)



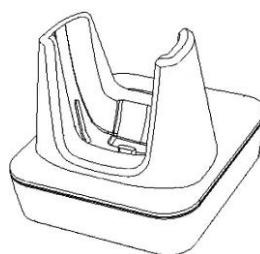
| Battery



| Hand strap

[NOTE] Adaptor and USB-C Cable are included.

Optional



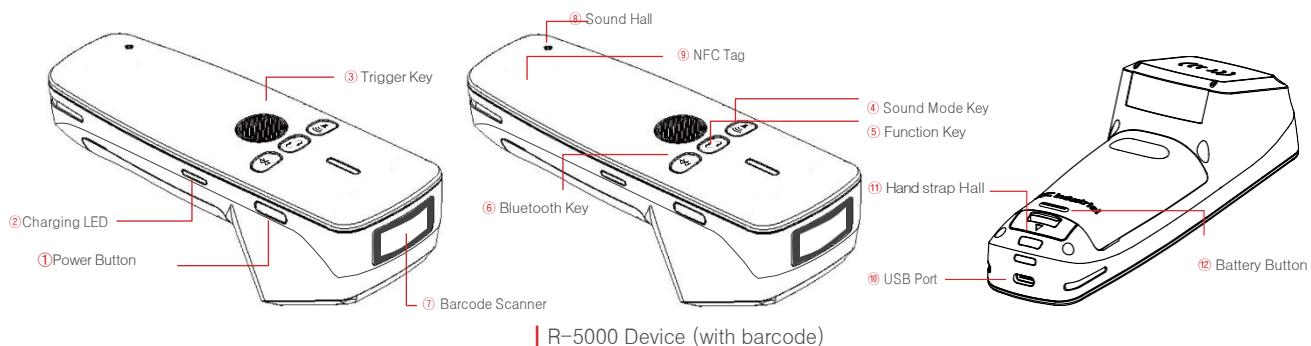
| Cradle

[NOTE] Cradle is sold separately.

OVERVIEW

Feature

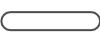
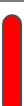
R-5000 with Barcode scanner



No.	Name	Description
1	Power Key	Press and hold for 3 seconds to turn on/off the device. It makes a beep sound and is powered on.
2	Charging LED	Indicates the charging status and the battery level. The battery power is shown in 3 level.
3	Trigger Key	Reads tags or scans barcodes by pressing key. In RFID mode, read the data continuously while pressing key. In Scanner mode, scanning stops once the barcode has been read.
4	Sound Key	Press the key to change the Sound mode: Sound – Sound & Vibration – Vibration – Mute. In case of connecting with iOS terminals in HID mode, hold the key for 3 seconds to keyboard pop up on display.
5	Function Key	Press the key to change the RFID mode, RFID tag reading or barcode scanning. Hold the key for 3 seconds to delete the data stored in local memory.
6	Bluetooth Key	Press the key to turn on Bluetooth. Hold the key for 3 seconds to delete the Bluetooth connected list(Un-bonding).
7	Barcode Scanner	Scans barcodes by emitting a red laser.
8	Sound Hall	You can hear a beep sound from the sound hole.
9	NFC Tag	You can connect the device with NFC.
10	USB Port	You can charge the data communication with the host terminal using USB cable.
11	Hand strap Hall	Install the handstrap through the hole.
12	Battery Button	Press the button below to replace the battery.

OVERVIEW

Indicators

LED	Status	Description	
CHARGING	OFF		Battery exhausted
	3-WHITE-LED		Battery level is High
	2-WHITE-LED		Battery level is Middle
	1-WHITE-LED		Battery level is Low
	Blink		Battery fault
SOUND	GREEN		Only sound
	BLUE		Sound & Vibration
	RED		Only Vibration
	OFF		Mute
FUNCTION	RED		Scanner mode
	BLUE		RFID mode
	BLUE		SPP(UART) Profile
BLUETOOTH	RED		HID Keyboard
	BLUE-Blink		Not connect in SPP(UART) Profile
	RED-Blink		Not connect in HID Keyboard
	OFF		Not connect because the USB Data cable is connected.

[NOTE] The Charging indicator shows only a rough estimate of battery power and does not show an accurate remaining power level. Therefore, please charge the device early.

