

# VX805 CTLS

## *Installation Guide*



VX805 CTLS Installation Guide  
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This guide is the primary source of information for setting up and installing the VX805 CTLS.

**Audience**

This guide describes the VX805 CTLS features, and provides the basic information for its installation and configuration.

**Organization**

This guide is organized as follows:

**Chapter 1, Overview.** Provides an overview of the VX805 CTLS.

**Chapter 2, Setup.** Explains setup and installation of the VX805 CTLS, selecting a location, and establishing connections with other devices.

**Chapter 3, Specifications.** Discusses power requirements and dimensions of the VX805 CTLS.

**Chapter 4, Maintenance and Cleaning.** Explains maintenance of the VX 805 CTLS.

**Chapter 5, Service and Support.** Provides information on contacting your VeriFone service provider and information on how to order accessories or documentations from VeriFone.

**Chapter 6, Troubleshooting Guidelines.** Provides troubleshooting guidelines should you encounter a problem in terminal installation and configuration.

**Related Documentation**




To learn more about the VX805 CTLS, refer to the following set of documents:

VX 805 CTLS Certifications and Regulations Sheet	VPN - DOC280-021-EN-A
VX 805 CTLS Quick Installation Guide	VPN - DOC280-022-EN-A
VX 805 CTLS Reference Guide	VPN - DOC280-024-EN-A
VX 805 CTLS Programmer's Guide	VPN - DOC280-025-EN-A
Verix eVo Volume I: Operating System Programmers Manual	VPN - DOC00301
Verix eVo Volume II: Operating System and Communication Programmers Manual	VPN - DOC00302
Verix eVo Volume III: Operating System Programming Tools Reference Manual	VPN - DOC00303

## Guide Conventions

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 <a href="#">Guide Conventions</a> .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	You <i>must</i> not use this unit underwater.
 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.

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

**Table 2 Acronym Definitions**

Acronym	Definitions
3DES	Triple Data Encryption Standard
AES	Advanced Encryption Standard Algorithm
CTLS	Contactless
DES	Data Encryption Standard
DUKPT	Derived Unique Key Per Transaction Method as defined in the VISA's POS Equipment Requirement: PIN processing and Data Authentication, International Version 1.0, August 1988
ECR	Electronic Cash Register
EMV	Joint Europay, MasterCard and Visa Standard
LED	Light-Emitting Diode
LCD	Liquid Crystal Display
MSAM	Multiple Secure Access Module
OS	Operating System
PED	PIN Entry Device
PIN	Personal Identification Number
POS	Point-of-Sale
SAM	Secure Access Module
SC	Smart Card (Integrated Chip Card)
SD	Secure Digital
SR	Ship Release
UI	User Interface
USB	Universal Serial Bus

## NOTE

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

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

15.21 "Changes or modifications are not expressly approved by the manufacturer could void the user's authority to operate the equipment."  
-English:"This device complies with Industry Canada licence-exempt RSS and part 15 of the FCC rules standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."  
- French:"Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation



## Overview

This chapter provides a brief description of VeriFone's VX805 CTLS.

### VX805 CTLS

VeriFone's VX805 CTLS has packed a performance punch in this high security PIN pad without sacrificing the demands of the consumer with a large white backlit display, large keypad, and an intuitive Vx user interface. This sleek device contains the features needed to start taking EMV payments as well as powerful enough to meet future requirements from merchants. The 128x64 white backlit display is brilliant and provides excellent readability under any environment. The large keypad and user interface are designed for ease of use and to minimize consumer mistakes. The form factor is designed to make it feel great in the palm of your hand, while equally impressive in a mounted scenario.

### Features at a Glance

The VX805 CTLS continues to take an evolutionary approach to PIN pads and offer market leading features and functionality. USB, Ethernet, and RS-232 connectivity are both integrated into the device to conveniently suit any retail environment. The PCI PED 3.0 approved VX805 CTLS is market leading in terms of security, combined with support for VeriShield Protect. The VX805 CTLS securely and efficiently handles credit and PIN-based debit cards with a vertical mag-stripe reader, secure PIN entry capability, and smart card. The VX 805 is EMV Level 1 and 2 Type Approved, offering the most reliable security available for EMV markets.



- Intuitive VX function/ATM key interface
- PCI PED 3.0 approved
- EMV Level 1 and 2 Type Approved, offering the most reliable security available, including SSL and VeriShield file authentication, and VeriShield Protect to help prevent fraud

Figure 1 VX805 CTLS with New Handheld Design

## Features and Benefits

### Exceptional Ease of Use

- Efficient, stylish, ergonomic design provides for convenient consumer handling, minimizing user errors
- Intuitive telco-style interface with large, colored control keys simplify training and reduce support requests
- Highly readable 128x64 white backlit display provides excellent usability and handles multiple languages for global use

### Critical Security Protection

- PCI PTS 3.0 approved
- Supports VeriShield Protect to encrypt and protect consumer card information
- Integrated security modules simultaneously support sophisticated encryption (AES, DES, 3DES, RSA) and key management schemes, including single and 3DES Master Session, single, and 3DES Derived

### Strong Feature Set

- Ensures uncompromising reliability from VeriFone, the worldwide leader in e-payment
- Primary smart card reader support for synchronous and asynchronous smart cards
- Support for international character sets and Unicode standard
- EMV Level 1 and Level 2 approved for smart card solutions
- Offers the most reliable security available, including SSL, VeriShield file authentication, and VeriShield Protect to help prevent fraud and other intrusions

### Extended PIN Pad Capabilities

- Optional privacy shield
- Patent-pending MAXui design, highlighted by a 128x64 white backlit display and large keypad, makes it easy to use under any lighting condition
- Triple-track, high-coercivity, bi-directional card reader handles most magnetic stripe cards
- Up to two Security Access Modules (SAMs) safeguard sensitive financial data and support multiple smart card schemes
- Can be powered by other Vx series terminals through a dual multi-port connector which supports Ethernet, RS-232, and USB 2.0 devices



## Setup

This chapter describes the setup procedure for the VX805 CTLS, in the following sections:

- Selecting a Location
- Unpacking the Shipping Carton
- Examining Device Features
- Opening and Replacing Card and Connector Compartment
- Installing and Replacing MSAM Cards
- Cable Connections
- External Device Connections
- Power Supply
- USB Download Support
- Using the Magnetic Card Reader
- Using the Smart Card Reader
- Using the Contactless Reader
- Optional Accessories

### **Selecting a Location**

Use the following guidelines to select a location for the VX805 CTLS.

