



CryptoPay Installation Guide

Version 2.0

Table of Contents

- CryptoPay Installation Guide..... 1
 - Read this first..... 1
 - Coordinator installation..... 1
 - Swiper installation..... 2
 - Timer (coin) signal hookup..... 2
 - AC Timer connections..... 2
 - Timer configuration..... 3
 - Testing the installation..... 4
 - Testing the swiper hookup..... 4
 - Setup mode..... 5
- Reference – LED's and buttons on the coordinator..... 5
- First Data merchant account activation..... 6
- Installation Record..... 7
 - Installed Location:..... 7
- CryptoPay – Manufacturer’s Limited Warranty:..... 8

Read this first

The CryptoPay credit card system is quite easy to install, but there are a few notes on the installation process that you should know before you start:

1. Please install the coordinator first, and ensure that it is working. Without a working coordinator, your swipers will not work.
2. Your swipers are most likely configured for “out of service” mode. In this mode, you can still test that the hardware is correctly connected – see “Testing the installation“ on page 4.
3. Please review the entire installation process before you start. That can save a lot of trouble later.

Coordinator installation

To install the coordinator, first select a location for the coordinator. In most cases this will be in the pump room, near an electrical outlet (and near the internet connection). Keep in mind that the radio signals between the coordinator and the swipers can easily travel through non-metal walls, but cannot travel through metal plates or large metal objects like pumps, control boxes, or water tanks.

The installation of the coordinator is simple. Connect the RJ-45 cable from the DSL modem (or whatever internet connection you have) to the Ethernet connector on the coordinator. Plug the AC adapter into any 120VAC wall outlet and plug the adapter's cord into the power connector on the coordinator. Then attach the coordinator's antenna to the connector marked "Antenna".

You should see some of the LED indicators on the coordinator light up and/or blink. After a few seconds the RUN light should be blinking. If so, then the coordinator is able to connect to the Internet correctly. The operation of all the lights and buttons is described below in the section "Testing the installation".

If the RUN LED is blinking, then the coordinator is working.

If you are using a Wi-Fi network on your site, be sure to separate the wireless router's antenna from the CryptoPay coordinator's antenna by at least 6 feet. This will prevent radio interference.

Swiper installation

The CryptoPay swiper can be mounted to any metal surface. Three holes are required – two for mounting screws and one for the connection cable to pass through. See the attached drawing for details about the mounting holes. The two holes may be drilled with 3/16" and 3/8" drill bits. The stainless steel backing plate on the swiper does not have to be grounded. It is not internally connected to the swiper electronics.

Be sure that the swiper is mounted with sufficient space above and below the swiper so that a credit card can enter and exit the swiper without hitting any obstacle, such as a wall or box edge that protrudes from the front of a coin box.

After drilling the holes as shown in the attached drawing, feed the connection wires through the larger hole in the panel ***taking care not to cut the wire insulation***. Then attach the swiper to the panel using the supplied #8 screws.

Connect the wires as shown below (see next section if you are unsure of how to connect the coin signal):

Wire Color	Signal Name	Where to Connect
Black	24 AC Common	24VAC Common
Yellow	24 AC Hot	24VAC Hot
Blue	Signal - DC	Timer coin/CC input*
Red	Signal – AC	Timer AC input

* If your timer does not have a CC input, connect the Signal line to the Coin pin on the timer.

After connecting 24VAC, the lights on the front of the unit will light up. If the swiper's LED bar is blinking yellow, then the swiper is in "Out of service" mode. In this mode, the swiper must be configured first before use. Call Genesys at 719-277-7400 to configure your swiper. When the swiper is configured, the swiper's LED bar will indicate running state by displaying a "waterfall" pattern of various colors moving in the direction of a card swipe. If the lights are blinking red, then the swiper has not yet connected to the coordinator. Once the swiper has connected to the coordinator, the swiper will indicate running state, even if the connection to the coordinator is later lost.

