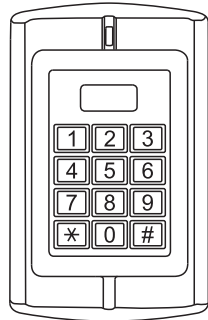


## Access & Card Reader



W3-H

### User Manual

#### 1. Packing list

| Name                | Quantity | Remark                                 |
|---------------------|----------|--|
| Digital Keypad      | 1        |  |
| User Manual         | 1        |  |
| Screw Driver        | 1        |  |
| Rubber Bungs        | 4        | 6*27mm, used for fixing                |
| Self Tapping Screws | 4        | 4*28mm, used for fixing                |
| Diode               | 1        | In4004                                 |
| Manager Card        | 2        | Manager Add Card & Manager Delete Card |

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

#### 2. Description

The W1-H/W3-H is a single door multifunction access control with HID 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 case. The electronics are fully potted so the W1-H/W3-H is waterproof and conforms to IP65.

The W1-H/W3-H supports up to 2,000 users in either a Card, 4-8 digits PIN, or a Card + PIN option and additional 10 groups Duress PIN/Card. The built in card reader supports HID 125KHz frequency cards/tags. The W1-H/W3-H has many extra features including Duress PIN/card, block enrollment, Wiegand 26-37 bits interface, and back light keypad...etc.

These features make W1-H/W3-H 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.

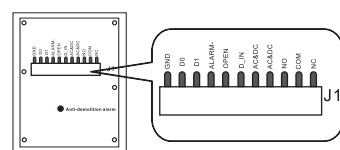
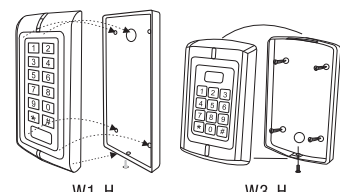
#### 3. Features

- > Waterproof, conforms to IP65
- > Strong zinc alloy electroplated anti-vandal case
- > Full programming from the keypad
- > One programmable relay output, NO, NC, COM
- > 2,000 users, supports Card, PIN, Card + PIN
- > 10 groups Duress PIN/Card
- > Card interface: HID 125KHz Card
- > Can be used as a standalone keypad, PIN length 4-8 digits

- > Pulse mode, Toggle mode
- > Wiegand 26-37 input & output
- > Adjustable door output time, alarm time, door open time
- > Card block enrollment
- > With Manager Cards for adding or deleting card user easily
- > Backlight keypad
- > Built in light dependent resistor (LDR) for anti tamper
- > Red, yellow and green LED display the working status
- > 12-24V DC/12-18V AC
- > Two-year warranty

#### 4. Installation

- > 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



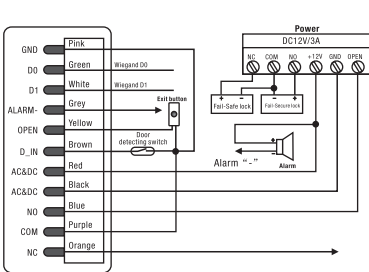
#### 5. Specifications

|                            |  |
|----------------------------|--|
| Operating Voltage          | 12-24V DC/12-18V AC                                    |
| User Capacity              | 2,000 (Additional 10 groups Duress PIN/Card)           |
| Keypad                     | 12 Keys, 3 X 4 digits                                  |
| Card Type                  | HID 125KHz card  |
| Card Reading Distance      | 3-6 cm   |
| Active Current             | ≤45mA  |
| Idle Current               | ≤35mA  |
| Lock Output Load           | Max 2A   |
| Alarm Output Load          | Max 2A   |
| Operating Temperature      | -40~60 °C  |
| Operating Humidity         | 10%~90% RH   |
| Environment                | Conforms to IP65                                       |
| Adjustable Door Relay Time | 1-99 seconds   |
| Adjustable Alarm Time      | 0-3 minutes  |
| Wiegand Interface          | Wiegand 26-37 input & output                           |
| Wiring Connections         | Electrical Lock, Exit Button, DOTL, External Alarm     |
| Dimensions                 | L125 X W58 X H26mm (W1-H)<br>L125 X W52 X H25mm (W3-H) |
| Net Weight                 | 650 g  |
| Gross Weight               | 800 g  |

