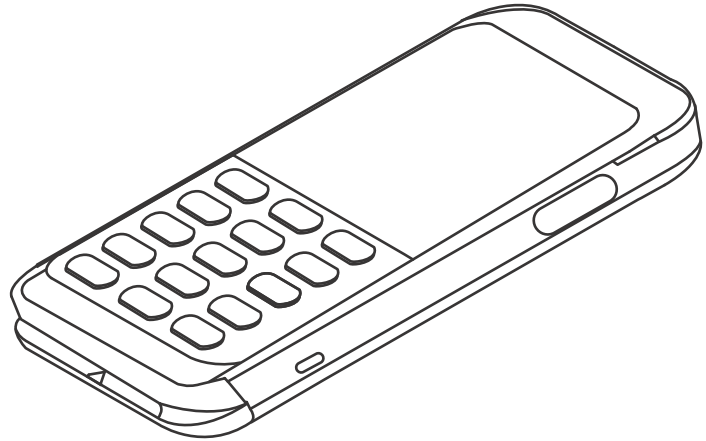


E235

Installation Guide



E235 Installation Guide
© 2022 Verifone, Inc.

All rights reserved. No part of the contents of this document may be reproduced or transmitted in any form without the written permission of Verifone, Inc.

The information contained in this document is subject to change without notice. Although Verifone has attempted to ensure the accuracy of the contents of this document, this document may include errors or omissions. The examples and sample programs are for illustration only and may not be suited for your purpose. You should verify the applicability of any example or sample program before placing the software into productive use. This document, including without limitation the examples and software programs, is supplied "As-Is."

Verifone and the Verifone logo are registered trademarks of Verifone. Other brand names or trademarks associated with Verifone's products and services are trademarks of Verifone, Inc.

All other brand names and trademarks appearing in this manual are the property of their respective holders.

Product Warranty:

For product warranty information, go to <http://www.verifone.com/terms>.

Comments? Please e-mail all comments on this document to your local Verifone Support Team.

Verifone, Inc.
1-800-Verifone

www.verifone.com



CONTENTS

PREFACE 5

Audience 5

Organization 5

Related Documentation 5

Conventions and Acronyms 6

CHAPTER 1
Device Overview

Features and Benefits 8

 Triple Radio Performance 8

 Modern Application Environment 8

 Accepts All Forms of Payment On-the-Go 8

 Exceptional Ease of Use 8

 Performance and Durability 8

 Security 8

 Contactless Capability 9

 Connectivity 9

CHAPTER 2
Device Setup

Terminal Location 11

 Ease of Use 11

 Environmental Factors 11

 Personal Security Considerations 12

 Electrical Considerations 12

 Contactless Considerations 12

Inside the Shipping Carton 12

 Unpacking the Shipping Carton 12

Device Features 14

 Front Panel 14

Removing the Battery Cover 15

Installing micro SIM and/or SAM Cards 15

Initial Battery Charging 16

Starting Up and Shutting Down 16

Using the Battery 17

 Battery Life 17

 Charging the Battery 17

 Charging via the Power Pack 18

 Charging with the Folio 18

Connecting to a Computer 18

Conducting Wireless Transactions 18

Using the Smart Card Reader 19

Using the Magnetic Card Reader 20

Using the CTLS Reader 20

Using Accessories 20

CHAPTER 3
Specifications

Unit Power Requirement 21

	Temperature	21
	External Dimensions	21
	Weight	21
	Memory	21
	Magnetic Stripe Card	21
	SAM Card Reader	21
	Communication	21
	Display	21
	SD Memory	22
CHAPTER 4		
Maintenance and Cleaning	Surface Cleaning	24
	Magnetic Card Reader	24
	Smart Card Reader	24
	Additional Safety Information	24
	Power Adapter	24
	Potentially Explosive Environments	24
CHAPTER 5		
Verifone Service and Support	Accessories and Documentation	26
	Accessories	26
	Documentation	26
CHAPTER 6		
Troubleshooting Guidelines	Device Does Not Start	27
	Device Display Does Not Show Correct/Readable Info	27
	Battery Does Not Charge	28
	Blank Display	28
	Keypad Does Not Respond	28
	Transactions Fail to Process	29
APPENDIX A		
Caution and Warning Messages	E235 Caution and Warning Messages	31



This guide is your primary source of information for setting up the E235.

Audience

This guide is useful for anyone installing an E235 device.

Organization

This guide is organized as follows:

[Chapter 1, Device Overview](#). Provides an overview of the E235.

[Chapter 2, Device Setup](#). Explains how to set up the E235 device. It tells you how to select a location, establish power connection and install the SIM/SAM card.

[Chapter 3, Specifications](#). Discusses power requirements and dimensions of the E235.

[Chapter 4, Maintenance and Cleaning](#). Explains how to maintain your E235.

[Chapter 5, Verifone Service and Support](#). Provides information on how to contact your local Verifone representative or service provider and information on how to order accessories and documentation from Verifone.

[Chapter 6, Troubleshooting Guidelines](#). Provides troubleshooting guidelines, should you encounter a problem in device installation.

Related Documentation

To learn more about the E235, refer to the following set of documents:




<i>E235 Certifications and Regulations</i>	VPN DOC194-001-EN
<i>E235 Quick Installation Guide</i>	VPN DOC194-002-EN
<i>E235 Brazil Quick Installation Guide</i>	VPN DOC194-005-EN

Conventions and Acronyms

This section describes the conventions and acronyms used in this guide.

Various conventions are used to help you quickly identify special formatting. [Table 1](#) describes these conventions and provides examples of their use.

