MAGTEK®
SECURITY FROM THE INSIDE

DynaFlex Family of Products

Three-way Secure Card Reader Authenticators
Installation and Operation Manual

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Table 0-1 - Revisions

Rev Number	Date	Notes
10	Oct 9, 2020	Initial release
11	Mar 9, 2021	**2.1** add metal clearance recommendation; **3.2**, **6.6.1**, **6.6.3** clarity improvements about devices with rechargeable battery; **6.4** clarify information is only for models with touchscreen display; **6.9.9** add information about devices without touchscreen; **Appendix A** update certifications and specifications list, weights, clarify display information is for select models; Misc. clarifications and corrections.
12	May 21, 2021	Front matter, add declarations of conformity for kiosk models; **1** add kiosk models to list of available devices; **1.8** add major components diagram for kiosk models and clarify a cradle is not available for kiosk models; **3.1** and **4.1**, add inspection guide for kiosk models; **4.3.2** add kiosk model cable routing; **4.4.3** add mounting guide for kiosk models; **Appendix A** add specifications for kiosk models and Japan certifications; Misc. clarifications and corrections.
20	Aug 9, 2021	**6.5** add information about volume control; Populate section **6.9.6** with new manual card entry feature; **6.4.1**, **6.9.1**, **6.9.2**, **6.9.3**, **6.9.4**, **6.9.6**, add information about cardholder input event-driven operations; Misc. clarifications and corrections.
30	Jan 31, 2022	Update cover page images; Update RoHS Statement; Add Software License Agreement; Throughout, replace pictures to show new face design; Throughout, replace 802.11 wireless with wireless LAN / WLAN; **1** minor updates throughout; **1.7** new dedicated section for available models and accessories, add barcode reader models; **3.2** update shipping battery charge level; **4.4.3** clarify possible orientations; **6.9.4** update appearance of device face; Add **6.9.5**; Populate **6.9.7**; **Appendix A** add Splash Resistance, update tested operating systems, add barcode reader; Update keypad spec in **Appendix A**; Add screenshots to **6.9.6**; Add section **6.9.8** for PIN Entry Misc. clarifications and corrections
40	July 5, 2022	**6.9.6** update keypad function key from "**Clear**" to "**Backsp**" **6.4.1, 6.4.2, 6.4.3, 6.4.4** add information for WLAN device, update **Table 1-2 - DynaFlex Accessories** with updated microsuction feet part numbers, **Appendix A** to change PCI certifications from 5.1 to 5.x; Update **6.6.9About Maintenance Reset;** Update section **2.1 Logistical Planning** with current metal interface guidance.

Rev Number	Date	Notes
50	Aug 08, 2023	Update **Table 6-4 – Status Icon Meaning** to Change WebSocket connection UI from "C" to icons, **Updated Figure 6-3** and **Figure 6-4** with updated screenshots. Updated **Table 6-4 – Status Icon Meaning**, Added WLAN Status Error Code tables to **Connection Status Page**

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1 Introduction

DynaFlex products are ready to launch your payment environment to the next level. All DynaFlex products offer an integrated secure card reader authenticator for magnetic stripe cards, EMV chip cards (contact and contactless), and NFC enabled mobile wallets including Samsung Pay, Google Pay, and Apple Pay. The DynaFlex family includes an array of options including angled bottoms (standard countertop models), touchscreens (Pro models), barcode readers (BCR models), and flat mounting backs (Kiosk models). **DynaFlex products** deliver a smart solution for merchants and financial institutions that need the most flexibility, in the smallest form-factor, at a great price.

DynaFlex product features include:

- Multiple Payment Methods. Secure card reader authenticator for:
    - Magstripe cards
    - EMV chip cards
    - EMV contactless cards
    - NFC capable devices
    - 1D/2D barcodes (optional)
- Security
    - MagneSafe Security Architecture
    - Triple DEA encryption/DUKPT key management
    - MagnePrint card authentication
    - Device/host authentication
    - PCI secure reading and exchange of data (SRED)
    - Ready for PCI-P2PE Solutions

1.1 Stable and Secure Performance

DynaFlex countertop devices come with micro suction fitted feet, assuring the cardholder a stable swipe, insert, or tap experience. DynaFlex kiosk devices come with 4 mounting positions for secure attachment. The three reading locations are all visible to the cardholder on the face of the device; this intuitive positioning of the slots ensures that "bugs," skimmers, or shimmers cannot be hidden easily inside the device.

1.2 Compatible with Multiple Operating Systems

DynaFlex products are compatible with Android and Windows operating systems. Select models offer USB, USB and Bluetooth LE connections, USB and WLAN, or USB and Ethernet connections.

1.3 The Power of Flexibility

DynaFlex devices are ready for countertop, mounted, or handheld solutions. Ready for traditional brick-and-mortar points of sale, mounted to a touchscreen, or brought to the table with wireless models. DynaFlex Pro, with touchscreen, can present your logo, custom messaging, and on-screen instructions for insert, tap, or swipe operations. DynaFlex BCR reads 1D and 2D barcodes for faster transactions and QR Code acceptance. DynaFlex products are made from molded rubberized black plastic and matching black lens on the face. Custom colors and silk-screened logos are available with minimum orders.

1.4 MagneSafe Security Architecture

DynaFlex devices adhere to MagTek's MagneSafe Security Architecture. This is based on dynamic encryption, authentication, and tokenization which protects cardholder data from the moment of swipe, insert, or tap. DynaFlex devices are PCI-SRED compliant, making them ideal for P2PE solutions.

1.5 Magensa Services

Couple DynaFlex products with Magensa Services to make your certification cycle easier and remove unencrypted data from your environment. A service representative will work with you to determine if Magensa Decrypt, Magensa Decrypt and Forward, or the Magensa Payment Protection Gateway is best for you.

As always, MagTek's developer tools, including our royalty free software developer kits with APIs, are readily available on our web site. For faster development, use MagneFlex Prism, a suite of interface developer tools that reduce the points of development, for browser and middleware software applications. Instead of using SDKs, APIs, and applets to build an interface to the hardware device, another to interface to the POS application, and another to the gateway, build the interface to MagneFlex. MagneFlex then drives the hardware, interfaces with the POS app, and issues the commands to pack, parse, and send the data out for processing.

1.6 About Terminology

In this document, DynaFlex products are referred to as the **device** or inclusively as **DynaFlex products**. They are designed to be connected to a **host**, which is a piece of general-purpose electronic equipment which sends commands and data to, and receive data from, the device. Host types include PC and Mac computers/laptops, tablets, and smartphones. Generally, the host must have **software** installed that communicates with the device and is capable of processing transactions. During a transaction, the host and its software interact with the **operator**, such as a customer service representative, while the device interacts with the **cardholder** (even if the cardholder is using a virtual representation of the card account, such as a smartphone).

1.7 Available Models and Accessories

Table 1-1 - Available Models and Options

Part No.	Description	Display	Connection(s)
21078007	DYNAFLEX, PCI, NO DISPLAY, BLACK, USB	None	USB-C
21078008	DYNAFLEX, PCI, NO DISPLAY, BLACK, BLUETOOTH LE	None	USB-C Bluetooth LE
21078009	DYNAFLEX PRO, PCI, TOUCHSCREEN DISPLAY, BLACK, USB	Touchscreen	USB-C
21078010	DYNAFLEX PRO, PCI, TOUCHSCREEN DISPLAY, BLACK, BLUETOOTH LE	Touchscreen	USB-C Bluetooth LE
21078011	DYNAFLEX PRO, PCI, TOUCHSCREEN DISPLAY, BLACK, WLAN	Touchscreen	USB-C Wireless LAN
21078012	DYNAFLEX PRO, PCI, TOUCHSCREEN DISPLAY, BLACK, ETHERNET	Touchscreen	USB-C Ethernet
21078021	DYNAFLEX PRO KIOSK, PCI, TOUCHSCREEN DISPLAY, BLACK, USB	Touchscreen	USB-C
21078022	DYNAFLEX KIOSK, PCI, NO DISPLAY, BLACK, USB	None	USB-C
21078023	DYNAFLEX KIOSK, PCI, NO DISPLAY, BLACK, BLUETOOTH LE	None	USB-C Bluetooth LE
21078024	DYNAFLEX PRO KIOSK, PCI, TOUCHSCREEN DISPLAY, BLACK, BLUETOOTH LE	Touchscreen	USB-C Bluetooth LE
21078025	DYNAFLEX PRO KIOSK, PCI, TOUCHSCREEN DISPLAY, BLACK, WLAN	Touchscreen	USB-C Wireless LAN
21078031	DYNAFLEX, PCI, NO DISPLAY, BCR, BLACK, USB	None	USB-C
21078032	DYNAFLEX PRO, PCI, TOUCHSCREEN DISPLAY, BCR, BLACK, 802.11 WIRELESS	Touchscreen	USB-C Wireless LAN
21078033	DYNAFLEX PRO, PCI, TOUCHSCREEN DISPLAY, BCR, BLACK, USB	Touchscreen	USB-C
21078034	DYNAFLEX PRO KIOSK, PCI, TOUCHSCREEN DISPLAY, BCR, BLACK, USB	Touchscreen	USB-C
All models are black by default and have countertop, handheld, and custom mounting options.			

Table 1-2 - DynaFlex Accessories

Part #	Description	Accessory Notes
1000006016	CABLE, USB A - C, 6FT, DYNAFLEX	Included with DynaFlex products
1000006017	CABLE, USB C - C, 6FT, DYNAFLEX	Optional, specify in order
21078006	CHARGING CRADLE, DYNAFLEX	Optional, specify in order
96700004	CLEANING CARD, DOUBLE SIDED	Optional, specify in order
1000008559	FOOT, BACK, SIDE A, MICROSUCTION, DYNAFLEX	Optional, specify 1 ea. for complete replacement
1000008560	FOOT, BACK, SIDE B, MICROSUCTION, DYNALFEX	Optional, specify 1 ea. for complete replacement
1000008561	FOOT, FRONT, MICROSUCTION, DYNAFLEX	Optional, specify 1 ea. for complete replacement

1.8 About DynaFlex Components

Figure 1-1 details the major components of DynaFlex Pro. The lanyard mount point is not visible in the figure. **Figure 1-2** shows the major components of DynaFlex Pro Kiosk. Major components of models without touchscreen are identical to the diagrams, except the touchscreen and its bezel are replaced with a faceplate showing the contactless indicator logo placed at the optimal contactless landing zone. Major components of models without barcode reader are identical to the diagrams, except the edge that incorporates the barcode reader is a single straight line and there is no QR code marking on the face.

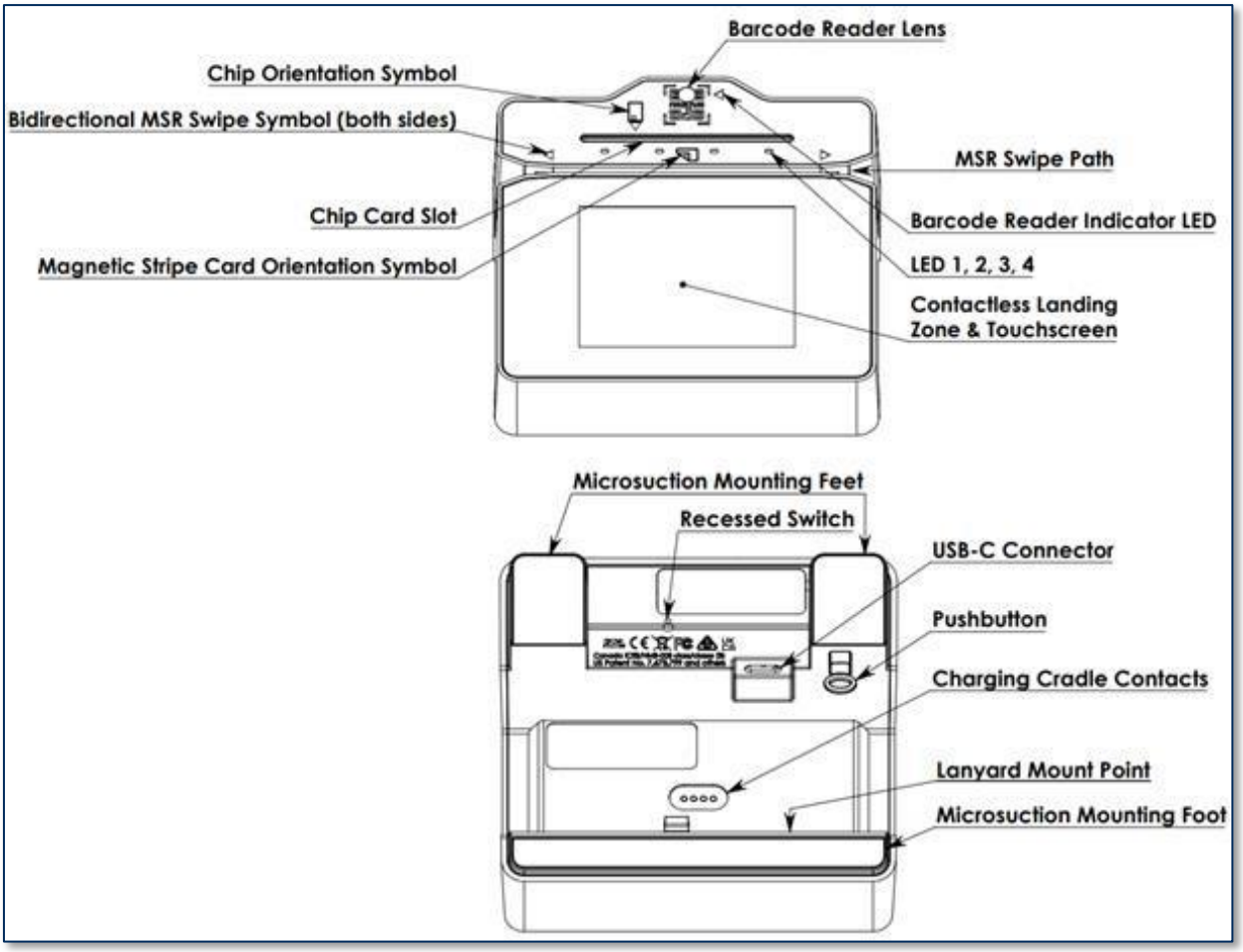


Figure 1-1 - DynaFlex Pro BCR Major Components

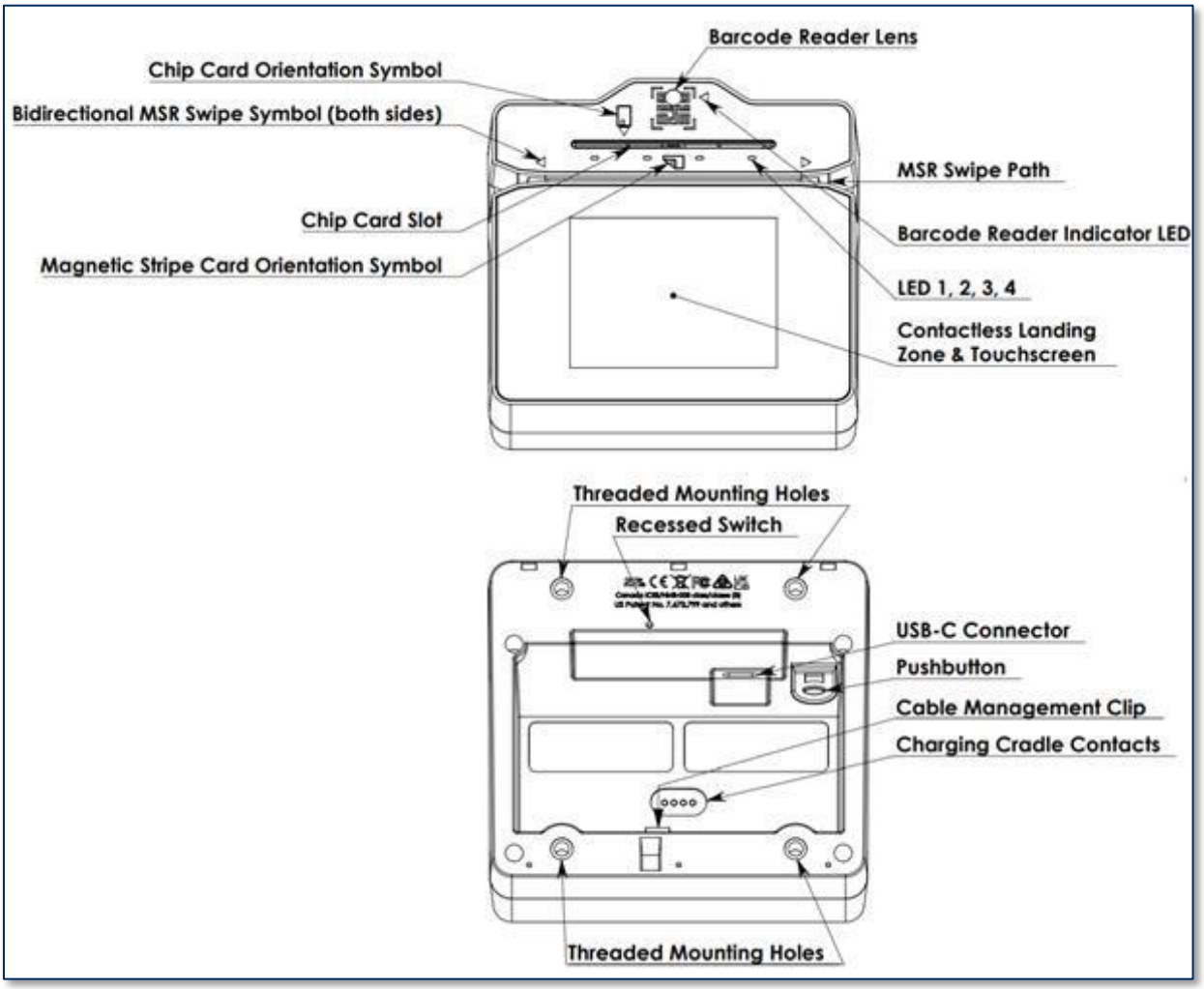


Figure 1-2 - DynaFlex Pro Kiosk BCR Major Components

Figure 1-3 shows the major components of the optional charging cradle. The drain holes provide drainage of liquid spills from the top surface of the cradle out through the bottom. The nesting feature allows mechanical joining of any number of charging cradles into a unified charging bank. Note, the charging cradle is only compatible with non-kiosk models of the device.

