

Volume

1



User Manual



Flex Series Fingerprint Single Door Controller

EBC890

EVERFOCUS ELECTRONICS CORPORATION

EBC890

Instruction Guide

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Read This First

Read this instruction guide before you install or operate your EverAccess product.

Note: Use this product only for the purpose for which it was designed. Product specifications might be subject to change without prior notice.



Safety Warning

- This product is designed for indoor use only. Do not expose the product to high humidity and dust.
- Temperature: this product is designed to operate in the temperature range 20°F ~143°F
- Cleanse: Power off the product before cleansing. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth to clean it.
- Maintenance: Do not spill liquid of any kind onto the product. It may erode the components and cause short-circuiting.
- Service: Do not attempt to service the product by yourself. Opening or removing covers may expose you to dangerous voltage or other electric hazards. Contact our technical support for any service or repair needs. Unauthorized opening or tampering of the product may void the warranty.

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Specifications

<i>Items</i>	<i>Parameter</i>
User capacity	1000 (each user can register 2 fingerprints)
Event record capacity	40,000
Maximum controllers connected via RS 485	127 (and expandable)
Fingerprint verification time	1:1 : < 2 seconds 1:N : < 3 seconds (1000 users)
False positive rate	0.00001%
Auto-detect function	Yes
Access authentication modes	12
Maximum door number	1
Communication format	Wiegand26 or Wiegand34 format
User password	6 digit
System password	6 digit
Alarm password	6 digit
Alarm input	1 fire alarm, 4 arm zone alarm inputs
Alarm output	2 alarm outputs
Communication ports	RS232 or RS485
Band rate	9600 bps
Programmable duration	10 per day with minimum duration of 5 min
Programmable date	3 date types, up to 255 dates
Card Expiration	Yes
Auto day-light saving	Yes
Build-in keypad	4 x 4 back-lit
LCD screen	2 x 20 back-lit
Real-time clock	Yes
Max current draw for door control relay	5A
Max current draw for alarm relay	2A
Supply voltage	DC 10~15V
Power consumption	<9W
Dimension	179L x 137W x 48H (mm)

Chapter 1

Product Overview

EBC890 is EverAccess® Flex series fingerprint controller, an advanced product that incorporates state-of-the-art fingerprint recognition technology. It can directly work with up to 127 Flex series controllers (Part# EFC-02-1A) over one RS-485 bus or more Flex controllers on the platform of Flex software (Version 1.3.1.14 or later).

EBC890 provides the biometric check – fingerprint verification. It is less vulnerable to unauthorized tampering and provides higher security in contrast to regular card based access control products.

EBC890 fingerprint controller also contains a built-in proximity card reader. The integration of the single door controller and the reader can simplify the installation and save the cost.

Plus the 4x4 keypad on the front panel, EBC890 supplies three methods of protection: biometrics, card access and PIN. Besides the high security level, it delivers flexible, various access verification methods – allow up to 12 authentication modes: fingerprint alone, fingerprint + card, fingerprint + PIN, fingerprint + card + PIN, etc.

The EBC890 fingerprint controller features a fashion design with an elegant arched panel. The back-lit LCD screen supports 2x20 character display. Users can easily setup the controller from the keypad for a minimum effort installation. The keypad area is also back-lit to guarantee a clear visual view both day and night. The uniquely designed anti-break housing provides maximum protection against physical damage and vandalism.

With its high-accuracy fingerprint recognition, user-friendly menu, flexible configuration, the EBC890 fingerprint controller is the ideal solution to meet your access control needs.

Feature Highlights

- Large storage capacity: up to 1000 users and 40,000 event records
- Maximum compatibility: It can work as stand-alone, or with other EverAccess Flex series controller, or with computers directly to the management software.
- Powerful management features: entry/exit access managed by time, schedule, arm zone, and/or user access rights

- Powerful alarm function: easy connection to alarm panel, ability to arm/disarm, specific fire alarm input with corresponding door control
- Support 1 fire alarm input, 4 alarm inputs, 2 alarm output and 1 tamper alarm output
- Flexible 12 access authentication modes
- Large 2x20 characters LCD
- Easy configuration using keypad
- Back-lit LCD screen and keypad area
- Built-in transient voltage suppressor (TVS) to protect controller against electric surge
- Expandable to 127 Flex series controller network using RS-485 bus
- Built-in proximity reader and single door controller simplify the installation
- Support Wiegand 26-bit and 34-bit format



Parts List

Please be careful when you unpack the box due to the electronics devices inside. Check and make sure that you have all the items listed below inside the original box:

- 1 EBC890 fingerprint controller (with supporting frame)
- 1 user manual
- 1 Flex Series software CD
- 1 hex screw driver
- 4 screws

Please Note: If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify your Everfocus Electronics Corp. Sales Representative or Customer Service. The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

Note: Fingerprint Controller Kit also includes a desktop fingerprint reader from 3rd party.

Controller Layout

Figure 1.1 shows the layout of the EBC890 Fingerprint Access Controller along with its main components and their functions.

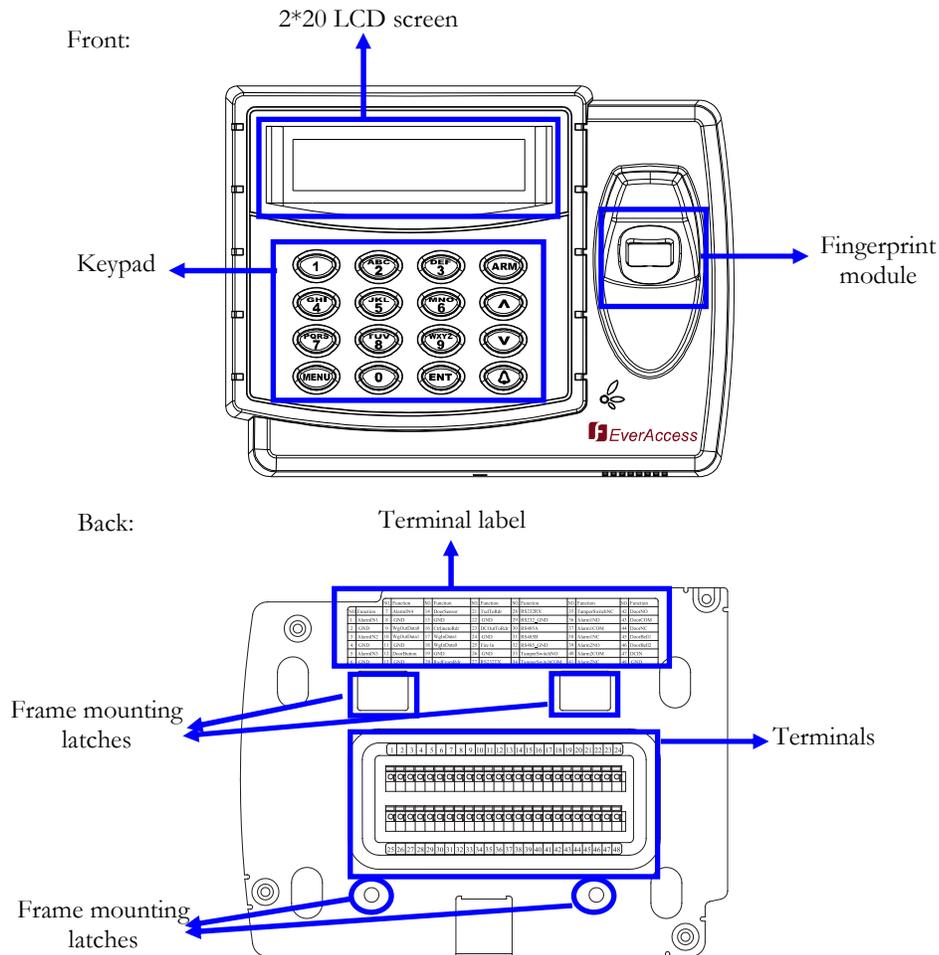


Fig. 1. Fingerprint Controller Layout

The front size of the fingerprint control is separated into 3 areas: fingerprint module, LCD and keypad. Terminals, terminal definition label and frame mounting holes are located at the back panel of the fingerprint controller.

(1) Fingerprint module

The auto-on function will detect when a finger is approaching the optical sensor.

(2) LCD screen

The LCD screen displays the current status of the controller and the menu. The size is 2 x 20 characters and it has back-light for night use.

(3) Keypad

The keypad provides an easy interface to operate the controller.

(4) Terminals

All the peripherals to the fingerprint controller are connected to the terminals at the back panel.

(5) Terminal label

The label marked all the terminal definitions.

(6) Frame mounting holes

The fingerprint controller is placed and locked on the provided frame through these holes.

Terminal Definition

There are totally 48 terminals for the fingerprint controller, grouped into 2 rows at the back panel. The top row is terminal 1 to terminal 24 from left to right. The bottom row is terminal 25 to terminal 48. The positions and index of the terminals are shown in the below figure.

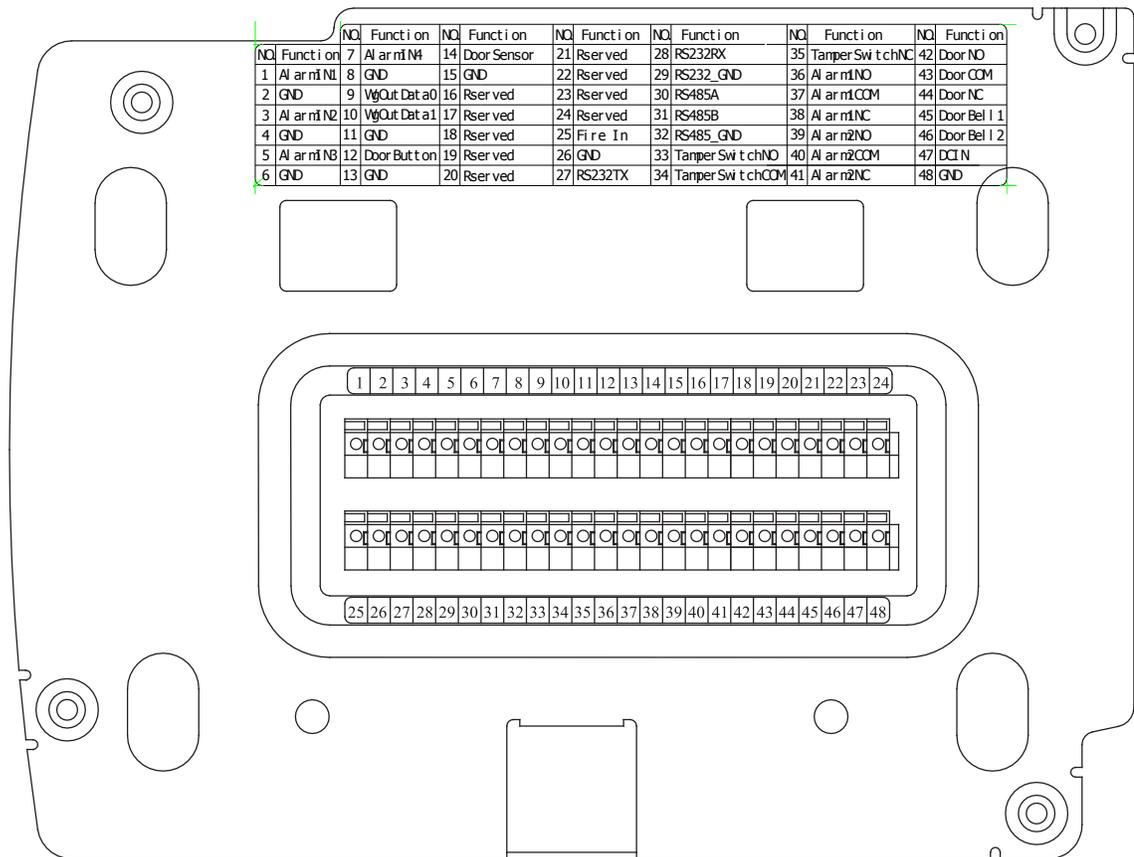


Fig. 2. Fingerprint Controller Terminals

The definitions of the terminals are found in the following table:

