

adiPad • adiTouch



USER MANUAL

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INTRODUCTION

ADI Time terminals

ADI Time® provides a complete product line of IP based real-time “Push” terminals designed for adiTime Software solutions. The offerings include an innovative touch screen series (adiTouch™) and a keypad series (adiPad™). ADI Time terminals working in tandem with ADI Time’s powerful software, helps organizations of any size completely automate their time and attendance processes.

Technology

Our world class platform and intuitive user experience are designed to provide fast, accurate, and reliable data collection for any labor environment. Ideal for time and attendance, workforce management, employee self-service, shop floor data collection, and access control, ADI Time is the intelligent and affordable decision for any organization.

Benefits

IP based real-time "push clock"

All employee information is instantly recognized in adiTime Software.

Lumidigm® reliability

This exceptionally reliable fingerprint sensor virtually eliminates the common performance problems

experienced when using conventional fingerprint sensors such as failure to enroll, high false read rates

and poor performance in outdoor environments.

Eliminates buddy punching

Ensure proper data collection by eliminating opportunities of employee time theft.

Easy-to-use graphical user interface

The intuitive GUI was developed with smartphone ease-of-use in mind, and is combined with

the brilliant color display to provide a world-class user experience.

Seamless integration to adiTime Software

The only terminal designed by ADI Time, for ADI Time. Tight integration means the terminal is always up-to-date with software revisions and employee data.

ZeroConfig™ setup and easy to install

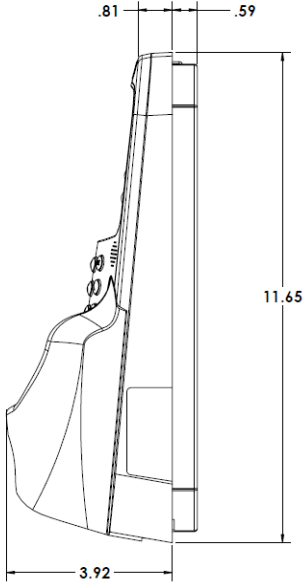
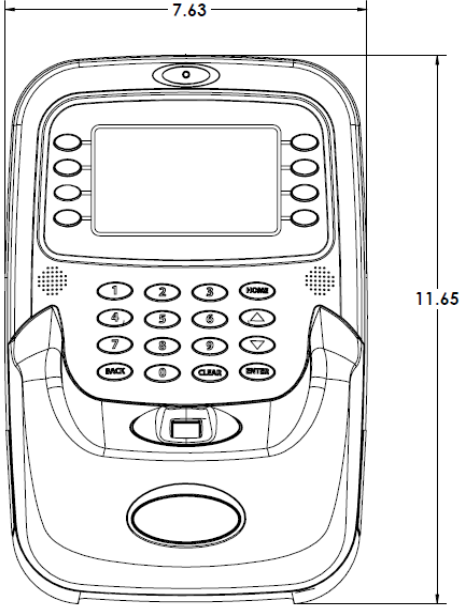
No user interaction is necessary for initial configuration. Simply connect power and data to the terminal and start punching.

Reliable and affordable

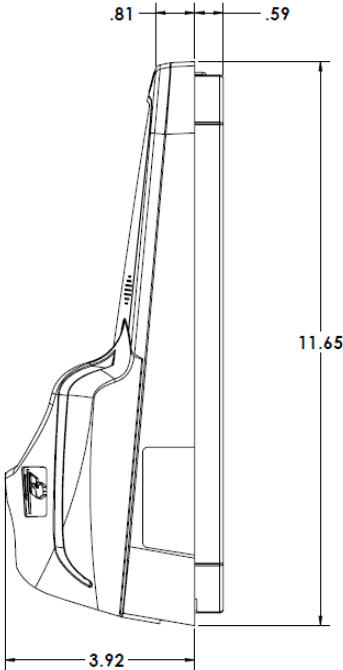
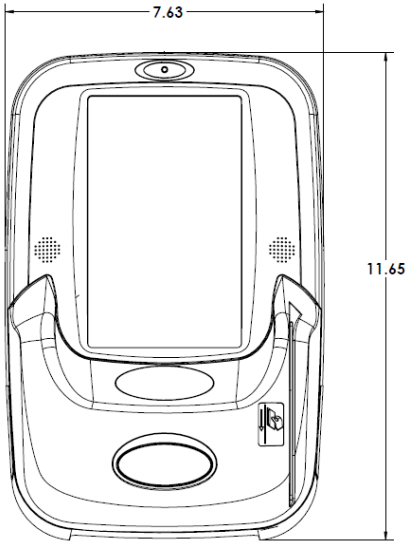
Low entry price provides a platform for small companies to realize efficiencies and power of biometric terminals when coupled with ADI Time's industry leading time and attendance software. adiPad and adiTouch terminals are rugged and durable to withstand years of hard use from office settings to factory floors.