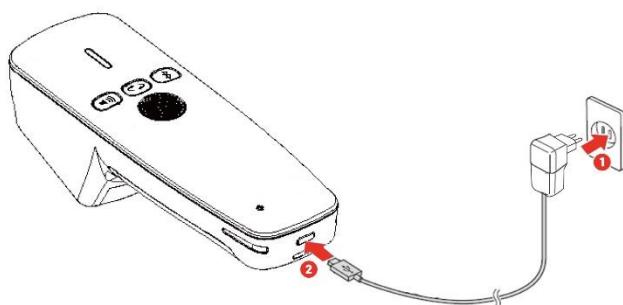
[NOTE] At battery level 10%, the device sounds beep every 1 minute.

At battery level 5%, it sounds beep every 30 seconds.

GETTING STARTED

Charging the Device

01 Charging with Adaptor

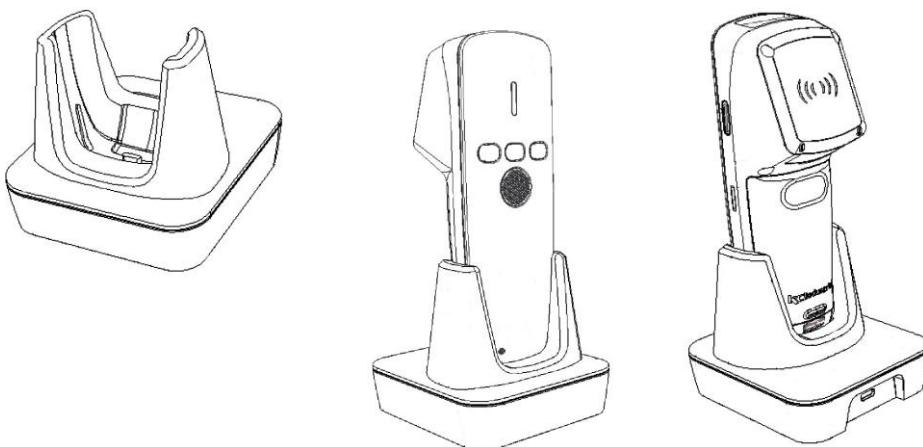


- ① Assemble the plug and the AC/DC adaptor and connect the USB-C cable to charge the device.

[NOTE] Use an original charger adaptor and cable from KC Industrial. Other chargers and cables may damage the device. Please refer to [SAFETY INFORMATION](#) for safety of using battery.

[NOTE] When charging the battery, the highest temperature is 45°C.

02 Charging with Cradle

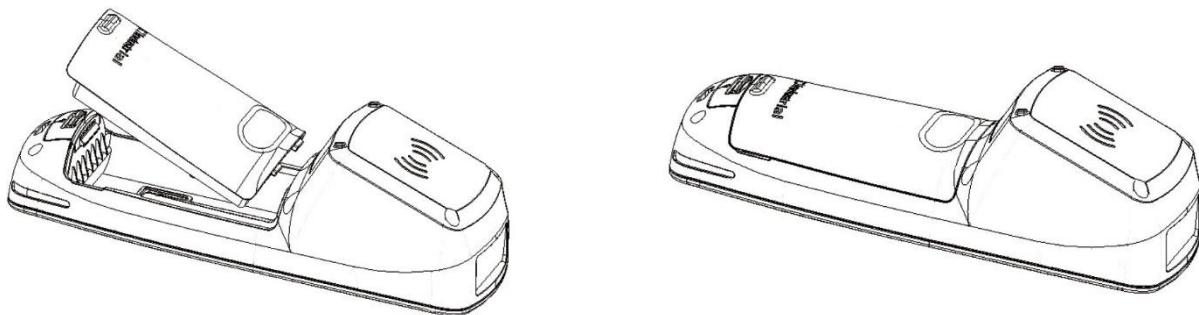


- ① Take care not to involve a hand-strap between the device and the cradle.
- ② Push down the device on the cradle securely.

[NOTE] When removing, pick up the device holding the cradle with one hand.

GETTING STARTED

Installing the Battery



- ① Place the top of the battery fully forward to into the battery holder and push down on the bottom of the battery.
- ② To replace the battery, press down the battery button.

[NOTE] If a device is not working properly or freezes due to unknown errors, please pull the battery out and reset it.

And press the Power key to turn on the device.

GETTING STARTED

Bluetooth Pairing

You can use Bluetooth to connect the device to host terminals.

- ① Turn on the Bluetooth function of the host terminal.
- ② Power on the device and Bluetooth indicator will blink (Blue – SPP(UART) profile, Red – HID mode).
- ③ Select this device from the device list of the host terminal to pair.
The device name is displayed as “R-5000(XXXXXX)”.
- ④ When Bluetooth pairing is successful, blink stop and indicator illuminates continuously.