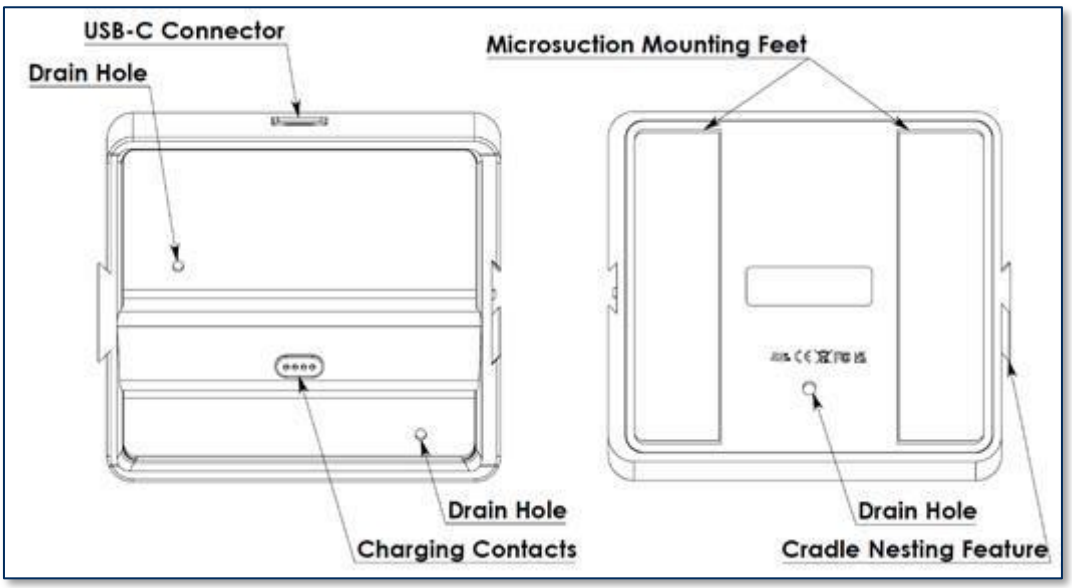


Figure 1-3 - Charging Cradle Major Components

2 Planning and Preparation

The guidelines in the following sections are intended to help project planners and system administrators plan for the physical and network requirements of deploying and using DynaFlex products. The most effective way to ensure smooth deployment of a solution is to consider these factors before receiving the device.

2.1 Logistical Planning

- Determine what type of **host DynaFlex products** will connect to. For a list of supported host types and operating systems, see **Table 1-1** on page **10**. When planning, be sure to include any additional support or devices required by the host and **DynaFlex products**, such as physical locations, mounting, power connections, and charging cradles.
- Determine what **connection** the host will use to communicate with the device. Depending on the device model (see **Table 1-1** on page **10**), the connection can be USB, Bluetooth LE, or a TCP/IP network that is equipped with wireless LAN or Ethernet. If the host will use the Bluetooth LE connection, make sure the host's hardware and operating system support **Bluetooth LE Secure Connections**, which were introduced in the ***Bluetooth Core Specification version 4.2***.
- Determine what **software** will be installed on the host and how it will be configured. Software can include operating system, transaction processing software, security software, and so on. If teams other than the software development team will be involved in preliminary device testing, MagTek recommends the solution development team provide a smoke test harness early in the development process to allow basic testing (for example, wireless range testing). In addition, be sure to plan for any additional support required by the software, such as software licenses and network connections. Information about software is provided in section **4.2 About Host Software**.
- Configure the host software to select which combinations of magnetic stripe swipe, EMV contact card insertion, contactless payment tap, and/or manual entry the host will direct the device to accept (see section **6.9 Using the Readers**). This decision may differ based on location, situation, and other factors, or may be uniform across all transactions and devices and hosts you are deploying.
- Determine how the device will be physically **presented** to the cardholder. If the device is mounted, make sure there is adequate clearance for cardholders to swipe, insert, and tap. If the solution design includes metal objects anywhere near the device, including metal enclosures, make sure that at all points the metal is no further forward than 15mm below the face of the device. Proximity to metal can adversely affect the device's performance.
- Determine how the device should be **configured** and specify that configuration when ordering the device. A full list of configurable options is documented in ***D998200383 DynaFlex Products Programmer's Manual (COMMANDS)***. For example:
    - For solutions that should accept AAMVA format cards, specify AMMVA format should be enabled. For ISO/ABA only solutions, specify it should be disabled.
    - For solutions accepting ISO/ABA format cards, specify ISO track masking rules (masking character, number of leading and trailing unmasked characters, MOD-10 correction).
- Select and configure a secure workstation advanced operators will use to configure and/or update the device. The workstation must be configured as follows:
    - Available USB port.
    - A secure means of obtaining files, either via the network (such as SFTP) or via removable media, such as USB flash drives. This is required for installing software tools, copying firmware files, and so on. If you are using Magensa Services, make sure the secure workstation has an internet connection and has all required Magensa Remote Services software components installed.

  - ***1000007406 DynaFlex, DynaProx Test Utility*** installed, which advanced operators can use to configure and test the device.
  - ***1000007405 DynaFlex, DynaProx Firmware Upload Utility*** installed, which advanced operators can use to update the device's firmware.
- Determine the final set of tools advanced operators will use to configure, test, and update the device. This documentation uses the ***1000007406 DynaFlex, DynaProx Test Utility*** as an example for configuring the device; it can be used for initial pre-deployment testing and development, and as sample code showing how to communicate with the device, but the full solution may call for customized, solution-specific software for configuring the device and updating firmware.
- Determine the **charging schedule(s) and location(s)**. For example, high-traffic mission-critical solutions may benefit from keeping multiple devices charging for fast swap-out. Charging cradles and accessories are available directly from MagTek. Make sure there is an adequate number of USB wall chargers and / or USB ports available for the number of devices you are charging together, and make sure the electrical socket-outlet at a given charging location supports the total load. Solutions using large numbers of devices may benefit from using a large-scale universal USB charger / hub. Details about charging are provided in section **6.6 Power Management**. Details about maximum power consumption are provided in **Appendix A Technical Specifications**.
- Determine how to **inspect** devices upon arrival, upon installation, and periodically during live usage to ensure malicious individuals have not tampered with them. Details about inspection are provided in section **4.1 About Inspection**.
- Develop procedures for maintaining the device(s). Detailed guidance is provided in section **7 Maintenance.**
- Review the device's PCI **Security Policy**, posted to the PCI web site www.pcisecuritystandards.org under **Approved PIN Transaction Security (PTS) Devices**, for additional information about using the device securely.

2.2 Network Planning

Reserved

3 Handling and Storage

⚠ CAUTION

Proper handling of the device throughout delivery, assembly, shipping, installation, usage, and maintenance is very important. Not following the guidelines in this document could damage the device, render it inoperable, and/or violate the conditions of the warranty.

3.1 Handling to Avoid Damage

Upon receiving the device, inspect it to make sure it originated from an authentic source and has not been tampered with. For details, see ***D998200359 DynaFlex, (Contactless Pad, Pro, BCR) Device Inspection*** and ***D998200460 DynaFlex Kiosk, (Contactless Pad, Pro, BCR), Device Inspection***, available from MagTek.

From device delivery through assembly, shipping, installation, usage, and maintenance, the device must not be exposed to conditions outside the ratings in **Appendix A Technical Specifications**.

If the device is exposed to cold temperatures, adjust it to warmer temperatures gradually to avoid condensation, which can interfere with the operation of the device or cause permanent damage.

Do not drop or shake the device.

For information about ongoing maintenance of the device, such as cleaning, see section **7 Maintenance.**

3.2 Handling to Avoid Accidental Tamper

DynaFlex products implement active tamper detection, which uses a small amount of electricity even when the device is completely powered off. The device primarily powers its active tamper detection circuitry using its rechargeable battery, if available. Devices with a rechargeable battery ship with the battery charged to between 45% and 65%, which provides a shelf life of up to 4 years. However, if the rechargeable battery completely discharges or the device does not contain a rechargeable battery, the device continues to power its active tamper detection circuitry using its non-rechargeable backup battery, which provides an additional 5 years of backup shelf life across the entire life of the device but does not recharge. If the rechargeable battery (if installed) and the backup battery are both allowed to completely discharge, the device's tamper detection engages and locks down the device, and it must be returned to the manufacturer to reset.

To avoid accidental tamper events and to optimally condition the battery, follow these precautions:

- Temperature is the most critical factor in extending battery life and preserving battery charge. Store the device at the lowest reasonable temperatures within its specified storage temperature range (see **Appendix A Technical Specifications**). Storing below 77°F / 25°C is optimal.
- If the device has a rechargeable battery and will be put directly into service, fully charge the device immediately upon receipt to extend its shelf life (see section **6.6.3 How to Charge the Battery**).
- Before storing the device, charge the battery to less than 100% (60% is optimal).
- Before storing the device, power it off completely. See section **6.6.4 How to Power On / Wake Up from Standby Mode / Power Off**.
- When stored, charge the device for one hour every 6 months to keep the battery chemistry in optimal condition and to ensure it does not completely discharge.
- Do not drop or shake the device.

4 Installation

Installing DynaFlex products is straightforward: The manufacturer or acquirer configures the preferred settings, keys, terminal, and payment brand settings before deployment; end users need only set up a host with appropriate software, configure the software, and connect the device to the host. This section provides general information about inspecting, connecting, and installing **DynaFlex products**.

4.1 About Inspection

Before unpacking the device, it is important to inspect its secure packaging to make sure it has not been tampered with in storage or in transit. MagTek provides details for inspecting the integrity of the device's secure packaging in ***D998200361 DynaFlex Family (Contactless Pad, Pro, BCR, Kiosk, Kiosk Pro), Package Inspection***.

It is important to regularly and thoroughly inspect a new device before deployment and a device in live usage (including its immediate surroundings), to make sure malicious individuals have not tampered with it or its surroundings. MagTek recommends conducting inspection training for all device operators and an inspection schedule with checkpoints in place to make sure operators are performing inspections as specified and as scheduled. MagTek provides easy-to-follow device inspection references in ***D998200359 DynaFlex, (Contactless Pad, Pro, BCR), Device Inspection*** and ***D998200460 DynaFlex Kiosk, (Contactless Pad, Pro, BCR), Device Inspection***.

4.2 About Host Software

In any solution, **DynaFlex products** are connected to a host, which must have software installed that knows how to communicate with the device, and which is capable of processing transactions. To set up the host to work with **DynaFlex products**, follow the installation and configuration instructions provided by the vendor of the host or the host software. For information about developing custom host software, see section **8 Developing Custom Software**.

4.3 Connecting to a Host

4.3.1 About Connecting to a Host

The following sections provide steps for connecting **DynaFlex products** to a host via the various available physical connection types.

4.3.2 How to Connect DynaFlex Products to a Host or Charger via USB

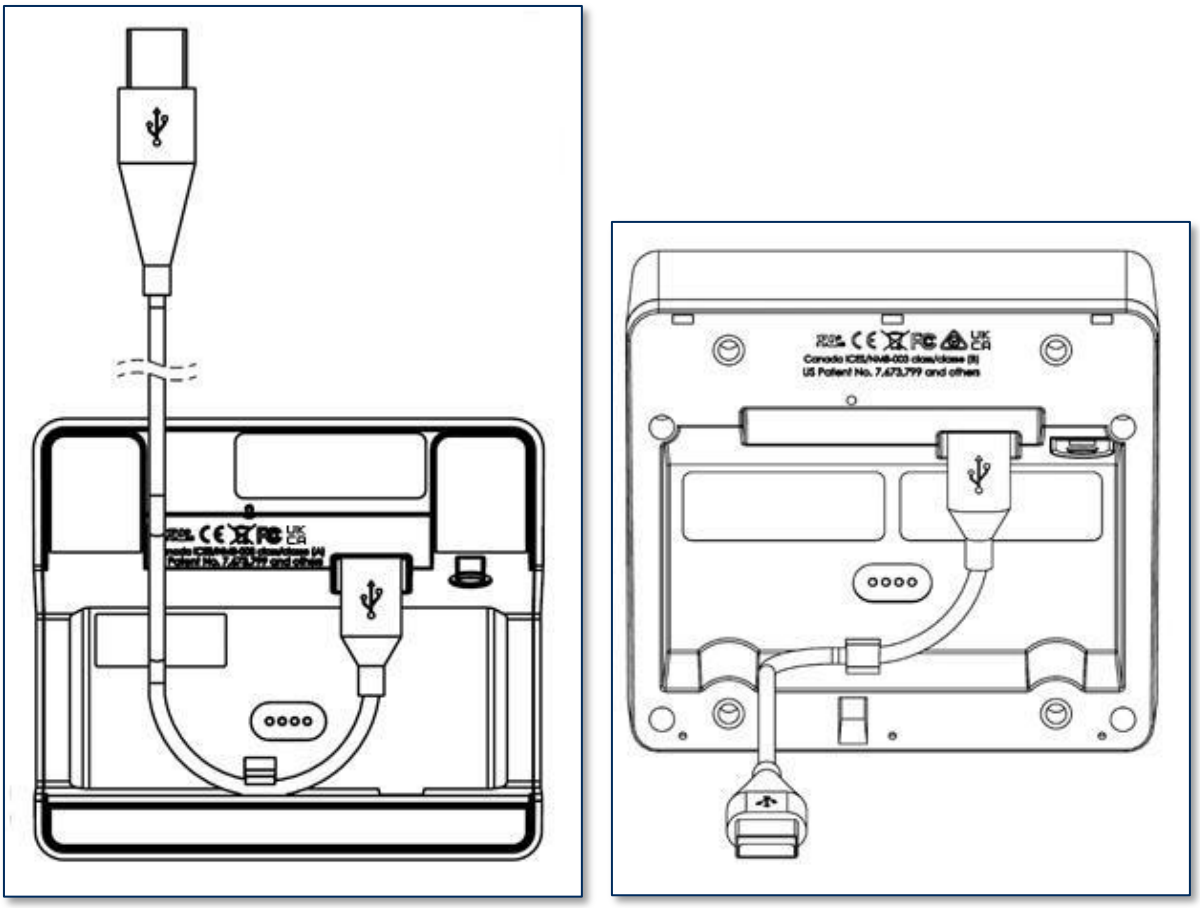
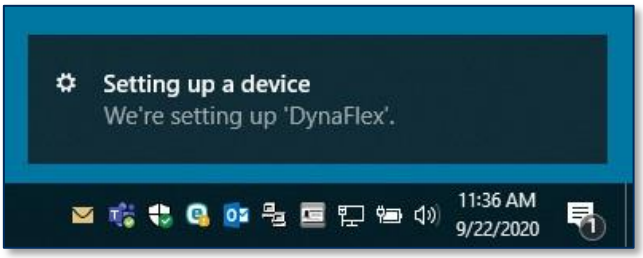


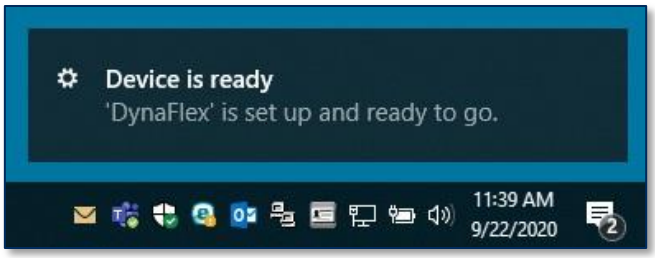
Figure 4-1 - Connecting to a USB Host or USB Charger. Left: Countertop Models. Right: Kiosk Models