#### 6. Wiring

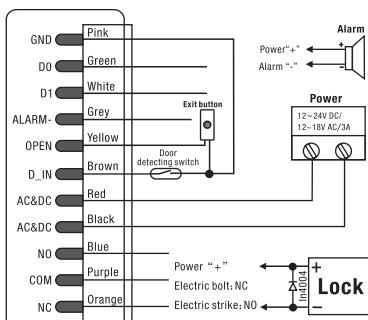
| Colour | Function            | Description                               |
|--------|---------------------|---|
| Green  | D0                  | Wiegand Output D0                         |
| White  | D1                  | Wiegand Output D1                         |
| Grey   | Alarm -             | Alarm Negative                            |
| Yellow | OPEN                | Request To Exit Button                    |
| Brown  | D_IN                | Door Contact                              |
| Red    | 12-24V DC/12-18V AC | 12-24V DC/12-18V AC Regulated Power Input |
| Black  | 12-24V DC/12-18V AC | 12-24V DC/12-18V AC Regulated Power Input |
| Blue   | NO                  | Relay NO                                  |
| Purple | COM                 | Relay COM                                 |
| Orange | NC                  | Relay NC                                  |
| Pink   | GND                 | W1-H/W3-H Negative                        |

#### Connection Diagram



W1-H/W3-H

#### Special Power Supply



#### Notes:

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. Anti Tamper Alarm

The W1-H/W3-H 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.

#### 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 HID cards, the LED will turn in red, means reset to factory default setting successfully. Of the two HID cards read, the first one is Manager Add Card, the second one is Manager Delete Card.

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

#### 9. Relay Operation (Pulse mode and Toggle mode)

The relay 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 or PIN is read/input in Pulse Mode, the relay will operate, for the pre-set relay pulse time.

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

#### 10. Sound and Light Indication

| Operation Status            | Red Light | Green Light | Yellow Light | Buzzer       |
|-----------------------------|-----------|-------------|--------------|--------------|
| Power on                    | Bright    | -           | -            | Short Ring   |
| Stand by                    | -         | -           | -            | -            |
| Press keypad                | -         | -           | -            | Short Ring   |
| Operation successful        | -         | Bright      | -            | Short Ring   |
| Operation failed            | -         | -           | Bright       | 3 Short Ring |
| Enter into programming mode | -         | -           | Bright       | Short Ring   |
| In the programming mode     | -         | -           | -            | -            |
| Exit from programming mode  | Bright    | -           | -            | Short Ring   |
| Open the door               | -         | Bright      | -            | -            |
| Alarm                       | Bright    | -           | -            | Alarm        |

#### 11. W1-H/W3-H Detailed Programming Guide

##### 11.1 User Settings

|  |  |
|--|--|
| To enter the programming mode  | [ * ] [ Master code ] [ # ]<br>888888 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</b>  |  |
| To change the master code  | [ 0 ] [ New code ] [ # ] [ New code ] [ # ]<br>The master code is any 6 digits |
| <b>Setting the working mode:</b><br>set valid card only users<br>set valid card and PIN users<br>set valid card or PIN users   |  |
| <b>To set a user in either card or PIN mode ( [ 3 ] [ 0 ] [ # ] ) (Default setting)</b>  |  |
| [ 1 ] [ User ID number ] [ # ] [ PIN ] [ # ]<br>The ID number is any number between 1 - 2000. 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 from programming mode so the user can undertake this themselves<br>[ 1 ] [ User ID No 1 ] [ # ] [ PIN ] [ # ] [ User ID No 2 ] [ # ] [ PIN ] [ # ] |  |
| <b>To add a PIN user</b>   |  |
| [ 2 ] [ User ID number ] [ # ]<br>Users can be deleted continuously without exiting programming mode   |  |
| <b>To delete a PIN user</b>  |  |
| To change the PIN of a PIN user<br>(This step must be done out of programming mode)<br>[ 0 ] [ ID number ] [ # ] [ Old PIN ] [ # ] [ New PIN ] [ # ]   |  |
| <b>To add a card user (Method 1)</b> This is a fastest way to add cards using ID number auto generation<br>[ 1 ] [ Read Card ] [ # ] Cards can be added continuously without exiting programming mode  |  |
| <b>To add a card user (Method 2)</b> This is the optional way to add cards using User ID Allocation.<br>In this method a User ID is allocated to a card. Only one user ID can be allocated to a single card<br>[ 1 ] [ ID number ] [ # ] [ Card ] [ # ]  |  |

