

# Keypad PAS-EMHK12 Service manual



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## 1. PRODUCT FEATURES & SPECIFICATIONS

The PAS- EMHK12 is a universal keypad, can work as standalone keypad, access controller or standard Wiegand output reader.

The PAS-EMHK12 supports 600 users, it supports multi access modes in either card access, PIN access, Card+PIN access, or multi cards/PINs access, it can read 125KHz EM & HID for Low Frequency and 13,56MHz MIFARE for High Frequency tokens, cards and tags. Another advantage of the PAS- EMHK12 is it has extra features including block enrollment, Wiegand 26~37 bits interface, 12~28V AC/DC voltage...etc.

<b>User Capacity</b> Common Users Panic Users	<b>600</b> 598 2
<b>Operating Voltage</b> Idle Current Active Current	<b>12~28V AC/DC</b> < 65mA < 100mA
<b>Proximity Card Reader</b> Radio Technology Read Range	<b>HID &amp; EM &amp; MIFARE</b> 125KHz & 13.56MHz 2~6cm
<b>Wiring Connections</b>	Relay output, exit button, alarm, door contact, Wiegand input, Wiegand output
<b>Relay</b> Adjustable Relay Output Time Lock Output Load	<b>One (NO, NC, Common)</b> 0~99 Seconds (5 seconds default) 2 Amp Maximum
<b>Wiegand Interface</b> Wiegand Input Wiegand Output PIN Output	<b>Wiegand 26~37 bits</b> 26~37bits (default: 26bits) 26~37bits (default: 26bits) 4bits, 8bits (ASCII), 10 digits Virtual Number (default: 4bits)
<b>Environment</b> Operating Temperature Operating Humidity	<b>Meets IP66</b> -40°C~60°C (-40°F~140°F) 10%RH~98%RH

## 2. BASIC CONFIGURE

Programming Step	Keystroke Combination
Enter Program Mode	* <b>(Master Code) #</b> <i>(Factory default is 123456)</i>
Exit Program Mode	*

### 2.1 Set Master Code

Programming Step	Keystroke Combination
1. Enter Program Mode	* <b>(Master Code) #</b>
2. Update Master Code	<b>0 (New Master Code) # (Repeat New Master Code) #</b> <i>(Master code is any 6 digits)</i>
3. Exit Program Mode	*

### 2.2 Set Working Mode

#### Notes

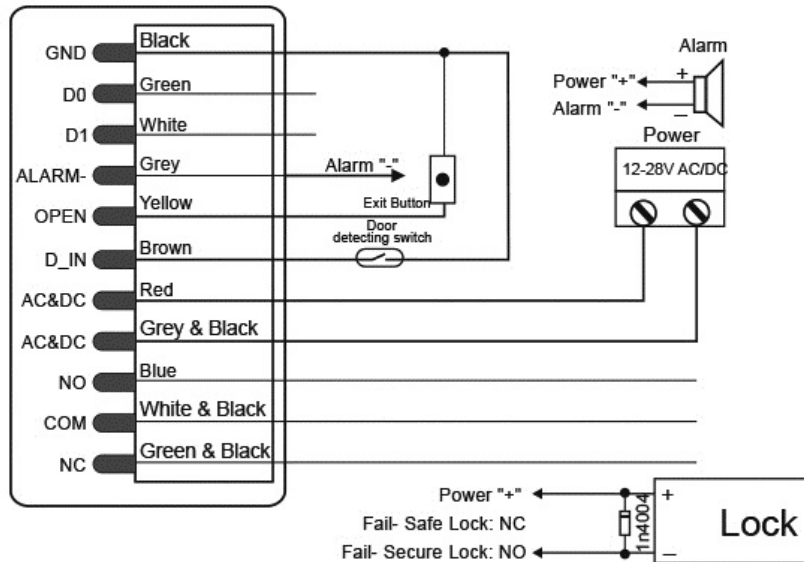
Has 3 working modes: Standalone Mode, Controller Mode, Wiegand Reader Mode, choose the mode you use. (Factory default is Standalone Mode/Controller Mode)

Programming Step	Keystroke Combination
1. Enter Program Mode	* <b>(Master Code) #</b>
2. Standalone/Controller Mode OR	<b>8 0 # (Factory default)</b>
2. Wiegand Reader Mode	<b>8 1 #</b>
3. Exit Program Mode	*

### 3. STANDALONE MODE

PAS-EMHK12 can be worked as Standalone Reader for single door.  
(Factory default mode) --- 8 0 #

**Connection Diagram**



#### Attention

Install a 1N4004 or equivalent diode is needed when use a common power supply, or the keypad might be damaged. (1N4004 is included in the packing)

#### Programming

Programming will vary depending on access configuration. Follow the instructions according to your access configuration.

