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Total Security Solution You Can Trust

BUATAN MALAYSIA

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CE
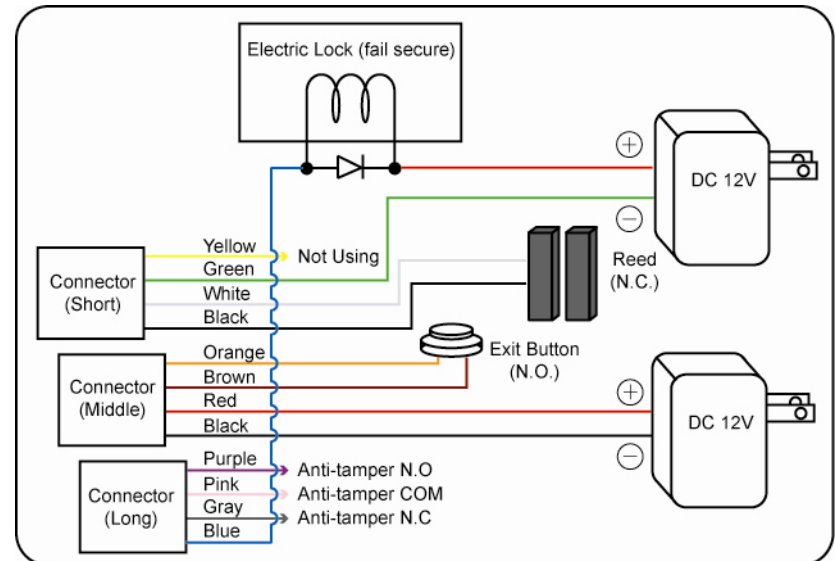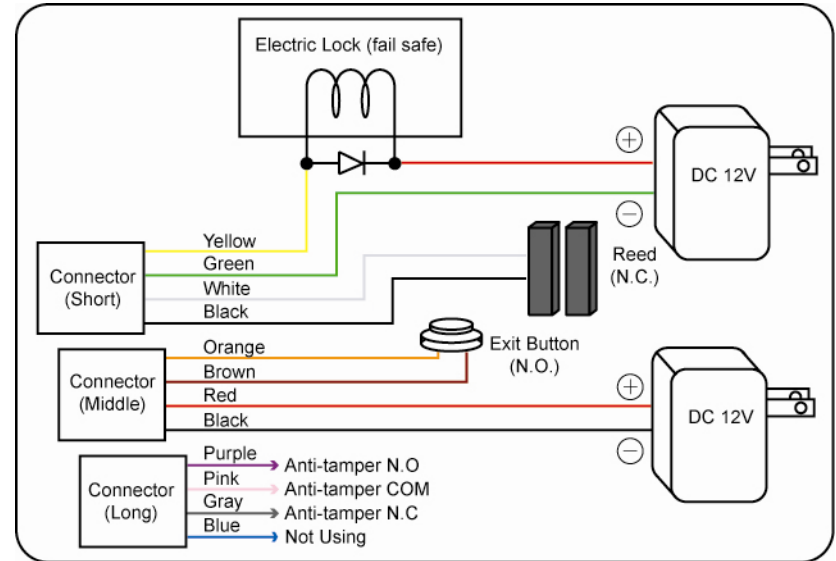
EL-ST100 KEYPAD CONTROLLER
WEATHER-PROOF STANDALONE ACCESS CONTROLLER WITH KEYPAD & PROXIMITY TECHNOLOGY

Programming and Installation Manual

Electric Lock (fail safe)

DC 12V

Connector (Short)	
Yellow	
Green	
White	Reed (N.C.)
Black	

Connector (Middle)	
Orange	Exit Button (N.O.)
Brown	
Red	DC 12V
Black	

Connector (Long)	
Purple	Anti-tamper N.O
Pink	Anti-tamper COM
Gray	Anti-tamper N.C
Blue	Not Using

Electric Lock (fail secure)

DC 12V

Connector (Short)	
Yellow	Not Using
Green	
White	Reed (N.C.)
Black	

Connector (Middle)	
Orange	Exit Button (N.O.)
Brown	
Red	DC 12V
Black	

Connector (Long)	
Purple	Anti-tamper N.O
Pink	Anti-tamper COM
Gray	Anti-tamper N.C
Blue	

NOTE:

To prevent this device damaged by back EMF, connect 1N4004 or similar diode in parallel to power terminals of the lock as close as possible.

