CipherLab

Reference Manual

RK95 Mobile Computer

Android™ 9, Pie

Version 1.00

CIPHERLAB CO., LTD.
Website: http://www.CipherLab.com

IMPORTANT NOTICES

FOR USA

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 communication. 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.

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.

FCC Radiation Exposure Statement
This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 5 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.

FCC Caution:
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Find the certificate information from:

Setup → About Phone → Regulatory information

Tested to Comply with FCC Standards

FOR HOME OR OFFICE USE

FOR PRODUCT WITH LASER

- This laser component emits FDA / IEC Class 2 laser light at the exit port. Do NOT STARE INTO BEAM DIRECTLY.
- Do not aim the beam at the eyes.
- Any adjustments or performance excluding those specified herein may result in hazardous laser light exposure.

ENVIRONMENT

- Operate the mobile computer at ambient temperatures from -20°C to 50°C and with humidity range from 10% to 90%.
- Store the device at ambient temperatures from -30°C to 70°C and with humidity range from 5% to 95%.
- Charge the device at ambient temperatures from 0°C to 45°C.
- This device is built with a dust-proof and splash-proof structure that conforms to protection class IP65.

SPECIFIC ABSORPTION RATE (SAR) INFORMATION

The product complies with the FCC / Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the products can be kept as far as possible from the user body or set the device to lower output power if such function is available.

For body-worn operating conditions please use belt-clips, holsters, and/or accessories that have no metallic component in the assembly and must provide at least 10mm separation between the device and the user's body.

- FCC SAR Value (Standard limit is 1.6 W/Kg)
- USA (1g): Max. 0.52 W/Kg

A minimum separation distance of 0.5 cm must be maintained between the user's body and the device, including the antenna during body-worn operation to comply with the RF exposure requirements in Europe.
To compliance with RF Exposure requirements in Europe, third-party belt-clips, holsters or similar accessories used by this device should not contain any metallic components. The use of accessories that do not satisfy these requirements may not comply with RF exposure requirements, and should be avoided.

- CE SAR Value (Standard limit is 2 W/Kg)
- EU (10g): Max. 1.03 W/Kg
- 台灣 NCC 注意事項

  第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者不得擅自變更頻率、加大功率或變更原設計之特性及功能。

  第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

  前項合法通信，指依電信法規定作業之無線電通信。

  低功率射頻電機需忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

  註：若要減少電磁波影響，請妥適使用。SAR 標準值 2.0W/Kg。

SAFETY PRECAUTIONS

Warning statement:

A pleine puissance, l'écoute prolongée du baladeur peut endommager l'oreille de l'utilisateur.

To prevent possible hearing damage, do not listen at high volume levels for long periods.

使用過度，恐傷害視力。

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

For people's safety

- Do not listen at high volume levels for long periods to prevent possible hearing damage.
- Do not operate this device while walking, cycling or car driving.

For the equipment

- Do not use any batteries or charging devices which are not originally sold or manufactured by CIPHERLAB CO., LTD.
- Do not replace the battery with an incorrect type, to avoid the risk of heat generation, fire, or explosion.
- Do not disassemble, incinerate or short circuit the battery.
- Do not touch the contact pins of the battery pack.
- Do not expose the mobile computer or battery to any flammable sources.
- Do not expose the mobile computer to extreme temperatures or soak it in water.
- Do not use any pointed or sharp objects against the screen surface.
- Do not use the styluses which are not supplied or approved by CIPHERLAB CO., LTD., to prevent possible scratches to the touch screen.
- Water residue on the touch screen may cause abnormal behaviors or the fall of its sensitivity levels.
- On the surface of the terminal and the barcode reading window, the fog or water drops caused by low temperatures may influence barcode reading.
- Do not use bleaches or cleaners to clean the device. Use a clean, wet cloth instead.

BATTERY

- The main battery may not be charged to full for shipment. Charge the main battery to full before using the mobile computer for the first time.
- **Main battery:** The main battery powers the mobile computer to work. It takes approximately 4 hours to charge an empty **3000mAh** main battery to full while it takes 6 hours to charge an **6000mAh** main battery. For the first time charging the main battery, please charge it for at least 8 to 12 hours. The charging LED above the screen will light up in red while charging and will turn green when charging is complete.
- When the main battery is removed, RTC retention will be maintained for at least 30 minutes.
- **Backup battery:** The backup battery is mounted on the main board. Its role is to temporarily keep the mobile computer in suspension when the main battery is drained out so data in DRAM will be retained. The backup battery takes approximately 4 hours to charge to full by the main battery or power adapter.
- The allowed battery charging ambient temperature is between 0°C to 45°C. It is recommended to charge the battery at room temperature (18°C to 25°C) for optimal performance.
- Please note that battery charging stops when ambient temperature drops below 0°C or exceeds 45°C.
- In order to prevent system from shutting down after the battery is drained out, keep a fresh battery for replacement at all times, or connect the mobile computer to an external power.
- If there are drippings or dust on the device or battery pack, wipe them away with a soft clean cloth before battery replacement.
- Turn off the power before battery replacement.
- If you want to put away the mobile computer for a period of time, remove the battery pack from the mobile computer's battery compartment. Store the mobile computer and battery pack separately.
- Recycle batteries in a proper way for the green-environment issue.

SCANNER

- Scan a 1D barcode

1) Open **ReaderConfig** and tap **Scan Test** on the menu bar.
2) Aim the scanning window at the barcode to read. Move the device, having the barcode located in the center of the scanning area.
3) Press any of the two side triggers. The scanning light beams to read the printed barcodes. The buzzer beeps after scanning. The scanning light goes off once the data is decoded, or when the decode timeout period has passed.

- Scan a 2D barcode

1) Open **ReaderConfig** and tap **Scan Test** on the menu bar.
2) Aim the scanning window at the barcode to read. Move the device, having the barcode located in the center of the scanning area.
3) Press any of the two side triggers. The scanning light beams to read the printed barcodes. The buzzer beeps after scanning. The scanning light goes off once the data is decoded, or when the decode timeout period has passed.

CONNECTION

Via Bluetooth or WLAN

- Connection may fail when the mobile computer is around other wireless machines or power cables as the radio frequencies of those may cause interferences.
- If communication fails, move the devices much closer to each other, and try to communicate again
- After turning on, Bluetooth power is sustained even when the mobile computer is suspended. However, if the power mode is switched to Airplane Mode, Bluetooth power will be turned off regardless of the settings.

To a Charging & Communication Cradle

- Do not insert the mobile computer to a Charging & Communication Cradle if water or drippings are staying on the device.
- The LED indicator on a Charging & Communication Cradle shows the status of battery charging only; the status of terminal charging is shown on the device itself.
- Not Charging could be the result of battery damage, battery's failure to touch the connector or AC plug coming off.
- Charging error could be due to high battery temperature.

CARE & MAINTENANCE

- This mobile computer is intended for industrial use. The mobile computer is rated IP65, however, damage may be done to the mobile computer if it is exposed to extreme temperatures or soaked in water.
- When the body of the mobile computer gets dirty, use a clean, wet cloth to wipe off dust and debris. DO NOT use bleaches or cleaners.
- Use a clean, non-abrasive, lint-free cloth to wipe dust off the LCD touch screen. DO NOT use any pointed or sharp objects against the surface. Always keep the LCD dry.
- If you want to put away the mobile computer for a period of time, download the collected data to a host computer, and then remove the battery pack from the mobile computer's battery compartment. Store the mobile computer and battery pack separately.
- If you encounter malfunction on the mobile computer, write down the specific scenario and consult your local sales representative.

RELEASE NOTES

Version	Date	Notes
1.00	Oct. 24, 2019	Initial release

CONTENTS

INTRODUCTION

The **RK95** mobile computer, powered by Android 9 Pie, is light-weight, easy to use, providing powerful and handy tools for the purpose of delivering flexibility in customization.

Specifically designed to work as an industrial PDA, it provides rich options of data collection, and data communication, long-lasting working hours, and so on. Its large color transmissive display guarantees ease in reading in all lighting conditions. Integrated with Bluetooth 2.1EDR/4.0 BLE/V4.1/V4.2/5.0, 802.11 b/g/n and 802.11 a/ac/n networking technologies, the mobile computer gains greater speeds and optimal mobility. In particular, an integrated GPS receiver is made available for use with third-party location-based applications.

This manual serves to guide you through how to install, configure, and operate the mobile computer. The Care & Maintenance section is specifically crucial for those who are in charge of taking care of the mobile computer.

We recommend you to keep one copy of the manual at hand for quick reference or maintenance purposes. To avoid any improper disposal or operation, please read the manual thoroughly before use.

FEATURES

- Built tough to survive drop test and sealed against moisture/dust to industrial standard IP65.
- Android 9 Pie operating system with a powerful Qualcomm Octa-core CPU.
- 64GB eMMC flash memory to store OS and software programs
- 4GB LPDDR3 SDRAM to store and run programs, as well as store program data
- One expansion slot for microSDHC card up to 32GB and microSDXC card up to 2TB.
- Built-in 13 Megapixel rear camera with white LED for flash and auto focus.
- Left and right side triggers for ambidextrous scanning
- Total wireless solution — connectivity includes Bluetooth 2.1EDR/4.0 BLE/V4.1/V4.2/5.0, 802.11 b/g/n and 802.11 a/ac/n networking, and near field communication (NFC)
- A 4.3 inch, LCD, Corning Gorilla Glass display with 480x800 pixels to deliver excellent visibility in all lighting conditions
- Configurable feedback indicators including speaker and vibrator
- Built-in scan engine setting tool Reader Configuration which serves out-of-the-box keyboard wedge functionality

INSIDE THE PACKAGE

The following items are included in the kit package. Save the box and packaging material for future use in case you need to store or ship the mobile computer.

- RK95 Mobile Computer
- Snap-on Cable
- AC Power Adaptor
- Hand Strap
- Quick Start Guide

ACCESSORIES

- 1-slot Charging + Communication Cradle
- Pistol Grip

RELATED DOCUMENTATION

Log in to **GoBetween** to access related documentation about the RK95 mobile computer from the CipherLab Central Service (CCS) platform. Download the **GoBetween desktop** or mobile device application, or launch the GoBetween Lite web application from the following site: http://ccs.cipherlab.com/.