Table 1. Fingerprint Controller Terminal Definition

No	Terminal Name	Function	No	Terminal Name	Function
1	AlarmIN1	Alarm input 1	25	Fire IN	Fire alarm input
2	GND	GND of alarm input 1	26	GND	GND
3	AlarmIN2	Alarm Input 2	27	RS232TX	TX pin of RS232
4	GND	GND of alarm input 2	28	RS232RX	RX pin of RS232
5	AlarmIN3	Alarm Input 3	29	RS232_GND	RS232 ground
6	GND	GND of alarm input 3	30	RS485A	Signal A of RS485 bus
7	AlarmIN4	Alarm Input 4	31	RS485B	Signal B of RS485 bus
8	GND	GND of alarm input 4	32	RS485_GND	RS485 Ground
9	WgOutData0	Wiegand Data 0 Output	33	TamperSwitchNO	Normally open pin of tamper switch relay output
10	WgOutData1	Wiegand Data 1 output	34	TamperSwitchCOM	Common pin of tamper switch relay output
11	GND	GND	35	TamperSwitchNC	Normally close pin of tamper switch relay output
12	DoorButton	Request-to-exit button	36	Alarm1NO	Normally open pin of alarm relay output 1
13	GND	GND	37	Alarm1COM	Common pin of alarm relay output 1
14	DoorSensor	Door sensor input	38	Alarm1NC	Normally close pin of alarm relay output 1
15	GND	GND	39	Alarm2NO	Normally open pin of alarm relay output 2
16	NC	Reserved	40	Alarm2COM	Common pin of alarm relay output 2
17	NC	Reserved	41	Alarm2NC	Normally close pin of alarm relay output 2
18	NC	Reserved	42	DoorNO	Normally open pin of door control relay
19	GND	GND	43	DoorCOM	Common pin of door control relay
20	NC	Reserved	44	DoorNC	Normally close pin of door control relay
21	NC	Reserved	45	DoorBell1	Input 1 of door bell
22	GND	GND	46	DoorBell2	Input 2 of door bell
23	DC Out	Reserved	47	DC IN	DC power input
24	GND	GND	48	GND	Ground of power input

Chapter 2

Installation Overview

This chapter introduces the basic concept on how to install an access control system. The experienced installer can jump to section “Determine Fingerprint Request” to get the installation overview related to Flex fingerprint controller and other flex controllers.

The overall installation steps are shown in the following block diagram Fig. 1. The detailed descriptions are given in the subsection below.

Preparing for the Installation

Before beginning the installation, it is recommended that the user gather certain information to better prepare. Proper preparation will help ensure a smooth installation, and will save the installer time and reduce unnecessary efforts. The following information is essential for a professional installation:

Obtain a Floor Plan

Obtain a floor plan of the building in which the access control system is to be installed. Obtaining a floor plan helps the installer determine what components need to be installed, and where. It also is essential in determining the length of cable needed to connect readers to the controller. A floor plan can be a blue print of the building, a design, or simply a drawing of the facility. Any document showing the footprint of the building can be used. The dimensions are important to note, especially when determining cable lengths. A floor plan may be obtained from your local city hall.

Determining Hardware and Location

Determining which hardware to use and where it will be installed. This is the most crucial step in the preparation stage. First, determine how many access points, or doors, need to be managed by the access control system. These access points will control the security of the facility, and can limit the entry and exit to and from any given area of the building. After deciding which doors need to be controlled, the user must also determine the level of security needed at each door. There are many ways to manage each door, using different resources. These resources include, but are not limited to: proximity readers, mag stripe readers, relays, and request to exits. A few common door configurations are described below:

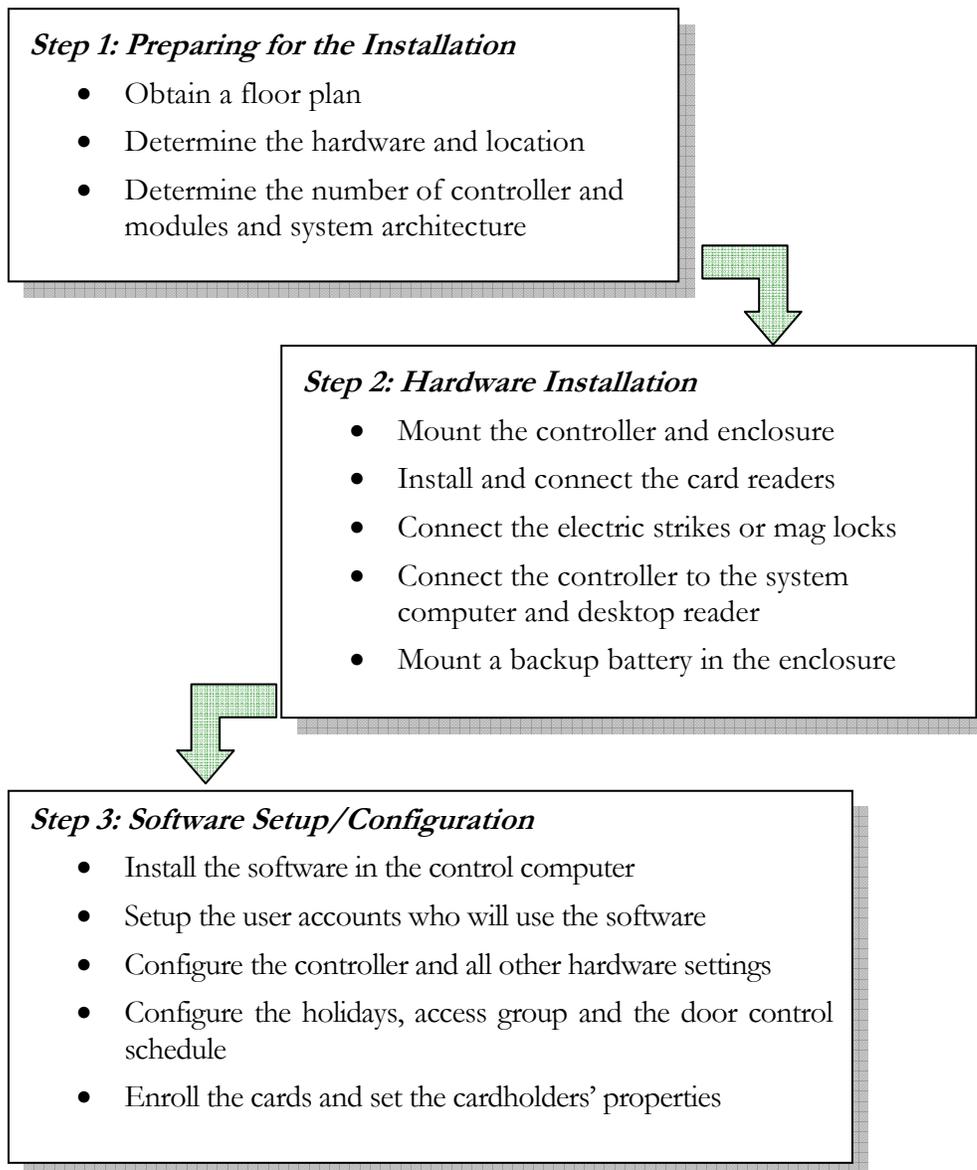


Fig. 3. Installation Overall Steps

1. One reader, basic access control

The most basic configuration involves one card reader and an electric strike. In this configuration, a person presents a card to the reader, and is either granted or denied access. The electric strike unlocks if the system grants access. Another variation of this scenario involves setting the system up to monitor whether the door is open, which allows the system to protect against propped open doors, or doors being held open for too long.

2. One reader, with request to exit device

Adding a request to exit device to scenario 1 allows the system to control when to allow people to exit through a door. Request to exit devices include buttons that a person must press in order to exit, or a motion detector that automatically unlocks the door when a person approaches. These devices are always installed on the secure side of the door.

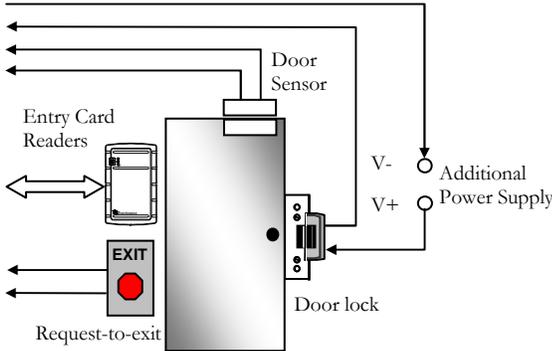


Fig. 4. Common Door Configuration with Entry Reader

3. Two readers, entry and exit access control

If additional security is needed at a particular door, or if the administrator needs a record of the time and date that people enter AND exit a door. Adding a second reader on the secure side of the door will require people to present a card to exit as well as enter. This scenario provides the added security benefit of allowing the system to control who can enter, and who can exit. It also allows the administrator to control when people can enter and exit.

Scenario 1 and 2 require one reader. Scenario 3 requires two. Each door module on the EverAccess controller can control two readers. Therefore, scenarios 1 and 2 allow one door module to control two doors. Scenario 3 requires one door module for each door. This is important to consider when choosing the appropriate number of modules and readers.

Determine Fingerprint Access Requests

The biometric recognition technology used in the fingerprint controller provides a higher security level than regular card access system. Determine the number of the access points where the fingerprint access is required. The fingerprint controller has a built-in reader, so it can be used as an entry reader. A common door configuration with the fingerprint controller is shown in the below figure:

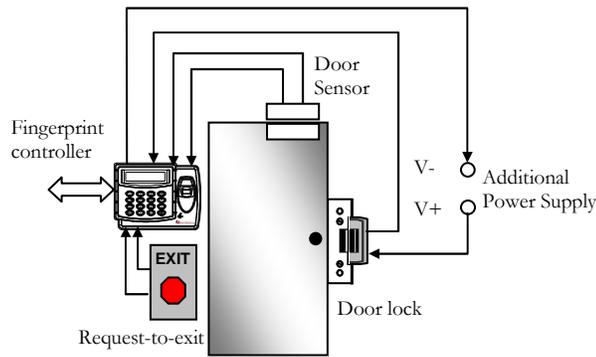


Fig. 5. Common Door Configuration for Fingerprint Controller

As the Fig. 5 shows, the fingerprint controller will first work as a controller that receives inputs of door lock, door sensor, request-to-exit. Also the built-in reader in the fingerprint controller will sense the presented cards. No additional entry reader is needed. An exit reader can be installed depending on the actual requirement and connected to the fingerprint controller. The fingerprint controller can be further to be networked with more flex controller or connect to computer.

Determining System Structure and Components

Determine how many flex controllers and fingerprint controller are needed, and whether an Ethernet interface is required.