- Ease of Use**
- Select a location convenient for both merchant and cardholder.
  - Select a flat support surface, such as a countertop or table.
  - Select a location near a power outlet and the terminal, ECR, or computer connected to the VX805 CTLS. For safety, do not string cables or cords across a walkway.

**Environmental Factors**

- Do not use the unit where there is high heat, dust, humidity, moisture, or caustic chemicals or oils.
- Keep the unit away from direct sunlight and anything that radiates heat, such as a stove or a motor.
- Do not use the VX805 CTLS outdoors.

**CAUTION**

The VX805 CTLS is not waterproof or dustproof, and is intended for indoor use only. Any damage to the unit from exposure to rain or dust can void any warranty.

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## 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 VX805 CTLS near water or in moist conditions.

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**WARNING**

Due to risk of shock or damage, do not use the VX805 CTLS near water, including a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.

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## Unpacking the Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. The VX805 CTLS is a secure product and any tampering can cause it to cease to function or to operate in an unsecured manner.

- 1 Remove and inspect the contents of the shipping carton, since the VX 805 CTLS ships in multiple configurations, the carton may include any or all of the following:
  - VX805 CTLS
  - Privacy shield
- 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.

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**WARNING**

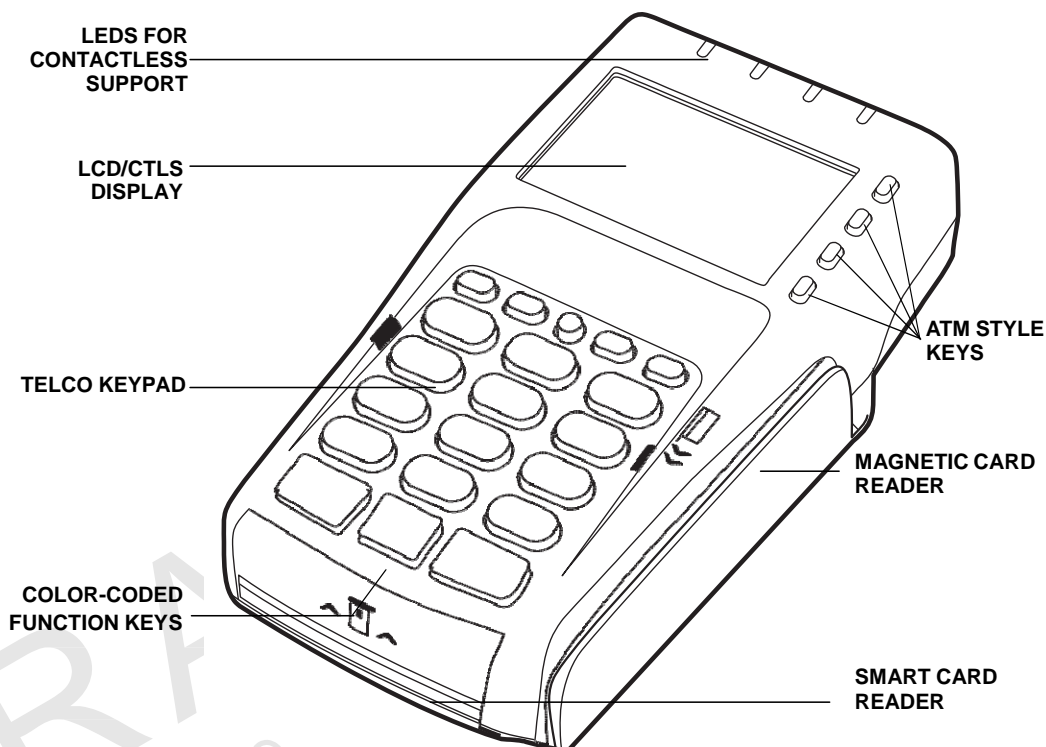
Do not use a unit that has been tampered with or damaged.

The VX805 CTLS comes equipped with tamper-evident labels. If a label or component appears damaged, please notify the shipping company and your VeriFone service provider immediately.

---

## Examining Device Features

Before you continue with the installation process, familiarize yourself with the VX805 CTLS features:



**Figure 2** VX805 CTLS Features

The VX805 CTLS includes the following features:

- An **LCD display**.
- Three **color-coded function keys** below the keypad (CANCEL [RED], BACKSPACE [YELLOW], ENTER [GREEN]).
- A **magnetic card reader**, built into the right side. An icon shows the proper swipe direction, with the stripe facing down and towards the keypad.
- A **smart card reader**, built into the unit's front side. An icon indicates the proper card position and insertion direction.
- A **SAM (Security Access Module) compartment**, built into the back side of the unit. The VX805 CTLS contains multiple-SAM (MSAM) cardholders to support multiple stored-value card programs or other merchant card requirements.
- **Contactless (CTLS) payment support**.

## Opening and Replacing Card and Connector Compartment

To access the cable and MSAM compartment, you have to first remove the compartment door.

