Carbon Mobile 5 Installation Guide

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Carbon Mobile 5 Installation Guide
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Comments? Please e mail all comments on this document to your local Verifone Support Team.

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2. Device Setup

3. Specifications

4. Maintenance and Cleaning

5. Service and Support

6. Troubleshooting Guidelines

Preface

This guide is your primary source of information for setting up Verifone Carbon Mobile 5 and Verifone Carbon Mobile 5 with Printer.

Audience

This guide is intended for the users involved in Verifone Carbon Mobile 5 device installation.

Organization

This guide is organized as follows:

- Chapter 1: Device Overview- Provides an overview to the Verifone Carbon Mobile 5 device.

- Chapter 2: Device Setup- Provides instructions on configuring the Verifone Carbon Mobile 5 device.

- Chapter 3: Specifications - Provides the power requirements and dimensions of the Verifone Carbon Mobile 5 device.

- Chapter 4: Maintenance and Cleaning- Explains how to maintain the device.

- Chapter 5: Service and Support - Furnishes information on contacting local Verifone representatives or service providers, as well as details on ordering accessories or documentation from Verifone.

- Chapter 6: Troubleshooting Guidelines - Provides guidance for addressing issues that may arise during device installation.

Related Documentation

To learn more about the Carbon Mobile 5, refer to the following documents associated with the Verifone Part Numbers (VPNs).

Carbon Mobile 5 Certifications and Regulations	VPN DOC278-001-EN-A
Carbon Mobile 5 Quick Installation Guide	VPN DOC278-002-EN-A
Carbon Mobile 5 with Printer Quick Installation Guide	VPN DOC278-01-002-EN-A
Carbon Mobile 5 Base Charging Quick Installation Guide	VPN DOC278-008-EN-A
Carbon Mobile 5 Base Full Function Quick Installation Guide	VPN DOC278-009-EN-A

Conventions

The following table describes the conventions and provides examples of their use.

Convention	Meaning	Example
Blue	Text in blue indicates terms that are cross-referenced.	See Conventions.
NOTE	The bulb icon is used to highlight important information.	If exchanging cables use a Verifone-approved cable.
CAUTION	The caution symbol indicates possible hardware or software failure or loss of data.	Avoid placing metallic objects at the front of the card reader.
WARNING	The lightning symbol is used as a warning when bodily injury might occur.	For safety, do not string cables or cords across a walkway.

1. Device Overview

This chapter provides a brief description of the Verifone Carbon Mobile 5 and Verifone Carbon Mobile 5 with Printer devices.

The Verifone Carbon Mobile 5 device is a best-in-class, single-screen commerce solution. A secure wireless handheld mobile payment device that allows merchants to process credit/debit card transactions anywhere. In combination with Verifone Connect digital services, it offers checkout, payment, and the ability to run Android applications, like loyalty and inventory. It also enables clients to remotely monitor and update their devices using Verifone's estate management solution. The Verifone Carbon Mobile 5 device supports Bluetooth BLE and Wi-Fi and meets PCI 5.X SRED requirements for maximum security.

The Verifone Carbon Mobile 5's small, sleek, design makes it easily pocketable while supporting all payment methods - magnetic stripe, EMV (Europay MasterCard and VISA), and NFC (Near Field Communication)/ CTLS (Contactless), including Apple Pay, Google Pay, and Samsung Pay mobile wallets. The easy-to-read color touch screen supports all payment related user interactions, including secure PIN (Personal Identification Number) entry.
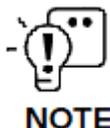
> **NOTE**
>
> Verifone ships two variants of the Verifone Carbon Mobile 5 device for different markets. Your device may have different features described in this section.

The Verifone Carbon Mobile 5 device has two variants:

- Verifone Carbon Mobile 5
- Verifone Carbon Mobile 5 with Printer

The two variants (Verifone Carbon Mobile 5 and Verifone Carbon Mobile 5 with Printer) differ in battery size and printer and printer SKU has an audio jack.

Figure: 1 Verifone
Carbon
Mobile 5 and
Verifone
Carbon
Mobile 5 with
Printer
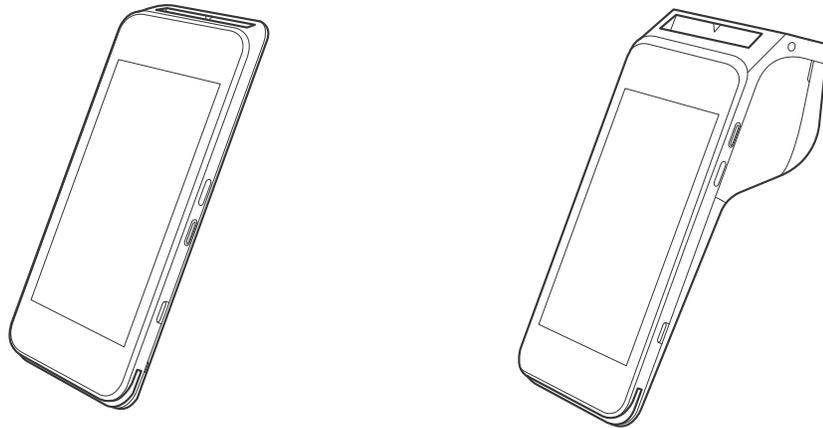
Key Features and Benefits

Features		Verifone Carbon Mobile 5	Verifone Carbon Mobile 5 with Printer
Processor	• Cortex A7 Quad Core, 1.1GHz • (QCOM MSM8909)	Yes	Yes
Memory	• 2 GB RAM • 16 GB Flash • Secure processor: 128 MB DRAM, 256 MB Flash	Yes	Yes
Display	• 5" (720 × 1280) HD IPS LCD (Liquid Crystal Display) touchscreen	Yes	Yes
Keypad	• On-screen, Navigator possible	Yes	Yes
Printer	• SKU	NA	Yes

Payment	• MSR • SCR • CTLS	Yes	Yes
Audio		• Loudspeaker • Microphone	• Loudspeaker • Microphone
Communication	• 4G LTE • 3G • 2G • Bluetooth 5.0 BLE • 2.4 GHz + 5 GHz Wi-Fi • 802.11 a, b, g, n, GPS, GLONASS	Yes	Yes
Peripheral Ports	• USB-C • OTG • Charging pins	Yes	Yes
Camera	• 5 MP • Auto-focus • Fast scanner • LED aimer • LED torch • 2 MP front	Yes	Yes
Barcode reader		Yes	Yes
Battery		3900mAh	6200mAh

