

# Benetek Smart Hidden Door Lock v5.1

## I.Product Introduction

Thank you for choosing the Benetek premium Smart Hidden Door Lock (SHDL)! The smart lock has adopted the latest Z-Wave smart home technology along with a smart card and touch keypad in its operation. This product is manufacture in highest quality with most advance chipset and watch dog circuit. Moreover, the lock is elegant, robust, delicate and reliable.

### Parameter :

Working condition : Temperature: -30 ~ 70      Humidity<90%

Working Voltage : DC 4.2 ~ 6.5V

Smart Card Type: IC card (TYPE-A)

Max numbers of cards allow: 104 cards (Expandable)

PINs stored: 13 Sets/ (Expandable)

Quiescent current : < 40uA

Working Currents (Max) : <150mA

Z-Wave frequency : 868.4 MHz – China/Europe, 908.4 MHz - USA, 921.4 MHz – Australia/New Zealand, 869.2 MHz – Russia

## II. Z-Wave NETWORK

This product can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

### 2.1 ADD to Network

- 1) Ensure the SHDL is powered and the battery is fully charged.
- 2) Set the main controller into the add mode (see a main controller's operating manual).
- 3) Triple click Z-Wave button on the circuit board (As shown on Fig.1) in 1.5 seconds, the LED will flicker rapidly while inclusion process implement.

### 2.2 REMOVE from Network

- 1) Ensure the SHDL is powered and the battery is fully charged.
- 2) Set the main controller into the remove mode (see a main controller's operating manual).

3) Triple click Z-Wave button on the circuit board (As shown on Fig.1) in 1.5 seconds, the LED will flicker rapidly while exclusion process implement within 3 second.

