

P400/P400 Plus Installation Guide

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P400/P400 Plus Installation Guide
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Preface

This guide is the primary source of information for setting up the P400 device.

Audience

This guide is intended for the users involved in P400 device installation.

Organization

This guide is organized as follows:

- Chapter 1: [Device Overview](#) - Provides an overview of the P400 device.
- Chapter 2: [Device Setup](#) - Provides instructions on configuring the P400 device.
- Chapter 3: [Specifications](#) - Provides the power requirements and dimensions of the P400 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: [Accessories and Cables](#) - Provides the range of accessories and cables with corresponding part numbers.
- Chapter 7: [Troubleshooting Guidelines](#) - Provides guidance for addressing issues that may arise during device installation.

Related Documentation

To learn more about the P400 device, refer to the following documents associated with the Verifone Part Numbers (VPNs).

P400 and P400 Plus Certifications and Regulations	VPN DOC435-001-EN
P400 Quick Installation Guide	VPN DOC435-002-EN
P200/P400 Reference Guide	VPN DOC435-004-EN
Engage Low-Profile Privacy Shield Quick Installation Guide	VPN DOC000-020-EN
Engage Standard Privacy Shield Quick Installation Guide	VPN DOC000-021-EN
P200/P400 Mounting Adapter Quick Installation Guide	VPN DOC435-005-EN
P400 Stylus Quick Installation Guide	VPN DOC435-007-EN

Conventions

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

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

1. Device Overview

This chapter provides an overview of the P400 device:

The P400 is Verifone’s next generation integrated retail PINpad device. Its touchscreen functionality and sophisticated design is perfect for high-end retail establishments.

The P400 is a consumer-facing handheld device. It can also be fix-mounted in some integrated retail scenarios. The product’s design is equally appealing as a handheld PINpad and robust enough to look and function appropriately in a fixed mount setting.

Figure: 1 P400 Touch



Front Functions

The P400 includes the following features:

- Capacitive touch **LCD (Liquid Crystal Display) display**.

- Secure keypad supporting 3x5 matrix containing 0-9, *, #, Cancel, Backspace/Clear, and Enter keys.
 - Supports **telco-style format**.
 - Dual-function Backspace/Clear key.
 - Customer-entry for Cancel and Enter keys.

Following table lists the functions of Cancel, Enter and Clear/Backspace keys:



- **Cancel** key is used to exit and return to the main menu.
- In the System mode login screen, a special menu can be accessed by pressing the **Cancel** key.
- **Cancel** key is also used to power OFF. Press **Cancel** key for 3 sec to power OFF the terminal.



- **Clear** key is commonly used to delete a number, letter, or symbol on the PINpad's display screen.
- Press **Clear** key one time to delete the last character typed on a line. To delete additional characters, moving from right-to left, press **Clear** key once for each character or hold down **Clear** key to delete all characters in a line.



- **Enter** key is generally used in the same way as the enter key on a PC, that is, to end a procedure, confirm a value or entry, answer "Yes" to a query, or select a displayed option.
- **Enter** key is used to power ON the terminal. Press **Enter** key for 3 sec to power ON the terminal.
- **Enter** key is also used to restart the terminal. Press **Enter** key for 10 sec to restart the terminal.

Back Functions

The rear of the P400 device shows the following:

- **Cable connector compartment.**
- **Threaded grommets** for attaching the mounting plate.
- A **uSD** and a dual-stack **MSAM (Multiple Secure Access Module) connectors** built into the back of the unit to support stored-value card programs or other merchant card requirements.

Features and Benefits

Ease of Use

- Sleek and stylish shape occupies minimal counter space.
- Bold, ergonomic design fits comfortably in the palm of a hand.
- Large, hard-rubber keys provide improved tactile feedback, minimizing errors and maximizing ease-of-use for consumers of all ages.
- Intuitive telco-style interface and colored control keys simplify training and reduce support requests.
- 320 (RGB) x 480 TFT (HVGA) display with a capacitive touch panel.
- Rugged and reliable design.
- Connects with most POS (Point-of-Sale) payment terminals.
- Supports payment transactions in a variety of payment environments.

Critical Security Protection

- Offers a choice of Master/Session or 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) key-management methods to protect PIN-based transactions.
- Offers secure, reliable PIN (Personal Identification Number) input for expanding range of PIN-based transactions.
- PCI (Payment Card Industry)-compliant for secure solutions, meeting the PED (PIN Entry Device) standard.
- Meets ISO and ANSI (American National Standards Institute) standards for PIN encryption, key management, and MAC.
- Key injection simplified and secured with Verifone's SecureKit key loading software.
- Rugged and reliable design absorbs hard knocks found at point-of-sale counters.
- Removable privacy shield offers option of supplemental physical security.
- Connects with most POS payment terminals, PCs, and ECRs (Electronic Cash Register).
- USB (Universal Serial Bus) Connectivity that gives another option to connect with payment terminals, personal computers, and electronic cash registers (ECRs).

2. Device Setup

This section outlines the setup procedures for the P400, covering the following segments:

- [Selecting Location](#)
- [PIN Protection Measures](#)
- [Unpacking Shipping Carton](#)
- [MSAM/uSD Cards](#)
- [Power Supply](#)
- [Cable Connections](#)
- [Smart Card Reader](#)
- [Magnetic Stripe Card Reader Use](#)
- [Contactless Transactions](#)
- [Optional Accessories](#)
- [Periodic Inspection](#)

Selecting Location

Use the following guidelines to select the best location for the P400 device.

To Select a Location

Choose a location convenient for both merchant and client:

- Far from heavy metal objects,
- A flat support surface such as a countertop or a table,
- Near a power outlet and the terminal or computer that connects to the P400.



For safety, do not string cables or cords across a walkway.

Par mesure de sécurité, ne pas les câbles de chaîne ou de cordons à travers une passerelle.

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 P400 outdoors.



CAUTION

The unit 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.

Cet appareil n'est pas étanche ou à la poussière, et est destiné à une utilisation en intérieur. Tout dommage à l'unité de l'exposition à la pluie ou à la poussière peut annuler la garantie.