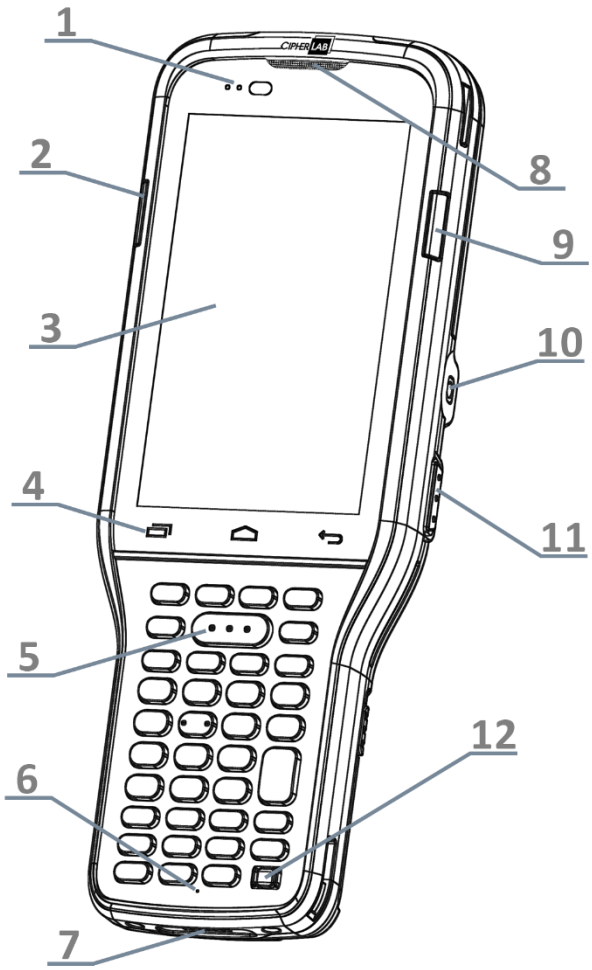
Chapter 1

QUICK START

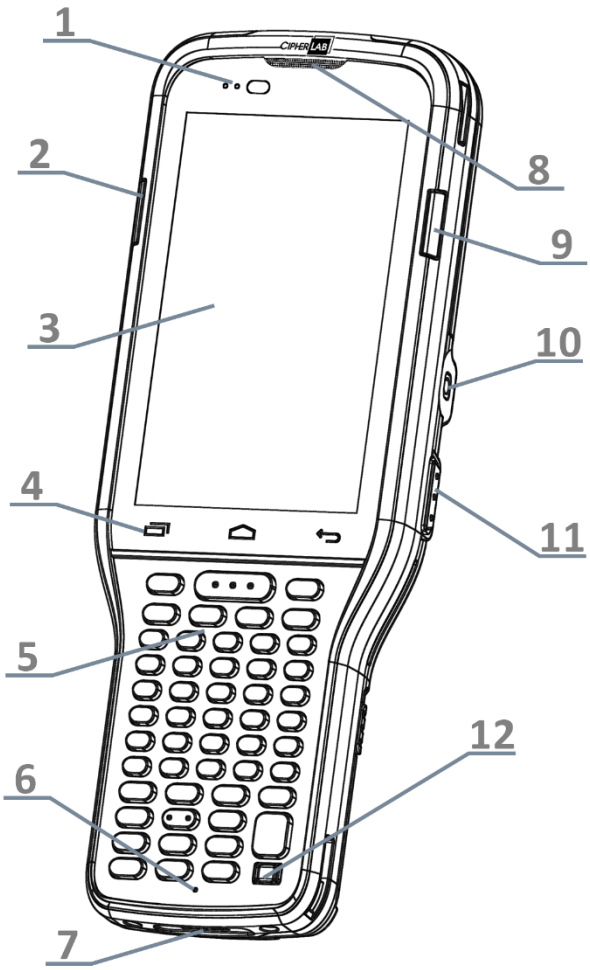
This chapter helps you get ready for starting using the mobile computer.

IN THIS CHAPTER

1.1. OVERVIEW

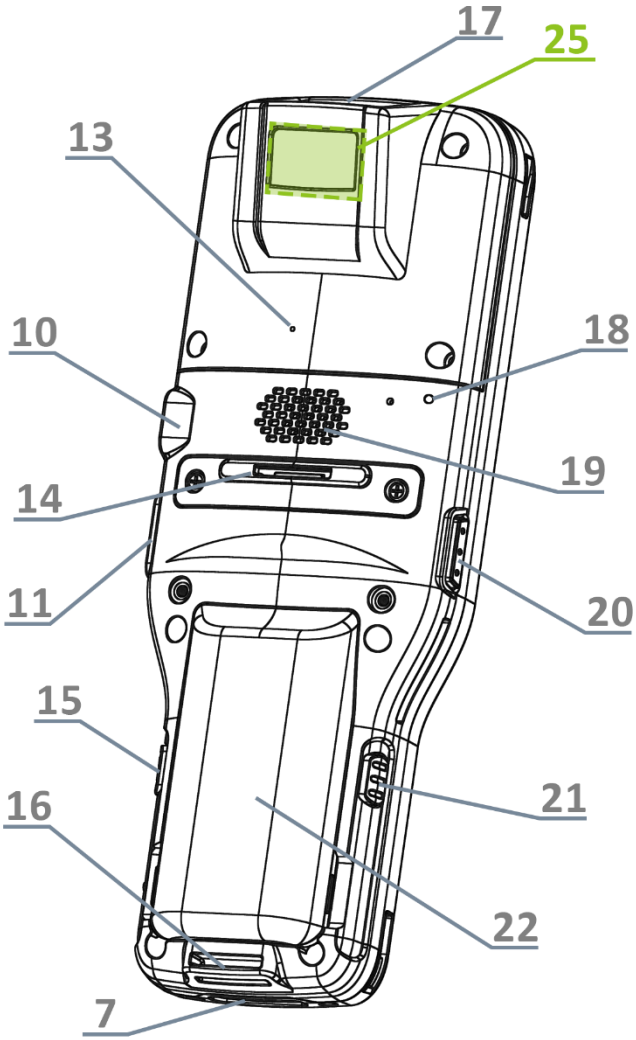


38-Key Model

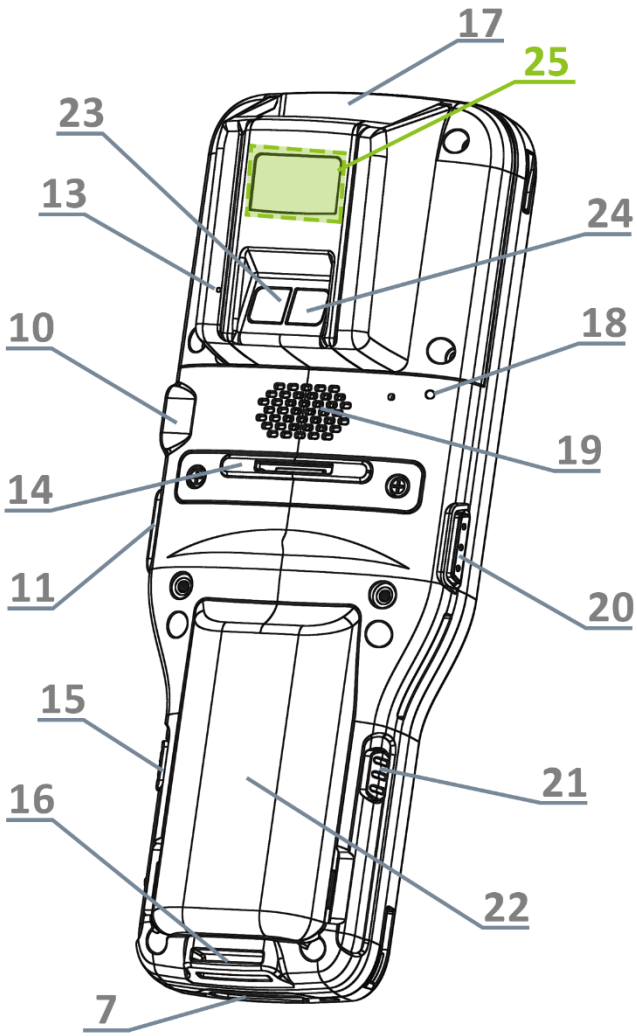


52-Key Model

No.	Description	No.	Description
1	Status LED	2	Side LED (Left)
3	Touchscreen	4	Hardware Buttons
5	Scan Key	6	Microphone
7	Charging & Communication Pins	8	Receiver
9	Side LED (Right)	10	Headset Jack
11	Side-Trigger (Right)	12	Power Button



with Camera



without Camera

No.	Description	No.	Description
13	Rear Microphone	14	Handstrap Cover
15	Battery Cover Release Button (Right)	16	Handstrap Hole
17	Scan Window	18	Back Cover LED
19	Speaker	20	Side-Trigger (Left)
21	Battery Cover Release Button (Left)	22	Battery (with Cover)
23	Camera	24	Camera Flash
25	NFC Detecting Area		

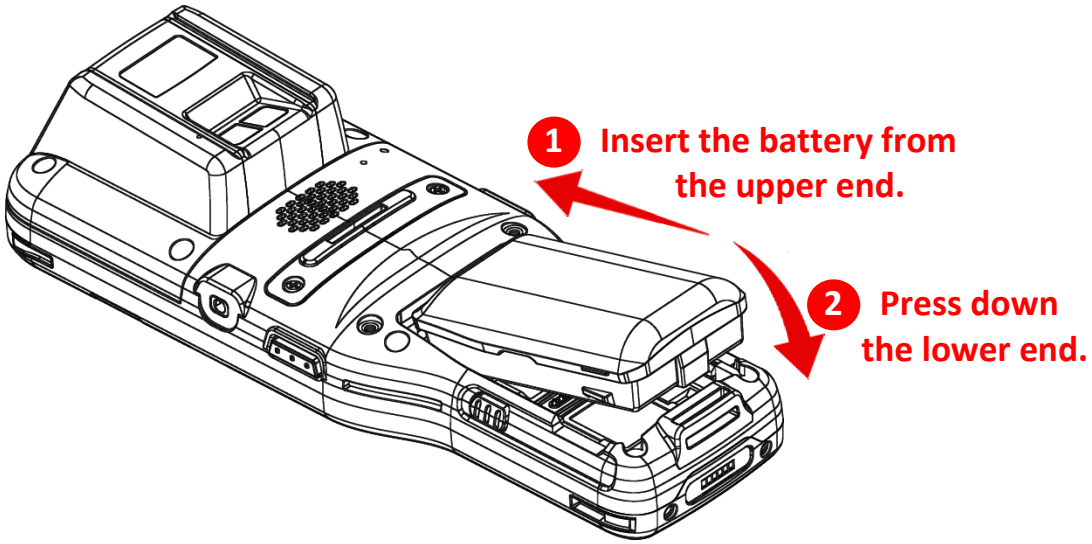
1.1.1. INSTALL/ REMOVE BATTERY

For shipping and storage purposes, the mobile computer and the main battery are saved in separate packages.

