Waterproof
Dual-relay Access Control
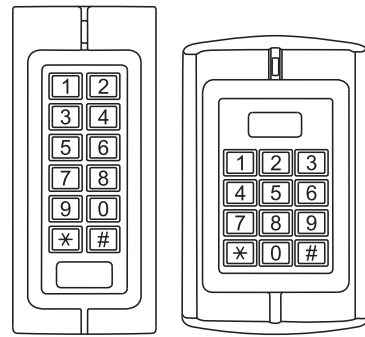
W1-A   W3-A

User Manual

1. Packing List

Name	Quantity	Remark
Digital Keypad W1-A/W3-A	1	
User Manual	1	
Screw Driver	1	
Rubber Bungs	4	6*27mm, used for fixing
Self Tapping Screws	4	3.5*27mm, used for fixing

Please ensure that all the above contents are correct. If any are missing please notify the supplier of the W1-A/W3-A.

2. Description

(W1-A&W3-A are in the same function, only different in shape.)
The W1-A/W3-A is a two relays multifunction standalone access controller. 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 W1-A/W3-A is waterproof and conforms to IP65.

It supports up to 1200 users in either a Card, PIN, or a Card + PIN option. The built-in card reader supports 125KHz EM frequency card, and the PIN length is 4-8 digits.

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)

W1-A/W3-A is 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 IP65
> Strong zinc alloy electroplated anti-vandal structure
> Two-relay operation
> Both of the 2 relays can be programmed for 3 modes: Card, PIN, Card + PIN
> 1200 users
> Zone 1: up to 1100 PIN & Card holders
> Zone 2: up to 100 PIN & Card holders

> PIN length: 4-8 digits; Card type: 125KHz EM card
> Can be used as a stand alone keypad
> Pulse mode, Toggle mode
> Block enrollment, can enroll 1100 consecutive cards within 1 minute
> Backlight keypad
> Adjustable door relay output time, alarm time, door open time
> Built in light dependent resistor (LDR) for anti tamper
> Built in buzzer
> Two-relay output for door opening, door status detecting, open door by button
> Red, yellow and green LED display the working status
> Support door bell connection(Zone 2)
> 12-24V DC/12-18V AC power input
> Two-year warranty

4. Specifications

Operating Voltage	12-24V DC/12-18V AC
User Capacity	1200
Keypad	12 keys, 2 x 6 digits (W1-A)
	12 keys, 3 x 4 digits (W3-A)
Card Type	EM card
Card Reading Distance	3-6 cm
PIN length	4-8 digits
Active Current	60mA
Idle Current	25±5 mA
Lock Output Load	Max 2A
Alarm Output Load	Max 20A
Operating Temperature	-40°C-60°C
Operating Humidity	5%- 95% RH
Environment	Conforms to IP68
Adjustable Door Relay time	1-99 seconds
Adjustable Alarm Time	0- 3 minutes
Wiring Connections	Electric Lock, Exit Button, DOTL, External Alarm
Dimensions	L135 x W58 x H26 mm (W1-A)
	L128 x W82 x H28 mm (W3-A)
Net Weight	650 g
Gross Weight	800 g

5. Installation

> Remove the back cover from the keypad using the supplied security screwdriver
> Drill four 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
> Use the supplied rubber bungs to waterproof the screw holes
> Attach the keypad to the back cover

W1-A   W3-A
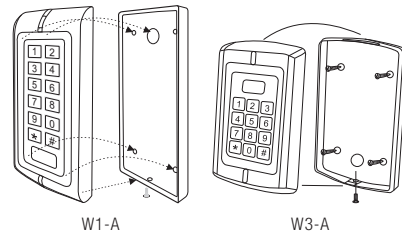
6. Wiring

Colour	Function	Description
Grey & Black	GND	Negative Pole
Grey	Alarm -	Alarm Negative
Yellow & Black	OPEN2	Request to Exit Button of Zone 2
Yellow	OPEN1	Request to Exit Button of Zone 1
Brown	D_IN	Door Status Detecting
Red	AC&DC	12-24V DC/12-18V AC Power Input
Black	AC&DC	12-24V DC/12-18V AC Power Input
Blue& Black	NO2	
Blue& Black	NO2	
White&Black	COM2	
Green& Black	NC2	
Blue	NO1	
White	COM1	
Green	NC1	