Table 1 Document Conventions

Convention	Meaning	Example
Blue	Text in blue indicates terms that are cross referenced.	See Conventions and Acronyms .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	You <i>must</i> install a roll of thermal-sensitive paper in the printer.
Courier	The courier type face is used while specifying onscreen text, such as text that you would enter at a command prompt, or to provide an URL.	<code>http://www.verifone.com</code>
 NOTE	The pencil icon is used to highlight important information.	RS-232-type devices do not work with the PIN pad port.
 CAUTION	The caution symbol indicates possible hardware or software failure, or loss of data.	The device is not waterproof or dustproof and is intended for indoor use only.
 WARNING	The lightning symbol is used as a warning when bodily injury might occur.	Due to risk of shock do not use the device near water.

Various acronyms are used in place of the full definition. [Table 2](#) represents acronyms and their definitions.

Table 2 Acronym Definitions

Acronym	Definitions
AC	Alternating Current
ARM	Acorn RISC Machine
EMV	Europay MasterCard and VISA
LCD	Liquid Crystal Display
NFC	Near Field Communication
MRA	Merchandise Return Authorization
MSAM	Micromodule-Size Security Access Module
PCI	Payment Card Industry
PED	PIN Entry Device
PIN	Personal Identification Number
SIM	Subscriber Identity Module
USB	Universal Serial Bus
VPN	Verifone Part Number

Device Overview

This chapter provides a brief description of the E235 device.

The E235 device is a standalone, mobile wireless handheld payment device, making it easy to process contact and contactless transaction anywhere. It provides mobile payment capabilities via 4G connectivity. It is also a powerful 4G/Bluetooth/Wi-Fi dual band solution – featuring advanced communication for a few dropped transactions so that merchants can accept payments securely, extending their point of sale opportunities.

The E235’s capacitive-touch with physical keypad design while still accepting all payment methods - MSR, PSCR, Contactless and wallets. The easy to read color touch screen is fully supported by Verifone’s developer toolkit which enables to transform ideas into applications.

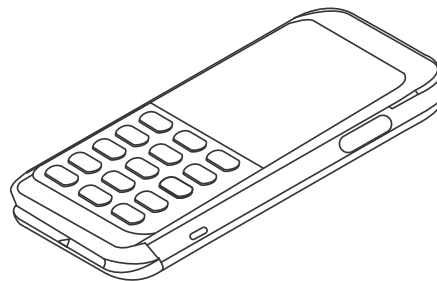


Figure 1 The E235 Unit

Key Features

- **300 MHz A9 processor** delivers **power** and **usability** in a **convenient** “hand-over” design.
- **Multi-application** operating environment.
- **Advanced memory architecture** to meet tomorrow’s needs.
- **32-bit processing** and **multi-tasking** capabilities.
- Offers **unsurpassed performance** on **EMV** smart card transactions.
- **Security** architecture exceeds specifications for PCI-PED and sophisticated **file authentication**.
- **Multiple connectivity** and **contactless** options.
- Drop-resistant design minimizes breakage.

Features and Benefits

The E235 provides the right combination of features and functions including a triple-track magnetic-stripe card reader, smart card reader, integrated PIN pad and contactless/NFC support.

Triple Radio Performance

- The dynamic combination of Bluetooth chip, Wi-Fi and powerful 3G radio delivers fast, wireless payment convenience, fewer dropped transactions and flexible point-of-sale options.

Modern Application Environment

- Reliable operating system and powerful tools to create a richer customer experience.
- Common Engage software architecture enables faster and more cost-effective application development.

Accepts All Forms of Payment On-the-Go

- Accommodates all payment types - Magstripe, EMV, Contactless/NFC and mobile wallets along with a 2.8-inch color touch screen capable of signature capture.

Exceptional Ease of Use

- The lightweight, compact, stylish and ergonomic balance allows convenient device hand-off to the consumer for PIN entry or other inputs.
- Horizontal magnetic stripe card reader for optimal card swiping and reading.

Performance and Durability

- Powerful 300 MHz A9 processing completes transactions quickly.
- High-capacity lithium-ion battery pack (3.7 V / 2850 mAh with Maxell ICP425262AHR battery cell).
- The USB-C port allows convenient product charging as well as connection to Android, iOS and Windows devices.
- Rounded corners to minimize breakage and drop-resistant to 3 feet on concrete surfaces.
- 256MB Flash, 128MB DDR of memory.

Security

- PCI PED 6.x approved for debit and other PIN-based transactions
- Tamper-resistant construction, SSL protocols
- Direct key injection using industry-standard HSMs
- VeriShield Retain
- VeriShield Remote Key
- Verifone Secure Data
- VeriShield Total Protect
- MasterCard TQM
- [IPP8](#) functionality plus multiple DUKPT engines
- EMV L1 and L2
- ISO7816-3, ISO7816-10 and EMV [4.2](#) standards

Contactless Capability Advanced contactless architecture that future-proofs investment with a single contactless interface (SingleCI), SoftSAMs, and side-by-side application architecture.

- On-screen tap zone for optimized user experience.
- Accepts EMV, NFC and mag-stripe contactless payments as well as PIN based transactions.

Connectivity USB host/device port

- UART0 software debug (TXD0, RXD0)
- USB2.0 high speed
- 5V/200mA for external USB peripherals
- USB host or device is configured by SW
- Type C USB connector at the bottom
- Communication port for the smart device on charge stand (Android, Windows, or iDevice)

Bluetooth (wireless communication)

- Bluetooth 4.1 + EDR compliant
- Eddystone + iBeacon
- RF transmitter output power Class 1
- RF receiver GFSK typical -90 dBm /4 PSK typical -90 dBm, 8DPSK typical -83 dBm
- UART3 interface for SOC communication to BT

WiFi (wireless communication)

- BT, Wi-Fi
- Wi-Fi dual band supports:
 - 802.11 a/b/g/n/ac connectivity
 - 2.4GHz and 5GHz
- Auto-band selection

4G (wireless communication)

- GPRS/GSM Class 10
- UMTS/HSPA DL 7.2Mbps, UL 5.7Mbps
- Host interface USB

THIS PAGE IS INTENTIONALLY LEFT BLANK



Device Setup

This chapter describes the device setup procedure. You will learn about:

- Terminal Location
- Unpacking the Shipping Carton
- Device Features
- Removing the Battery Cover
- Installing micro SIM and/or SAM Cards
- Using the Battery
- Connecting to a Computer
- Conducting Wireless Transactions
- Using the Smart Card Reader
- Using the Magnetic Card Reader
- Using the CTLS Reader

Terminal Location

Following are guidelines used to select an ideal location for the terminal.