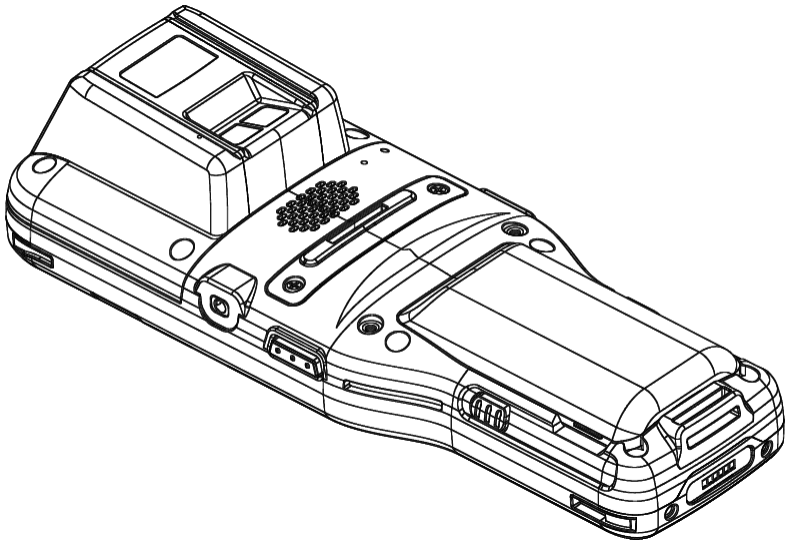
Note: Any improper handling may reduce the battery life.

INSTALL

To install the battery (which is with the battery cover), please insert a fully-charged main battery into the battery chamber from the upper end, and then press down the lower edge of the battery.



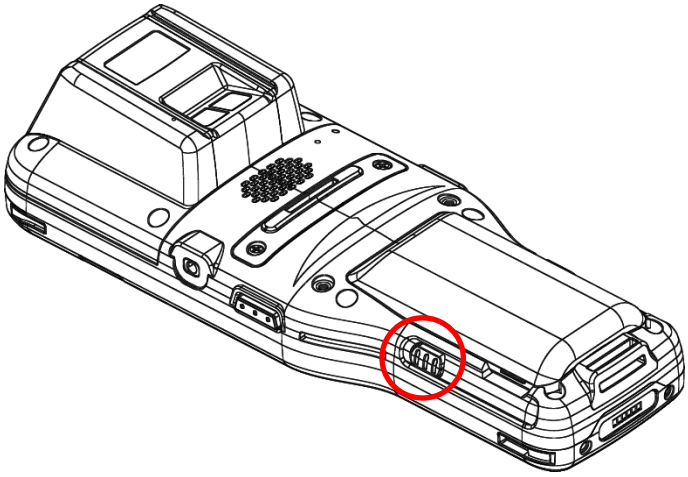
A click sound is made once the battery is in place.

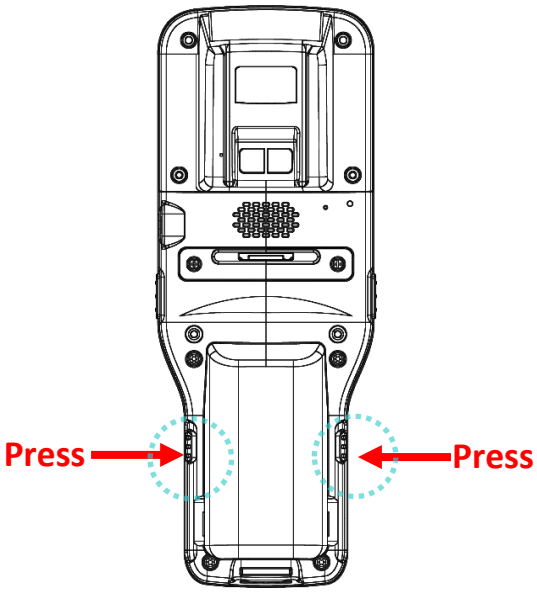


REMOVE

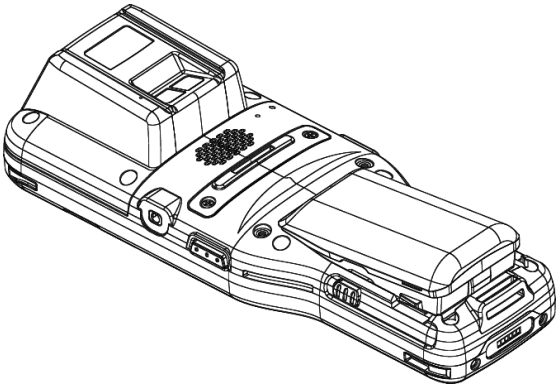
To Remove the main battery:

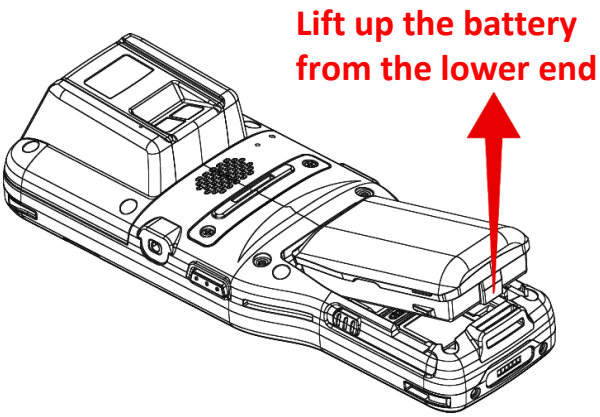
1) Press the release buttons on the two sides of the device at the same time.

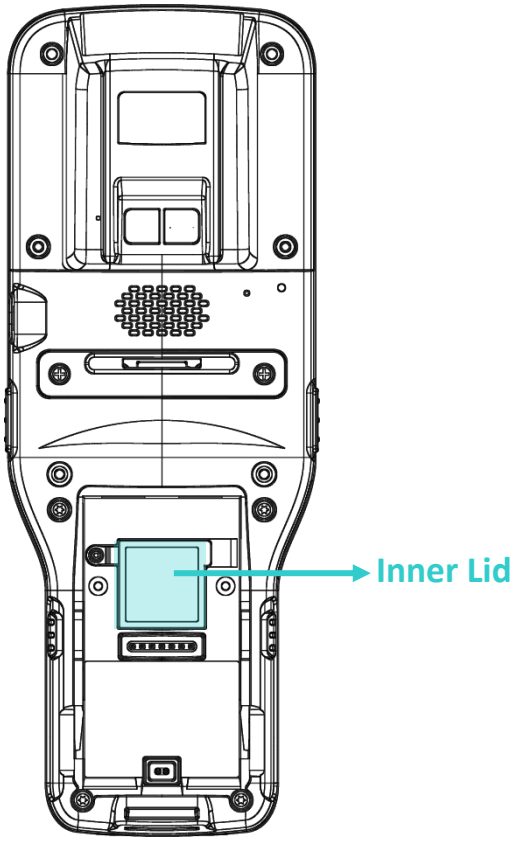




2) The battery slightly tilts up and it is ready to be removed. By holding the two sides of the battery cover, lift up the main battery (which is with the battery cover) from its lower end to remove it.







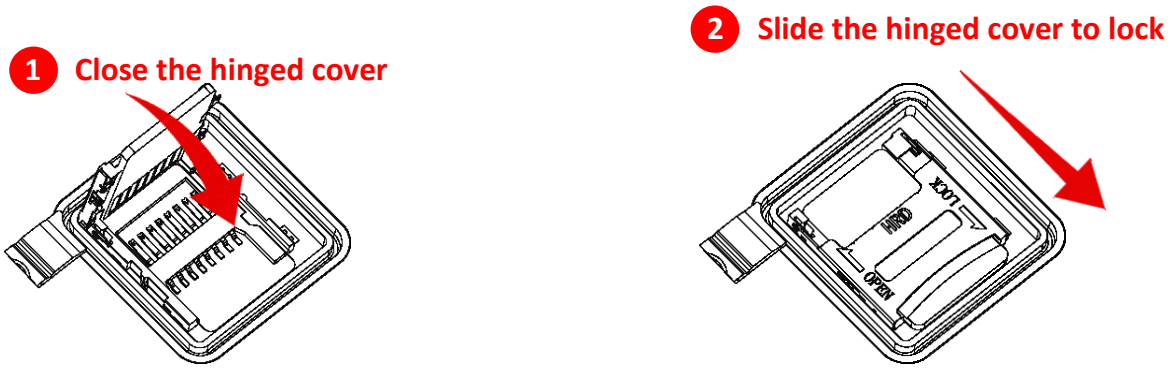
1.1.2. INSTALL/ REMOVE MEMORY CARD

The RK95 mobile computer is equipped with 1 memory card slot:

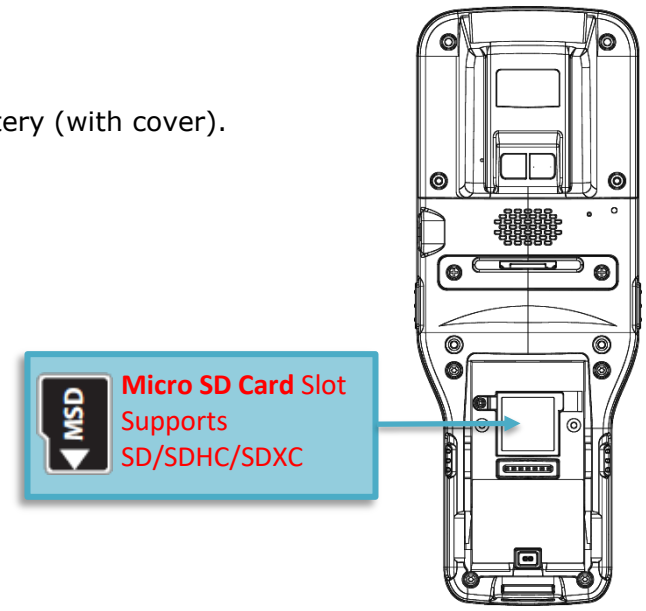
To insert or take out the card:

1) Remove the battery as described in Remove Battery.
2) Slide the hinged cover backward, and swing the top to open.