Dimensions		• Length: 165.7 mm • Width: 77.9 mm • Height: 15.8 mm • Weight: 275 g	• Length: 184.29 mm • Width: 77.9 mm • Height: 32.7 mm • 59.55(Head) • Weight: 495 g with full paper roll
Security	• PCI (Payment Card Industry) PTS 5.X-approved • SRED • Supports AES DUKPT	Yes	Yes
Power Supply		• 5V 2A charging • 3900 mAh Li-Ion rechargeable battery	• 5V 2A charging • 6200 mAh Li-Ion rechargeable battery
SIM/SAM	• 1 Nano SIM • 1 micro SAM or 2nd micro SIM	Yes	Yes
Card Reader	• Triple track MSR • EMV L1-approved smart card • ISO • NFC/CTLS	Yes	Yes

Environmental	• Operating temperature: 0° C to 50° C (32° F to 122° F) • Storage temperature: -20° C to 60° C (-4°F to 140° F) • Relative humidity: 5% to 95% Non-condensing	Yes	Yes
Printer		NA	• High-speed thermal printer: 30 lps • Paper roll: Max 57.65 mm Length x Max 40 mm diameter.

Verifone Carbon Mobile 5 provides Magnetic-Stripe Card reader (MSR), Smart cCrd (SC) and Contactless (CTLS) payment processing with a 5-inch (12.7 cm) color TFT capacitive touch panel LCD screen. Printer SKU variant provide additional expansion an embedded Internal Thermal Printer (ITP).

BT and Wi-Fi Performance

The dynamic combination of Bluetooth and Wi-Fi provides convenience to wireless payment with fewer dropped transactions, and flexible point-of-sale options.

Modern Application Environment

- The Verifone Carbon Mobile 5 offers 2GB and 16G Flash memory, which supports multiple applications.

- The primary smart card reader and the MSAMs safeguard sensitive financial data and support multiple smart card schemes.

- Verifone Carbon Mobile 5 units are certified for ISO 7816-1 and ISO 7816-3 standards for smart card solutions, as well as ISO 14443 type A & B and ISO 18092 standards for CTLS operations.

- The VeriShield security architecture meets published specifications for PCI PTS POI and provides sophisticated file authentication to prevent execution of unauthorized software on Verifone Carbon Mobile 5 devices.

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Accepts All Forms of Payment On-the-Go

- Accommodates all payment types - Magnetic stripe, EMV, Contactless/NFC, and mobile wallets along with a 5-inch color touch screen with digital PIN pad and signature capture.

Ease of Use

- The lightweight, compact, stylish, and ergonomic balance provide a convenient payment experience for the user.

- Horizontal, bi-directional, magnetic stripe card reader at the top of Verifone Carbon Mobile 5 features an enlarged card entrance and delivers optimal card swiping and reading.

- Easy to hold, easy to carry. The Verifone Carbon Mobile 5 unit's compact size allows it to easily fit in your pocket and provides lanyard holes, on both sides of the device, to attach wrist/neckbands.

Performance and Durability

- Secure and powerful 300 MHz processing encrypts and completes transactions quickly.

- High-capacity, lithium-ion rechargeable battery for CM5 only (3.85V / 3900 mAh).

- The USB-C port allows for convenient product charging as well as connection to accessories, and Android, iOS, and Windows devices.

- Drop-tested up to 1.2 m on the marble floor surface.

Security

- PCI PED (PIN Entry Device) 5.X approved for PIN-based transactions.

- TLS/SSL protocols

- Direct key injection using industry standard HSMs.

- VeriShield Retain

- VeriShield Remote Key

- Verifone Secure Data

- VeriShield Total Protect

- Master Card TQM

- IPP8 functionality plus multiple AES DUKPT engines.

- EMV L1 and L2

- ISO7816-3, ISO7816-10, and EMV 4.3 standards.

Connectivity

USB host/ device port

- 1 USB Type-C Receptacle (can be used for charging)

- Support Android UART software debug (TXD, RXD)

- Support Secure Processor UART software debug (TXD0, RXD0)

- Android USB 2.0 High Speed Host/Client Support

- Secure Processor USB 2.0 High Speed Host/Client

- Support 5V/500mA for external USB peripherals

- USB host or device is configured by Software

- The Verifone Carbon Mobile 5 USB-C port is on the right-hand side

- Smart device communication is through USB-C

Cellular (wireless communication)

- 4G LTE (3GPP R8 Cat.4 FDD and TDD)

- 3G UMTS (3GPP R8 DC-HSDPA/HSPA+/HSDPA/HSUPA/WCDMA)

- 2G GSM (R99/GPRS/EDGE)

Bluetooth (wireless communication)

- Bluetooth 5.0 (BR/EDR+BLE)

- RF transmitter output power Class 1

- RF receiver GFSK typical -90dBm, ð/4 PSK typical -90dBm, 8-DPSK typical -83dBm

Wi-Fi (wireless communication)

- Wi-Fi 2.4GHz / 5GHz dual band, 802.11 a/b/g/n

Main Battery

- Removable battery

- Nominal capacity/voltage: 3900mAh/3.85V (CM5) or 6200mAh/3.7V (CM5P)

Fuel Gauge

- Host-side fuel gauge with Coulomb counter function

Verifone Carbon Mobile 5 Bases

The Verifone Carbon Mobile 5 Base provides a stable mounted platform for the Verifone Carbon Mobile 5 terminal. The base comes in two versions:

- Verifone Carbon Mobile 5 Charging Base

- Verifone Carbon Mobile 5 Full-Feature Base

The Charging Base supports charging only with no communication

functionality. The Full-Feature Base supports several connectivity options and provides serial connection for peripherals (like ECR, check reader, barcode reader, etc.). The USB host port is for maintenance purposes and supports a USB flash drive.

Verifone Carbon Mobile 5 Charging Base

The Charging Base accommodates and supplies power to the Verifone Carbon Mobile 5 Printer terminals.

Figure: 2 Verifone Carbon Mobile 5 Charging Base, Front and Rear
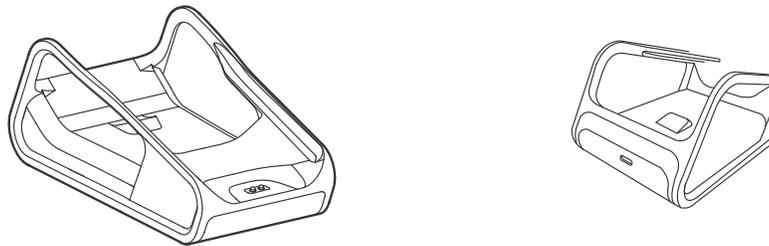
Verifone Carbon Mobile 5 Full-Feature Base

The FF Base supports any failover communication and Ethernet connections for Verifone Carbon Mobile 5. The failover will be supported in all network interfaces available in a terminal.