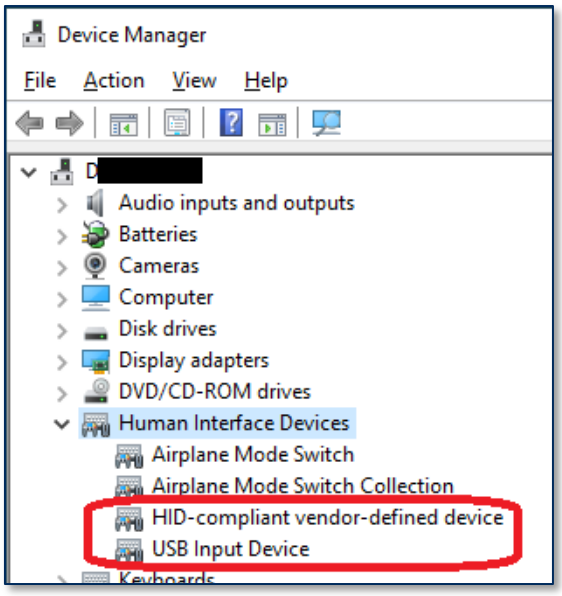
To connect **DynaFlex products** to a USB host or charger using the USB-C port, follow these steps (for reference see **Figure 4-1** and section **1.8 About DynaFlex** Components):

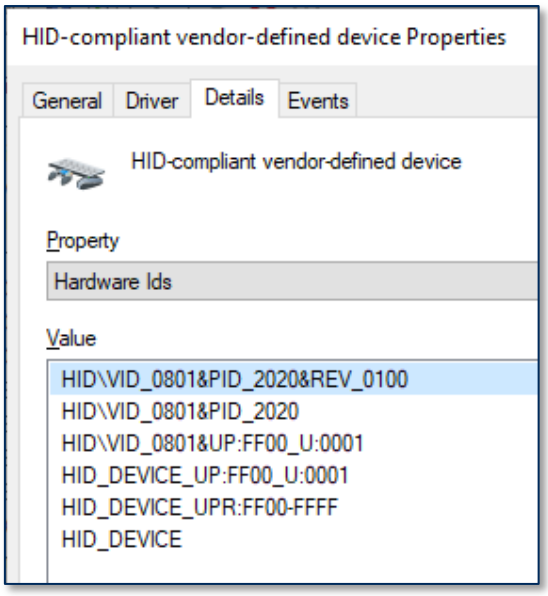
1) For best results, use the cable that is included with the device or another cable from **Table 1-2 - DynaFlex Accessories** on page **11**. These cables are designed specifically for DynaFlex products and include ferrite shielding at both ends of the cable to reduce emissions and interference. If the solution design requires an alternate cable, contact MagTek for assistance with ferrite selection and placement, and with connector overmold design.
2) Connect the USB-C end of the cable to DynaFlex or DynaFlex Pro.
3) If you plan to route the cable out the back of the device, route the cable through the cable management clip to change its direction. Even if you are not routing out the back, you may use the cable clip for strain relief, to help stabilize the mechanical connection when cardholders or operators move the device or the cable.

4) Route the cable in the desired direction (e.g., out the back, left, right, down into the countertop, or into the mounting compartment of a kiosk).
5) Connect the other end of the USB cable to the charger or to the host's USB port.
6) As soon as the device starts receiving power through USB, it automatically powers on.
7) If the specific device serial number you are connecting has not been connected to the host before, the device shows **Welcome** on the display, and the Windows system tray on the host reports it is **Setting up a device**. When installation is complete (approximately 30 seconds later depending on the host), Windows reports **Device is ready**, and the device shows in Windows Device Manager under **Human Interface Devices** as two devices: **HID-compliant vendor-defined device** with VID **0801** and PID **2020**, and **USB Input Device**.









8) After successfully connecting to the host operating system via USB, the device shows **Welcome** or a customized graphic on the display.
9) The operating system may put the device into **USB Suspend** mode. See section **6.6.8 About USB Suspend**.

4.3.3 How to Connect DynaFlex Products to a Host via Wireless LAN

Reserved

4.3.4 How to Connect DynaFlex Products to a Host via the Bluetooth LE Connection

Reserved

4.4 Mounting

4.4.1 About Mounting

DynaFlex products are designed to provide flexible mounting options:

- The integrated slip-resistant micro suction feet can simply be pressed onto any non-porous surface.
- The integrated lanyard mount point can be used to hang or carry the device for convenient storage and handling in grab-and-go solution designs.
- Non-kiosk models of the device can be housed in the optional charging cradle and optionally combined with the lanyard mount point, for quick grab-and-go and convenient drop-in charging between handheld sessions.
- **DynaFlex** products can be mounted to custom mounting brackets or mounted in an enclosure as part of a larger solution design.

4.4.2 How to Mount DynaFlex

To mount **DynaFlex products** to a non-porous surface using the micro suction feet, simply press the device onto a clean, smooth, flat surface. Avoid rough, dirty, or uneven surfaces. To uninstall, simply twist the device to disengage the mounting feet.

To use the optional charging cradle instead, see section **4.4.4 How to Mount the Charging Cradle**.

If your solution design involves custom mounting brackets, contact your MagTek representative to request design advice and assistance from MagTek's Engineering team.

4.4.3 How to Mount DynaFlex Kiosk Models

⚠ CAUTION

This document describes how to use DynaFlex Kiosk models securely. Using the device in any way other than the approved methods described in this document invalidates the PCI PTS approval of the device.

Not following the guidelines in this section could damage the device, render it inoperable, and/or violate the conditions of the warranty.

This section provides information and guidelines for designing the mechanical aspects of a solution that incorporates DynaFlex Kiosk models. MagTek strongly recommends vetting and testing solution designs before finalizing and deploying them to make sure the design meets all requirements (e.g., functional, legal, security, certification, safety, and so on).

When designing the mechanical portions of a solution that incorporates DynaFlex Kiosk models, consider the following:

- Review section **1.8 About DynaFlex Components** for an overall introduction to the device's physical features and what they are called.
- Review **Appendix A Technical Specifications**.
- Review the information below about overall device dimensions and mounting hole locations and use.
- Determine device orientation. The device supports all four orientations.
- Review any additional requirements from other agencies, such as PCI and EMV solution certification requirements, safety ordinances, and so on, which may introduce additional constraints to the design.

Overall dimensions of the device are shown in **Figure 4-3**. On request, MagTek can provide a 3D model of the device's envelope to assist with the mechanical portion of solution design. MagTek strongly recommends building and testing prototypes with actual devices before finalizing the solution design.

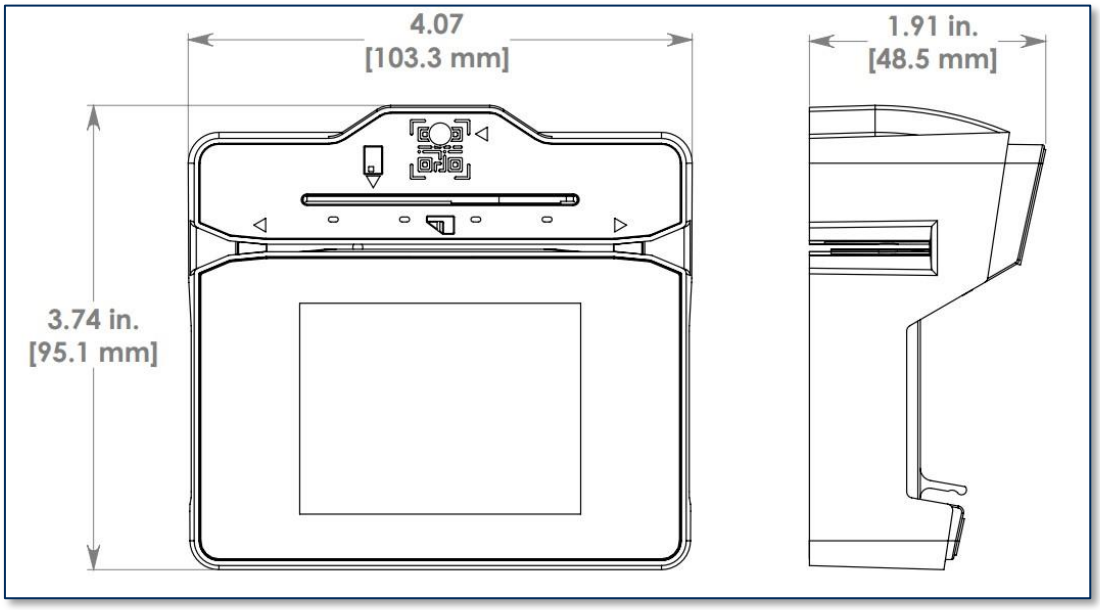


Figure 4-2 - DynaFlex Kiosk Models Overall Dimensions

The screw hole placement on the bottom of DynaFlex Kiosk models is detailed in **Figure 4-3**. The holes are designed to accommodate screw size **M4 x 0.7mm** and a maximum screw depth of 0.315 inches (8mm). The recommended torque range for installing the screws is 20 to 22 in-lbs. (2.3 to 2.5 N-m).

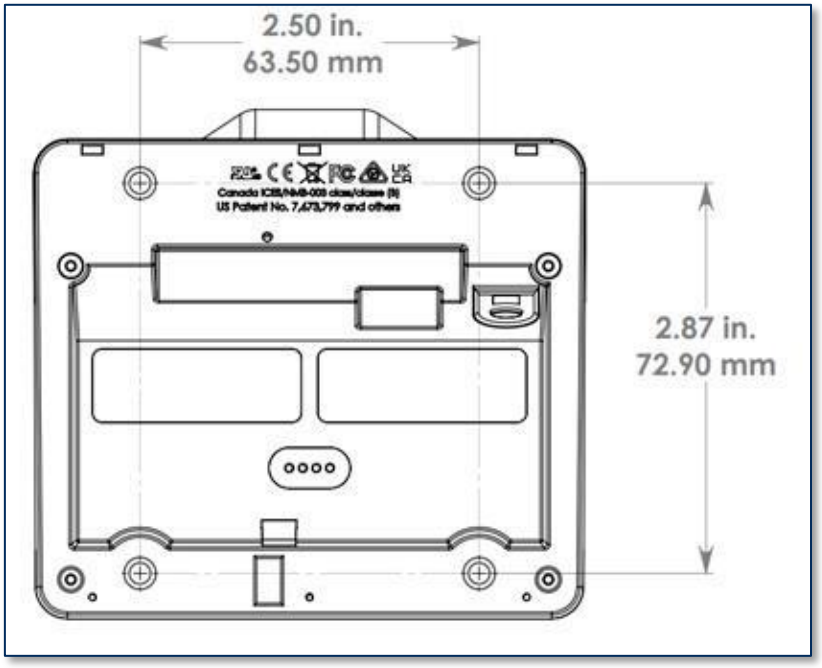


Figure 4-3 - DynaFlex Kiosk Models Mounting Hole Locations

When designing the enclosure or mounting bracket, make sure there is adequate clearance for cardholders to swipe, insert, and tap. If the solution design includes metal objects anywhere near the device, including metal enclosures, ensure that at all points the metal is no further forward than 15mm below the top face of the device. Proximity to metal can adversely affect the device's performance.

As a security measure, the device must be installed such that cardholders have a full, unobstructed view of the housing around the card insertion slot opening ("entry zone") and MSR swipe path prior to insertion or swipe. This is to allow cardholders to easily detect suspicious objects in or around the swipe path and card slot entry, such as bugs / skimmers / tapping mechanisms, and their wires or antennas. Be sure to select an installation height and mounting angle that meet this requirement.

4.4.4 How to Mount the Charging Cradle

To mount the optional charging cradle to a countertop, follow these steps:

1) Determine how many charging cradles you will be installing. Any number of charging cradles can be mechanically attached to form a single unified charging bank, using the tongue-and-groove joining features on their sides (see **Figure 4-4**).
2) Make sure you have a cable and corresponding USB receptacle for each charging cradle you are installing. For best results, use the cable that is included with the device; it includes shielding at both ends to reduce interference.
3) Determine where the charging cradle(s) should be placed.
   a) If you will use the charging cradle's microsuction feet for mounting, make sure you are mounting on a clean, smooth, flat surface. Avoid rough, dirty, or uneven surfaces.
   b) Factors to consider include cable length, cardholder and operator ergonomics, and access for cleaning, maintenance, and repair.
   c) If the charging cradle will be used for charging in handheld operations, unobstructed removal is also a consideration.
4) Connect each charging cradle to a USB port or to a USB charger with a minimum of 1A current capability. For best results, use the cable that is included with the device. It includes shielding at both ends of the cable to reduce interference.
5) Join the charging cradles together into a charging bank, if desired.
6) Press the charging cradle's microsuction feet onto the mounting surface.
7) To uninstall, twist the cradle to disengage the mounting feet. To separate two cradles, hold one cradle down and pull gently up on the other.

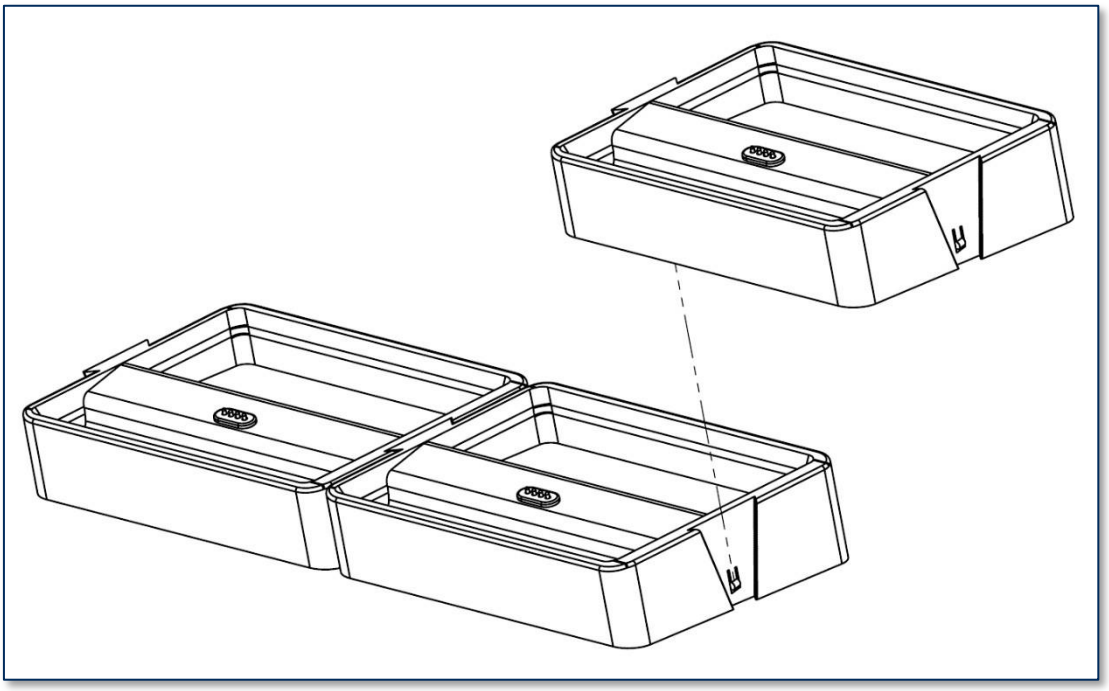


Figure 4-4 - Joining Charging Cradles Into a Charging Bank

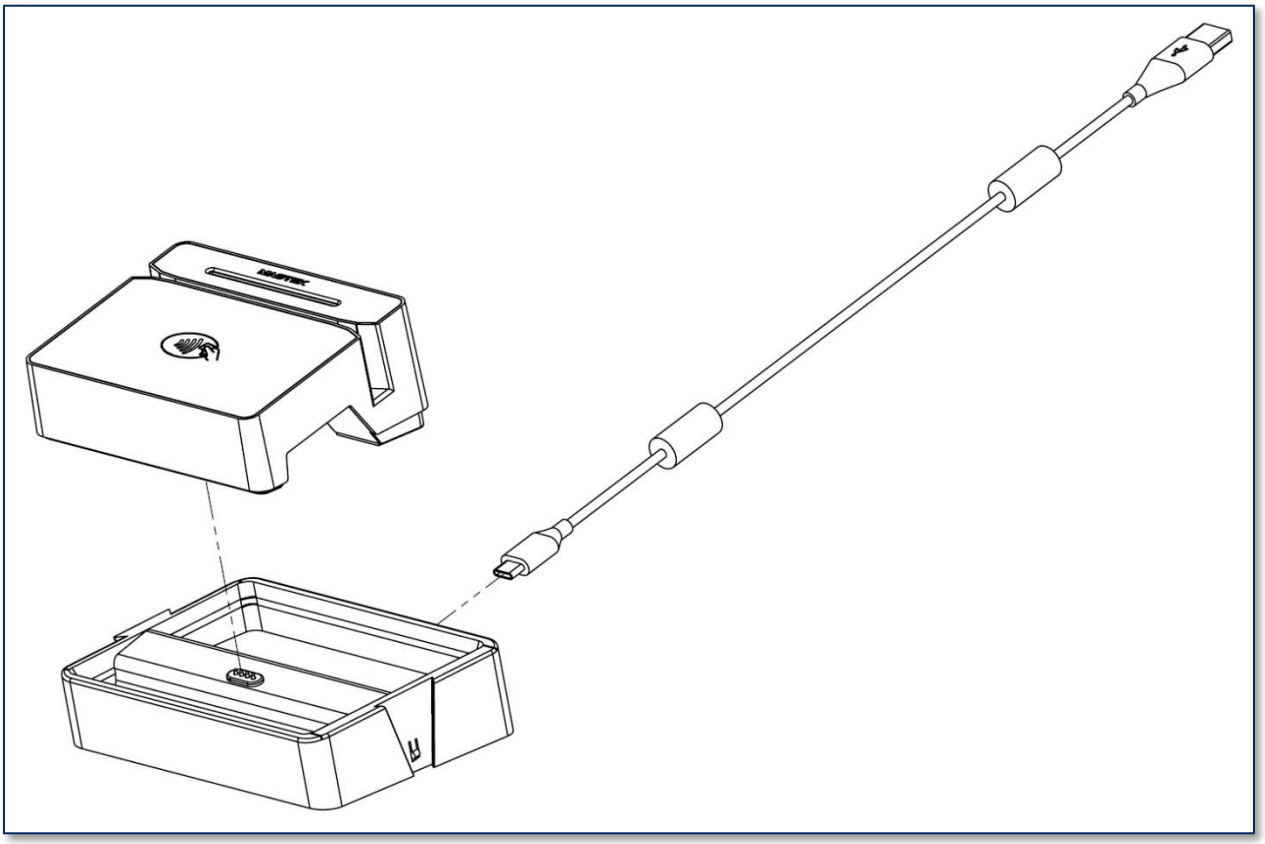


Figure 4-5 - Connecting the Charging Cradle and the Device

5 Configuration

The device does not have an on-screen configuration interface. However, it does have settings the host can change using commands. These settings are documented as **Properties** in ***D998200383 DYNAFLEX PRODUCTS PROGRAMMER'S MANUAL (COMMANDS)***. Additional commands and settings can be activated using Magensa Web Services. Contact support@magtek.com for further details.