UNIT Images

adiPad



adiTouch

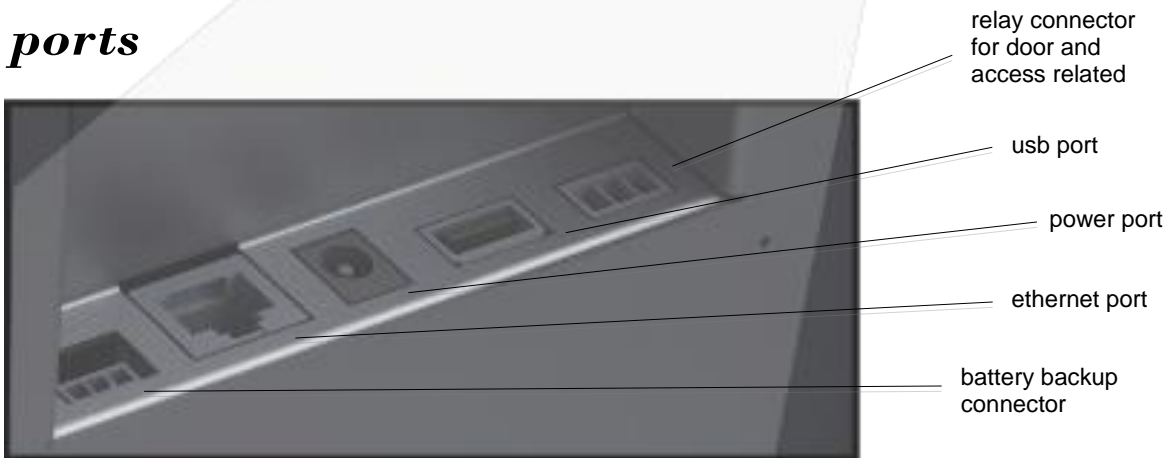


unit images, cont'd

rear view



ports



Specifications

weight 3.5 lbs (no mounting plate); 5.5 lbs (with mounting plate)

dimensions 7.63"W x 11.65"H x 3.92"D

power 24W @12VDC

Installation with universal power supply:
100 - 240 VAC: 47 - 63 Hz

environment Operating: 32°F to 113°F (0°C to 45°C); 20% to 80% RH

Storage: 14°F to 140°F (-10°C to 60°C); 5% to 85% RH

communications Ethernet and USB

platform 166Mhz processor, 512MB flash memory with optional expansion

biometric Verification (1 to 1 matching)

authentication Validation (1 to many matching)

templates capacity 1,000 (1 to Many), 5,000 (1 to 1) with expansion capability

access control SPDT relay for door lock output

Relay terminals rated for 120V: 5A

optional battery Two hour battery backup utilizing 8 AAA NiMH batteries backup

certifications ETL, FCC Class A

principle of operation


ADI Time terminal platform

The ADI Time terminals are all built based on the same powerful processor platform which is utilized in many smart phones. This platform is a 166Mhz processor with upgrade capacity. ADI Time utilized this processing platform with common components to deliver a terminal platform which is flexible for different data collection methods, as well as different data input methods. This provides the same performance for a cost sensitive product, as well as a product with demanding data input requirements.

How lumidigm™ reader works

Our world class platform and intuitive user experience are designed to provide fast, accurate, and reliable data collection for any labor environment. Ideal for time and attendance, workforce management, employee self-service, shop floor data collection, and access control, ADI Time is the intelligent and affordable decision for any organization.

Continuing innovations and improvements to the various biometric technologies have made biometrics a popular choice in the workplace. ADI Time offers biometric finger readers options to help you maximize the efficiency of your workforce and eliminate time theft when one employee clocks in/out for another employee costing organizations thousands of dollars a year. The American Payroll Association (APA) estimates losses from buddy punching can equate to 2-5% of total payroll. A finger reader can also serve as an access control systems providing a high level of security for your workplace.



The ADI Time terminals utilize Lumidigm multispectral technology which provides superior finger images by evaluating the subsurface fingerprint to increase biometric performance and create a more secure and reliable result.

- Eliminates issues relating to failure to enroll and failure to acquire headaches
- The industry's best fingerprint images
- Protects against fake and spoof fingerprints
- Enables high throughput
- Maintains performance in rain, cold, dry and hot environments
- Requires minimal maintenance
- Dramatically reduces cost of system ownership and accelerates return on investment

When an employee is first enrolled in a finger reader biometric time and attendance system, our software records a template of the employee's finger scan and associates that template with the employee's ID number. This template is then stored in the ADI Time software. This template only measures eight various points on the finger, stored in a digital format (not in image format of the fingerprint). It is also stored in encrypted format and cannot be used to re-create anyone's fingerprint image. This template is not an actual fingerprint. When an employee attempts to clock in/out or attempts to use the finger reader for employee self-service, ADI Time will verify the finger scan matches the template originally stored for that employee. When there is a match the employee is allowed to perform his or her function at the terminal.

PROXIMITY TECHNOLOGIES

Proximity cards have become pervasive in today's society for access control. Our solution has implemented the ability to read many different types of proximity badges with a single model. This allows customers to utilize existing infrastructure, or select the best solution for their environment.

