



# **Access Control Terminal**

User Manual

## **User Manual**

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This manual is applied for access control terminal.

| Product<br>Serials | Model      | Product Name                         |
|--------------------|------------|--------------------------------------|
| DS-K1T801          | DS-K1T801E | Access Control Terminal<br>(EM Card) |
|                    | DS-K1T801M | Access Control Terminal<br>(M1 Card) |

It includes instructions on how to use the Product. The software embodied in the Product is governed by the user license agreement covering that Product.

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**Support**

Should you have any questions, please do not hesitate to contact your local dealer.

|                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
| <b>Warnings</b> Follow these safeguards to                                          | <b>Cautions</b> Follow these precautions to prevent                                 |

|                                  |                                      |
|----------------------------------|--------------------------------------|
| prevent serious injury or death. | potential injury or material damage. |
|----------------------------------|--------------------------------------|



### Warnings

- All the electronic operation should be strictly compliance with the electrical safety regulations, fire prevention regulations and other related regulations in your local region.
- Please use the power adapter, which is provided by normal company. The power consumption cannot be less than the required value.
- Do not connect several devices to one power adapter as adapter overload may cause over-heat or fire hazard.
- Please make sure that the power has been disconnected before you wire, install or dismantle the device.
- When the product is installed on wall or ceiling, the device shall be firmly fixed.
- If smoke, odors or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the device yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)



### Cautions

- Do not drop the device or subject it to physical shock, and do not expose it to high electromagnetism radiation. Avoid the

equipment installation on vibrations surface or places subject to shock (ignorance can cause equipment damage).

- Do not place the device in extremely hot (refer to the specification of the device for the detailed operating temperature), cold, dusty or damp locations, and do not expose it to high electromagnetic radiation. The appropriate operation temperature is 0°C to +45°C, and the storage temperature should be -10°C to +55°C.
- The device cover for indoor use shall be kept from rain and moisture.
- Exposing the equipment to direct sun light, low ventilation or heat source such as heater or radiator is forbidden (ignorance can cause fire danger).
- Do not aim the device at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of sensor at the same time.
- Please use the provided glove when open up the device cover, avoid direct contact with the device cover, because the acidic sweat of the fingers may erode the surface coating of the device cover.
- Please use a soft and dry cloth when clean inside and outside surfaces of the device cover, do not use alkaline detergents.
- Please keep all wrappers after unpack them for future use. In case of any failure occurred, you need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage on the device and lead to additional costs.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

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# 1 Overview

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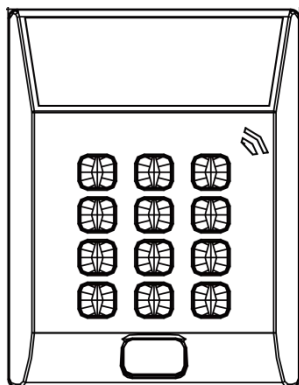


Figure 1-1 DS-K1T801 Series Standalone Access Control Terminal

## Main Features

- Equipped with 32-bit high-speed processor
- Supports EM card and M1 card reading
- Supports authentication methods of card, card and password, or password
- Doorbell ring design
- Supports 3 thousand card No. storage
- Unlocking overtime alarm
- Data can be permanently saved after power-off
- Watchdog program to ensure the basic function of the terminal.
- Supports NFC tag anti-cloning

## 2 Appearance

### 2.1 Appearance of the Terminal

Please refer to the following content for detailed information of the terminal.