### To open the compartment door

- 1 Power off the VX805 CTLS unit.
- 2 Place the VX805 CTLS face down on a soft, clean surface to protect the lens from scratches.
- 3 Loosen the retaining screw. The retaining screw is captive, which means that it cannot be fully removed from the slot.
- 4 Slide out and lift the compartment door.

The cable connector and MSAM cardholders are now accessible.

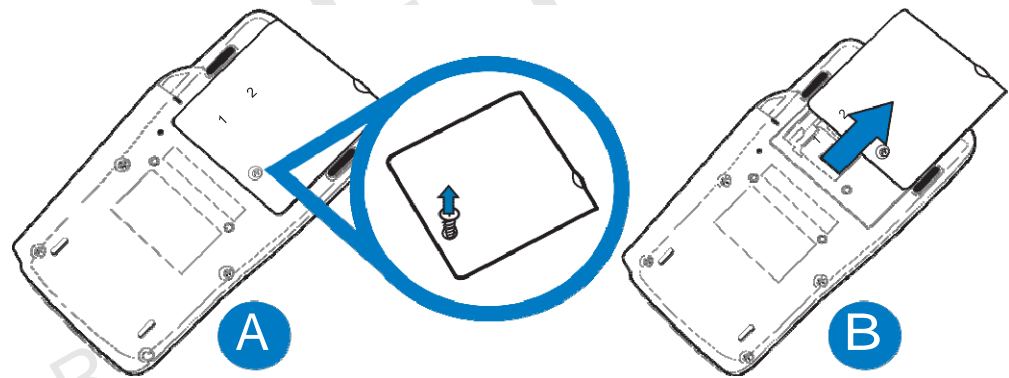


Figure 3 Opening Compartment Door

### To replace the compartment door

- 1 Close the compartment door after inserting or replacing the necessary cards and cable.
- 2 Tighten locking screw.

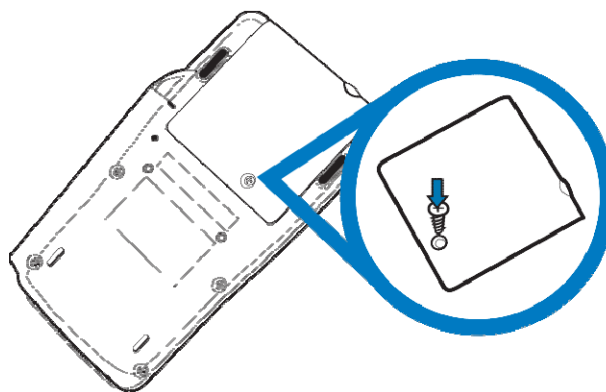


Figure 4 Closing Compartment Door



## Installing and Replacing MSAM Cards

You may need to install one or more multiple security access module (MSAM) cards or replace the old cards.



**CAUTION** Observe standard precautions in handling electrostatically sensitive devices. Electrostatic discharges can damage the equipment. VeriFone recommends using a grounded anti-static wrist strap.

### To install or replace MSAM cards

- 1 Remove the compartment cover. See [Opening and Replacing Card and Connector Compartment](#).

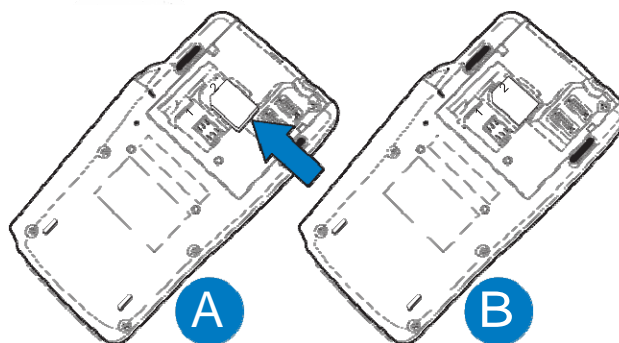
The MSAM cardholders are now accessible. Each cardholder consists of a slot inboard of a numbered tray.

### NOTE



Before inserting the MSAM card, position it as shown in [Figure 5](#), with the card's gold contacts facing away from you, toward the unit. The cardholder slot in the VX805 CTLS has a set of contacts. The MSAM card has a notch on one corner to ensure that it fits into the connector base in only one way; the VX805 CTLS has a matching notch cast into the backside of the MSAM compartment door to ensure the MSAM card is positioned correctly when the cover is closed.

- 2 Install the MSAM card by aligning the card to match the embossed number and carefully sliding it into the slots until fully inserted.



**Figure 5** MSAM Insertion

- 3 Replace the compartment cover. See [Opening and Replacing Card and Connector Compartment](#).

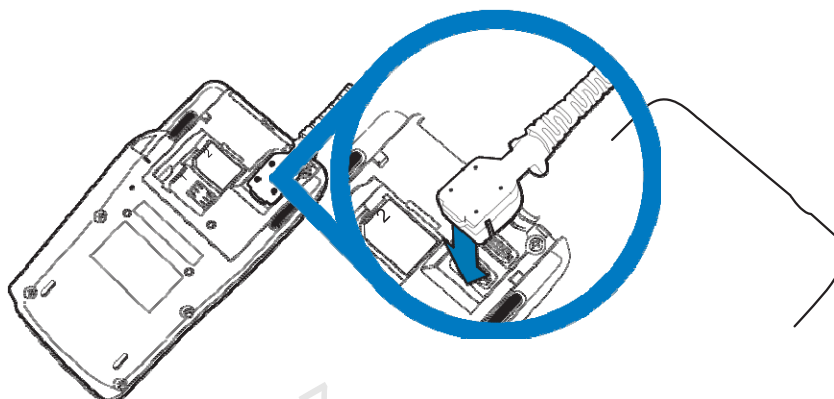


## Cable Connections

There are various connections options for connecting the VX805 CTLS to power and data sources using an appropriate cable.