125kHz

- GE/CASI Proximity

- HID Proximity

- AWID Proximity

- Lenel Proximity

13.56MHz

- ISO 14443 MIFARE DESFire EV1

- ISO 14443 Secure MIFARE Classic

- ISO 14443 PIV 75-bit format

- CSN for iClass, ISO 15693, ISO 14443

BAR CODE TECHNOLOGIES

Bar code technologies exist in many places, and are used for identification in almost all areas of business. Implementation of bar code systems helps companies recognize increased efficiencies due to human error and increased productivity. Accurately tracking time and attendance data through bar codes can help improve a company's processes by utilizing an economical technology.

Supported Bar Code technologies are :

Code 39

PLANNING THE INSTALLATION

The ADI Time terminal must be installed indoors. Exposure to outdoor elements, such as rain or snow will cause damage to the device and will void the warranty. For best performance and maximum reliability, select a location on a flat interior wall that provides adequate lighting with minimal exposure to the elements (e.g. moisture, extreme temperatures, or direct sunlight). For more information about environmental requirements, see the terminal specifications on page 6.

The location to mount the terminal must also have access to an electrical outlet located within x feet. To comply with the ADA requirements, ensure the reader of your specific model is 40" – 48" from the floor.

The terminal can be located anywhere in a TCP/IP Ethernet 10/100BASE-T network, providing the single segment length from the network hub or switch does not exceed 300 wire-feet.

MOUNTING THE BASE

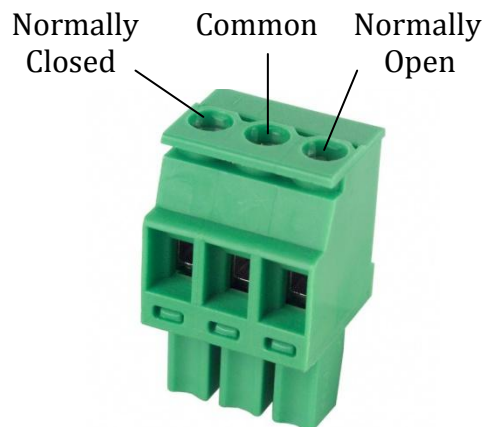
Using the terminal base as a template, mark the four mounting holes on the mounting surface. Be sure to position the lower mounting holes only when the top holes are in the locked-position in the "keyhole" slots.

Use #8 (or 4mm) screws to mount the base to the wall. Select mounting hardware that is appropriate for the mounting surface material, e.g. drywall anchors if mounting to drywall. Pre-drill holes and install mounting hardware as required. Mount the terminal base on the top mounting screws and then install the bottom mounting screws.

MAKING THE CONNECTIONS

Route network and power supply cables through the mounting base and secure to tabs with nylon tie-wraps. Route and attach relay and/or battery pack cable(s) if applicable. Connect cables to their respective ports and hang the terminal on the mounting base using caution to neatly tuck the wires behind the terminal. Use both screws provided to tightly fasten the terminal to the base.

Please contact ADI Time for the mating connector for the Door Relay port. Wiring for the connector is shown below.



KEYPAD OPERATION

The adiPad is designed with an intuitive user interface. The data input includes a 16-digit keypad for data entry. The keys are defined below :

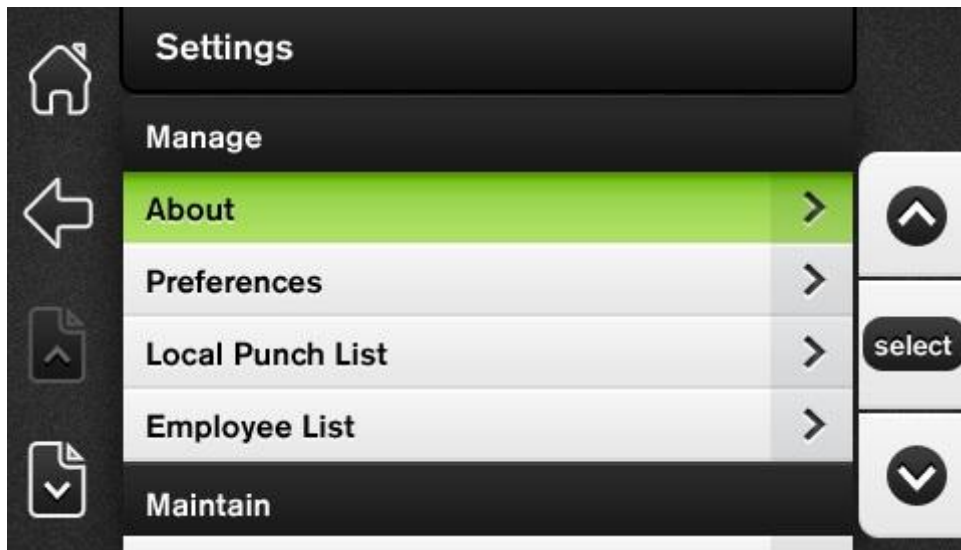
- 0 – 9 : numbers for keypad input
- Back : Backspace for data entry
- Clear : Clear the entire field during data entry
- Home : Navigate the menu back to the "Home Screen"
- Up Arrow : Move the cursor on the screen up
- Down Arrow : Move the cursor on the screen down
- Enter : Complete data entry