Timer (coin) signal hookup

The swiper will send pulses to the timer, one for each virtual coin purchased by the credit card customer. Some timers are designed to accept a DC input pulse, and others require an AC input pulse. The CryptoPay swiper has two output wires – one for DC (blue) and one for AC (red). The DC output is designed to pull a DC signal level (typically 12V) down to the common line (0V) during each coin pulse. Most timers are designed to work this way. However, some equipment (vacuums, for example) may require that an AC signal be shorted to the common or 24VAC line to signal a coin input. The red wire on the swiper can give the timer the correct AC signal it requires.

CryptoPay swipers have been made to work with all major brands of timers. Here are some common hookups. Unless otherwise noted, the yellow wire should connect to 24VAC hot, and the black wire should connect to 24VAC Common.

AC Timer connections

For timers that require that the coin signal be driven with a 24VAC pulse, rather than a DC pulse, use the RED wire on the swiper to connect to the coin signal. The red wire will be connected momentarily to the YELLOW (AC Hot) wire when the coin signal is activated. If the coin signal is an AC Hot signal that must be momentarily connected to the AC Common line, then reverse the BLACK and YELLOW wires so that when the RED wire and YELLOW wire are connected, the coin signal will be correctly connected to AC Common.

Timer model	Hookup	Notes
DC Input timers (Blue wire)		
Dixmor LED2 Dixmor LED3	Blue wire to COIN input (pin 2)	
Dixmor LED5 Dixmor LED6 Dixmor LED9	Blue wire to CC input (pin 8) NOTE: Firmware must support CC input	Can also connect red wire to COIN input (pin 2)
Dixmor LED7 Dixmor DX2000-2	Blue wire to CC input (pin 9) NOTE: Firmware must support CC input	Can also connect blue wire to COIN input (pin 2)
IDX AT411	Blue wire to COIN input (pin 7)	
IDX LTT800/ LTT802/ BT912	Blue wire to COIN input (P1- pin 3)	
Ginsan GS-400	Blue wire to COIN input (red/green) Yellow wire to 24VAC common (Purple wire) Black wire to 24VAC hot (Red wire)	Yes, hot and common seem to be reversed from other hookups.
Ginsan GS-401/ GS-402/GS-7/ GS-8/GS-75/ GS-85/GS-87/ GS-255	Blue wire to COIN input (pin 4) Yellow wire to 24VAC common (pin 3) Black wire to 24VAC hot (pin 1)	Yes, hot and common seem to be reversed from other hookups.

Timer model	Hookup	Notes
Ginsan GS-403/GS-9	Blue wire to COIN input (pin 4) Yellow wire to 24VAC hot (pin 7) Black wire to 24VAC common (pin 5)	
Ginsan GS-11	Blue wire to COIN input (pin 3) Yellow wire to 24VAC hot Black wire to 24VAC hot (pin 4)	Requires an external transformer.
D&S DS204	Blue wire to COIN input (pin 6) Yellow wire to 24VAC hot (pin 1) Black wire to 24VAC common (pins 4 and 7)	Must short pins 4 and 7 together
AC input timers (Red wire)		
Coleman 1034S	Red wire to XCOIN input Yellow wire to 24VAC hot Black wire to 24VAC common	
Dixmor LED5 Dixmor LED6	Red wire to CC input (pin 2)	For older code versions that don't support a credit card input, use this connection.

Timer configuration

IMPORTANT NOTE: Count-up mode is only supported by Dixmor timers of recent vintage. Also, count-down mode with different prices for coins and card is only supported by Dixmor timers of recent vintage. If you are unsure if your timer supports these credit card features, call Dixmor for more information.

For count-down mode, no special configuration is needed. The timer should be set for the same coin as the swiper – usually 25 cents. The swiper will send one pulse for each coin charged.

For count-up mode, the timer should be set for a “credit card” value matching the swiper's coin configuration (This setting will not affect the coin value used for the coin mechanism). The swiper will send one pulse for each coin's worth of time elapsed.