### Attaching a Cable Connector to the VX805 CTLS

Before going into each cabling scenario, attach the cable to the VX805 CTLS. To attach a cable to the VX805 CTLS, see [Opening and Replacing Card and Connector Compartment](#) to open the compartment door, then attach the 28-pin connector of the cable to the VX805 CTLS, as shown in [Figure 6](#).



**Figure 6** Attaching a Cable Connector to the VX805 CTLS

After connecting the necessary cable, replace the compartment cover, as described in [Opening and Replacing Card and Connector Compartment](#).

## External Device Connections

The VX805 CTLS has four optional general cabling scenarios:

- 1 Connecting to Another VeriFone Terminal
- 2 Connecting to a Host Computer
- 3 Connecting to an Ethernet Port
- 4 Connecting to an ECR



**CAUTION** Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with VPN PWR282-001-01-A (see [Specifications](#) for detailed power supply specifications).



**NOTE** For cabling options and ordering information, see [Accessories and Documentation](#).

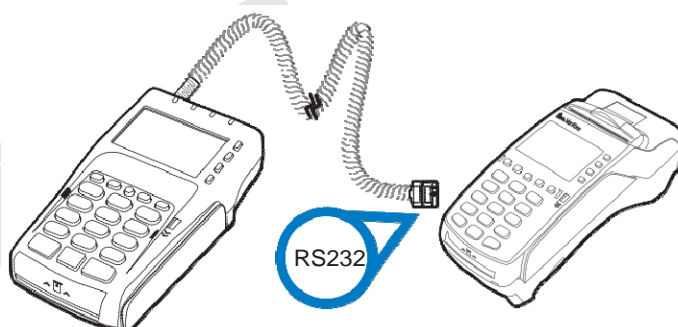
### Connecting to Another VeriFone Terminal

Connect the VX805 CTLS to another VeriFone terminal using one of the following connections:

- Connecting to Another VeriFone Terminal Directly Using a Coiled Cable
- Connecting to Another VeriFone Terminal Using a Junction Box

#### Connecting to Another VeriFone Terminal Directly Using a Coiled Cable

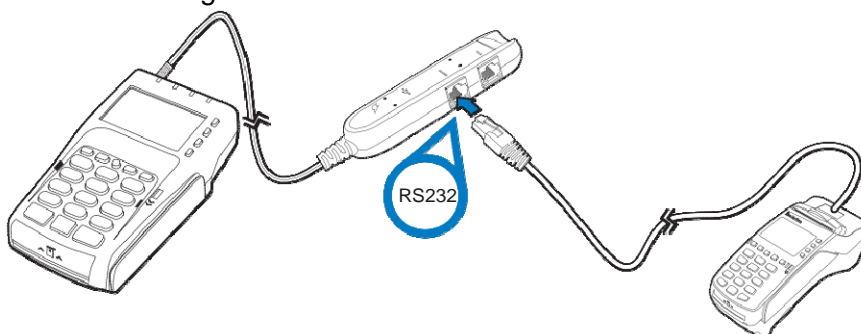
The VX805 CTLS directly connects to another VeriFone terminal using an RJ45 coiled cable (VPN - CBL282-030-xx-A) Connect the cable connector to the VX805 CTLS (see [Cable Connections](#)) and connect to the VeriFone terminal using the coiled cable. There is a minimum power requirement for the VX 805 CTLS, currently specified at 2.5W.



**Figure 7** Connecting to Another VeriFone Terminal Directly Using a Coiled Cable

#### Connecting to Another VeriFone Terminal Using a Junction Box

The VX805 CTLS connects to another VeriFone terminal by using a junction box (VPN CBL282-005-XX-A / CBL282-006-XX-A) and an RJ45–RJ45 coiled cable (VPN 08356-XX-R). Connect the junction box to the VX805 CTLS using the VX805 CTLS cable connector (see [Cable Connections](#)) and connect to the VeriFone terminal using the RS232 cable.



**Figure 8** Connecting to Another VeriFone Terminal Using a Junction Box

## Connecting to a Host Computer

Connect the VX805 CTLS to a host computer using one of the following connections:

- Connecting to a Host Computer Using Direct USB Connection
- Connecting to a Host Computer Using a Junction Box

### NOTE

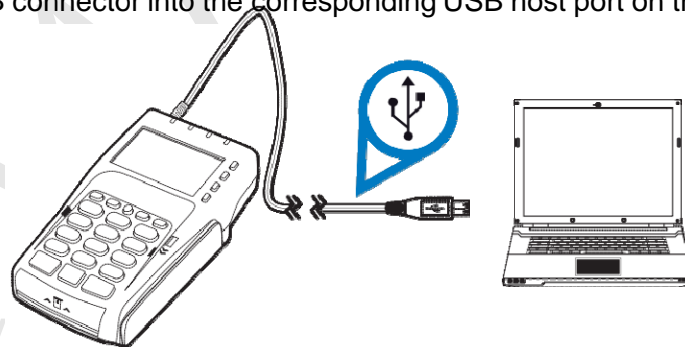


You may use a PC or laptop as a host computer.

### Connecting to a Host Computer Using Direct USB Connection

The USB Type-A connector (VPN - CBL282-025-xx-A) is required in standard USB environments. For this cable option, the host end has a molded housing which exposes the standard USB plug.

Connect the USB cable to the VX805 CTLS (see [Cable Connections](#)) and plug the male USB connector into the corresponding USB host port on the computer.