There are also 8 soft buttons that are located on the right and left hand sides of the display. These soft buttons are used to navigate through the adiPad interface. The buttons are associated with the on-screen arrows and indications shown in the Graphical User Interface (GUI). The home screen example below has 4 soft keys enabled for the following actions :

- Settings
- Department transfer
- Job Transfer
- Self Serve



Many of the GUI screens for the adiPad have lists of data which may be actionable. An example of these lists is below for the settings screen. The list below has different sections which are separated by black header rows (Manage and Maintain in the example below), and a green highlighted selection which indicates the current selection. Navigation through these screens is accomplished by using the soft buttons which are also defined below.



Navigates the UI back to the "Home Screen"



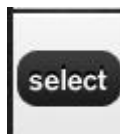
Navigates the UI back one selection



Navigates through a list by moving the green highlight up one unit



Navigates through a list by moving the green highlight down one unit



Takes action on the selection highlighted on the UI



Navigates through a list by moving the green highlight down by one page



Navigates through a list by moving the green highlight up by one page

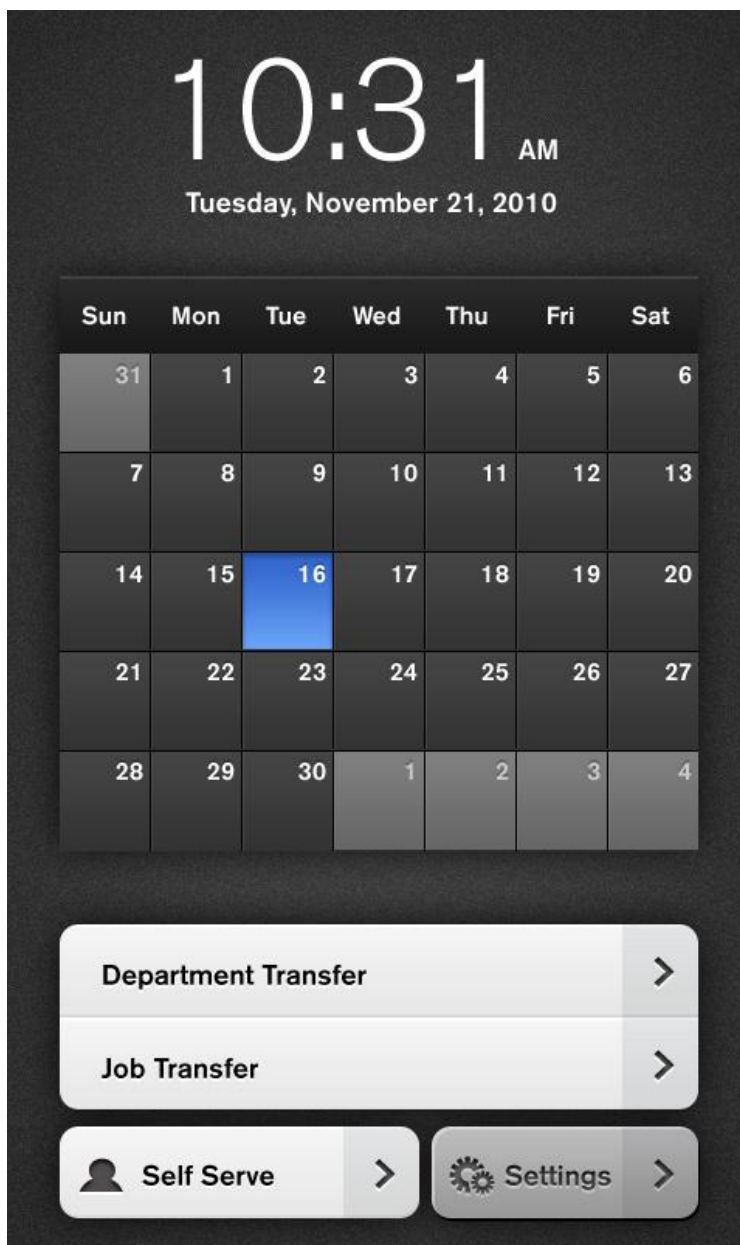
Text input may also be required on several screens of the adiPad. The screen show below is an example of the method for entering text data. The keypad is navigated by using arrows with the soft keys on the right side, and the select soft key on the right side of the display.

Numeric data entry is achieved by using the numbered keys under the display on the ADI Time terminal.



TOUCHPAD OPERATION

The adiTouch is designed with an intuitive user interface. The display is armed for touch input such that the buttons can be selected and actioned by finger touch. The Department Transfer, Job Transfer, Self Serve, and Settings buttons are armed in the adiTouch Home Page below.