QUICK REFERENCE

1) Change Access Setting
    a) * # 333333 [short beep] , 01 (Card + Pin) [long beep] , *
    b) * # 333333 [short beep] , 02 (Card or Pin) [long beep] , *
    c) * # 333333 [short beep] , 03 (Card only) [long beep] , *
    d) * # 333333 [short beep] , 04 (Pin only) [long beep] , *

2) Add New Card
- * # 333333 [short beep] , 06 [short beep] , show card [long beep] , *

3) Delete Card
- * # 333333 [short beep] , 07 [short beep] , show card [long beep] , *

4) Delete card & user (all code)
- * # 333333 [short beep] , 08 [long beep] , *

5) Electric Magnetic Lock Time Setting
- * # 333333 [short beep] , 09 [short beep] , (00~60) [long beep] , *

6) Door Open Time Setting
- * # 333333 [short beep] , 10 [short beep] , (00~99) [long beep] , *

7) Security Setting
    a) * # 333333 [short beep] , 11 [short beep] , 0 [long beep] , * DISABLE
    b) * # 333333 [short beep] , 11 [short beep] , 1 [long beep] , * ENABLE

8) Change Master Code
- * # 333333 [short beep] , 12 [short beep] , New code , New code [long beep] *

9) User Pin Code - 10 user code
- * # 333333 [short beep] , 13 ~ 22 [short beep] , 4 New code [long beep] *

10) Delete User Pin Code - 10 user code
- * # 333333 [short beep] , 13 ~ 22 [short beep] , 0000 [long beep] *

11) Reset to Factory Mode
Step1) Turn Off Power, Press & hold * #
Step2) Turn On Power, release * # after 5 second.

DESCRIPTION

- **Standalone device**
  - Ideal for single door system, controlling electric lock, security system
- **Verify via password and/or card**
  - Four types of verification mode for greater security
- **Weatherproof design**
  - Water resists ability, suitable for indoor or outdoor
- **Anti-card collision function**
  - Free from double read situation
- **LEDs and electronic buzzer**
  - Provides positives audio-visual feedback to user operations
- **EM Proximity card compatible**
- **Exceptional level of detection capability, high reliability, consistent read-range and stability**

SPECIFICATION

Reading range	Up to 2" (50mm)
Input voltage	9 ~ 16VDC, 12VDC (Recommended)
Current consumption	65 ~ 115mA
Data format	Wiegand 26 bits
Carrier frequency	125KHz
LED indicator	Red and green
Relays	2 x 12VDC, 2A ; N.C or N.O
Dimension	135 x 28 x 72 mm
Unit weight	0.20KG
Operating temperature	0°C ~ 66°C

NOTE : The specifications are subjected to change without prior notice.

APPLICATIONS

- Single door access control system
- Personal identification
- Parking system
- Security system
- Terminal system

DATA CONNECTION

Color Code	Name	Description
Shielded lead-out	Gnd1	(-)12VDC
Red	12V	(+)12VDC
Brown	Gnd2	Exit Button COM
Orange	PBt	Exit Button N.O
Black	Gnd3	Door Sensor COM
White	DrSs	Door Sensor N.C
Green	DrCOM	Door Control Relay COM
Yellow	DrNC	Door Control Relay N.C

Blue	DrNO	Door Control Relay N.O
Gray	AlmNC	Anti-tamper N.C
PINk	AlmCOM	Anti-tamper COM
Purple	AlmNO	Anti-tamper N.O

