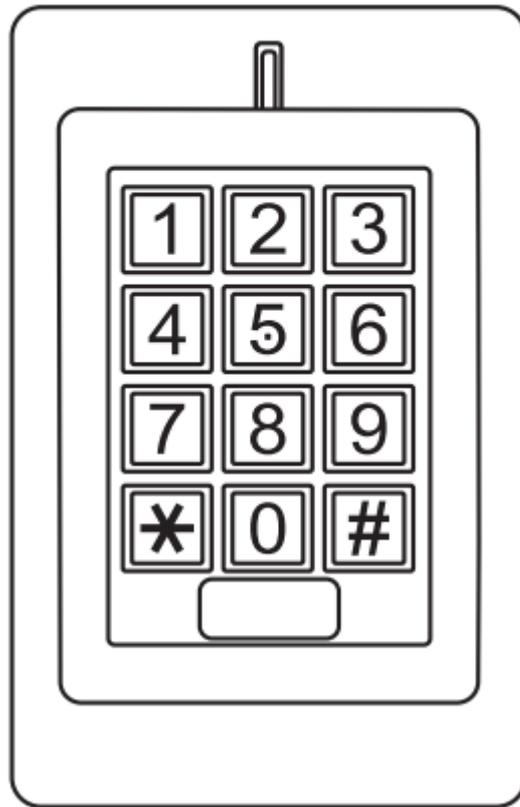


Waterproof

Dual-relay Access Control



H-KOD 12/24

User Manual

INTRODUCTION

The H-KOD 12/24 is a dual- entry multi-function Access Controller with integrated keypad and card reader. It is designed and manufactured to perform in a wide range of indoor, outdoor, and harsh environments.

The H-KOD 12/24 supports up to 1100 users in multiple access configurations (Card, PIN, or Card + PIN). The built in card reader supports EM 125KHz frequency cards.

Both of the two relays on board can operate in Pulse Mode (suitable for access control) or Toggle Mode (suitable for arming/disarming alarms, switching lights, machines....etc)

The H-KOD 12/24 offers advanced programming features like: block enrollment, advanced relay programming, and door bell. These features make it an ideal choice for door access not only for small shops and domestic households but also for commercial and industrial applications such as factories, warehouses, laboratories, banks and prisons.

Features

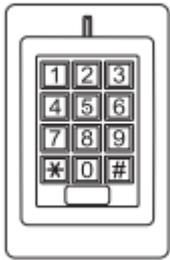
- Waterproof(IP66)
- Vandal resistant enclosure
- Backlit keypad
- Multi-color LED status display
- Two programmable relay output
- 1100 Users (Card/PIN/ Card+PIN)
- Card block enrollment
- Integrated alarm & buzzer output
- Low power consumption (55mA)
- Anti-tamper alarm
- Toggle mode to hold door or gate open
- Relay 2 supports external door bell
- 12-28V AC/DC power input

Specifications:

User Capacity Zone 1 Zone 2	1100 Cards/PINS 1000 100
Operating Voltage Idle Current Active Current	12-28V AC/DC 55mA 80mA
Proximity Card Reader Radio Technology Read Range	EM 125KHz Industry Standard Proximity Card 3-6cm
Wiring Connections	Electric Lock, Exit Button, DOTL, External Alarm, Door Bell
Relay Adjustable Relay Output Time Adjustable Alarm Output Time Lock Output Load Alarm Output Load	Two (NO, NC, COM) 0-99 Seconds (5 seconds default) 1-3 minutes (1 minute default) 3 Amp Maximum 3 Amp Maximum
Environment Operating Temperature Operating Humidity	Meets IP66 -40°C ~60°C, or -40°F ~ 140°F 10% ~ 90% Non-Condensing

Physical	Zinc-Alloy Enclosure
Surface Finish	Powder Coat
Dimensions	L120xW76xH25 (mm) (H-KOD 12/24) L130xW56xH23 (mm) (SK4)
Unit Weight	600g (H-KOD 12/24) / 500g (SK4)
Shipping Weight	700g (H-KOD 12/24) / 650g (SK4)

Carton Inventory



H-KOD 12/24 Access Control



Diode IN4004 (For relay circuit protection)



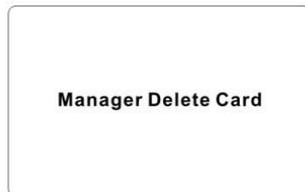
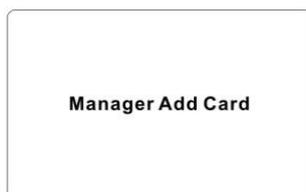
Self Tapping Screws