ADI TIME TERMINAL CLOCK OPERATION

CLOCK STARTUP (FIRST TIME POWER UP)

The ADI Time Terminals are designed to simplify the installation and initial power up requirements. The result of these features is a product which ships with in two different configurations to best fit the installation environment :

1. The ADI Time Terminals can be configured with ZeroConfig when shipped. The terminal will be pre-configured with proper settings to be discovered by the adiTime software instance, and automatically updated with latest software and employee information. There is no user interaction required to begin using the clock. Please contact your sales representative to learn how to take advantage of this feature.
2. The ADI Time Terminals can be shipped without pre-configuration settings, and requires little setup before using the clock.

How ZeroConfig works

ZeroConfig is designed to be a no hassle, zero configuration feature. It has the ability to automatically configure the clock by requesting your pre-defined requirements from your instance of adiTime. Each ADI Time Terminal has a serial number which can be linked to a specific customer account. The ADI Time Terminal will attempt to connect to the ADI Time servers on initial power up, and will be automatically associated with your hosted adiTime software if properly identified. The clock will be properly updated, and ready to use after it is properly identified.

If ZeroConfig fails at any step, the user will be prompted to manually configure it.

How manual configuration works

Manual terminal configuration will be required if ZeroConfig option is not available. The manual configuration is required for network settings (if DHCP is not available), ADI Time Server connection settings, and sync. Settings required are:

Network Configuration

- IP Address
- Subnet Mask
- Default Gateway
- DNS1
- DNS2

ADI Time Server

- Host SSL On
 - Enable this feature if your adiTime instance is setup for https with SSL
- Host URL
 - url should be entered without the http://
 - Example : adiTime software instance login at <http://adi/example/security/Login.aspx> would require adi/example entered into the url field in the clock
 - IP addresses can also be used for url entry
- Username
 - Enter the API username in this field
- Password
 - Enter the API password in this field

- Clock Site ID
 - Ensure this value matches the Clock Site value in the adiTime software.
Please refer to adiTime documentation for proper configuration instructions.
- Clock Address
 - Ensure this value matches the Clock Address value in the adiTime software.
Please refer to adiTime documentation for proper configuration instructions.

Enrollment warning - * The first employee to be enrolled must be an Employee Type of Supervisor or Manager. Please review the Enrollment section for further details on how to enroll.

Perform Clock Sync

Clock syncs are performed in order to sync the ADI Time terminal with your instance of the adiTime software. This ensures that the terminal is up to date with all employee information, departments, and job information. The clock sync process is automatically initiated when ZeroConfig is configured, but must be initiated manually through the settings menu when the clock is manually configured. This action is required at the end of the first time clock startup to prepare for biometric enrollment, and/or clock operation.

CONFIGURING YOUR CLOCK PREFERENCES

The ADI Time terminals can be uniquely configured to work most efficiently in different types of customer environments. The preferences menu incorporates all feature settings which can optimize the terminal performance. A list of preference settings and descriptions are below:

- **Maximum ID length:** The maximum length of employee clock number allowed
- **Audio Confirmation:** Enabling this setting turns on the sound confirmation for punches.
- **Keypad Sounds:** Enabling this setting turns on the sound confirmation for key presses.
- **System Volume:** Setting allows the user to control the volume settings for all terminal sounds.
- **Display Timer:** Setting allows the user to control the length of time that a punch confirmation is displayed on the terminal UI.
- **Inactivity Timer:** The clock home page will automatically be loaded after the specified amount of idle time as been reached.
- **Sync Time:** The clock will automatically sync employee data at specified time.
- **Firmware Update Day/Time:** The day/time that the clock will attempt to automatically update its firmware. It will not update unless a newer version is found.
- **Device Name :** Setting allows the user to configure an ID to identify the terminal
- **UTC / GMT offset:** Setting enables the terminal to set the correct time based on customer location.
- **Time Format:** Setting configures the clock to display time in either 12 hour or 24 hour format.
- **Observe DST:** Setting enables the terminal to automatically set the time based on daylight savings adjustments.
- **Door Relay:** Setting can be used to only activate relay when punching or let the employee decide (Both). Setting has no effect on transfers.
- **Relay Duration:** Setting configures the time which the door relay stays activated after the employee punch
- **Punch Interval:** Setting restricts an employee from making an additional punch within specified amount of time.
- **Allow Dept Transfers:** Enabling this setting displays the Department Transfers option on the Home Page, and enables the feature.
- **Allow Job Transfers:** Enabling this setting displays the Job Transfer option on the Home page and enables the feature.
- **Allow Pin Entry:** Enabling this setting allows employees to use the keypad for punching. The keypad is used on the adiPad, and an optional keypad is displayed for functionality on the adiTouch. *Note:* Enabling this option on a biometric terminal will turn on 1 to 1 mode.
- **Allow New Badge:** Enabling will allow punching with badges that are not associated with any employees. Applicable to only proximity and barcode cards.
- **Self Service:** These options will hide the self service option when set to No.

