W4 Multi-function

Access Control

User Manual

Please ensure that all the above contents are correct. If anything is missing

2. Description

The W4 is a dual-relay access control with EM & HID 125 KHz card reader. It is suitable for mounting either indoor or outdoor in harsh environments. It is housed in a strong, sturdy and vandal proof zinc alloy electroplated structure. The electronics are fully potted so the W4 is waterproof and conforms to IP68.

The W4 supports up to 2,100 users in a card, 4-8 digits PIN, card + PIN option and additional 10 groups Duress PIN/card. The built-in card reader supports both EM & HID 125 KHz frequency cards/tags. The W4 has many extra features including Duress PIN/card, block enrollment, Wiegand 26-37 bits interface, and backlight keypad...etc. These features make W4 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.

3. Features

- > Waterproof, conforms to IP68
 > Strong zinc alloy electroplated anti-vandal structure
 > Dual-relay operation
 > 2,100 users & 10 groups duress PIN/card
 Zone 1: up to 2,000 PIN & card holders
 Zone 2: up to 100 PIN & card holders
 > Relay of both zones can be programmed for 3 modes: card, PIN, card + PIN
 > Read both 125KHz EM & HID card
 > PIN length: 4-8 digits
 > Pulse mode. Togole mode

- > Pulse mode, Toggle mode > Wiegand 26-37 input & output
- > Can be worked as reader or controlled > Dual-relay output for door opening, door status detecting, open door by button > Card block enrollment
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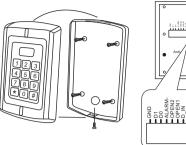
- > With manager cards for adding or deleting card user easily
 > Very low power consumption (25mA)
 > Backlight keypad
 > Light and sound of keypad can be set
 > Support door bell connection (Zone 2)
 > Built in light dependent resistor (LDR) for anti tamper

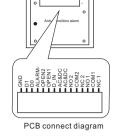
- > Built in buzzer > Red, yellow, green and blue LED display the working status > 12-24V DC /12-18V AC
- > Two-year warranty

Δ	. Specifications
•	. opecinications
Operating Voltage	12-24V DC / 12-18V AC
User Capacity	2,100(Additional10 groups Duress PIN/ca
Keypad	12 keys, 3 x 4 digits
Card Type	EM & HID 125 KHz card
Card Reading Distance	3-6 cm
Active Current	≥60mA
Idle Current	≥25mA
Lock Output Load	Max 2A
Alarm Output Load	Max 20A
Operating Temperature	-20-60℃
Operating Humidity	10%-90% RH
Environment	Conforms to IP68
Adjustable Door Relay time	1-99 seconds
Adjustable Alarm Time	0-3 minutes
Wiegand Interface	Wiegand 26-37 input & output
Wiring Connections	Electric Lock, Exit Button, DOTL, External Ala
Dimensions	L128 x W82 x H28 mm
Net Weight	600 g
Gross Weight	700 g

- Remove the back cover from the keypad using the supplied security
- screwdriver Drill 4 holes on the wall for the screws and 1 hole for the cable > Fix the back cover firmly on the wall with 4 flat head screws
 > Thread the cable through the cable hole
- > Attach the keypad to the back cover

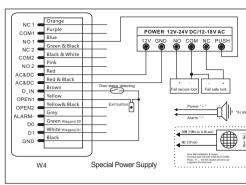


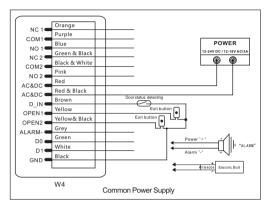




6. Wiring		
Color	Function	Description
Orange	NC 1	Relay1 NC
Purple	COM1	Relay1 COM
Blue	NO 1	Relay1 NO
Green & Black	NC 2	Relay2 NC
White & Black	COM2	Relay2 COM
Pink	NO 2	Relay2 NO
Red	AC&DC	12-24V DC / 12-18V AC Regulated Power Input
Red & Black	AC&DC	12-24V DC / 12-18V AC Regulated Power Input
Brown	D_IN	Door Status Detecting
Yellow	OPEN1	Request to Exit Button of Zone 1
Yellow& Black	OPEN2	Request to Exit Button of Zone 2
Grey	Alarm -	Alarm Negative
White	D1	Wiegand Input/Output D1
Green	D0	Wiegand Input/Output D0
Black	GND	Negative Pole

Connection Diagram





(04)

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 "#"

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 loc

7. Relay Operation (Pulse Mode and Toggle Mode)

Both of the two relays on board 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.