FEATURES

- **Mounting :** Unobtrusive design for easy installation; can be mounted directly onto metallic or wooden door frame.
- **Audiovisual Indication :** Red and Green LED for status indication. Beeper will sound when card presents or the access is granted.
- **Safety :** Built in power circuit protection and watchdog function.
- **Indoor / Outdoor design :** Sealed with water resistance, weatherized polycarbonate enclosure designed to withstand harsh environments, providing reliable performance and a high degree of vandal resistance.
- **4 types of door operation mode : Card and PIN mode**, **Card or PIN mode**, **Card mode** and **PIN mode**.
- **Proximity card :** Support most of the ISO 125KHz proximity card, thin card with 0.8mm, thick card with 1.8mm or keyfob.
- **User PIN :** Provided 10 sets of door opening password when user sets the operation mode to **Card and/or PIN mode** or **PIN mode**.
- **Maximum card storage :**   1,000 cards can be stored or erased from the controller nonvolatile memory.
- **Security Lockout :** When security lockout function enabled under **Card and PIN mode**, user will be blocked if keys-in password wrongly for **three times**.

FRONT PANEL

1. **Indicator lights :**
   STATUS light (Green) – Door access granted or under programming mode
   POWER light (Red)   – Flashing during system operating

2. **Ten enter keys, two functional keys :**
   # key – Master password starting key.
   * key – Clear or escape key.

POWER light (Red) — STATUS light (Green)

Clear or escape — Master password starting key
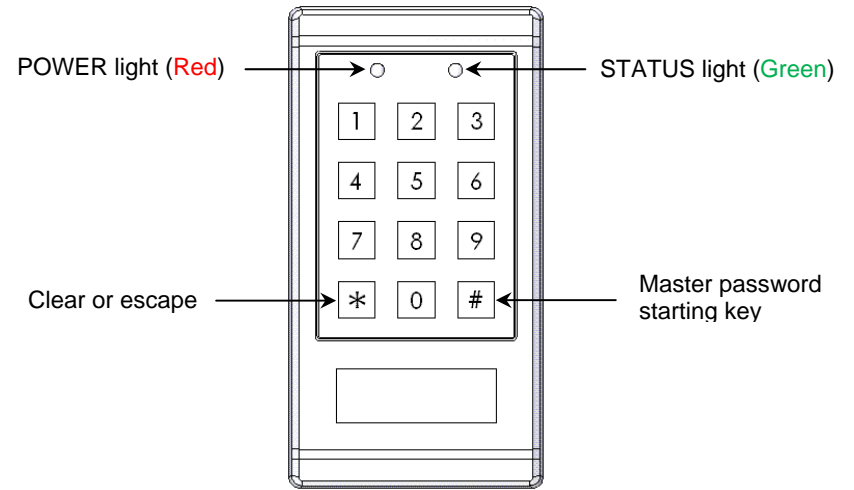
NOTE:
The receiving antenna is hidden behind the keypad. Therefore, the best reading range for the proximity card is located at the center of keypad.
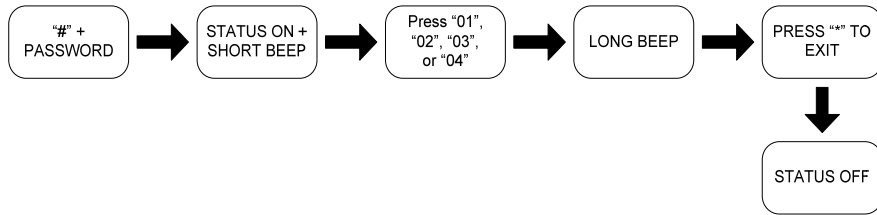
MODES & FUNCTIONS SETTING

To enter programming mode, press master password **"#333333" (default master password)**. A beep sound will be heard and STATUS light turns on once the user enters programming mode successfully.

User can leave programming mode by pressing a **" * "** key. Else, the device will stay in programming mode after each setting. If user does not press any key for 10 seconds, the device will leave programming mode automatically.