BIOMETRIC ENROLLMENT

The ADI Time biometric terminals utilize Lumidigm multispectral technology which provides superior finger images by evaluating the subsurface fingerprint to increase biometric performance and create a more secure and reliable result. The Lumidigm technology uses multiple spectrums of light and advanced polarization techniques to extract unique fingerprint characteristics from both the surface and subsurface of the skin. The nature of human skin physiology is such that this subsurface information is both relevant to fingerprint capture and unaffected by surface wear and other environmental factors. This technology allows ADI Time to store templates of the employee's finger image instead of finger prints, alleviating security concerns.

Enrollment is required for any employee that accesses an ADI Time biometric terminal. The enrollment process consists of taking 3 scans of each finger. Each scan is analyzed and an algorithm is used to create a unique numeric template for each finger. It is important to note that actual fingerprints are not stored. Instead, a numerical template is created and then compared each time a finger is read.

First Enrollment

The first employee to be enrolled must be an Employee Type of Supervisor or Manager. Once the first enrollment has succeeded, navigating to the Settings menu is only possible for Supervisors or Managers. It is recommended that several Supervisors and/or Managers are enrolled initially.

- Select the "Settings" button
- Select "Employee List"
- Select the employee you wish to enroll by name
- Select "Enroll/Re-enroll Now"
- Follow the on-screen instructions

* If the enrollment failed, or you feel you didn't properly place your finger on the reader, please enroll again.

BADGE CREDENTIAL MANAGEMENT

ADI Time Badge Terminals are available in proximity and bar code models. Both versions of the badge terminals require adiTime software configuration for proper operation. Each employee requiring access at the terminal must have the Clock ID field properly match the credentials associated with their proximity or bar code card. Please refer to your adiTime software documentation for appropriate configuration information.

Bar Code Credentials

The ADI Time terminals configured with bar code data input are compatible with Code39 and Interleave 2 of 5 bar code symbologies.

Code 39 is a variable length, discrete barcode symbology. The ADI Time terminals support 3-digit to 12-digit string lengths. The bar code example below is a 6-digit Code 39 bar code where "123456" would need to be entered into the ClockID field in the adiTime software instance.



Businesses sometimes specify bar code strings with multiple leading zeros to allow future flexibility as they add cards to locations or departments. The adiTime software ignores leading zeros that are read by the bar code reader. The bar code example below is a 10-digit Code39 bar code where "123456789" would need to be entered into the ClockID field in the adiTime software instance.



Interleaved 2 of 5 is a continuous two-width barcode symbology encoding digits and is typically used in warehouses. I2of5 encodes pairs of digits; the first digit is encoded in the five bars (or black lines), while the second digit is encoded in the five spaces (or white lines) interleaved with them. The bar code example below is an I2of5 bar code example where "12345670" would need to be entered into the ClockID field in the adiTime software instance.



PROXIMITY CARD CREDENTIALS

The ADI Time terminals configured with proximity card data input are compatible with different proximity card technologies in order to best integrate with existing infrastructure. 125 kHz proximity cards, and 13.56 smart cards are supported natively with the terminal hardware.

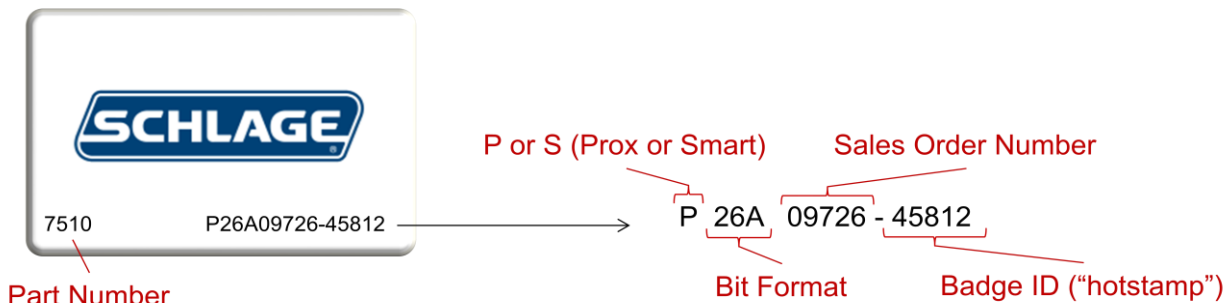
- 125kHz : HID, AWID, Lenel and GE/CASI supported
- 13.56MHz : MIFARE DESFire, Secure MIFARE, and iClass supported

Each smart card and proximity card manufacturer has the ability to change the bit format printed and communicated by the smart cards. Below are examples of bit formats on proximity cards. Please contact your ADI Time sales representative to determine compatibility and correct ClockID configuration with existing smart cards and proximity cards.