Figure: 3 Verifone Carbon Mobile 5 FF Base, Front and Rear

The FF Base supports a maximum of seven simultaneous terminal connections via Bluetooth (BT) as well as the following:

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Cable	Configuration
Ethernet port	RJ-45 socket (for connecting PINPad to LAN infrastructure)
RS232 port	RJ-45 socket
USB ports	Micro USB and type A USB

2. Device Setup

This section outlines the setup procedures for the Verifone Carbon Mobile 5 covering the following segments:

- Usage Guidelines
- Environmental Factors
- Inside the Shipping Carton
- Examining Verifone Carbon Mobile 5 Device Features
- Installing or Replacing Battery
- Installing or Replacing SAM Cards
- Examining Connection Port
- Using the Battery
- Connecting the Terminal Power Pack
- Loading a Paper Roll in Device with Printer
- Charging the Battery
- Cable Connections
- Using the Smart Card Reader
- Using the Magnetic Card Reader
- Using the CTLS Reader
- Optional Accessories

Usage Guidelines

Use the following guidelines when using your Verifone Carbon Mobile 5.

Environmental Factors

- Select a flat support surface, such as a countertop or table, place the device. Please store your Verifone Carbon Mobile 5 device in a dry area:
  - Operation temperature is 0° C to 50° C (32° F to 122 ° F).
  - Storage temperature is -20° C to 60 ° C (-4° F to 140 ° F).
- Do not use the device where there is high heat, dust, humidity, moisture, or caustic chemicals or oils.

- Keep the device away from direct sunlight and anything that radiates heat, such as a stove or motor.

CAUTION	The device is not waterproof or dustproof and is intended for indoor use only. Any damage to the unit from exposure to rain or dust may void any warranty. *L'appareil n'est ni étanche ni étanche à la poussière et est destiné à une utilisation en intérieur uniquement. Tout dommage causé à l'appareil par une exposition à la pluie ou à la poussière peut annuler toute garantie.*

Personal Security Considerations

The Verifone Carbon Mobile 5 can be used as a handover device. Always exercise extreme caution when conducting transactions, especially during PIN entry.

- Hand the Verifone Carbon Mobile 5 directly to the cardholder for PIN entry.
- Encourage the cardholder to hold the Verifone Carbon Mobile 5 close to avoid others from seeing the information entered.

Electrical Considerations

- Avoid using this product during electrical storms.
- Avoid locations near electrical appliances or other devices that cause excessive voltage fluctuations or emit electrical noise (for example, air conditioners, electric motors, neon signs, high-frequency or magnetic security devices, or computer equipment).
- Do not use the device near water or in moist conditions.

Unpacking the Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. The Verifone Carbon Mobile 5 is a secure product and any tampering may cause the device to cease to function properly.

To Unpack the Shipping Carton

1 Validate the authenticity of the sender by verifying the shipping tracking number and other information located on the product order paperwork.

2 Remove and inspect the following items:

- Verifone Carbon Mobile 5 unit
- USB-C to USB cable

- Paper roll

NOTE

Verifone ships variants of the Verifone Carbon Mobile 5 for different markets. Your unit may have different options or accessories described in this section.

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3   Remove all plastic wrapping from the unit and other components.

4   Remove the clear protective film from the display.

CAUTION

Do not use a unit that has been tampered with or otherwise damaged. This unit comes equipped with tamper-evident labels. If a label or component appears damaged, immediately notify the shipping company and your Verifone representative or service provider.

N'utilisez pas un appareil qui a été altéré ou autrement endommagé. Cet appareil est équipé d'étiquettes inviolables. Si une étiquette ou un composant semble endommagé, informez-en immédiatement la compagnie maritime et votre représentant ou fournisseur de services Verifone.

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5   Save the shipping carton and packing material for future repacking or storing the device.

NOTE

- Charge the Verifone Carbon Mobile 5 device for eight hours before initial use.

- The Verifone Carbon Mobile 5 device includes an embedded coin cell battery that will power the security circuit of the device in case the main battery fails to charge. This internal coin cell battery is not rechargeable and has a life of 1 year.

- Ensure not to store the device for more than 1 week without charging, else the secondary battery gets discharged in turn reducing the life of the battery.

Examining Verifone Carbon Mobile 5 Device Features

Before you continue the installation process, familiarize yourself with the features of the Verifone Carbon Mobile 5 (see Figure 1).

Front Panel

The front panel includes the following features:

Figure: 4   Verifone
Carbon
Mobile 5
(Front Panel)
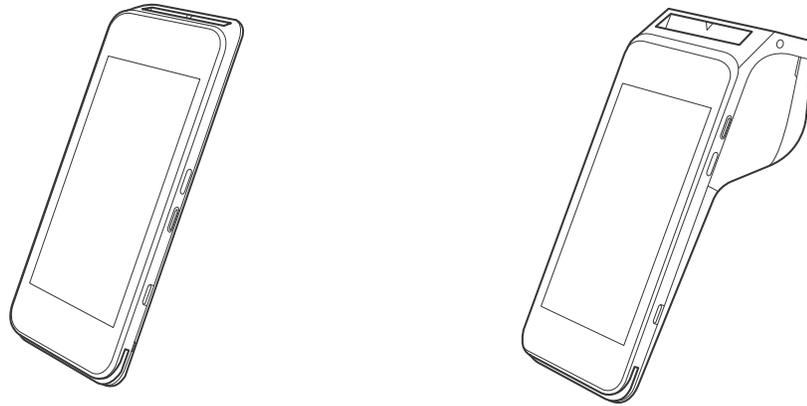
- The Verifone Carbon Mobile 5 device has a colored capacitive-touch LCD Display.

- A smart card reader is built into the top of the device to process smart card-based debit or credit transactions. For directions on how to use a smart card, see Using the Smart Card Reader.

- A magnetic card reader is built into the bottom part of the device for performing debit or credit card transactions. The card can be swiped from either direction. To ensure a proper read of the magnetic swipe card, insert the magnetic card from the side of the device as shown in Using the Smart Card Reader.

- The Verifone Carbon Mobile 5 device has a power/charging indicator.

- All LEDs to indicate CTLS, EMV, MSR, BT, and Wi-Fi are shown on the display.

- CTLS around the display for contactless payments. For directions on how to conduct contactless transactions, see Using the CTLS Reader.

Installing or Replacing Battery

FOR CM5

- Turn off the CM5/CM5P.

- Place the device face down on a soft, clean surface to protect the display from scratches.

- Remove the battery cover from the bottom and remove the battery pack.

- Install the battery pack and place the battery cover.

