

# **EMKA Card Reader with Keypad**

## **3000-U45-05**



## **User Manual**

Vers. 1.01 (07/20)



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# 1 Packing List

Name	Quantity	Remarks
Card reader with keypad	1	
User manual	1	
Rubber plug	2	6x30 mm, used for fixing
Self-tapping screws	2	4x28 mm, used for fixing
Star screw	1	3x6 mm, used for fixing

Please ensure that all the above contents are correct. If any are missing, please notify the supplier of the unit.

# 2 Quick Reference Programming Guide

To enter the programming mode	* <b>Master code</b> # 999999 is the default factory master code
To exit from the programming mode	*
<b>Note that to undertake the following programming the master user must be logged in via the master code</b>	
To change the master code	0 <b>New code</b> # <b>New code</b> # The master code can be 6 to 8 digits
To <b>add</b> a <b>PIN</b> user	1 <b>User ID number</b> # <b>PIN</b> # The ID number is any number between 1 & 2000. The PIN is any four digits between 0000 & 9999 except for 1234 which is reserved. Users can be added continuously without exiting programming mode
To <b>add</b> a <b>card</b> user	1 <b>Read Card</b> # Cards can be added continuously without exiting programming mode
To <b>delete</b> a PIN or a card user	2 <b>User ID number</b> # for a PIN user or 2 <b>Read Card</b> # for a card user Users can be deleted continuously without exiting programming mode
To unlock the door for a <b>PIN</b> user	Enter the <b>PIN</b> then press #
To unlock the door for a <b>card</b> user	<b>Present the card</b>

# 3 Description

This unit can be used as a standalone access controller **or** Wiegand card reader in indoor and outdoor applications. It operates as a card reader or keypad so that you can get access by using your card, pin or card and pin (two factor authentication).

It is housed in an electroplated Zinc Alloy case which conforms to IP68.

This unit stores up to 2.000 users in standalone mode. The built-in card reader supports 13.56 MHz Mifare cards.

The unit features a lock output current short circuit protection and a Wiegand output.

## 4 Features

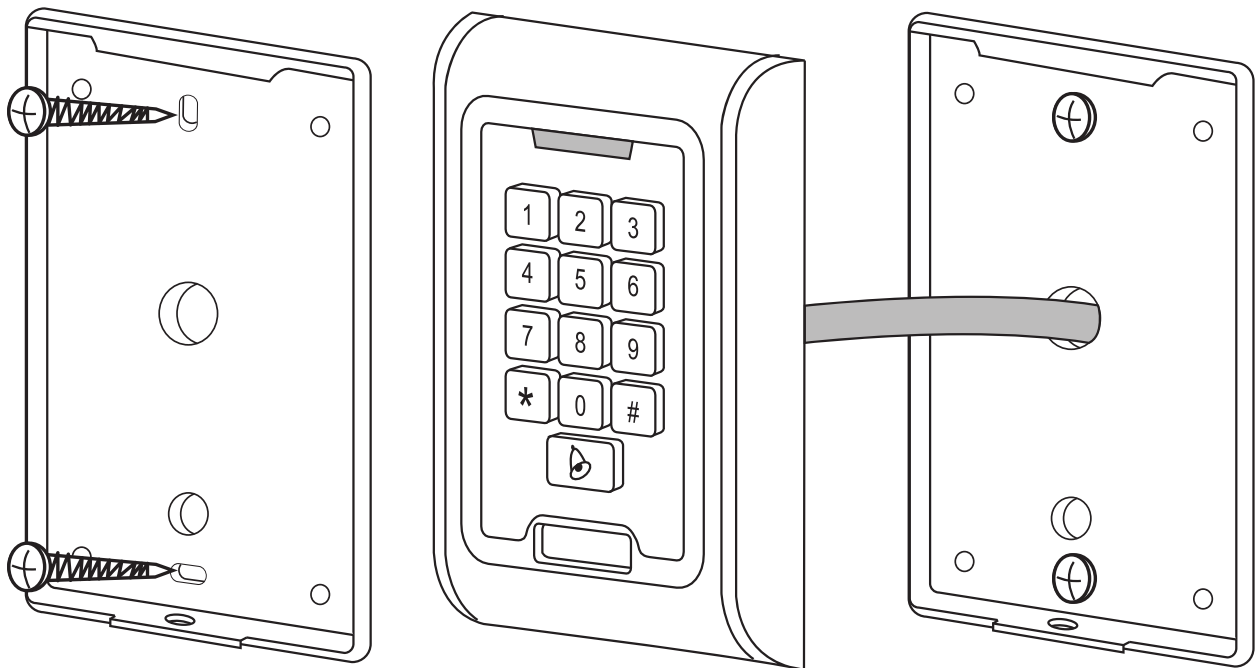
- Waterproof, conforms to IP68
- Electroplated Zinc Alloy case
- Full programming from the keypad
- 2.000 users, supports Card, PIN, Card + PIN authentication
- Can be used as a standalone unit
- Wiegand 26 Bit output for connection to a controller
- Adjustable Door Relay time
- Very low power consumption (30 mA)
- Fast operating speed, <20ms with 2.000 users
- Lock output current short circuit protection
- Easy to install and program
- Built in buzzer
- Red, Yellow and Green LEDs display the working status