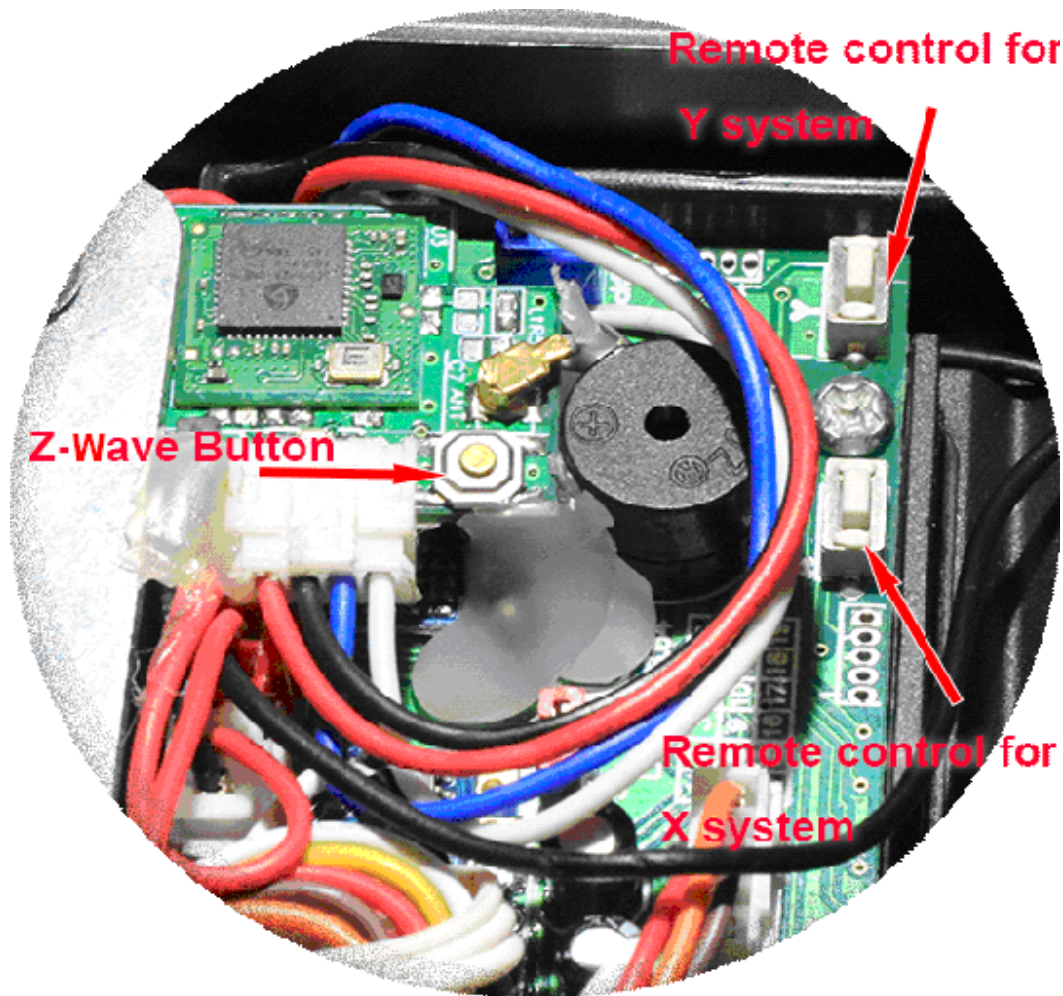


Fig.1

### 2.3 Lighting code

Operation state	LED state
Power on	Flicker once
Network Inclusion/Exclusion	Flicker rapidly
Inclusion/Exclusion Success	Glow for 2 seconds
Inclusion/Exclusion Fail	Light off

### 2.4 Factory default

Smart Hidden Door Lock restores factory default automatically when the device is excluded.

Please use this procedure only when the network primary controller is missing or otherwise inoperable.

### 2.5 Z-Wave Plus Security

Smart Hidden Door Lock is a security enabled Z-Wave Plus production, implements Z-Wave Application Security Layer in accordance with Z-Wave protocol. The functionality and support command class is difference when included as secure or no-secure node. The Door Lock command class and BASIC command class will not support while door lock included in no-secure controller. Meanwhile, BASIC command class maps to Door Lock Operation command class.

## 2.6 Association

By using association with SHDL, the SHDL may control another Z-Wave network device with and without security transport, e.g. a Dimmer, Relay Switch, Roller Shutter, RGBW Controller, Wall Plug and another SHDL.

**NOTE:** Association allows for direct communication between Z-Wave network devices. Main controller does not take part in such communication. Using this mechanism, SHDL may communicate with other devices even when the main controller is damaged, e.g. in case of a fire.

SHDL supports 4 association groups. Each group supports associated 1 devices maximum.

Association Group 1 is assigned to sending SHDL lifeline status to associated devices, including send Door Lock Operation report frame while SHDL unlocked and locked, send Battery level report frame while battery level is change.

Association Group 2 is assigned to sending the Basic Set Off frame to associated device (e.g. another SHDL) while the SHDL is unlocked and sending the Basic Set On frame to associated device while the SHDL is locked with security transport if SHDL was added to network as security node or with non-security transport if SHDL was added to network as non-security node.

Association Group 3 is assigned to sending the Basic Set On frame to associated devices with non-security transport while the SHDL is unlocked.

Association Group 4 is assigned to sending the Basic Set Off frame to associated devices with non-security transport while the SHDL is locked.

## 2.8 Z-Wave Function Limited

Due to SHDL only re-lock automatic while door close and detect by magnetic on the lock, so if Door Lock receives either a Door Lock Operation Set (secure the door) or a Basic Set (0xFF) the command is rejected and always fail in Application Reject Command reply and follow with current door lock status report.

## 2.9 Z-Wave support commands

Generic Deice Type = `GENERIC_TYPE_ENTRY_CONTROL`

Specific Device Type = `SPECIFIC_TYPE_SECURE_KEYPAD_DOOR_LOCK`

Support Command Class =

- `COMMAND_CLASS_ZWAVEPLUS_INFO,`
- `COMMAND_CLASS_VERSION,`
- `COMMAND_CLASS_MANUFACTURER_SPECIFIC,`
- `COMMAND_CLASS_ASSOCIATION,`
- `COMMAND_CLASS_ASSOCIATION_GRP_INFO,`