FOR CM5P

- Turn off the Verifone Carbon Mobile 5 device.

- Place the device face down on a soft, clean surface to protect the display from scratches.

- Remove the battery cover from the bottom concerns.

- Remove the primary battery from the battery compartment, and unplug the connector, then remove the battery pack.

- Switch the battery pack and plug the connector first.

- Place the primary battery to battery compartment.

- Place the battery cover.

NOTE

The highest specified charging temperature of the battery pack is 55 +/-3°C.

The lowest specified charging temperature of the battery pack is -5+/-3°C.

Installing or Replacing SAM Cards

When you first receive your Verifone Carbon Mobile 5, you may need to install one or more MSAM cards, or you may need to replace old cards.

CAUTION

Observe standard precautions when handling electrostatically sensitive devices. Electrostatic discharges can damage this equipment. Verifone recommends using a grounded anti-static wrist strap.

Observez les précautions standard lors de la manipulation d'appareils sensibles aux décharges électrostatiques. Les décharges électrostatiques peuvent endommager cet équipement. Verifone recommande d'utiliser un bracelet antistatique mis à la terre.

NOTE

Verifone ships variants of the Verifone Carbon Mobile 5 for different markets. Your unit may have different options or accessories described in this section.

To Install or replace SAMs/ SIMs

For CM5

- Turn off the Verifone Carbon Mobile 5 device.

- Place the device face down on a soft, clean surface to protect the display from scratches.

- Remove the battery cover from the bottom and provide access to the MSAM card slot.
- Remove any previously installed MSAM cards from the cardholder by pulling out the MSAM in a horizontal direction.
- Insert a MSAM card (with contacts face down) by carefully sliding it into the slot until the card is fully inserted.
- Make sure the card orientation is matching with the icon engraved in the housing.
- Place the battery cover.

For CM5P

- Turn off the Verifone Carbon Mobile 5 device.
- Place the device face down on a soft, clean surface to protect the display from scratches.
- Remove the battery cover from the bottom corners.
- Remove the primary battery from the battery compartment, but keep the battery connected.
- Remove any previously installed MSAM cards from the cardholder by pushing down on the Nano-SIM icon (or actual Nano-SIM card) and pulling out the MSAM in the horizontal direction.
- Insert a MSAM card (with contacts face down) by carefully sliding it into the slot until the card is fully inserted.
- Make sure the card orientation is matching with the icon engraved in the housing.
- Place the primary battery.
- Place battery cover.

Examining Connection Port

The Verifone Carbon Mobile 5 device has one primary USB-C port used for power and download.

Figure: 5   Verifone Carbon Mobile 5 Primary USB-C Port
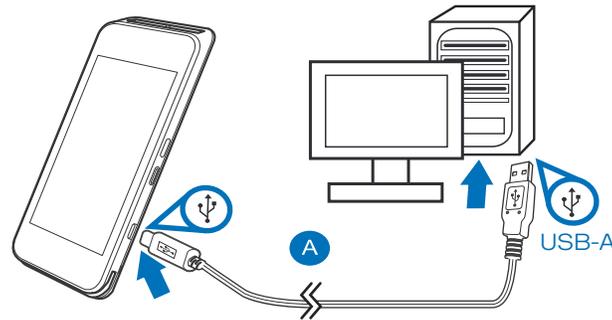
Using the Battery

The Verifone Carbon Mobile 5 device uses a single-cell Li-Polymer battery or a dual-cell Li-Ion battery. The internal logic of the battery prevents both overcharging and undercharging (a fault condition in which the battery level goes well below the minimum acceptable charge and the battery becomes unusable).

Battery Features

The following are the features of the battery:

- Single Li-Polymer cell for CM5 and two Li-Ion cells for CM5 printer.

- A safety circuit that:

  - Prevents cell damage from overcharge, over-discharge, or overheating.

- Activates when the battery is left in an unused device for an extended period.

NOTE

- Charge the Verifone Carbon Mobile 5 device for eight hours before initial use.

- The Verifone Carbon Mobile 5 device includes an embedded coin cell battery that will power the security circuit of the device in case the main battery fails to charge. This internal coin cell battery is not rechargeable and has a life of 1 year.

- Do not store the device for more than 1 week without charging, else the secondary battery gets discharged in turn reducing the life of the battery.

- Disconnecting and unplugging the device power pack, reduces the life of the coin cell battery, which does not recharge and must be replaced if drained.

- Conserve battery power by turning the Verifone Carbon Mobile 5 device off when not in use. Do not let the battery charge fall below 10% for extended periods of time as this may permanently diminish the battery capacity. Recharge the battery by attaching the USB-C end of the power pack to the device and plugging the other end of the power pack into a wall outlet.

Manual Startup

Hold the start button for about 3 seconds until the device displays the startup screen.

NOTE

Once the device is powered up, the Verifone ADK MAC screen is displayed.

Manual Shutdown

Hold the start button for about 1 second until the message is displayed on the screen. Touch the "Off" selection to turn off.

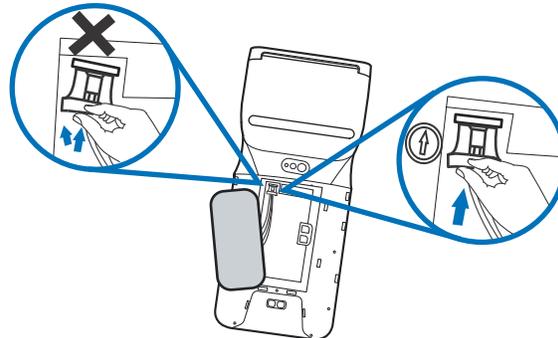**NOTE**

The screen is blank when the device has no power.

Battery Connector

Plug in the battery connector straight into the port as shown below in

figure 6 to avoid damaging the connector pins.

Figure: 6   Battery
            Connector
            Pin Insertion

Connecting the Terminal Power Pack

Connect the Verifone Carbon Mobile 5 device to the provided USB cable and insert the other end into any USB charger head for initial charging.

CAUTION	Using an incorrectly rated power supply may damage the device or cause it not to work as specified. Before troubleshooting, ensure that the power supply being used to power the device matches the requirements specified on the bottom of the device. (See Specifications for detailed power supply specifications.) You can use any standard USB charger.

L'utilisation d'une alimentation électrique mal évaluée peut endommager l'appareil ou l'empêcher de fonctionner comme spécifié. Avant le dépannage, assurez-vous que l'alimentation électrique utilisée pour alimenter l'appareil correspond aux exigences spécifiées au bas de l'appareil. (Voir les spécifications techniques pour les spécifications détaillées de l'alimentation.) Vous pouvez utiliser n'importe quel chargeur USB standard.