Electrical Considerations

- Avoid using this product during electrical storms.
- Do not use the P400 unit near water or in moist conditions.
- Disconnect the device from its POS terminal before cleaning.



WARNING

Due to the risk of electrical shock or terminal damage, do not use the terminal near water, including a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool. 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, neon signs, high-frequency or magnetic security devices, or electric motors).

Du fait d'un risque d'électrocution ou d'une détérioration du terminal, ne pas utiliser cet équipement près d'une source d'eau, par exemple près d'une baignoire, d'un lavabo, d'un évier de cuisine ou d'un bac de lavage, dans un sous-sol humide ou à proximité d'une piscine. De même, éviter d'utiliser ce produit lors des orages provoquant des coupures électriques. Éviter de placer le terminal à proximité d'appareils électriques ou autres unités pouvant entraîner des fluctuations de tension importantes ou des interférences électriques, tels que les climatiseurs, enseignes au néon, dispositifs de sécurité à haute fréquence ou équipements électriques.

Contactless Considerations

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

Figure: 2 Areas To Avoid Metal Contact



CAUTION

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

L'utilisation d'un cadre métallique fermé ou de montage peut affecter négativement contact performance.

PIN Protection Measures

Use the following techniques to provide effective screening of PIN-entry devices (PEDs) during the PIN-entry process. You can use these methods in combination, although in some cases a single method might suffice.

- Position the terminal on the check-in stand in such a way as to block visual observation of the PIN-entry process. Examples include:
 - Visual shields designed for the check-in stand. The shields may be solely for shielding purposes or may be part of the general check stand design.
 - Position the PED so that it is angled in such a way that PIN spying is difficult.
- Install the PED on an adjustable stand that allows consumers to swivel the terminal sideways and/or tilt it forward/backward to a position that makes visual observation of the PIN-entry process difficult.
- Position in-store security cameras so that the PIN-entry keypad is not visible.

The following table describes the two preferred mounting methods and the recommended measures to protect from PIN capture in four observation corridors:

Table 1 Mounting Methods and Protection Measures

Method	Cashier	Customer in Queue	Customers Elsewhere	On-site Cameras
Countertop without stand	Use signage behind the PED	Install so that customer is between PED and next in the queue	No action needed	Do not install within view of cameras
Countertop with stand	No action needed	Install so that customer is between PED and next in the queue	No action needed	Do not install within view of cameras

VeriFone also recommends instructions to the cardholder regarding safe PIN-entry. This can be done with a combination of:

- Signage on the PED.
- Prompts on the display, possibly with a click-through screen.
- Literature at the point of sale.
- A logo for safe PIN-entry process.

Ensuring User Privacy

Use the following guidelines to protect the user’s privacy when he enters his personal identification number (PIN):

- The area of visibility should be no larger than a cone taken from the number 5 key at an angle of 45° and covering an area of 270° directly in front of the user.
- You can secure PIN entry by installing an optional Privacy Shield.

Unpacking Shipping Carton

Carefully inspect the shipping carton and its contents for possible tampering or damage.

- 1 Remove the P400 unit from the shipping carton. The standard package contains the PIN pad only and does not include any other cables or accessories. Refer to [Accessories and Cables](#) for more information about P400-related accessories.



CAUTION

This device is a secure product and any tampering can cause it to cease to function or operate in an unsecured manner.

Cet appareil est un produit sûr et toute manipulation peut l'amener à cesser de fonctionner ou fonctionner de manière non sécurisée.

- 2 Remove any protective plastic wrap and place the unit on a table or countertop.
- 3 Remove the clear protective film from the display.
- 4 Replace all the packing materials, close the lid, and save the carton for repacking or moving the P400 unit in the future.



WARNING

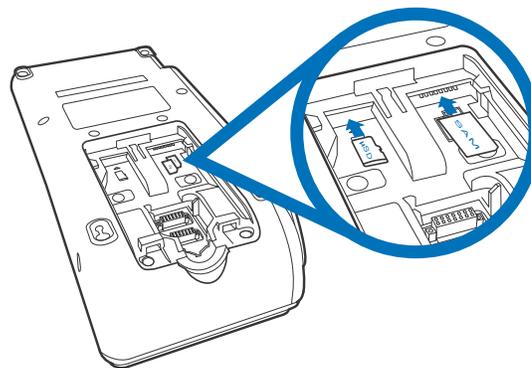
Do not use a unit that has been tampered with or otherwise damaged. This unit comes equipped with tamper-evident label. If a label or component appears damaged, immediately notify the shipping company and your Verifone representative or service provider.

Ne pas utiliser un appareil qui a été altéré ou endommagé. Cet appareil est équipé d'étiquette d'inviolabilité. Si une étiquette ou d'un composant semble être endommagé, en aviser immédiatement la compagnie maritime et votre représentant Verifone ou prestataire de services.

MSAM/uSD Cards

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

Figure: 3 MSAM/uSD Slots





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

CAUTION *Respecter les précautions standard dans la manipulation d'appareils sensibles aux décharges électrostatiques. Les décharges électrostatiques peuvent endommager le matériel. Verifone recommande d'utiliser un bracelet anti-statique à la terre.*

Installing or Changing MSAM/uSD Card

To install or change uSD or MSAM cards:

- 1 Place the terminal face down on a soft and clean surface to protect the lens from scratches.
- 2 Slide out and lift the compartment cover with captive screw. The uSD and MSAM cardholders are now accessible.



NOTE

The P400 supports two MSAM cards in a stacked configuration.

- 3 Install the uSD or MSAM card by carefully sliding it into the slot until fully inserted.



NOTE

Insert the card with the card's gold contacts facing away from you, toward the unit.

Power Supply

Not all configurations and device contexts require the use of a power supply – Verifone ships power supply with the terminal as required. Contact your Verifone representative if you have changed the context in which the terminal is used or have questions about which power supply should be used.



Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with VPN PWR435-001-01-A (see [Accessories and Cables](#) for detailed power supply specifications).