Wall Anchors



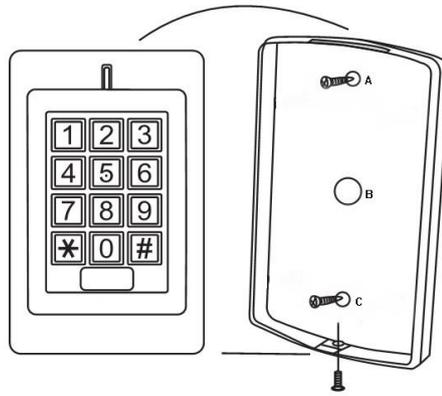
Screw Driver



Master Cards

INSTALLATION

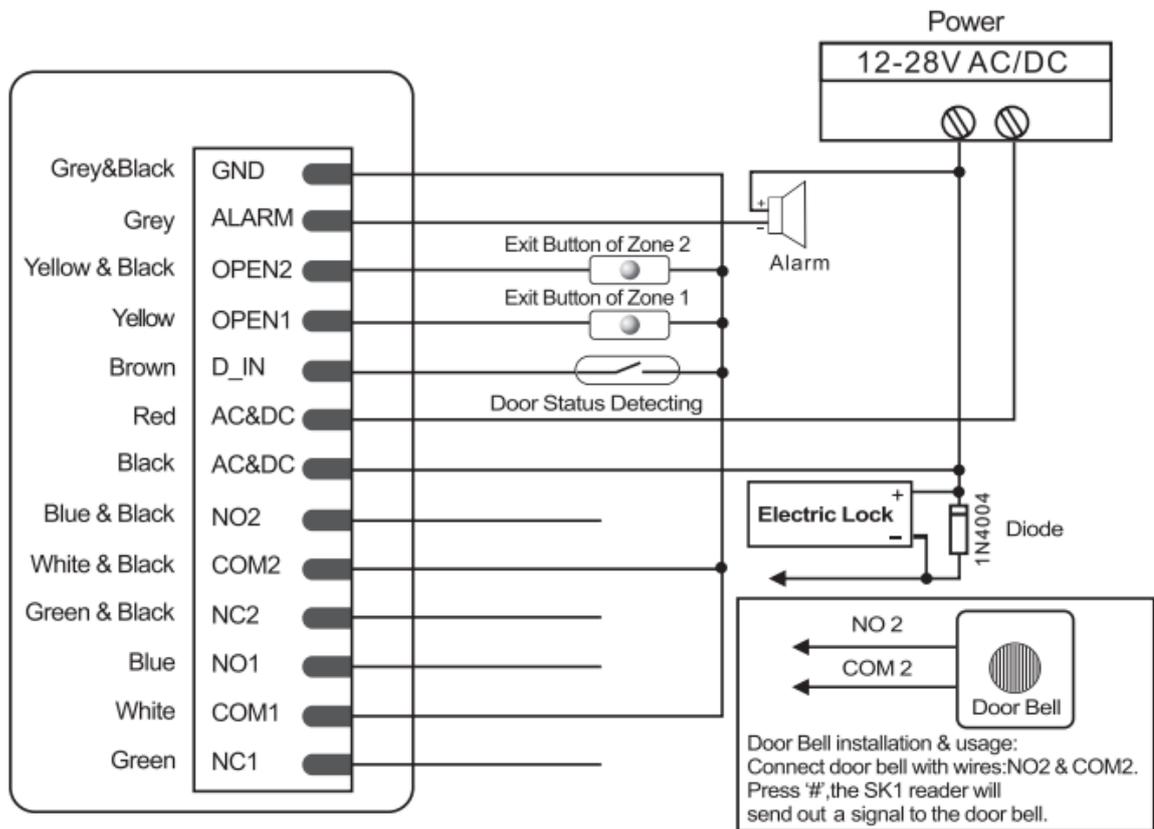
- Remove the back cover from the unit
- Drill 2 holes(A,C) on the wall for the screws and one hole for the cable
- Knock the supplied rubber bungs to the screw holes(A,C)
- Fix the back cover firmly on the wall with 4 flat head screws
- Thread the cable through the cable hole(B)
- Attach the unit to the back cover.