5.1 How to Change the Active Connection

Reserved.

6 Operation

6.1 About Operating Modes

During operation, DynaFlex devices transition between distinct operating modes, which are important for operators to understand so they can properly control the device:

- **Powered Off Mode** is the shipping and storage mode of the device. Operators would not generally use this mode during a work shift or during off-shift recharging. It occurs when the operator holds the pushbutton for more than 8 seconds (or more than 12 seconds to force immediate power off without a proper shutdown sequence), or if the device's battery is critically low and the device is not connected to a USB power source. In this mode, the device consumes practically no power. To move the device from Powered Off Mode to Active Mode, press the pushbutton for one second with the battery charged, or connect the device to USB power. If the device is already connected to USB power when it enters Powered Off Mode, it automatically powers back on.
- **Reset Mode** is a transient mode where the device first transitions to Powered Off Mode, then automatically powers back on. It occurs when the operator presses the recessed switch, or the host sends the Reset Device command, or the device automatically performs a daily security reset.
- **USB Suspend Mode** occurs when the USB host that is providing power to the device sends a **USB Suspend** control event to the device to conserve power. The device responds by powering off nearly all its modules including the display and listening for the USB host to send a **USB Resume** control event. To move the device from USB Suspend Mode to Active Mode, the host software must open a USB connection to communicate with the device, which signals the operating system that the device is in active use and should be allowed to draw full power from the USB port. It is not necessary for the host software to send commands to the device at that time.
- **Active Mode** is the device's normal "awake" state when it is in use. In this mode, the touchscreen display and LEDs are powered on and the device is ready to receive commands from the host. This mode can be divided into substates like Active/Host Not Connected, Active/Host Connected, Active/Host Communicating, Active/Armed for Read, Active/Reading, and so on. These substates differ in the amount of power they consume and are mostly under the control of the host software. To move the device from Active Mode to Powered Off mode, press and hold the pushbutton for 8 seconds. If the device does not respond, continue holding the pushbutton for longer than 12 seconds to force immediate power off without a proper shutdown sequence. To move the device from Active Mode to Reset Mode, press the recessed switch.

6.2 Operation Overview

During normal operation, the operator initiates a transaction from the host, and the cardholder interacts with the device. Devices with a touchscreen display provide on-screen prompts and interactive features such as buttons and signature capture.

Transaction types may include sales, refunds, voids, authorization, new accounts, teller window applications, checking, savings, mortgages, retail transactions, or any other type of transaction where there is interaction between the cardholder and the operator. For each transaction type, the host software can direct the device to prompt the cardholder for any combination of magnetic stripe swipe, EMV contact card insertion, and/or contactless payment tap, and the transaction flow on the device may differ depending on what the host software specifies and what the cardholder does. Section **6.9 Using the Readers** provides examples of the cardholder experience for each type of payment. **Figure 6-1** shows a typical point of sale (POS) transaction sequence.

If the device cannot read payment data, the host software may direct it to prompt the cardholder to repeat the action or request the cardholder revert to a different form of payment (such as using the magnetic stripe reader as a fallback instead of the chip card insertion slot).

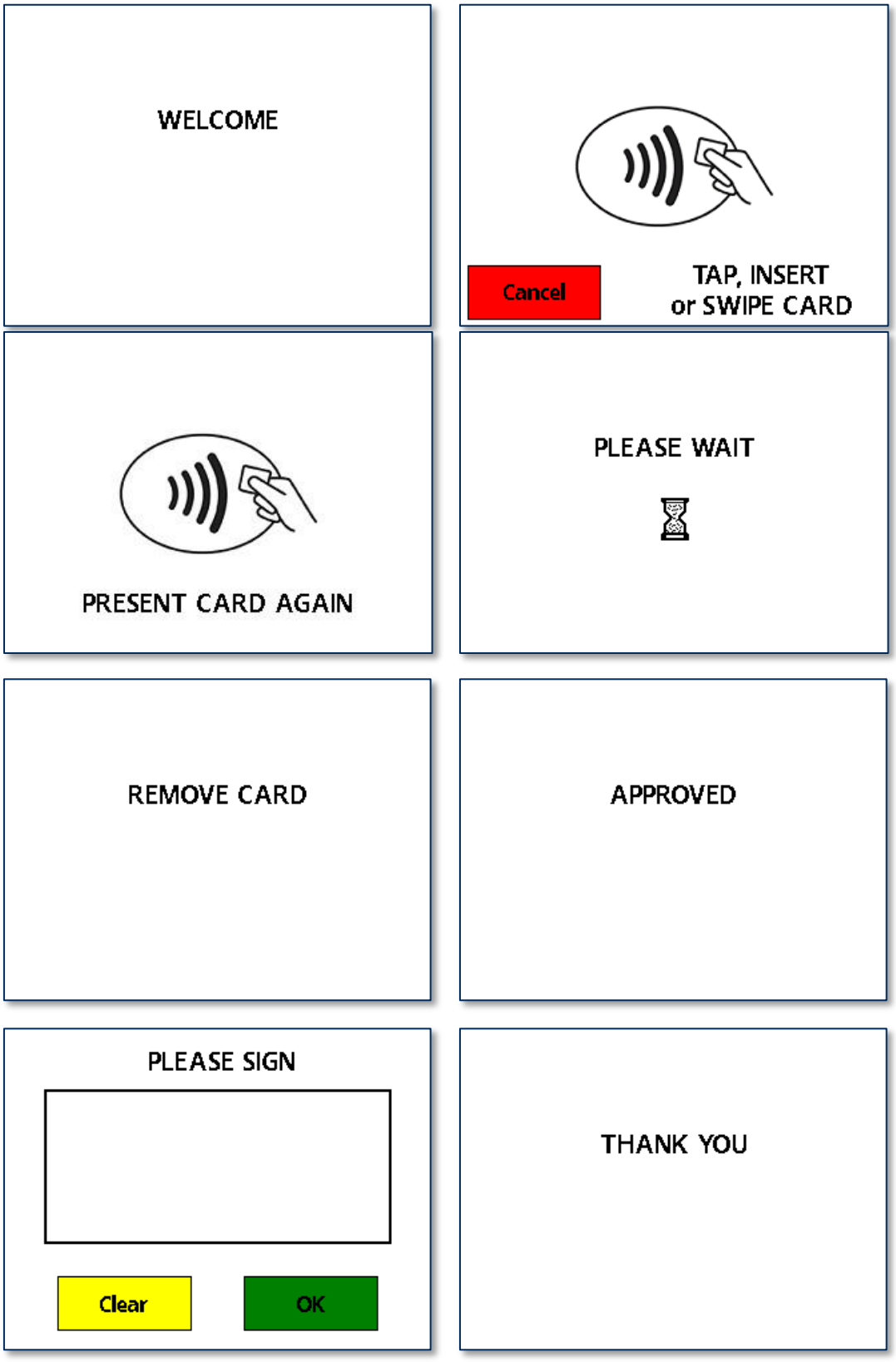


Figure 6-1 - Typical Transaction Sequence

6.3 About the Status LEDs

DynaFlex provides four RGB LEDs directly below the chip card insertion slot (see section **1.8 About DynaFlex** Components), numbered LED1 through LED4, which report the device's current operating status.

- The meaning of each LED depends on the device's operating mode. See section **6.1 About Operating Modes** and **Table 6-1 below**. Most of the time, operators will check the device's status using the LEDs when it is in **Active Mode** while the device is not performing a transaction.
- LED colors have specific meanings, as described in **Table 6-2**. They are based on international conventions for traffic light colors, with additional colors reserved for unusual / special cases.
- LED blinking patterns have specific meanings as well, as described in **Table 6-3**. A blinking LED generally means the device is actively doing something to change the state that the LED is indicating and solid indicates a persistent state that would require an operator or cardholder to take action to change. One major exception is a device-wide functional failure state, such as a tamper state, where all LEDs flash urgently to call the attention of an advanced operator to intervene.

In this manual, specific combinations of LED colors and blinking patterns are described in more detail in the sections where they are relevant and use the same icons in the tables below to indicate color and blinking patterns. For example, information about how the LEDs show the device's connection status is in section **4.3 Connecting to a Host**.

Table 6-1 - DynaFlex LED Allocation

In This Context	LED1	LED2	LED3	LED4
Active Mode, not armed for a tap transaction	Power	Connection	Reserved	Card Read Result
Active Mode, armed for a tap transaction	Armed for Tap	Tap Read Progress	Tap Read Progress	Card Read Result
Device-wide failure	During major failures (such as tamper), **LED1-LED4** report the nature of the failure based on the most likely steps required to resolve it.			

Table 6-2 - DynaFlex LED Colors

Color	Means
Red	Stop or stopped Example: LED1 is red. **Stop** using device: Battery is about to run out of charge.
Yellow	Wait or waiting Example: LED2 is yellow. **Waiting** for host to connect.
Green	Go, going, or went Example: LED2 is green. Host is connected, device is ready to **Go**.
Other Colors	Reserved

Table 6-3 - DynaFlex LED Patterns

Color	Means
Solid	**Solid** LEDs generally require an operator or cardholder to take action to change the state the LED is reporting. Example: Host is connected. Cardholder or host would have to disconnect. Example: Host is disconnected. Host would have to initiate connection.
Blinking	**Blinking** LEDs generally mean the device is in the process of doing / attempting something. Blink duty cycle and blink period are generally selected to show urgency or ongoing progress through a series of steps. Example: Device is attempting to connect to the WLAN access point.
Short time	LEDs sometimes light for a **short time** to indicate some process has ended (success or failure) and the device is going to transition to another state soon. Example: Successful card read.

6.4 About the Touchscreen Display

The contents of this section apply only to DynaFlex Pro models, which have a display. When using a DynaFlex model that does not have a display, the device reports ongoing status to the host, which must present any necessary prompts and status information to the operator and / or the cardholder.

6.4.1 Welcome Page / Active Idle Page

When the device is powered on, in Active mode, and idle (not performing a transaction or displaying host-driven user interface prompts), it displays **Welcome** or a custom graphic if it is configured to do so. If the host software is designed to receive and respond to cardholder input messages, pressing any area on the touchscreen when it is idle may trigger the host to perform an operation, such as starting a transaction. For more information about custom graphics, see ***D998200383 DynaFlex and DynaFlex Pro Programmer's Manual (COMMANDS)***.

WLAN enabled devices also report current status in a set of icons at the top of the **Welcome** screen. **Table 6-4 below** shows the icons and describes their meanings. For example, in **Figure 6-2**, the device is connected to a USB host and wireless access point, TLS is enabled, socket protocol is connected, the battery level is OK, the device is charging, and it is idle, waiting for the host to initiate a transaction.

Table 6-4 – Status Icon Meaning

Status Icon	Meaning
	Device's Active Connection is set to USB, and the device has successfully established a USB communication connection with the host.
	Solid indicates WLAN is not configured
	Blinking indicates error connecting to wireless access point. Refer to **Connection Status Page** Error Code for information on error.
	Blinking to indicate the device is connecting to a wireless access point
	Device's Active Connection is set to 802.11 wireless, and the device is connected to a wireless access point. The number of bars indicates the strength of the signal the device is receiving from the wireless access point (commonly known as RSSI).
	TLS security on the 802.11 wireless connection is Disabled (red open padlock) TLS security on the 802.11 wireless connection is Enabled (black closed padlock)
	Solid indicates TLS security on the 802.11 wireless connection is Enabled and connected.
	Blinking indicates error during TLS Handshake. Refer to **Connection Status Page** Error Code for information on error.
	Socket Protocol (WebSocket, MQTT) is active or connected
	Solid indicates Socket Protocol (WebSocket, MQTT) is inactive or disconnected
	Blinking indicates error connecting Socket Protocol (WebSocket, MQTT). Refer to **Connection Status Page** Error Code for information on error.
	Battery is fully charged.

Status Icon	Meaning
	Battery is OK, between 20% and 95% charged.
	Battery is low, between 10% and 20% charged.
	Battery is critically low, between 3% and 10% charged.
	Battery is empty, below 3% charged.
	Battery is charging.

Figure 6-2 - Welcome Page Examples

The device may display text other than "Welcome" when it is Active / idle under certain conditions:

- **OFFLINE / Tampered** indicates the device has detected an attempt to tamper with it (for example, physical tampering, out-of-spec temperature range, electrical attack). If this occurs, remove the device from service and set it aside in a secure location for possible forensic analysis, and contact the manufacturer or your reseller for support. This mode can only be reset in the manufacturing facility.
- **OFFLINE / Tamper not active** indicates the device's tamper detection system is not activated. The device is not configured properly. If this occurs, remove the device from service and contact the manufacturer or your reseller for support.
- **OFFLINE / Security not activated** indicates the device's data security features have not been activated. The device is not configured properly. If this occurs, remove the device from service and contact the manufacturer or your reseller for support.
- **OFFLINE / Security activated** indicates the device is ready to have keys injected. If this occurs, remove the device from service and contact the manufacturer or your reseller for support.
- **OFFLINE / HW missing** indicates the device can not detect one or more of its installed modules. This may indicate a mechanical or electrical failure. If this occurs, remove the device from service and contact the manufacturer or your reseller for support.
- **OFFLINE / Keys missing** incates the device is missing one of the encryption keys that are critical to its data security systems. The device needs to have keys properly injected. If this occurs, remove the device from service and contact the manufacturer or your reseller for support.
- **OFFLINE** without any clarifying text indicates the device is not ready for normal operation.

6.4.2 Device Information Page

While powering up, the display briefly shows a page of information about the device, including the installed firmware part numbers and versions and other identifying information. To determine a device's PCI certification status, compare the contents of this screen to the device's listing on www.pcisecuritystandards.org, ***Approved PTS Devices***. Note that in PCI listings, lowercase "x" is a wildcard meaning 'any single character.'