WARNING	Do not plug the power pack into an outdoor outlet or operate the device outdoors. During a transaction, disconnecting the power by unplugging the device from a wall power while at very low battery charge may cause transaction data files not yet stored in the device memory to be lost.

Au cours d'une transaction, débrancher l'alimentation en débranchant l'appareil d'une prise murale alors que la batterie est très faible peut entraîner la perte des fichiers de données de transaction non encore stockés dans la mémoire de l'appareil.

Each Verifone Carbon Mobile 5 device comes with a power supply cable, USB-A to USB-C cable is used to connect the device directly to a USB outlet to charge the battery. The Verifone Carbon Mobile 5 unit is equipped with an USB capable universal port.

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To Connect the Terminal Power Supply

- Insert the USB-C to the Verifone Carbon Mobile 5 and the USB-A port to the power supply or desktop.

Figure: 7   Verifone Carbon Mobile 5 Power Supply Connection
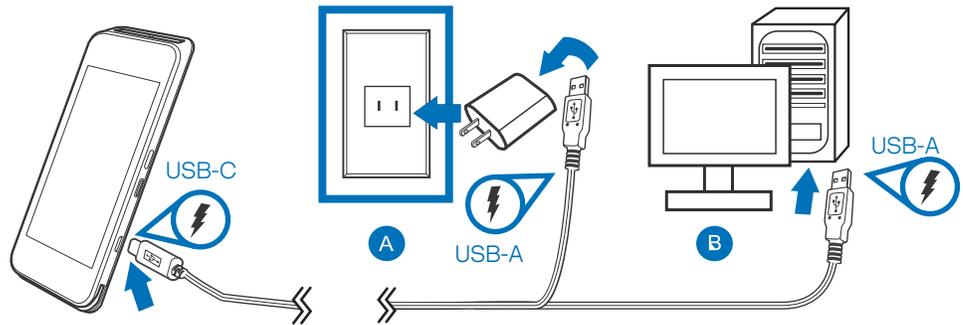
TIP: To protect against possible damage caused by lightning strikes and electrical surges, consider installing a power surge protector.

Loading a Paper Roll in Device with Printer

Install a paper roll before you can process transactions that require a receipt. The Verifone Carbon Mobile 5 Printer Stand uses a roll of 58 mm x 40 mm, single-ply, thermal-sensitive paper.

A pink out-of-paper indicator line appears on the edge of the paper before the end of the roll. After this line appears, there is enough paper remaining on the roll to conclude at least one more transaction.

NOTE   A message is always displayed to indicate when the printer is out of paper.

CAUTION

Poor-quality paper can jam the printer and create excessive paper dust. To order high-quality Verifone paper, refer to Service and Support.

Store thermal paper in a dry, dark area. Handle thermal paper carefully: impact, friction, temperature, humidity, and oils affect the color and storage characteristics of the paper.

Never load a roll of paper with folds, wrinkles, tears, or holes at the edges.

Un papier de mauvaise qualité peut bloquer l'imprimante et créer une poussière de papier excessive. Commander
papier Verifone de haute qualité, reportez-vous à Service et assistance.

Conservez le papier thermique dans un endroit sec et sombre. Manipulez le papier thermique avec précaution : les chocs, les frottements, la température, l'humidité et les huiles affectent la couleur et le stockage.
caractéristiques du papier.

Ne chargez jamais un rouleau de papier présentant des plis, des rides, des déchirures ou des trous sur les bords.

To install a paper roll

1   Hold both sides of the paper door, which is on the upper corner of the device and open the paper door by pulling outside (See below Figure 8).

2   Remove any partial roll of paper in the tray.

Figure: 8   Steps to Install a Paper Roll in Verifone Carbon Mobile 5
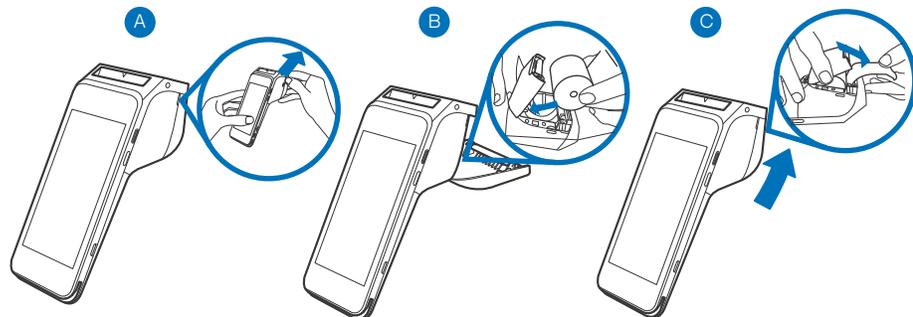
3   Loosen the glued leading edge of the new paper roll or remove the protective strip. Unwind the paper roll past any glue residue.

4   Hold the roll so the paper feeds from the top of the roll.

5   Pull the paper past the printer door.

6   Align the printer paper to the tabs to the paper guides and hold the paper up when closing the door.

7   With the printer paper extending outside, close the printer door by swinging upward until the door clicks shut, allowing the printer paper to extend outside the printer door.

Charging the Battery

After unpacking your Verifone Carbon Mobile 5 device, connect the power pack to the unit for eight hours or until fully charged. Refer to the Using the Battery section for more details.

Battery Life

Charging and discharging the battery will cause normal wear on the battery.

WARNING	Li-Polymer and Li-Ion batteries must be recycled or disposed of properly as per local guidelines/regulations.
	Les batteries Li-Polymère et Li-Ion doivent être recyclées ou éliminées correctement conformément aux directives/réglementations locales.

Cable Connections

You can connect the Verifone Carbon Mobile 5 to peripherals using the Full-Function Base.

•   Cable Connections Using the Full-Feature Base.

WARNING	Turn off or unplug the terminal when connecting or disconnecting the device to avoid device memory corruption and data loss.
	Refer to the controlling device instructions for any terminal-specific warnings.
	Éteignez ou débranchez le terminal lors de la connexion ou de la déconnexion de l'appareil pour éviter la corruption de la mémoire de l'appareil et la perte de données.
	Reportez-vous aux instructions du dispositif de contrôle pour tout avertissement spécifique au terminal.

Cable Connections Using the Full-Feature Base

To connect the terminal to other devices via Ethernet, RS-232, and USB, use the Verifone Carbon Mobile 5 Full-Feature (FF) Base. The FF Base provides a standard RJ-45 LAN socket, RS-232 port, and a micro-USB port.