Ease of Use

- Select a location convenient for both merchant and the cardholder.
- Select a flat support surface, such as a countertop or table, or mount it on a mounting stand supplied by Verifone.
- Select a location near a power outlet, POS, ECR, or computer connected to the terminal. Do not string cables or cords across a walkway for safety.

Environmental Factors

- Select a flat support surface, such as a countertop or table, to keep the device safe in between uses.
- 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.

- Do not use the device outdoors.



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.

Personal Security Considerations

The e235 is a handover device. Always exercise extreme caution when conducting transactions, especially during PIN entry.

- Hand over the e235 device directly to the cardholder for PIN entry.
- Encourage the cardholder to hold the e235 device closer 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 terminal near water or in moist conditions.
- Disconnect the device from its POS terminal before cleaning.

Contactless Considerations

Avoid having metallic objects in the proximity of a contactless antenna. If you need to mount the terminal to vertical or inclined surfaces, use a flat, non-metallic mounting plate.

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.



Using an enclosed metal frame or mount may negatively affect contactless performance.

Inside the Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. The e235 is a secure product and any tampering may cause the device to cease to function properly.

Unpacking the Shipping Carton

To unpack the shipping carton:

- 1 Remove and inspect the contents of the shipping carton. The terminal ships in multiple configurations. The carton may include all or any of the following:
 - Terminal
 - Connectivity cable
- 2 Remove all plastic wrapping from the terminal and components.
- 3 Remove the clear protective film from the display.

- 4 Save the shipping carton and packing material for future repacking or moving of the device.
- 5 Remove and inspect the following items:
 - e235 unit
 - USB-C cable ([Lightning-USB-C cable is not supported](#))
- 6 Remove the clear protective film from the unit.



CAUTION Do not use a tampered or damaged unit. The terminal comes equipped with tamper-evident labels. If a label or component appears damaged, please notify the shipping company and your Verifone service provider immediately.

- 7 Save the shipping carton and packing material for future repacking or moving the device.



NOTE Charge the e235 device for eight hours before initial use.

Device Features

Before you continue the installation process, familiarize yourself with the features of the e235. (See [Figure 2](#))

Front Panel The front panel includes the following features:

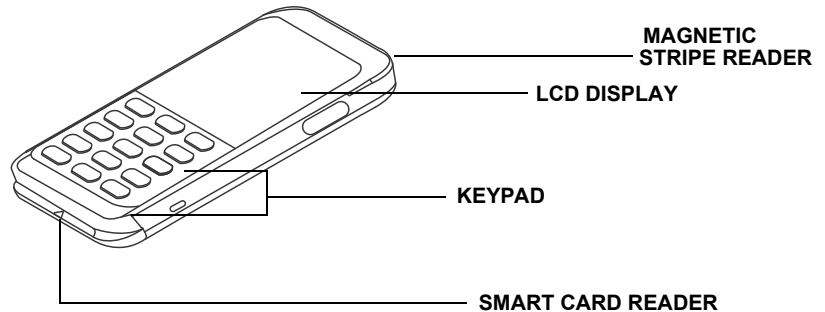


Figure 2 e235 Device Features (Front Panel)

- A colored capacitive-touch **LCD Display**
- Two types of keys:
 - a Telephone style keypad** (keypads may vary in style).
 - b Three color-coded function keys** below the keypad (from top to bottom: **CANCEL, CLEAR, ENTER**).
- A **smart card reader**, built into the bottom of the device to process smart card transactions. For directions on how to use a smart card, see [Using the Smart Card Reader](#).
- A **magnetic card reader**, built into the top part of the device for performing debit or credit card transactions. Swipe the card with the magnetic stripe facing down, away from the display. For directions on how to use a magnetic card, see [Using the Magnetic Card Reader](#).
- A **CTLS functionality** for contactless payments. For directions on how to conduct contactless transactions, see [Using the CTLS Reader](#).
- Micro **SIM 1** and **SIM 2** compartments built into the bottom of the device inside the back compartment (SIM on 4G version only).
- A micro **SAM** compartment is built into the bottom of the device inside the back compartment.

Removing the Battery Cover

Remove the battery cover to access the battery as well as the micro SIM and micro SAM slots.

- 1 Turn off the device.
- 2 Place the device upside down on a soft, clean surface to protect the screen from scratches.
- 3 If installed, loosen the retaining screw.
- 4 Slide the battery cover, away from the magnetic card reader.