1. Each EverAccess controller can accommodate up to 8 card readers. If the system to be installed requires more than 8 readers, additional controllers are necessary. These controllers can be connected to the system as described in chapter 4.
2. The fingerprint controller can support 2 readers (one built-in, one additional) on one door. Also it can network with other Flex controllers.
3. If one or more controller is to be installed at a different location than the system computer is to be installed, an Ethernet interface is required to connect over the internet. An Ethernet interface may also be used in locations at which the controllers are installed a long distance away from the system PC. Please refer to chapter 4 for more details on installing the Ethernet interface.

Chapter 3

Hardware Installation

In this chapter, after preparing for the installation, the user is ready to begin the install. This section will describe, in general terms, how to install the hardware including wiring. Here are the following processes:

- Mount the support frame and controller
- Connect the electric strikes or magnetic locks
- Connect the door sensor
- Connect the request-to-exit button
- Install and connect the card reader (optional)

Mounting Fingerprint Controller

The fingerprint controller has a built-in reader working as an entry reader, so it should be installed close to the door where it guides. As a common rule, the fingerprint controller should not be installed on a metal, which will lower the card sense range.

The fingerprint controller package contains a supporting frame to elevate the controller in order to make wire connections more convenient. The installation is described in the steps below:

Step 1: Mount the supporting frame on to the wall.

Use the four anchor screws (provided in the package) to mount the frame to the wall. Show it as the Fig. 6.

Step 2: Make cable hole

In the terminal area, marked as 1 in step 1 of the figure, make a hole on the wall, big enough to allow all the wires go through. Note the wiring diagram will be addressed in the following sections. Wire all the required cables before step 3.

Step 3: Mount the fingerprint controller to the supporting frame

Align the fingerprint controller to the 4 latches (marked as 2 to 5 in step 1 figure) on the frame, and attach the controller to the frame (marked as 1 in step 2 figure). Make sure the

latches are in position. Then push down the controller a little bit to lock the position (marked as 2 in step 2 figure).

Step 4: Lock the screw at bottom

Secure the controller to the base board by tiding the screws at bottom of controller (exclusive screw driver is provided in the controller package).

Note: the screw has to be fastening to push down (secure) the tamper switch.

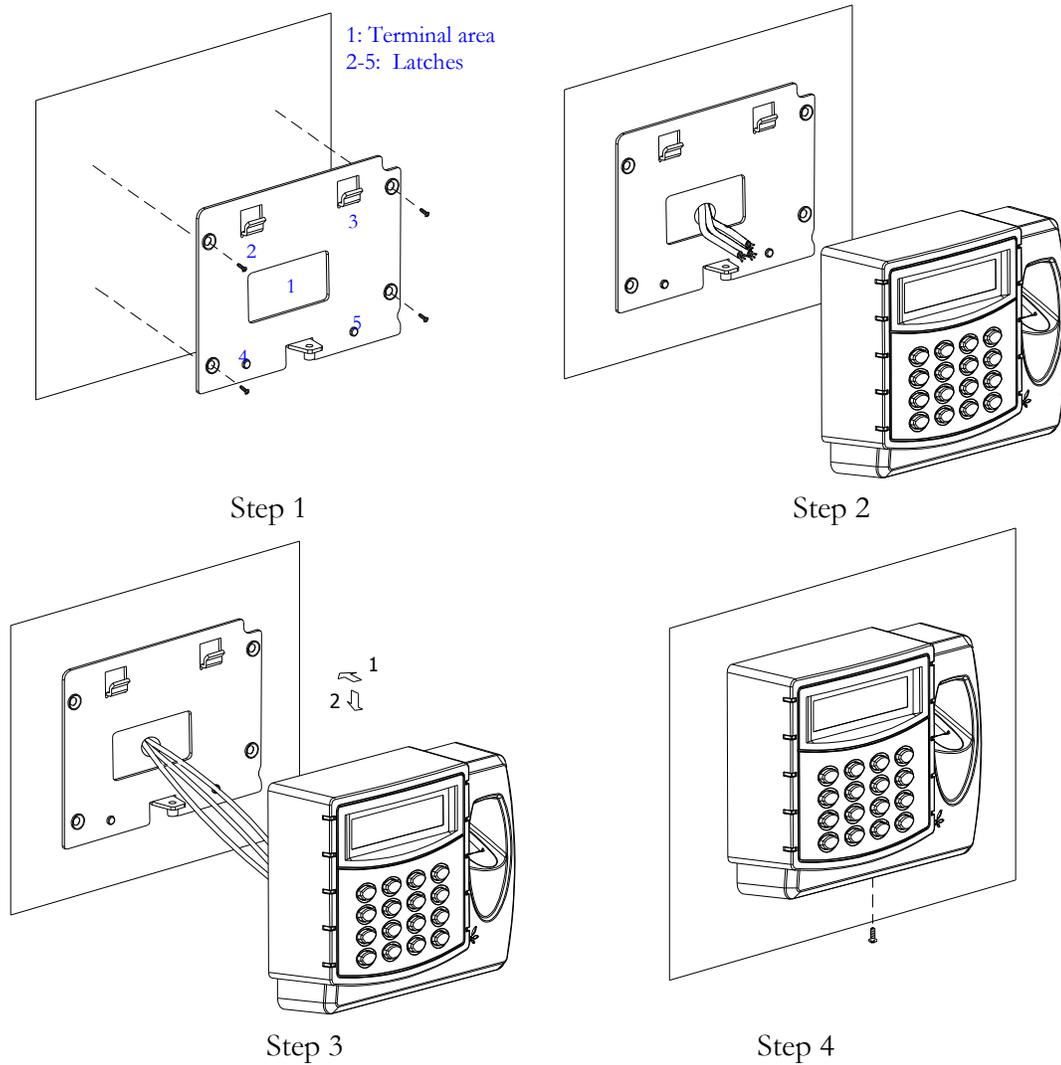


Fig. 6. Mount Fingerprint Controller

Connection to Door Lock

Electric strikes and magnetic locks are used to keep doors locked unless the system grants access or the user sets the doors to remain unlocked. The installer must supply the electric strikes and/or magnetic locks. It is recommended that the installer follow and keep the instructions for these locks. One strike or mag lock is required for each door. These locks

must be powered separately from the controller. The mounting instructions for strikes and mag locks vary depending on the manufacturer and type of lock. Please consult the instructions included with the door hardware when installing. Once the locks are installed, follow the instructions below to connect them to the controller.

The fingerprint controller has one door controller delay for the door lock control. Terminal 43 is named common terminals (COM). Terminal 42 is used for normally open terminal (N.O.) locks. Terminal 44 is used for normally closed terminal (N.C.) locks.

The electrical door lock must have a separate power supply. The power supply for the electrical door lock depends on the specification of the lock. Carefully choose the cable connecting the door locks to fit the current draw. Two common types of electrical door locks in the market are electric strike locks and magnetic locks. The connection methods for these examples are shown in Fig. 7 Fig. 8 respectively.

Connection to an Electric Strike

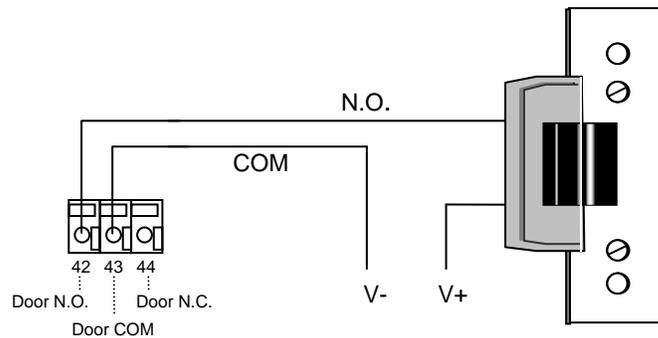


Fig. 7. Example for Connecting an Electric Strike

Connection to a Magnetic Lock

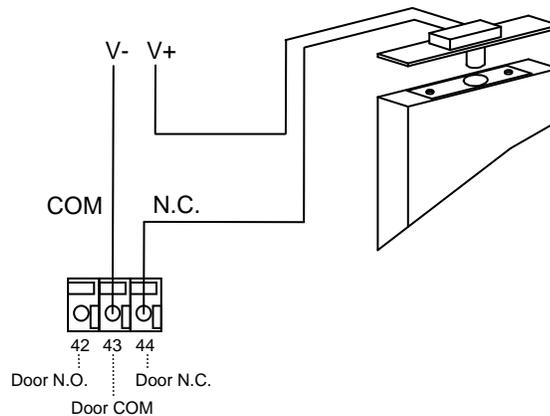


Fig. 8. Example for Connecting a Magnetic Lock

Please **NOTE**:

1. The maximum current outputted by the door lock relay on the fingerprint is less than 5A. If the current for door lock exceeds the capacity, an external power relay is needed.
2. V+ in the figures represents one lead of power from an external power source. When using DC Voltage for the lock, put the positive lead here. When using AC the leads are interchangeable.

Connection to Request-to-Exit

When fingerprint controller receives a valid signal (closed connection) from the request-to-exit device, like a button, the controller will unlock the door for the specified open time. Connect the request-to-exit device to terminal 12 and 13, shown as the below figure:

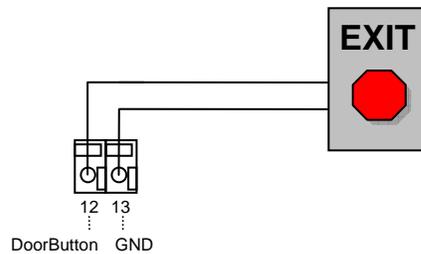


Fig. 9. Connecting REX to Controller

Connection to Door Sensor

Door sensor presents the door status, i.e. if it is open (open circuit) or closed (short circuit). Connect the two wires from door sensor to terminal 14 and 15 of fingerprint controller, shown as the below figure:

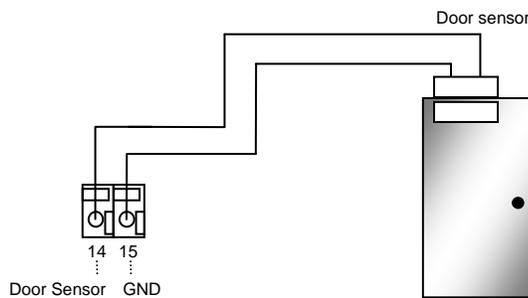


Fig. 10. Example for Connecting Door Sensor to Controller

Connection to Alarm Input

Fingerprint controller supports 4 general alarm inputs, for example, a motion sensor or a glass sensor. Normally the 4 alarm inputs can represent 4 arm zones, but they can be freely defined based on the actual application. When a valid alarm input (closed circuit) is detected, the

controller will energize the specified alarm output relay. Fingerprint controller support 2 alarm output relay and the 4 alarm inputs can be assigned to either one of the two alarm output relays. The connection to a general alarm input is shown below:

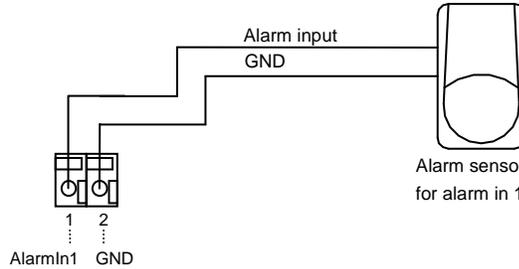


Fig. 11. Connecting Alarm-sensor to Fingerprint Controller

Connection to Alarm Output

Two alarm output relays are included in the fingerprint controller. Same as other Flex series controllers, fingerprint controller provides a flexible alarm output setting. Users can assign the corresponding relay status to the different events. There are three terminals for each alarm output relay: COM, N.O and N.C. The wiring depends on the alarm device. Please read the user manual of the external alarm devices before wiring. Using the 1st alarm output relay as an example, the wiring is shown in Fig. 12 and Fig. 13.