#### Notes

User ID number: Assign a user ID to the access card/PIN in order to track it. The common user ID number can be any number from 1~598, the panic user ID is from 599~600.

**IMPORTANT:** User ID is do not have to be proceeded with any leading zeros. Recording of User ID is critical. Modifications to the user require the User ID be available.

**Proximity Card:** Any 125KHz industry standard 26 bits HID and EM cards and 13.56MHz MIFARE card.

**PIN:** Can be any 4~6 digits except 8888 which is reserved.

### 3.1 Add Card User

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
<b>Add Card User</b>	
2. Add Card: Using Auto ID (Allows PAS- EMHK12 to assign Card to next available User ID number) <b>OR</b>	<b>1 (Read Card) #</b> The cards can be added continuously.
2. Add Card: Select Specific ID (Allows Master to define a specific User ID to associate the card to) <b>OR</b>	<b>1 (User ID) # (Read Card) #</b> (User ID is any number from 1-598)
2. Add Card: by Card Number <b>OR</b>	<b>1 (Input 8/10 digits Card number) #</b>
2. Add Card: Block Enrolment (Allows Master to add up to 598 card to the Reader in a single step) Takes 2 minutes to program.	<b>1 (User ID) # (Card quantity) # (The first card number) #</b> Cards' number must be consecutive; Card quantity=number of cards to be enrolled.
<b>Add PIN User</b>	
2. Add PIN: Using Auto ID (Allows PAS- EMHK12 to assign PIN to next available User ID number) <b>OR</b>	<b>1 (PIN) #</b> The PINs can be added continuously. (PIN: 4~6 digits)
2. Add PIN: Select Specific ID (Allows Manager to define a specific User ID to associate the PIN to)	<b>1 (User ID) # (PIN) #</b> The user ID is any number from 1-598
3. Exit	*

### 3.2 Add Panic Users

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Add Card: <b>OR</b>	<b>1 (User ID) # (Read Card / Input 8/10 digits Card number) #</b>
2. Add PIN:	<b>1 (User ID) # (PIN) #</b> (User ID is any number from 599~600)
3. Exit	*

### 3.3 Change PIN Users

Programming Step	Keystroke Combination
<b>Note: Below is done outside programming mode, users can undertake this themselves</b>	
1. Change PIN: By Card (There will auto allocate PIN (8888) to cards when adding)	* (Read Card) (Old PIN) # (New PIN) # Repeat New PIN #
2. Change PIN: By PIN	* (User ID) # (Old PIN) # (New PIN) # (Repeat New PIN) #
3. Exit	*

### 3.4 Delete Users

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
<b>Delete Common Card User</b>	
2. Delete Card - By Card <b>OR</b> 2. Delete Card - By ID number <b>OR</b> 2. Delete User - By Card number	<b>2 (Read Card) #</b> The cards can be deleted continuously. <b>2 (User ID) #</b> <b>2 (Input 8/10 digits Card number) #</b>
<b>Delete Common PIN User</b>	
2. Delete PIN - By PIN <b>OR</b> 2. Delete PIN - By ID number	<b>2 (Input PIN) #</b> <b>2 (User ID) #</b>
<b>Delete Panic User</b>	
2. Delete Panic Card User <b>OR</b> 2. Delete Panic PIN User	<b>2 (User ID) #</b> <b>2 (User ID) #</b>
<b>Delete All Users</b>	
2. Delete All Users	<b>2 (Master Code) #</b>
3. Exit	*

### 3.5 Set Relay Configuration

The relay configuration sets the behavior of the output relay on activation.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Pulse Mode <b>OR</b> 2. Toggle Mode	<b>3 (1-99) #</b> (factory default) The relay time is 1-99 seconds. (1 is 50mS) (Default is 5 seconds) <b>3 0 #</b> Sets the relay to ON/OFF Toggle mode
3. Exit	*

### 3.6 Set Access Mode

For Multi cards/PINs access mode, the interval time of reading cards/inputting PINs cannot exceed 5 seconds, or else, the PAS-EMHK12 will exit to standby automatically.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Card access <b>OR</b> 2. Card+PIN access <b>OR</b> 2. Card or PIN access <b>OR</b> 2. Multi cards/PINs access	<b>4 0 #</b> <b>4 1 #</b> <b>4 2 #</b> (Factory default) <b>4 3 (2~9) #</b> (Only after reading 2~9 cards or PINs, the door can be opened)
3. Exit	*

### 3.7 Door Detecting

**Door Open Too Long (DOTL) warning:** when used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened normally, but not closed after 1 minute, the inside buzzer will beep automatically to remind people to close the door and continue for 1 minute before switching off automatically.