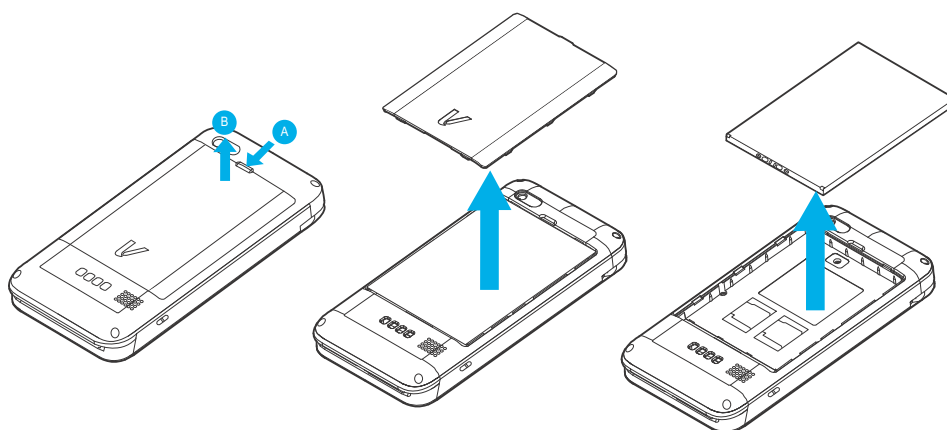


Figure 3 Removing the Battery Cover

Installing micro SIM and/or SAM Cards

The e235 device supports the installation of two GSM SIMs (Subscriber Identity Module) and/or SAM (Security Access Module). Use the following procedures to install a SIM and/or SAM card.



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

- 1 Follow the steps in [Removing the Battery Cover](#).
- 2 Insert the SIM and/or SAM card with the gold contacts facing down.

- 3 Reinstall the battery cover back and if it was previously installed, reinstall and tighten the retaining screw.

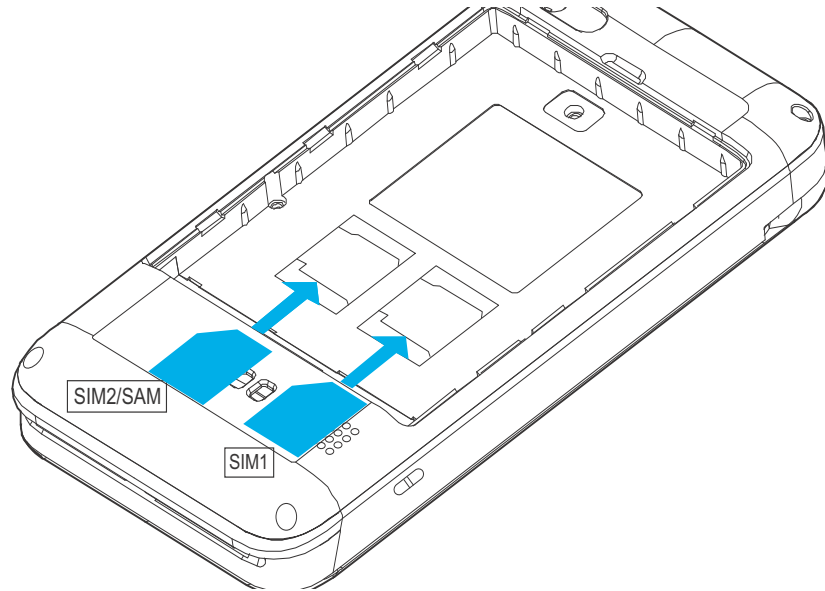


Figure 4 Inserting the SIM

Initial Battery Charging

After unpacking your e235 device, connect the power pack to the unit for eight hours or until fully charged.

The battery has a safety circuit to protect the Li-ion cells from overcharging and over-discharging. If the battery is over-discharged, the safety circuit shuts down the battery. The battery must then be recharged to restore operation.

Starting Up and Shutting Down

The e235 device starts up differently depending on how it is powered.

- The device starts up automatically when the e235 is connected to a non-battery power source, regardless of the battery charge state.
- To manually power up, hold the green key down for about 4 seconds until the device displays the startup screen.



NOTE The 4-second power-up delay prevents device startup if the green key is accidentally held down. The time required to hold the green key down to power up the device is configurable.

The device lights up once the power is on.



NOTE The Verifone copyright screen starts and displays a unique copyright screen. If the terminal comes pre-loaded with an application, this starts after the initial Verifone copyright screen and usually displays its copyright screen.

To manually shut down, hold the red key down for about 4 seconds until the device screen stays blank.

NOTE



The e235 device will only operate when the battery is installed unless connected to AC power, for example, in a stand.

Using the Battery

The e235 device uses a single-cell Li-ion battery with the following features:

- The battery has a safety circuit that:
 - Prevents cell damage from overcharge, over-discharge, or overheating.
 - Activates when the battery is left in an unused state for an extended periods.
- The battery provides power to the security circuit when the e235 device has no external power source.
- Li-ion batteries are not affected by shallow charging.

Follow these best practices for best function:

- Conserve battery power by turning the e235 device off when not in use.
- Keep the Li-ion battery inserted in the device and power up the device periodically to check the battery charge. Do not let the battery charge fall below 10% for an extended period of time as this may permanently diminish battery capacity.
- Recharge the battery by connecting the USB-C end of the power pack to the device and plugging the other end of the power pack into a wall outlet.

NOTE



The e235 device automatically shuts off when the battery reaches the *critically low* charge state. If this occurs, the battery must be recharged for a minimum of 1/2 hour before it can power the device. *It may take several recharges attempts to reset the safety circuit* when charging a battery that has been discharged below this critical state.

Dispose of the battery pack/coin cell in accordance with all national, state, and local laws and regulations as regionally required. Some batteries may be recycled and may be accepted for disposal at local recycling centers.

CAUTION: There is a risk of explosion if the battery is replaced by an incorrect type.

ATTENTION: *Il existe un risque d'explosion si la batterie est remplacée par un modèle incompatible*

- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;
- Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas;

- A battery subjected to an extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

Battery Life Charging and discharging the e235 battery hundreds of times will wear out the battery. Significantly reduced operating times indicate the need for battery replacement (see [Accessories and Documentation](#) for ordering information).

WARNING



Do not dispose of batteries in a fire. Li-ion batteries must be recycled or disposed of properly. Do not dispose of Li-ion batteries in municipal waste sites.

Charging the Battery After installing the battery, the e235 device can be connected to the optional power pack or charged with a wireless charger.