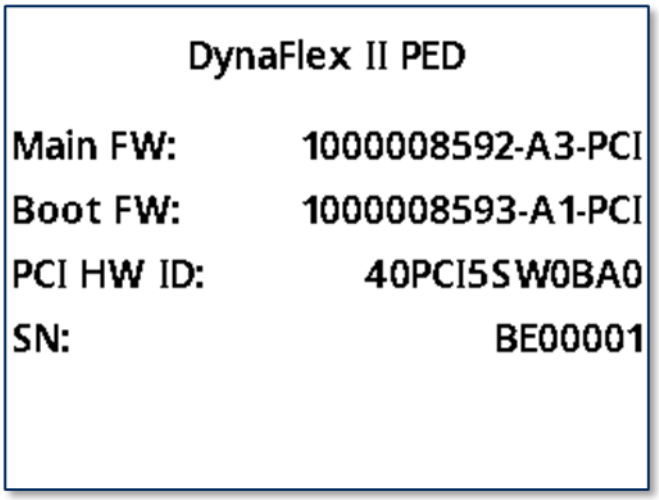


Figure 6-3 - Device Information Screen

To view details pertinent to the device's PCI certification status on WLAN enabled devices - including the installed firmware part numbers and versions as well as other identifying information (see **Figure 6-4**) - complete the following actions:

While on the **Welcome** screen, press the Pushbutton and hold for 3 beeps to access to **Settings** menu, then select **Firmware**, and **Main** to return to the **Welcome** screen, select **Back** and **Exit**

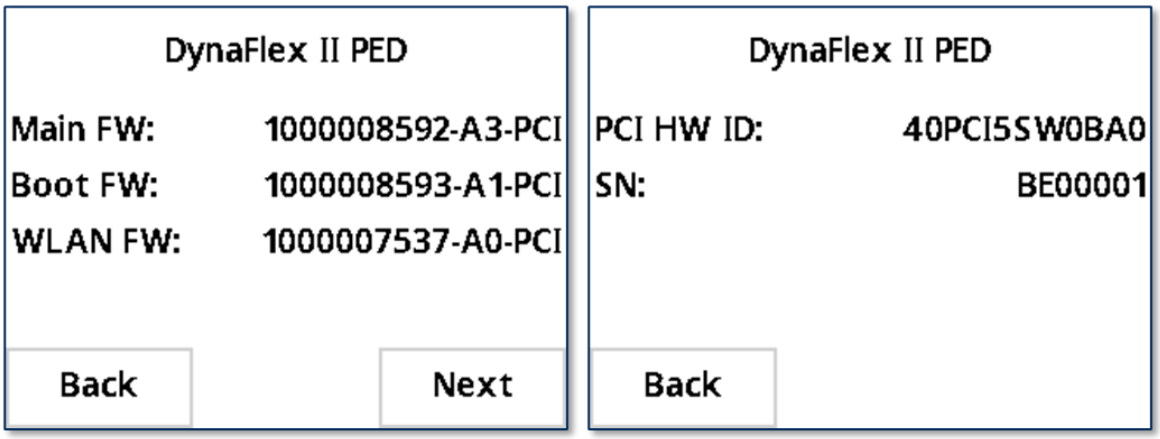


Figure 6-4 - Device Information Screen for WLAN device

6.4.3 Connection Status Page

In addition to the icons at the top of the display, WLAN enabled devices have a **WLAN Status** screen that reports more details about the device's 802.11 wireless (see **Figure 6-5**). To access it, while on the

Welcome screen, press the Pushbutton and hold for 3 beeps to get to the **Settings** menu, then select **Connection**, and **WLAN Settings**, and **WLAN Status**. To return to the **Welcome** screen, select **Back** and **Exit**

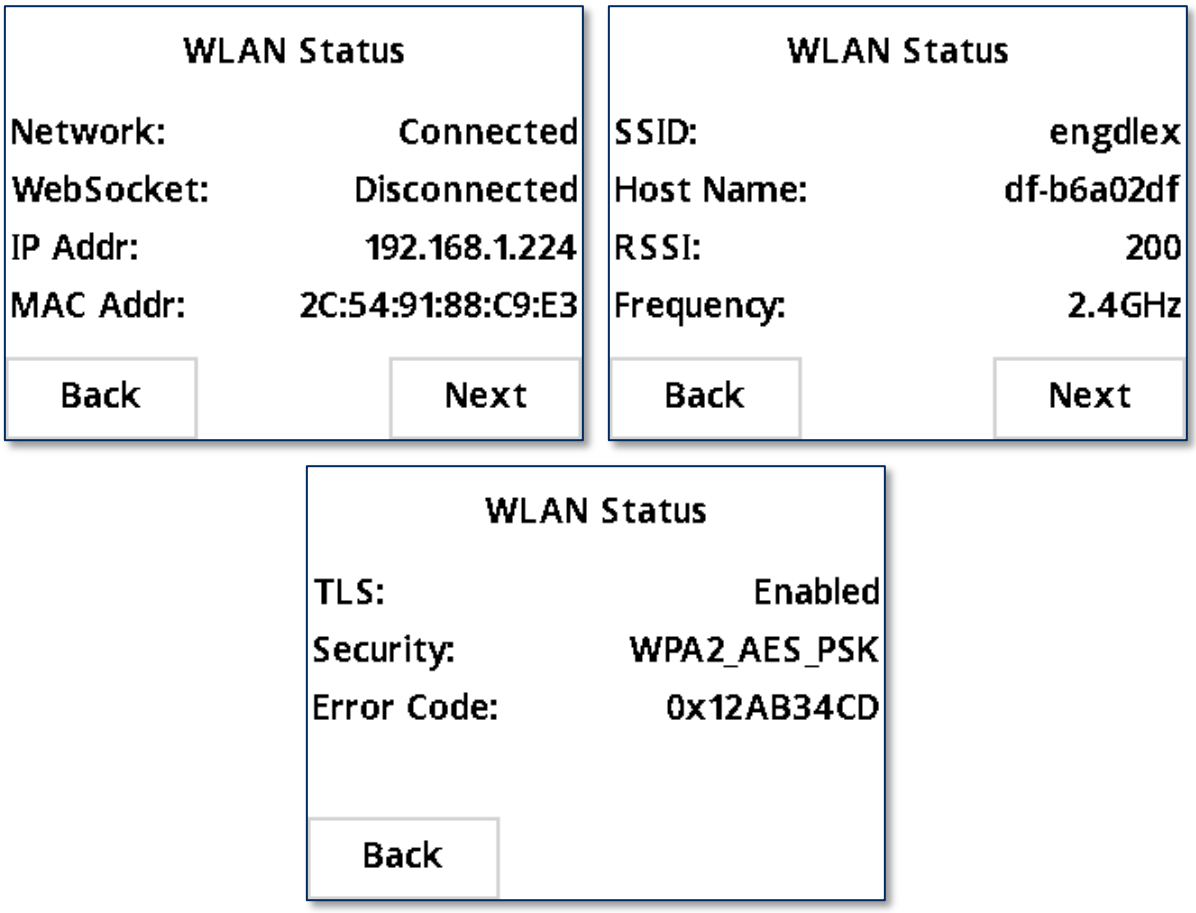


Figure 6-5 - WLAN Status Screen

WLAN Status Error Code:

MainApp Errors	WLAN Errors
WLAN MODULE 101	WLAN_SOCKET 201
ABORTED 102	WLAN_ABORTED 202
UNSUPPORTED 103	WLAN_UNSUPPORTED 203
INIT 104	WLAN_INIT 204
TIMEOUT 105	WLAN_TIMEOUT 205
DISCONNECT 106	WLAN_DISCONNECT 206
FW_HASH 107	FW_HASH 207

CONNECT_REQ 108

CN 109

SSID 110

PASSWORD 111

DHCP 112

STATIC_IP 113

HOSTNAME 114

HEARTBEAT 115

USERNAME 116

WIFI_SECURITY 117

WPA2PSK 118

TLS_ROOT 119

TLS_SUBCA 120

TLS_CERT 121

TLS_KEY 122

TLS_SECURITY 123

TLS_CHAIN 124

TLS_CHAIN 208

SSID_NOT_FOUND 209

WLAN_PASSWORD 210

WLAN_EAPOL_TIMEOUT 211

WLAN_JOIN 212

WLAN_OUT_OF_RANGE 213

WLAN_CONNECT 214

MQTT_CONFIGURE 215

MQTT_INIT 216

MQTT_ENDPOINT 217

MQTT_BROKER_NOT_FOUND 218

MQTT_CONNECT 219

MQTT_PUBLISH 220

MQTT_SUBSCRIBE 221

6.4.4 SoftAP Page

To configure WLAN enabled devices via SoftAP mode (see **Figure 6-6)** complete the following steps: While on the **Welcome** screen, press the Pushbutton and hold for 3 beeps to get to the **Settings** menu, then select **Connection**, select **WLAN Settings**, then **SoftAP Mode**. To return to the **Welcome** screen, select **Back** and **Exit**.

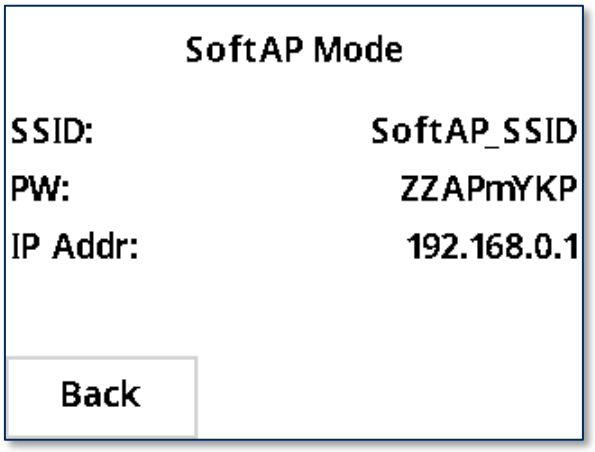


Figure 6-6 – SoftAP Mode screen

6.5 About Sounds

DynaFlex products have a beeper (audible signal) that provides feedback to operators and cardholders about the internal state of the device:

- The device sounds one short beep after it has successfully read a contactless tap, and the cardholder can safely remove the card or device from the contactless landing zone.
- The device emits short beeps continuously when a transaction is complete, but the card is still present in the insertion slot.
- The device emits two beeps when reading a card or contactless payment device to indicate a read error occurred.
- The device sounds two beeps when an operator cancels a pending EMV transaction.

The device provides an internal setting the host can use to adjust the global system volume. The device does not provide an interface to change the volume setting directly via buttons or the touchscreen. If the device is too quiet or too loud:

- Make sure the device is ordered from the manufacturer with the desired volume setting.
- Check to see whether the host software you are using provides a feature to check and/or adjust the volume setting.
- If the host software does not provide that feature, request help from the development team that built the host software to check / change the volume setting. For details, see ***D998200383 DYNAFLEX AND DYNAFLEX PRO PROGRAMMER'S MANUAL (COMMANDS)***.

6.6 Power Management

6.6.1 About Power

This device incorporates a built-in Lithium-ion rechargeable battery, which requires very little maintenance. It is not subject to "charge memory" and therefore does not require deep discharge cycles to restore its charge capacity like many other battery technologies.

When properly powered through its USB port, the device powers on automatically, remains powered on provided the host does not put it in USB Suspend mode, and draws power both for operation and for recharging the battery (see section **6.6.3 How to Charge the Battery**). While charging, the device consumes more power from the USB connection than when the battery is fully charged. The device stops charging the battery when it determines it is optimally full, to prevent overcharging.

If the device is not connected to USB power, or if the USB connection does not provide enough power, the device powers itself using the rechargeable battery. When the battery discharges to a critically low level, the device powers down automatically. It is critically important to not allow the device's main battery to remain completely discharged any longer than absolutely necessary, or the device's security features may lock it down and require a return to the manufacturer to reset. For information about how to prevent this from occurring during handling and storage, see section **3.2 Handling to Avoid Accidental Tamper**. To prevent this from occurring during regular use:

- Do not allow the device's main battery remain completely discharged for prolonged periods of time, and ideally do not allow it to ever reach 0%. Create a charging schedule that recharges the battery well before it is fully depleted.
- When the device is not connected to USB power, preserve the battery's charge when it is not in use by putting the device into Sleep mode or powering it off completely (see section **6.6.4 How to Power On / Wake Up from Standby Mode / Power Off**).

The device's rechargeable battery is designed to last hundreds of charging cycles, but with time and / or with use, its charge capacity will naturally degrade. Following the recommendations in this section will maintain the battery's charge capacity for as long as possible.

6.6.2 How to Check Battery Level

Reserved.

6.6.3 How to Charge the Battery

NOTICE

Per UL requirements, the device is designed to not recharge its internal battery when the external temperature is below 0°C or above 40°C.

DynaFlex products have an onboard rechargeable battery to supply their own power when they are not powered through the USB-C port. The battery must be periodically recharged by connecting the device to the optional charging cradle, or to a USB port or stand-alone USB charger. Both the charging cradle and the device require a USB power supply that can provide at least **500mA @ 5V**, optimally **1A @ 5V**.

To charge the device without an optional charging cradle, connect it to a USB charger or a USB host as described in section **4.3.2 How to Connect DynaFlex Products to a Host or Charger via** USB. For best results, use the cable that is included with the device; it includes shielding at both ends to reduce interference. When charging, make sure the device is receiving enough power from the USB connection (battery level should increase even when device is in use). A full recharge cycle for a completely drained battery depends on how it is being charged. From a host USB port at 500mA, full charge takes approximately 7 hours. From a dedicated wall charger or charging cradle, a full charge make take as little as 4 hours. After connecting the device to a power source, make sure the LEDs indicate the device is charging (see section **6.3 About the Status LEDs**).

To charge the device in the optional charging cradle *for power only (no USB communication)*:

1) Make sure the charging cradle is properly installed and is receiving USB power. See section **4.4.4 How to Mount the Charging Cradle**.
2) Place the device in the charging cradle with the charging contacts pointing into the charging cradle and the device's face pointing toward the ceiling as shown in **Figure 4-5** on page **25**.
3) Check the device's LEDs to make sure it is charging.

For important information about the device's power systems, optimal charging methods during regular use, optimal handling and storage, and other information about keeping the device's power systems in the best possible condition, see section **3.2 Handling to Avoid Accidental Tamper** and section **6.6.1 About Power**.

6.6.4 How to Power On / Wake Up from Standby Mode / Power Off

To power on the device, press and hold the pushbutton for one second, or connect the device to USB power. After powering on, devices with touchscreens show a page of information about the device, then transition to showing the **Welcome** page or custom graphics, if they are configured to do so. For more information about custom graphics, see ***D998200383 DynaFlex and DynaFlex Pro Programmer's Manual (COMMANDS)***.

To power off the device, disconnect the device from USB power.

To reset the device, see section **6.6.5 How to Force Reset**.

If all LEDs are off, the device is in Powered Off mode, USB Suspend mode, or Standby mode. For details about reading the status of the device with LEDs, see section **6.1 About Operating Modes** and section **6.3 About the Status LEDs**.

6.6.5 How to Force Reset

To force the device to reset, power it off then power it on again (see section **6.6.4 How to Power On / Wake Up from Standby Mode / Power Off**). Alternatively, you may use a small tool such as a paperclip to carefully press the recessed switch inside the small hole on the bottom of the device (see section **1.8 About DynaFlex** Components on page **12**). The host may also reset the device by sending the **Reset Device** command (see section **8 Developing Custom Software**).

The device also automatically powers off if the rechargeable battery reaches a level that is low enough that the device may not be able to complete a transaction (see section **6.6.7 About Battery Warnings and Automatic Reset**).

6.6.6 How to Turn Bluetooth LE Advertising On and Off

Reserved.

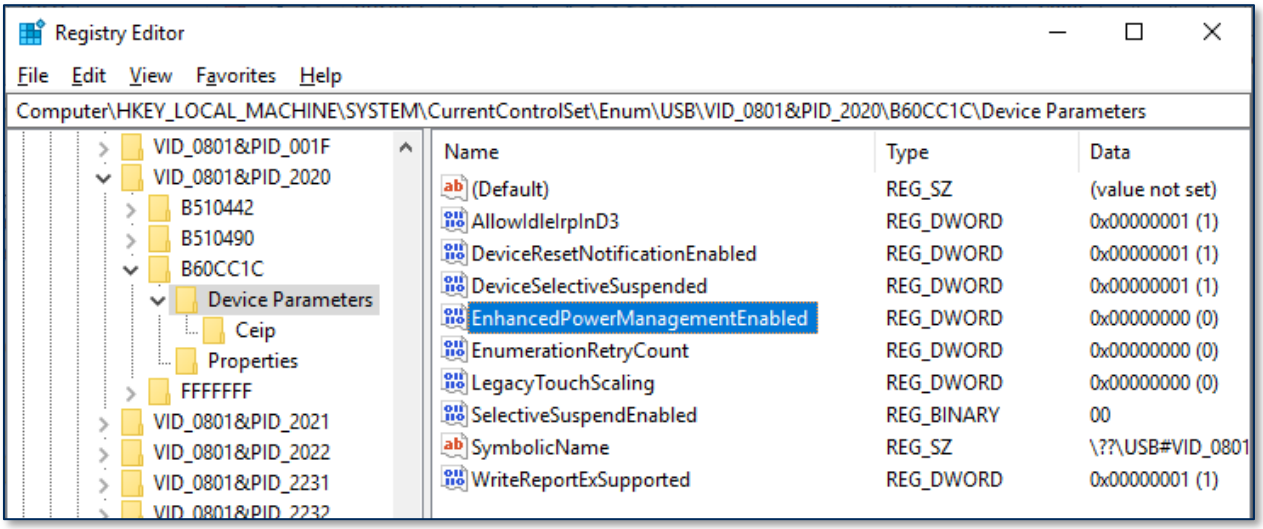
6.6.7 About Battery Warnings and Automatic Reset

Reserved

6.6.8 About USB Suspend

When the device is connected to a host via USB (see section **4.3.2 How to Connect DynaFlex Products to a Host or Charger via** USB), the host and its operating system can use standard USB functions to put the device into **USB Suspend** mode to conserve power (see section **6.1 About Operating Modes**). This generally occurs when there is no software running on the host that has an active USB connection with the device. When the device goes into USB Suspend mode, the device's display and LEDs turn off. When the host wakes up the device from USB Suspend, the device returns to normal operation.