**Door Forced Open warning:** When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened by force, or if the door is opened after 60 seconds of the electro-mechanical lock not closed properly, the inside buzzer and alarm output will both operate. Enter Master code # or valid user card /PIN to silence.

Programming Step	Keystroke Combination
1. Enter Program Mode	* <b>(Master Code) #</b>
2. To disable door open detection <b>OR</b> 2. To enable door open detection	<b>5 0 #</b> ( <i>factory default</i> ) <b>5 1 #</b>
3. Exit	*

### 3.8 Set Strike-out Alarm

The strike-out alarm will engage after 10 failed card/PIN attempts (Factory default is OFF). It can be set to deny access for 10 minutes after engaging or disengage only after entering a valid card/PIN or Master code.

Programming Step	Keystroke Combination
1. Enter Program Mode	* <b>(Master Code) #</b>
2. Strike-Out OFF <b>OR</b> 2. Strike-Out ON <b>OR</b> 2. Strike-Out ON (Alarm)	<b>6 0 #</b> ( <i>factory default</i> ) <b>6 1 #</b> Access will be denied for 10 minutes <b>6 2 #</b>
3. Exit	*

### 3.9 Set Audible and Visual Response

Programming Step	Keystroke Combination
1. Enter Program Mode	* <b>(Master Code) #</b>
2. Control Sounds <b>OR</b> 2. Control LED <b>OR</b> 2. Control Keypad Backlit	OFF = 7 0 #    ON = 7 1 # OFF = 7 2 #    ON = 7 3 # OFF = 7 4 #    ON = 7 5 # <i>(factory defaults are ON)</i>
3. Exit	*

### 3.10 Master Cards Usage

Using Master Cards to add and delete card / PIN users	
Add a User	<b>1. (Read Master Add Card)</b> <b>2. (Read User Card)</b> <i>Repeat Step 2 for additional user cards</i> <b>3. (Read Master Add Card)</b>
Delete a User	<b>1. (Read Master Delete Card)</b> <b>2. (Read User Card)</b> <i>Repeat Step 2 for additional user cards</i> <b>3. (Read Master Delete Card)</b>

### 3.11 Users Operation & Reset to Factory Default

Open the door: Read valid user card or inputting valid user PIN

Remove Alarm: Read valid user card or inputting valid user PIN, or input Master Code #

To reset to factory default & Add Master Cards: power off, press the exit button, hold it and power on, there will be two beeps, and the LED light turns into yellow, release the exit button, then read any two cards (can be 125KHz EM card, 125KHz HID card or 13.56MHz MIFARE card, the LED will turn into red, means reset to factory default successfully. Of the two cards reading, the 1-st one is Master Add Card, the 2-nd one is the Master Delete Card.

#### Remarks:

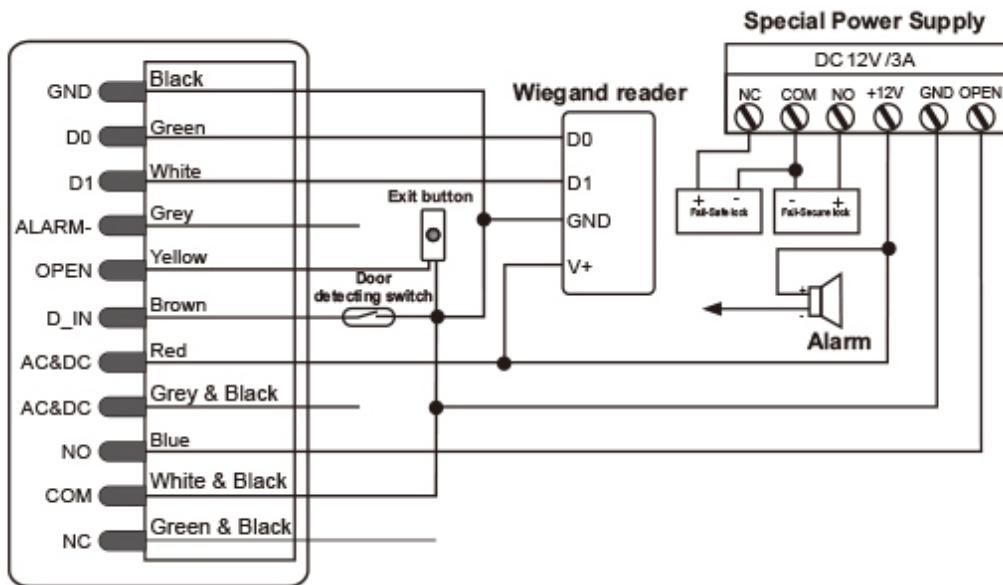
1. If no Master Cards added, must press the Exit Button for at least 10 seconds before release.
2. Reset to factory default, the user's information is still retained.