CAUTION *L'utilisation d'une alimentation mal calibrée peut endommager l'appareil ou l'empêcher de fonctionner correctement. Utilisez uniquement un bloc d'alimentation avec VPN PWR435-001-01-A (voir Accessoires et câbles pour les spécifications détaillées de l'alimentation).*

Disconnect the power pack cord from the power outlet before connecting a power supply. Connect and route all cables between the terminal, ECR, and PC before plugging the power pack cord into a wall outlet or surge protector.



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

WARNING *Ne branchez pas le bloc d'alimentation sur une prise extérieure et n'utilisez pas le terminal à l'extérieur. La déconnexion de l'alimentation pendant une transaction peut entraîner la perte des fichiers de données de transaction non encore stockés en mémoire.*



Verifone recommends installing a power surge protector to protect against possible damage caused by lightning strikes and electrical surges.

NOTE

When the terminal 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.

USB Power Supply

P400 can be powered with 5V supply from USB port (5V at 500 mA) with the following power-saving conditions controlled by the OS:

- Maximum audio output volume is reduced.
- LCD backlight intensity is reduced to 30% (not suitable for high-glare, outdoor usage).
- Keypad backlight is disabled.
- Ethernet functionality is unavailable.

- BT/Wi-Fi functions are unavailable.
- The maximum USB cable length supported is 3m (CBL282-038-02-B).
- In CTLS payment mode, the microprocessor operating frequency is reduced to 300 MHz until the PINpad exits CTLS mode.
- Multi-media function (video playback or audio function) has to be switched off by user or customer app when CTLS (Contactless) payment mode is activated. Other modes of payment like smart card and MSR payment can be supported.



NOTE

CTLS payment mode is defined as the state of the device where RF (Radio Frequency) transmission is broadcasting to allow for a CTLS payment. This is activated either during the scanning of items or at the completion of scanning items during the checkout process, depending on how the application sets it up. As soon as checkout is complete, the device exits CTLS payment mode and remains off until activated for the next checkout.

Cable Connections

The P400 has several cabling scenarios, depending on what it connects to:

- 1 [Connection to Another VeriFone Terminal](#)
- 2 [RS-232 Connection Using an External Power Brick](#)
- 3 [Direct USB Connection](#)
- 4 [Powered USB Connection](#)
- 5 [Ethernet Connection with External Power Brick.](#)



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.

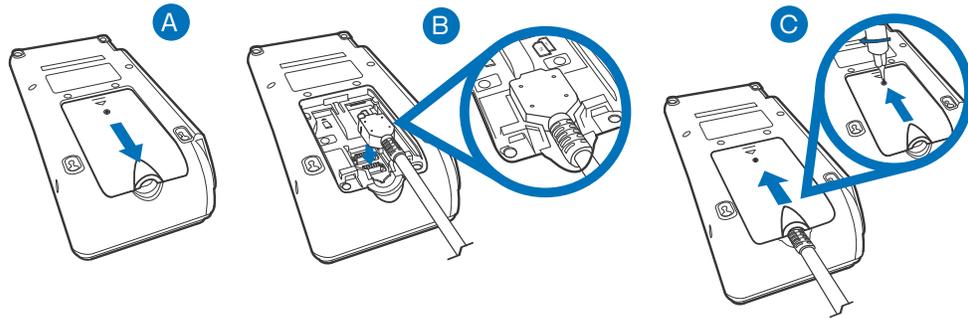
Éteignez ou débranchez le terminal lors de la connexion ou de la déconnexion de l'appareil pour éviter la corruption de la mémoire de l'appareil et la perte de données.

Reportez-vous aux instructions du dispositif de contrôle pour tout avertissement spécifique au terminal.

Attaching a Cable Connector to the P400

Before going into each cabling scenario, the cables first have to be attached to the P400. To attach a cable to the terminal, follow steps 1-2 in the [Installing or Changing MSAM/uSD Card](#) section to open the compartment door, then attach the 28-pin connector of the cable to the terminal. Slide back compartment cover and tighten the captive screw as shown in the Figure 4 - C.

Figure: 4 Using the 28-Pin Connector



Connection to Another Verifone Terminal

The P400 can be powered by another Verifone terminal in two ways:

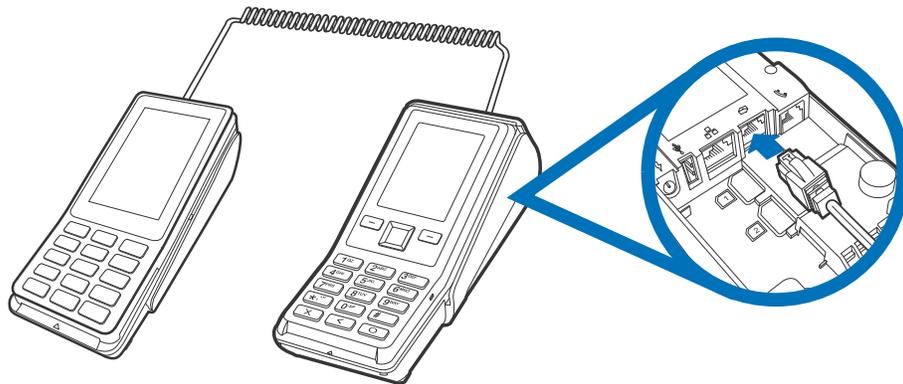
- Serial Connection
- USB Connection

Serial Connection

- **Configuration 1 - P400 to V200c**

Connect the 28-pin connector of the coiled serial cable (VPN - CBL282-036-01-A) to P400, then insert the other end of the cable to the multi-communication port of V200c. There is a minimum power requirement for the terminal, currently specified at 5.2 W.

