# ViVOpay™ VP6800 User Manual

**Rev. A**

**Part Number 80159500-001**

ID TECH

10721 Walker Street

Cypress, CA 90630

(714) 761-6368

www.idtechproducts.com

support@idtechproducts.com

**Warranty Disclaimer**

The services and hardware are provided "as is" and "as-available" and the use of the services and hardware are at its own risk. ID TECH does not make, and hereby disclaims, any and all other express or implied warranties, including, but not limited to, warranties of merchantability, fitness for a particular purpose, title, and any warranties arising from a course of dealing, usage, or trade practice. ID TECH does not warrant that the services or hardware will be uninterrupted, error-free, or completely secure.

**This device complies with Part 15 of FCC Rules:**

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

## Cautions and Warnings

| | |
|---|---|
|  | **Caution:** Danger of Explosion if battery is incorrectly charged. Use standard USB 5V power source for USB operation. Use approved power source for RS-232 operation. Device contains a lithium battery. Approved temperature range for storage: -20℃ to +60℃. Disposal: Contact your local recycling center. |
|  | **Warning:** Avoid close proximity to radio transmitters, which may reduce the capabilities of the reader. |

# Table of Contents

# 1. Overview

The all-new ViVOpay VP6800 by ID TECH is a state-of-the-art, 3-in-1 PCI PTS 5.x certified unattended payment device that can accept magstripe, chip card (EMV), and/or NFC/contactless payments. The unit features a 4.3-inch high-luminosity color touchscreen display, capable of supporting PIN-on-glass transactions, and can also display video advertisements when it is not being used for menu displays or customer interactions.

The VP6800 accepts all of today's most popular payment methods, including those based on digital wallet technology, including Apple Pay, Android Pay, and Samsung Pay, along with support for loyalty technologies such as Apple Pay VAS and Google SmartTap. The VP6800 is suitable for payment solutions involving:

- Transportation
- Vending
- Parking
- Quick Service Restaurant
- POS Kiosks

**Integration Options**

A feature-rich Universal SDK is available to aid rapid development of external (non-device-resident) payment applications that talk to VP6800. The Universal SDK is available for the C# language on Windows and comes with sample code for demo apps. To obtain the SDK and other useful utilities, demos, and downloads for VP6800, be sure to check the Downloads link on the ID TECH public Knowledge Base at https://atlassian.idtechproducts.com/confluence/display/KB/Knowledge+Base+-+Home (no registration required).

**Encryption**

The ViVOpay VP6800 supports industry-standard Triple DES or AES encryption technology, with DUKPT-based key management (per ANSI X.9-24). Encryption can be configured to occur with a PIN variant key, or Data variant, as desired. ID TECH operates a certified Key Injection Facility, capable of injecting your unit(s) with any required keys. Remove Key Injection (RKI) is also available. Consult your ID TECH representative to learn about all available options involving key injection.

As a PCI-validated SRED device, the ViVOpay VP6800 conducts periodic self-checks and incorporates tamper detection features which, if triggered, cause automatic zeroization of sensitive data and keys. Because of its SRED features, VP6800 is fully capable of being incorporated into a P2PE certified solution.

# 2. Features

- 4.3 inch color digital display (480 x 272 pixels)
- Supports PIN on glass
- Concealed contactless antenna

- PCI PTS 5.x certified with SRED validation
- Connectivity interface – RS-232, USB 2.0 via micro-USB, Ethernet 10/100M, and optional WiFi/BLE
- RS-232 port for external peripherals
- 3.5mm audio jack
- Optional camera or 2D scanner
- Supports EVA standard external mounting
- Support for contactless loyalty kernels (Apple VAS, Google SmartTap 2.1)
- Contactless payments (Apple Pay, Android Pay, Samsung Pay)
- Supports latest certifications from the brands (Visa, Mastercard, Discover, American Express, CUP, Interac, JCB)
- Environmental certifications (RoHS, REACH, RED)
- Encryption support (TDES, AES, DUKPT)
- Remote Key Injection Support (PCI validated)
- Firmware upgradeable in the field