[NOTE] The device can pair automatically with the last connected host terminal.

[NOTE] As for iOS, to pair a new host terminal, please turn off the Bluetooth function or delete the device from the device list of the host terminal paired before.

NFC Tap to Pair



- ① Turn on the NFC function of the host terminal.
- ② Keep touching your mobile device next to sound hall on the top of R-5000.

[NOTE] Depending on the country and specifications of the mobile device, it does not support NFC.
Please refer to the instruction manual of your mobile device(Android).

[NOTE] If the connection does not work, please do the following:

- If the mobile device is locked, please release the lock and move it slowly on the NFC.
- If the mobile device is in a protective case, please remove the case.
- Check your mobile device's Bluetooth turn on.

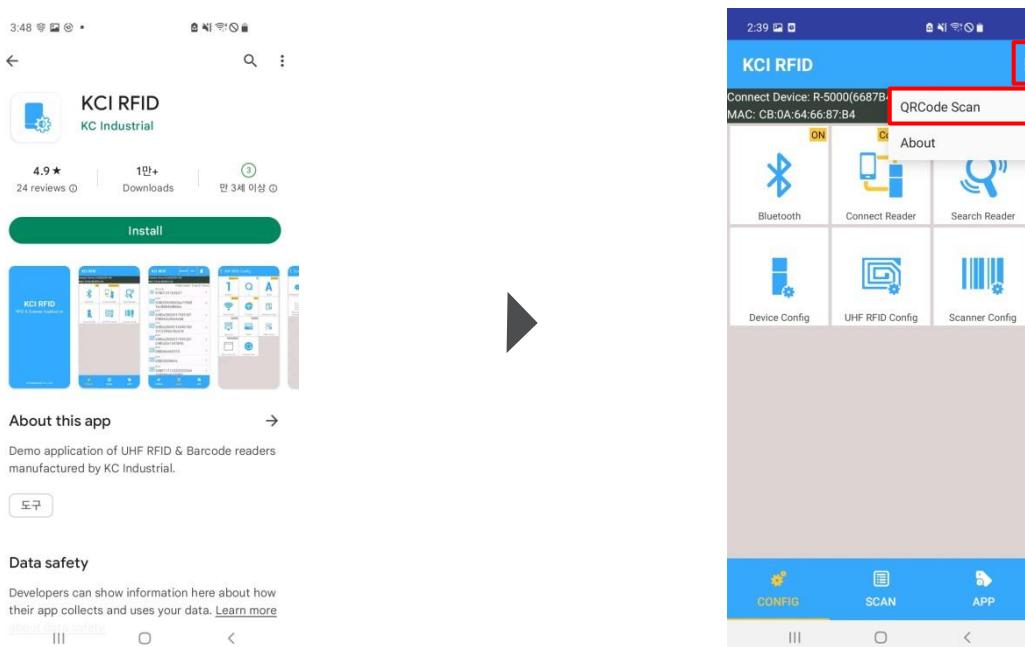
[NOTE] As for iOS terminal, NFC function is not available.

GETTING STARTED

QR Code Pairing

You can use QR Code attached to the device to connect the host terminals.

- ① Install the ‘KCI RFID’ Mobile Application form the Google Play Store.
- ② Launch the ‘KCI RFID’ on the mobile host terminal.
- ③ Press the “QR Code Scan” button from the menu in the upper right and read the QR code on the label attached to the device.



USING THE DEVICE

Reading Tags

To read tags using the R-5000,

- ① Turn on the R-5000 and check the RFID mode (Function LED – BLUE).
- ② If not in RFID Mode, press the Mode key to change the mode.
- ③ Connect the host terminal to device.
- ④ Hold the device in the direction of the tag to be read and press the Trigger key.

[NOTE] When the tag is read successfully, you will hear a beep sound (In Sound, Sound & Vibration mode).

Scanning Barcodes

To scan barcodes using the R-5000,

- ① Turn on the R-5000 and check the Scanner mode (Function LED – RED).
- ② If not in Scanner Mode, press the Mode key to change the mode.
- ③ Connect the host terminal to device.
- ④ Hold the device in the direction of the barcode to be scanned and press the Trigger key.

[NOTE] When the barcode is scanned successfully, you will hear a beep sound (In Sound, Sound & Vibration mode).

TAGFOCUS AND FASTID TAG SUPPORTED

TagFocus™ and FastID™ are only available for Monza Tag chip, manufactured by Impinj.