**Figure 9** Connecting to a Host Computer Using Direct USB Connection

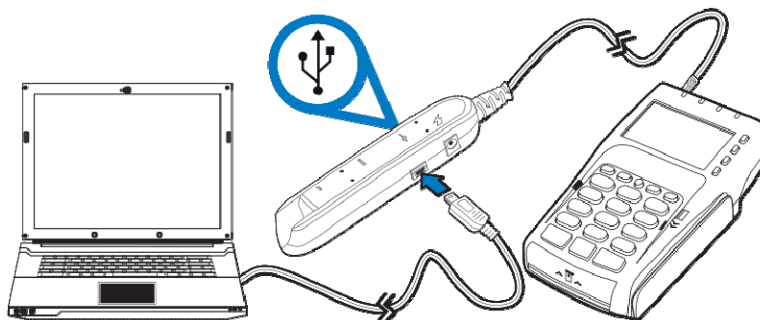
### NOTE



The VX805 CTLS can connect to a Self-Powered USB hub.

### Connecting to a Host Computer Using a Junction Box

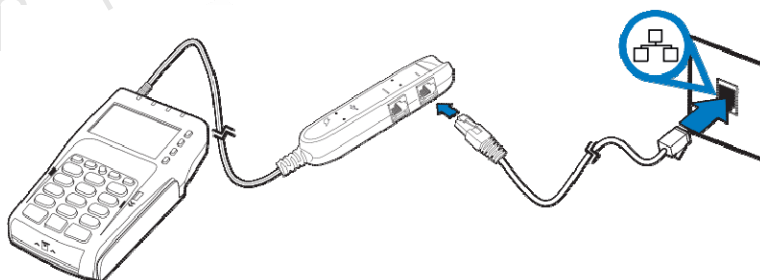
The VX805 CTLS connects to a host computer by using a junction box (VPN CBL282-005-02-A). Connect the junction box to the VX805 CTLS using the VX805 CTLS cable connector (see [Cable Connections](#)) and connect to the computer using the USB connection on the junction box with a mini-USB cable (VPN XXX).



**Figure 10** Connecting to a Host Computer Using a Junction Box

### Connecting to an Ethernet Port

The VX805 CTLS connects to an Ethernet port by using a junction box (VPN CBL282-005-02-A). Connect the junction box to the VX805 CTLS using the VX805 CTLS cable connector (see [Cable Connections](#)). Using an RJ45 cable (VPN XXX), connect the cable from the ETH port on the junction box to the Ethernet port.



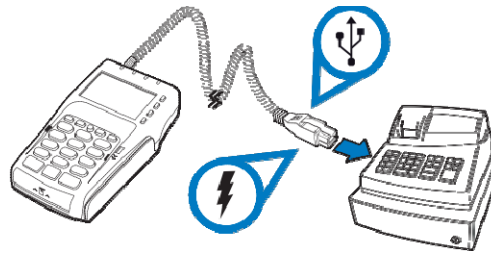
**Figure 11** Connecting to an Ethernet Port

**Connecting to an ECR** Connect the VX805 CTLS to an ECR using one of the following connections:

- Connecting to an ECR Using PoweredUSB
- Connecting to an ECR Using Serial Power Cable

### Connecting to an ECR Using PoweredUSB

The VX805 CTLS connects to an ECR by using a direct PoweredUSB connector (VPN - CBL282-033-xx-A). Connect the PoweredUSB cable to the VX805 CTLS (see [Cable Connections](#)) and plug the male USB connector into the corresponding USB host port on the ECR.



**Figure 12** Connecting to an ECR Using PoweredUSB

**NOTE**



In an ECR connection environment, the ECR would need to provide sufficient power (2.5W) to the VX805 CTLS.

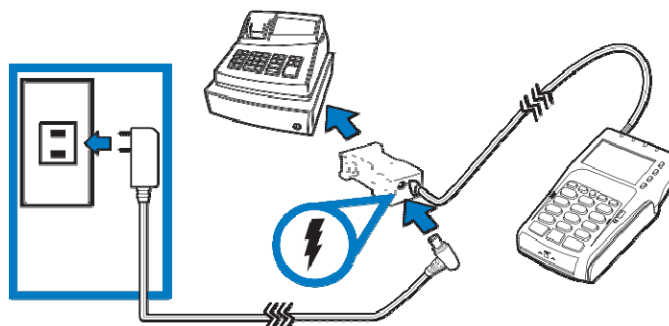
### Connecting to an ECR Using Serial Power Cable

The VX805 CTLS connects to an ECR by using a serial power cable (VPN - CBL282-031-xx-A). Connect the serial power cable to the VX805 CTLS (see [Cable Connections](#)), then connect the DB-9 connector housing to the ECR.

**NOTE**



When connecting an ECR by using a serial power cable, you need to also connect the serial connection to an external power source. For further instructions, see [Connecting to External Power Using Serial Power Cable](#).



**Figure 13** Connecting to an ECR Using Serial Power Cable

## Power Supply

Not all VX805 CTLS configurations and device contexts require the use of a power supply – VeriFone ships power supplies with the VX805 CTLS as required.

If you have changed the context in which the VX805 CTLS is used or have questions about which power supply should be used, contact your VeriFone representative. For more information, see [Accessories and Documentation](#).

### CAUTION



Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with VPN PWR282-001-01-A (see [Specifications](#) for detailed power supply specifications).

Before connecting a power supply, disconnect the power pack cord from the power outlet.

Connect and route all cables between the VX805 CTLS and the ECR or PC before plugging the power pack cord into a wall outlet or surge protector.

### WARNING



Do not plug the power pack into an outdoor outlet or operate the VX805 CTLS outdoors. Also, disconnecting power during a transaction can cause transaction data files not yet stored in memory to be lost.

### NOTE



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

When the VX805 CTLS has power and an application is loaded, the application starts after the initial VeriFone copyright screen and displays a unique copyright screen. If no application is loaded, **DOWNLOAD NEEDED** appears on the display after the initial VeriFone copyright screen.

