FlexClock

Multi-Purpose Time Device

Z18 Setup Guide

When you enroll a fingerprint, the system tries to capture between ten and fifteen minutiae for use in recognizing the employee. But if for one employee the image quality is poor enough that the system can only manage to capture a few (such as three or four), there is a risk that the simplistic pattern may be found on other employees' fingers, resulting in a false recognition. The enrollment system tries to eliminate as many of these as possible by rejecting them during the verification step.

In case of misidentification, it is important to delete both the employee being misidentified and the employee whose PIN is appearing on the screen. It is most likely that the problematic template file belongs not to the person touching the sensor, but the person whose time card is getting the punches.

You can eliminate the risk of misidentification by having employees type their PIN number before touching the sensor. After a PIN number is entered, only the correct fingerprint enrolled for that PIN can be considered a match.

Additionally, you can change the sensitivity setting on the fingerprint menu (option #6) to tighten the matching tolerance, but doing this unnecessarily can make the fingerprint reader difficult to use, so you should only do this if you are having problems.

Problem: Sensor Contact Surface
The fingerprint lens in the Z-series clock needs to be clean to function properly. A toothbrush and light soap can be used.

Additional Questions
If you have any additional questions regarding the installation or use of your FlexClock, please contact your service provider.

The FlexClock Z18 delivers superior value and features with its integration of timekeeping and universal proximity badge card access. It connects to the web in near real-time (Ethernet) and offers additional value in its ability to support a "bell chime" and biometric employee identification with PrintReader.

The Z18 offers a variety of unique features to help employers effectively maintain a work force including universal proximity badge support (Wiegand), Ethernet data connectivity, bell "chime" support (sold separately), and biometric add-on support (sold separately).

Punch Data Collection

Collecting employee punches with the Z18 is primarily accomplished through the use of a proximity badge card (Wiegand), but can also easily be done through the entry of an employee PIN code if a proximity badge has not yet been assigned or is temporarily unavailable. The PrintReader is a popular data collection option which is sold separately, providing employers with biometric fingerprint verification.

Installation

The Z18 is a wall-mounted unit that requires a "fixed mounting," with its wiring and connections concealed behind the wall. As such, the Z18 requires professional grade installation by an electrician, "handy man," or qualified technician.

Connectivity

The Z18 connects to the web to send employee data for online editing exclusively through a near real-time Ethernet data connection, also commonly referred to as "digital," Internet-based, or IP based. Punches are sent continuously throughout the day as employees clock in/out for immediate supervisory editing and reporting.

To minimize the time spent by employees at the clock, "background" punch transmission permits employees to clock in/out as punches are sent simultaneously to the server.

This is normal if an employee PIN number is entered that has never had a fingerprint enrolled. This is intentional so that new hires can immediately begin using the clock with minimal inconvenience. Once a fingerprint has been associated with that PIN the clock will always require fingerprint verification in order to accept that PIN in the future.

It is true that employees can simply make up non-existent PIN numbers and clock them in and out, without any verification. But this provides them no benefit. Since they cannot be matched to any employee's time card, the timekeeping website shows them as "unprocessed punches," where they can be viewed by a supervisor and then either posted to a time card manually (if considered valid), or simply deleted.

Problem: Misidentification

Misidentification is rare, but possible – particularly since the clock is calibrated by default to err on the side of convenience rather than rejection. You can adjust the sensitivity from the menu.

Any time the fingerprint reader mistakenly identifies one person as a second person, it virtually always means that the second person's original enrollment was poor quality. In most scenarios, the same one or two employees are involved every time.

Network Connection
You can always force the time clock to attempt to contact the timekeeping server at any time by pressing the 9 key.

The time clock's ability to transmit depends on your Internet connection. If you are having trouble transmitting, ensure your Internet connection is up.

You can unplug the clock's power at any time and plug it back in to force it to acquire a new IP address using Dynamic Host Control Protocol (DHCP).

Fingerprint Recognition

Problem: Enrolled Finger Not Recognized (Red Light)

- Is the employee using the same finger as enrolled? (Different fingers won't work.)
- Is the placement of the finger correct? (The center peak of the fingerprint needs to be touching the center of the sensor.)
- Is the finger injured, dirty, or wet?
- Is the fingerprint sensor clean and not damaged?
- Has the enrollment been deleted? (Deletions can occur on other clocks, and pass from clock to clock if you have more than one clock.)
- Has the same number been enrolled by somebody else? (This also can happen on another clock.)
- Is the fingerprint possibly not enrolled? (Use Finger Test mode, option 7, as an easy way to find out.)
- Try deleting and re-enrolling the fingerprint.
- Try entering the PIN number before touching the sensor. (This tells the clock which finger to expect, so it can perform a stricter match on just that one fingerprint template, instead of looking at the entire database.)