8. To Reset to Factory Default

To reset to factory default, power off, press , hold it and power on, release it until hear two beeps and the LED shines in orange, then read any two EM or HID cards, the LED will turn in red, means reset to factory default setting successfully. Of the two cards read, the first one is Manager Add Card, the second one is Manager Delete Card.

9. Anti Tamper Alarm

The W4 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

14. Wiegand Mode Setting

W4 supports Wiegand 26-37, both input and output. It can be used as a

15. Interconnecting Two Devices

To Set Wiegand format

Power on - Alarm

10. Sound and Light Indication

11. Detailed Programming Guide

11.1 User Settings

To enter the programming mode	888888 is the factory default master code
To exit from the programming mode	*
Note that to undertake the following programming the master user must be logged i	
To change the master code	O New code # New code # The master code is any 6 digits
Setting the working mode:	
Set valid card or PIN users	3 1 2 # , Zone 1 3 2 2 # , Zone 2
Set valid card and PIN users	Entry by card or PIN (Factory default) 3 1 1 # , Zone 1 3 2 1 # , Zone 2

* Master code #

Set valid card users ONLY

Note: When adding users, if the Card or PIN user has been enrolled alread you can not add it again to 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 zone 1 and zone 2



Card or PIN Mode - Factory default setting (312# for Zone 1 or 322# for Zone 2) To add a PIN user 1 User ID number # PIN

one 1(User ID: 1-2000)
2 User ID number # PIN # The PIN is any 4-8 digits Zone 2(User ID: 2001-2100) the exception of 1234 which is Jsers can be added continuously with exiting programming mode as follows:
1 1 1 User ID number 1# PIN# User ID number 2# PIN# Zone 1
1 2 User ID number 2# PIN# Zone 1
1 2 User ID number 2# PIN# Zone 2

2 0 User ID number # To delete a PIN user

thout exiting programming mode To change the PIN of a PIN use * User ID number# Old PIN# (This step must be done out of programming mode)

1 Read card # Zone 1 To add a card user (Method 1) 2 Read card # Zone 2 This is the fastest way to enter cards using ID number auto Cards can be added continuous ithout exiting programming mode

To add a card user (Method 2) This is the alternative way to 1 User ID number # Read Card # enter cards using User ID
Allocation. In this method a User
ID is allocated to a card. Only one Zone 1 (User ID: 1-2000)

1 2 User ID number # Read Card # Zone 2 (User ID: 2001-2100) user ID can be allocated to a

single card. 0 User ID number # Card number To add card user (Method 3) Card quantity # Add a series cards users he card number must be consecutiv Block Enrollment This operation is only for Zone 1 number must be 8 digits or 10 digits)

To delete a card user by card 2 0 Read Card # Note: Users can be deleted continuously without exiting from the card of **Zone 1** or **Zone 2** programming mode

Card and PIN mode (3111# for Zone 1 or 3211# for Zone 2) Add the card as for a card user To Add a card and PIN user Press * to exit from the program exception of 1234 which is Then allocate the card a PIN as follows reserved.) * Read card 1234 # PIN # PIN # To change a **PIN** in card and PIN mode (Method 1) Note that this is * Read card Old PIN# New PIN# done outside programming mode so the user can undertake this them selves To change a PIN in card and PIN mode (Method 2) Note that this is done outside | * User ID number # Old PIN # | | New PIN # | New PIN # | programming mode so the user can undertake this themselves To delete a Card and PIN user just 20 Read Card # or 2 0 User ID number # Card ONLY mode (3110 # for Zone 1 or 320 # for Zone 2) To add and delete a card user Same as the method Card or PIN mode To delete All users

Manager delete card Read user card To delete a card user by user ID To delete Card User by Manager This option can be used when a [2] [0] User ID number [#] Manager delete card | Cards can be Delete Card user has lost their card 2 0 Card number # To unlock the door To delete a card user by Card Users can be deleted continuously Enter the PIN then press# For a PIN user Read card For a card User For a card and PIN user Read card then enter PIN#

11. 2 Relay Setting (Pulse Mode, Toggle Mode)

Pulse mode (Factory default)

4 1 1-99 # Zone 1 4 2 1-99 # Zone 2 he door relay time is between 1-99 seconds, the factory default setting is 5 Toggle mode

12. Door Detecting, Alarm, Sound and Light Settings

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

Door Forced Open warning. When used with an optional magnetic contact Door Forced upen 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 120 seconds of the electro-mechanical lock not closed properly, the inside buzzer and alarm output will both operate. The Alarm Output time is adjustable between 0-3 minutes with the default being 1 minu

Door open detection setting To disable door open detection 60 # To enable door open detection 6 1 # Keypad Lockout & Alarm Output Options. If read 10 invalid cards or input 10 incorrect PIN in a 10 minute period either the keypad will lockout for 10 minutes or the alarm will operate for 0-3 minutes, depending on the option selected below.