3) **Install**: Place the card into the slot with its metal contacts downward.
   Remove: Take out the card directly from the slot.
4) Close the hinged cover, and then push it toward to lock.



5) Install the battery (with cover).

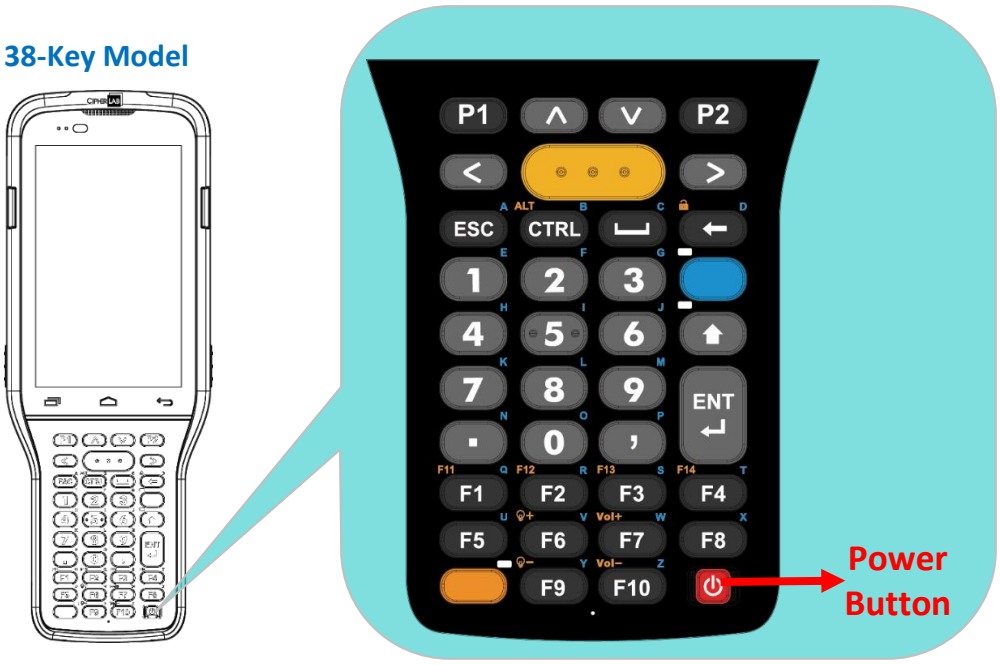


1.1.3. POWER ON/OFF MOBILE COMPUTER

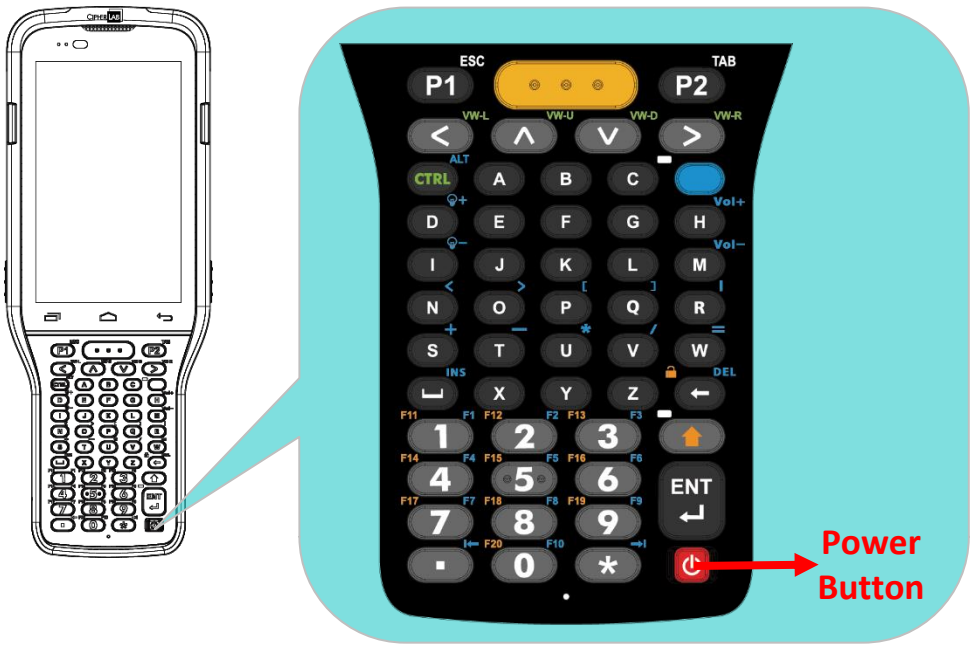
POWER ON

To power on the mobile computer, press and hold the power button located on the bottom right of the keypad. The mobile computer will turn on and show the 錯誤! 找不到參照來源。 after splash screen.

38-Key Model



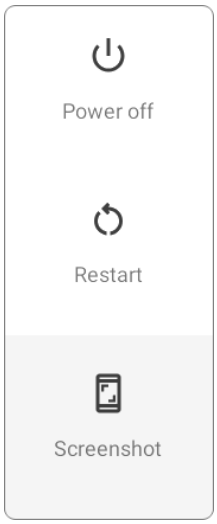
52-Key Model



Note: For the mobile computer to power on, the battery cover must be secured in place.

POWER OFF

To power off the mobile computer, press and hold the power button for more than three seconds. A menu will appear on-screen which allows you to power off the device. Make sure all user data and tasks have been stored before tapping on **Power off**.



1.1.4. USING HARDWARE BUTTONS

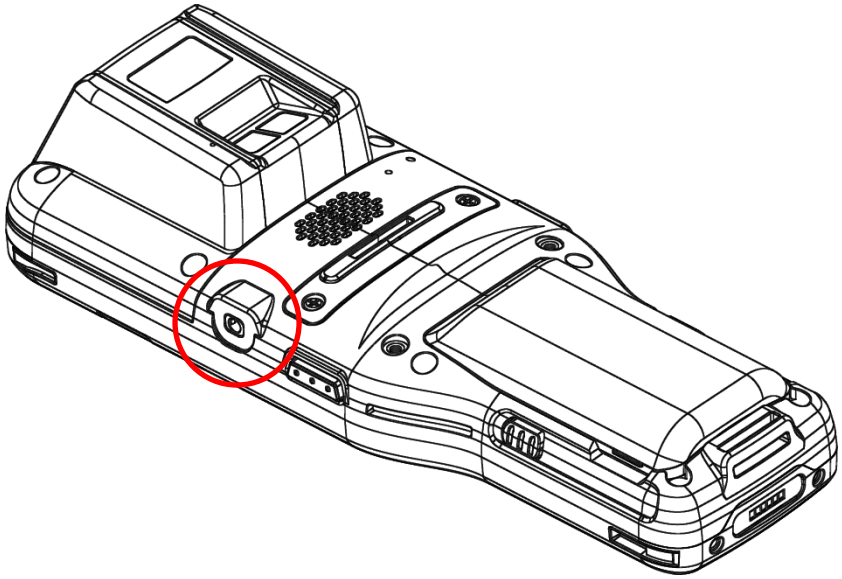
Beneath the LCD display are three hardware buttons that deliver the following functions:

Button	Function	Description
	Back button	Returns to the previous screen or closes the active window or keyboard.
	Home button	Displays the Home screen.
	Recent apps button	Opens a list of recently used applications.

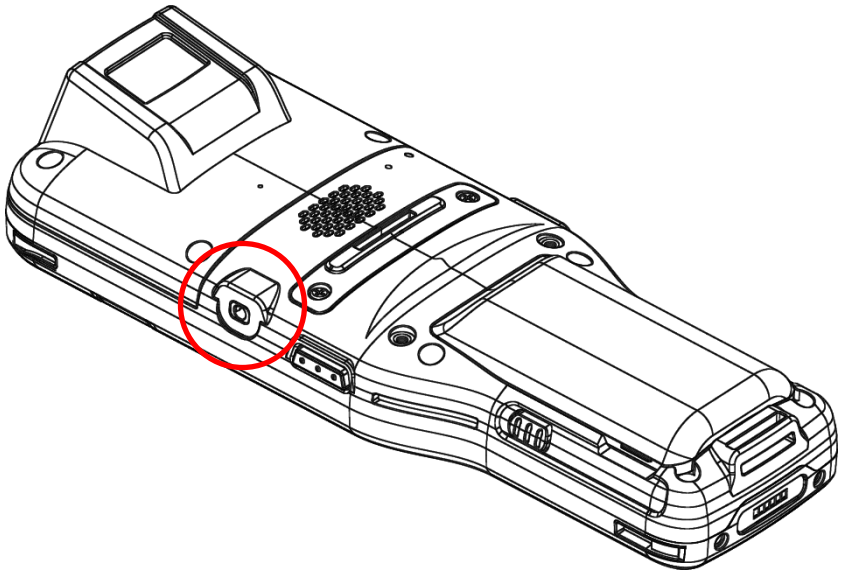
1.1.5. CONNECTING HEADSET

The headset jack is located on the right side of the mobile computer.

With Camera:



Without Camera:



1.2. CHARGING & COMMUNICATION

1.2.1. CHARGE MOBILE COMPUTER

The main battery may not be charged to full for shipment. When you first receive the kit package, you will need to charge the main battery to full before using the mobile computer. You may use the Snap-on Charging Cable or Charging & Communication Cradle along with a power adapter to charge the mobile computer.