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 details.) Obtain the appropriately rated power supply before continuing with troubleshooting.

WARNING



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

Charging via the Power Pack Verifone offers the optional power supply ([VPN PWR087-300-01-A](#)) to connect the device directly to a power outlet and charge the battery.

- 1 Insert the USB-C plug into the USB-C port of the e235 device.
- 2 Plug the AC power pack into a wall outlet or powered surge protector.



TIP To protect against possible damage caused by lightning strikes and electrical surges, consider installing a power surge protector.

Charging with the Folio Verifone also offers wireless charging accessories ([VPN TBD](#)) that can be connected to the optional power supply ([VPN PWR087-300-01-A](#)) to charge the e235 device when fitted with the Folio accessory.

- 1 Insert the USB-C plug into the USB-C port of the wireless charging accessory.
- 2 Plug the AC power pack into a wall outlet or powered surge protector.

- 3 Set the rear cover of the Folio-equipped e235 device against the front face of the wireless charger.



NOTE

When the e235 device is fitted with the Folio accessory, the Folio has inductive charging that allows charging from any Qi charger.

Verifone provides specific accessories, as well (see [Accessories and Documentation](#) for ordering information).

Upon startup, the e235 device loads its application, displays the Verifone copyright screen and shows a unique copyright screen.



NOTE

If there is no available application in the device, **DOWNLOAD NEEDED** appears on the screen after the initial Verifone copyright screen.

Connecting the e235 to a Power Source or a Host Computer

Plug the wall-mount charger to an external power source and connect it to the e235 to charge the device. You can also connect the e235 to a computer to synchronize data and/or charge the device.



NOTE

Charge the e235 device for eight hours before initial use.

To Connect the e235 to a Wall-mount Charger

- 1 Plug the Verifone-certified wall-mount charger into a wall outlet or powered surge protector.

- 2 Insert the Micro-USB cable into the port located on the side of the e235.

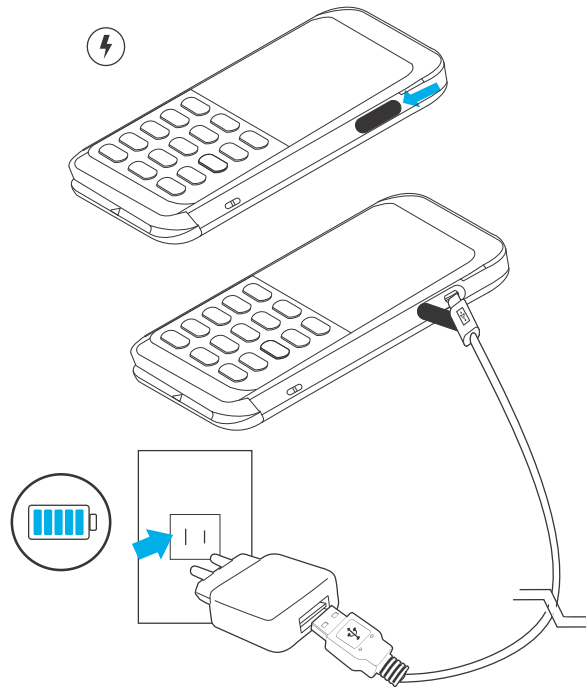


Figure 5 Connecting the e235 to a Wall-mount Charger

Connecting to a Computer

Connect the e235 device to a PC or laptop to download applications.

- 1 Insert the USB-C plug into the USB-C port of the e235 device.
- 2 Connect the other end of the USB-C plug into the host computer's USB port.

Conducting Wireless Transactions

To conduct a wireless transaction:

- Ensure that the device is in an optimal position for transmission.
- Follow the on-screen instructions provided with your application.

Using the Smart Card Reader

The smart card transaction procedure may vary from one application to another. Verify the procedure with your application provider before performing a smart card transaction.

- 1 Position the smart card with the contacts facing upward (see illustration below).
- 2 Insert the card into the reader slot in a smooth, continuous motion until it seats firmly.

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

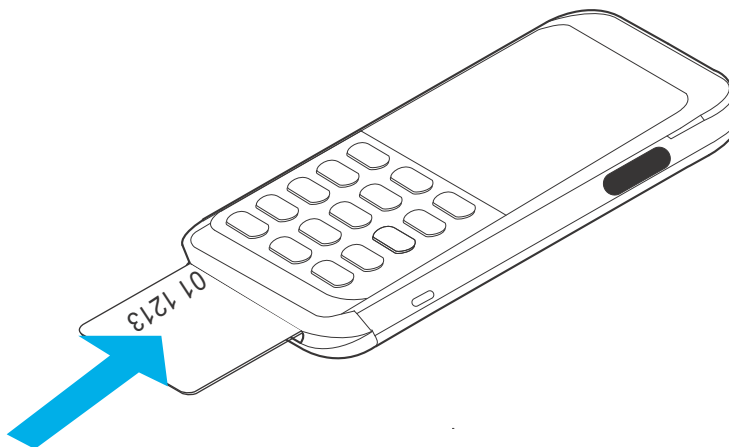


Figure 6 **Inserting a Smart Card**

Using the Magnetic Card Reader

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 top of the device, as shown in the illustration below.

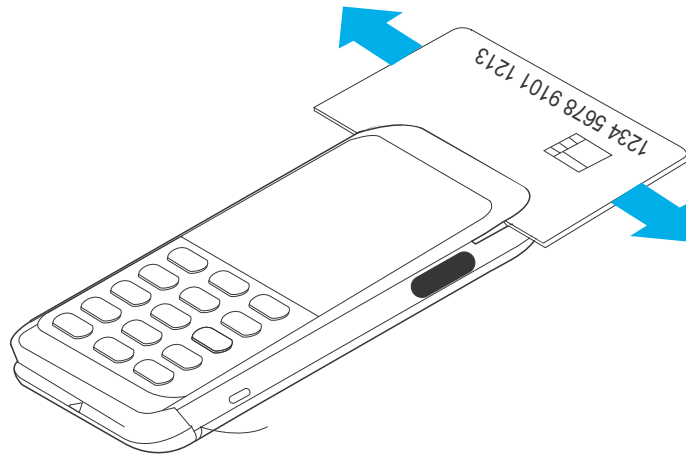


Figure 7 Using Magnetic Stripe Card

- 3 Swipe the card through the magnetic card reader.