## 3. Specifications

| **Hardware** | |
|---|---|
| MTBF | |
| Transmitter Frequency | 13.56 MHz +/- 0.01% |
| Transmitter Modulation | ISO 14443-2 Type A, Type B<br>ISO 18092 Peer-to-Peer |
| Typical Read Range | 0 to 4 cm |
| Memory | Main: 8MB flash<br>iMXRT1052 (video): 32MB SDRM, 128MB NAND flash<br>2 SAM slots, microSD |
| **Physical** | |
| Length | 140 mm |
| Width | 95 mm |
| Depth | 52.1 mm |
| **Environmental** | |
| **Antenna** | |
| Operating Temperature | -25° C to 70° C (-13° F to 158° F), max change of 10° C per hour |
| Storage Temperature | -40° C to 80° C (-40° F to 176° F) |
| Operating Humidity | up to 95% non-condensing |
| Storage Humidity | 10% to 90% non-condensing, duration 3 months |
| Operating Environment | Water resistant for indoor and outdoor use |

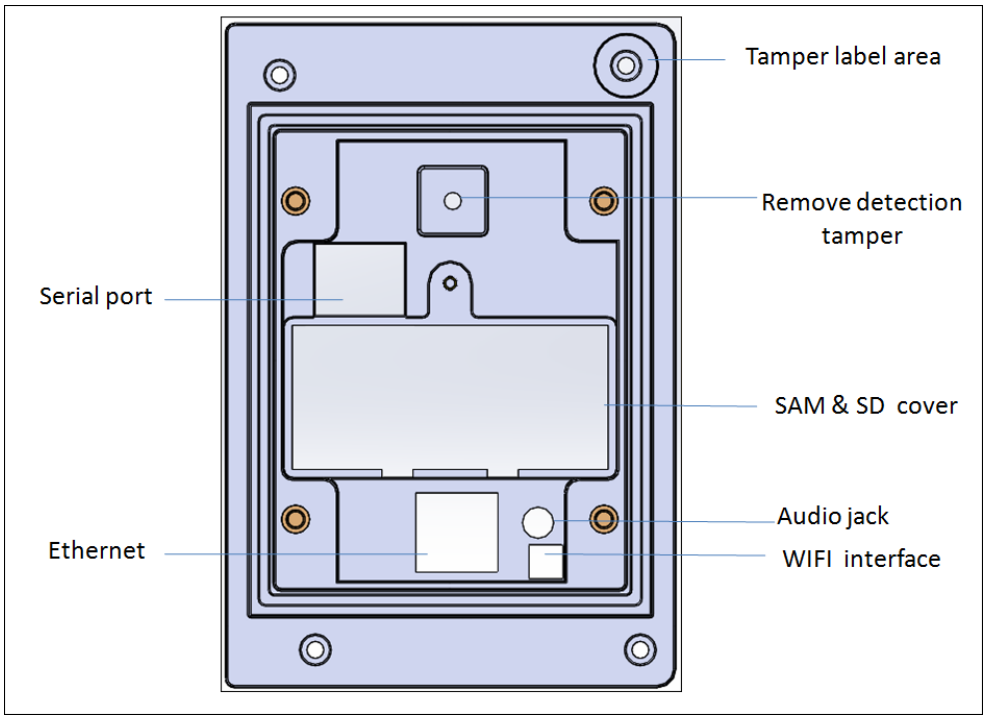
| | |
|---|---|
| IK Rating | IK 08 |
| IP Rating | IP 65 |
| **Electrical** | |
| Input Power | +5VDC 1A, 3.5W (RS-232 requires external power supply) |
| **Screen** | |
| Dimensions, pixels | 480 (height) x 272 (width) |
| Luminance/brightness | 600 cd/$m^2$ |
| Touch Interface Type | Capacitive |
| Brightness | 1000 nits (max) |
| Video | 60 fps (motion JPEG) |

# 4. Agency Approvals and Compliances

- CE (EN55022/EN55024, Class- B)
- FCC (Part 15, Class-B)
- RoHS (DIRECTIVE 2011/65/EU)
- UL
- REACH
- EMV Contact L1 & L2
- EMV Contactless L1
- EMV Contactless L2:
    - Amex
    - Discover
    - MasterCard
    - Visa

# 5. Communications

The ViVOpay VP6800 can communicate with a host via serial (RS-232), USB, or Ethernet connections. Refer to the diagram below to see the layout of various ports.