Your device can also be charged by connecting to a host computer using the USB cable. It's slower than charging using the supplied snap-on cable or Charging & Communication Cradle.

CHARGING TIME

- **Main battery:**
  The main battery powers the mobile computer to work. It takes approximately 4 hours to charge an empty **3000mAh** main battery to full while it takes 6 hours to charge an **6000mAh** main battery.

  For the first time charging the main battery, please charge it for at least 8 to 12 hours. The charging LED above the screen (located on the left) will light up in red while charging and will turn green when charging is complete.

  When the main battery is removed, RTC retention will be maintained for at least 30 minutes.

- **Backup battery:**
  The backup battery is mounted on the main board. Its role is to temporarily keep the mobile computer in suspension when the main battery is drained out so data in DRAM will be retained. The backup battery takes approximately 4 hours to charge to full by the main battery or power adapter.

CHARGING TEMPERATURE

The allowed battery charging ambient temperature is between 0°C to 45°C. It is recommended to charge the battery at room temperature (18°C to 25°C) for optimal performance.

Please note that battery charging stops when ambient temperature drops below 0°C or exceeds 45°C.

OPERATION ON BATTERY POWER

When Bluetooth 2.1EDR/4.0 BLE/V4.1/V4.2/5.0, 802.11 b/g/n and 802.11 a/ac/n networking are all enabled on battery power, the main battery level will drop down substantially. Prolonged use of the display and continued scanning of barcodes will also affect battery level.

In order to prevent system from shutting down after the battery is drained out, we suggest that you keep a fresh battery for replacement at all times, or connect the mobile computer to an external power.

BATTERY STATUS & STATUS LED DURING CHARGE

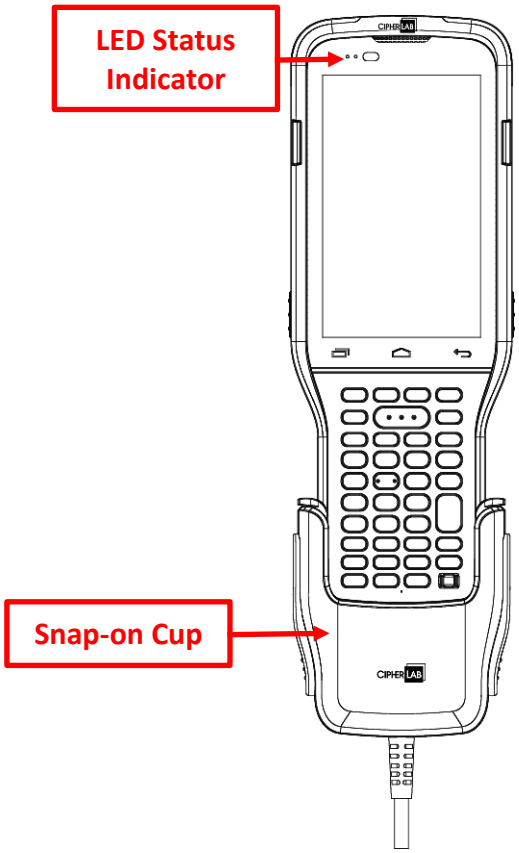
To prevent the battery from keeping being continuously charged and discharged, RK95 mobile computer will automatically stops charging the battery when the battery level reaches 100% even if it is connected with a snap-on cable or a charging & communication cradle for external power supply.

When RK95 mobile computer is connected with the external power source, the Status LED located above the touch screen shows as below:

LED Status	Description
Red, solid	Charging the mobile computer
Red, blink	Charging error
Green, solid	Charging complete
No light	The cable is not correctly connected

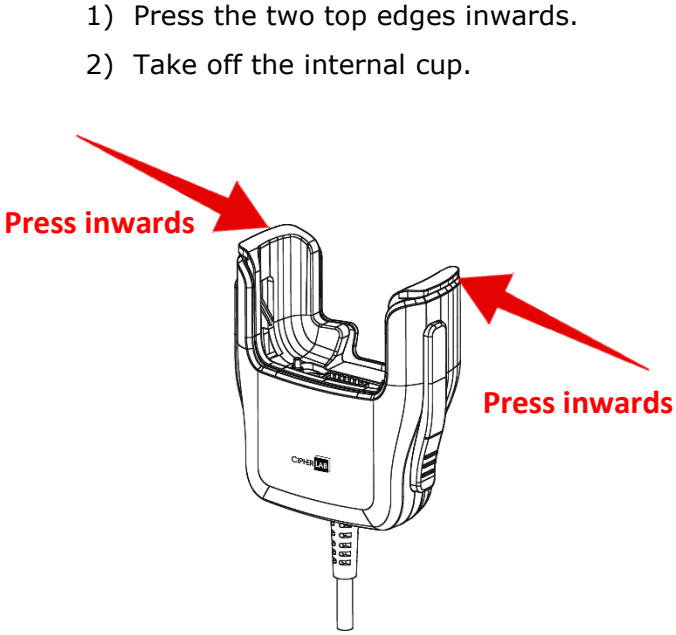
USE SNAP-ON CABLE

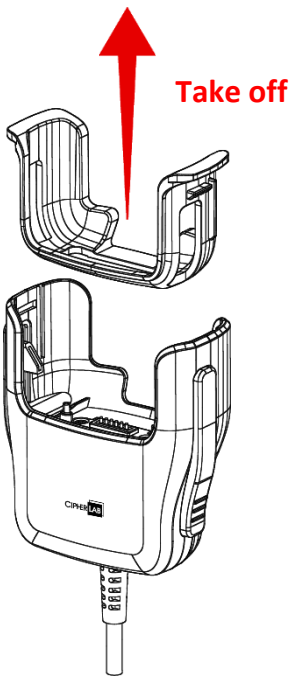
The Snap-on Cable provides a convenient way to charge your mobile computer as well as data communication.



Before connecting the snap-on cable with the RK95 mobile computer, the internal cup must be removed if the device is equipped with the rubber boot:

1) Press the two top edges inwards.
2) Take off the internal cup.

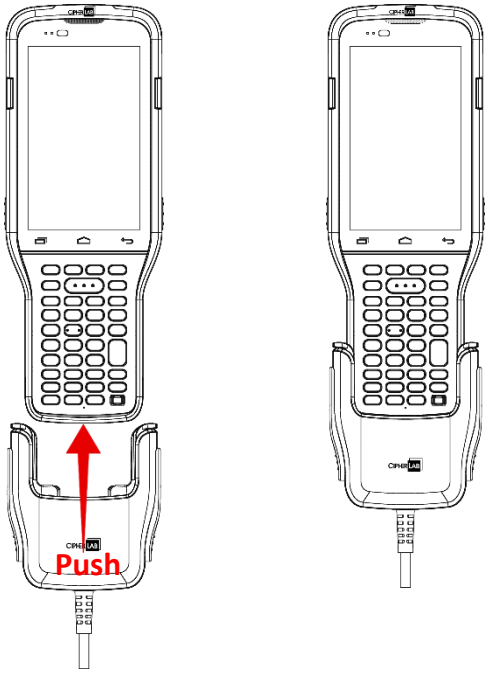




To install the internal cup, simply push it into the snap-on cup till a "click" sound is made.

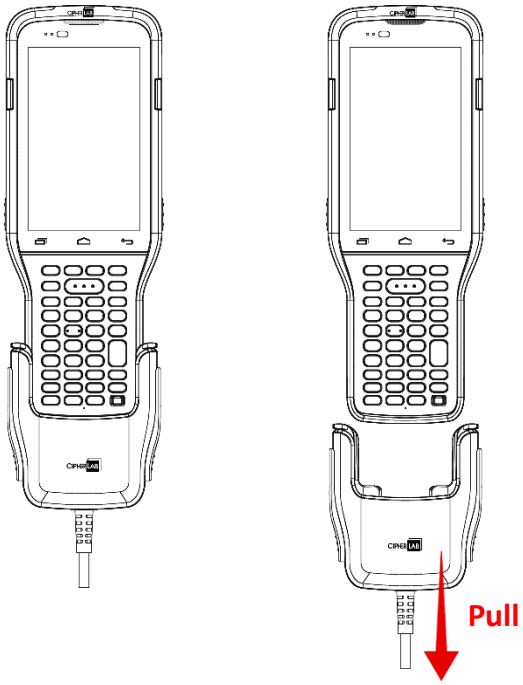
To install the snap-on cup:

Simply hold the snap-on cup toward the bottom of the RK95 mobile computer, and push the snap-on cup upwards to make it to be attached to the device. A "click" sound is made once the snap-on cable is connected with the bottom of the device in place.



To remove the snap-on cup:

Holding the RK95 device by one hand while pressing the release buttons and pulling the snap-on cable downwards by the other hand to make the device and the snap-on cup apart.

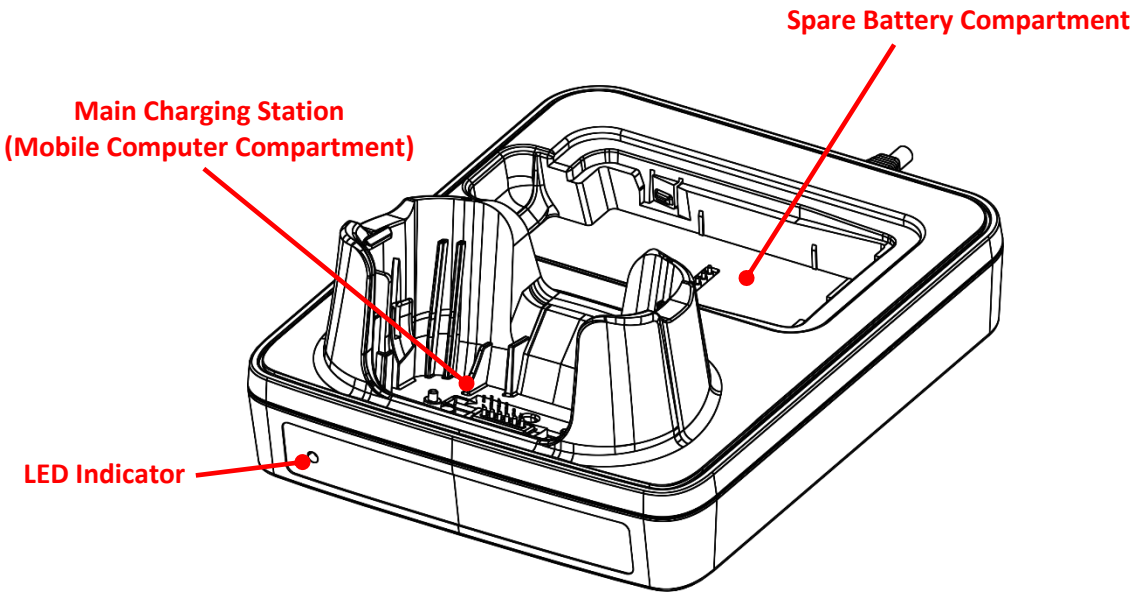


While the device battery is being charged, the LED on mobile computer will indicate charging status.