|   |  |
|---|--|
| To add a card user (Method 3)<br>Add a series cards users - Block Enrollment  | [ 5 ] [ ID number ] [ # ] [ The 1st Card number ] [ # ] [ Card quantity ] [ # ]<br>Note that cards must be consecutive, and card quantity is between 1-2000. Maximum 2,000 cards can be enrolled at a stretch within 2 minutes |
| To delete card user by card (Note users can be deleted continuously without exiting from programming mode)  | [ 2 ] [ Read Card ] [ # ]  |
| To delete a card user by user ID (This option can be used when a user has lost their card)  | [ 2 ] [ User ID ] [ # ]  |
| To delete a card user by card number (Users can be deleted continuously without exiting from programming mode)  | [ 2 ] [ Card number ] [ # ]  |
| <b>To set a card and PIN user in card and PIN mode ( [ 3 ] [ 1 ] [ # ] )</b>  |  |
| 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)<br>[ 5 ] [ Read Card ] [ 1234 ] [ # ] [ PIN ] [ # ] [ PIN ] [ # ]                                   |  |
| To change a PIN in card and PIN mode (Method 1)<br>Note that this is done outside programming mode so the user can undertake this themselves<br>[ # ] [ Read Card ] [ Old PIN ] [ # ] [ New PIN ] [ # ] [ New PIN ] [ # ]       |  |
| To change a PIN in card and PIN mode (Method 2)<br>Note that this is done outside programming mode so the user can undertake this themselves<br>[ # ] [ ID number ] [ # ] [ Old PIN ] [ # ] [ New PIN ] [ # ] [ New PIN ] [ # ] |  |
| To delete a Card and PIN user just delete the card<br>[ 2 ] [ Read Card ] [ # ] or [ 2 ] [ User ID ] [ # ]  |  |
| <b>To set a card user in card mode ( [ 3 ] [ 0 ] [ # ] )</b>  |  |
| To Add and Delete a card user<br>[ 3 ] [ 0 ] [ # ]  |  |
| <b>To delete ALL users</b><br>Note that this is a dangerous option so use with care<br>[ 2 ] [ 0000 ] [ # ]   |  |
| <b>To set card users by Manager card</b>  |  |
| To Add Card User by Manager Add Card<br>[ Manager add card ] [ Read User Card ] [ Manager add card ]<br>Cards can be added continuously   |  |
| To delete Card User by Manager Delete Card<br>[ Manager delete card ] [ Read User Card ] [ Manager delete card ]<br>Cards can be deleted continuously   |  |

### FCC Warning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- o Reorient or relocate the receiving antenna.
- o Increase the separation between the equipment and receiver.
- o Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- o Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and  
(2) This device must accept any interference received, including interference that may cause undesired operation.

The device complies with RF specifications when the device used at 0mm from your body.

|                           |  |
|---------------------------|--|
| <b>To unlock the door</b> |  |
| 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) | [ 4 ] [ 1-99 ] [ # ] The door relay time is between 1-99 seconds, the factory default setting is 5 seconds. |
| <b>Toggle mode</b>                   |   |
| Toggle mode                          | [ 4 ] [ 0 ] [ # ]   |

#### 11.3 Door Detection, Alarm, Sound and Light 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 open 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 minute.

|   |                                     |
|---|-------------------------------------|
| To disable door open detection  | [ 8 ] [ 0 ] [ # ] (Factory default) |
| To enable door open detection   | [ 8 ] [ 1 ] [ # ]                   |
| <b>Alarm output time</b>  |                                     |
| To set the alarm output time (0-3 minutes). Factory default is 1 minute | [ 8 ] [ 0-3 ] [ # ]                 |

**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)   |
| Keypad Lockout                            |  | [ 7 ] [ 1 ] [ # ]   |
| Alarm Output                              |  | [ 7 ] [ 2 ] [ # ]   |
| <b>Light and Sound Setting</b>            |  |   |
| To set keypad backlight                   |  | [ 7 ] [ 4 ] [ # ] To disable keypad backlight<br>[ 7 ] [ 5 ] [ # ] To enable keypad backlight (Factory default) |
| To set LED                                |  | [ 7 ] [ 6 ] [ # ] To disable the red LED<br>[ 7 ] [ 7 ] [ # ] To enable the red LED (Factory default)           |
| To set keypad tone                        |  | [ 7 ] [ 8 ] [ # ] To disable the keypad tone<br>[ 7 ] [ 9 ] [ # ] To enable the keypad tone (Factory default)   |
| <b>To remove the alarm</b>                |  |   |
| 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 ] [ # ]  |

#### 12. Duress User Settings

There are 10 groups Duress PIN/Card available. When Input Duress PIN/card, the door will open, at the same time, the output alarm operates. (Note all the setting are under programming mode)

|  |   |
|--|---|
| <b>To set Duress PIN user</b>  |   |
| To add a PIN user<br>(The ID number is any number between 2001-2010)   | [ 9 ] [ User ID number ] [ # ] [ PIN ] [ # ]  |
| To delete a PIN user   | [ 2 ] [ User ID number ] [ # ]                |
| <b>To set Duress card user</b>   |   |
| To add a card user<br>(The ID number is any number between 2001-2010)  | [ 9 ] [ User ID number ] [ # ] [ Card ] [ # ] |
| To delete a card user  | [ 2 ] [ User ID number ] [ # ]                |
| <b>Note:</b><br>① User ID number must be any 4digits between 2001-2010<br>② Duress PIN/card must be unique, should be distinguished from common PIN and card (When the Duress PIN/card is the same with common PIN and card, they will become invalid in Duress, and worked as common user function) |   |