It is possible to configure a Windows host to not suspend the device by editing the registry. Open **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Enum\USB\VID_0801&PID_2020**, then open the folder with the device's serial number inside that folder and open the **Device Parameters** folder inside that. Set the value of **EnhancedPowerManagementEnabled** equal to **0**. After changing the setting, physically disconnect and re-connect the device to the host.



6.6.9 About Maintenance Reset

For full host control, the device should not be allowed to run for > = 23 hours without a reset. To accomplish this, have the host application send a reset command twice a day separated by at least one hour.

Example: Host software resets the device at 1 AM and 3AM. This keeps the device from initiating its own reset.

6.7 How to Start a Handheld Transaction Using Wireless LAN

Reserved

6.8 How to Start a Handheld Transaction Using the Bluetooth LE Connection

Reserved

6.9 Using the Readers

6.9.1 About Reading Cards

The steps for starting a transaction and reading a card or contactless payment device are different depending on the device's configuration and on the design of the host software. Host software developers should see section **8 Developing Custom Software** for implementation references. The solution developer should provide solution-specific instructions for operators to follow. A transaction generally follows this essential flow:

1) An advanced operator has already made sure DynaFlex or DynaFlex Pro is configured properly and is connected to the host (see section **4.3 Connecting to a Host**). When the device is connected to the host via USB and powered by the USB-C connector, the host software may always keep a connection open to the device.
2) The operator makes sure DynaFlex or DynaFlex Pro is receiving power either from its rechargeable battery or from the USB connection, and is awake and powered on (see section **6.6.4 How to Power On / Wake Up from Standby Mode / Power Off** and section **6.3 About the Status LEDs**).
3) The operator uses the host software's user interface (for example, a point of sale) to finalize a transaction amount, then initiates a transaction. In solutions that are designed to respond to cardholder input events that occur when the device is idle, such as unprompted swiping, inserting, or tapping a card or electronic payment device, or pressing the touchscreen, the host software may respond to those inputs by notifying the host, and the host software may trigger other operations without being initiated by an operator (for example, the host software may immediately start a transaction, or alert the cardholder or operator to take action).
4) The host communicates with the device, and reports to the operator when the device is ready.
5) The operator guides and assists the cardholder in presenting payment.
6) The cardholder interacts with the device to present payment. The following sections provide additional details about presenting each of the available payment methods.
7) Devices with a display show messages prompting the cardholder to perform certain actions. The host should also monitor the progress of the transaction, and when necessary, should report issues to the operator, who may need to relay the messages to the cardholder.
8) The device reports the success or failure of the transaction to the cardholder and to the host.

6.9.2 How to Swipe Magnetic Stripe Cards

To swipe magnetic stripe cards, follow these steps:

1) Wait for the device to display an action prompt, or, if the solution is designed to respond to cardholder actions that occur while the device is idle, such as swiping, inserting, or tapping a card or electronic payment device, or pressing the touchscreen, initiate the transaction by performing one of those actions instead of waiting. In these cases, the device may automatically and rapidly pass through several of the steps below without requiring cardholder interaction.
   a) Devices with a display show on-screen text and buttons (see **Figure 6-7 below** for examples).
   b) The device shows the transaction status using the LEDs. If the host has directed the device to enable the contactless interface, LED1 lights solid green and all other LEDs are off, per EMV standards, to indicate it is ready for a tap. If the host has directed the device to disable the contactless interface, the device continues to show idle statuses on LED1 and LED2.
   c) All devices report detailed transaction status to the host, and host software may report that information to operators so they can guide cardholders through the transaction (for example, "swipe, insert, or tap your card now please").
2) Locate the magnetic stripe reader swipe path on the face of the device.
3) Orient the card with the magnetic stripe facing away from the cardholder and the touchscreen or contactless landing zone, toward the LEDs and the chip card insertion slot as shown in **Figure 6-8**.
4) Swipe the card through the magnetic stripe reader in either direction.
5) Look for a prompt that the device has successfully read the card:
   a) The device turns LED4 green for a short time.
   b) The device beeps once.
   c) If the device has a display:
      i) The device shows **PROCESSING**.
      ii) The device may show **AUTHORIZING PLEASE WAIT**
      iii) If the transaction requires a signature, the device prompts for a signature (see section **6.9.9 How to Use Signature Capture**).
      iv) The device shows **THANK YOU**.
   d) The device ends the transaction and reports the transaction status to the host.
6) If the device can not read the card's magnetic stripe data:
   a) The device turns LED4 red for a brief time.
   b) The device beeps twice.
   c) The device ends the transaction.
   d) Devices with a display show **FAILED**, then **THANK YOU**, then return to the idle page (see section **6.4.1Welcome Page / Active Idle Page**).
   e) The device notifies the host that the transaction failed. If this occurs, the host software may choose to retry the transaction or revert to prompting the operator to enter card data manually (see section **6.9.6 How to Enter Card Information Manually)**.

Immediately after the user swipes a magnetic stripe card, the device disables the option to use the contactless interface. If the cardholder needs to revert to a contactless card or device for payment while a transaction is in process, the operator should cancel the transaction and start again.

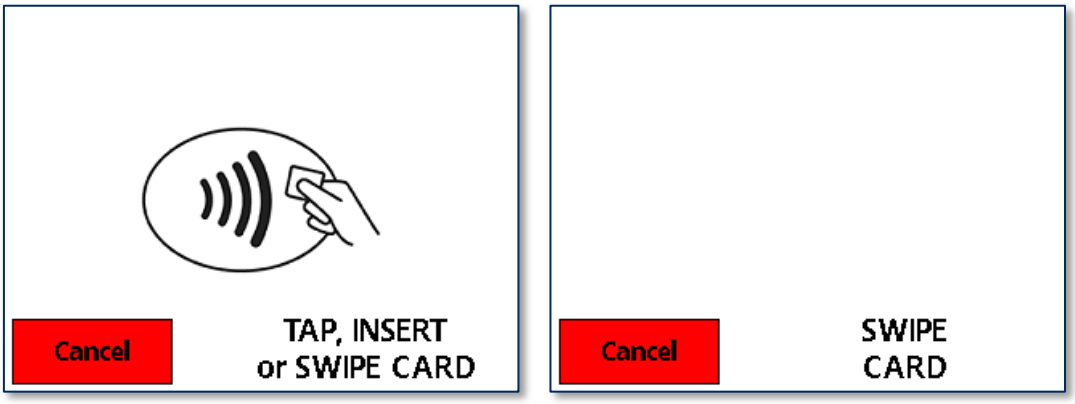


Figure 6-7 - Example Card Swipe Screens

Figure 6-8 - Swiping a Magnetic Stripe Card

6.9.3 How to Insert Contact Chip Cards

To insert contact chip cards, follow these steps:

1) Wait for the device to display an action prompt, or, if the solution is designed to respond to cardholder actions that occur while the device is idle, such as swiping, inserting, or tapping a card or electronic payment device, or pressing the touchscreen, initiate the transaction by performing one of those actions instead of waiting. In these cases, the device may automatically and rapidly pass through several of the steps below without requiring cardholder interaction.
   a) Devices with a touchscreen show on-screen text and buttons (see **Figure 6-9 below** for examples).
   b) Devices with or without a touchscreen show the transaction status using the LEDs. If the host has directed the device to enable the contactless interface, LED1 lights solid green and all other LEDs are off, per EMV standards, to indicate it is ready for a tap, swipe, or insert. If the host has directed the device to disable the contactless interface, the device continues to show idle statuses on LED1 and LED2.
   c) All devices report detailed transaction status to the host, and host software may report that information to operators so they can guide cardholders through the transaction (for example, "swipe, insert, or tap your card now please").
2) Locate the chip card insertion slot on the face of the device, as shown in **Figure 6-10**.
3) Orient the chip card so the chip faces the cardholder, toward the touchscreen or contactless landing zone and the LEDs.
4) Insert the chip card into the slot, then push gently on the card until it stops. There should not be any substantial resistance until the chip card is fully inserted.
5) Wait for a prompt that the device has successfully read the card, then remove the card.
   a) The device turns LED4 green for a brief time.
   b) The device beeps once.
   c) If the device has a display:
      i) The device shows **PROCESSING**.
      ii) The device shows **PLEASE WAIT** and/or **AUTHORIZING PLEASE WAIT**.
      iii) If the transaction requires a signature, the device prompts for a signature (see section **6.9.9 How to Use Signature Capture**).
      iv) The device shows **REMOVE CARD**.
      v) The device shows **THANK YOU**.
   d) The device ends the transaction and reports the transaction status to the host.
   e) As a reminder to the cardholder to remove the card, the device beeps continuously until the card is removed.
6) If the device can not communicate with the chip card:
   a) The device lights LED4 red for a short time.
   b) The device beeps twice.
   c) Devices with a display show **FAILED**, then **REMOVE** if the card is still in the slot, then **THANK YOU**, then return to the idle page (see section **6.4.1Welcome Page / Active Idle Page**).
   d) The device ends the transaction and notifies the host that the transaction failed. If this occurs, the host software may choose to retry the transaction (for example, with different payment types enabled) or revert to prompting the operator to enter card data manually (see section **6.9.6 How to Enter Card Information Manually)**.

e) As a reminder to the cardholder to remove the card, the device double-beeps continuously until the card is removed.

Immediately after the user inserts a chip card, the device disables the option to use the contactless interface. If the cardholder needs to revert to a contactless card or device for payment while a transaction is in process, the operator should cancel the transaction and start again.

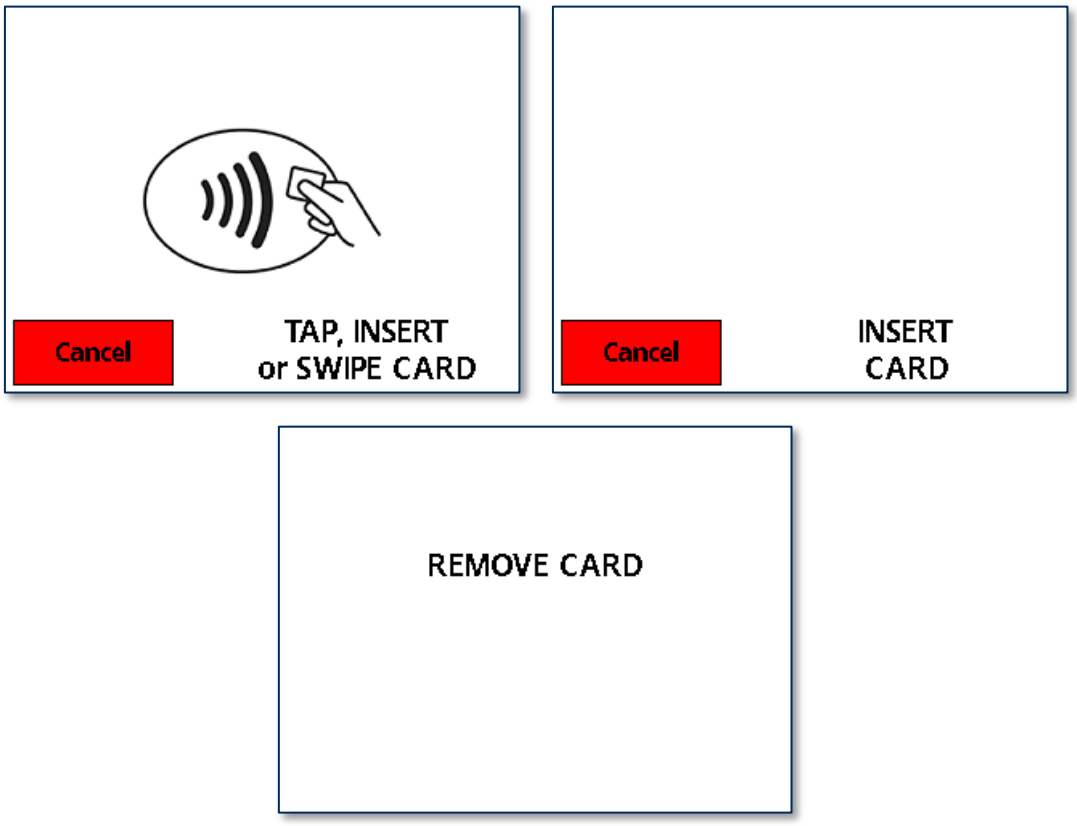


Figure 6-9 - Example Card Insertion Screens

Figure 6-10 - Inserting a Chip Card

6.9.4 How to Tap Contactless Cards / Devices

To tap a contactless card or smartphone, follow these steps:

1) Wait for the device to display an action prompt, or, if the solution is designed to respond to cardholder actions that occur while the device is idle, such as swiping, inserting, or tapping a card or electronic payment device, or pressing the touchscreen, initiate the transaction by performing one of those actions instead of waiting. In these cases, the device may automatically and rapidly pass through several of the steps below without requiring cardholder interaction.
   a) Devices with a touchscreen show on-screen text and buttons (see **Figure 6-11 below** for examples).
   b) Devices with or without a touchscreen show the transaction status using the LEDs. LED1 lights solid green and all other LEDs are off, per EMV standards, to indicate it is ready for a tap (or swipe or insert, if the host has enabled those interfaces for this transaction).
   c) All devices report detailed transaction status to the host, and host software may report that information to operators so they can guide cardholders through the transaction (for example, "please tap your card now").
2) If the cardholder is using an electronic payment device, such as a smartphone, make sure the payment device has **NFC** turned **On** and has a payment app configured to process transactions. For details, see the documentation provided by the smartphone manufacturer and payment app publisher.
3) Briefly hold the card, smartphone, or other contactless payment device over the contactless landing zone, indicated by the EMVCo Contactless Indicator symbol on the device's face (see **Figure 6-11**). Because each smartphone model may have its NFC antenna placed differently, the ideal tap position may vary by make and model. For example, Samsung users may need to center the phone on the contactless landing zone, while Apple users may need to tap the top of the phone on the contactless landing zone.
4) Wait for a prompt that the device has successfully read the card, smartphone, or other contactless payment device, then remove it from the contactless landing zone.
   a) The device quickly lights the second LED green to show it is processing, then lights the third LED green to show it has successfully read the tap, then lights the fourth LED green to show the read is complete (see **Figure 6-13**).
   b) The device beeps once.
   c) If the device has a display:
      i) The device may show **PROCESSING**.
      ii) The device shows **REMOVE CARD**.
      iii) If the transaction requires a signature, the device prompts for a signature (see section **6.9.9 How to Use Signature Capture**).
      iv) The device shows **THANK YOU**.
   f) The device ends the transaction and reports the transaction status to the host.
5) If the device can not communicate with the card, smartphone, or other contactless payment device:
   a) The device ends the transaction.
   b) The device lights LED4 red for a brief time.
   c) The device beeps twice.
   d) Devices with a display show **INSERT, SWIPE, OR TRY ANOTHER CARD**, then **THANK YOU**, then return to the idle page (see section **6.4.1 Welcome Page / Active Idle Page**).
   e) The device notifies the host that the transaction failed. If this occurs, the host software may choose to retry the transaction (for example, with different payment types enabled) or revert to

prompting the operator to enter card data manually (see section **6.9.6 How to Enter Card Information Manually)**.