## Power Connections

For power connections, connect the VX805 CTLS to any of the following power sources:

- [Connecting to External Power Using Junction Box](#)
- [Connecting to External Power Using Serial Power Cable](#)

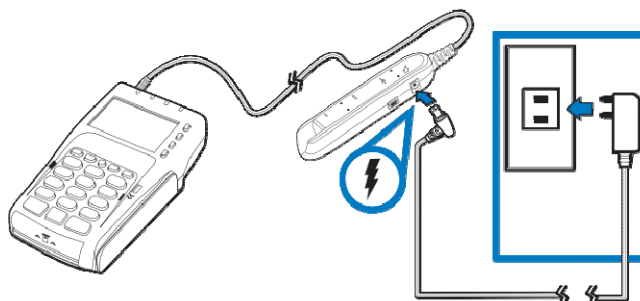
### CAUTION



Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with VPN PWR 282-001-01-A (see [Specifications](#) for detailed power supply specifications and [Accessories and Documentation](#) for ordering information).

### Connecting to External Power Using Junction Box

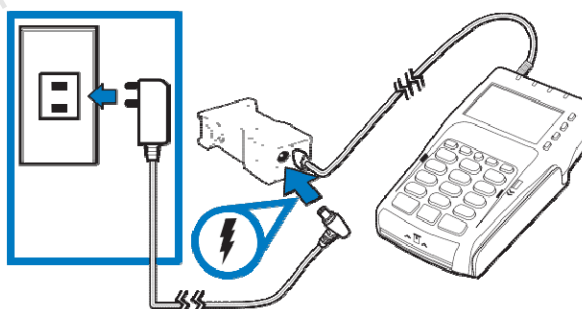
The VX805 CTLS connects to an external power source using a junction box (VPN - CBL282-005-02-A / CBL282-006-XX-A). Connect the junction box to the VX805 CTLS using the VX805 CTLS cable connector (see [Cable Connections](#)), then connect the DC barrel into the junction box. Finally, plug the wall mount adapter into a power outlet.



**Figure 14** Connecting to External Power Using Junction Box

### Connecting to External Power Using Serial Power Cable

The VX805 CTLS connects to an external power source by using a serial power cable (VPN - CBL282-031-xx-A). Connect the serial power cable to the VX 805 CTLS using the VX805 CTLS cable connector (see [Cable Connections](#)), then connect the DC barrel into the AC port in the serial power cable. Finally, plug the wall mount adapter into a power outlet.



**Figure 15** Connecting to External Power Using Serial Power Cable

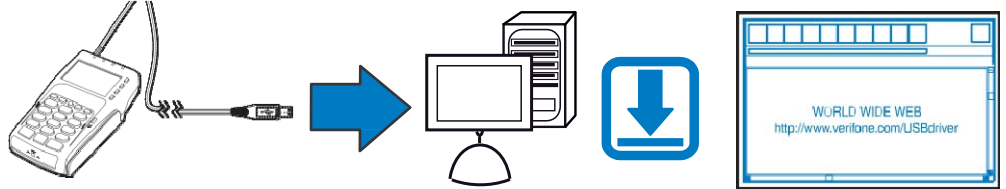


## USB Download Support

Use the USB direct connection for USB download support.

### To perform USB download Support

- 1 Connect the VX805 CTLS to the computer using a USB cable(see Connecting to a Host Computer Using Direct USB Connection).
- 2 Download the USB driver from the following location: <http://verifone.com/USBdriver>.



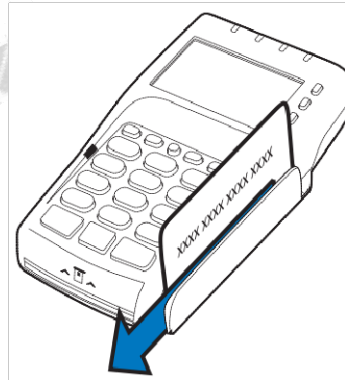
**Figure 16** USB Download Support

## Using the Magnetic Card Reader

The VX805 CTLS has a magnetic card reader that uses a triple track stripe reader. This gives the unit greater reliability over a wide range of swipe speeds and operating environments.

### To conduct a credit or debit card transaction

- 1 Position a magnetic card with the stripe facing the keypad.
- 2 Swipe it through the magnetic card reader.



**Figure 17** Using the Magnetic Card Reader

## Using the Smart Card Reader

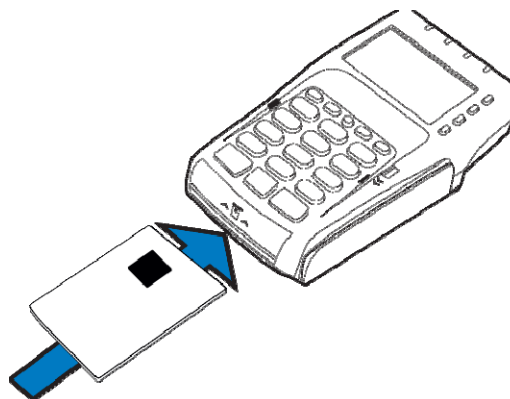
The smart card transaction procedure can vary depending on the application. Verify the proper procedure with your application provider before performing a smart card transaction.

### To conduct a smart card transaction

- 1 Position the smart card with the gold contacts facing upward (see Figure 18).
- 2 Insert the card into the smart card reader slot in a smooth, continuous motion until it seats firmly.



- 3 Remove the card when the display indicates the transaction is completed.



**Figure 18**     **Inserting a Smart Card**



**CAUTION** Leave the smart card in the card reader until the transaction is completed. Premature removal can void the transaction.