## 5 Specifications

Operating Voltage	DC 12 - 24
User Capacity	2.000
Card Reading Distance	2 - 6 cm
Active Current	<60 mA
Idle Current	25±5 mA
Lock Output Load	Max 1 A
Operating Temperature	-45 °C ~ 60 °C
Operating Humidity	10 %- 90 % RH
Waterproof	Conforms to IP68
Adjustable Door Relay time	0 - 99 seconds
Wiegand Interface	Wiegand 26 Bit
Wiring Connections	Electric Lock, Exit Button, External Rreader

## 6 Installation

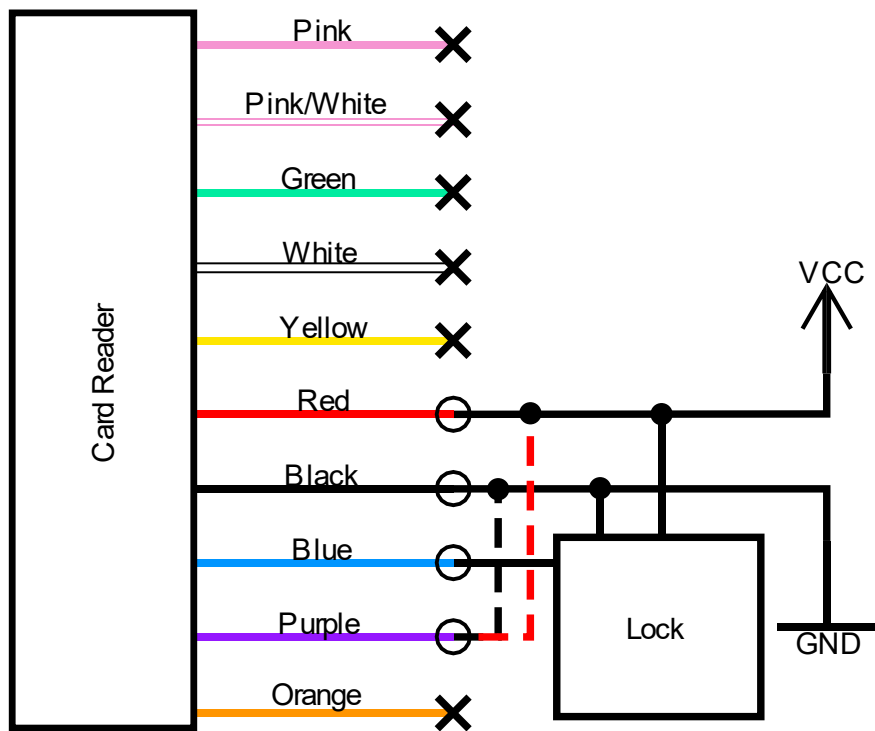
- Remove the back cover from the card reader
- Drill one hole (9 mm) for the cable and two holes to fasten the card reader. Use the supplied sticker or the back of the card reader.
- Put the supplied rubber plugs into the two holes
- Fix the back cover
- Thread the cable through the cable hole
- Attach the keypad to the back cover



## 7 Wiring

Color	Function	Description
Pink	BELL_A	Doorbell button
Pink/White	BELL_B	Doorbell button
Green	D0	WG output D0
White	D1	WG output D1
Yellow	OPEN	Exit button (the other end connected GND)
Red	12V+	12V + DC Power Input
Black	GND	12V - DC Power Input
Blue	NO	Relay normally open (connect one end of the lock)
Purple	COM	Relay common (connect one end of the lock)
Orange	NC	Relay normally closed