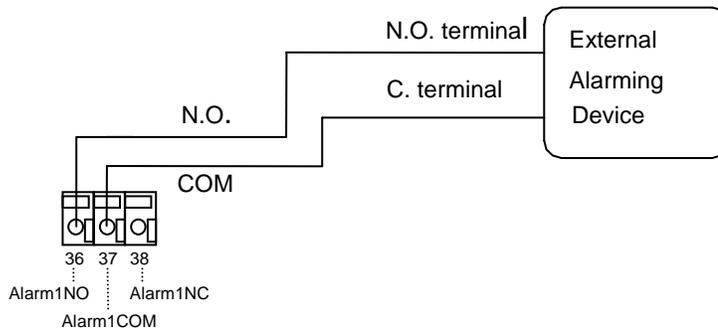


Fig. 12. Normally Open Connection for Alarm Output 1

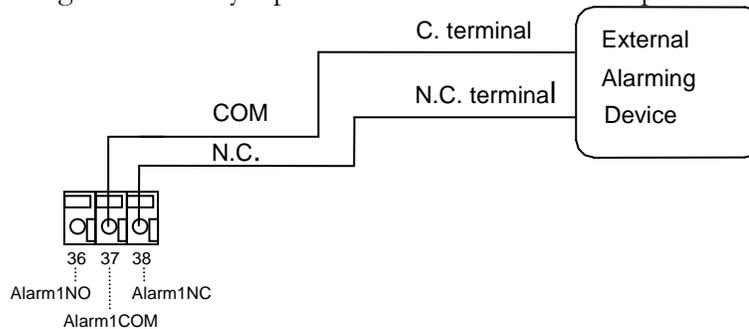


Fig. 13. Normally Closed Connections for Alarm Output 1

Connection to Fire Alarm

Fingerprint controller provides a special fire alarm input. Users can define either fail-safe or fail-secure as door behavior on a valid fire alarm input (closed circuit). Connect fire alarm simply to terminal 25 and 26 at the back of fingerprint controller. The connection is similar as the connection to a general alarm input.

Connection to Tamper Switch Alarm Output

In step 3 to mount the fingerprint controller, a screw is needed to be locked at the bottom of the controller. The screw is not only securing the controller, but also pushing down the tamper switch. If someone tries to unlock the screw to remove the controller, tamper alarm will be triggered and the controller will energize the tamper switch relay output. The NO, COM and NC pin of the tamper switch relay are terminal 33, 34 and 35 respectively. Connect an alarm device to these terminals if it is required by the application.

Connection to Door Bell

If users press  button on the front panel, the fingerprint controller will send a valid signal (closed circuit) on door bell output. Connect terminal 45 and 46 to a bell device, shown in the below figure:

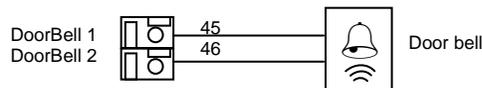


Fig. 14. Connecting to a Door Bell

Connection to External Wiegand Device

The fingerprint controller can send the sensed card number to an external Wiegand device. The connection to an external Wiegand device is shown in the below figure:

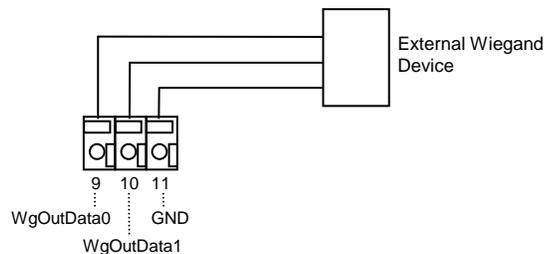


Fig. 15. Connection to External Wiegand Device

Connecting Fingerprint Controller and Computer

Connection to Computer via RS232

As other EverAccess Flex series controller, the fingerprint controller is able to operate as a stand-alone device or as a networked device, connected directly to a PC via serial port.

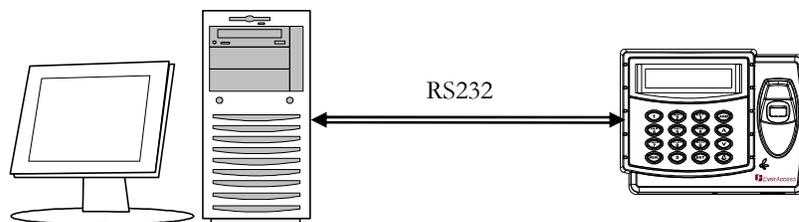


Fig. 16. Connecting Fingerprint Controller to a PC

To connect the fingerprint controller to the computer via RS232, the communication terminals should be wired to the computer serial port as follows: the RS232 TX terminal of the controller is linked to the RS232 RX of the serial port and the RS232 RX terminal is linked to the TX. Note that 15 meter is the max distance of RS232 connection from fingerprint controller to computer. Please use RS485 bus if the distance is longer than 15m.

Fig. 17 describes how to connect the DB9 port to the computer serial port. If a self-made cable and interface is used for connection, then a DB9 female connector is required. The terminal 27, 28 and 29 should be linked to the pin 2, 3 and 5 respectively, which are RXD, TXD and GND.

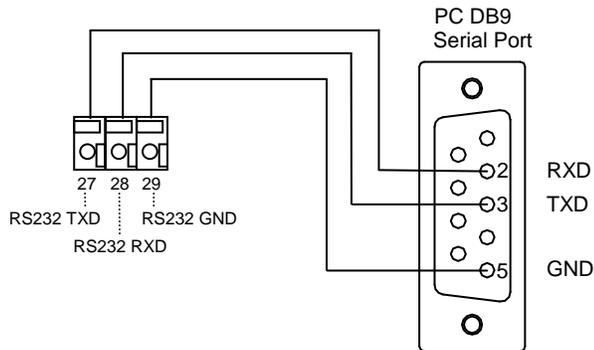


Fig. 17. Connection to Computer via RS232

Connection to Desktop Reader via RS485

To connect the fingerprint controller to the desktop reader via RS485 bus, terminal 30, 31 and 32 on the main module should be wired to the line 2, 1 and 3 in RJ45 head, as Fig. 18 shows. The RJ45 head is provided with the EverAccess desktop reader.

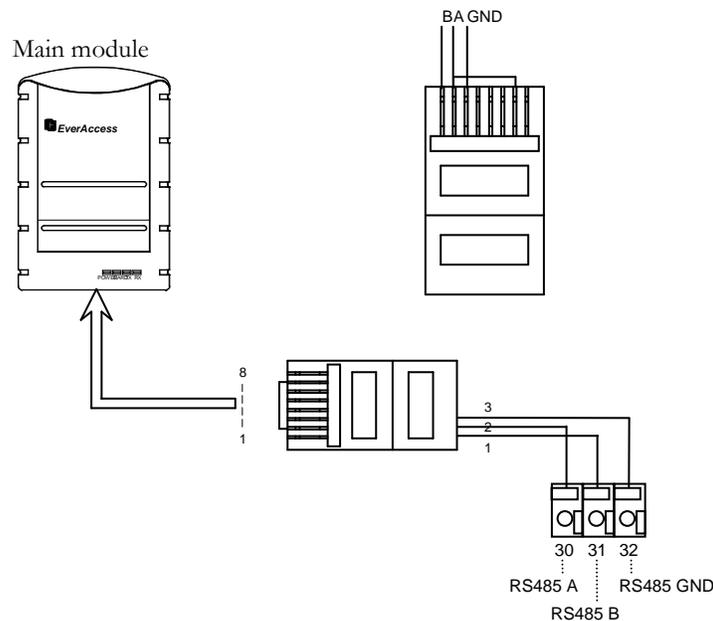


Fig. 18. Connection from Fingerprint Controller to Desktop Reader via RS485

RS485 Bus Based Networking System

Multiple EverAccess controllers can be connected to accommodate larger access control systems. The controllers are connected via RS485, as shown in Fig. 19. The desktop reader (Part#: ERS-871) is a critical component of an RS485 bus based system: it allows simple card enrollment and acts as the interface between multiple controllers and the PC.

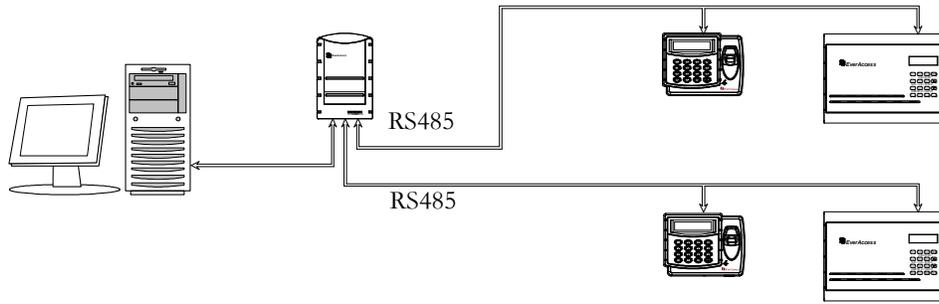


Fig. 19. Connections of Multiple Controllers

A brief overview of the installation:

1. Connect the EverAccess desktop reader to the computer via USB port.
2. Connect one or two controllers to the desktop reader via RJ45 port.
3. More controllers can be connected to each controller by RS485 bus.

RS485 Bus Extension

Multiple controllers can be connected to each other using an RJ45 network cable. Simply connect A to A, B to B and GND to GND on all controllers. In order to correctly transfer data, the controllers on the RS485 bus must be connected in a daisy chain format, as shown in the below figure.

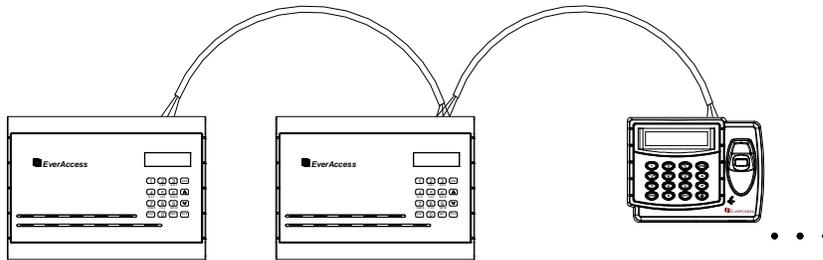


Fig. 20. The Daisy Chain Connection Controller to Controller

Two common INCORRECT connection methods are displayed in Fig. 21 as well.



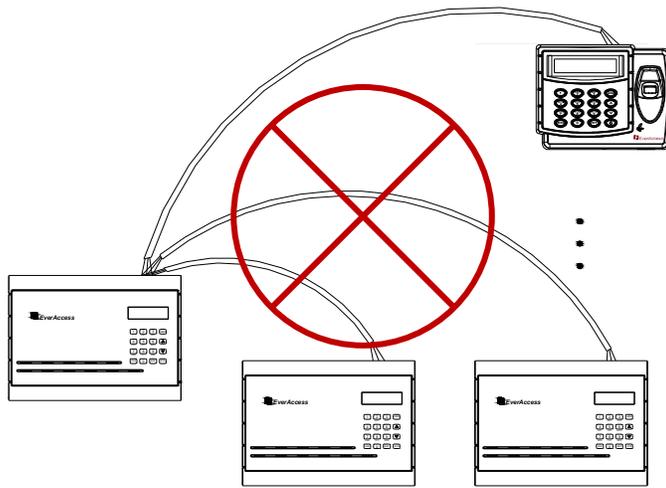


Fig. 21. Two INCORRECT Connections

Connection to Multiple Controllers via RS485

Up to 127 controllers can be connected to each desktop reader via RS485 bus. The correct RS485 connection method has been briefly introduced in the section entitled “RS485 Bus Extension”. Here shows the detailed terminals to connect multiple controllers via RS485, shown as Fig. 22. The terminal 10, 11 and 12 on the main module of Flex controller (part#: EFC-02-1A) should be connected to the other flex controller’s terminal 10, 11 and 12 or fingerprint controller’s terminal 31, 30, and 32.