Problem: Punches Without Finger Verification
A common technical support complaint is that the clock seems to accept punches without requiring any fingerprint verification at all.

Time Clock

There are only two cables required to set up your new FlexClock Z18. One is for power, and the other is an Ethernet cable that connects to your network. Follow the quick setup steps below to set up your Z18. For detailed time clock setup instructions, see page 6.

1. Run a "in wall" power source and Ethernet connection to the time clock location

2. Use the enclosed template to cut hole(s) in drywall for installation

3. Find the power cable and the Ethernet connection cable (set aside remaining cables)*

4. Plug the Ethernet connection cable into the Z18 cable jack, in the bottom left, on the back of the clock

5. Plug the power cable jack into the Z18 on the bottom left, on the back of the clock

6. Connect the newly run Ethernet cable to the Z18 Ethernet cable, and the power connection to the power supply

7. Once the clock has power follow displayed clock prompts and page 6 for setup

 *You do not need the other cables shipped in the box for standard Z18 functions. Please call your PDS for instructions on adding a third-party proximity badge or bell support. The A/C power adapter is not included in the time clock box. The adapter is shipped as a separate item.

Clock Setup
The clock settings are retrieved from the timekeeping server. This includes time, date, time zone, Daylight Saving Time (DST), etc. Once the clock is connected to the network, you can press the 9 key to force the device to communicate. If you receive the message "UNKOWN SERIAL #," it means that your account has not been set up on the server. It can take up to 10 minutes for the Z18 to become active after it has been added to the timekeeping website.

Once your clock is set up , it will automatically transmit periodically. There is no need to force it to transmit with the 9 key, although, you can do this at any time.

Network Setup
The Z18 is compatible with most small business networks and the initial device start up and connectivity is automated.

Your company's IT department can tell you if you need to set up a "Static IP address." Usually, you do not need to do this. If you do, you can reach a hidden Network Configuration menu. To access this menu, press * or MENU (depending on your model), and enter the following password: "2663".

Firewall
Notify your firewall administrator that the FlexClock will make outgoing connections on TCP ports 8288 and 8289. By default, most firewalls allow this sort of outgoing connection without any additional setup. FlexClock only makes outgoing connections, so it does not need any setup for inbound connections.

Daylight Saving Time
Your clock automatically adjusts for Daylight Saving Time (DST) as instructed by the server. The adjustment takes place immediately when the clock reaches the designated time (i.e. 2:00 a.m.) Adjustments occur on a Sunday. From Sunday through Tuesday the clock will show a "DST checkmark" icon next to the time, to remind employees that the DST correction has taken place.

Setting a Manager Password
From the enrollment menu, the master manager password can be set. This password always provides access to the fingerprint menu, and never needs fingerprint verification. The default is "1234". You should change it immediately, and keep the password secure.
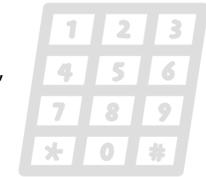
Your payroll company can generate a one-time "unlock" code to reset this password if it is ever lost.

The master manager password always has full access to the enrollment menu. It is not possible to reduce the master manager password to "limited access."

The manager password is set per-clock. Manager passwords do not automatically copy from clock to clock.

Setting Manager Fingerprints
From the enrollment menu, you can also set up to four (4) manager fingerprints. This lets you give employees access to the manager menu.

The employees' fingerprints must already be enrolled. Further, they can only enter the fingerprint menu with their fingerprint—NOT with their PIN number.

You can create two kinds of managers. A "limited" manager can only enroll new employees. A "full" manager has access to all options in the enrollment menu, including creating and deleting other mangers.

Manager privileges are set per-clock. Although fingerprint templates automatically copy from clock to clock the manager settings do not copy.

About Fingerprints
All fingerprints are unique. Even identical twins have unique fingerprints. All ten fingers on every person are uniquely distinct from the other. If a person enrolls their index finger, that same finger must be used when clocking in and out.

Fingerprints come in three basic types: whorl, arch, and loop. When reading a finger, the very first thing your fingerprint reader will do is classify the print into one of these three categories. Most people have a combination of two, or even all three types. As a point of interest, you may be able to classify each of your own fingers into these three categories just by looking at them.

Test Mode
On the enrollment menu, option 7 (The test menu) allows you to test the automatic identification capability of the fingerprint reader without punching anybody in or out.

In test mode, the clock will attempt to identify the finger on the sensor, and show the corresponding PIN number. The test mode can be used to train employees on the best way to touch the sensor.