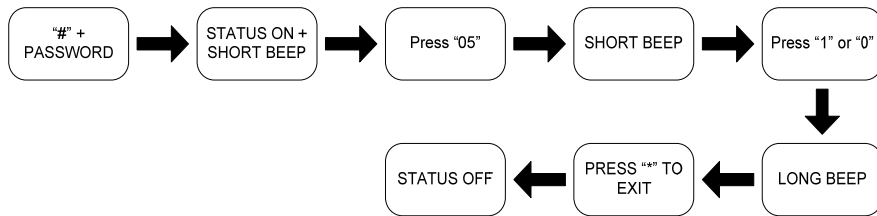1. **Operating Mode Setting**

   By default, the device is set to operate under C**ard or PIN mode**, which is **"02"**. To change the operating mode, press master password and follow by pressing

   - **"01" :** Operating under **Card and PIN mode**.
   - **"02" :** Operating under **Card or PIN mode**.
   - **"03" :** Operating under **Card mode**.
   - **"04" :** Operating under **PIN mode**.

```
"#" +          STATUS ON +    Press "01",       LONG BEEP      PRESS "*" TO
PASSWORD       SHORT BEEP     "02", "03",                      EXIT
                              or "04"
                                                                  │
                                                                  ▼
                                                              STATUS OFF
```

2. Lockout function Setting

To enter lockout function setting, press master password and follow by **"05"**. Press **"0"** to disable lockout function and press **"1"** to enable the function. When lockout function is enabled and operation mode set to **Card and PIN mode**, user who keys-in password wrongly for **three times** will be blocked. In order to reuse the same identity, user has to delete the card and reinstall it again.

```
"#" +          STATUS ON +    Press "05"     SHORT BEEP     Press "1" or "0"
PASSWORD       SHORT BEEP
                                                                  │
                                                                  ▼
STATUS OFF  ◄── PRESS "*" TO  ◄── LONG BEEP
                EXIT
```
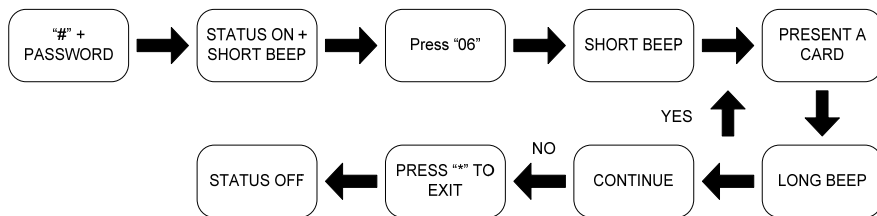
3. Card registering function

To register a proximity card, press master password and follow by pressing **"06"**. User can either register the card by card scanning or keypad entry.
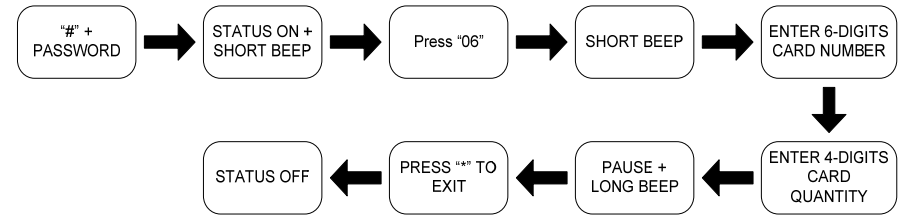
A. Card scanning

After master password granted and enter card registering function, present the proximity card within the reading range. To add another card, just present another new card without exit this function.

```
"#" +          STATUS ON +    Press "06"     SHORT BEEP     PRESENT A
PASSWORD       SHORT BEEP                                   CARD
                                                    YES ↑         │
                                                                  ▼
STATUS OFF  ◄── PRESS "*" TO  ◄── CONTINUE  ◄── LONG BEEP
                EXIT            NO
```
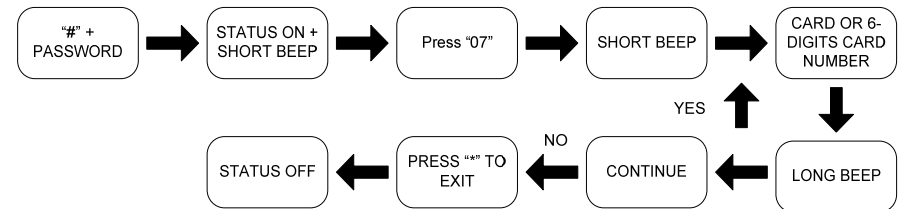
B. Keypad entry