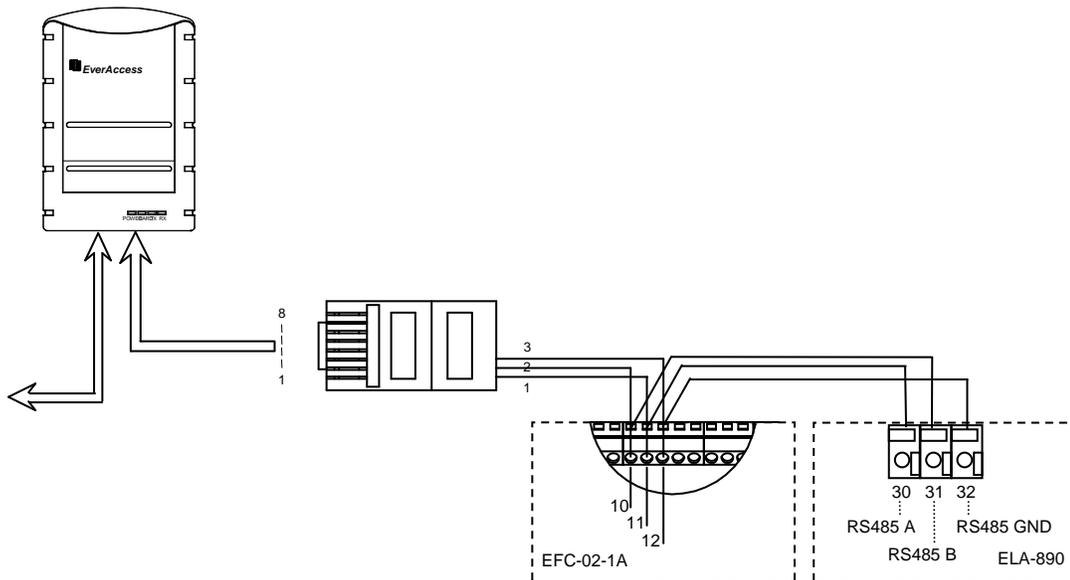


Fig. 22. Connection to Multiple Controllers via RS485

TCP/IP Based System

It is also possible to network the controller via TCP/IP in order to remotely manage the controller over internet or intranet. This is accomplished using the EverAccess LAN adaptor (part number EA-LAN1) to convert RS232 /RS485 signals to TCP/IP. Fig. 23 diagrams this type of installation.

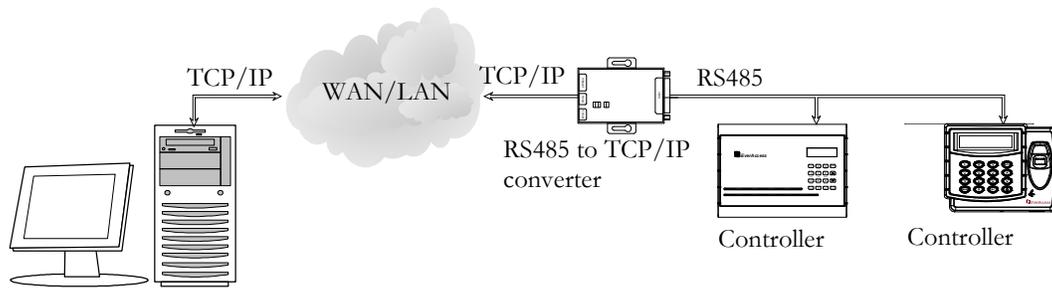


Fig. 23. Diagram for TCP/IP based System

The following is a step by step guide to setting up an EA-LAN1 network adaptor.

Step 1: Install the EA-LAN1 software on the Installation PC using the CD included with the EA-LAN1. Make sure that the installation PC is connected to the network that will be used to manage the controller.

Step 2: Connect the EA-LAN1 to the local area network using a LAN cable, and power up the EA-LAN1.

Step 3: Using the software that you installed in Step 1 on the Installation PC, locate the EA-LAN1 on the local area network and change the IP address on the EA-LAN1.

Step 4: Configure the EA-LAN1 as described in the detailed description later in this guide.

Step 5: Connect the EA-LAN1 to the controller. (Note: Perform this step only after successfully completing steps 1-5)

Step 6: Install the “COM Port Simulator” driver on the Admin PC using the CD included with the EA-LAN1, and map the COM Port to be used.

Step 7: Confirm that the controller is now available on the network. At the Admin PC, open the EverAccess Flex Software and connect to the controller using the COM Port mapped in Step 7.

Connecting Power

Connecting the Power Supply

Connect the positive end to the terminal 47 and the GND to terminal 48 as shown in Fig. 24.

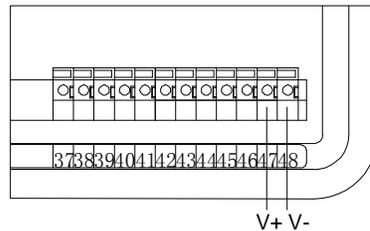


Fig. 24. Connecting the Power Supply

The power supply for fingerprint controller should range in DC $12V \pm 15\%$. The minimum output of power supply should be no less than 1.5A.

Important Tips: The voltage supply should be located no more than 2 meters/7 feet from the controller. Also, electric locks and alarm devices **MUST** be powered separately.

Reset Controller

Before turning the power on, please double check to ensure that all the wiring and connections are correct. In order to restore factory default settings, switch the power on while holding down the RESET switch. The RESET switch is shown in Fig. 25.

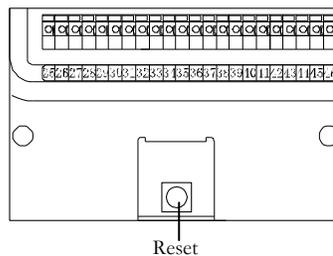


Fig. 25. Reset Controller

Important Note: Doing reset will erase all data, settings.

Before First Use

The operations must be performed in preparation before the first use:

1. Set the date and time for the controller
2. Set the controller address
3. Configure door setting
4. Configure alarm settings
5. Configure the holidays and schedules

Fingerprint Capture

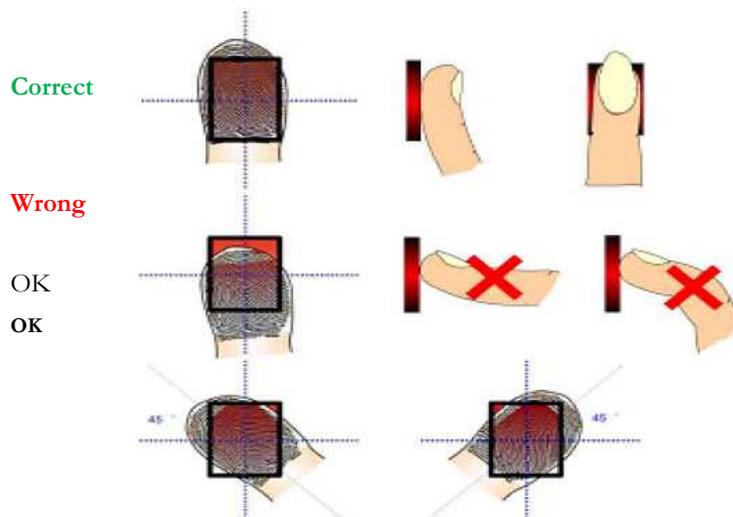
Before getting into the configuration of the fingerprint controller, the correct way to capture a fingerprint sample is introduced in this chapter. A general maintenance on fingerprint module is described too.

Tips to Capture a Fingerprint

Please follow the below notes to capture a good fingerprint sample:

1. Touch Fingerprint Module with the Pad of Your Finger

Touch the controller with the pad of your finger instead of tip of finger. Please see the below instruction.



2. Press Fingerprint Module Gently

Please press controller gently like you are holding a piece of paper between your fingers. Do NOT press it too hard, otherwise fingerprint is blackout or blurry.

3. Hold Finger for a Few Seconds

When the machine is processing, please hold the finger for a couple of seconds until RED LED is off, which means process is complete.

Maintenance

The controller is designed for environment of extreme cold and hot weather. The dirt and dust on the controller doesn't affect fingerprint recognition.

Way to Clean Fingerprint Module Surface

Wipe the controller with dry or wet cloth or soft paper towel. Apply glass cleaner with PH6~8 can remove some dirt if necessary.

- Please avoid using cleaner with PH < 4.5. It might damage the controller and plastic part.
- Do NOT pour cleaner or any other liquid on the controller surface or machine. It causes power shortage.

Controller Functionality and Configuration

This chapter introduces system functions and their corresponding operations. Most basic operations can be performed on the controller keypad. Some advanced functions require the EverAccess Flex Series software. Please refer to the software manual for more details.

General Operation Guideline

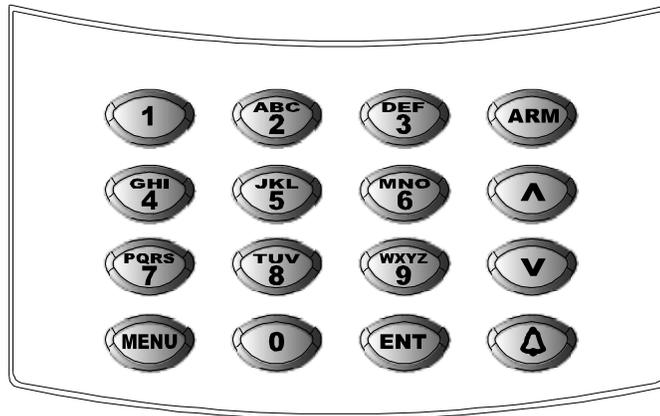


Fig. 26. Fingerprint Controller Keypad Layout

The controller's 4x4 keypad is shown above. enters the system menu, arms or disarms the system. The system menu is organized in a multiple-level structure. and toggle between the same level menu. goes to next level menu cancels or exits back to the higher level menu.

Show Firmware Version

Under main menu, press to show firmware version as following:

```
2008-08-08 FRI 08:08  
Version :1.1.1.0
```

Enter System Configuration

After the system installation is complete, the top line of controller LCD will display the current date and time. The bottom line of LCD will show a rolling “Welcome”, the default welcome sentence. The welcome sentence can be changed from the configuration.



```
2009-09-23 TUE 08:30
Welcome!
```

This display is defined as the home screen, and will be displayed until the user logs in to the system configuration by entering a password. After logging in to the system administration, pressing the  key once for each menu level will bring users back to the upper level of menu till log out the user. In addition, after one minute of inactivity, the controller will automatically log out the user.

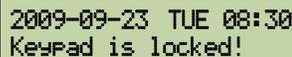
Verify System PIN

Pressing  on the keypad will bring up a prompt to enter a password, as shown below:



```
Password
-----
```

Enter the system password and press . If an incorrect password is entered three times successively, the system will alarm automatically and lock the keypad for a period of one minute.