Using the CTLS Reader

The e235 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 contactless antenna, located above the keypad and LCD.

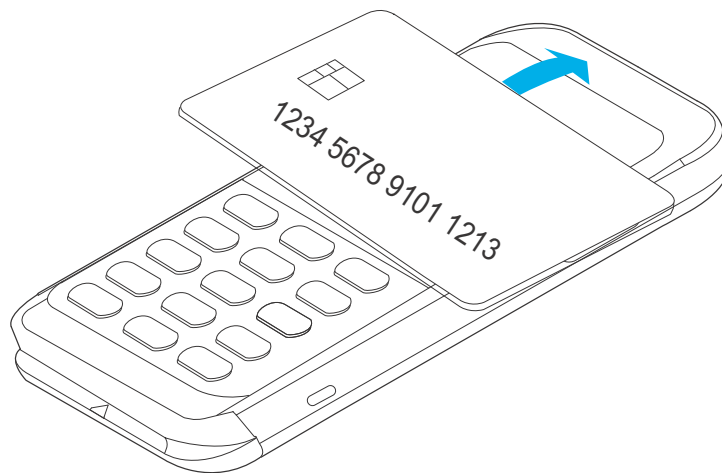


Figure 8 Using the CTLS Reader

Using Accessories

Verifone makes multiple accessories available:

- Optional power supply (VPN PWR087-300-01-A)
- Folio with inductive Qi charging (VPN TBD)
- Charging Cradles for Bulk Charger (VPN TBD)

- Bulk Charger (VPN TBD)

See [Accessories and Documentation](#) for ordering information.

THIS PAGE IS INTENTIONALLY LEFT BLANK



Specifications

This chapter discusses power requirements, dimensions and other specifications of the e235 device.

Unit Power Requirement

- Input power rating: 5V DC, 1A
Charging via USB-C to computer system or Verifone-certified power adapter

Temperature

- Operating Environment: -20°C to +45°C (-4°F to 113°F)
- Non-Operating Environment: -40°C to +60°C (-40°F to 140°F)
- Relative humidity: 5% to 90% RH non-condensing

External Dimensions

- **Length:** 138 mm
- **Width:** 68 mm
- **Height:** 17.6 mm

Weight

- 68 grams

Memory

- 256 MB Flash, 128MB DDR

Magnetic Stripe Card

- Triple-track
- Supports bi-directional card read, swipe speed at 10 IPS to 40 IPS

SAM Card Reader

- Non-sliding
- Card conserving plated landing contacts
- SC voltage 1.8V, 3.0V, 5.0V

Communication

- Quectel 4G (Cat1) (Worldwide)
- BT and Wi-Fi
- Wi-Fi dual band supports:
 - 802.11 a/b/g/n/ac connectivity
 - 2.4GHz and 5GHz
 - Auto-band selection

Display

- **2.3" Color Touch (320 X 240)**

SD Memory

- NAND Flash: 2G bit (optional 4G bit) with 8-bit bus width
- LPDDR2 SDRAM memory: 1G bit with 32-bit bus width



Maintenance and Cleaning

The e235 device has no user-maintainable parts. It can, however, be cleaned. Your terminal is a product of superior design and craftsmanship and should be treated with care. The following suggestions will help you protect your warranty coverage.

- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device gets wet, switch off the power and allow the device to dry completely before replacing it.
- Do not use or store the device in dusty and dirty areas. Its moving parts and electronic components can be damaged.
- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries and warp or melt certain plastics.
- Do not store the device in cold areas. Moisture can form inside the device and damage electronic circuit boards when the device returns to its normal temperature.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not paint the device. Paint can clog the moving parts and prevent proper operation.
- Keep the device free from any small and loose items (such as paper clips, staples, or coins) that could accidentally get inside it through an opening, such as the SD card reader slot or the primary smart card reader slot.
- Do not attempt to open the device other than as instructed in this guide. This device has security features that protect it from tampering. For example, the file content will be deleted if the device's outer casing is opened.

These suggestions apply equally to your terminal or any of its attachments or accessories. If your device is not working properly, take it to the nearest authorized service facility for servicing or replacement. For your safety, have this device serviced only by a Verifone-authorized service provider.

Surface Cleaning

To clean the device, use a clean cloth slightly dampened with water and a drop or two of mild soap. For stubborn stains, use alcohol or an alcohol-based cleaner.

CAUTION



Never use thinner, trichloroethylene, or ketone-based solvents – they can deteriorate plastic or rubber parts.

Do not spray cleaners or other solutions directly onto the keypad or display.

Magnetic Card Reader

Dirt accumulation can lead to MSR reading problems unless you clean the Magnetic Stripe Reader (MSR) on a regular basis (daily to once a week, depending on usage). Clean the MSR using commercially available card reader cleaning cards or using recommended Verifone MSR-cleaning card (PN 02746-02).

NOTE



If using a commercially available cleaning card use ONLY an approved MSR cleaning card made specifically for POS MSR Card reader terminals or Petroleum MSR card readers.

Smart Card Reader

Do not attempt to clean the Smart Card Reader (SCR). Doing so may void any warranty. For smart card reader service, contact your Verifone distributor or service provider.

CAUTION



If you find foreign objects in the SCR, send your terminal to a Verifone authorized repair center.