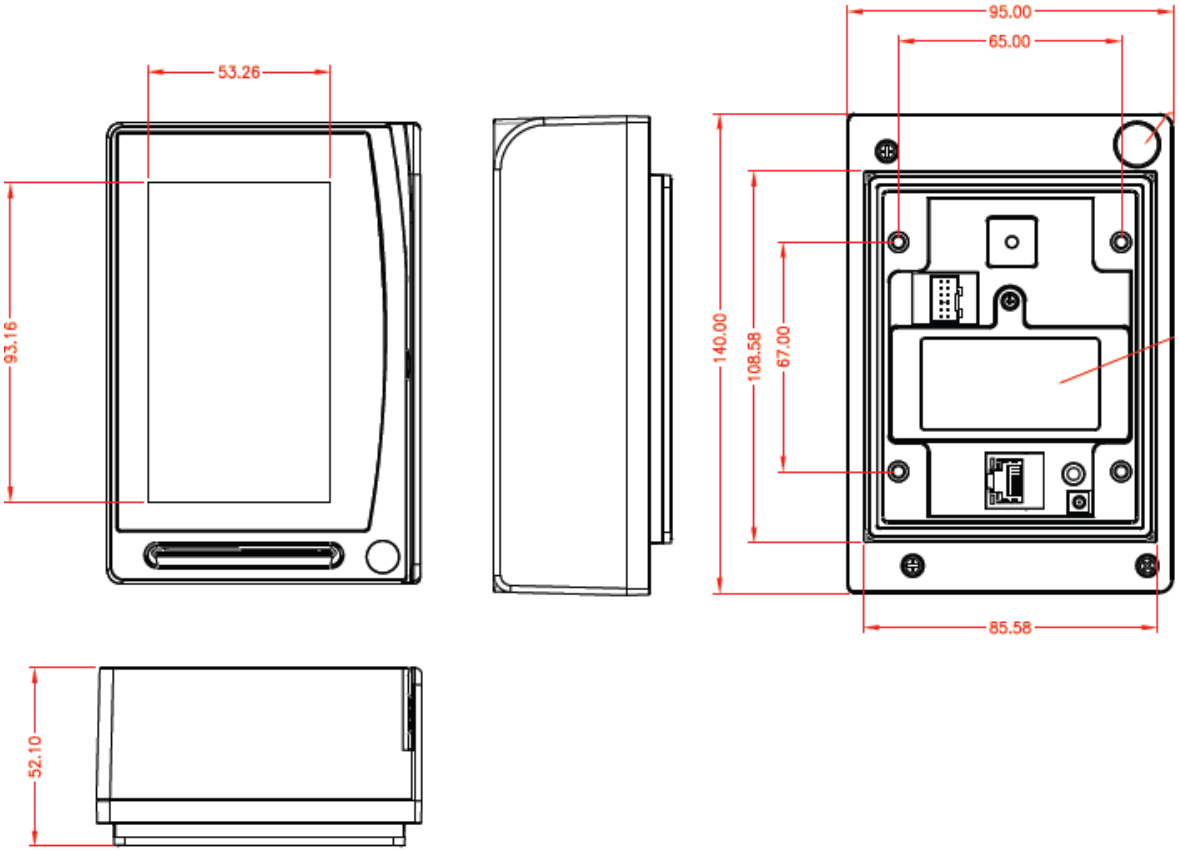



## 6. Basic Operation

When power is supplied, the VP6800 will boot automatically and illuminate within about 5 seconds. Use cable P/N 80159217-001. Plug the 12-pin Molex connector into the back of the VP6800, and supply 5VDC 1.44A power (via cannon connector at the powered DB9 connection) using an AC0005R-3 (R00111700108) or equivalent power supply. Optionally also connect a standard Ethernet cable between the RJ45 ports on the back of the VP6800 and the network port of the host system.

## 7. Installation

Mount the unit according to the drawings shown, with M3 studs spaced 65 mm apart horizontally and 67 mm vertically.




## 8. Troubleshooting

Consult the ID TECH Knowledge Base at https://atlassian.idtechproducts.com/confluence/display/KB/Knowledge+Base+-+Home.

## 9. Firmware Reference

The ViVOpay VP6800 uses ID TECH's NEO II firmware. For a comprehensive guide to the device's firmware-level commands, ask your ID TECH representative for the *NEO II Serial Interface Developer's Guide* (or IDG). It is available at no charge to customers on request.

## 10. Software Development Support

To facilitate integration of the VP6800 into vending, POS, and other environments, ID TECH makes available a Universal SDK that enables the rapid development of software apps for VP6800 using C# on Windows or C++ on Linux. To obtain the Universal SDK, go to the ID TECH Knowledge Base at https://atlassian.idtechproducts.com/confluence/display/KB/Knowledge+Base+-+Home and choose the VP6800 from the Product page listings. Further information will be available there.

The Universal SDK contains redistributable libraries, sample code, and other materials that will aid you in quickly creating VP6800 applications, greatly reducing the time spent in configuring the device, parsing transaction data, etc.

## FCC Regulations

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 connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Radio Frequency (RF) Energy

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled enviroment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter and must be installed to provide a separation distance of at least 20cm from all persons.

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