Figure: 9   Full-Feature Base Peripheral Connections
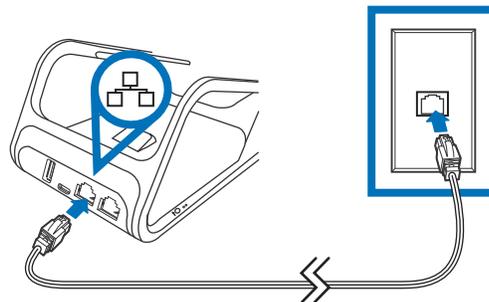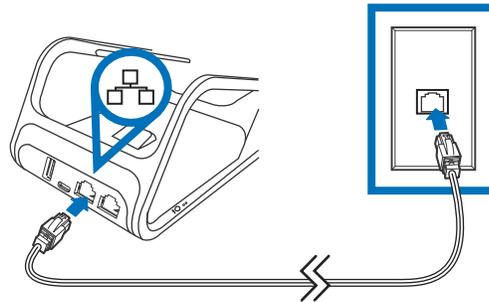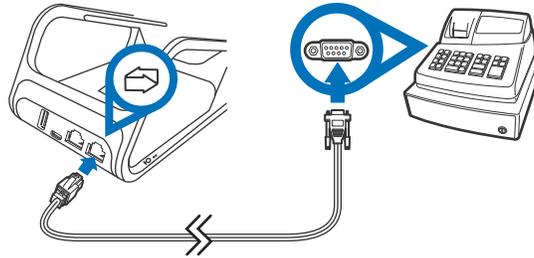
Cable	Configuration
Ethernet port	RJ-45 socket (for connecting PINPad to LAN infrastructure)
RS232 port	RJ-45 socket
USB ports	Micro USB and type A USB

Using the Smart Card Reader

Insert the smart card to proceed with the EMV transaction. EMV supports credit card and debit card transactions.

To Conduct a Smart Card Transaction

1   Position the smart card with the contacts facing upward (see Figure below).

2   Insert the card into the reader slot in a smooth, continuous motion until it sits firmly.

3   Wait for the application to indicate a completed transaction before removing the card. Premature card removal invalidates the transaction.

Figure: 10 Inserting a Smart Card Cable
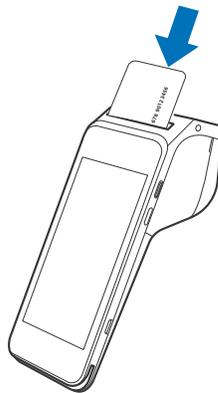
Using the Magnetic Card Reader

Use the magnetic stripe reader to perform credit and debit card transactions.

To Conduct a Debit or Credit Card Transaction

Use the magnetic stripe reader to perform credit and debit card transactions.

1   Position the card with the magnetic stripe facing backward.

2   To ensure a proper read of the magnetic swipe card, insert the magnetic card from the side of the device, as shown in the illustration below.

Figure: 11 Using Magnetic Stripe Card
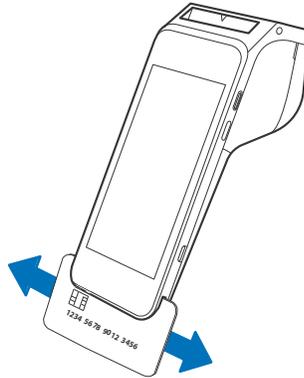
3   Swipe the card through the magnetic card reader.

Using the CTLS Reader

The Verifone Carbon Mobile 5 supports contactless credit or debit card transactions. To perform a contactless transaction, gently tap the card or hold the card against the surface of the display.

Figure: 12 Using the CTLS Reader
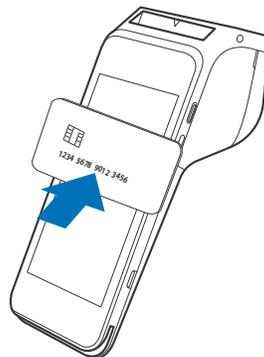
Optional Accessories

These accessories can be used to further enhance the device's functionality.

Bluetooth paring Between Full-Feature Base and CM5P

1 Download and Install Base Control app.

Figure: 13 Download Base Control app
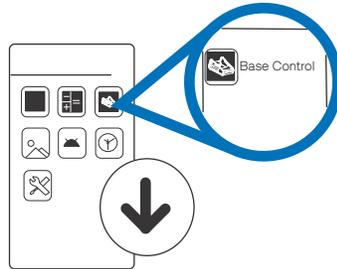
2 Make sure Bluetooth is turned ON and go to "PAIR A NEW DOCK" option in the app.

3 Follow the instructions from the app to press the pairing button on the base.

4 On the next screen, use the camera to align the circles over the LED lights on the side of the base while the device lays on its side.

5 Make sure the circles and the LED lights on the base are lined up, hold still CM5P and pairing will start automatically.

6 Follow the instructions on the screen to hold the pairing button on the base for 3 seconds and release the button.

Figure: 14 CM5P Bluetooth Pairing with Base
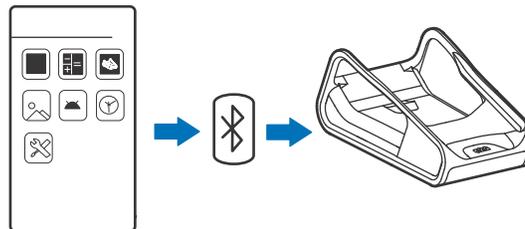
7   Once pairing is successfully completed, the base with its S/N will show up under "Connected Docks" on the screen.

Full-Feature Base

The Full-Feature Base (VPN M278-S02-08) provides Bluetooth (BT) 4.2. It also supplies power, Ethernet, USB Host and USB Device, plus powered RS232 connection. See Cable Connections Using the Full-Feature Base.

Figure: 15 CM5 Docking with Full-Feature Base

Charging Base

The Charging Base (VPN M278--S02-00) provides a stable dock plus power charging for the CM5 terminal.

Figure: 16 CM5 Docking with Charging Base

Car Charger

The Car Charger (VPN PWR278-100-01-A) provides a Built-in protection from power surges & heat.

Figure: 17 Car Charger
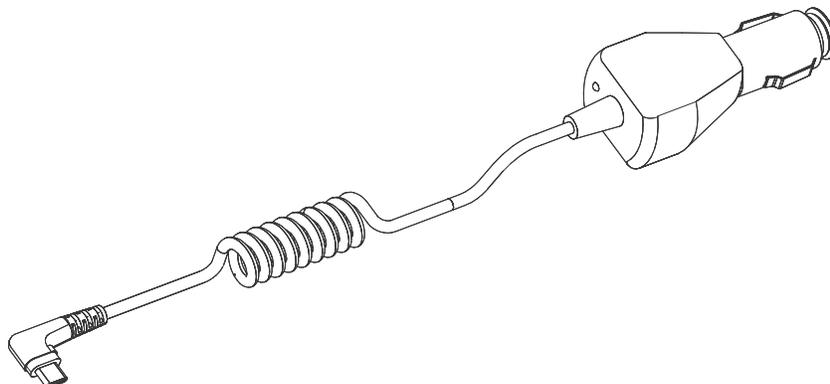
Its multi-layer protection safeguards the devices from overcharging and overheating giving a safe charging experience. With its Type-C output port, the charger is compatible with a wide range of devices.