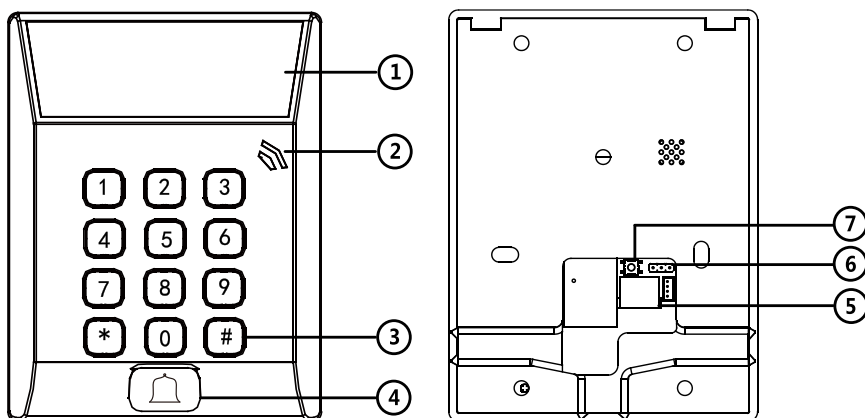


Figure 2-1 Appearance of Access Control Terminal

Table 2-1 Description of Access Control Terminal

| No. | Name               | Description                                                                                                               |                                                          |
|-----|--------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| 1   | LCD Display Screen | First Line: display date<br>Second Line: display time<br>Third Line: display authentication information or swiping status |                                                          |
| 2   | Power Indicator    | Slow Flashing Green                                                                                                       | Card reader is working properly.                         |
|     |                    | Solid Green for a time period                                                                                             | The operation of pressing keys or swiping card is valid. |

|   |                       |                                                                                                                                                  |                                                            |
|---|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|   |                       | Solid Red for a time period                                                                                                                      | The operation of pressing keys or swiping card is invalid. |
| 3 | Keypad                | Numeric key 0 to 9, Clearing key *, and Confirming key #                                                                                         |                                                            |
| 4 | Door Bell             | Door Bell Ring                                                                                                                                   |                                                            |
| 5 | Wiring Terminals      | Wire the device with power supply, doorbell, and door lock.                                                                                      |                                                            |
| 6 | Jumper                | Control the status of the lock relay.                                                                                                            |                                                            |
| 7 | Initialization Button | When rebooting the device, hold the button for about 8s to enter the initialization mode. When initializing, the device buzzer will beep for 3s. |                                                            |

## 2.2 Description of Keypad Items

Table 2-2 Description of Keys

| No.    | Description                                          |
|--------|------------------------------------------------------|
| 0 to 9 | Numeric Keys: Enter number in the textbox.           |
| *      | Exiting Key: Click the key to exit the menu.         |
| #      | Confirming Key: Click the key to confirm operations. |

## 3 Terminal Connection

### 3.1 Terminal Description

The following table shows the terminals description.

Table 3-1 Terminal Description

| Description |            | Color  |
|-------------|------------|--------|
| Power Input | 12V DC     | Red    |
|             | GND        | Black  |
| Bell        | Bell+      | Orange |
|             | Bell-      | Yellow |
| Door Lock   | BUTTON_IN  | Purple |
|             | DOOR_COM   | Green  |
|             | DOOR_NO/NC | Blue   |
|             | SENSOR_IN  | White  |
|             | GND        | Black  |
|             | 12V_LOCK   | Brown  |