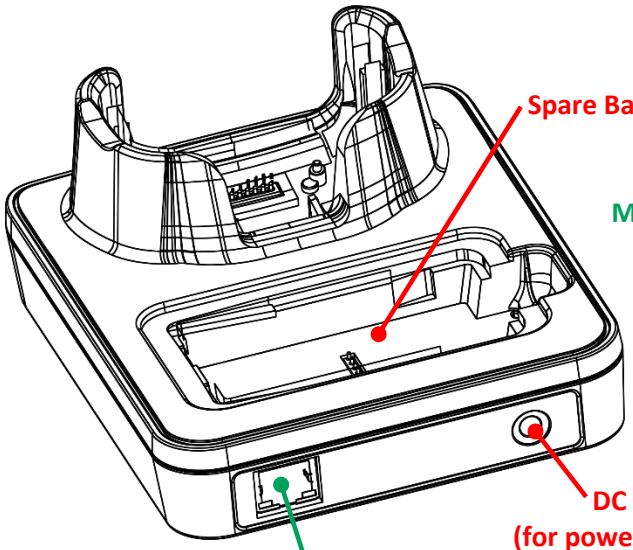
LED Indicator	Status	Description
Charging	Red, solid	Charging the mobile computer
	Red, blink	Charging error
	Green, solid	Charging complete
	No light	The cable is not correctly connected

USE CHARGING CRADLE

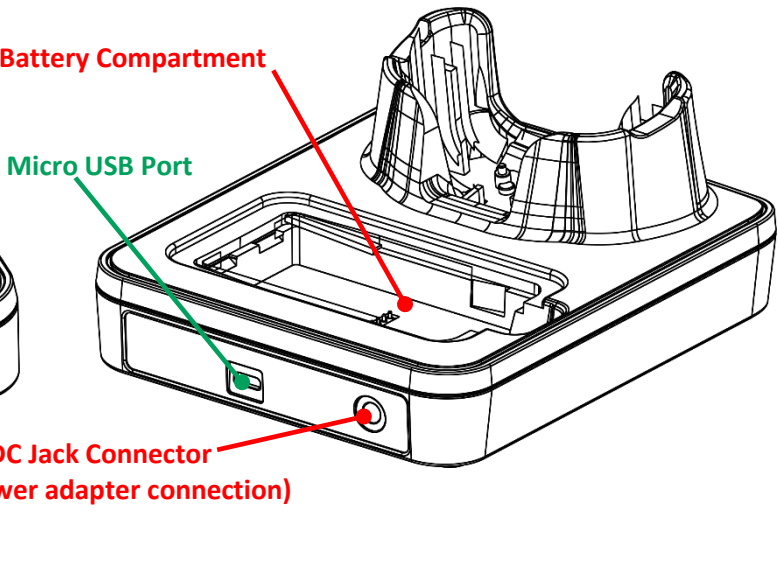
The Charging & Communication Cradle charges your mobile computer and a spare battery at the same time, and it could also be used for data communication.



ENCR Model:



CCCR Model:



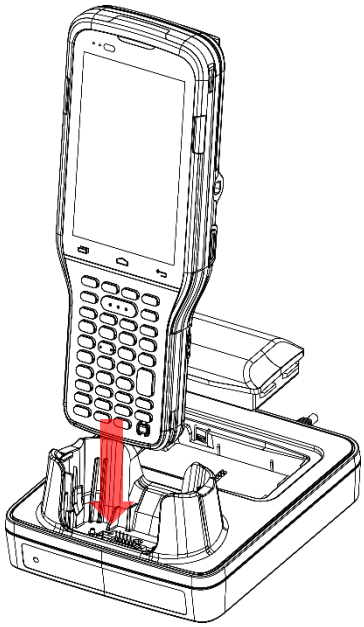
Note:

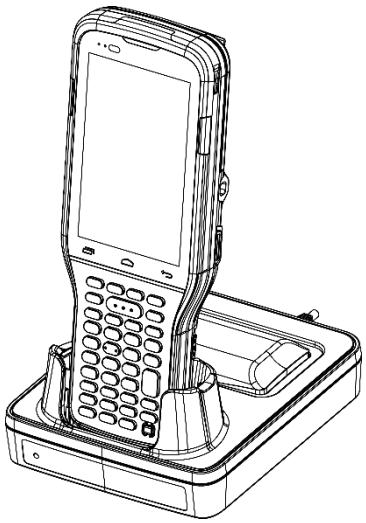
The Charging & Communication Cradle is equipped with either one Micro USB Port (CCCR Model) or one RJ45 Connector (ENCR Model).

To charge your mobile computer on the Charging & Communication Cradle:

1) Insert the RK95 mobile computer onto the Cradle. The installed rubber boot is not necessary to be removed in advance before inserting the mobile computer.
2) Connect the adapter to the Cradle, and plug the other end into an electrical outlet.

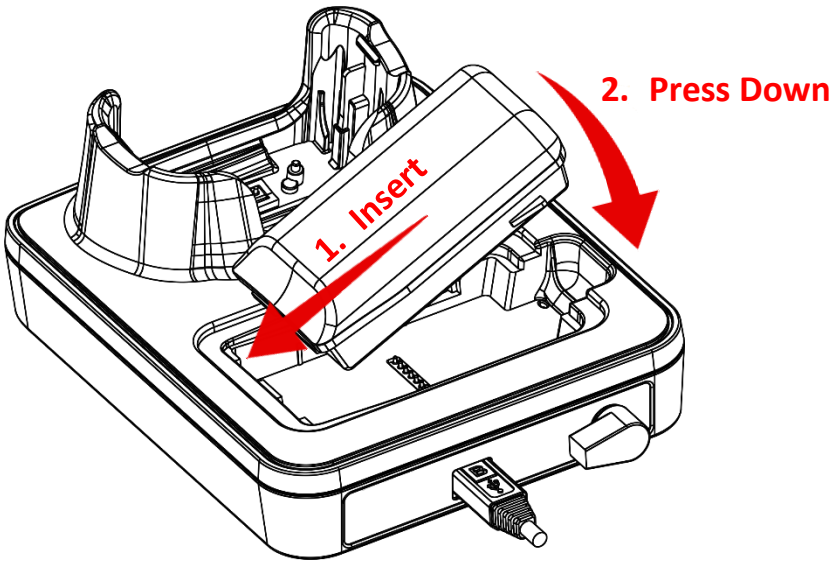
To remove, please take out the RK95 mobile computer directly.



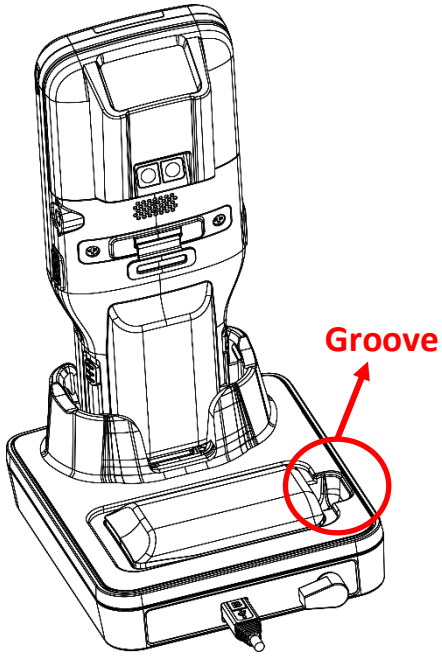


To install the spare battery into the Charging & Communication Cradle:

1) Insert the battery from its top side into the spare battery comparment.
2) Press down the bottom side of the battery. A "click" sound is made once the battery is in place.
3) Connect the adapter to the Cradle, and plug the other end into an electrical outlet.



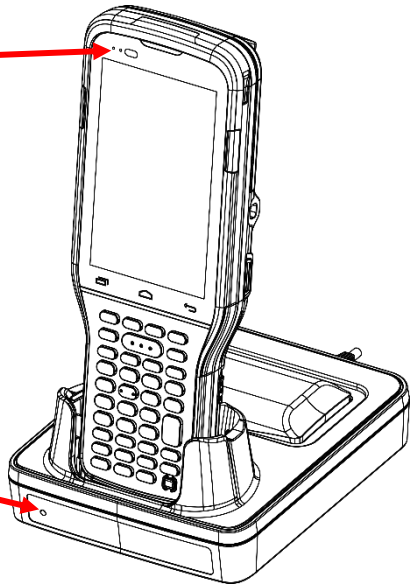
To remove the battery from the spare battery comparment, please place your finger into the groove and pull to take the battery out.



The status of the mobile computer charging is shown on the device itself, while the LED indicator on RK95 Charging & Communication Cradle shows the status of battery charging as below:

LED on RK95 mobile computer:
Indicates the charging status of the main battery.

LED on Cradle:
Indicates the charging status of the spare battery.



Cradle LED Indicator	Status	Description
Charging	Red, solid	Charging the spare battery
	Red, blink	Charging error
	Red, flash once	No battery is in the spare battery compartment. (when the adapter is plugged in)
	Green, solid	Charging complete

Note:

(1) Not Charging could be the result of battery damage, battery's failure to touch the connector, or AC plug coming off.

(2) Charging error could be due to high battery temperature.