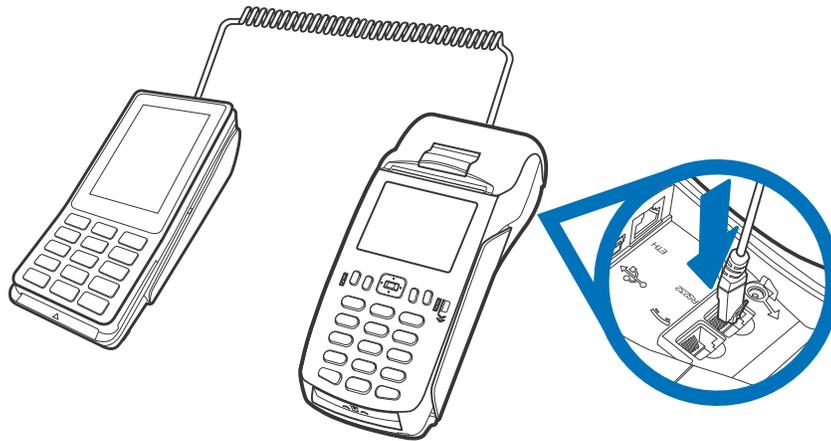
Figure: 5 Connecting to V200c



- **Configuration 2 - P400 to VX 520**

Connect the 28-pin connector of the coiled serial cable (VPN - CBL282-036-01-A) to P400, then insert the other end of the cable to the RS-232 port of VX 520.

Figure: 6 Connecting to VX 520 via Serial Connection

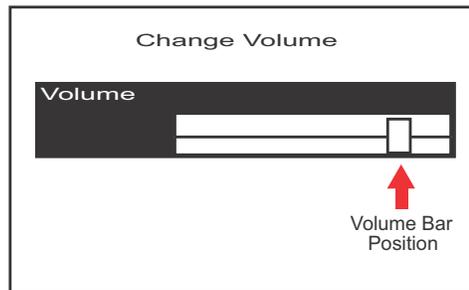


To ensure that power consumption of P400 is within the limits of the VX 520 port power, the following limitations must apply:

- Media playback is not allowed.
- Reduce Audio volume by adjusting the volume bar through the System Mode.

Reduce audio volume to the position similar below:

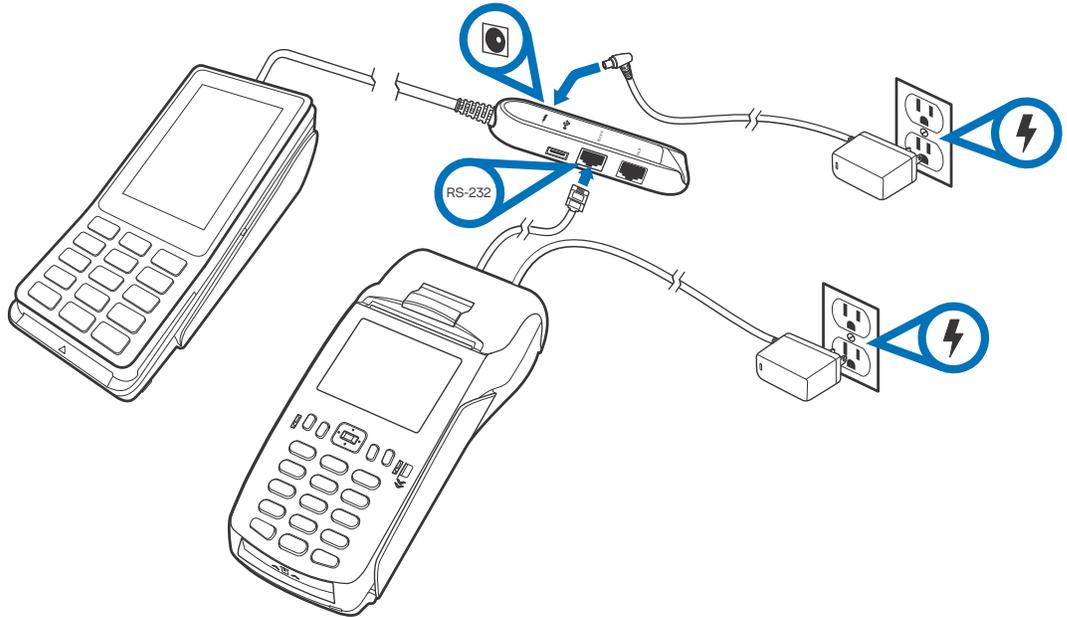
Figure: 7 Suggested Position of Volume Bar



- **Configuration 3 - P400 Plus to VX 520**

In order for the P400 Plus (also applicable to P400) to support full-feature without any limitation, it is required to power the PINpad with an external power supply.

Figure: 8 Powering PINpad with External Power Supply

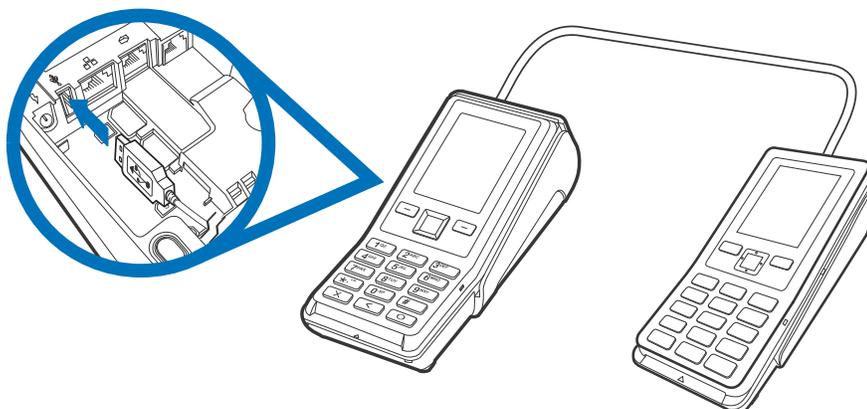


USB Connection

- **Configuration 1 - P400 to V200c**

P400 can be powered by V200c via the USB port. Connect the USB cable CBL282-038-xx-A directly to the USB1 (USB Vertical Type A) port of V200c.