Do not use Verifone's recommended MSR-cleaning card (PN 02746-02) or commercially available card reader cleaning cards with the SCR.

Additional Safety Information

The following is additional safety information for using this device.

Power Adapter

Use only the power adapter that comes with your device. Adapters for other electronic devices may look similar, but they may affect your device's performance or damage it.

Potentially Explosive Environments

Do not use this device in any area with a potentially explosive atmosphere. Follow all signs and instructions. Potentially explosive atmospheres include areas where you would normally be advised to turn off your vehicle engine. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Verifone Service and Support

Contact your local Verifone representative or service provider for any problems on your terminal.

For product service and repair information:

- USA – Verifone Service and Support Group, 1-800-Verifone (837-4366)
- Monday – Friday, 8 A.M. - 8 P.M., Eastern time
- International – Contact your Verifone representative

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).

NOTE



For international customers, please contact your local Verifone representative for assistance with your service, return, or replacement.

- 1 Get the following information from the printed labels at the back of each e235 to be returned:
 - Product ID, including the model and part number. For example, “e235” and “M194-XXX-XXX-XXX.”
 - Serial number (S/N nnn-xxx-xxx)
- 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.– 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



One MRA number must be issued for each e235 you return to Verifone, even if you are returning several of the same models.

- 3 Describe the problem(s).
- 4 Provide the shipping address where the repaired or replacement unit must be returned to.
- 5 Keep a record of the following items:
 - Assigned MRA number(s).
 - Verifone serial number assigned to the e235 you are returning for service or repair (device serial numbers are located at the back of the unit.)
 - Shipping documentation, such as air bill numbers used to trace the shipment.
 - Model(s) returned (model numbers are located on the Verifone label at the back of the e235).

Accessories and Documentation

Verifone produces the following accessories and documentation for the e235. When ordering, please take note of the part number.

- Verifone online store www.estore.verifone.com
- USA – Verifone Customer Development Center, 800-Verifone (837-4366), Monday - Friday, 7 A.M. - 8 P.M., Eastern time
- International – Contact your Verifone representative

Accessories

Verifone Certified Power Adapter	PWR087-300-01-A
Verifone Cleaning Kit	02746-02-GRU
Verifone Folio with inductive Qi charging	VPN TBD
Verifone Charging Cradles for Bulk Charger	VPN TBD
Verifone Bulk Charger	VPN TBD

Documentation

<i>E235 Certifications and Regulations</i>	VPN DOC194-001-EN
<i>E235 Quick Installation Guide</i>	VPN DOC194-002-EN
<i>E235 Brazil Quick Installation Guide</i>	VPN DOC194-005-EN

Troubleshooting Guidelines

The troubleshooting guidelines provided in the following section are included to help you install and configure your e235 successfully. Typical examples of malfunction you may encounter while operating your e235 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 e235 comes equipped with tamper-evident labels. The e235 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 Use only a Verifone-supplied power pack. 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 at the bottom of the device. (See [Specifications](#), for details.) Obtain the appropriately rated power supply before continuing with troubleshooting.

Device Does Not Start

- Ensure that the battery charge state is not below the critically low level.
- Replace or recharge the battery.
- Check if the battery is properly inserted.
- Ensure that you pressed the green ENTER/ON key for approximately four seconds, until the unit lights up.

Device Display Does Not Show Correct/Readable Info

- Replace or recharge the battery.
- Connect the e235 into a known-good power supply (if available) to see if this clears the problem.
- If the problem persists, contact your local Verifone representative for assistance.

Battery Does Not Charge

The e235 battery must initially receive a full charge to ensure proper operation.

NOTE



- Allow the e235 device to remain connected to the power pack or Qi charger for eight hours to ensure the battery receives a full charge.
- 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.
- Uninstalling the battery 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 e235 device off when not in use. Keep the Li-ion battery inserted in the device and power up the device periodically to check the battery charge. Do not let the battery charge fall below 10% for an extended period of time as this may permanently diminish the battery capacity. Recharge the battery by attaching the USB end of the power pack to the device and plugging the other end of the power pack into a wall outlet.
- The e235 device automatically shuts off when the battery reaches the *critically low* charge state. If this occurs, the battery must recharge a minimum of 1/2 hour before it can power the device. *It may take several recharge attempts to reset the safety circuit* when charging a battery that has been discharged below this critical state.

Blank Display

When the e235 device display screen does not show correct or readable information:

- The battery pack may not be connected properly. Remove and reinstall the battery pack.
- Check device power connection.
- Remove and reapply power to the device.
- If the problem persists, contact your local Verifone service provider.

Keypad Does Not Respond

If the keypad does not respond properly:

- Check the device display. If it displays the wrong character or nothing at all when you press a key, follow the steps outlined in [Transactions Fail to Process](#).
- If pressing a function key does not perform the expected action, refer to the user documentation for that application to ensure you have entered the correctly.
- If the problem persists, contact your local Verifone representative.

Transactions Fail to Process

There are several reasons why the device may not be processing transactions. Use the following steps to troubleshoot failures.

Check the Magnetic Card Reader

- Perform a test transaction using one or more different magnetic stripe cards to ensure the problem is not a defective card.
- Ensure that you are swiping cards properly. With the e235 card reader, the black magnetic stripe on the card should face down and outward, away from the keypad (see [Figure 7](#)).
- Process a transaction manually, using the keypad instead of the card reader. If the manual transaction works, the problem may be a defective card reader.
- Contact your Verifone distributor or service provider.
- If the manual transaction does not work, proceed to [Check the Signal Strength](#).

Check the Smart Card Reader

- Perform a test transaction using several different smart cards to ensure the problem is not a defective card.
- Ensure that the card is inserted correctly and that the card is not removed prematurely.
- Ensure the SIM card is properly inserted (see [Installing micro SIM and/or SAM Cards](#)).
- Contact your Verifone distributor or service provider.
- If the manual transaction does not work, proceed to [Check the Signal Strength](#).