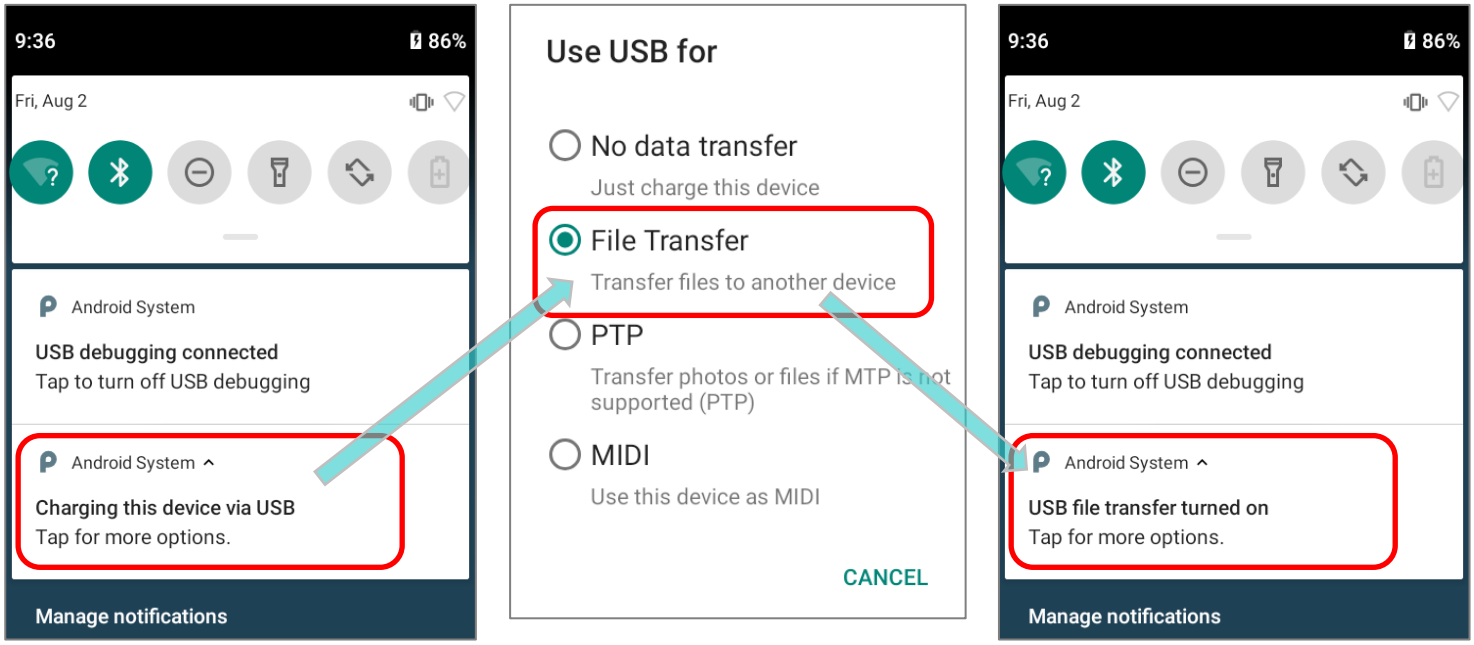
1.2.2. WIRED DATA TRANSMISSION

Use the Snap-on Cable to connect the mobile computer to your PC for data transmission.

1) Connect your device to the PC with supplied Snap-on Cable.

2) Swipe down from the status bar to reveal Notifications Drawer.

3) Tap on the system notification "**Charging this device via USB**" to enter USB options. By default, the device will be in charging mode, in which you are unable to access the files on this device from the PC client. To transfer all types of files between your device and PC, choose "**File Transfer**". To transfer videos and photos, you can select "**PTP**", in which your device will share only videos and photos in DCIM and Pictures folders.



1.2.3. USING WIRELESS NETWORKS

The mobile computer supports widely applied wireless technologies including Bluetooth 2.1EDR/4.0 BLE/V4.1/V4.2/5.0, 802.11 b/g/n and 802.11 a/ac/n networking is able to send/receive data in real time in an efficient way.

Chapter 2

USING RK95 MOBILE COMPUTER

This chapter walks you through the fundamental usage and features of this device.

IN THIS CHAPTER

2.1. BATTERY

- **Main Battery**

  The mobile computer is powered by a rechargeable 3.7V / 3000mAh or 3.7V / 6000mAh Li-ion battery pack, and it takes approximately 4 or 6 hours to charge it to full from the power adaptor (for the first time charging the main battery, please charge it for at least 8 to 12 hours). However, the charging time may vary by your working condition.

- **Spare Battery**

  A spare battery pack is provided as an accessory. We recommend keeping a fully charged spare battery at hand in order to replace the main battery when it is nearly drained out.

- **Backup Battery**

  Settled on the main board is a backup battery that keeps the mobile computer in suspension when the main battery is depleted. The backup battery is a 3.8V, 180mAh rechargeable Li-Polymer battery, and can retain data in the DRAM for 30 minutes when it is fully charged (as long as wireless modules on the mobile computer are inactive). The backup battery can be charged by the main battery or the power adapter, and takes approximately 4 hours to charge to full.

Warning:

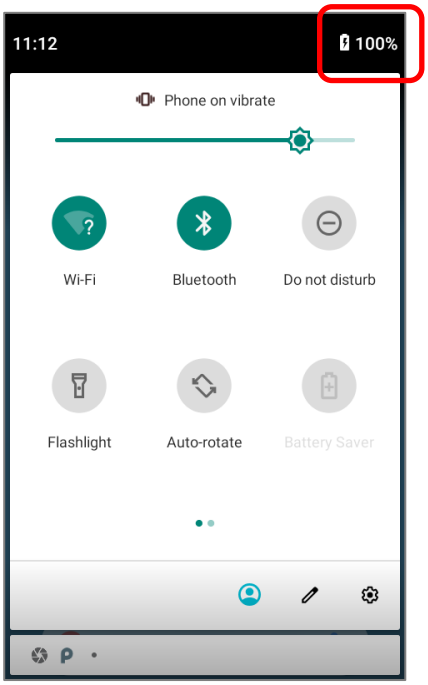
(1) The battery cover must be secured in position with its latch locked.

(2) For a new battery, make sure it is fully charged before using.

(3) To avoid data loss, when replacing the main battery, make sure you replace it with a well-charged spare battery pack. Always prepare a spare battery at hand, especially when you are on the road.

(4) When the mobile computer has been on backup battery for 30 minutes, the system will shut down. Be sure to replace the main battery as soon as possible in order to avoid data loss.

2.1.1. BATTERY STATUS INDICATORS

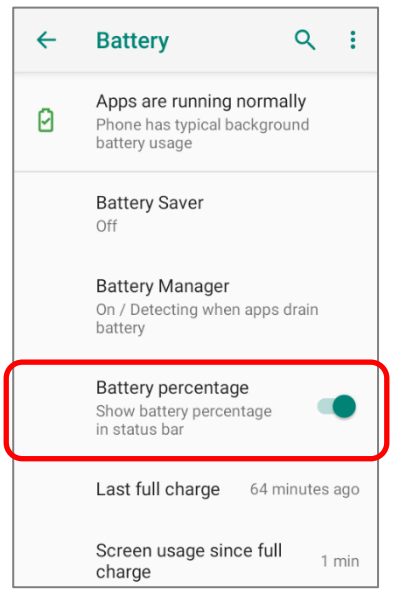


The main battery pack is the only power source for the mobile computer to work. Therefore, when the main battery level goes low, you need to replace the battery pack with a charged one or charge it as soon as possible. Most of all, you should backup important data on a regular basis.

By checking the battery status icon on **Status Bar**, you can tell the battery level remaining in the main battery.

Battery Icon	Descriptions
	Main battery is fully charged.
	Main battery level is partially drained.
	Main battery level is low (5%~15%).
	Main battery level is very low and needs charging immediately (<5%).
	External power source is connected and main battery is being charged.

The percentage beside the battery icon on the status bar can be switched on or off in **App Drawer (All Apps)** | **Settings** | **Battery** | **Battery Percentage**



Note:

When the mobile computer is fully charged and battery level reaches 100%, the battery icon will change from  to  to indicate charging is completed.

Warning:

(1) Once the battery level drops below 15%, the low battery notification will be displayed on the screen.

(2) Data loss with RAM may occur when battery level is low. Always save data before the battery runs out of power or keep a fresh battery for replacement.

(3) Constant usage of the mobile computer at low battery level can affect battery life. For maximum performance, recharge the battery periodically to avoid battery drain out and maintain good battery health.