Figure: 9 Connecting to V200c via USB



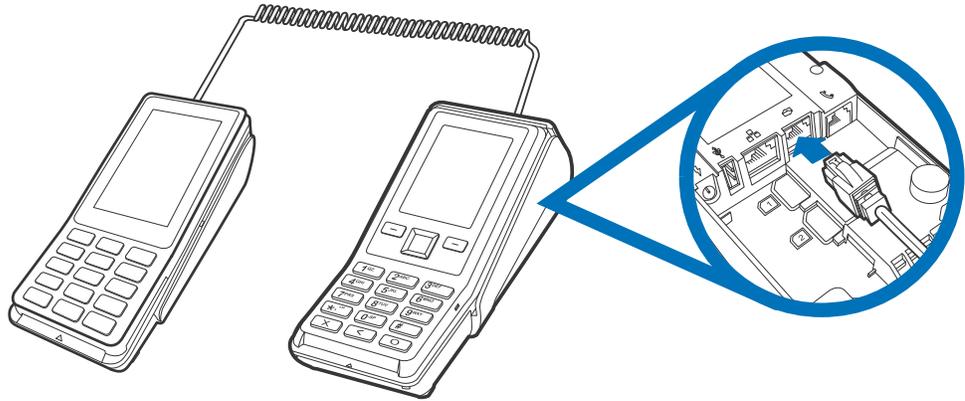
NOTE

Do not connect to USB0 via MOD10 port of V200c through splitter cable to power up the unit as the current limit is set to only 500 mA.

- **Configuration 2 - P400 to V200c**

P400 can be powered via the V200c multi-communication port of V200c, which also supports USB connectivity. Insert the USB cable CBL435-002-01-A directly to the multi-communication port of V200c.

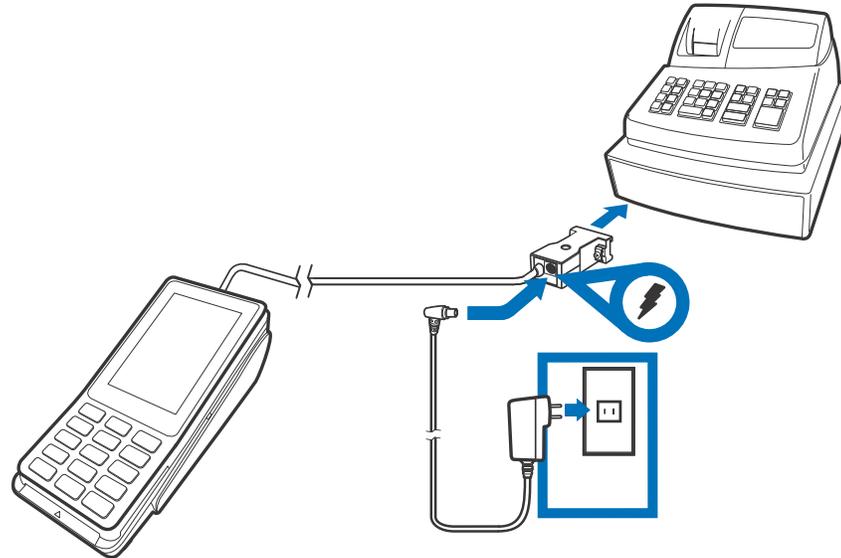
Figure: 10 Connecting to V200c via Serial



RS-232 Connection Using an External Power Brick

A special dongle cable is used, where one end of the cable plugs into the P400 while the other end terminates in a DB-9 connector housing. On the housing, a DC jack is provided to connect to an external power brick. This is a generic cable for all RS232-based hosts (VPN - CBL282-031-XX-A).

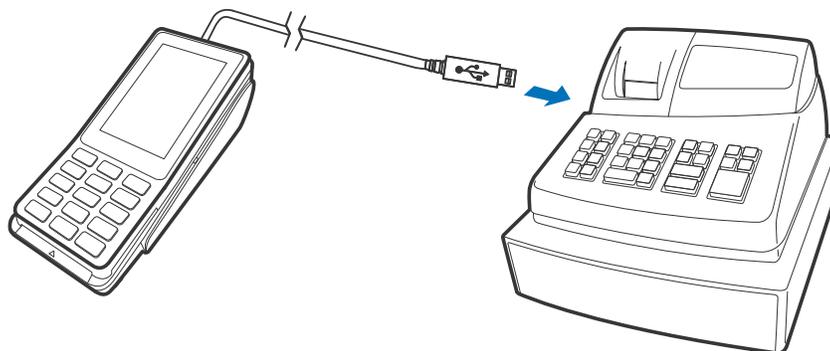
Figure: 11 Connecting to RS232-Based Host



Direct USB Connection

Similarly, a USB cable (VPN - CBL282-038-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.

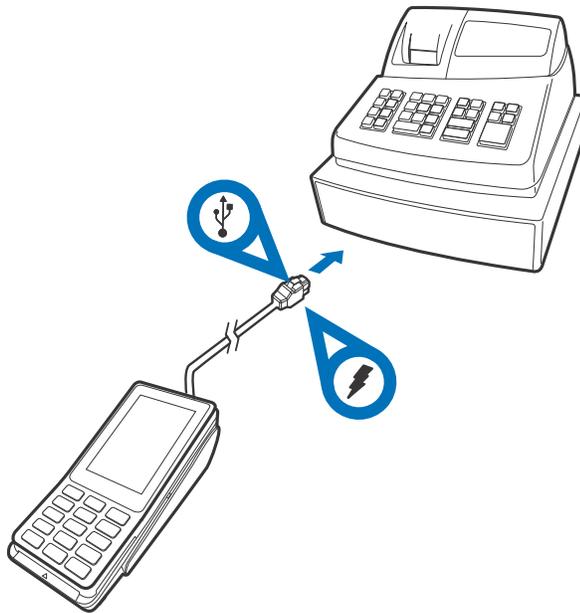
Figure: 12 Connecting to USB-Based Host



Powered USB Connection

A PoweredUSB cable allows for devices to obtain power through their USB host instead of requiring an independent power supply or external AC (Alternating Current) adapter. Connect the cable (VPN - CBL282-033-01-B) to the P400 and plug the male USB connector into the corresponding USB port of the connecting device.

Figure: 13 Connecting to USB-Based Host via PoweredUSB



NOTE

There are two variants of PoweredUSB, one with 12V DC (Direct Current) output and another with 24V DC. The P400 only supports 12V DC option.



WARNING

Incorrect power sequence may degrade the SoC Host port.