COMMAND\_CLASS\_POWERLEVEL,  
COMMAND\_CLASS\_SECURITY ,  
COMMAND\_CLASS\_BATTERY ,  
COMMAND\_CLASS\_APPLICATION\_STATUS ( SEC ) ,  
COMMAND\_CLASS\_DOOR\_LOCK ( SEC ) ,  
COMMAND\_CLASS\_BASIC ( SEC ) ,

Control Command Class =

COMMAND\_CLASS\_BASIC

### **III. Setup the remote control.**

There are two remote controller come with each set of SHDL, additional remote controller could purchase from your retailer. To setup the remote control as shown as below:

As shown on Fig.2, every SHDL has two subset of control system, namely as X and Y. Each of the subset includes two vary different frequencies for remote controller. There are two buttons(S1 and S2) which located at bottom left right corner are used to allocate the remote controller to desired system. To do that, push the any button on the remote controller for 5 seconds; in the meanwhile, hold down the S1 or S2 to assign the controller to either X or Y system. After hearing 3 discontinue high pitch, it means the configuration is successful, otherwise there will be 2 pitches instead.

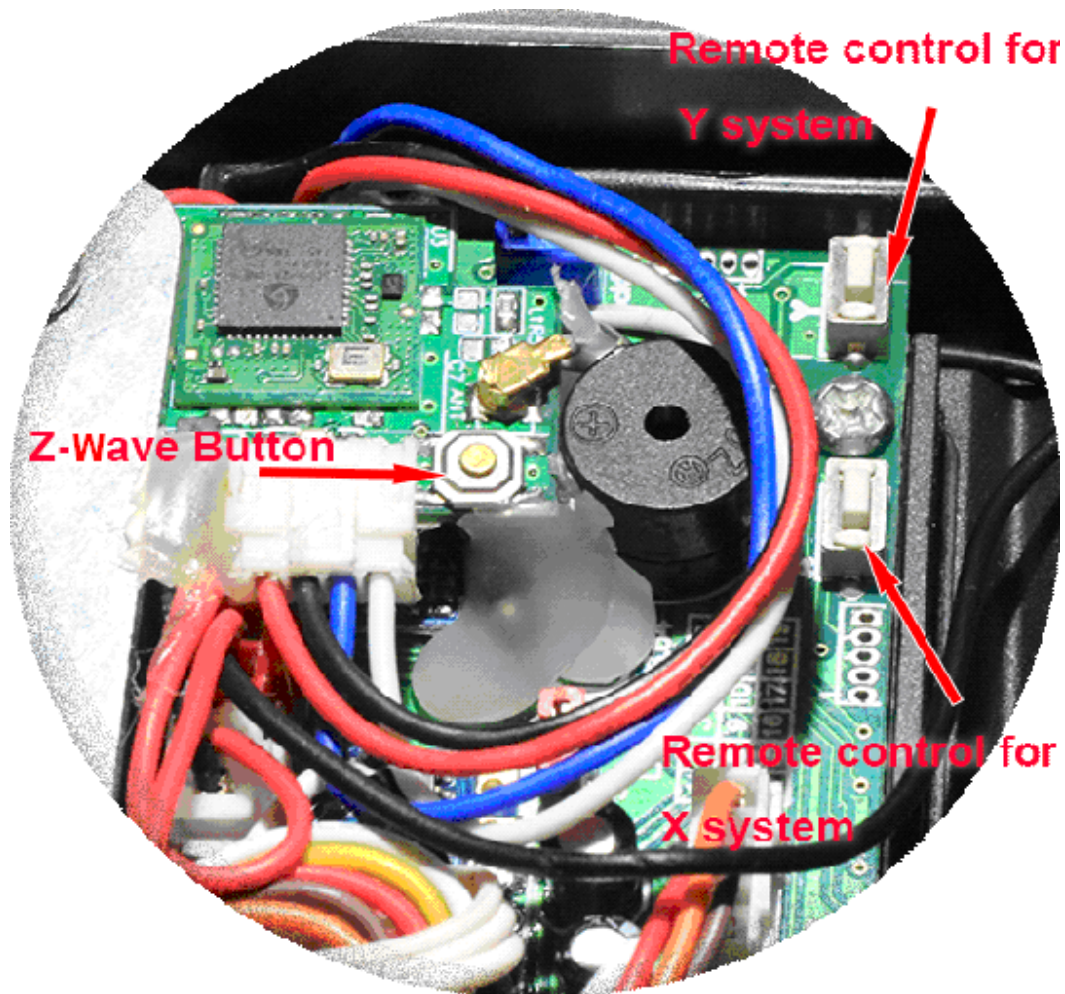


Fig.2

#### IV PIN Configuration

The SSSS is the 4 to 8 digits system PIN from the manufacture or chosen from the customer. The default administrator PIN will be “1234”. **(For administrator Only)**