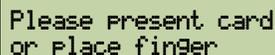


```
2009-09-23 TUE 08:30
Keypad is locked!
```

The factory default password is 000000. In order to secure the controller, change the password after the first login and keep the password in a safe place.

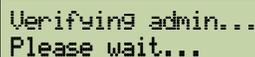
Verify Administrator Fingerprint or Card

After the system PIN is verified correct, the controller will require present administrator card or scan administrator fingerprint if there is an administrator in the system. The admin property of a card holder can be configured from the controller menu and software later on. The fingerprint controller LCD will display the below screen:



```
Please present card
or place finger
```

If you have your fingerprint scan first, LCD shows:



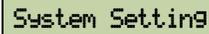
```
Verifying admin...
Please wait...
```

If you present your card or enter index number first, LCD shows:



Please Place admin
finger

Once the fingerprint is verified with administration privilege, controller will get into the system menu and LCD shows:



System Setting

If admin fingerprint verification failed, user cannot login the system. LCD shows:



Authentication
failed

Main Setting Items

The first level menus are displayed after entering the system menu. Use  and  to toggle between menu options. The first level menu items are shown below:



System Setting

System Setting Menu



User Setting

User Setting Menu



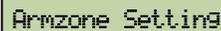
Door Setting

Door Setting Menu



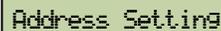
Alarm Setting

Alarm Setting Menu



Armzone Setting

ArmZone Setting Menu



Address Setting

Address Setting Menu

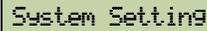
Once the desired item is displayed, press  to enter the corresponding menu.

System Setting

In the System Setting menu, the user can set basic functions, such as system date, time, password, etc.

Enter System Setting Menu

The following window appears after entering the system menu:



System Setting

Press **ENT** to enter System Setting menu. Use **▲** and **▼** to choose from different menu options. All menu options in the System Setting Menu are introduced below:

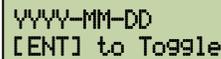
Set Date Format

User can choose between two date formats: 'MM-DD-YYYY' or 'YYYY-MM-DD'. To change this option, use the arrow keys to display "Set Date Format", and press **ENT** once the window below is displayed.

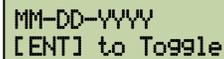


Set Date Format

The current date format used will appear. Press **ENT** to toggle between two formats. Press **MENU** to exit without changing the setting.



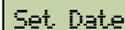
YYYY-MM-DD
[ENT] to Toggle



MM-DD-YYYY
[ENT] to Toggle

Set Date

Under the System Setting Menu, press **ENT** at the window below to set the date.



Set Date

The LCD will display the following menu. Use the numerical keys to enter the current date as a six-digit number: (YY: MM: DD). The year must be in the range 2000-2099. Press **ENT** to confirm the new date.



Set Date (YY-MM-DD)
20__-__-__

The date and time can be set at the controller. However, if the fingerprint controller is connected to a PC with EverAccess Flex Series software installed, the software will automatically modify the controller date and time to match the time on the PC. If the controller date and time are found to be incorrect, check the date and time on the management PC.

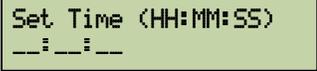
Set Time

Under the System Setting Menu, press  to set the time.



Set Time

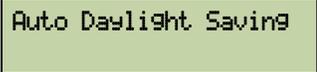
The LCD will display the following menu. Use the numerical keys to enter the current time as a six-digit number (HH: MM: SS). The time must be in the range 00:00:00--23:59:59. After entering the time, press  to confirm.



Set Time (HH:MM:SS)
__:__:__

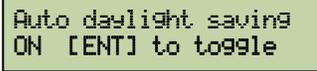
Auto Daylight Savings Time

Under the System Setting Menu, press  to adjust the settings for Auto Daylight Savings :

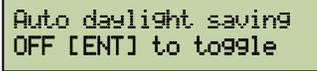


Auto Daylight Saving

Press  to toggle the setting between On/Off, Press  to exit



Auto daylight saving
ON [ENT] to toggle



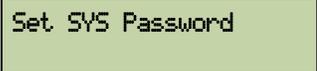
Auto daylight saving
OFF [ENT] to toggle

When auto daylight savings is turned on, the controller will automatically adjust the time based on the setting. In the example above, it will adjust the time 1 hour forward on the first Sunday in April, and adjust 1 hour back on the first Sunday in October. The start/end time and the time period adjustment can be set by Flex software.

Set System Password

A system password must be entered before the user can configure the controller via the keypad. The factory default system password is 000000. It is recommended that the password is changed after the initial log-in for maximum security. Be sure to keep the new password; if lost the system can only be accessed after purging all stored data using the reset button at back panel.

Under the System Setting Menu, press  to set system password.



Set SYS Password

The LCD will display the following menu.

Input SYS PIN:

Enter a new system PIN. Enter it a second time to confirm. Press **ENT** to set the new system PIN. Pressing **MENU** at any time will exit the menu without changing the system PIN.

Repeat:

If the system PIN is updated successfully, LCD shows:

Setting updated
successfully

Set Arm Password

Arm PIN must be entered before the controller can be armed or disarmed via controller keypad. The factory default arm PIN is 000000.

Under System Setting menu, press **ENT** at the window below to set arm PIN.

Set ARM Password

The LCD will display the following menu.

Input ARM Password:

Enter a new arm PIN. Enter it a second time to confirm. Press **ENT** to set the new arm PIN.

Set Wiegand Output Format

Press **ENT** to change the wiegand output format when the below screen is shown:

Set Wiegand Output
Format

Press **ENT** to switch between wiegand 26 bits and 34 bits press **MENU** at any time will exit the menu

Wiegand 26 bits
[ENT] to toggle

Wiegand 34 bits
[ENT] to toggle

Set Language

Under the System Setting Menu, press **ENT** to at the below screen to enter language Setting.

```
Language Setting
```

Press  to switch between Chinese and English. Press  to leave.

```
简体中文  
按[ENT]切换
```

```
English  
[ENT] to toggle
```

Set Time Server Setting

The EverAccess Flex controller has two ways to synchronize the time.

The first method is the Flex software can automatically synchronize the system time among all the controllers that are connected to the software.

If there is no software connected to the controller, one of the controllers on the RS485 bus can be set as the time synchronization server, which enables it to synchronize the time on all other controllers that are connected to the same RS485 network. Be extremely careful to only enable on controllers as the time synchronization server. Setting multiple controllers as time synchronization servers will result in an error in RS485 communication.

Under the System Setting Menu, press  at the below windows to set Time Server Setting.

```
Time Server Setting
```

Press  to toggle the setting between Enabled/Disabled, Press  to exit

```
Time server enabled  
[ENT] to toggle
```

```
Time server disabled  
[ENT] to toggle
```

Note the timer server setting takes effect when leaving the menu.

System Info

Press  at the below window to get into sytem information page.

```
System Information
```

Then the number of users and the total number of Events will be shown on the screen, for example the below window. Press  to go back to previous menu.

```
Total Users: 0016  
Total Event: 00456
```

Erase All Events

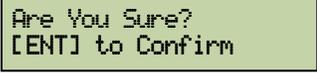
The controller will record all events that occur, beginning immediately upon powering on. These events can be purged by following the instructions below. If the controller is never connected to a PC, then old records will be automatically overwritten when storage space is full (40,000 events max.).

Under the System Setting Menu, press  at the window below to erase all events.



Erase All Events

LCD will prompt the user to confirm the action:



Are You Sure?
[ENT] to Confirm

Pressing  will result in all events being permanently erased.

Restore Factory Setting

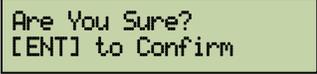
This function is used to reset all settings to factory set default values.

Under the System Setting Menu, press  at the window below to reset all settings.



Restore Factory
Default

The LCD will prompt the user to confirm the action. Press  to confirm and perform the reset action.



Are You Sure?
[ENT] to Confirm

User Setting

User setting can be configured using either the fingerprint controller or the EverAccess Flex Series software. Adding new user on Flex software requires an additional fingerprint USB reader (not included in the package). To configure users from the fingerprint controller, the steps are described as below.

Enter User Setting Menu

User setting is under system setting menu. Press  button once to bring it up:



User Setting

Press  to enter the Card Setting menu. Use  and  to choose from different menu options. All menu options under the Card Setting menu are introduced below:

Add User

When a new user is added, the controller will automatically assign an index number in the order of enrollment. The index number here is not related to the card number in the EverAccess Flex Series software. Users do not need to take care of this number.

Under the System Setting menu, press  at the window below to add a user.

```
Add Users
```

Press  and controller will assign an index number.

```
Index #:0001  
Card #:_____
```

Present the card at the system controller or enter card number manually and press . If the user is already an existing user, the system will show:

```
User already existed
```

If the user is new user, controller will require a fingerprint. The below window will be shown:

```
Place your finger...
```

After the fingerprint is read, the controller will prompt:

```
Please move finger  
away
```

Then, controller will require you add the second fingerprint. You can either use same finger or other finger. The other fingerprint can be used for backup if the first one is failed. Like your finger is bandaged and you can use the other one.

```
Please place another  
finger
```

If new fingerprint is added successfully, the controller will show:

```
Added user  
successfully
```

If adding fingerprint fails, it will go back to Add user first page.

Delete Users

The user can directly delete an individual user with a specific index or serial number from the controller, or delete all users at once. Under the Users Setting menu, press **Δ** once to bring up the following window:



```
Delete Users
```

Press **ENT** to enter the submenu for the following three methods of deleting cards.

Delete a User

The controller can delete a user according to his card number or fingerprint. The card number is printed on the face of each card. At the following window:



```
Delete a User
```

Press **ENT** and the system will prompt the user to either scan the card, or manually type in the card number, or place finger of the user that is being deleted. The screen is shown as below:



```
Swipe card or place  
finger... _____
```

After presenting the card or placed the fingerprint, the fingerprint controller will prompt users to confirm the deleting option. The card number of the user is shown in the screen as well. A sample screen is shown below:



```
Are you sure to del  
user 12345678?
```

Press **ENT** to delete this user at the above prompt window. The controller will prompt if the deleting operation succeeds.

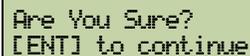
Delete All Users

All cards can be deleted at once. At the following window:



```
Delete All Users
```

Press **ENT** and system will prompt the user to confirm deletion:



```
Are You Sure?  
[ENT] to continue
```

Press  again to delete all users

Caution: this operation will permanently delete ALL users from the controller database.

Set User Properties

Under the User Setting menu, press  twice to bring up the following window:



```
Set Users Properties
```

Press  and system will prompt the user to enter password or fingerprint to find the user information whose properties is going to be edited, as shown below:



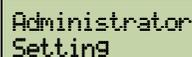
```
Swipe card or place  
finger... _____
```

After presenting the card or placing the fingerprint, press  to enter the submenu for setting user properties. Each card has 6 properties that can be modified. Use  and  to choose desired properties.

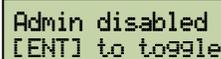
Administrator Setting

EBC890 system requires at least one administrator. The administrator needs a password or fingerprint to enter setting menu. The administrator can edit other users' setting and controller setting.

Under the following window, press  to change administrator setting:



```
Administrator  
Setting
```



```
Admin disabled  
[ENT] to toggle
```



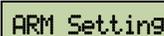
```
Admin enabled  
[ENT] to toggle
```

One of the above two screens will be shown after entering into admin setting. Press  to toggle and confirm, Press  to exit.