2.1.2. MONITOR BATTERY LEVEL

MAIN BATTERY LEVEL

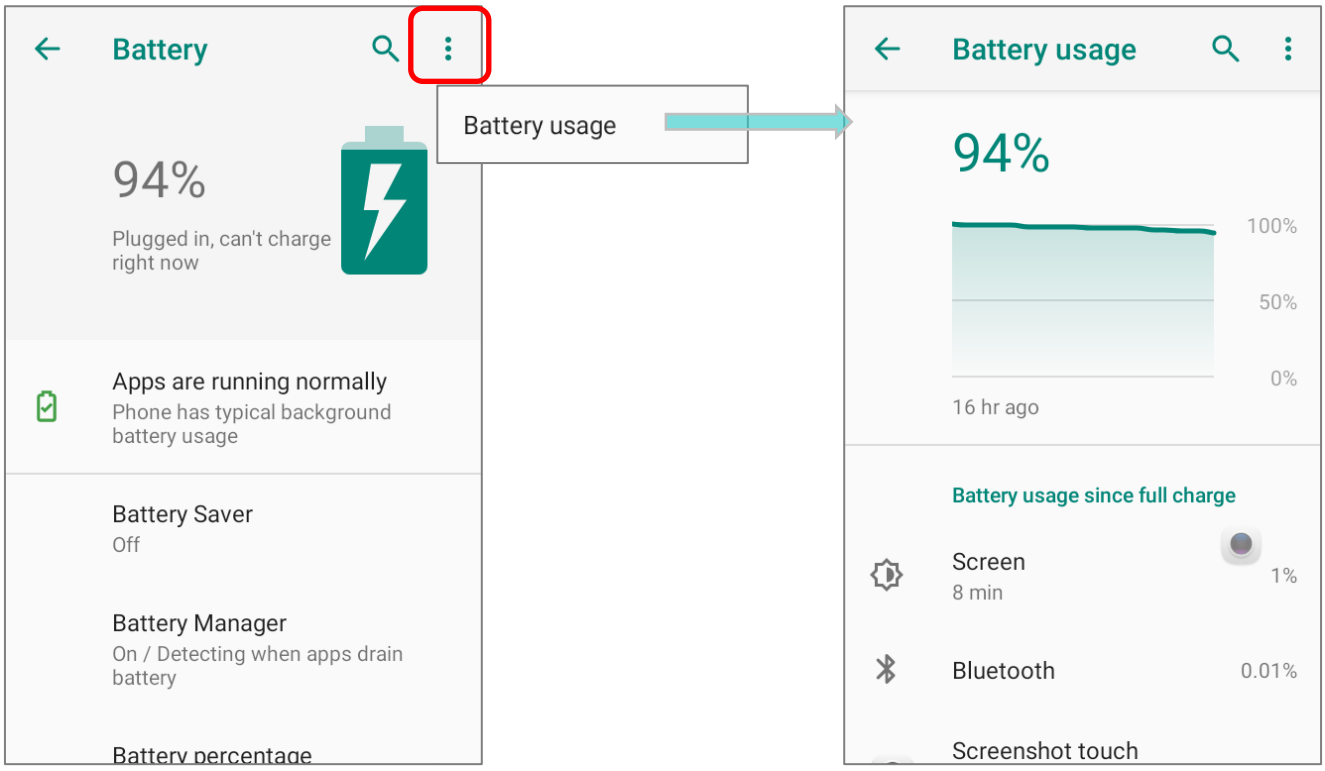
The main battery is the only source that feeds the mobile computer to work. It also supplies the backup battery on the main board in order to retain the data stored in DRAM. When main battery level gets low, recharge it or replace it as soon as possible. Most critically, back up the important data from time to time to protect your work.

To check main battery level:

Go to **App Drawer (All Apps)** | **Settings** | **Battery**

Battery level percentage is shown to provide a clear grasp of the remaining battery power.

Tap the "**More**" button on action bar and then tap on "**Battery usage**" to enter "**Battery usage**" page, the screen shows the rate of battery discharge since the last battery charging session, how long the device has been running on battery power, and which applications are consuming the most battery power.

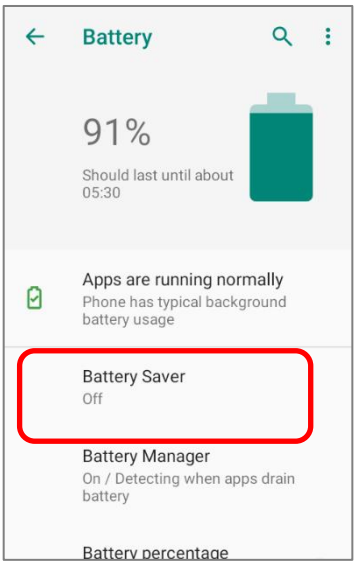


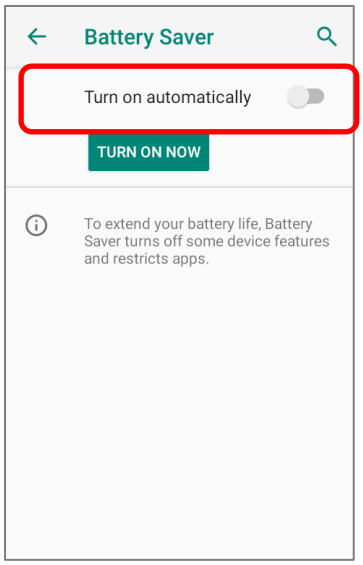
The screen also shows the rate of battery discharge since the last battery charging session, how long the device has been running on battery power, and which applications are consuming the most battery power.

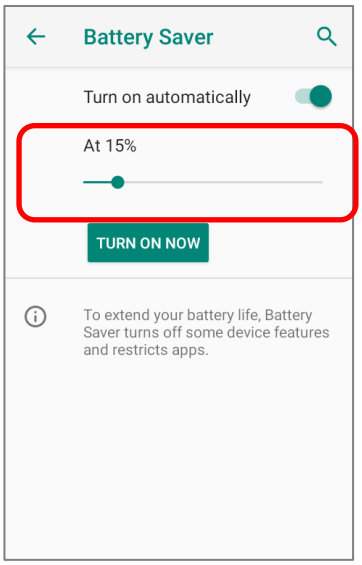
BATTERY SAVER MODE

You can have the **Battery saver** mode automatically turned on when the main battery gets low. This mode will limit the use of location services, vibration and most background processing data.

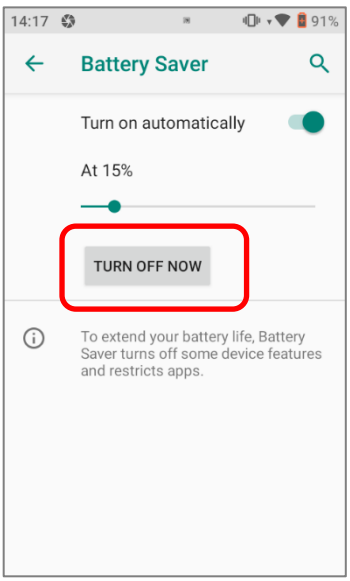
1) On Battery screen, tap "**Battery saver**".
2) Switch on "**Turn on automatically**" and drag the slider to set when to have this mode automatically activated.

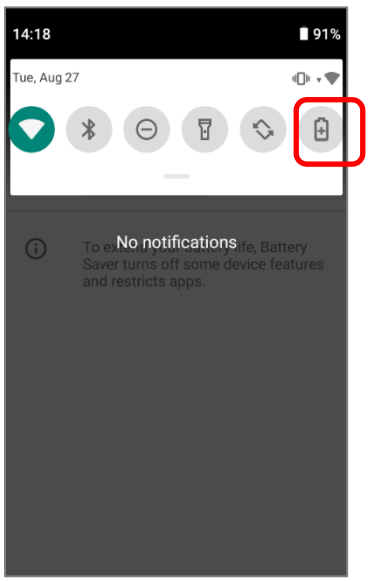


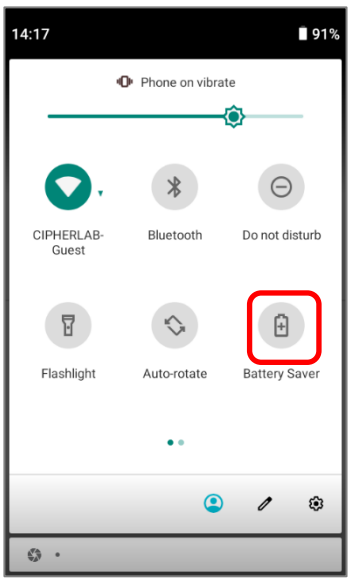




Tap on "**TURN ON NOW"** to directly enable battery saver function, and the battery icon on status bar will turn orange once this function is enabled. Also, you can swipe down from the status bar to reveal **Quick Settings Panel** or **Quick Settings Menu**, and tap the battery saver icon  to enable/ disable it.





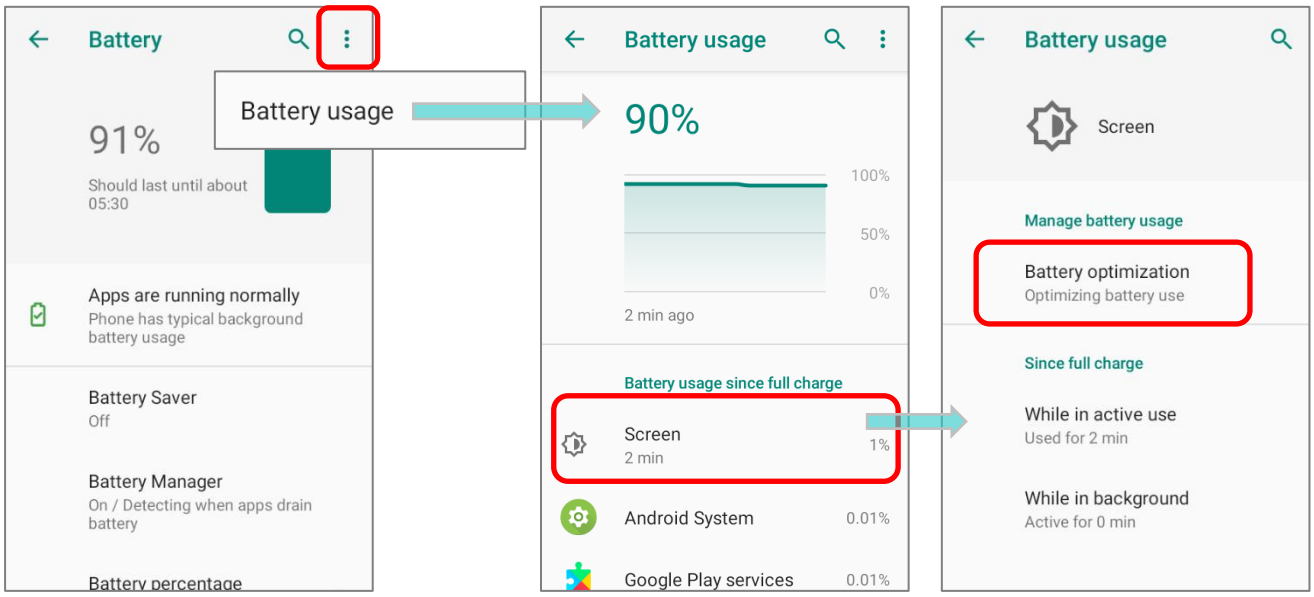


Note: This mode will automatically become inactive when your device is being charged.

BATTERY OPTIMIZATION

With **Battery optimization enabled** for the applications, you can make sure they stay inactive when your device is idle or when they have not been used for days.

1) On **Battery** screen, tap on **More** and select "**Battery usage**". Tap on any item under "**Battery usage since full charge**" to enter its detail page and tap on "**Battery optimization**".



2) On dropdown list, select "**All apps**"; all the applications will be optimized by this function by default. You can individually turn off the optimization mode of a certain app if you would like it always activated by tapping on the app name and select "**Don't optimize**" and then "**DONE**".