After master password granted and enter card registering function, key-in 6-digits proximity card number, follow by card quantity of 1pc, **"0001"**.

```
"#" +          STATUS ON +    Press "06"     SHORT BEEP     ENTER 6-DIGITS
PASSWORD       SHORT BEEP                                   CARD NUMBER
                                                                  │
                                                                  ▼
STATUS OFF  ◄── PRESS "*" TO  ◄── PAUSE +      ENTER 4-DIGITS
                EXIT            LONG BEEP       CARD
                                               QUANTITY
```

For batch registration, user can register multiple cards in series by keypad entry. First, key-in 6-digits proximity card number, then follow by 4-digits quantities number. Example: To install 10pcs proximity cards, user has to press master password, then follow by pressing **"06"**. Next, key-in 6-digits proximity card number, eg.**081433** and follow by **"0010"** (for 10pcs) or **"0100"** (for 100pcs). The device will register 10pcs proximity cards automatically after a long beep sound. Batch registration does not supported by card scanning method.
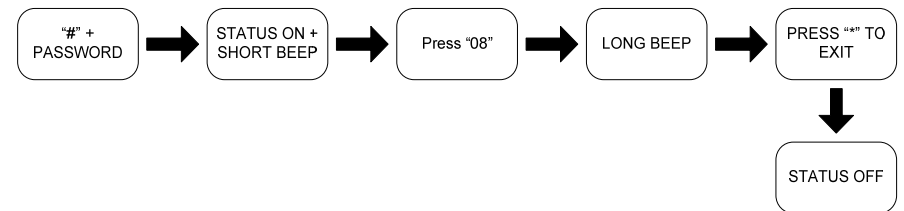
4. Card deleting function

To delete a proximity card, press master password and follow by pressing **"07"**, a beep sound will be heard once enter the function. User will hear long beep sound after key-in card number or after card scanning.

```
"#" +          STATUS ON +    Press "07"     SHORT BEEP     CARD OR 6-
PASSWORD       SHORT BEEP                                   DIGITS CARD
                                                            NUMBER
                                                    YES ↑         │
                                                                  ▼
STATUS OFF  ◄── PRESS "*" TO  ◄── CONTINUE  ◄── LONG BEEP
                EXIT            NO
```

5. User database clearing function

To clear the whole user database, press master password and follow by pressing **"08"**. After a long beep sound, the user database has been deleted successfully.
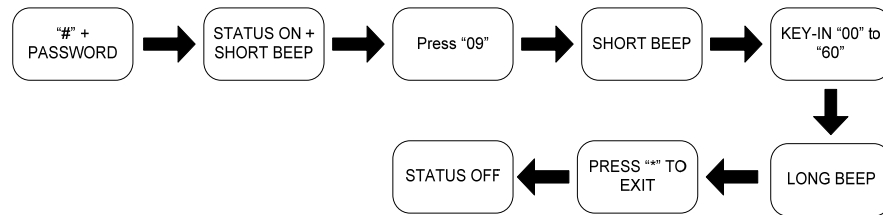
```
"#" +          STATUS ON +    Press "08"     LONG BEEP      PRESS "*" TO
PASSWORD       SHORT BEEP                                   EXIT
                                                                  │
                                                                  ▼
                                                              STATUS OFF
```

6. Door Parameter Setting

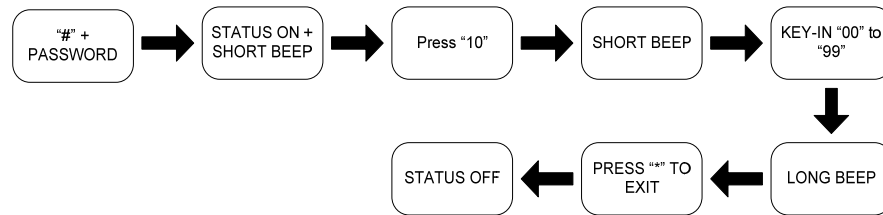By default, the lock release time is 5 seconds and the door open time is 10 seconds.