Check the Signal Strength

- On-screen signal-strength indicator displays at least one bar to indicate connectivity to the radio network.
- Ensure that the radio has been activated by your service provider.

THIS PAGE IS INTENTIONALLY LEFT BLANK



Caution and Warning Messages

E235 Caution and Warning Messages

Products with UL/cUL certification include French translations of Caution and Warning notices. The following table lists all notices found in the document, their location and the equivalent French translations.

Table 3 Caution and Warning Messages

Notice	Chapter	Page	English Text	French Text
Caution	Setup	page 12	<p>The terminal is not waterproof or dustproof and is intended for indoor use only.</p> <p>Any damage to the unit from exposure to rain or dust may void any warranty.</p>	<p><i>Le terminal est pas étanche ou à la poussière, et est destiné à une utilisation en intérieur.</i></p> <p><i>Tout dommage à l'unité de l'exposition à la pluie ou à la poussière peut annuler la garantie.</i></p>
Warning	Setup	page 13	<p>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.</p>	<p><i>Ne pas utiliser une unité qui a été altéré ou endommagé. Cet appareil est équipé d'étiquettes inviolables. Si une étiquette ou d'un composant semble endommagé, avertissez immédiatement la compagnie de navigation et votre représentant ou du prestataire de services Verifone.</i></p>
Caution	Setup	page 15	<p>Observe standard precautions when handling electrostatically sensitive devices. Electrostatic discharges can damage this equipment. Verifone recommends using a grounded anti-static wrist strap.</p>	<p><i>Respecter les précautions standard lors de la manipulation des appareils sensibles aux dées électrostatiques. Les dées électrostatiques peuvent endommager cet équipement. Verifone recommande d'utiliser un bracelet anti-statique à la terre.</i></p>
Caution	Setup	page 17	<p>Using an incorrectly rated power supply may damage the terminal or cause it not to work as specified. Before troubleshooting, ensure that the power supply being used to power the terminal matches the requirements specified on the bottom of the terminal. (See Specifications, for detailed power supply specifications.) Obtain the appropriately rated power supply before continuing with troubleshooting.</p>	<p><i>Utilisation d'une alimentation mal classé peut endommager le terminal ou de l'empêcher de travailler comme spécifié. Avant de dépannage, assurez-vous que l'alimentation est utilisé pour alimenter le terminal correspond aux exigences spécifiées sur le fond de la borne. (Voir le, Caractéristiques, pour les caractéristiques de l'alimentation.) Obtenir l'alimentation nominale appropriée avant de continuer avec le dépannage.</i></p>

Table 3 Caution and Warning Messages (continued)

Notice	Chapter	Page	English Text	French Text
Warning	Setup	page 17	<p>Do not plug the power pack into an outdoor outlet or operate the terminal outdoors.</p> <p>Disconnecting the power during a transaction may cause transaction data files not yet stored in terminal memory to be lost.</p> <p>To protect against possible damage caused by lightning strikes and electrical surges, consider installing a power surge protector.</p>	<p><i>Ne pas brancher le bloc d'alimentation à une prise extérieure ou exploiter le terminal à l'extérieur.</i></p> <p><i>Déconnexion de l'alimentation lors d'une transaction peut entraîner des fichiers de données de transaction non encore stockées dans la mémoire terminal pour être perdu.</i></p> <p><i>Pour se protéger contre de possibles dommages causés par la foudre et les surtensions électriques, pensez à installer un protecteur de surtension.</i></p>
Warning	Setup	page 18	<p>Do not dispose of batteries in a fire. Li-ion batteries must be recycled or disposed of properly.</p> <p>Do not dispose of Li-ion batteries in municipal waste sites.</p>	<p><i>Ne jetez pas les batteries au feu. Les batteries Li-ion doivent être recyclées ou éliminées correctement.</i></p> <p><i>Ne jetez pas les batteries Li-ion dans les sites de déchets municipaux.</i></p>
Caution	Maintenance and Cleaning	page 23	<p>Never use thinner, trichloroethylene, or ketone-based solvents – they can deteriorate plastic or rubber parts.</p>	<p><i>Ne jamais utiliser de diluant, le trichloréthylène ou des solvants à base de cétone - ils peuvent détériorer les pièces en plastique ou en caoutchouc.</i></p>
Caution	Maintenance and Cleaning		<p>Avoid touching the contacts of the E235 battery. Finger oils tarnish contacts, causing bad connections. When operating on battery power and experiencing a high occurrence of bad or incomplete data transfers, clean the contacts.</p>	<p><i>Évitez de toucher les contacts de la batterie E235. Les huiles de doigt ternissent les contacts, provoquant de mauvaises connexions. Lorsque vous utilisez une batterie et que la transmission de données est incorrecte ou incomplète, nettoyez les contacts.</i></p>
Caution	Troubleshooting Guidelines	page 27	<p>Using an incorrectly rated power supply may damage the unit or cause it to not work properly. Before troubleshooting, ensure that the power supply used to power the unit matches the specified requirements (see Specifications for detailed power supply specifications). If not, obtain the appropriately rated power supply before continuing with troubleshooting.</p>	<p><i>Utilisation d'une alimentation mal classé peut endommager l'appareil ou provoquer sa ne fonctionne pas correctement. Avant de dépannage, assurez-vous que l'alimentation utilisée pour alimenter l'unité correspond aux exigences spécifiées (voir spécifications pour les caractéristiques de l'alimentation). Si non, obtenir l'alimentation nominale appropriée avant de continuer avec le dépannage.</i></p>



Verifone, Inc.
1-800-Verifone
www.verifone.com

E235

Installation Guide