### 3.2 External Device Wiring

#### Power Supply Wiring

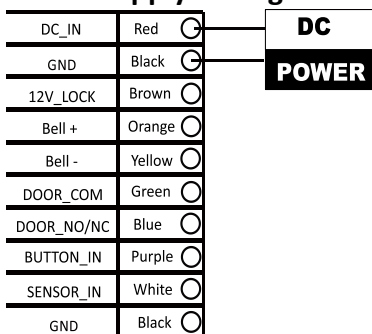


Figure 3-1 Power Supply Connection Diagram

#### Doorbell Wiring

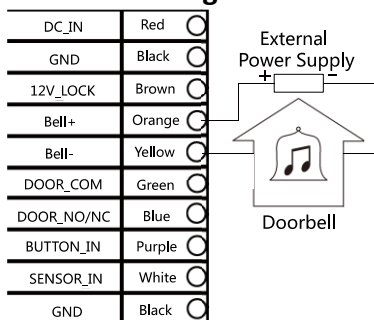


Figure 3-2 Doorbell Wiring Diagram

### Door Button Wiring

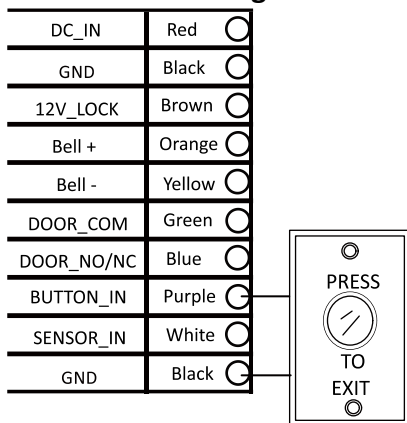


Figure 3-3 Door Button Wiring Diagram

### Door Lock Wiring

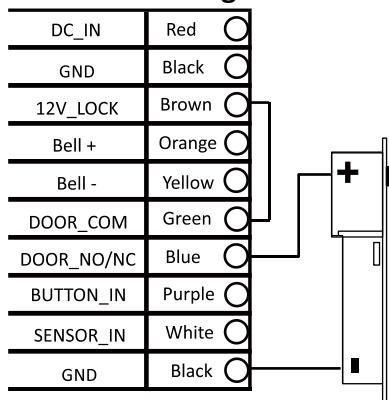


Figure 3-4 Door Lock Wiring Diagram

### Door Magnetic Wiring

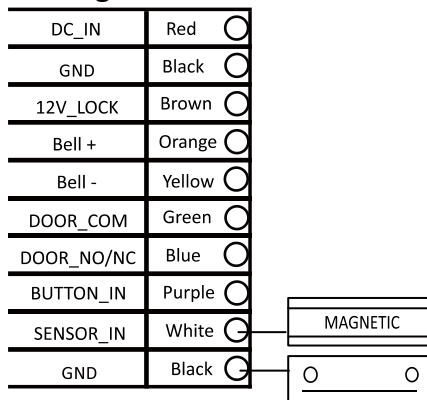


Figure 3-5 Door Magnetic Wiring Diagram

## 4 Installation

### *Before you start*

- Please make sure that the device in the package is in good condition and all the assembly parts are included.
- Make sure that all the related equipment is power-off during the installation.
- Check the specification of the products for the installation environment.
- Check whether the power supply is matched with your AC outlet to avoid damage.
- If the product does not function properly, please contact your dealer or the nearest service center. Do not disassemble the camera for repair or maintenance by yourself.
- Please make sure the wall is strong enough to withstand three times the weight of the camera and the mounting.

### 4.1 Mounting with Gang Box

#### Steps:

1. Route the cables through the cable hole of the mounting base.
2. Align the screw holes on mounting base with the screw holes on gang box.
3. Fix the mounting base on the gang box with inserting two KA4\*22-SUS screws (supplied) into the two screw holes.

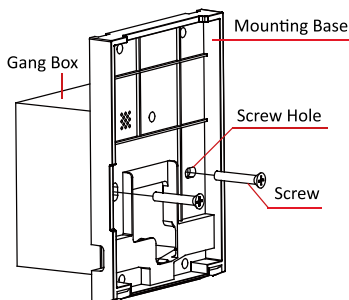


Figure 4-1 Install the Mounting

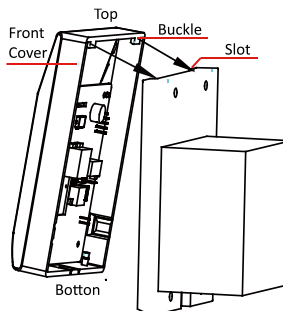


Figure 4-2 Attach the Front

4. Connect the corresponded cables.
5. Align the buckle of the front cover with the slot of the mounting base, and hang the front cover onto the mounting base. Make sure the buckle is embedded into the slot.
6. Secure the front cover with inserting and tightening two screws on the bottom of device.

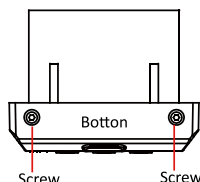


Figure 4-3 Secure the Front Cover

## 4.2 Mounting without Gang Box

### **Steps:**

1. Drill 4 screw holes in the wall according to the holes of the mounting base, and then insert expansion screws sockets (not supplied) into the holes.
2. Route the cables through the cable hole of the mounting base.
3. Align the screw holes on the base with the screw sockets on the wall.
4. Attach the mounting base on the wall with Inserting 4 KA4\*22-SUS screws (supplied) into the 4 screw sockets.

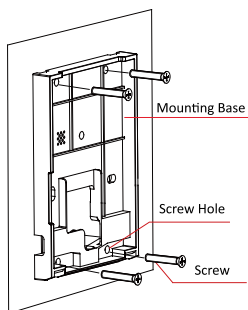


Figure 4-4 Install the Mounting Base

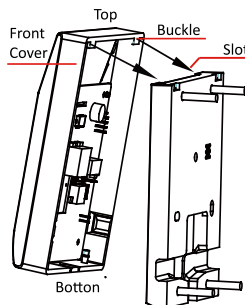


Figure 4-5 Attach the Front Cover

5. Connect the corresponded cables.
6. Align the buckle of the front cover with the slot of the mounting base, and hang the front cover onto the mounting base. Make sure the buckle is embedded into the slot.
7. Secure the front cover with inserting and tightening two screws on the bottom of the device.