It is normal for a finger to not identify correctly on the first try or two, especially if it is dirty, dry, or not centered properly on the sensor. If a fingerprint cannot be identified repeatedly, you should re-enroll it.

The "score" is an indication of how well the finger matched the original template. You should try for a score of 100 whenever possible.

The timekeeping website automatically performs adjustments to ensure everything is correct. There should rarely, if ever, be a need to adjust time cards—even if employees worked overnight during the time change.

If you live in an area that does not observe Daylight Saving Time (such as Arizona), the automatic adjustment is disabled by your payroll provider from the web site.

Clocking In & Out
Clocking in and out is simple: Press 1 to clock in. Press 2 to clock out. After you press 1 or 2, enter your PIN number, swipe your card, or place your finger on the PrintReader sensor. If your PIN number has been enrolled with a fingerprint, you must also touch the fingerprint sensor to verify your identity.

If the fingerprint has never been enrolled, and associated with a PIN, a fingerprint check is not required. This is intended as a convenience to new-hires. Once a fingerprint is enrolled with the PIN number, the fingerprint will be required in order to use the clock.

Additional prompts (such as department, job, or tip prompts) may appear. These are configured by your administrator from the timekeeping web site. The 4 and 5 keys can be used to clock "in" and "out," if enabled from the web site. This allows an alternate set of prompts to be shown to certain employees, but not others. This feature is commonly used at restaurants. For example, non-tipped employees may use these keys to bypass a prompt that asks "enter total tips." Contact your service provider for more information.

Fingerprint enrollment is simple and only needs to be done once per employee. If you own more than one FlexClock Z-Series unit, the fingerprint enrollments will automatically be copied to all of your other clocks. The timekeeping server stores a backup copy of the fingerprint template files, and they will automatically be restored if you ever replace or clear the memory of your clock.

Accessing the Enrollment Menu
The enrollment menu can be accessed by pressing 3 from the main "date/time" screen. The default password for the manager menu is "1234," and can be changed through the menu. We strongly recommend that you change this password immediately to avoid any unauthorized changes to the setup. For example, if employees can delete their own fingerprint enrollments, then they can bypass the fingerprint check entirely — reintroducing the risk of "buddy punching."

Enrolling Prints
To enroll a print, press 1 from the Enrollment Menu. First you'll be asked to enter the PIN number for the employee. This is the same number used to identify the employee on the timekeeping web site. The employee will be asked to touch the fingerprint sensor a total of four times: three to capture the enrollment and once more for verification.

Getting Good Results
We strongly recommend that immediately before enrollment, each person completely wash then completely dry his or her hands. It is always important to have high image quality, but even more so for the enrollment process. Poor image quality at enrollment will cause poor matching.

A supervisor should ensure that the employees touch the sensor the proper way. The finger should be touched firmly enough to the sensor so that the skin is flattened and easily read. The center point of the finger should be in the center of the sensor.

Re-downloading Fingerprints
At any time, you can force the clock to re-download the entire fingerprint database from the server. This is done by selecting option 5 from the menu. You can choose whether the clock should download prints from other clocks (assuming you have more than one), or whether it should download only prints enrolled on the same clock.

When you select the re-download option, nobody can use the clock until the re-download is complete. This only takes a couple of minutes.

The following things should be avoided during enrollment.

- Avoid moving the finger.
- Avoid using a dirty, extremely dry, or injured finger.
- Avoid using a wet finger. The finger should be towel dried if wet.

About Enrolled Fingerprints
A fingerprint template maps key points on a finger. For example, it's not possible to create a map of California from numbers, but given the map of all 50 states, an intelligent computer program can uniquely detect numbered dots assigned to the topographical region, that only match California. The fingerprint reader works exactly the same way to recognize and associate a fingerprint with an employee.

The system does not store or record any fingerprint images. The only thing stored is a numerical series of key points taken from the finger. These are called "minutiae." Fingerprint minutiae are landmarks—encoded as a series of numbers—that can be used to verify whether a fingerprint is the same. The original fingerprint image cannot be recreated from minutiae.

Using this criterion as well as several others, through the process of elimination, the reader can quickly determine which prints cannot match, until it narrows it down to a single best match. For this process to work properly, it is vital that the central part of the finger containing this vital feature be placed in the middle of the sensor. Without proper training, employees may place their fingers too high or too low, making accurate distinction difficult or impossible. For optimum results, train users to find this important part of their fingerprint so they will know how to correctly position their finger on the sensor.

If multiple fingers need to be enrolled for the same person an additional code can be associated with that employee (up to 3 unique ID's) on the timekeeping website. A different finger could then be enrolled with each unique ID number.