	Normal status: no keypad lockout or alarm	70# (Factory default)
	Keypad Lockout	71#
	Alarm Output	72#
ı		

ilaim Output	1 2 1
ight and sound setting	
o set keypad backlight	8 1 0 # To disable keypad backlight 8 1 1 # To enable keypad backlight (Factory default)
·	820# To disable the RED Led

To set keypad backlight	(Factory default)
To set LED	820# To disable the RED Led 821# To enable the RED Led (Factory default)
Keyped Tone	

The 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. 830 # To disable the keypad tone 831 # To enable the keypad tone

(Factory default) Change Zone 2 to Door Bell o 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

Alarm output time	
Door bell	841#
Zone 2	840# (Factory default)

To set the alarm output time 5 0-3 # (Factory default : 1 minute) (0-3 minutes) Remove the alarm To reset the Door Forced Open Read valid card or Master Code # To reset the Door Open Too Long | Close the door or Read valid card or

13. Duress User Settings

To set Duress PIN Use

eat Durace card usar	
delete a PIN user	As the same method of deleting common PIN user (The ID number is a number between 2101-2110)
add a PIN user	1 3 user ID number # PIN #

To set Duress card user		
	To add a card user by read card	[1] [3] user ID number] # Card # (The ID number is any number between 2101-2010)
	To delete a card user	As the same method of deleting common card user
	To delete All Duress users Note that this is a dangerous	23 0000 #

Note:
① User ID number must be any 4digits between 2101 - 2110
② Duress PIN/card must be unique, should be distinguished from comm
PIN/card (When the Duress PIN/card is the same with common PIN/o
they will become invalid in Duress, and worked as common user fund

option so use with care

In this mode the W4 supports a Wiegand 26-37 bit output so the Wiegand data lines can be connected to any controller which supports a Wiegand 26-37 bit input. See figure 1. Orange Purple Blue Green & Black Black & White Pirk Red Orange NC 1 COM1 NC 2 NC 2 NO 2 NO 2 AC&DC V+ **S** GND GND O

D0 🛇

15.1 W4 operating as a Wiegand Output Reader

Figure 1

White Black

The Reader will transmit the PIN data when it receives the last key (#) press after PIN code.

Format: PIN Code (any 4-8 digits between 0000 - 99999999)

Example: PIN code: 111111
Press 111111 #, then the output format will be: 0000111111 (Note: if press an invalid PIN (any 4-8 digits), the data will be also transmitted.)

◆2: Proximity Card Transmission he Reader will transmit the card data when it reads the Card.

Format: Card Number (Note: no matter the card is valid or invalid, the data will be transmitted)

> 15.2 W4 operating as a Controller In this mode the W4 supports a Wiegand 26-37 bit input so an external Wiegand

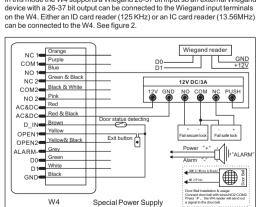


Figure 2



To set card users by Manager Card (This operation is only for Zone 1)

To add Card User by Manager
Add Card
Ad

Note that this is a dangerous option so use with care

Add Card



1 0000 # Delete ALL users of Zone

2 2 0000 # Delete ALL users of Zone 2













14

To unlock the door for a PIN user | Enter the PIN then press #

To unlock the door for a card user Present the card

W4 Quick Reference Programming Guide

Note that to undertake the following programming the master user mus

1 1 User ID number # PIN #

1 2 User ID number # PIN #

he PIN is any 4-8 digits between

added continuously without exiting

1 Read card # Zone 1

2 Read card # Zone 2

Cards can be added continuously

vithout exiting from programming mode

2 0 User ID number # for a PIN user

or 2 0 Read Card # for a card user

0000 - 99999999 with the exception of

1234 which is reserved. Users can be

one 2 (User ID: 2001-2100)

one 1 (User ID: 1-2000)

programming mode

To enter the programming mode

To change the master code

To add a Card user

To unlock the door

To delete a PIN or a Card user

be logged in

To exit from the programming mode