### Using the Contactless Reader

The VX805 CTLS supports global contactless program specifications from American Express, Discover, MasterCard, and Visa, with virtually no changes to existing payment hardware or software.

- 1 The VX805 CTLS has four LEDs placed above the display and an audio buzzer for contactless payment indications.

**NOTE**



The LED color options may vary depending on the region requirements. For more information, contact your local VeriFone representative or service provider.



**Figure 19**     **Using the Contactless Reader**

## Optional Accessories

These accessories can be used to further enhance the device's functionality. See [Supplementary Hardware](#) for additional information.

### Using the Privacy Shield

The privacy shield is used to hide the keys a user is pressing to enter the password for a transaction.

### Installing the Privacy Shield

- 1 Align the hooks on the privacy shield with the corresponding slots beside the keypad on the VX805 CTLS.
- 2 Once the hooks are in place, gently push down on the privacy shield until it snaps into place.

The figure below shows an example of a VX805 CTLS with the privacy shield installed.

Picture of VX 805 CTLS

**Figure 20** Installed Privacy Shield

## Specifications

This chapter discusses power requirements, dimensions, and other specifications of the VX805 CTLS.

- Unit Power Requirements**
- Input voltage: 5V-12V DC
  - USB Power, minimum 5 V, 500mA (without Ethernet)

- Power Pack**
- PWR282-001-01-A (varies per region)
  - UL, ITE listed, Class 2, switching power supply
  - PS, 100-240V, 9V DC UNIVERSAL, 1A, 9W

- Temperature**
- Operating temperature: 0° to 40° C (34° to 104° F)
  - Storage temperature: -20° to 60° C (-4° to 140° F)
  - Relative humidity: 5% to 90% RH non-condensing

- External Dimensions**
- Length : 158 mm (6.22 in.)
  - Width: 83.1 mm (3.27 in.)
  - Depth: 31.4 mm (1.24 in.)

- Weight**
- Unit weight: 0.27 Kg (0.6 lbs.)
  - Shipping weight: 0.45 Kg (1.0 lbs.)

- Processor**
- 400 MHz ARM11 32-bit RISC processor

- Memory**
- 160 MB (128 MB of Flash, 32 MB of mDDR)

- Display**
- 128x64 FSTN

- Magnetic Card Reader**
- Triple track (tracks 1, 2, 3), high coercivity, bi-directional

- Primary Smart Card**
- ISO 7816, 1.8V, 3V, 5V
  - synchronous and asynchronous cards
  - EMV Approved

- SAM Card Reader**
- 2 Security Access Modules (SAMs)

**CTLS Card Reader**

- 4 LEDs for CTLS

**Keypad**

- 3 x 5 secure numeric keypad
  - 0-9 number keys
  - \*, #, Cancel, Backspace/Clear, and Enter keys
- Non-secure keypad matrix
  - 4 Screen-addressable keys
  - 4 ATM-style keys
  - An "Alpha" key

**Peripheral Ports**

- 1 USB Device port for connecting directly to another USB host port (ie. ECR or payment terminal).
- 1 Ethernet port for connecting to Ethernet LAN network.
- 1 RS-232 Serial port.
- 2 14-pin input/output connector for backward compatibility.

**Security**

- 3DES encryption, Master/Session and DUKPT key management
- VeriShield file authentication
- PCI PED 3.0 approved



## Maintenance and Cleaning

Your VX805 CTLS device is a product of superior design and craftsmanship and should be treated with care. It has no user-serviceable parts. 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 does get wet, switch off the power, and allow the device to dry completely before replacing it.
- Do not use or store the device in dusty, 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. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device. Use only a soft, clean, dry cloth for cleaning.
- Do not paint the device. Paint can clog the moving parts and prevent proper operation.
- Keep the device free from any small, 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, if the device's outer casing is opened, file content will be deleted.

These suggestions apply equally to your VX805 CTLS device, 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.

**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.

## Additional Safety Information

The following are additional information for your safety in using this device.

### Power Adapter

Use only the power adapter that came 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, and obey 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.

### Card Readers

Do not attempt to clean the card readers. Doing so can void any warranty. For card reader service, contact your VeriFone distributor or service provider.

## Service and Support

For VX805 CTLS problems, contact your local VeriFone representative or service provider.

For VX805 CTLS product service and repair information:

- USA – VeriFone Service and Support Group, 1-800-834-4366, Monday - Friday, 8 A.M. - 8 P.M., eastern time.
- International – Contact your VeriFone representative.

### Service Returns

Before returning the VX805 CTLS to VeriFone, you must obtain a Merchandise Return Authorization (MRA) number. The following procedure describes how to return one or more VX805 CTLS for repair or replacement (U.S. customers only).

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**NOTE**



International customers, please contact your local VeriFone representative for assistance with your service, return, or replacement.

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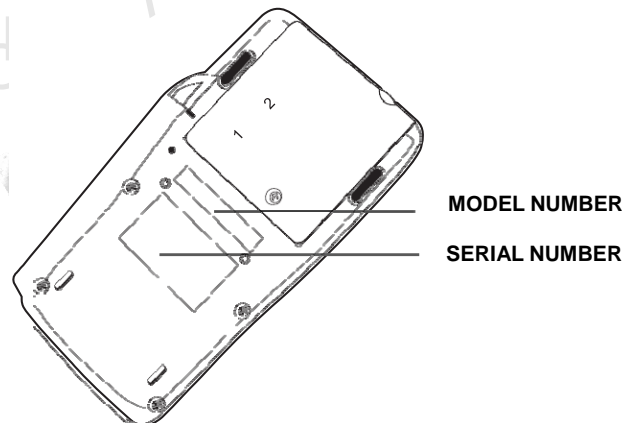
- 1** Gather the following information from the printed labels (see [Figure 21](#)) on the bottom of each VX805 CTLS to be returned:
  - Product ID, including the model and part number. For example, “m280-xxx-xx” and “PTID xxxxxxxx.”
  - Serial number (S/N xxx-xxx-xxx).
- 2** Within the United States, call VeriFone toll-free at 1-800-834-4366.
- 3** Select the MRA option from the automated message. The MRA department is open Monday–Friday, 8 A.M.–8 P.M., eastern time.
- 4** Give the MRA representative the information gathered in [Step 1](#).  
If the list of serial numbers is long, you can fax the list, along with the information gathered in [Step 1](#), to the MRA department at 1-727-953-4172 (U.S.).
  - Please address the fax clearly to the attention of the “VeriFone MRA Dept.”
  - Include a telephone number where you can be reached and your fax number.