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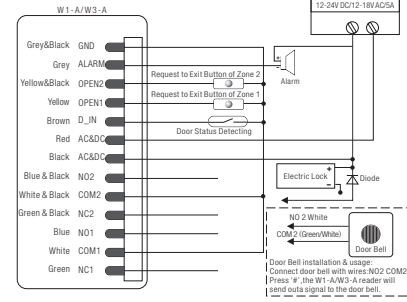
Remarks:
The Zone 2, it can be used to operate the door bell when no need to operate a second door. The wiring is connecting the door bell to NO2 and COM2. Press #, the reader will send out a switching signal to the door bell, as long as you press the "#", the door bell will continuous operate, it will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

7. 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)

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

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

8. Reset to Factory Default

To reset to factory default, power off, press ✱, hold it and power on, release it until hear three beeps(two short, one long), means reset to factory default successfully.

Remarks: Reset to factory default, the user's information is still retained.

10. Sound and Light indication

Operation Status	Red Light	Green Light	Blue Light	Buzzer
Zone1 unlock	-	Bright	-	Short Ring
Zone2 unlock	-	-	Bright	Short Ring
Power on	Bright	-	-	Long Ring
Stand by	Shines slowly	-	-	-
Press keypad	-	-	-	Short Ring
Operation successful	-	-	Bright	Long Ring
Operation failed	-	-	-	3 Short Rings
Enter into programming mode	Bright	-	-	Long Ring
In the programming mode	Bright	Bright	-	-
Exit from the programming mode	Shines slowly	-	-	Long Ring
Alarm	Shines quickly	-	-	Alarm

9. Anti Tamper Alarm

The W1-A/W3-A 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.

11. W1-A/W3-A Detailed Programming Guide

11.1 User Settings

To enter the programming mode	✱ Master code #
	888888 is the default factory master code
To exit from the programming mode	✱

Note: All the steps below must be done after entering into the programming mode

To change the master code	0 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
	Entry is by either card or PIN (Factory default setting)
Set valid Card and PIN users	3 1 1 #, Zone 1
	3 2 1 #, Zone 2
	Entry is by card and PIN together

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. Same PIN for both Zone 1 and Zone 2 is not valid, if so, the PIN will be only valid for Zone 1.

Factory default setting: Card or PIN mode

To set user for Zone 1 (3 1 2 #)	
To add a PIN users	1 User ID number # PIN #
	The ID number is any number among 1-1100. The PIN is any 4-8 digits between 0000- 99999999 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 a PIN user	2 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)	✱ User ID number # Old PIN # New PIN # New PIN #
To add a card user (Method 1)	1 Read Card #
	Cards can be added continuously without exiting programming mode

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To add a card 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 User ID number # Card #
	The ID number can be any number between 1-1100

To add a series cards users-Block Enrollment
The card number must be consecutive (This operation is only for Zone 1)

	5 User ID number # 8 digits Card number # Card quantity #
	Card quantity is between 1-1100 Of the 8 digits card number, it is the last 8 digits onthe card Maximum 1100 cards can be enrolled at a stretch within 1 minute

To delete cards users by cards
Note: Users can be deleted continuously without exiting programming mode

	2 Read Card #
	The device can automatically identify the card of Zone 1 or Zone 2

To delete Card users by user ID
This option can be used when a user has lost their card

	2 User ID #

To delete Card users by card number

	9 Input 8 digits card number #
	Cards can be deleted continuously without exiting from programming mode

To set user for Zone 2 (3 2 2 #)
To set PIN user for Zone 2 is the same as Zone 1, only the ID number is 1101-1200 for Zone 2.
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 (Method 1) as below

To add Card Users (Method 1) Auto-generated ID numbers	5 Read card #
	Card can be added continuously without exiting programming mode

Card and PIN Mode

To set user for Zone 1 (3 1 1 #)	