A. Lock Release Time

Press master password and follow by pressing **"09"**. User has to key-in a value from **"00"** to **"60"** for lock release time
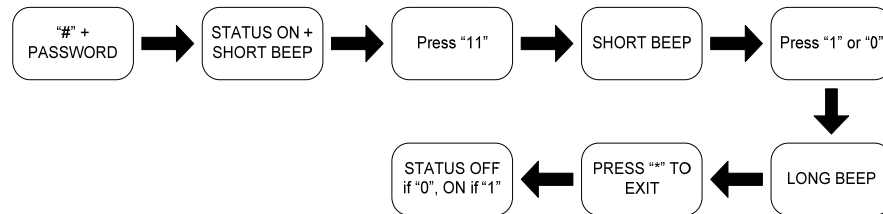
```
"#" + PASSWORD → STATUS ON + SHORT BEEP → Press "09" → SHORT BEEP → KEY-IN "00" to "60"
                                                                              ↓
STATUS OFF ← PRESS "*" TO EXIT ← LONG BEEP
```

B. Door Open Time

Press master password and follow by pressing **"10".** User has to key-in a value from **"00"** to **"99"** for door open time.

```
"#" + PASSWORD → STATUS ON + SHORT BEEP → Press "10" → SHORT BEEP → KEY-IN "00" to "99"
                                                                              ↓
STATUS OFF ← PRESS "*" TO EXIT ← LONG BEEP
```
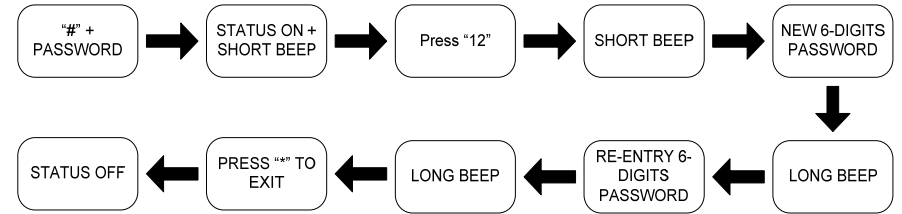
7. Security function

This function is to release the electric locking for permanently during certain occasion. To enable/disable the security function, press master password and follow by pressing **"11"**. After a short beep sound and the STATUS light turns on, press **"1"** to enable or press **"0"** to disable the security function. The lock releases and the STATUS light turns on infinitely until user disables it.

```
"#" + PASSWORD → STATUS ON + SHORT BEEP → Press "11" → SHORT BEEP → Press "1" or "0"
                                                                              ↓
STATUS OFF if "0", ON if "1" ← PRESS "*" TO EXIT ← LONG BEEP
```
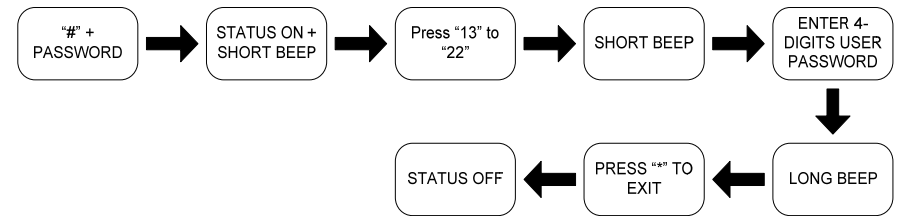
8. Master password setting

To change the master password, press master password and follow by pressing **"12"**. After a short beep sound, user has to key-in the new password. After a long beep sound, user has to key-in **that** password again for verification. It will be a long beep sound again to indicate the password changed successfully.
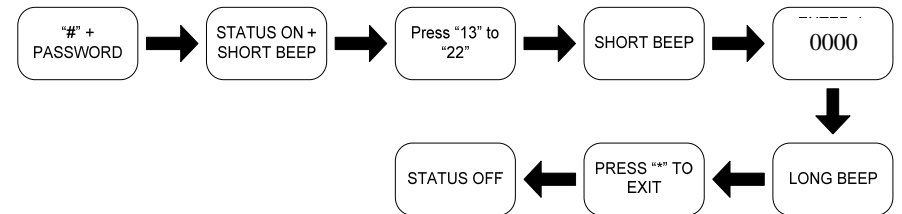
```
"#" + PASSWORD → STATUS ON + SHORT BEEP → Press "12" → SHORT BEEP → NEW 6-DIGITS PASSWORD
                                                                              ↓
STATUS OFF ← PRESS "*" TO EXIT ← LONG BEEP ← RE-ENTRY 6-DIGITS PASSWORD ← LONG BEEP
```