- Example: a 26 bit card contains twenty-six 1's and 0's
- **1 01100011 01110111100111010 1**
 - 16 for the Badge ID ("hotstamp") = a value between 1-65,000
 - 8 for the Facility Code = a value between 1-255
 - 2 for Parity Bits (used for basic error detection)

The higher the Bit Format, the more 1's and 0's are available for more unique Badge ID's and Facility Codes

- Examples:
 - 26 bit limits: 1-65,000 Badge ID, 1-255 Facility Code
 - 37 bit limits: 1-500,000 Badge ID, 1-65,000 Facility Code




EMPLOYEE FUNCTIONS

The ADI Time terminals are designed to enable full employee functionality at the terminal. The terminal GUI enables a unique experience where actions like employee self service are intuitive and easy to use. Terminal actions that are available to employees are:

Punching – Employee punch in / punch out is easily accomplished through the specific input methodology (bar code, proximity card, biometric read or PIN entry). The ADI Time terminals utilize push technology so punches are instantly transferred to the adiTime software instance. The terminal will queue punches locally if the network connection does not exist, and send all punches to the adiTime software instance as soon as the network connection is restored.

Self Service – Many companies have recognized improved efficiencies by implementing employee self service in their Time and Attendance software, and at their data collection devices (terminals / clocks). These efficiencies are a result in time savings and data accuracy in their processes. Self service is enabled on all models of the ADI Time terminals. Actions available to employees are:

- View time card
- View schedule
- View accrual balances



Department Transfer – Companies with employees that perform work for different departments, and who must account for that time have the ability for employees to transfer to the appropriate departments with an intuitive GUI. Enabling the employee to perform that function at the data collection device saves administrative time, and ensures the data is being accounted to the correct department. Department transfers can be enabled or disabled through the preferences menu under settings. Disabling Department Transfers will remove the option on the home page.

Job Transfer – Companies with employees that work different jobs, and who must account for that time have the ability for employees to associate job time appropriately with an intuitive GUI. Enabling the employee to perform that function at the data collection device saves administrative time, and ensures the data is being accounted to the correct department. Job transfers can be enabled or disabled through the preferences menu under settings. Disabling Job Transfers will remove the option on the home page.


SETTINGS / MANAGER FUNCTIONS

The ADI Time terminals are designed to enable full manager functionality at the terminal. The terminal UI enables a unique experience where actions like viewing local punches are intuitive and easy to use. Terminal actions that are available to managers and supervisors are:

View local punch list – There are times when supervisors require viewing of punches local to the ADI Time terminal. These times include network outages, or simply physical proximity to the terminal rather than access to a PC with adiTime access. Viewing the local punches is an easy action with the intuitive UI on the ADI Time terminals.

View employee list – Viewing employee lists on the ADI Time terminals is typically required by managers or supervisors during enrollment, and troubleshooting. Viewing the local punches is an easy action with the intuitive UI on the ADI Time terminals.

Update information on the terminal – Clock syncs are performed in order to sync the ADI Time terminal with the ADI Time software instance. This ensures that the terminal is up to date with all employee information, departments, and job information. This operation can be done manually through the settings UI by managers and supervisors. Firmware updates are performed in order to ensure the firmware running on the ADI Time terminal is up to date with performance enhancements and bug fixes. Firmware updates can also be accomplished manually through the settings UI by managers and supervisors.



Maintain the terminal – Managers have the ability to locally maintain the ADI Time terminal for setup and troubleshooting. This functionality includes network setup, adiTime software instance connection settings, and diagnostics. All functionality is available through the settings menu and is easily accessed with the intuitive UI.

TROUBLESHOOTING

Communication problems

1. No communication
 - a. Not getting any punch transactions
 - b. Terminal not updating
 - c. Unable to ping terminal's local IP address

For all of the above conditions check the following:

1. Verify the network cable is plugged into the Ethernet port on back of terminal and the other end is securely plugged into the correct network wall jack; patch panel port or switch/router port.
2. Verify the host URL, API login and password are configured correctly in terminal's menu preference settings. Also verify the API user account for the terminal is setup with the correct login, password, role and type of access in the ADI TIME software.
3. Ping the ADI TIME host URL (This will be the URL for the ADI TIME API).
4. Attempt to manually log into the ADI TIME API URL site.
5. Power the terminal down by unplugging the power pack (if terminal has an operational battery then unplug battery connector from back of it). Wait 15 seconds, power back up and test communications by first pinging the terminal's local IP address that it is using. If you get replies, then put a test punch on the terminal and verify it uploaded to the ADI TIME software.
6. If still not communicating, then move the terminal to a known good network drop/jack and re-test.

Intermittent communication

1. Check both ends of the network cable and make sure it is secured into the back of the terminal and the network jack on the other end.

Invalid date/time

1. Make sure the correct UTC/GMT Offset has been selected in the terminal's Preferences menu.
 - a. Power the terminal down by unplugging the power pack (if terminal has an operational battery then unplug battery connector from back of it). Wait 15 seconds, power back up. Verify the date/time is now correct on the terminal's display.
 - b. If using default NTP Server configuration in Network settings, verify that the current network is not blocking the NTP address and/or port 123.