To add a card and PIN user (The PIN is any 4-8 digits between 0000-99999999 with the exception of 1234 which is reserved)	Add the card as for a card user Press ✱ to exit from the programming mode Then allocate the card a PIN as follows: ✱ Read card 1234 # PIN # PIN #

To change a PIN 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 change a PIN in card and PIN mode (Method 2)
Note that this is done outside programming mode so the user can undertake this themselves

	✱ User ID number # Old PIN # New PIN # New PIN #

To delete a Card and PIN user just delete the card	2 Read card # or 2 User ID #

To set users for Zone 2 (3 2 1 #)The operation is the same as Zone 1

Card only Mode(in this mode, users can only be valid by card)

To set Card user only	3 1 0 # , Zone 1
	3 2 0 # , Zone 2
	Entry is by Card only

To delete ALL users

Note: This is a **dangerous** option, so use with care

Delete all users of Zone 1:	2 0000 #
Delete all users of Zone 2:	9 0000 #
You can enable the door open detection of only one Zone	

To unlock the door (or change relay state)

For a PIN user	Enter the PIN then press #
For a card User	Read card
For a card and PIN user	Read card then enter PIN #

11.2 Relay Setting (Pulse mode, Toggle mode)

Pulse mode (Factory default)

Pulse mode - Door relay time setting	For Zone 1: 4 1 1-99 #
	For Zone 2: 4 2 1-99 #
	The door relay time is between 1-99 seconds, the factory default setting is 5 seconds

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Toggle mode

Toggle mode	For Zone 1: 4 1 0 #
	For Zone 2: 4 2 0 #

11.3 Door Detection, Alarm, Acoustic Signal, Door Bell Settings

Door Open Detection
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 forced open, 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 1-3 minutes with the default being 1 minutes.

To disable door open detection (Factory default setting)	6 0 #
To enable door open detection	For Zone 1: 6 1 #
	For Zone 2: 6 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 , depending on the option selected below

Normal status: No keypad lockout or alarm	7 0 # (Factory default setting)
Keypad Lockout	7 1 #
Alarm output	7 2 # (Alarm output time: 1 minute)

Alarm Output time

To set the alarm output time(1~3 minutes)Factory defaul is 1 minute	8 1~3 #

Keypad Tone
The keypad tone 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

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To enable the keypad tone	8 6 # (Factory default setting)
To disable keypad tone	8 7 #

Change Zone 2 to Door Bell
When no need to operate a second door, Zone 2 can be used 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	8 8 # (Factory default)
Doorbell	8 9 #

To remove the alarm

To remove the door forced open warning	Read valid card or Master code #
To remove the door open too long warning	Close the door or Read valid card or Master code #

11.4 Anti-duress

1. When enroll same card in Zone 1 and Zone 2, this card will be anti-duress card. Please notice, you can not set anti-duress PIN.
2. When under forcing, use this card. Both doors are opened. In the meantime, the external alarm alarms.
3. You can set max 100 anti-duress cards (The users of Zone 2).

W1-A/W3-A Quick Reference Programming Guide

To enter the programming mode	✱ Master code #
	888888 is the default factory master code
To exit from the programming mode	✱

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

To change the master code	0 New code # New code #
	The master code is any 6 digits

To add a PIN user	For Zone1: 1 User ID Number # PIN #
	For Zone2: 1 User ID Number # PIN #
The PIN is any 4-8 digits between 0000-99999999 with the exception of 1234 which is reserved	The ID number is any number between 1-1100 for Zone1 and any number between 1101-1200for Zone 2.Users can be added continuously without exiting programming mode

To add a card	For Zone 1: 1 Read Card #
	For Zone 2: 1 Read Card #
	Cards can be added continuously without exiting programming mode

To delete a PIN or a card user	2 User ID number # for a PIN user
	2 Read Card # for a card user
	Users can be deleted continuously without exiting programming mode

To Unlock the door for Zone 1 or Zone 2

To Unlock the door for a PIN user	Enter the PIN then press #
To Unlock the door for a card user	Present the card