9. User PIN setting

There are 10 sets of user PINs, start from location **"13"** to **"22"**. To set the user PIN, press master password and follow by pressing **"13"** for the **first set**. After a short beep sound, user has to key-in a new 4-digits user PIN. While press **"14"** for second user PIN, and so for the rest of the user PIN.

```
"#" + PASSWORD → STATUS ON + SHORT BEEP → Press "13" to "22" → SHORT BEEP → ENTER 4-DIGITS USER PASSWORD
                                                                              ↓
STATUS OFF ← PRESS "*" TO EXIT ← LONG BEEP
```

10. User PIN deletion

To delete the user PIN, press master password and follow by pressing **"13"** for the **first set**, **"14"** for **second set** and so on. After a short beep sound, key-in "0000".

```
"#" + PASSWORD → STATUS ON + SHORT BEEP → Press "13" to "22" → SHORT BEEP → 0000
                                                                              ↓
STATUS OFF ← PRESS "*" TO EXIT ← LONG BEEP
```

11. Cold Start

Cold Start is a process to clear database, reset or refresh the program/parameter to initial state. To perform a **Cold Start**, user need to hold down " * " and " # " together, switch off and on the power supply. Releases both button after user hears the continuous beep sound and switch off the unit again.

NOTE:
Cold Start will erase the whole data entry in the EEPROM ! Please be aware when perform it. It is advised to perform this when system is crashed.
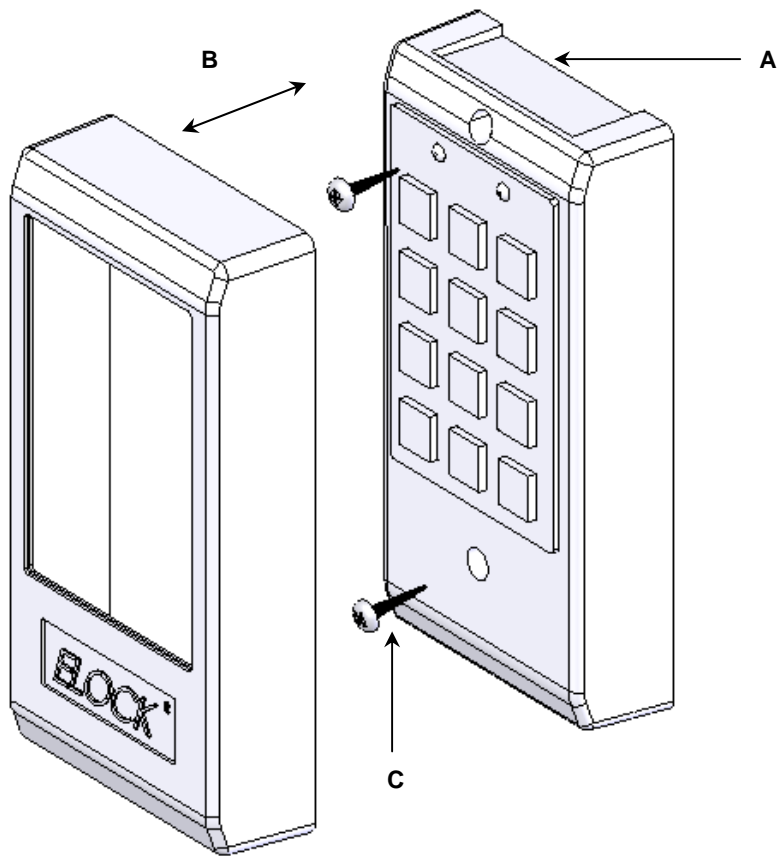
1. Using a screwdriver towards the bottom of the reader's case as shown at **A**. Then push the screwdriver lightly upward.
2. After loosing the reader's case, pull the upper case up to release as shown at **B**.
3. Please select an appropriate position to fit the unit. Then use two screws (**C**) to tighten the unit to the position drilled.
4. Mount the upper cover back to the unit by pushing the cover toward the unit.