Wiring

Wire Insulation Colour	Function	Notes
Basic Standalone Wiring		
Red	AC&DC	12-28V AC/DC AC Regulated Power Input
Black	AC&DC	12-28V AC/DC AC Regulated Power Input
Grey& Black	GND	Negative Pole
Blue	NO 1	Normally Open Relay 1 output
White	COM 1	Common Connection for Relay 1 output
Green	NC 1	Normally closed Relay 1 Output
Yellow	OPEN1	Request to Exit input 1(REX)
Advanced Input and Output Features		
Blue& Black	NO 2	Normally Open Relay 2 Output
White& Black	COM2	Common Connection for Relay 2 Output
Green& Black	NC 2	Normally closed Relay 2 Output
Yellow& Black	OPEN2	Request to Exit input 2(REX)
Grey	Alarm -	Alarm Negative
Brown	D_IN	Door status detecting
Grey&Black	GND	Negative Pole

Connection Diagram



Connect the negative pole of the lock to NC is for Fail –safe lock.
 Connect the negative pole of the lock to NO is for Fail-secure lock.

Remarks: the Zone 2, it can be used to operate the door bell when no need to operate a second door. The wiring is connecting the door bell to NO2 and COM2. Press #, the reader will send out a switching signal to the door bell, as long as you press the " #", the door bell will continuous operate, it will stop until you release the " #"

Function Description

Relay operation (Pulse mode and Toggle mode)

Both of the two relays on board can operate in Pulse Mode (suitable for access control) or Toggle Mode (suitable for arming/disarming alarms, switching lights, machines....etc)

Every time a valid tag/card read or Pin input in Pulse Mode, the relay will operate, for the pre-set relay pulse time.

Every time a valid tag/card read or Pin input in Toggle Mode, the relay changes state, which will not turn back until read card or input pin again.

Master Card

H-KOD 12/24 master can use master cards to program user cards into and out of the system. There are two pre-programmed master cards (an Add Card, and a Delete Card) to allow rapid card enrollment. It is for Zone 1 only.

Anti-tamper Alarm

The H-KOD 12/24 uses a LDR (light dependent resistor) as an anti tamper alarm. If the keypad is removed from the cover then the tamper alarm will operate.

PROGRAMMING

Configure the Keypad

Change the configure settings according to your application (optional). Multiple configuration settings can be changed at one time: enter program mode, change desired settings, then exit program mode.

Set Master Code

The 6 digit Master Code is used to prevent unauthorized access to the system. To interface with the H-KOD 12/24, the manager will need a Master Code (factory default code: 666666). We highly recommend immediate update and recording of your Master Code.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Update Master Code	0 (New Master Code) # (Repeat New Master Code) #
3. Exit Program Mode	*

SET ACCESS CONFIGURATION

- **Card or PIN (Default):** The User must present a valid Card to the H-KOD 12/24 or enter their PIN code followed by the # key, in order to be granted access.
- **Card + PIN:** The User must first present a valid Card to the H-KOD 12/24 and then enter their PIN code followed by the # key, in order to be granted access.

Programming Step	Keystroke Combination
1. Enter Program Mode	* (Master Code) #
2. Card or PIN Zone 1 Zone 2 OR 2. Card + PIN Zone 1 Zone 2	4 1 0 # 4 2 0 # 4 1 1 # 4 2 1 #
3. Exit Program Mode	*

User Settings

To enter the programming mode	* Master code #
To exit from the programming mode	*

Note that to undertake the following programming, the master user must be logged in

Note:

When adding users, if the Card or Pin user has been enrolled already, you can not add it again on the same zone, or the device will give a bleep as error. But it is ok to enroll the same card or Pin for the both zones.

Factory default setting: Card or PIN mode

To set users for Zone 1. (4 1 0 #)

To add **PIN** users

1 User ID number # PIN #

The ID number is any number from 1~1000.

The PIN is any 4~6 digits between 0000~999999 with the exception of 1234 which is reserved. Users can be added continuously without exiting programming mode as follows:

1 User ID no 1 # PIN # User ID no 2 # PIN #

To delete **PIN** users

3 User ID number #

Users can be deleted continuously without exiting programming mode.

To change the **PIN** of a PIN user
(Note: This step must be done out of programming mode)

* ID number # Old PIN # New PIN # Repeat new PIN #

To add **Card** Users. (Method 1)

This is an easy way to enter cards with auto-generated ID numbers.
The ID number will start from 1 if no user has been programmed

1 Read card #

Card can be added continuously without exiting programming mode.