Connecting the timer's BLUE Signal line to the CARD pin on the timer enables special features in the timer for use with credit cards. The timer will display the words “VERIFYING CARD” immediately after a card is swiped, and will display the message “\$2.50 ON CARD” when the wash has completed (with the correct amount, of course).

Testing the installation

Follow this checklist. When the checklist is complete, then your system is ready for your customers to use.

Item	Item	What to do in case of problems
1. <input type="checkbox"/>	Coordinator plugged in, RUN light is blinking.	<ul style="list-style-type: none"> * It may take a few seconds for RUN light to blink. * Try unplugging power and re-plugging power cable. * Make sure the Internet modem or router is working correctly. * Try re-arranging the ethernet cables, and using a different jack on the modem/router. * Take the coordinator to another location with internet connection, see if the RUN light blinks there. * If lights B or C are blinking, wait until these have finished.
2. <input type="checkbox"/>	With swipers connected and powered ON, the CryptoNet light on coordinator should blink.	<ul style="list-style-type: none"> * Make sure the coordinator's antenna is attached. * Move the coordinator around until the CryptoNet LED blinks. * Try to establish a line-of-sight placement between swiper and coordinator with no metal between the two points. * Add more swipers to take advantage of the mesh networking effect.
3. <input type="checkbox"/>	Verify configuration of the swipers	<ul style="list-style-type: none"> * If the swipers are blinking yellow, then they have been configured to be out of service. * Call Genesys at 719-277-7400. Ask to configure or verify your swipers.
4. <input type="checkbox"/>	Test the swiper wiring (See next section)	<ul style="list-style-type: none"> * Re-examine the wiring. * Move on to the next bay. If it works, compare the two for differences.
5. <input type="checkbox"/>	Swipe a valid credit card. Verify that the charge went through	<ul style="list-style-type: none"> * Call Genesys at 719-277-7400 and ask if the card was approved. * The charge will show up on your credit card account in a day or two.

Testing the swiper hookup

Assuming the coordinator is powered up and the swipers are powered, then you should see that the swipers are running a “waterfall” pattern of varying colors showing the direction of card swipe. If the swiper is in Out Of Service mode, then the light bar will blink a yellow color (some people see this as white). This means that the swiper is not yet configured.

In either case, it is possible to test that the swiper is correctly connected to the timer. After connecting the swiper, follow the instructions below.

If the swiper is running (light bar is running all colors), then you can either use the setup mode shown below, or simply swipe a credit card. For Out of Service (blinking yellow) mode, the only option is to use SETUP MODE:

What to do	What should happen	Troubleshooting
Place the coordinator in SETUP mode (see blow)	<ul style="list-style-type: none"> * The RUN light on the coordinator should blink quickly. * The swipers should display solid colors in a sequence. 	<ul style="list-style-type: none"> * Make sure the internet connection is working. * Be sure to hold down SW2 for at least two seconds after power is connected.
Tap the swiper button without holding it down (short taps).	The timer should register a coin input.	<ul style="list-style-type: none"> * You can use a short piece of wire to apply a coin signal. Touch the swiper's BLACK and BLUE wires together (or RED and YELLOW for AC output) * Make sure that the timer's COMMON line is connected to the swiper's BLACK wire.
To test count-up mode, hold down the swiper button.	The timer should begin counting up.	* This only works with Dixmor timers of recent vintage.

IMPORTANT NOTE: Be sure that your coordinator has been programmed with your merchant account before you begin operation. Without a merchant account, all cards swiped will be declined.

Setup mode

To enter setup mode, do the following:

1. Unplug the power plug from the CryptoPay coordinator.
2. Press and hold the SW2 button.
3. Connect the power plug to the CryptoPay coordinator.
4. Continue to hold SW2 for at least three seconds.

In SETUP MODE, RUN light will blink at a fast rate, about 5 times per second.