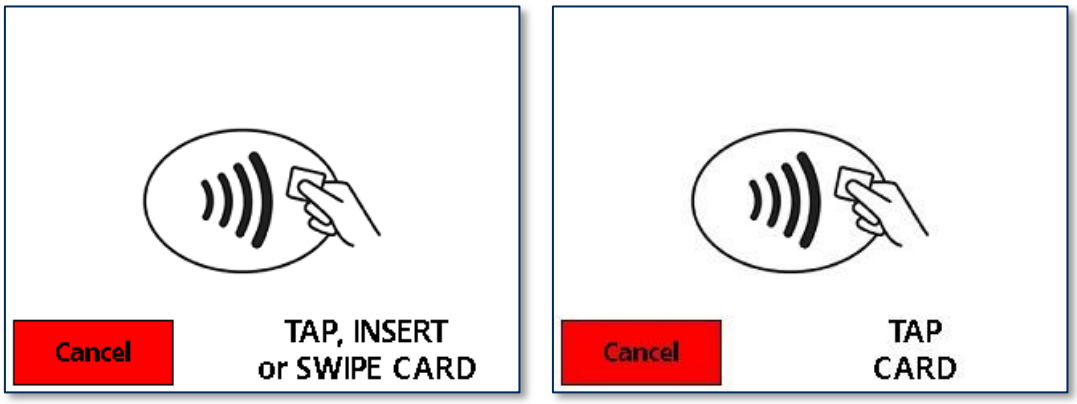


Figure 6-11 - Example Contactless Transaction Screens

Figure 6-12 - Tapping a Contactless Card / Smartphone

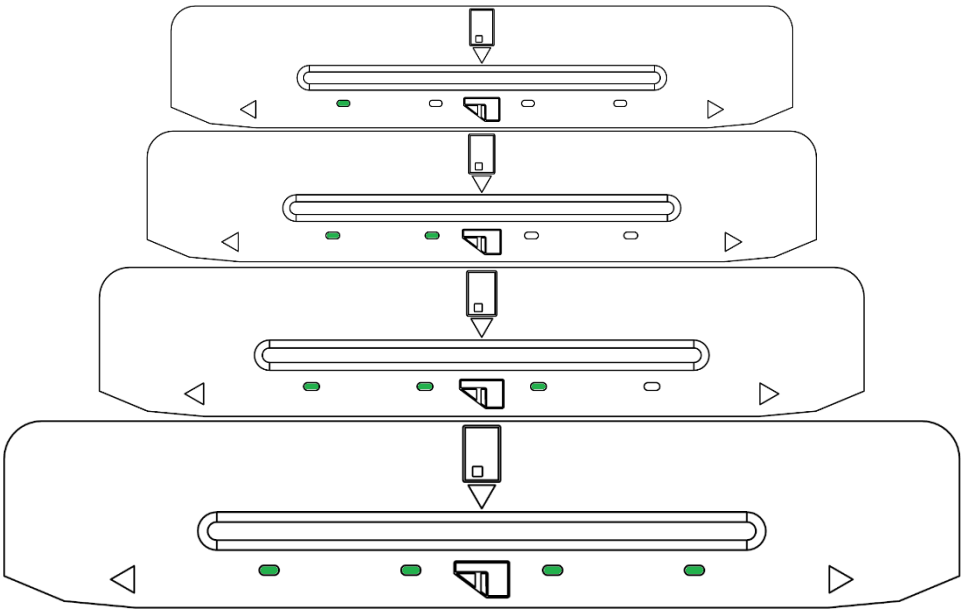


Figure 6-13 - Tap Read Is Complete

6.9.5 How to Scan Barcodes

To scan a barcode, follow these steps:

1) Make sure you are using a DynaFlex model that includes a barcode reader, indicated by QR code markings on the face of the device surrounding the barcode reader lens (see section **1.8 About DynaFlex Components**).
2) If the barcode being scanned is not on a self-illuminated source such as a smartphone, make sure there is enough ambient light for the camera to read the barcode. In low light conditions, the barcode reader will only be able to read self-illuminated sources.
3) In some solutions, the operator may have to perform an operation in the host software to enable the barcode reader, or to start a transaction with the barcode reader enabled.
4) Wait for the device, the host, or the operator to prompt for a barcode read:
   a) Devices with a display show the prompt **SCAN BARCODE**
   b) The device lights the barcode reader indicator LED next to the barcode reader lens.
5) Hold the barcode in front of the barcode reader camera:
   a) If possible, use the light from the barcode reader indicator LED to align the barcode within the barcode reader's field of view, which extends 16 degrees above / below and 21 degrees to the left / right of a line perpendicular to the barcode reader lens.
   b) Hold the barcode as close as 1 inch from the lens. For smaller barcodes, the device will read immediately. If it does not, gradually pull back to up to 14 inches from the lens until the device reports a successful read. Larger barcodes must be far enough away from the device that the whole barcode is within the camera's field of view; if a large barcode is too close, the barcode reader can only see a zoomed in portion of the barcode.
   c) Do not tilt the barcode more than 60 degrees from parallel to the device's face.
6) Wait for the device or the host to report the barcode has been read successfully:
   a) Devices with a display will no longer show the prompt **SCAN BARCODE**.
   b) The device beeps once.
   c) The device turns off the barcode reader indicator LED.

Figure 6-14 – Scanning a Barcode

6.9.6 How to Enter Card Information Manually

Devices with touchscreen displays provide support for starting a transaction that immediately prompts the operator or cardholder to enter card data manually. Manual entry can be useful in the following situations:

- **As a last-resort form of transaction fallback:**
  - The cardholder swiped during a transaction that had one or more card interfaces enabled, but the device could not read card data.
  - The cardholder inserted a chip card during a transaction that had one or more card interfaces enabled, but the device could not read card data and could not fall back to swipe.
- **In card not present transactions**, including merchant locations where cardholders do not have their card, in telephone call centers, and so on. In these cases, the operator uses the device to keep sensitive data out of the merchant's domain, for compliance / security reasons.

To enter card information manually, follow these steps. For every prompt below, press the **Enter** button after entering data to move to the next step, or press the **Backsp** button to delete data that has already been entered but stay on the same step, or press the **Cancel** button to completely end the transaction:

1) The operator starts a transaction, specifying manual card entry, optionally specifying a transaction amount and cash back amount. If the solution is designed to respond to cardholder actions that occur while the device is idle, such as pressing the touchscreen, the operator may initiate the transaction by performing one of those actions instead of initiating the transaction from the host.
2) The device shows a numeric keypad and a prompt to enter **Card Number** (see **Figure 6-15**). Enter the card number and press the **Enter** button. If the device double-beeps when pressing the **Enter** button and does not proceed to the next step, the PAN is not valid. The device may be configured to enable MOD10 validation, which makes sure the card number passes a validity check to prevent errors during entry. It is also possible you have entered too many or too few PAN digits. Double-check the card number and use the **Backsp** button to correct any errors, then press **Enter**.
3) The device shows a numeric keypad and a prompt to enter **Exp Date (MMYY)** (see **Figure 6-16**). Enter the expiration date on the card and press the **Enter** button.
4) The device shows a numeric keypad and a prompt to enter **CVV/CVC/Card ID**. Enter the card verification code / value, then press the **Enter** button. This code is a 3- or 4- digit number printed on the front or back of the card, and is also referred to as a security code, security validation value, CAV2, CVC2, CVV2, or CID, depending on which payment brand issued the card.
5) The device shows a summary of all the data that was entered during the transaction. If the operator specified a transaction amount when starting the transaction, the summary includes the total transaction amount (purchase amount plus cash back, if any).
6) Verify all the information is correct:
   a) If it is correct, press the **Enter** button to proceed with the transaction.
   b) If it is correct but the cardholder or operator wishes to stop the transaction, press the **Cancel** button to completely end the transaction.
   c) If it is not correct, press the **Cancel** button to completely end the transaction, and start the transaction again from the first step.

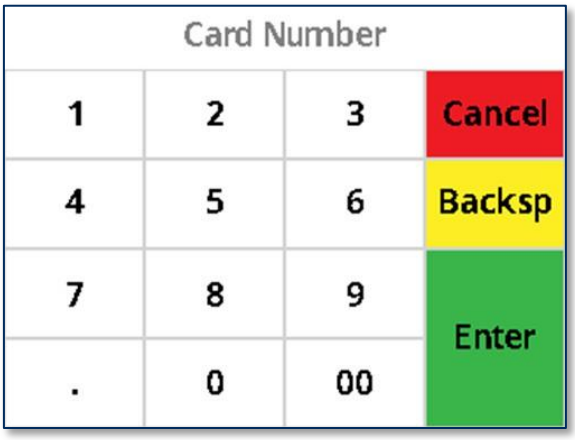


Figure 6-15 – Enter Card Number

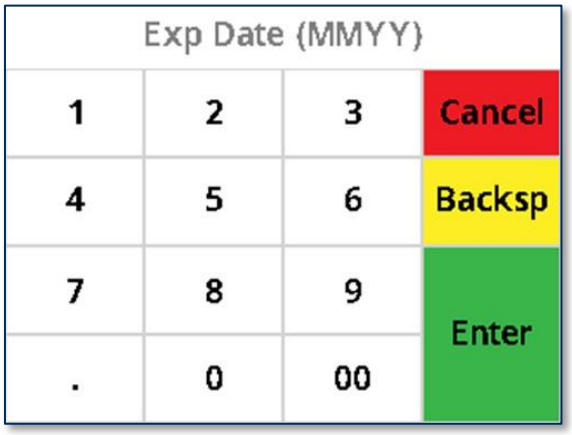


Figure 6-16 – Enter Expiration Date

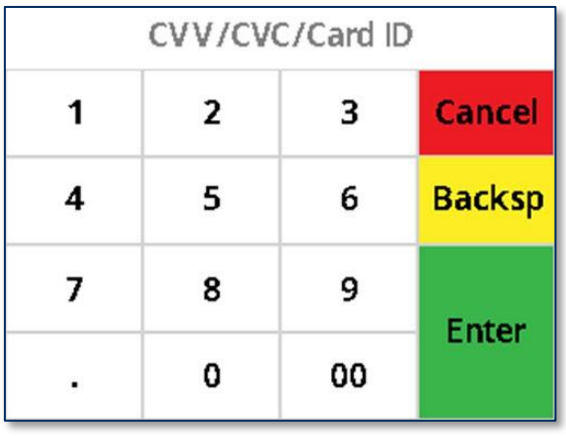


Figure 6-17 – Enter CVV/CVC/Card ID

6.9.7 How to Verify the Transaction Amount

When the device is performing a transaction using the EMV Transaction Flow (as opposed to the Quick Chip Transaction Flow), devices with a display show the amount of the transaction when they prompt the cardholder to swipe, dip, or tap a card or payment device, as shown in **Figure 6-18.** The cardholder implicitly confirms / accepts the transaction amount by presenting payment.

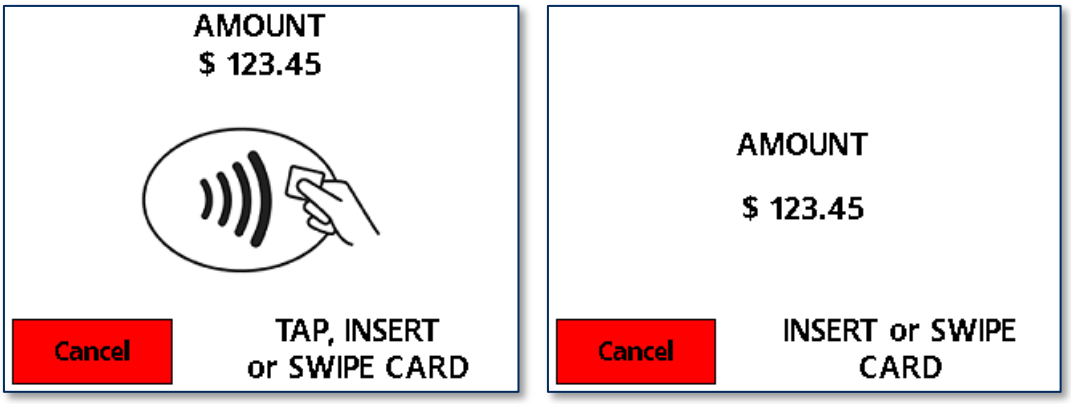


Figure 6-18 - Example Transaction Amount Screens

6.9.8 How to Enter PINs

Devices with a touchscreen display provide support for requesting PIN from the cardholder. The device prompts the cardholder to **ENTER PIN** (see **Figure 6-19**) as required by the financial institution. The device expects the PIN to be between 4 and 12 digits long. After entering the PIN, the cardholder must press the **ENTER** button.

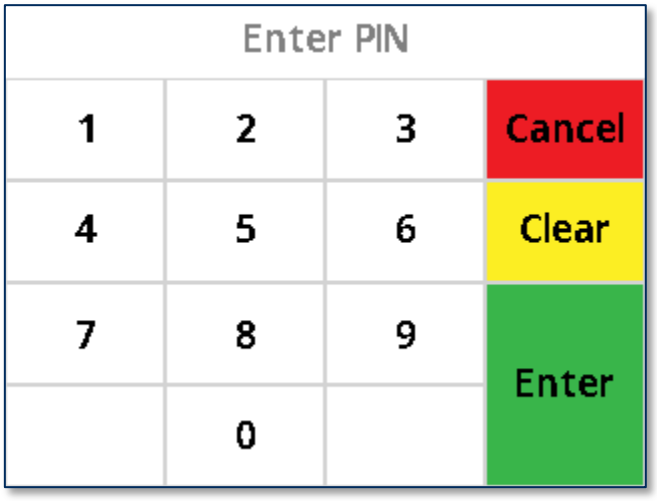


Figure 6-19 – Enter PIN

If the double PIN entry option is enabled, the device prompts the cardholder to enter the PIN a second time (see **Figure 6-20**). The process for re-entry is identical to the process for the first entry.

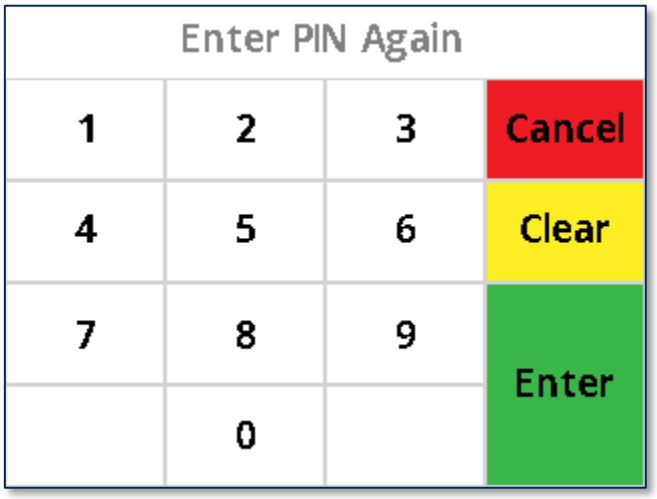


Figure 6-20 – Enter PIN Again

6.9.9 How to Use Signature Capture

⚠CAUTION

Do not use a stylus or other hard object on the touchscreen. The touchscreen is designed for fingers only and can be scratched if misused.

When a device with a display prompts cardholders with **PLEASE SIGN**, (**Figure 6-21 - Signature Capture Requested)** cardholders should use the tips of their fingers to press and glide against the screen to sign, then press the **OK** button. To clear the current signature on the display and start over, press the **Clear** button.

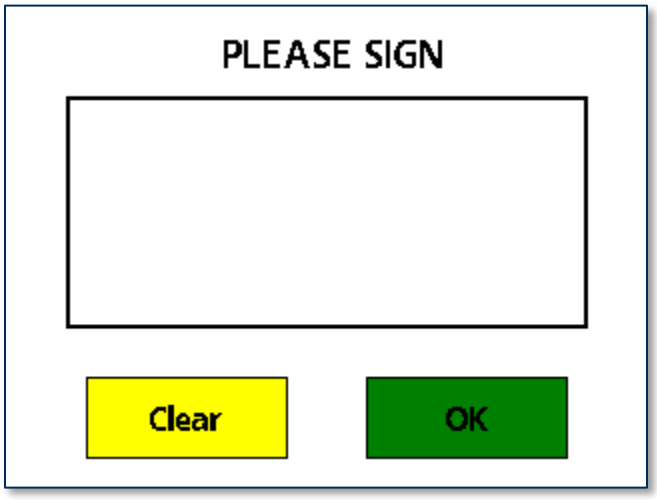


Figure 6-21 - Signature Capture Requested

Devices that do not have a touchscreen display can not prompt for or collect a signature. When these devices are aware that a signature is required after a transaction completes, they send a notification message to the host that includes the status **Signature Capture Requested**. In this case, the solution design collects the cardholder's signature via a different method.

7 Maintenance

7.1 Mechanical Maintenance

⚠ CAUTION

To avoid damaging the read head and contact block, only clean the MSR swipe path and insertion slot with approved cleaning cards.

DO NOT use liquid cleaning products or insert any other objects into the device.

DO NOT apply any liquid directly onto the device, to avoid seepage into the electronics.

Periodic cleaning of the device's exterior may be required. To clean the outside of DynaFlex products, including the LCD display, wipe down the device with a soft, slightly damp cloth and then wipe dry with a lint-free cloth. The display can also be cleaned using a slightly damp specialty cleaning cloth, like those used to wipe lenses, monitors, and smartphone displays.

MagTek's double-sided cleaning card ***96700004*** is designed to clean the magnetic read head in the MSR swipe path and the contact pins inside all chip card contact readers. Keeping both components clean is essential to the device's functioning. MagTek recommends swiping and inserting a cleaning card once per week to avoid card misreads.

If the device's micro-suction mounting feet lose their holding power over time, use a clean, damp, lint-free cloth to wipe the mounting feet and the mounting surface clean, then let both surfaces air dry. This should restore the mounting feet's holding power. If the mounting feet are damaged and unusable, replacements are available. See section **1.7 Available Models and Accessories**.