XXXX is the 4 to 8 digits default PIN or customized PIN for administrators. (For administrator only)

YYYY is the customized 4 to 8 digits access PIN for ordinary users.

##### 4.1 Unlock by PIN. (Decoy PIN is supported with 6 digits of PIN only)

By entering code as **#SSSS\***, **#XXXX\***, **#YYYY\***, the lock will operate according to respected function with the code combination.

Decoy PIN: Enter the 6 digits PIN along with random decoy number before and after the real PIN, in order to maintain the secrecy of your PINs. For example, the PIN is 123123. Enter infinite digits of number in front the real PIN and only 10 digits numbers after the PIN, and the door will still be able to unlock: 8832987917 [123123] 9797891.

By default, after 10 attempts to enter the PIN, the keypad will lock for 3 mins. By entering the Admin or system password, the key can be unlocked immediately.

#### 4.2 Register PIN for Administrators

On the Keypad, enter “# **SSSS#1#new PIN\*** “. (There are only 2 admin passwords allowed).

#### 4.3 PIN for users.

Method 1: On the Key Pad, enter: **#SSSS#4#New PIN\*** ( Max 10 users allowed )

Method 2: On the Key Pad, enter **#XXXX#1#New PIN\*** (Max 10 users allowed)

#### 4.4 Deregister A PIN

Deregister all administrators' PINs: enter **#SSSS#92\*** (Only effecting Admin PINs)

Deregister all Users' PIN: M1: enter **#SSSS#93\*** M2: enter **#XXXX#93\***

Deregister single User's PIN: M1 enter **#SSSS#2#YYYY\*** M2: enter **#XXXX#2#YYYY\***

#### 4.5 Adapting A PIN

Adapting the system PIN: enter **#SSSS#3#the new PIN\***

Adapting the admin PIN: enter **#XXXX#3# the new PIN\***

Adapting the user PIN: enter **#YYYY#3#the new PIN\***

#### 4.6 Switch between different PIN operations modes with the password

4.6.1 Using C1 pin operation mode:enter **#XXXX#16\*** or enter **#SSSS#16\***

(p.s: the default mode of the operation with only PIN unlock function.)

4.6.2 Using C2 pin operation Mode:enter **#XXXX#17\*** or enter **#SSSS#17\***

(Under this mode, the PIN is used for lock and unlock.)

#### 4.6.3 Using C3 pin operation mode (For 6 digits virtue PIN only):

enter **#XXXX#18\*** or **#SSSS#18\***.

(Under this mode, the latch is unlocked as default, the latch will be locked with a vailed password, then the password is become invalided immediately. The lock can only be unlocked with system PINs or admin PINs.

#### 4.6.4 Using Combination operation mode: (PIN and Smart Card):

Enable: enter **#XXXX#31\*** or enter **#SSSS#31\***

Disable: enter **#XXXX#32\*** or enter **#SSSS#32\***

(under this mode, the SHDL can be quickly access with system pin, admin pin and admin smart card; otherwise, the lock will only be unlock with the user smart card along with the user pin at the same time)

#### 4.6.5 The smart card access K1 mode: enter **#XXXX#61\*** or **#SSSS#61\***

(This is the default mode for Single smart card (either E card or F card) access.)

#### 4.6.6 The smart card access K2 mode: enter **#XXXX#62\*** or **#SSSS#62\***

(A single smart card (E or F) need to either lock or unlock the SHDL.)