SETUP MODE causes the following changes in behavior, useful for testing the installation:

- Any valid credit card swiped will be automatically approved, without actually submitting any card data for processing. This allows you to test that the swiper accepts a card, that the swiper is correctly connected to the carwash electronics, and that the timer(s) display the correct messages and times during the wash.
- Each swiper will display the signal strength to its parent node by setting the display bar to a single color only. The colors indicate the signal strength:
 1. Green – Very strong signal
 2. Yellow – Strong signal
 3. Red – Weak signal, but still connected.
 4. Purple – No signal, unit is not connected.

NOTE: In Out Of Service mode, the swipers will display all colors in sequence.

It is not necessary for all swipers to have a strong (green) signal. If a swiper shows a consistent yellow status, then the performance of the unit will be fine. Even if the swiper shows an occasional red or purple status, as long as the unit is usually connected, the card system will work. You may try to improve the connection situation by moving the coordinator to a new location. Sometimes moving the coordinator just a few inches can make a dramatic difference.

The coordinator will stay in SETUP MODE for 30 minutes, and will then revert to normal running mode. To exit SETUP MODE, simply reset the unit by pressing SW1, or remove and re-apply power to the coordinator.

Reference – LED's and buttons on the coordinator

The coordinator has a row of buttons on the bottom edge labeled SW1, SW2, and SW3.

- SW1 – this is the RESET button for the coordinator. Pressing this button re-starts the coordinator.
- SW2 – use SW2 to enter SETUP MODE (see page 6).
- SW3 – pressing SW3 will cause the coordinator to enter/leave DIAGNOSTICS MODE. This mode of operation is useful for running remote diagnostics of the coordinator. In this mode, pressing SW2 will force one stored transaction to be processed and flushed from memory. This is usually not good to do. Holding down SW2 will clear all transactions from memory, so please never to this.

There are two LEDs on the coordinator for the ethernet connection:

- SPD is lit if the network is high-speed (100Mbits/s).
- ACT is lit if the network is connected and will blink when the coordinator is accessing the network.

There are four status LEDs on the coordinator:

- **“A”** led will blink once for each stored transaction. These are transactions that have been started (card has been used), but not finalized – the last swipe was less than two hours ago and it is possible to add another charge to the purchase.
- **“B”** led will blink when the coordinator is connected to a server on the internet – either the Magensa gateway for processing credit cards, or the CryptoPay server.
- **“C”** led will blink when any firmware in the system is being upgraded.
- **“RUN”** led will blink about once per second normally. During SETUP MODE, the RUN light will blink faster. If the RUN light is not blinking, and no other LED's (A, B, or C) are blinking for more than 20 seconds, then the unit should be reset by pulling the power cord and re-plugging the cord.

First Data merchant account activation

Perform the following steps to activate your credit card merchant account:

- 1) Login into: <https://www.merchantoffice.com>
- 2) Enter your merchant number
- 3) Click on the 'New User' button and create a password
- 4) Retain your merchant number and password for future use.

Installation Record

Please note below the location where each swiper was installed. This information will be needed for future expansion of your system, where each individual swiper will need to be distinguished from its peers. The Swiper ID is printed on the back of each swiper, and is programmed into each swiper unit.

After recording the installation, please file this sheet for future reference. You only need to record the first few digits of the swiper ID, enough to uniquely identify each swiper.

Installed Location:

Swiper ID	Location (Bay1, Vac1, etc.)	Notes



GENESYS
technologies

Genesys Technologies
977 Elkton Drive, Colorado Springs, CO 80907
719-277-7400

CryptoPay – Manufacturer’s Limited Warranty:

Genesys Technologies warrants its CryptoPay Credit Card System against defects in materials and workmanship under normal use for a period of: 1 year from date of shipment.

This limited warranty does not apply: (A) to damage caused by improper use of end product ; (B) to damage caused by accident, abuse, misuse, flood, fire, lightning or surge, earthquake or other external causes; (C) to damage caused by use of the product outside the permitted or intended use; (D) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of Genesys Technologies or authorized by Genesys Technologies; (E) to a product or part that has been modified to alter functionality or capability without the written permission of Genesys Technologies; (F) to cosmetic damage, including but not limited to scratches or dents, that does not otherwise affect the product's functionality or materially impair it's use.