7.2 Updates to Firmware, Documentation, Security Guidance

In addition to the security guidance in the product manuals, MagTek may provide updates to this document, as well as supplemental security guidance or notices regarding vulnerabilities, at www.magtek.com. MagTek advises checking the product's home page periodically for the most up-to-date information.

Any firmware updates addressing product features, bugs, or security vulnerabilities are also posted to www.magtek.com or may be sent directly to affected customers. To update the device's firmware:

1) Obtain the firmware image to install.
2) Download ***1000007405 DynaFlex, DynaProx Firmware Upload Utility*** from the MagTek web site.
3) Follow the instructions in ***D100005288 DynaFlex, DynaProx Firmware Update Utility Manual*** included in the firmware update utility's **Document** subfolder.

8 Developing Custom Software

Custom host software uses the same underlying device command set for all DynaFlex product connection types. This section provides high-level information about communicating with the device via the various physical connection types in various software development frameworks, and provides pointers to available SDKs, which include sample code. Product documentation and SDKs are available for download by searching for the product name on www.magtek.com and navigating to the **Support** tab.

MagTek provides convenient SDKs and corresponding documentation for many programming languages and operating systems. The API libraries included in the SDKs wrap the details of the connection in an interface that conceptually parallels the device's internal operation, freeing software developers to focus on the business logic, without having to deal with the complexities of platform APIs for connecting to the various available connection types, communicating using the various available protocols, and parsing the various available data formats. Information about using MagTek wrapper APIs is available in separate documentation, including:

- ***D998200380 Magtek Universal SDK Programmer's Manual (Microsoft .NET)***
- ***D998200381 Magtek Universal SDK Programmer's Manual (Microsoft C++)***
- ***D998200385 Magtek Universal SDK Programmer's Manual (Java)***
- ***D998200387 Magtek Universal SDK Programmer's Manual (Android)***

The documentation is bundled with the SDKs themselves, which include:

- ***1000007351 MagTek Universal SDK for MMS Devices (Windows)***
- ***1000007352 MagTek Universal SDK for MMS Devices (Android)***

The SDKs and corresponding documentation include:

- Functions for sending the direct commands described in this manual
- Wrappers for commonly used commands that further simplify development
- Sample source code to demonstrate how to communicate with the device using the direct commands described in this manual

To download the SDKs and documentation, search www.magtek.com for "SDK" and select the SDK and documentation for the programming languages and platforms you need or contact MagTek Support Services for assistance.

In addition to the SDK API libraries, software developers also have the option to revert to direct communication with the device using libraries using the operating system's native USB, TCP/IP, or Bluetooth LE libraries. For example, custom software written in Visual Basic or Visual C++ may make API calls to the standard Windows USB HID driver. For more information about sending commands directly, see ***D998200383 DynaFlex and DynaFlex Pro Programmer's Manual (COMMANDS).***

For more information about developing custom applications that integrate with DynaFlex, see the MagTek web site or contact your reseller or MagTek Support Services.

Appendix A Technical Specifications

DynaFlex Products Technical Specifications	
Reference Standards and Certifications	
ISO 7810, ISO 7811, AAMVA ISO/IEC 7816-1, 2, 3, & 4 Identification Cards Integrated Circuits with Contacts EMV ICC Specifications for Payment Systems Version 4.3, L1 Contact and L2 Contact EMV Contactless Level 1 Version 3.0 MasterCard TQM MCL v3.1.3, payWave v2.2, Expresspay 4.0.2, D-PAS Terminal Payment Application v1.0, D-PAS Terminal Application Specification Bulletins CL TAS-002 v1.1, CL TAS-003 v1.0, CL TAS-004 v1.0 PCI PTS POI v5.x SCR TDEA (3DES)-CBC using DUKPT FCC Part 15 Low Power Transceiver, RX verified per FCC Title 47 Part 15 Subclass C UL 60950 1, 2nd Edition, 2011 12 19 (Information Technology Equipment - Safety - Part 1: General Requirements), CSA C22.2 No. 60950 1 07, 2nd Edition, 2011 12 (Information Technology Equipment - Safety - Part 1: General Requirements) CE Certified UKCA Certified CE Safety: IEC 62368-1: 2014 UL/CSA 62368-1: 2nd Edition Canada ISED Certified Japan VCCI Certified (not applicable to WLAN models) Japan MIC Certified (not applicable to WLAN models) AS/NZS CISPR 32 (2013), AS/NZS 4268 Table 1, Row 59 DTS 2400-2483MHz SRD (WLAN), and AS/NZS 4268 (2017) Table 1, Row 43 13.553-13.567MHz (contactless reader) RoHS Compliant the Electrical and Electronic Equipment (EEE) Reduction of Hazardous Substances (RoHS) European Directive 2002/95/EC California Proposition 65 (California) IPC-A-610 Class II Assembly EU Directive Waste Electrical and Electronic Equipment (WEEE) EU Directive Restriction of Hazardous Substances (RoHS) Universal Serial Bus Specifications 1.1, 2.0 IEEE 802.11 b/g/n, IEEE 802.11i-2004 WPA2-PSK, TKIP, AES, SHA-256 TCP/IP secured by Transport Layer Security (TLS) Protocol v1.2 Bluetooth Core Specification 4.2	
Physical Characteristics	
Dimensions (L x W x H):	DynaFlex and DynaFlex Pro: 4.1 in. W x 3.7 in. L x 1.9 in. H (103.3mm x 95.1mm x 48.5mm) DynaFlex Kiosk and DynaFlex Pro Kiosk: 4.1 in. W x 3.7 in. L x 1.9 in. H (103.3mm x 95.1mm x 48.3mm)

DynaFlex Products Technical Specifications	
Weight	DynaFlex USB = 8.4 oz. (238g) DynaFlex Bluetooth LE= 8.7 oz. (247g) DynaFlex Pro USB= 8.7 oz. (246g) DynaFlex Pro Bluetooth LE / WLAN = 8.9 oz. (252g) Kiosk Models, add 1.1 oz. (30g) BCR Models, add 0.12 oz. (3.5g)
Supported Mounting Options:	Microsuction feet Lanyard mount point
Reader Characteristics	
Magnetic Stripe Reader:	Three track bidirectional encrypting reader with MagnePrint
Magnetic Stripe Decoding:	Financial (ISO Type B), AAMVA, or Other
Magnetic Swipe Speeds:	6 inches per second to 60 inches per second
EMV Contact Reader:	EMVCo L1 and L2 Contact Reader
EMV Contactless Reader:	EMVCo L1 and L2 Contactless Reader D-PAS, PayPass/MCL, payWave, Expresspay Mobile wallets including but not limited to Apple Pay, Google Pay, Samsung Pay
Barcode Reader:	Barcode Media: Labels, paper, smartphone / computer displays Barcode Types: QR Codes, Linear Barcodes, UPC-A, UPC-E, Code 128, PDF417 / Data Matrix, etc. Field Of View 31.5° total vertical sweep, 42° total horizontal sweep, perpendicular to device face Depth Of Field 1.2 in. (30mm) to 13.8 in. (350mm) Integrated white indicator LED
User Interface Characteristics	
Status Indicators:	4 RGB LEDs
Display Type:	TFT a-Si Active Matrix Color LCD with Touchscreen (Select Models)
Display Size (viewable area):	2.3 in. x 1.7 in. (57.6mm x 43.2mm) (Select Models)
Display Resolution:	320 x 240 px, 16-bit color depth (Select Models)
Keypad:	Touchscreen
Security Characteristics	
Certifications:	PCI PTS POI 5.x Secure Card Reader (SCR)
Tamper Protection:	The enclosure and associated electronics form a Tamper Resistant Security Module (TRSM) where attempts to penetrate or modify the unit cause all cryptographic keys to be cleared or rendered unusable.

DynaFlex Products Technical Specifications	
Electrical Characteristics	
Power Inputs:	USB powered via USB-C receptacle or charging cradle connectors
Power Outputs:	None
Battery Type:	Lithium Polymer rechargeable
Battery Capacity:	2100 mAh nominal (rated)
Battery Charge Time:	~7 hours connected to a 500mA host USB port ~4 hours connected to a 1A wall charger or cradle
Battery Time, Powered Off	4 years or longer
Battery Time, Standby:	Wireless LAN: Reserved Bluetooth LE: Reserved
Battery Time, Transactions:	Reserved
Voltage Requirements:	5 VDC from USB port
Current Requirements:	500mA from USB port
Data Storage:	Not Applicable
Communication Characteristics	
Wired Connection Types:	USB-C, compatible with USB 1.1, USB 2.0 Vendor-defined USB Human Interface Device (HID) data format
Wireless Connection Types:	Bluetooth Low Energy (“Bluetooth LE”) (select models) TCP/IP over Wireless LAN (select models)
Wireless Range:	WLAN: 100m in a typical environment Bluetooth LE: TBD
Wireless Frequencies and Power:	Wireless LAN Frequency range = 2400 MHz to 2484 MHz Average power radiated = 0.80 mW (-0.97 dBm) Bluetooth LE Frequency range = 2400 MHz to 2480 MHz Average power radiated = 0.07 mW (-11.55 dBm) NFC: Frequency range = 13.56 MHz Maximum power conducted = 794 mW (29 dBm)
RF Exposure:	Exempt from SAR requirements due to radiated power substantially below regulatory thresholds.
Software Characteristics	
Tested Operating System(s):	USB Hosts: Windows 10, Android 6 and above

DynaFlex Products Technical Specifications	
Environmental Resistance	
Ingress Protection:	Splash Resistant
Operating Temperature:	32°F to 113°F (0°C to 45°C)
Operating Relative Humidity:	5% to 90% non-condensing
Storage Temperature:	14°F to 140°F (-10°C to 60°C)
Storage Relative Humidity:	5% to 90% non-condensing
Vibration Resistance:	5Hz to 500Hz sinusoidal vibrations at 15g acceleration, all 3 axes
Shock Resistance:	30g 11ms terminal sawtooth shocks, all 3 axes
ESD Tolerance (EMVCo):	±10kV air discharge when device is properly earth grounded
ESD Tolerance (FCC/CE):	±8kV contact discharge / ±12kV air discharge when properly grounded
Vapor Resistance:	Not Applicable
Reliability	
Shelf Life:	24 months at 25°C nominal
Magnetic Read Head Life:	1 million swipes
ICC Read Head Life:	500,000 card insertions
Battery Shelf Life:	2 years or longer (backup battery)
Battery Cycle Life:	After 500 charge / discharge cycles, battery capacity remains above 80%.

Appendix B Warranty, Standards, and Certifications

LIMITED WARRANTY

MagTek warrants that the products sold pursuant to this Agreement will perform in accordance with MagTek's published specifications. This warranty shall be provided only for a period of one year from the date of the shipment of the product from MagTek (the "Warranty Period"). This warranty shall apply only to the "Buyer" (the original purchaser, unless that entity resells the product as authorized by MagTek, in which event this warranty shall apply only to the first repurchaser).

During the Warranty Period, should this product fail to conform to MagTek's specifications, MagTek will, at its option, repair or replace this product at no additional charge except as set forth below. Repair parts and replacement products will be furnished on an exchange basis and will be either reconditioned or new. All replaced parts and products become the property of MagTek. This limited warranty does not include service to repair damage to the product resulting from accident, disaster, unreasonable use, misuse, abuse, negligence, or modification of the product not authorized by MagTek. MagTek reserves the right to examine the alleged defective goods to determine whether the warranty is applicable.

Without limiting the generality of the foregoing, MagTek specifically disclaims any liability or warranty for goods resold in other than MagTek's original packages, and for goods modified, altered, or treated without authorization by MagTek.

Service may be obtained by delivering the product during the warranty period to MagTek (1710 Apollo Court, Seal Beach, CA 90740). If this product is delivered by mail or by an equivalent shipping carrier, the customer agrees to insure the product or assume the risk of loss or damage in transit, to prepay shipping charges to the warranty service location, and to use the original shipping container or equivalent. MagTek will return the product, prepaid, via a three (3) day shipping service. A Return Material Authorization ("RMA") number must accompany all returns. Buyers may obtain an RMA number by contacting MagTek Support Services at (562) 546-6800.

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EXCEPT AS PROVIDED IN THE SECTIONS RELATING TO MAGTEK'S LIMITED WARRANTY, MAGTEK'S LIABILITY UNDER THIS AGREEMENT IS LIMITED TO THE CONTRACT PRICE OF THIS PRODUCT.

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MAGTEK'S SOLE LIABILITY AND BUYER'S EXCLUSIVE REMEDIES ARE STATED IN THIS SECTION AND IN THE SECTION RELATING TO MAGTEK'S LIMITED WARRANTY.

FCC INFORMATION

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.

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

Caution: Changes or modifications not expressly approved by MagTek could void the user's authority to operate this equipment.

CANADIAN DECLARATION OF CONFORMITY

This digital apparatus does not exceed the Class B limits for radio noise from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Réglement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conformé à la norme NMB-003 du Canada.

INNOVATION, SCIENCE AND ECONOMIC DEVELOPEMENT

CANADA (ISED)

This device complies with ISED Canada licence-exempt RSS 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.

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.

CE STANDARDS

Testing for compliance with CE requirements was performed by an independent laboratory. The unit under test was found compliant with standards established for Class B devices.

EU STATEMENT

Hereby, MagTek Inc. declares that the radio equipment types **Wideband Transmission System** (Wireless LAN and Bluetooth Low Energy), and **Non-Specific Short Range Device** (contactless) are in compliance with ***Directive 2014/53/EU***. The full text of the EU declarations of conformity is available at the following internet addresses:

- https://www.magtek.com/Content/DocumentationFiles/D998200404.pdf for DynaFlex with no display, USB connection
- https://www.magtek.com/Content/DocumentationFiles/D998200410.pdf for DynaFlex with no display, Bluetooth LE connection
- https://www.magtek.com/Content/DocumentationFiles/D998200411.pdf for DynaFlex Pro with USB connection
- https://www.magtek.com/Content/DocumentationFiles/D998200412.pdf for DynaFlex Pro with Bluetooth LE connection
- https://www.magtek.com/Content/DocumentationFiles/D998200413.pdf for DynaFlex Pro with WLAN connection

UKCA STATEMENT

Hereby, MagTek Inc. declares that the radio equipment types **Wideband Transmission System** (Wireless LAN and Bluetooth Low Energy), and **Non-Specific Short Range Device** (contactless) are in compliance with Radio Equipment Regulations 2017 ***Directive S.I.2017:1206***. The full text of the UKCA declarations of conformity is available at the following internet addresses:

- https://www.magtek.com/Content/DocumentationFiles/D998200475.pdf for DynaFlex with no display, USB connection
- https://www.magtek.com/Content/DocumentationFiles/D998200476.pdf for DynaFlex with no display, Bluetooth LE connection

- https://www.magtek.com/Content/DocumentationFiles/D998200477.pdf for DynaFlex Pro with USB connection
- https://www.magtek.com/Content/DocumentationFiles/D998200478.pdf for DynaFlex Pro with Bluetooth LE connection
- https://www.magtek.com/Content/DocumentationFiles/D998200479.pdf for DynaFlex Pro with WLAN connection

AUSTRALIA / NEW ZEALAND STATEMENT

Testing for compliance with AS/NZS standards was performed by a registered and accredited laboratory. The unit under test was found compliant with standards established under AS/NZS CISPR 32 (2013), AS/NZS 4268 Table 1, Row 59 DTS 2400-2483MHz SRD (802.11), and AS/NZS 4268 (2017) Table 1, Row 43 13.553-13.567MHz (contactless reader).

UL/CSA

This product is recognized per ***UL 60950-1, 2nd Edition, 2011-12-19*** (Information Technology Equipment - Safety - Part 1: General Requirements), ***CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12*** (Information Technology Equipment - Safety - Part 1: General Requirements).

ROHS STATEMENT

When ordered as RoHS compliant, this product meets the Electrical and Electronic Equipment (EEE) Reduction of Hazardous Substances (RoHS) Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU. The marking is clearly recognizable, either as written words like “Pb-free,” “lead-free,” or as another clear symbol ( ).

PCI STATEMENT

PCI Security Standards Council, LLC (“PCI SSC”) has approved this PTS POI device (SCR class) to be compliant with the PCI PTS POI Security Requirements v5.1.

When granted, PCI SSC approval is provided by PCI SSC to ensure certain security and operational characteristics important to the achievement of PCI SSC’s goals, but PCI SSC approval does not under any circumstances include any endorsement or warranty regarding the functionality, quality or performance of any particular product or service. PCI SSC does not warrant any products or services provided by third parties. PCI SSC approval does not under any circumstances include or imply any product warranties from PCI SSC, including, without limitation, any implied warranties of merchantability, fitness for purpose, or non-infringement, all of which are expressly disclaimed by PCI SSC. All rights and remedies regarding products and services which have received PCI SSC approval shall be provided by the party providing such products or services, and not by PCI SSC.

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