#### 4.6.7 The smart card access K3 mode: enter **#XXXX#63\*** or **#SSSS#63\***

(Double card access mode, there are two card (Any one of F and E) needed at same time to unlock.)

#### 4.6.8 The smart card access K4 mode: enter **#XXXX#64\*** or **#SSSS#64\***

(Any one of the F card and one of the E card need to be presented at same time, in order to unlock the lock. But only one smart card need for the lock the SHDL. )

#### 4.7 Adapt the max number of attempts allow for entering the PIN:

M1: enter **#SSSS#12 desired attempts** in two digits\* M2: enter **#XXXX#12 desired attempts** in two digits\*

( the attempts allowed is between 00 to 99, when entering 00 indicate disable this particular function; Example, for six attempts, enter **#XXXX#1206\*** )

#### 4.8 Sound configuration:

Enter **#SSSS#3desired attempts** in three digits\* M2: enter **#XXXX#3desired attempts** in three digits\*

(The number entered ('k') is represent the frequency of the sound with follow formula  $F = ( 1 / (k * 4) ) * 10^6$ . For example for 'k' as 062, the frequency of the sound is 4032 Hz.

#### 4.9 Deregister the system card (Configure the smart card without take down the SHDL from the door)

Enter **#XXXX#94\*** or **#SSSS#94\***

(Only delete the system card, no effect on other setting. Then the first card used on the SHDL which will be promote to the new system card. The new card could be used to manage the other cards.

### V. Card configuration

#### 5.1 System and administrator card configuration (For administrator)

4.1.1 When there is not card register in the system. The first card has been detected will be the system card. In the meanwhile the blue LED light on SHDL body will blink rapidly, the cards are registered during this period will automatically become the administrator cards (There will be only maximum 3 admin cards). Once the configuration is successful, the buzzer in SHDL will change tone of sound; the buzzer will sound once if a card is registered.

#### 5.2 E card and F card setting (For user)

After set up the System Card and Admin Card, the blue led will be blinking slowly and the card register function in SHDL will be activated each time if there is system card and admin card has been swiped. In this case, the first card to be registered will become an E card, then following card to be register will then become F cards (there will be 100 F cards allowed).

During card register function, if the swipe the admin card once again, the system will then enter deregister card function and the LED will blinking slowly. (The admin can swipe their card to toggle the function between register and deregister function). Swipe any register user card will be deregistered. Swiping an unregister card, admin card or system card will trigger the alert for error with one single beep from the buzzer.

### VI. Card Operation Modes



There are four work modes with combine use of E and F ( Please refer 3.6 for mode selection ) :

K1 mode:

This is the default mode for Single smart card (either E card or F card) access.

K2 mode:

A single smart card (E or F) need to either lock or unlock the SHDL.

K3 mode:

(Double card access mode, there are two card (Any one of F and E) needed at same time to unlock.)

K4 mode:

Any one F with one E card need to be presented at same time, in order to unlock the lock, but only one smart card need for the lock the SHDL.

## **VII. Smart Cards deregistration.**



7.1 Swipe the admin card 5 times consecutively to deregister all E and F cards; the buzzer sounds two long beeps.

7.2 Swipe the system card 5 times consecutively to deregister all admin cards (no effect on user card and service cards), then the buzzer sounds two long beeps.



## **VIII. Speech function:**

The Benetek Smart Hidden Door Lock (SHDL) is fully supported by voice reminder. The voice reminder support 7 languages include English, Chinese and Spanish etc. The language is selected with the four keys remote controller. Please perform this setup with an external power source in connect. The language is chosen with following combination of the four keys:



### **8.1 Chinese:**

Hold down  +  for five seconds , the buzzer sounds 3 beeps , with a voice states “setup successful” in Chinese.



### **8.3 English**

Hold down  +  for five seconds the buzzer sounds 3 beeps , with a voice states “setup successful” in English.



### 8.3 Spanish

Hold down  +  for five seconds , the buzzer sounds 3 beeps , with a voice states “setup successful” in Spanish.

### 8.4 Enable Voice Reminder:

Hold down  +  for five seconds , the buzzer sounds 3 beeps , with a voice states “setup successful” in the current system language setup previously. Then the Voice Reminder function is activated.