To add **Card** Users. (Method 2)

This is the alternative way to enter cards using User ID Allocation. In this method a User ID is allocated to a card. Only one user ID can be allocated to a single card.

1 ID number # Card #

The ID number can be any number among 1~ 1000.

To add a **series cards** users – **Block Enrolment**

The card number must be consecutive.
(This operation is only for Zone 1)

1 ID number # 8 digits or 10 digits Card number # Card quantity #

Card quantity is between 1-1000.

To **delete Card** users by cards.

Note: Users can be deleted continuously without exiting programming mode.

3 Read Card #

The device can automatically identify the card of Zone 1 or Zone 2.

To **delete Card** users by user ID.

3 User ID #

This option can be used when a user has lost their card.	
To delete card users by card number	<p>9 [Input 8 digits or 10 digits Card number] #</p> <p>Cards can be deleted continuously without exiting from programming mode.</p>
To set users for Zone 2. (4 2 0 #)	
<p>To set Pin user for Zone 2 is the same as Zone 1, only the ID number is 1001-1100 for Zone 2.</p> <p>To set Card user for Zone 2 is the same as Zone 1, with the exception of adding Card users with auto-generated ID numbers and Block enrolment as below.</p>	
To add Card Users. (Method 1) Auto-generated ID numbers.	<p>2 [Read Card] #</p> <p>Card can be added continuously without exiting programming mode.</p>

Card and PIN Mode

To set users for Zone 1. (4 1 1 #)	
To Add a card and Pin user (The PIN is any four digits between 0000 & 999999 with the exception of 1234 which is reserved.)	<p>Add the card as for a card user</p> <p>Press * to exit from the programming mode</p> <p>Then allocate the card a PIN as follows:</p> <p>* [Read card] 1234 # [PIN #] [PIN #]</p>
To change a PIN in card and PIN mode (Method 1) <u>Note that this is done outside programming mode so the user can undertake this themselves</u>	<p>* [Read Card] [Old PIN #] [New PIN #] [New PIN #]</p>
To change a PIN in card and PIN mode (Method 2) <u>Note that this is done outside programming mode so the user can undertake this themselves</u>	<p>* [ID number #] [Old PIN #] [New PIN #] [New PIN #]</p>
To delete a Card and PIN user just delete the card	<p>3 [Read Card] # or 3 [User ID] #</p>
To set users for Zone 2. (4 2 1 #) The operation is the same as Zone 1.	

To set Card user only.(in this mode, users can only be valid by card)	
To set Card user only.	<p>4 1 2 # , Zone 1</p> <p>4 2 2 # , Zone 2</p> <p>Entry is by Card only</p>

Relay Setting (Pulse mode, Toggle mode)

Pulse mode (Factory default)	For Zone 1: <input type="text" value="5"/> <input type="text" value="1"/> <input type="text" value="1~99"/> <input type="text" value="#"/> For Zone 2: <input type="text" value="5"/> <input type="text" value="2"/> <input type="text" value="1~99"/> <input type="text" value="#"/> The door relay time is between 1~99 seconds, the factory default setting is 5 seconds. 1 means Zone 1. 2 means Zone 2.
Toggle mode	For Zone 1: <input type="text" value="5"/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="#"/> For Zone 2: <input type="text" value="5"/> <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="#"/>

Door, Alarm, Acoustic Signal, Door Bell Settings

Door Open Detection <i>Door Open Too Long (DOTL) warning.</i> 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. <i>Door Forced Open warning.</i> When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is forced open, the inside buzzer and alarm output will both operate.	
To disable door open detection. (Factory default setting)	<input type="text" value="6"/> <input type="text" value="0"/> <input type="text" value="#"/>
To enable door open detection	<input type="text" value="6"/> <input type="text" value="1"/> <input type="text" value="#"/> It is optional to connect the D_IN line to LOCK1 or LOCK 2
Keypad Lockout & Alarm Output options. If there are 10 invalid cards or 10 incorrect PIN numbers in a 10 minute period either the keypad will lockout for 10 minutes or the alarm will operate for 10 minutes, depending on the option selected below.	
Normal status: No keypad lockout or alarm	<input type="text" value="7"/> <input type="text" value="0"/> <input type="text" value="#"/> (Factory default setting)
Keypad Lockout	<input type="text" value="7"/> <input type="text" value="1"/> <input type="text" value="#"/>
Alarm Output	<input type="text" value="7"/> <input type="text" value="2"/> <input type="text" value="#"/>
Alarm output time	
To set the alarm output time (1-3 minutes) Factory default is 1 minute	<input type="text" value="8"/> <input type="text" value="1~3"/> <input type="text" value="#"/>
Acoustic Signal <i>The acoustic signal can be set on or off. When on, the device will give the voice when press the keys; when off, the device will be in silent.</i>	
Normal status: On	<input type="text" value="8"/> <input type="text" value="6"/> <input type="text" value="#"/> (Factory default setting)