Type of tags supported

Model	Monza 4			Monza 5	Monza 6			Monza X	
	4D	4E	4QT	5	R6	R6-P	S6-C	2K	4K
Tag Focus™	V	V	V	V	V	V	V	V	V
FastID™	V	V	V	V	V	V	V	V	V

Monza Model Numbers

Family	Model	TID Memory	
		Address 0x00 ~ 0x1F	
Monza 4	4D		0xE2801100
	4E		0xE280110C
	4QT		0xE2801105
Monza 5	5		0xE2801130
Monza 6	R6		0xE2801160
	R6-P		0xE2801170
	S6-C		0xE2801171
Monza X	2K Dura		0xE2801140
	8K Dura		0xE2801150

CERTIFICATION

KC Certification

This product is an industrial equipment used in manufacturing or production process, and it is a wireless equipment that has received conformity assessment(registration of conformity) according to Article 58-2 of the Radio Waves Act.

Conformity Assessment Mark

Applicant	KC Industrial Co., Ltd
Model Name	R-5000
Equipment Name	RFID/USN Wireless Device (900MHz Frequency band)
Manufacturer / Country of Origin	KC Industrial Co., Ltd / Korea
Certification number	R-R-D0t-R5000
Certified Wireless Module Information	R-C-ryt-MDBT50

FCC Warning

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

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

The device complies with RF exposure requirement.

SAFETY INFORMATION

Battery Safety

Follow battery safety guidelines in this manual for safe usage and disposal of Li-ion batteries. Improper battery use may cause an explosion, fire, or other critical hazards.

Battery Usage & Disposal Guidelines

Use only R-5000 approved batteries and charging accessories.

Using an incompatible battery or charger may cause device malfunction or other damage.

- Do not disassemble or modify the battery. Do not bend, shred, deform the battery.
- Do not expose the battery to excessive heat or cold.
- Do not place the battery into a microwave oven or dryer.
- Do not short-circuit the battery or allow a foreign object to battery contacts.
- Do not burn, expose to water, or other liquids the battery.
- If battery leakage is observed, avoid any contact with the skin or eyes.
- If contact has been made, wash the affected area with water for 15 minutes, and seek medical attention.
- Follow the local regulations for the disposal of used batteries.
- Do not store or charge the battery in direct sunlight or in areas prone to get hot such as on the dashboard of a car extended periods of time, or close to other heat sources.

Battery Storage Guidelines

Storing batteries is as important as using it safely.

Battery is a core part of the device's performance so that you should treat the batteries safely.

- Batteries should be stored in the clean, dry and ventilated environment within ambient temperature ranges of $20\pm5^{\circ}\text{C}$.
- Keep batteries away from corrosive substances.
- Keep batteries away from fire and heat.
- Batteries are charged while producing to below 30% of full capacity for safety regulations.
- Charge it for 30 minutes – 1 hour at least once every six months to prevent full discharge and keep the performance, when you are not using the device for a long period.

Laser Safety

Class 2 laser Product 1.0mW MAX OUTPUT 650nm LASER.
LASER LIGHT. Do not stare into beam.

APPENDIX. SPECIFICATION

Category		Description
PHYSICAL CHARACTERISTICS	Dimension	55 x 169.5 x 32.8 (W x H x D)
	Weight	Approx. 250g (Including battery, w/o Barcode option)
	Power	18.513Wh (5100mAh@3.63V), Li-ion Battery, DC 7.26V, Charging Input power: DC 5V
	Notification	Beeper, Vibration, 4LEDs
	User Input	Power/Trigger/Sound/Mode/BT Key
	ETC Option	1D/2D
RFID PERFORMANCE	Protocol	ISO 18000-63 (Old.18000-6C)/ EPC Global Class 1 Gen 2
	Chip	Impinj® Reader Chip
	MCU	ARM® Cortex®-M4, 32bit
	Antenna	Circular polarization
COMMUNICATION	Reading Speed	700+ tags/sec
	Frequency Range/ RF Output	840~960MHz/up to 30dBm (1W) (Frequency Range varies from country to country)
	Communication Interface	Bluetooth(LE), USB
USER ENVIRONMENT	Bluetooth	v5.1 BLE (SPP, HID)
	USB Interface	USB Type C, USB to Serial, USB 2.0 Compliant, Charging
USER ENVIRONMENT	Sealing	IP65
	Drop Spec.	1.5m
	Operating Temp.	-10°C to 50°C
	Storage Temp.	-40°C to 85°C
	Charging Temp.	0 °C to 40°C
	Humidity	5~95% non-condensing