**Wiring diagram (example):**



**Figure 1: Wiring diagram, standalone**

Card Reader	Locks	3000-U304-01, 3000-U304-02	3000-U301-01, 3000-U301-02
	1150-U56-00, 1154-U6-03, 1317-U151-12BO	Pin	Pin
Color	Color		
Red	White	5	5
Black	-	4	-
Blue	Brown	3	4
Purple	<b>Bridge to GND</b>	<b>Bridge to VCC</b>	<b>Bridge to GND</b>

To supply power to the system the power supply with the article number 3000-03-00 can be used.  
To connect a single point latch the extension cable with the article number 2759 can be used.

## 8 To Reset to Factory Default

- Disconnect power from the unit
- Press and hold # key whilst powering the unit back up
- On hearing two “Di” release # key, system is now back factory settings
- System is reset to factory default

Please note only installer data is restored, user data will not be affected

## 9 Sound and Light indication

Operation Status	Red LED	Yellow LED	Green LED	Buzzer
Power on		-	Bright	Di
Press keypad		-	-	Di
Operation successful		-	Bright	Di
Operation failed		-	-	DiDiDi
Entering programming mode	Bright			-
In the programming mode		Bright	-	Di
Exit from the programming mode	Bright	-	-	Di
Open the door		-	Bright	Di

## 10 Detailed Programming Guide

### 10.1 User Settings

To enter the programming mode	* <b>Master code</b> # 999999 is the default factory master code
To exit from the programming mode	*
<b>Note that to undertake the following programming the master user must be logged in via the master code</b>	
To change the master code	0 <b>New code</b> # <b>New code</b> # The master code can be 6 to 8 digits long
<b>Setting the working mode:</b> Set valid card only users Set valid card <b>and</b> PIN users Set valid card <b>or</b> PIN users	3 0 # Entry is by <b>card only</b> 3 1 # Entry is by card <b>and</b> PIN together 3 2 # Entry is by either card <b>or</b> PIN (default)
<b>To add / change / delete a user</b>	
To <b>add</b> a <b>PIN</b> user	1 <b>User ID number</b> # <b>PIN</b> # The ID number is any number between 1 & 2000. The PIN is any four digits between 0000 & 9999 except for 1234 which is reserved. Users can be added continuously without exiting programming mode as follows: 1 <b>User ID no 1</b> # <b>PIN</b> # <b>User ID no 2</b> # <b>PIN</b> #
To <b>delete</b> a <b>PIN</b> user	2 <b>User ID number</b> # Users can be deleted continuously without exiting programming mode
To <b>change</b> the <b>PIN</b> of a <b>PIN</b> user (This step must be done out of programming mode)	* <b>ID number</b> # <b>Old PIN</b> # <b>New PIN</b> # <b>New PIN</b> #
To <b>add</b> a <b>card</b> user (Method 1) This is the fastest way to enter cards, user ID number auto generation.	1 <b>Read card</b> # Cards can be added continuously without exiting programming mode
To <b>add</b> a <b>card</b> user (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 <b>ID number</b> # <b>Read card</b> # User can be added continuously without exiting programming mode
To <b>add</b> a <b>card</b> user (Method 3) Card number is the last 8 digits printed on the back of the card user ID number auto generation.	1 <b>Card number</b> # User can be added continuously without exiting programming mode
To <b>add</b> a <b>card</b> user (Method 4)	1 <b>ID number</b> # <b>Card number</b> #