Acoustic signal Off	<input type="button" value="8"/> <input type="button" value="7"/> <input type="button" value="#"/>
Change Zone 2 to Door Bell	
(When no need to operate a second door, Zone 2 can be set to operate the Door Bell. The wiring is connecting the door bell to COM2 and NO2. Press #, the keypad will send the signal to the door bell.	
Zone 2	<input type="button" value="8"/> <input type="button" value="8"/> <input type="button" value="#"/> Factory default.
Door bell	<input type="button" value="8"/> <input type="button" value="9"/> <input type="button" value="#"/>
To remove the alarm	
To reset the Door Forced Open warning	<input type="button" value="Read valid card"/> or <input type="button" value="Master Code #"/>
To reset the Door Open Too Long warning	Close the door or <input type="button" value="Read valid card"/> or <input type="button" value="Master Code #"/>

Others

Using Master Cards

Using Master Card (It is only available for Zone 1)	
Add a User Card	<ol style="list-style-type: none"> 1. (Read Master Add Card) 2. (Read User Card) <i>Repeat Step 2 for additional user cards</i> 3. (Read Master Add Card)
Delete a User Card	<ol style="list-style-type: none"> 1. (Read Master Delete Card) 2. (Read User Card) <i>Repeat Step 2 for additional user cards</i> 3. (Read Master Delete Card)

Reset to Factory Default:

This will reset the H-KOD 12/24 to the factory default but all card/PIN information will still be retained. This will also require reprogramming of the Master Add and Delete Cards. **NOTE:** *This is useful if the original Master Add and Delete Cards have been lost.*

1. Power the H-KOD 12/24 down.
2. Press * and hold the button while power is restored to the keypad.
3. Release the button and wait until the amber LED shines.
4. Present any 125KHz proximity EM card or the Master Add Card (provided) to the H-KOD 12/24. This card is now the Master Add Card.
5. Present any 125KHz proximity EM card or the Master Delete Card (provided) to the H-KOD 12/24. This card is now the Master Delete Card.

When the red LED begins to blink, the H-KOD 12/24 has been successfully reset.

Erase all Users

This will delete ALL User data of Zone1 or Zone 2 or Both.

1. Enter Program Mode by press: *(Master Code) #.

2. Press 30000 # (for Zone 1)

Or

2. Press 90000 # (for Zone 2)

3. Exit: *

All configuration data is retained.

Sound and Light indication

Operation Status	Red LED	Green LED	Blue LED	Sounds
Power on	Flashing			Short Single Beep
Stand by	Flashing			
Press Keypad	Flashing			Short Single Beep
Enter Master Code Entry Mode	ON			Short Single Beep
In program mode	ON	Single Flash		Short Single Beep
Entered Program Step Successfully	ON	Single Flash		Short Single Beep
Entered Program Step Incorrectly				3 Short Beeps
Exit from the programming mode	Flashing			Short Single Beep
Entry Granted for Zone 1		ON		Short Single Beep
Entry Granted for Zone 2			ON	
Alarm Mode Engaged	Flashing			Alarm

H-KOD 12/24- Simplified Instruction

Function Description	Operation
Enter the Programming Mode	* (Master Code) # <i>(666666 is the default factory master code)</i>
Change the Master Code	0 (New Master Code) # (Repeat New Master Code) # <i>(code: 6 digits)</i>
Add Card User	1 (Read Card) # (for Zone 1) 2 (Read Card) # (for Zone 2)
Add PIN User	1 (User ID 1~1000) # (PIN)# (for Zone 1) 1 (User ID 1001 ~1100) # (PIN) # (for Zone 2) <i>The PIN is any 4-6 digits between 0000 ~ 999999</i>
Delete User	3 (Read Card) # 3 (User ID) #
Exit from the Programming Mode	*

How to be granted access	
Card User	Read card
PIN User	Enter (PIN) #