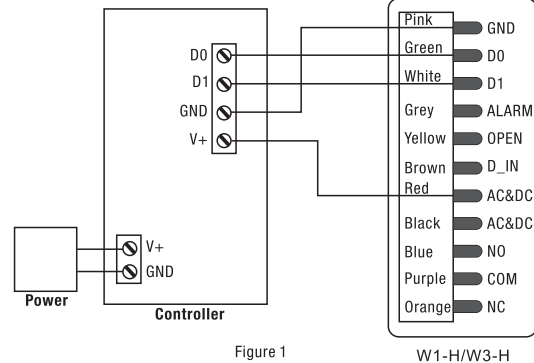
#### 13. Wiegand Mode Setting

|  |  |
|--|--|
| W1-H/W3-H supports Wiegand 26~37, both input and output. It can be used as a reader or controller. |  |
| To set Wiegand format:   | <b>[ 9 ] [ 26~37 ] [ # ] (Default setting: Wiegand 26)</b> |

#### 14. Interconnecting Two Devices

##### 14.1 W1-H/W3-H operating as a Wiegand Output Reader

In this mode the W1-H/W3-H 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.



##### Transmission Format:

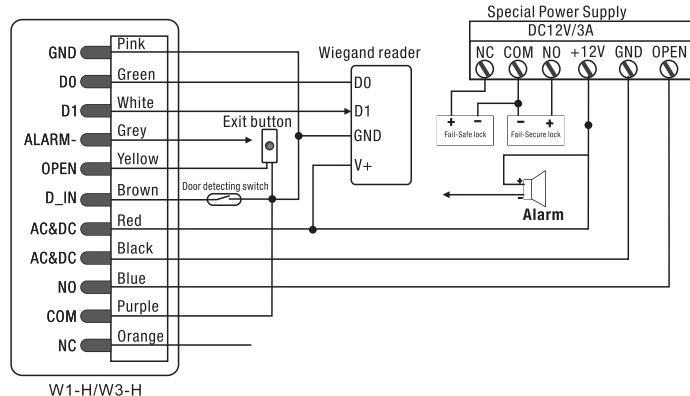
**1: Keypad Transmission**  
The Reader will transmit the PIN data when it receives the last key (#) press after PIN code.  
**Format:** PIN Code (any 4-8 digits between 0000-99999999)  
**Example:** PIN code: 111111  
Press 111111 #, then the output format will be: 0000111111  
(Note: If press an invalid PIN (any 4-8 digits), the data will be also transmitted.)

##### 2: Proximity Card Transmission

The 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)

##### 14.2 W1-H/W3-H operating as a Controller

In this mode the W1-H/W3-H supports a Wiegand 26-37 bit input so an external Wiegand device with a 26-37 bit output can be connected to the Wiegand input terminals on the W1-H/W3-H. Either an ID card reader (125KHz) or an IC card reader (13.56MHz) can be connected to the W1-H/W3-H. Cards are required to be added at the external reader, except where an external HID reader is used, in this case cards can be added at either reader or controller. See figure 2.



#### W1-H/W3-H Quick Reference Programming Guide

|   |   |
|---|---|
| To enter the programming mode   | [ * ] [ Master code ] [ # ]<br>888888 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</b> |   |
| To change the master code   | [ 0 ] [ New code ] [ # ] [ New code ] [ # ]<br>The master code can be 6 digits long   |
| To add a PIN user   | [ 1 ] [ User ID number ] [ # ] [ PIN ] [ # ]<br>The ID number is any number between 1-2,000. 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 |
| To add a Card user  | [ 1 ] [ Read Card ] [ # ]<br>Cards can be added continuously without exiting from programming mode  |
| To delete a PIN or a Card user  | [ 2 ] [ User ID number ] [ # ] for a PIN user or<br>[ 2 ] [ Read Card ] [ # ] for a card user   |
| <b>To unlock the door</b>   |   |
| To unlock the door for a PIN user   | Enter the [ PIN ] then press [ # ]  |
| To unlock the door for a card user  | Present the card  |

#### IC warning statements:

-English Warning Statement:  
"This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."  
The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).  
-French Warning Statement:  
"Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.