### 8.5 Disable Voice Reminder

Hold down  +  for five seconds , the buzzer sounds 3 beeps , with a voice states “setup successful” in the current system language setup previously. Then the Voice Reminder function is deactivated.

Please try the other combination of the 4 keys to setup different languages.

## IX. Smart Hidden Door Lock installation:

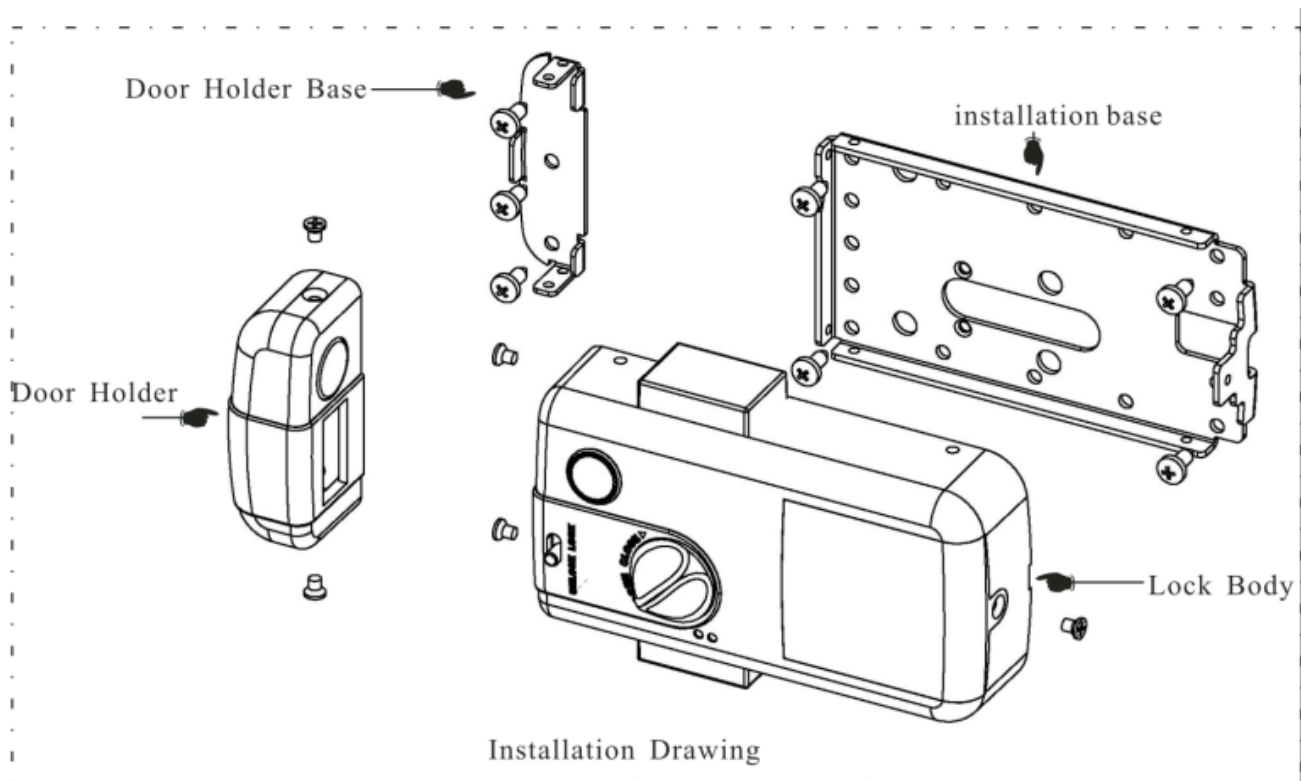


Fig. 4

Please refer Fig.4 for installation of the SHDL.

9.1 Drill a hole. (Skip this if the hidden door lock is desired)

9.2 Fix the base of lock on proper position on the door.

9.3 Check the circuit on the lock, setup the remote controller and Z-wave network, put in the 4 AA batteries and tighten the screw on the side of the lock.

9.4 Fix the Door Holder according to the position of the latch.

9.5 Test all the function on the lock to make sure the installation is carry properly.