ARM Setting

If a card with arm/disarm function is swiped on the controller, system will temporarily disarm for a short time so that cardholder can enter arm zone without generating an alarm. The disarm time is equal to the door open time.

At the following submenu, press  to enter ARM setting:



```
ARM Setting
```

The arm status of the current card, i.e., enabled or disabled, will be displayed as shown below. Press  to toggle between two statuses. Press  to exit.

ARM enabled
[ENT] to Toggle

ARM disabled
[ENT] to Toggle

First Person In Setting

Flex series controller allows a door work under “always unlocked” mode. But the door will not be physically unlocked until a user who is enabled with “First Person IN” function comes into the door. This “Always Unlocked” door access mode plus the “First Person IN” access provide the EverAccess Flex system a flexible and secure setting for the door access during the unlocked time period.

Press  under the below window to enter the First Person In Setting.

1st-person-in
Setting

One of the below two screens will be shown after entered the “First Person IN” setting. Press  to toggle between two statuses. Press  to exit.

1st-person enabled
[ENT] to toggle

1st-person disabled
[ENT] to toggle

Set Fingerprint

The fingerprints stored for a user can be updated in the “Set Fingerprint” menu. Press  under the below screen to enter the “Set Fingerprint” function:

Set Fingerprint

Continue to press  to go through the following instructions.

Place your finger...

Please move finger
away...

Please place another
finger

Refer to section “Add a User” for the purpose of two fingerprints. Please follow the instruction till successfully setting the fingerprint, shown in the below screen.

Data modified
successfully

Change Card Number for a User

Under the following menu, press  to change users' card number:

Set Card Number

Present the new card or manually enter new card number at the below screen:

Input New Card #:

Press  at this window to exit without changing. If the new card is accepted successfully, the setup is complete and the below window will be shown.

Setting updated
successfully

If the new card is being used by another user, the below window will be shown.

User already existed

Set User PIN Setting

Each card in the EverAccess access control system is associated with a 6digit PIN. The PIN status can be set as enabled or disabled and if enabled, user is required to enter the PIN every time he enters/exit the door if the reader is a keypad reader and PIN is required by the door access mode. Press  under the below window to enter the set PIN setting.

Set PIN

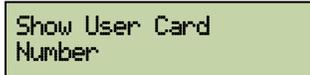
Enter new PIN as following instruction and repeat it in the next window, shown as below samples. Note the PIN must be 6 digits. Press  to confirm , press  to exit without saving.

Input New PIN:

Repeat New PIN:

Show User Properties

This function can be used to show the serial number of a card when it is swiped on the fingerprint controller. Under User Setting menu, press  three times to bring up the following window:



Show User Card
Number

Press  at the above window to get into the function. Present the card or place finger at fingerprint module at the following menu. The card number and index will be automatically shown on the screen in the user is in the system, for example the right screen.



Index #: ____
Card #: _____



Index #: 0016
ID: 00600936

Press  and system will show the status of current card as the figure below. Press  to exit.

Door Setting

User can directly configure the following settings from the controller: door open time, door held open time, and the door control when there is a fire alarm.

Enter Door Setting Menu

Under System menu, press  two times to bring up the following window:



Door Setting

Press  to enter Door Setting menu. Use  and  to choose from different menu options. All menu options under Door Setting are introduced below:

Door Access Schedule Setting

The first submenu in Door Setting is “Door Access Schedule Setting”. When door access schedule is turned off, the controller always executes the door access mode set on the controller itself (i.e., the door access mode in next section). When door access schedule is set to ON, the controller executes door access schedule specified by the system software on the access control server. The door access schedule can define the different door access mode on 10 time zones for 10 date types. Refer to the Flex software manual for more details about the door access schedule.

At the following submenu:

Door Access Schedule
Setting

Press **ENT** to enter this setting. Press **ENT** to toggle between the two modes. Press **MENU** to exit.

Door Access Schedule
ON [ENT] to toggle

Door Access Schedule
OFF [ENT] to toggle

Door Access Mode Setting

The Door Access Mode Setting is only valid when the controller mode is set to controller (as explained in the above section). At the following submenu:

Door Access Mode

Press **ENT** to enter this setting. The LCD displays as follows:

(PIN or Fingerprint)
+ Card *Yes

EBC890 allows a total of 12 door open modes, listed in the below table.

Table 2. Fingerprint Controller – Door Access Mode List

No.	Door Access Mode	Details
1.	Always Unlocked	The controller keeps the door always unlocked.
2.	Card Only	Users must present card and only card to gain access.
3.	Fingerprint Only	Users must verify fingerprint and only fingerprint to gain access.
4.	Card + PIN	Users must present card and input PIN to gain access. No fingerprint is required.
5.	Card + Fingerprint	Users must present card and verify fingerprint to gain access. No PIN is required.
6.	Fingerprint + PIN	Users must verify fingerprint and input PIN to gain access. No card is required.
7.	Card + PIN + Fingerprint	Users must present a card, verify the fingerprint and input PIN to gain access. This access mode provides the highest security level.
8.	Card or Fingerprint	Users must provide either card or fingerprint to gain access. No PIN is required.
9.	Card + PIN or Fingerprint	Users must provide either a combination of card plus PIN or a fingerprint to gain access.
10.	(PIN or Fingerprint) + Card	Users must present a card and 2 nd verification. The 2 nd verification can be either PIN or fingerprint
11.	(Card or PIN) + Fingerprint	Users must verify the fingerprint, besides, the 2 nd verification either card or PIN is needed.
12.	(Card or Fingerprint) + PIN	Users must input a PIN and the 2 nd verification. The 2 nd verification can be either card or fingerprint.

Use **▲** and **▼** to choose from different options. Press **ENT** to select the setting. The LCD will display “*Yes” to confirm the selection. Press **MENU** to exit.

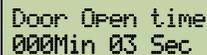
Open Time Setting

This sets the door unlock time when the card is swiped or open door button is pushed. The default time is 3 seconds. The maximal door unlock time supported by the controller is 999 minutes and 59 seconds. The door remains open as long as the open door button is pushed down. The door open time does not start to count until the button is released. At the following submenu:



Open Time Setting

Press **ENT** to enter Open Time setting. In the menu shown below, enter the desired door open time: enter minutes as a 3-digit number 0~999, and enter seconds as a 2-digit number 0~59. Press **ENT** to confirm the input. Press **MENU** to clear the input or exit without effecting any change.



Door Open time
000Min 03 Sec

Set Door Hold Open Time

Door sensor monitors the open/close status of a door. If normal open is not set by the system (door is normally considered closed), then door should close after opening for a while. It is considered abnormal if controller does not receive the door close signal from door sensor a reasonable amount of time after the door is opened. This time period is call door hold open time or door over time. According to this setting, EverAccess controller will determine whether to generate an alarm or not after the door sensor timeouts. The default value of door hold open time is 5 seconds. The maximal door hold open time supported by the controller is 999 minutes and 59 seconds.

At the following submenu:



Over Time Setting

Press **ENT** to enter Door Hold Open Time setting. In the menu shown below, press numeric key 1~8 to enter the desired door number in the Door field. (The max number depends on the actual door modules installed in the controller) Enter the desired door hold open time in the OpenTime field: enter minutes as a 3-digit number 0~999, and enter seconds as a 2-digit number 0~59. Press **ENT** to confirm. Press **MENU** to exit without effecting any change.



Door Over Time
000Min 05 Sec

Set Door Control at Fire Alarm

The controller allows the user to choose one of two behaviors to occur when a fire alarm is triggered: fail-safe or fail-secure. Door fire-safe at fire alarm means the door will be kept unlocked when there is a fire alarm input. Door fire-secure at fire alarm means the door will be locked when the fire alarm is active. At the following submenu:

```
Door Action
At Fire Alarm
```

Press  to enter this setting. Press  to toggle between fire-safe and fire-secure. Press  to exit.

```
Fail-safe at fire
[ENT] to Toggle
```

```
Fail-secure at fire
[ENT] to Toggle
```

The default setting for door control at fire alarm is all the doors are fire-safe, *i.e.* all the doors will be unlocked during a fire alarm.

Alarm Setting

The EBC890 fingerprint controller has 5 alarm inputs and 2 alarm outputs, and provides very flexible configuration options. Any alarm event can be arbitrarily allocated to single or multiple alarm outputs. Alarm components, configuration basics, and menu settings are introduced below.

Alarm Configuration Basics

The EBC890 fingerprint controller keeps track of all events in the access control system, either legal or illegal, either normal or abnormal, for example, the granted access, the denied access and so on.

Some events are critical which must trigger the alarm output, like the fire alarm input, the zone alarm input and etc. But some events are not that important to trigger the alarm output, like the denied access during the invalid time. These settings all depend on the users' requirements. EBC890 controller collects all events that might trigger the alarm output and provides the full capacity to enable or disable the alarm output on these events.

Sometimes user wants to allocate a particular event to a particular alarm output, or allocate alarm inputs in certain area to multiple alarm outputs. EBC890 controller delivers all the function and flexibility user need. User can define whether certain event will trigger an alarm, and can further specify to which alarm output that event is allocated.

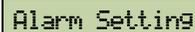
All events that might trigger an alarm are listed below:

Fire alarm, zone alarm 1~4, unknown user, expired user, invalid user, user PIN fail, invalid time zone, system PIN fail, ARM PIN fail, door forced open, door held open, and remote alarm.

All these events can be allocated to any alarm output. **Note the built-in buzzer will beep when any alarm output is triggered for any reason.** The detailed configuration method is introduced in the following section.

Enter Alarm Setting Menu

Under System menu, press  three times to bring up the following window:

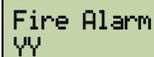


Alarm Setting

Press  to enter Alarm Setting menu. Use  and  to choose from different menu options. All menu options under Alarm Setting are introduced below:

Fire Alarm

For correspondence between fire alarm and doors, please refer to “Set Door Control at Fire Alarm” in this chapter. In case of fire alarm input, controller will generate fire alarm output according to this setting. By default, both alarm outputs are active per Fire Alarm event. At the following submenu:



Fire Alarm
Y/N

Press the 1-2 numeric key to toggle between Y/N for corresponding alarm output. Y means the alarm output is enabled. N means the alarm output is disabled.

Note: The above procedure to set Y/N for alarm outputs are the same for the rest of the following submenus.

SYS PIN Fail

Please refer to section “Set System P” in this chapter to know how to set system PIN. A SYS PIN Fail event will be generated when user enters the PIN to enter system setting and a wrong PIN is entered three times consecutively.

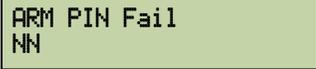


SYS PIN Fail
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

ARM PIN Fail

User is required to enter PIN when pressing  to arm or disarm the system. An ARM PIN Fail event will be generated when a wrong PIN is entered three times consecutively. Please refer to later section “ARM / DISARM” for how to arm/disarm the system.



ARM PIN Fail
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

Remote Alarm

System administrator can directly generate alarm signal using control software when he observes abnormal condition through surveillance system such as CCTV. This is defined as a Remote Alarm event.



Remote Alarm
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

Unknown User

Unknown user refers to a card or a fingerprint that is never registered to the system. An Unknown User event will be generated when an unknown card is swiped on the reader or an unregistered fingerprint is collected from the fingerprint module.



Unknown User
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

Expired User

Any user in the system is usually assigned a valid date. After the valid date has elapsed the controller will automatically set the user as an expired user. An expired user cannot gain access to the system. At the same time, an Expired User event will be generated when an expired user swiped his card at the controller or placed his finger on fingerprint module.