Une séquence d'alimentation incorrecte peut dégrader le port hôte du SoC.

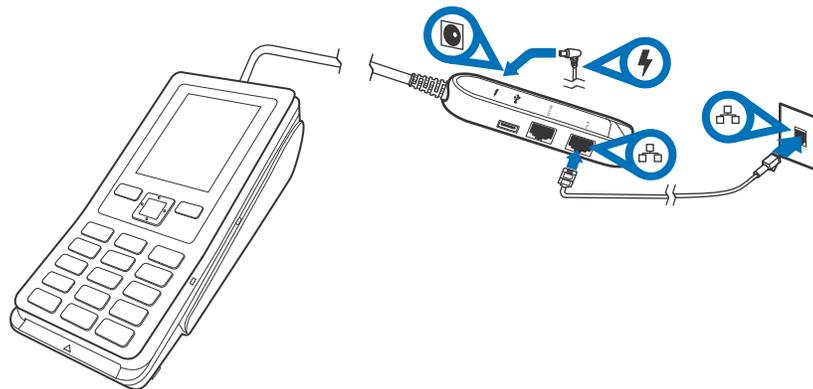
Ethernet Connection with External Power Brick

To connect the terminal to other devices via Ethernet, use the cable with a junction box that provides a standard RJ-45 LAN socket, a mini-USB port, and a standard DC jack for an external power connection. The junction box comes in these configurations:

Cable	Configuration	Part Number
Ethernet with RS232	Junction box with RJ-45 socket (for connecting PINPad to LAN infrastructure), MOD-8 socket & DC-in jack	CBL282-006-01-B
ReaderEthernet and Mini-USB option	Junction box with RJ-45 socket (for connecting PINPad to LAN infrastructure), MOD-8 socket, Mini USB & DC-in jack	CBL435-005-02-A
Ethernet with RS232 and USB option	Junction box with RJ-45 socket (for connecting PINPad to LAN infrastructure), MOD-8 socket, Mini USB, type A USB & DC-in jack	CBL435-044-01-C

The figure below shows the connections available on the external power brick.

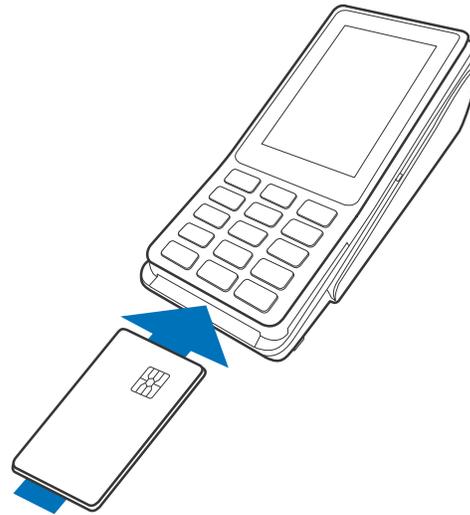
Figure: 14 Available Connections on the External Power Brick



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.

Figure: 15 Using the Smart Card Reader



Conducting a Smart Card Transaction

To conduct a smart card transaction:

- 1 Position the smart card with the gold contacts facing upward.
- 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.



CAUTION

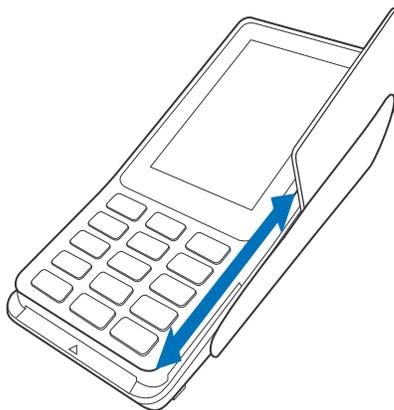
Leave the smart card in the card reader until the transaction is completed. Premature removal can void the transaction.

Laissez la carte à puce dans le lecteur de carte jusqu'à ce que la transaction soit terminée. Une suppression prématurée peut annuler la transaction.

Magnetic Stripe Card Reader Use

The P400 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.

Figure: 16 Using the Magnetic Stripe Card Reader



Conducting a Credit/Debit Card Transaction

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.

Contactless Transactions

The P400 supports contactless transactions through an integrated contactless module. The terminal only becomes active for contactless smart card transactions when initialized by an application.

Figure: 17 Contactless Transaction



Performing Contactless Transactions

To perform a contactless smart card transaction:

- 1 Gently tap the card onto or hold the card (within 4 cm) against the surface of the display where the contactless logo appears.
- 2 An activated LED visual on the display accompanied by a short beeping sound indicates a successful transaction.
- 3 See [Contactless Considerations](#) for more information.

Optional Accessories

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

Privacy Shield

The privacy shield is used to hide the keys when entering user password in a transaction. Two types of privacy shields can be used:

- Standard Type - This privacy shield is PCI-compliant. This must be used when P400 is not mounted on a swivel stand.

Figure: 18 Standard Type Privacy Shield



Failure to use the privacy shield in PCI-compliant manner will void PCI compliance for the affected device.

- Half-height type - This privacy shield is not PCI-compliant. This may only be used when P400 is mounted on a swivel stand.

Figure: 19 Half-height Type Privacy Shield



Installing the Privacy Shield

To install a privacy shield:

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

Stylus and Holder

A stylus with holder can be attached to P400 and used as an alternative device input method.

Attaching the Stylus Holder

To attach the stylus:

- 1 Align the stylus holder's screw holes with those found on the back of the terminal.
- 2 Screw the holder onto the back of the terminal.

Mounting Plate

This accessory is used to mount P400 to vertical or inclined surfaces.

Attaching a Mounting Plate to P400

To attach a mounting plate to P400:

- 1 Align the screw holes at the back of the terminal with the corresponding screws on the mounting plate (this can be done with or without the stylus holder attached).
- 2 Screw the mounting plate in place, keeping the terminal aligned.