When the device detects the Car charger will automatically switch to "Vehicle charge mode" in "Settings->Battery->Battery Charge Mode setting".

Car Charger Detected.

Car charger will be detected in Vehicle Charge Mode and automatically ENABLED (selected) and BLOCKED to the user.

Car Charger Removed.

Car Charger will be removed the Vehicle Charge Mode would remain ENABLED (selected) but the user would have the option to select another charger mode.

3. Specifications

Refer to the following information on the power, weight, temperature, memory, ports, and other technical details about Verifone Carbon Mobile 5 and Verifone Carbon Mobile 5 with Printer devices.

Unit Power Requirement

- Input power rating: 5V DC, 2A
- Charging via USB-C to external dock connector
- Rechargeable battery
  - Verifone Carbon Mobile 5 - 3900 mAh Li-Polymer rechargeable battery
  - Verifone Carbon Mobile 5 with Printer - 6200 mAh Li-Ion rechargeable battery

Temperature

- Operating temperature: 0°C to 50°C (32°F to 122°F)
- Non-Operating temperature: - 20°C to 60°C (-4°F to 140°F)

Humidity

- Relative humidity: 5% to 95% RH non-condensing

External Dimensions

	Verifone Carbon Mobile 5	Verifone Carbon Mobile 5 with Printer
Length:	164.7 mm	184.29 mm
Width	77.9 mm	77.9 mm
Height	15.8 mm	
Drum		32.7 mm handle/59.55 mm
Paper roll		495 g with full paper roll
Weight	275 g (for non-printer)	

Android Memory

- RAM: 2GB
- Flash: 16GB
- Secure processor: 128 MB DRAM, 256 MB Flash

Magnetic Stripe Card	• Triple-track • Supports bi-directional card read • Swipe speed at 10 IPS to 40 IPS
Smart Card Reader	• Non-sliding • Card conserving plated landing contacts
SAM Requirements	• 1 SAM slot • ID-000 format
Display	• 5" (720 × 1280) HD IPS LCD touchscreen
Communication	• BT 5.0 BLE (Bluetooth Low Energy) • Wi-Fi 2.4GHz/5GHz (A/B/G/N)
SIM/SAM	• 1 Nano SIM • 1 micro SAM or 2nd micro SIM
Audio	• Loudspeaker, microphone • Headset jack (Verifone Carbon Mobile 5 with Printer only)
Camera	• 5 MP, auto-focus • Fast scanner • LED aimer • LED torch • 2 MP front

Printer	• Verifone Carbon Mobile 5 with Printer
	  • High-speed thermal printer: 30 lps
	  • Paper roll: Max 57.65 mm Length x Max 40 mm diameter

Verifone Carbon Mobile 5 Bases

Charging Base

- Provides terminal charging on a mounted stand

Full-Feature Base

- Aside from charging, the FF Base provides:

  - Bluetooth
  - 10/100M Ethernet
  - Powered RS-232
  - BT LE V4.2
  - USB host
  - USB device

Unit Power Requirements

- Operating Power: 5V DC, 2.2A (FF Base)
                                 5V DC, 2A (Charging Base)

Temperature

- Charging Base Operating   0°C to 50° C (32°F to 122° F)
  temperature:

- Full -Feature Base Operating   0°C to 40° C (32°F to 104° F)
  Temperature:

- Storage temperature: -20°C to 60° C (-4°F to 140° F)

Humidity

- Relative humidity: 5% to 95% (RH non-condensing)

4. Maintenance and Cleaning

The Carbon Mobile 5 device does not contain user-serviceable parts. Nevertheless, it is possible to clean it.

General Care

Your device exemplifies superior design and craftsmanship. The following recommendations are provided to help safeguard your warranty coverage:

- Avoid storing the device in hot areas, as elevated temperatures can diminish the lifespan of electronic components, harm batteries, and cause deformation or melting of certain plastics.

- Refrain from storing the device in cold areas, as the return to normal temperatures may lead to moisture formation inside the device, potentially damaging electronic circuit boards.

- Exercise caution to prevent dropping, knocking, or shaking the device, as rough handling can result in the breakage of internal circuit boards and delicate mechanics.

These recommendations are equally applicable to both your device and any accompanying attachments or accessories. If your device is experiencing operational issues, kindly visit the nearest Verifone authorized service provider for maintenance or replacement.

Cleaning & Sanitizing Guidelines

Verifone devices should only be gently cleaned to remove dirt, residue, or debris using a lightly water-damped, clean microfiber cloth. One or two drops of pH-neutral, non-scrubbing soap may be used. Do not use solvents, harsh detergents, or abrasive cleaners.

Using improper cleaning methods or products may result in functional and/or cosmetic issues that are not covered under warranty.

Important Guidelines

1 **Avoid Direct Application:** Never spray, coat, or pour any liquid, sanitizer, or disinfectant directly onto the device.

2 **Caution Against Harsh Chemicals:** Avoid using bleach, hydrogen peroxide, thinner, trichloroethylene, or ketone-based solvents, as they can degrade plastic and rubber components.

3   **Electrostatic Discharge (ESD) Prevention:** Exercise caution to prevent ESD by refraining from vigorously rubbing with a dry towel or similar actions, as they can cause ESD and trigger a tamper alert.

DO NOT pour liquid on the terminal.   **DO NOT** put hand sanitizer on the terminal.   **DO NOT** spray the terminal directly.   **DO NOT** scrub the terminal.

Cleaning Instructions

1   Turn off your device.

2   Disconnect it from the power source.

3   Clean it following the instructions and guidelines as mentioned above. Once completely dry, reconnect to power up.

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5. Service and Support

The Verifone Carbon Mobile 5 and Verifone Carbon Mobile 5 with Printer device does not contain user-serviceable parts. Unless expressly directed, refrain from attempting any service, adjustments, or repairs on the unit under any
circumstance.

For product service and repair information:

- USA – Verifone Service and Support Group, 1-800-837-4366
  Monday - Friday, 8 A.M. - 8 P.M., Eastern time

- International – Contact your Verifone representative

Returning a Device for Service

You must obtain a Merchandise Return Authorization (MRA) number before returning the terminal to Verifone. The following procedure describes how to return one or more terminals for repair or replacement (U.S. customers only).