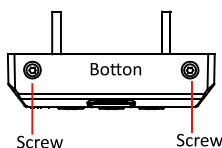


Figure 4-6 Secure the Front Cover

## 5 Keypad Operation

### Access Control Terminal Working Mode

The access controller involves two modes: working mode and programming mode.

### 5.1 Working Mode

After the access controller is powered on, its LED status indicator turns green and blinks for 1 time firstly. Then it turns red and blinks for 3 times, and the buzzer buzzes a beep sound indicating the initialization process is completed.

- The controller supports swiping card, E series support EM card, and M series support M1 card.
- The controller also supports entering card No. by keypad. For example, you can enter the card number by ending with #.

Enter the \* key to clear the valid data input before, for example, the valid data of "123456\*7890123#" is "7890123".

Enter [the programming password] + [\*] + [0] + [#] to enter the programming mode. The default programming password is 12345.

When using the access control terminal, it will send out different sound prompt and the LED indicator on it has different statues. For the detailed information, refer to the table below.

| Sound Prompt     | LED Indicator Status      | Description                                                |
|------------------|---------------------------|------------------------------------------------------------|
|                  | Green and Blinking Slowly | The access controller is working normally.                 |
| One Beep         |                           | Pressing keys prompt ;<br>Swiping card prompt.             |
| Two Rapid Beeps  | Solid Green               | The operation of pressing keys or swiping card is valid.   |
| Three Slow Beeps | Solid Red                 | The operation of pressing keys or swiping card is invalid. |
| Two Rapid        |                           | The operation of entering the                              |

|                     |  |                                                                  |
|---------------------|--|------------------------------------------------------------------|
| Beeps               |  | programming mode is successful.                                  |
| Three Slow Beeps    |  | The operation of entering the programming mode is failed.        |
| Beep for 10 Seconds |  | Delayed door alarm (the door is opened over the time limitation) |

## 5.2 Programming Mode

After entering the programming mode, LED status indicator turns green and blinks rapidly.

After entering “\*#”, the buzzer buzzes two rapid beeps for switching the programming mode to the normal mode.

### Changing Programming Password:

Command:

[00]+ [5-bit new programming password]+[Enter 5-bit new programming password again]+[#]

| Sound Prompt  | Description                                       |
|---------------|---------------------------------------------------|
| 3 Slow Beeps  | The operation of changing password is failed.     |
| 2 Rapid Beeps | The operation of changing password is successful. |

### Adding User

Two ways are allowed to add the user: single adding and continuous adding.

#### Steps:

1. Enter the user ID.
2. Swiping the card.
3. Enter the 4-bit to 8-bit card password.



The step 3 can be omitted.

- Single adding:  
**[01] +[4-bit code]+ [swipe card 1]+ [4-bit to 8-bit card password]+[#]**
- Continuous adding:  
**[01] +[4-bit code]+**  
**[swipe card 1]+ [4-bit to 8-bit card password]+ [#]**  
**[swipe card 2]+ [4-bit to 8-bit card password]+ [#]...**

Enter the 4-bit user ID, e.g. "0001" (note: the 4-bit user ID ranges from 1 to 3000).

| <b>Sound Prompt</b> | <b>Description</b>                                              |
|---------------------|-----------------------------------------------------------------|
| 3 Slow Beeps        | Enter another user ID for the current user ID has been applied. |
| 2 Rapid Beeps       | The user ID is valid, wait for swiping.                         |
| 1 Beep              | Swipe the card.                                                 |

When adding cards continuously, different beeps stand for different meanings.

| <b>Sound Prompt</b> | <b>Description</b>                                         |
|---------------------|------------------------------------------------------------|
| 1 Beep              | Swipe the card.                                            |
| 5 Slow Beeps        | The card is failed to be added for it has been registered. |
| 3 Slow Beeps        | The user ID exists.                                        |
| 2 Rapid Beeps       | The card is successfully added.                            |

## **Deleting User**

Two ways are allowed to delete the user: swiping card, entering user ID, or entering card password.