Barcode reader issues

1. Not reading at all
 - a. If this is a new install, make sure the barcode badges being used are supported by the terminal by contacting the support department.
 - b. If the badges were reading fine and now don't, then power the terminal down by unplugging the power pack (if terminal has operational battery then unplug battery connector from back of terminal). Wait 15 seconds, power back up and re-test.
2. Intermittent reads
 - a. If the problem is only with some of the badges, then examine those badges for (scratches, cuts, scrapes etc...) that may be causing the problem.
 - a. If needed, issue new badges to those employees, update the terminal and re-test.
 - b. If the problem is with many badges reading intermittently, then get a can of compressed air and blow the air into the reader slot to remove any dirt or dust build-up inside and re-test.

3. Badges not being accepted (error messages from terminal)
 - a. If the error message is "Clock ID # not found", then verify that the badge number being displayed is the same number in the employee's profile. If it isn't, change it to the correct number, update the terminal and re-test.
 - b. If the error message is "Clock ID NaN not found", then verify the employee(s) are swiping the badge correctly through the barcode reader slot. The badge should keep contact with the back of the reader slot as a smooth consistent swiping motion is applied (not extremely fast or slow).
 - c. Examine those badges for (scratches, cuts, scrapes etc...) that may be causing the problem.

Proximity reader issues

1. No response when badge is presented to reader
2. If this is a new install, then make sure proximity badges being used are supported by the terminal by contacting the support department.
 - a. If the badges were reading fine and now don't, then power the terminal down by unplugging the power pack (if terminal has operational battery then unplug battery connector from back of terminal). Wait 15 seconds, power back up and re-test.
1. Badges not being accepted (error messages from terminal)
 - a. If the error message is "Clock ID # not found", then verify that the badge number being displayed is the same number in the employee's profile. If it isn't, change it to the correct number, update the terminal and re-test.
 - b. If the error message is "Clock ID NaN not found" and the badge was working ok, then verify that another proximity badge that has worked before is still working ok. If it does, then the problem is a bad proximity badge.

Display problems (4.3" and 7")

1. No display
 - a. Verify the terminal's power pack is securely plugged into the a/c outlet and the other end is plugged into the power input port on the back of the terminal. Also verify the a/c outlet is ok and providing correct voltage.
 - b. If a/c outlet is ok and power pack connections are fine, then unplug the power pack from the a/c wall outlet (if terminal has an operational battery, then also unplug battery connector from back of terminal), wait 15 seconds and plug back in. If there is still nothing on the display then terminal may need to be repaired.
2. Bad Characters
 - a. Unplug the power pack from the a/c wall outlet, wait 15 seconds and plug back in (if terminal has an operational battery, then also unplug battery connector from back of terminal). If display is still showing miscellaneous characters on display then the terminal may need to be repaired.
 - b. The terminal memory may need to be reset. Contact the support department.
3. Broken display
 - a. If display is cracked or appears to have been damaged, then the terminal needs repair.

Operational battery issues

1. Terminal powers down immediately when on battery backup
 - a) Verify battery is plugged into operational battery connector on back of terminal.
 - b) Verify terminal had been powered up for the amount of time needed to re-charge the battery. If terminal still won't run on operational battery power, then battery pack may be bad and needs to be replaced.

Relay issues

1. Relay not tripping when terminal validates badge/finger
 - a) Verify the wires connected to the relay are secured and that the connector is plugged in properly on the back of the terminal.
 - b) Verify terminal has been setup correctly by checking the preference settings in the terminal's menu.
2. Relay not remaining tripped for configured time
 - a. Verify relay duration setting has been configured correctly in the preference settings in the terminal's menu.
3. Relay frozen in closed position
 - a. Power down terminal (remove operational battery connector from back of terminal if applicable), wait 15 seconds and plug back in.

Touchscreen issues

1. Single touch acting as multiple touches
 - a. Unplug the power pack from the wall and wait 15 sec. Re-insert plug making sure that no parts of your body are making contact with the screen.

Power issues

1. Terminal not powering up
 - a. Verify the terminal's power pack is securely plugged into the a/c outlet and the other end is plugged into the power input port on the back of the terminal. Also verify the a/c outlet is ok and providing correct voltage.
 - b. If a/c outlet is ok and power pack connections are fine, then unplug the power pack from the a/c wall outlet (if terminal has an operational battery, then also unplug battery connector from back of terminal), wait 15 seconds and plug back in. If terminal still won't power up then it may need to be repaired.

Reset to Factory Defaults

1. Removes all employee data from clock
 - a. Create a file named adireset.txt (file doesn't need to contain anything).
 - b. Copy the file to the root of a FAT32 formatted, USB 2.0 compatible USB flash drive.
 - c. Insert flash drive into the USB port located at the back of the clock.
 - d. Power cycle the clock by removing power pack and re-inserting.
 - e. Clock should boot to the ADI Time Server settings screen.
 - f. Remove drive from clock.