- You will be issued MRA number(s) and the fax will be returned to you.



One MRA number must be issued for each VX805 CTLS you return to VeriFone, even if you are returning several of the same model.

- 5 Describe the problem(s) and provide the shipping address where the repaired or replacement unit must be returned.
- 6 Keep a record of the following items:
  - Assigned MRA number(s).
  - VeriFone serial number assigned to the VX805 CTLS you are returning for service or repair (serial numbers are located on the bottom of the unit (see Figure 21).
  - Shipping documentation, such as air bill numbers used to trace the shipment.
  - Model(s) returned (model numbers are located on the VeriFone label on the bottom of the VX805 CTLS).



**Figure 21** Information Labels on Unit Bottom



## Accessories and Documentation

VeriFone produces accessories and documentation for the VX805 CTLS. When ordering, please refer to the part number in the left column.

VeriFone Online Store at [www.store.verifone.com](http://www.store.verifone.com)

- USA – VeriFone Customer Development Center, 1-800-834-4366, Monday - Friday, 7 A.M. - 8 P.M., eastern time
- International – Contact your VeriFone representative

### Supplementary Hardware

The following part(s) come as optional accessories:

PPL280-032-01-A          Privacy shield

### Data Cables

The following cables can be used with the VX805 CTLS:

CBL282-030-xx-A          VX805 CTLS–RJ45 coiled cable. Connects to other VX805 CTLS devices and other countertop terminals.

CBL282-025-xx-A          VX805 CTLS–USB cable. Connects the VX805 CTLS to an ECR or other USB devices that support USB Type A.

CBL282-031-xx-A          VX805 CTLS–DB9 serial power cable. Connects the VX805 CTLS to other generic RS232 supported devices.

CBL282-005-xx-A          VX805 CTLS–Junction Box. Ethernet, mini-USB and serial version.

CBL282-006-xx-A          VX805 CTLS–Junction Box. Ethernet with serial connection.

08356-XX-R                  RJ45–RJ45 coiled cable. RS232 connection.

VPN                              mini-USB–Type A connection cable.

VPN                              Ethernet cable.

Various others, depending on what they connect to. Contact your local VeriFone representative or service provider to identify the best cable for your needs.

### Power Supply

The VX805 CTLS package includes any of the following types of power packs:

PWR282-001-01-A          DC power pack (US)

PWR282-002-01-A          DC power pack (UK)

PWR282-003-01-A          DC power pack (EU)

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## Troubleshooting Guidelines

This chapter lists typical examples of malfunctions that you may encounter while operating your VX805 CTLS and the steps that you can take to resolve them.

The troubleshooting guidelines provided in the following section are included to assist successful installation and configuration of the VX805 CTLS. If you are having problems operating your VX805 CTLS, please read these troubleshooting examples. If the problem persists even after performing the outlined guidelines or if the problem is not described, contact your local VeriFone representative for assistance.

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**NOTE**



The VX805 CTLS comes equipped with tamper-evident labels. The VX 805 CTLS contains no user-serviceable parts. Do not, under any circumstance, attempt to disassemble the unit. 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.

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**CAUTION**



Not all units require use of a power supply.

Using an incorrectly rated power supply may damage the unit or cause it not to work properly. Before troubleshooting, ensure that the power supply used to power the unit matches the requirements specified on the back of the unit (see [Specifications](#) for detailed power supply specifications). If not, obtain the appropriately rated power supply before continuing with troubleshooting.

---

### **PIN Pad Does Not Start**

When the PIN pad does not start up:

- Check power connections.
- Connect the VX805 CTLS into a known-good power supply.
- If the problem persists, contact your local VeriFone representative for assistance.

### **Blank Display**

When the VX805 CTLS display does not show correct or clearly readable information:

- Check all power and cable connections.
- Remove and reapply power to the unit.
- Connect the VX805 CTLS into a known-good power supply.
- If the problem persists, contact your local VeriFone service provider.

## Keypad Does Not Respond

If the keypad does not respond properly:

- Check the 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 are entering data correctly.
- If the problem persists, contact your local VeriFone representative.

## Transactions Fail To Process

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

### Check 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 (see [Using the Magnetic Card Reader](#)).
- 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.
- If the problem persists, contact your local VeriFone representative.

### Check 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 (see [Using the Smart Card Reader](#)).
- Ensure the MSAM cards are properly inserted in the slots and are properly secured (see [Installing and Replacing MSAM Cards](#)).
- If the problem persists, contact your local VeriFone representative.

### Check Contactless Reader

- Perform a test transaction using one or more different contactless cards to ensure the problem is not a defective card.
- Ensure that you are conducting the contactless transaction properly (see [Using the Contactless Reader](#)).
- If the problem persists, contact your local VeriFone representative.

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A small, semi-transparent version of the VeriFone logo is positioned below the "DRAFT" text.

# VX805 CTLS

## *Installation Guide*

VeriFone Part Number DOC280-023-EN-A, Revision A.7