Mounting P400 with Mounting Plate to a Wall or Flat Surface

To mount the terminal to a wall or flat surface:

- 1 Ensure the mounting plate is attached to the terminal.
- 2 Attach three M3 screws (not included in P400 package) to the desired surface. Make sure that they are aligned with the slots on top and at the bottom of the mounting plate.
- 3 Secure the terminal with the mounting plate in place by aligning the holes to the M3 screws then sliding the entire assembly into place.
- 4 Slide the terminal down to secure it to the mounting plate. To remove the terminal, slide the terminal up and pull away from the mounting plate.

Mounting P400 to a Flat Surface (Without a Mounting Plate)

To mount the terminal to a flat surface:

- 1 Align the terminal's footers to the holes on the mounting plate.
- 2 Fit the footers of the terminal into the footer holes.
- 3 Screw the mounting plate in place.



Customized plates must have four recessed areas big enough to fit the footers of the terminal. This ensures that there is no gap between the terminal and the mounting plate.

Mounting P400 with Mounting Plate to a Vertical Bracket

To mount the terminal with a mounting plate to a vertical bracket:

- 1 Ensure the mounting plate is attached to the terminal.
- 2 Align the three screw holes of the mounting plate with the vertical bracket holes.
- 3 Screw the vertical bracket in place.

Mounting Considerations

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



CAUTION

An enclosed metal frame or mount may negatively affect CTLS performance.
Un cadre ou un support métallique fermé peut affecter négativement les performances du CTLS.

Periodic Inspection

Periodically inspect the terminal for possible tampering. Signs of tampering may include:

- Wires protruding from the device.
- Foreign objects inserted into the smart card or mag stripe slot.
- Signs of damage to the tamper-evident label.
- Warning message on the device display.

3. Specifications

This chapter provides details on the power requirements, dimensions, and additional specifications of the P400 device.

Unit Power Requirement	<ul style="list-style-type: none"> • Full capabilities: 7-12V DC, 1A • Reduced capabilities (USB powered): 5V DC, 500 mA
Temperature	<ul style="list-style-type: none"> • Operating temperature: 0°C to 50°C (32°F to 122°F) • Storage temperature: -20°C to 60°C (-4°F to 140°F)
Humidity	<ul style="list-style-type: none"> • Relative humidity: 5% to 90% RH non-condensing
External Dimensions	<ul style="list-style-type: none"> • Length: 166.70 mm (6.56 in) • Width: 79.60 mm (3.13 in) • Depth: 42.30 mm (1.67 in)
Weight	<ul style="list-style-type: none"> • Unit weight: 274 g (9.66 oz)
Processor	<ul style="list-style-type: none"> • ARM Cortex A9 32-bit processor
Display	<ul style="list-style-type: none"> • 3.5" portrait mode transmissive TFT 320 (RGB) x 480 (HVGA)
Magnetic Card Reader	<ul style="list-style-type: none"> • Triple track (tracks 1, 2, 3), high coercivity, bi-directional
Primary Smart Card	<ul style="list-style-type: none"> • ISO 7816-3, 1.8V, 3V, 5V • Synchronous and Asynchronous cards • EMV approved

SAM Card Reader • Two Security Access Modules (SAMs)

Security • 3DES (Triple Data Encryption Algorithm) encryption, Master/Session and DUKPT key management

- VeriShield file authentication
- PCI PED 4.0 approved

4. Maintenance and Cleaning

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.



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.

5. Service and Support

The P400 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).



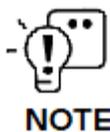
CAUTION

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 P400 device to be returned:
 - Product ID, including the model and part number. For example, “P400” and “M180-08x-xx-xxx-x”
 - 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. 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.



Each P400 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.

- 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 P400.
 - 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 P400 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 P400 device).

Decommissioning /Removal from Service

The decommissioning procedure applies to P200 and P400 series PCI (Payment Card Industry) PTS (PIN Transaction Security) version 4.x POI-approved devices.



Failure to use this decommission procedure causes non-compliance to the PCI PTS POI Modular Security Requirements version 4.0 approval of the device.

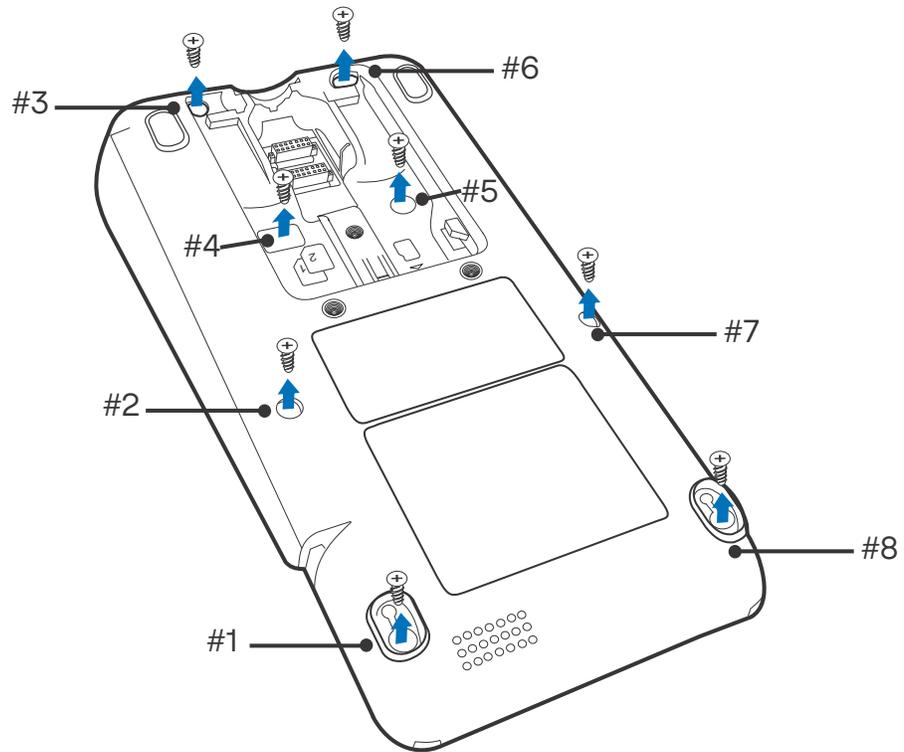
To securely decommission the device:

- 1 Prepare your tool — a #8 Phillips head screwdriver is necessary.
- 2 Ensure that the device is disconnected from power and any other cables.
- 3 Turn the device face down, exposing the rear of the device.