## 4. CONTROLLER MODE

PAS-EMHK12 can work as Controller, connected with the external Wiegand reader.  
(Factory default mode) --- 8 1#

**Connection Diagram**



**Attention:** Install a 1N4004 or equivalent diode is needed when use a common power supply, or the reader might be damaged (1N4004 is included in the packing).

### 4.1 Set Wiegand Input Formats

Please set the Wiegand input formats according to the Wiegand output format of the external Reader.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Wiegand input bits	8 (26~37) # (factory default is 26bits)
3. Exit	*

### 4.2 Programming

Basic Programming is the same as Standalone Mode.  
There are some exceptions for your attention.

PAS-EMHK12 Connected with External Card Reader:

- If EM card reader or HID card reader: users can be added/deleted on either PAS- EMHK12 or external reader.
- If MIFARE reader: users can only be added/deleted on external reader.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. OR 2.	1 (Press Fingerprint A once on F2) # (ID auto allocated) 1 (User ID) # (Press Fingerprint A on F2) # (Select specific ID)
3.	Exit: *

#### 4.3 PAS-EMHK12 Connected with Keypad Reader

The keypad reader can be 4 Bits, 8 Bits (ASCII), or 10 Bits output format. Choose the below operation according to the PIN output format of your reader.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. PIN input bits	8 (4 or 8 or 10) # <i>(factory default is 4bits)</i>
3. Exit	*

**Remarks:** 4 means 4 bits, 8 means 8 bits, 10 means 10 digits virtual number.

#### 4.4 Add PIN Users

To add PIN users, after enter into programming mode on PAS-EMHK12, PIN(s) can be input/added on either PAS-EMHK12 controller or the external Keypad Reader.

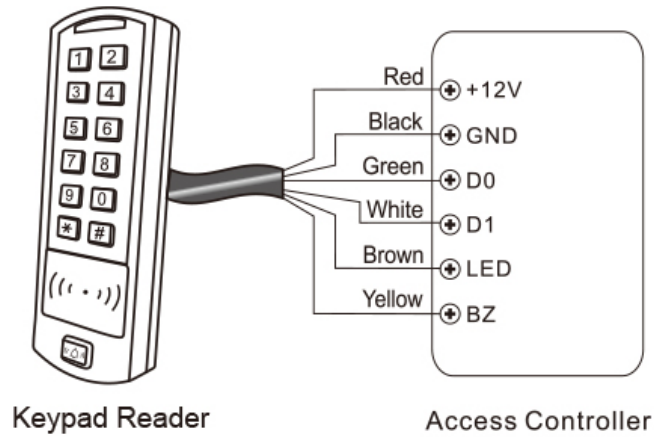
#### 4.5 Delete PIN Users

The same way as add users.

## 5. WIEGAND READER MODE

PAS-EMHK12 can work as Standard Wiegand Reader, connected to the third-party Controller ---  
8 1 #

### Connection Diagram



#### Note:

When set into Wiegand Reader mode, nearly all settings in Controller Model will become invalid. And Brown & Yellow wires will be redefined as below:

- Brown wire - Green LED light control
- Yellow wire - Buzzer control

If you need to connect Brown/Yellow wires:

When the input voltage for LED is low, the LED will turn into Green and when the input voltage for Buzzer is low, it will sound.

### 5.1 Set Wiegand Output Formats

Please set the Wiegand output formats according to the Wiegand input format of the controller.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Wiegand output bits PIN output bits	8 (26~37) # (factory default is 26bits) 8 (4 or 8 or 10) # (Factory default is 4bits)
3. Exit	*