In this method a User ID is allocated to a card number. Only one user ID can be allocated to the card number	User can be added continuously without exiting programming mode
To <b>delete</b> a <b>card</b> user by card. Note users can be deleted continuously without exiting programming mode	2 Read Card #
To <b>delete</b> a <b>card</b> user by user ID. This option can be used when a user has lost their card	2 User ID #
To <b>delete</b> a <b>card</b> user by card number. This option can be used when the user wants to make the change, but the card has lost	2 Card number # Note users can be deleted continuously without exiting programming mode
To <b>add</b> a <b>card and PIN</b> user in card and PIN mode (3 1 #)	
To <b>add</b> a <b>card and Pin</b> user (The PIN is any four digits between 0000 & 9999 except for 1234 which is reserved.)	Add the card as for a card user Press # to <b>exit from the programming mode</b> Then allocate the card a PIN as follows: * Read card 1234 # PIN # PIN #
To <b>change</b> a <b>PIN</b> in card and PIN mode (Method 1) Note that this is done outside programming mode so the user can undertake this themselves	* Read Card Old PIN # New PIN # New PIN #
To <b>change</b> a <b>PIN</b> in card and PIN mode (Method 2) Note that this is done outside programming mode so the user can undertake this themselves	* ID number # Old PIN # New PIN # New PIN #
To <b>delete</b> a <b>Card and PIN</b> user just delete the card	2 User ID #
To <b>add</b> a <b>card</b> user in card mode (3 0 #)	
To <b>add</b> and <b>Delete</b> a <b>card</b> user	The operating is the same as adding and deleting a card user in 3 2 #
To <b>delete All users</b>	
To <b>delete ALL users</b> . Note that this is a <b>dangerous</b> option so use with care	2 0000 #
To <b>unlock the door</b>	
For a <b>PIN</b> user	Enter the PIN then press #
For a <b>card</b> User	Read card
For a <b>card and PIN</b> user	Read card then enter PIN #

## 10.2 Door Settings

<b>Relay Output Delay Time</b>	
To set door relay strike time	* Master code # 4 0~99 # * 0-99 is to set the door relay time 0-99 seconds
<b>Maloperation</b>	
<b>Keypad Lockout</b> 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 inside buzzer will operate for 10 minutes, depending on the option selected below.	
Normal status: No keypad	7 0 # (Factory default setting)
Keypad Lockout	7 1 #
Buzzer operation	7 2 #

# 11 The unit operating as a Wiegand Output Reader

In this mode the unit supports a Wiegand 26-bit output so the Wiegand data lines can be connected to any controller which supports a Wiegand 26-bit input.

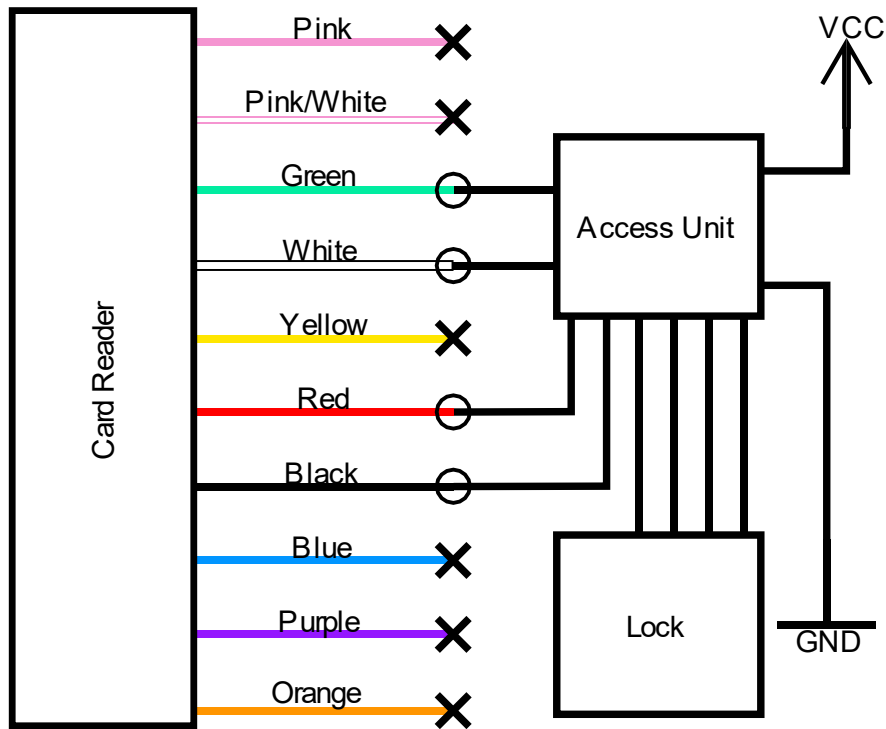


Figure 2: Wiring diagram, connected system

Pin	Signal	Card Reader
1	GND	-
2	don't use!	-
3	Data0	green
4	Data1	white
5	+12VDC	red
6	GND	black
7	don't use!	-
8	GND	-

Figure 3: Wiring, Access Unit 3000-U47-02