CAUTION	Customers outside the United States are advised to contact their local Verifone representative for assistance regarding service, return, or replacement of devices and accessories. *Il est conseillé aux clients en dehors des États-Unis de contacter leur Verifone local représentant pour obtenir de l'aide concernant l'entretien, le retour ou le remplacement des appareils Et accessoires.*

1 Get the following information from the printed labels on the back of each Verifone Carbon Mobile 5 device to be returned:

- Product ID, including the model and part number. For example, "Verifone Carbon Mobile 5" and "M278-XXX-XXX-XXX."

- Serial number (S/N nnn-nnn-nnn)

2 Obtain the MRA number(s) by completing one of the following:

- Call Verifone toll-free within the United States at 1-800-Verifone and follow the automated menu options.

- Select the MRA option from the automated message. The MRA department is open Monday to Friday, 8 A.M. to 8 P.M., Eastern Time.

- Give the MRA representative the information you gathered in Step 1.

- Complete the Inquiry Contact Form at https://www.verifone.com/en/us/contact-us .

- Address the Subject box to "Verifone MRA Dept."

- Reference the model and part number in the Note box.
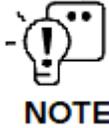
NOTE Each Verifone Carbon Mobile 5 returned to Verifone requires a distinct MRA number to be issued. Even if you are returning multiple terminals of the same model, ensure that a separate MRA number is issued for each unit.

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3   Describe the problem(s).

4   Provide the shipping address where the repaired or replacement unit must be returned.

5   Keep a record of the following items:

- Detail the issue(s) with the Verifone Carbon Mobile 5.

- Furnish the shipping address for the return of the repaired or replacement unit.

- Maintain a record of the following elements:

  - Assigned MRA number(s).

  - Verifone serial number linked to the Verifone Carbon Mobile 5 being sent for service or repair (located on the back of the unit).

  - Shipping documentation, including air bill numbers utilized for shipment tracking.

  - Model(s) returned (model numbers can be found on the Verifone label on the back of the Verifone Carbon Mobile 5 device).

6. Troubleshooting Guidelines

The troubleshooting guidelines provided in the following section are included to help you install and configure your Verifone Carbon Mobile 5 successfully. Typical examples of malfunction you may encounter while operating your Verifone Carbon Mobile 5 and steps you can take to resolve them are listed in this chapter.

If the problem persists even after performing the outlined guidelines or if the problem is not described below, contact your local Verifone representative for assistance.

NOTE

The Verifone Carbon Mobile 5 comes equipped with tamper-evident labels. The Verifone Carbon Mobile 5 unit contains no user serviceable parts. Do not, under any circumstance, attempt to disassemble the device. Perform only those adjustments or repairs specified in this guide. For all other services, contact your local Verifone service provider. Service conducted by parties other than authorized Verifone representatives may void any warranty.

CAUTION

Before troubleshooting, ensure that the power supply being used to power the device matches the requirements specified at the bottom of the device. (See Specifications, for detailed power supply specifications.) Obtain the appropriately rated power supply before continuing with troubleshooting.

Avant le dépannage, assurez-vous que l'alimentation électrique utilisée pour alimenter l'appareil correspond aux exigences spécifiées au bas de l'appareil. (Voir Spécifications pour connaître les spécifications détaillées de l'alimentation.) Procurez-vous une alimentation électrique appropriée avant de poursuivre le dépannage.


Device Does not Start/Does not Display Correct Readable Information

If the device does not start:

- Ensure that the device is plugged in to a dedicated power source.

- Verify all the cable connections including the proper insertion of the power cable connector.

- If the problem persists, reach out to your local Verifone representative for assistance.

Battery Does not Charge

The Verifone Carbon Mobile 5 battery must initially receive a full charge to ensure proper operation.

NOTE
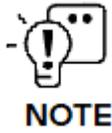
- Allow the Verifone Carbon Mobile 5 device to remain connected to the power pack for eight hours to ensure the battery receives a full charge.

- Li-Polymer and Li-Ion batteries are not affected by shallow charging. Furthermore, when the device has no external power source or battery the coin cell battery provides power to the security circuit.

- Disconnecting and unplugging the device power pack reduce the life of the coin cell battery, which does not recharge and must be replaced if drained.

- Conserve battery power by turning the Verifone Carbon Mobile 5 device off when not in use. Do not let the battery charge fall below 10% for extended periods of time as this may permanently diminish the battery capacity. Recharge the battery by attaching USB end of the power pack to the device and plugging the other end of the power pack into a wall outlet.

- The Verifone Carbon Mobile 5 device automatically shuts off when the battery reaches the critically low charge state.

- Please charge the device once a week even when the device is not in use.

Blank Display

When the device display is blank:

- If the device display appears dark, tap the screen using stylus. If the unit is in screen-saver mode, touch the screen to activate.

- If the display does shows incorrect or unreadable information, inspect all cable connections. In case the problem persists, reach out to your local Verifone representative for assistance.

Transactions Fail to Process

Multiple factors could be causing the unit to fail in processing transactions. Utilize the following steps to troubleshoot and identify the root of the failures.

Checking Magnetic Card Reader

To check the magnetic card reader:

1 Perform a transaction using one or more distinct magnetic stripe cards to rule out the possibility of a faulty card.

2 Ensure that you are swiping cards correctly.

3 Process a transaction manually using the keypad instead of the card reader. If the manual transaction is successful and the issue persists with the card reader, it may indicate a problem with the card reader itself.

4   If the problem persists, reach out to your local Verifone representative.

Checking Smart Card Reader

To check the smart card reader:

1   Execute a transaction using various smart cards to eliminate the possibility of a faulty card.

2   Verify that the card is inserted correctly.

3   Ensure the SAM cards are appropriately inserted into the designated slots and are securely in place (refer to Installing or Replacing SAM Cards).

4   If the issue persists, get in touch with your local Verifone representative.
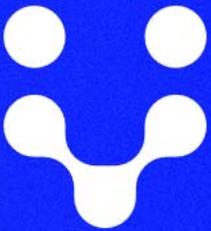
Checking CTLS Reader

To check the CTLS reader:
Make sure there are no obstructions between the contactless logo and the card, ensuring a clear path between the contactless reader and the actual card for a seamless transaction.

www.verifone.com

Thank you!

We are the payments architects who truly understand commerce.

As payment architects we shape ecosystems for online and in-person commerce experiences, including all the tools you need... from gateways and acquiring to fraud management, tokenization and reporting.

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