- 4 Using the Phillips head screwdriver, remove each of the eight screws. Four of the screws (screw numbers 3, 4, 5, and 6) are covered by the rear cable cover. You must remove the cable cover to access these screws.

Screw #4 is covered by a tamper-evident security label. Push the screwdriver through this label to access the screw.

Figure: 20 P400 Bottom



- 5 Once all the identified screws have been removed, carefully separate the top housing plastics from the bottom 1mm, then pinch the top and bottom housing back together ensuring proper fit.
- 6 Reinsert all of the screws previously removed. Tighten each screw completely.
- 7 Insert the power cable and power up the device.
- 8 Turn the device face up showing the display and keypad. Verify that the unit is in an "Active Tamper." You should see the *TAMPER* message displayed on the screen.

6. Accessories and Cables

Verifone provides a range of accessories and documentation for the P400. When placing orders, it is essential to reference the specific part numbers. Here are the available channels for ordering: Verifone online store:

- Verifone - <https://www.verifone.com/en/us/contact-us>
- USA - Verifone Customer Development Center, 1-800-837-4366
Monday - Friday, 7 A.M. - 8 P.M., Eastern time
- International - Contact your Verifone representative

Cables

CBL282-038-02-B	USB Cable 3 m
CBL282-045-XX-B	USB cable (as Device). Powered from +9 V/1 A DC adaptor
CBL282-038-XX-B	USB cable (as Device). Powered from +5 V USB Host.
CBL282-033-01-B	Powered USB cable (as Device). Powered from +12 V PUSB Host
CBL282-031-XX-A	RS-232 cable (DB9). Powered from +12 V DC adaptor.
CBL282-036-XX-A	RS-232 cable (RJ45). Powered from Countertop (+12 V).
CBL282-006-01-B	Cable, VX 820 Ethernet/RS232, Dongle 1.0 m
CBL435-002-01-A	USB cable 2.65 m, connect to P400 to MOD10 port of V200c.
CBL435-005-02-A	P400/P200 Ethernet and Mini-USB Dongle
CBL435-044-01-C	P400/P200 USB/Ethernet/RS232, Dongle Cable 1.0 m

Power Supply

PWR435-001-01-A	DC power pack (US)
PWR435-001-02-B	DC power pack (UK)
PWR435-001-03-A	DC power pack (EU)
PWR435-001-05-A	DC power pack (Brazil)
PWR435-001-06-A	DC power pack (Australia)
PWR435-001-07-A	DC power pack (South Africa)

Privacy Shield	PPL435-007-01-A	Standard privacy shield
	PPL435-013-01-A	Half-height privacy shield
Mounting Plate	PPL435-009-01-A	Optional mounting plate
Stylus Pen	PPL435-010-01-A	
Stylus Holder	CBL000-045-01-A	CABLE, USB-A/B PLUG 1M
Cleaning Kit	02746-01	Verifone Cleaning Kit

7. Troubleshooting Guidelines

This chapter compiles common instances of malfunctions that may arise during the operation of your device, along with the corresponding steps to address them. The troubleshooting guidelines outlined in the subsequent sections are incorporated to facilitate the effective installation and configuration of the device. Should you encounter challenges in operating your unit, please refer to these troubleshooting examples. If the issue persists despite following the provided guidelines or if the problem is not covered, kindly reach out to your local Verifone representative for further assistance.



NOTE

The device is equipped with tamper-evident labels and does not contain any user-serviceable parts. It is crucial not to attempt to disassemble the unit under any circumstances. Only perform adjustments or repairs explicitly outlined in this guide. For any other services, please contact your local Verifone service provider. Utilizing services from unauthorized parties may potentially void any existing warranty.



CAUTION

All units require the use of a power supply. Only use a Verifone-supplied power pack. Using an incorrectly rated power supply may damage the unit or cause it to malfunction. Ensure that the power supply used to power the unit matches the specified requirements on the back of the unit (refer to [Specifications](#) for detailed power supply specifications) before troubleshooting. If not, obtain the appropriately rated power supply before continuing with troubleshooting.

Toutes les unités nécessitent l'utilisation d'une alimentation. Utilisez uniquement un bloc d'alimentation fourni par Verifone. L'utilisation d'une alimentation mal calibrée peut endommager l'appareil ou l'empêcher de fonctionner correctement. Assurez-vous que l'alimentation électrique utilisée pour alimenter l'unité correspond aux exigences spécifiées à l'arrière de l'unité (voir [Spécifications](#) pour les spécifications détaillées de l'alimentation électrique) avant le dépannage. Dans le cas contraire, 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.

Blank Display

When the device display is blank:

- If the device display appears dark, tap the screen using the 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.

Keypad Does Not Respond

If the keypad does not respond properly:

- Examine the device display. If it displays the wrong character or nothing at all when you press a key, follow the steps outlined in [Device Does not Start/Does not Display Correct Readable Information](#).
- Refer to the user documentation for that application if using a function key does not produce the anticipated outcome, to ensure accurate data entry.
- If the issue persists reach out to your local Verifone representative.

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 (see [Magnetic Stripe Card Reader Use](#)).
- 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 (see [Smart Card Reader](#)).
- 3 Ensure the MSAM cards are appropriately inserted into the designated slots and are securely in place (refer to [MSAM/uSD Cards](#)).
- 4 If the issue persists, get in touch with your local Verifone representative.

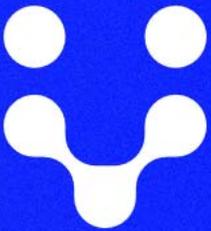
Checking CTLS Reader **To check the CTLS reader:**

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.

Verifone
2744N University Drive
Coral Springs,
FL 33065, USA



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.

As commerce experts, we are here for you and your business. With our payment devices, our systems & solutions and our support. Everywhere. Anytime. So that your customers feel enabled, recognized and well taken care of, even beyond their expectations.

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