Expired User
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

Invalid Time

Each user belongs to an access group. Each group has its own allowed doors and time zones. That is, users in the group have rights to pass which door at what time. An Invalid Time event will be generated when a user tries to get access at any time he does not have right to pass.

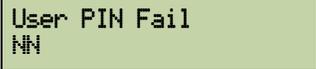


Invalid Time
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

User PIN Fail

For password setting, please refer to section “Set User PIN Setting” in this chapter. A User PIN Fail event will be generated when the card is swiped or a finger is placed at the controller but the user enters wrong PIN three times consecutively.

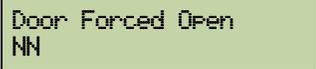


User PIN Fail
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

Door Forced Open

A Door Forced Open event will be generated when the door sensor detects that a door is opened without approve access request, for example, any legitimate swipe card, or a valid fingerprint or door open button push operation taking place.



Door Forced Open
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

Door Held Open

A Door Held Open event will be generated when a door is opened by a legitimate access request or door open button push operation but is still not closed after the “over time” in door setting has elapsed.



Door Held Open
NN

Use steps outlined in “Fire Alarm” submenu to change settings.

Zone Alarm 1~4

Zone alarm reacts to 4 alarm inputs. Alarm setting for zone 1 is shown in the following:

```
Zone-1 Alarm
NN
```

Press  to go to alarm settings for arm zone 2, 3, 4.

```
Zone-2 Alarm
NN
```

```
Zone-3 Alarm
NN
```

```
Zone-4 Alarm
NN
```

Use steps outlined in “Fire Alarm” submenu to change settings.

Arm Zone Setting

The EBC890 controller defines 4 arm zones for its 4 alarm inputs, and can treat alarm inputs in a very flexible manner. The controller can be armed or disarmed globally, and these 4 arm zones can be enabled or disabled individually in the controller. Please refer to later section “ARM/DISARM” for how to arm/disarm the system.

Enter Arm Zone Setting Menu

Under System menu, press  four times to bring up the following window:

```
ArmZone Setting
```

Press  to enter Arm Zone Setting menu. Use  and  to choose from different menu options. All menu options under Arm Zone Setting are introduced below:

Set Active Arm Zone Setting

An alarm input can be simply enabled or disabled by setting an active arm zone. The following window appears after entering the Arm Zone menu.

```
Active Zone
Setting
```

Press  to set active arm zone. System will display the status of current arm zone as shown below. Y means the arm zone is active and N means inactive. The default setting of all arm zones is active (Y).



Press numeric keys 1~4 to toggle the status of corresponding arm zone between Y/N. Press **ENT** to confirm. Press **MENU** to exit without effecting any change.

Set ARM Delay Time

When an arm operation is executed, all active arm zones will enter ARM enabled status only after a certain time delay, which is defined as ARM delay time. When an ARM enabled card is swiped to pass a door, system will not generate an alarm within the time delay period so that cardholder has time to disarm the system. The details to set ARM delay time is as follows. The following window appears after entering the Arm zone menu.



Press **ENT** to set ARM delay time. System will display the current delay time as shown below. Use numeric keys to enter the desired ARM delay time. Enter minutes as a 3-digit number 0~999 and seconds as a 2-digit number 0~59. The default value of ARM delay time is 1 minute.



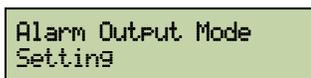
Press **ENT** to confirm. Press **MENU** to clear the minute field and second field or exit without effecting any change.

Alarm Output Mode

Alarm output mode defines how the two alarm output relays respond to the alarm input. Two alarm output modes are available from fingerprint controller: Timeout or transparent.

- Timeout mode indicates the alarm output will be triggered valid and the alarm output relay will stay energized till a fixed time period passed. The default time period of the alarm output is 1 minute. Users can change this value from the configuration.
- Transparent mode indicates the alarm output relay will stay energized as long as the alarm input is valid.

Press **ENT** under the below screen to enter the alarm output mode setting:



Press **ENT** to toggle between “Timeout” mode and “Transparent” mode. Press **MENU** to exit.

Note the time out duration of alarm output can be different for each individual alarm and they can be set from the flex software, not from controller.

Address Setting

Each device connected to the same RS485 bus must have a unique address for the purpose of communications and control. When multiple controllers connect to PC via an RS485 bus, each controller must be assigned a distinct address. Procedures to set controller address are as follows:

Under System menu, press  five times to bring up the following window:



```
Address Setting
```

Press  to enter Address Setting menu, as shown below:



```
Address:  
0000
```

Use numeric keys to enter desired address in the range 0000~9999. Press  to confirm. Press  to clear the address field and exit without effecting any change.

ARM / DISARM

The EBC890 controller defines 4 arm zones for its 4 alarm inputs, and can treat alarm inputs in a very flexible manner. These 4 arm zones can be armed or disarmed on the controller globally as described below. Also the individual arm zone can be activated or de-activated from section “Set Active Arm Zone Setting”.

Arm / Disarm the System using the Controller Keypad

User must be an ARM-capable user and have the ARM PIN in order to perform this function. Please refer to the section “Set Arm P” in this chapter for instructions on how to set ARM PIN. Follow the below steps to arm/disarm the system:

Step 1: After system installation, the date and time information will be displayed on the LCD, as shown below:



```
2009-09-23 TUE 08:30  
Welcome!
```

When  on the keypad is pressed, the system prompts the user to enter a password, as shown below:

Input ARM Password:

NOTE: If wrong password is entered three times, the controller keypad will be automatically locked for 1 minute. During this period keypad inputs are inactivated and the LCD displays as the following:

2009-09-23 TUE 08:30
Keypad is locked!

Step2: Type in the 4 digit ARM password and press **ENT** to confirm. The default password is 000000.

Step 3: Once the password is verified, the system will ask to verify the ARM-capable user if there is one (by default the first user registered to the controller is an administrator and ARM-capable user). The LCD displays as the following:

Please present card
or place finger

Swipe an ARM-capable user's card or place the fingerprint.

Step 4: After verification the current system ARM status will be displayed as shown below:

System Disarmed
[ENT] to Arm

Press **ENT** to arm all active arm zones. The following message is displayed:

System Armed
[ENT] to Disarm

Press **ENT** again to toggle between arm/disarm. Press **MENU** to exit. The controller will wait for the period of time defined as "arm delay" and then arm all active arm zones.

Reset the Alarm

When system is generating an active, ongoing alarm output, follow the procedure below to reset the alarm.

At the window showing system time, repeat step 1 to 3 of "Arm/Disarm system" in the previous section. After a correct verification of step 3, the current system ARM status will be displayed as shown below:

Reset Alarm?
[ENT] to Reset

Press  to reset the alarm. If system is currently armed user will be prompted to disarm the system first. Please refer to previous section for how to disarm the system.

Chapter 8

Software Setup

Please Note: This is a brief instruction on EverAccess Flex Series Software for more detailed instruction guide please refer to the EverAccess Flex Series Software Manual.

The next step after hardware installation is to configure the whole access control system. Flex series controller has the ability to allow users configure the basic setting through the keypad on the controller. But for the detailed, complicated settings, we recommend to use the management software. To configure the system in software, several major steps that you need to follow are shown as below:

1. Install the software in the control computer
2. Setup the user accounts who will use the software
3. Configure the controller and all other hardware settings
4. Configure the holidays, access group and the door control schedule
5. Enroll the cards and set the cardholders' properties

Install the Software in the Control Computer

Just like installing any other software in the computer, inserts the software installation CD into the CDROM, and run the setup program. Choose a special installation folder if needed, otherwise just follow the setup wizard and choose the default selection.

To run the software, you need the administrator privilege and the basic computer requirement is as follows:

1. Pentium 3 CPU
2. Windows 2K, XP
3. 100M bytes free space in hard drive
4. 128M memory

For the details of the software installation and the minimum computer requirement, please refer to the software manual.

Setup the User Accounts for the Software

A *User* of Flex series access control software is a person who operates the software at any user interface. Each user belongs to a certain authority group. The authority group defines the authority level of users over the operations in the software. Different authority groups have the different access to the operations in the software.

The first step to use the software is to setup a user list that defines who will be able to use the software, and assign the authority group to each user. This user name and the password will be required to login the software.

Please note that a user in admin group is required to configure all the other settings.

For the details to setup a user account, please refer to the software manual.

Configure the Controller and All Other Hardware

In this step, users need to set all the configurations for the controllers, doors, readers and alarms. All these configurations are closely related to the hardware. The rough sub steps are as below:

1. Add a controller to the system

Go to the controller configuration dialog box in the software. Click the 'add' button, give the RS485 address for the controller, set the serial port for the controller and click the submit button to connect a controller.

If the wiring is correct and the address of the controller is valid, the software should be able to find the controller and show the status of the controller as 'online'. This indicates that the controller has been added to the system.

2. Configure the door settings

Door name, door open time and door held open time should be configured in this step.

Door name is used to help users remember the door location and help make the configuration process easier.

Door open time defines the amount of time that the door can remain open after the door is unlocked, before an alarm is generated by the controller.

For more detailed information on door settings, please refer to the chapter in this manual entitled "controller functionality and configuration".

3. Configure the reader settings

Users can configure the following properties of the readers: the reader-to-door allocation, the keypad reader and the system reader. For the more details about the reader settings, please refer to chapter 6.

On the EFC-02, readers can be allocated to different doors, and can be set as ENTER only or EXIT only. So set these properties following the system access control plan.

Keypad Settings define whether the reader is a keypad reader.

The System Reader can be used to acquire the card's serial number easily and conveniently.

4. Configure the alarm settings

All of the alarm inputs can be assigned to the different alarm outputs. Also users can set the events that can trigger alarm outputs.

Configure the Holidays, Access Group and Door Control Schedule

At this step, users will configure the holidays, access groups and the door control schedule.

1. Configure the holidays

Users can add or delete holidays in the software. Beside holidays, two additional types of dates are supplied in the system. Different access rules can be applied to different dates.

2. Configure the access groups

An access group defines a group of cardholders who share the same access rules at the associated access points and at specified times. Set the access rules for the access group here. And assign the cardholder to a certain access group in the next step.

3. Configure the door control schedule

On the Flex series controller, the door can be configured as normally open, with card, with PIN and card, which means, respectively, the door will be remain open, a valid card has to be presented, and both a valid card and a PIN have to be presented to require the access.

Please refer to the software manual for the details.

Enroll Card Holders

This will explain the steps to enroll card holders in the system. There are two ways to enroll a card holder:

1. Enter the card number manually.
2. Present a card at the desktop reader and the card number will be added into the system automatically.

The properties for each card should be input at this time. The primary properties are card holder name, PIN, forced PIN, and access group. Users can configure the cardholders individually or can do batch configurations if a group of cardholders share common properties.

Enroll Fingerprints for Card Holders

Fingerprints for card holders can be enrolled not only from the controller, but also from the software. An additional fingerprint module is required to enroll fingerprints from software. Only a couple of models from Secugen are able to work with the software. Model Hamster Plus is recommended to use. Customers can buy a fingerprint controller kit from EverFocus that includes a Hamster Plus USB fingerprint reader, or buy it directly from Secugen (www.secugen.com).

Users need to install the Secugen USB reader driver and connect the fingerprint reader to enable the fingerprint registration function. Same as the fingerprint controller, two fingerprints are used for each card holder.

Users can either download the card holders' information from software to the controller, or upload the data from controller to the software.

Please refer to the software manual, for the details of registering fingerprints for card holders in software or other operations.

Notes

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