- Swiping card:  
**[02] +[swipe the card]+[#]**
- Entering user ID:  
**[02] +[4-bit code]+[#]**

- Entering card password:

**[11]+[4-bit to 8-bit password]+[#]**

The user with the input card password will be deleted.

Swipe the card and enter “#” after the buzzer buzzes one beep.

| Sound Prompt  | Description                                   |
|---------------|-----------------------------------------------|
| 1 Beep        | Swipe the card.                               |
| 3 Slow Beeps  | The operation of deleting card is failed.     |
| 2 Rapid Beeps | The operation of deleting card is successful. |

Enter the user ID and enter “#”.

| Sound Prompt  | Description                                   |
|---------------|-----------------------------------------------|
| 3 Slow Beeps  | The operation of deleting card is failed.     |
| 2 Rapid Beeps | The operation of deleting card is successful. |

## Setting Card Password

- Add card password:

**[10]+[4-bit code]+[4-bit to 8-bit password]+[#]**

- Change card password:

**[10]+[4-bit code]+[4-bit to 8-bit password]+[#]**

The password here is the new password.



- The card password can contain 0 only.
- Supports add card password without adding the card.
- Up to 3000 groups of card passwords can be added.
- If the authentication mode is Card, opening door by only entering the card password is available. For details about setting authentication mode, see *Setting Authentication Mode* in this section.

- The card password cannot be the same with the super password.

**Setting Authentication Mode:**

Command:

**[03] + [data 1] + [#]**



The value of data 1 can be 0, 1, or 2.

| Value        | Description     |
|--------------|-----------------|
| 0            | Card only       |
| 1            | Card + Password |
| Other values | Failed          |

**Setting Access Parameters:**

Command:

**[04] + [data 1] + [data 2] + [data 3] + [data 4] + [#]**

- Data 1 is a 3-bit value, ranging from 001 to 255, and stands for the door open time;
- Data 2 is a 2-bit value, ranging from 00 to 99, and stands for the door open timeout;
- Data 3 is a 1-bit value, and stands for door magnetic type: 0- normally closed, and 1- normally open.
- Data 4 is a 1-bit value, and stands for the button type: 0-normally close, and 1- normally open.

| Sound Prompt  | Description                                                   |
|---------------|---------------------------------------------------------------|
| 3 slow beeps  | The operation of editing the access parameters is failed.     |
| 2 rapid beeps | The operation of editing the access parameters is successful. |

**Setting Super Password:****Command:****[05] + [8-bit super password] + [8-bit super password] +[#]**

| Sound Prompt  | Description                                                |
|---------------|------------------------------------------------------------|
| 3 Slow Beeps  | The operation of editing the super password is failed.     |
| 2 Rapid Beeps | The operation of editing the super password is successful. |



If the 8-bit super password is set as 00000000, which means the super password is disabled.

**Enabling Controller:****Command:****[06]+ [data 1] + [data 2] +[#]**

| Member | Length | Function                                | Description            |
|--------|--------|-----------------------------------------|------------------------|
| Data 1 | 1 bit  | Whether to enable the key sound         | 0-disable;<br>1-enable |
| Data 2 | 1 bit  | Whether to enter the card No. by keypad | 0-no, 1-yes            |

| Sound Prompt  | Description                  |
|---------------|------------------------------|
| 3 Slow Beeps  | The operation is failed.     |
| 2 Rapid Beeps | The operation is successful. |

**Clearing Card:****Command:****[07]+ [5-bit programming password]+[#]**

| Sound Prompt | Description                               |
|--------------|-------------------------------------------|
| 3 Slow Beeps | The operation of clearing card is failed. |

|               |                                                                                                             |
|---------------|-------------------------------------------------------------------------------------------------------------|
| 2 Rapid Beeps | The operation of clearing card is successful. And after 1 second, the controller starts deleting all cards. |
|---------------|-------------------------------------------------------------------------------------------------------------|

## Restoring Default Settings:

Command:

**[08]+ [5-bit programming password]+[#]**

| Sound Prompt  | Description                                                                                                                           |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 3 Slow Beeps  | The operation of restoring default settings is failed.                                                                                |
| 2 Rapid Beeps | The operation of restoring default settings is successful. And after 5 seconds, the controller starts restoring the factory settings. |

## Rebooting the Device:

Command:

**[09]+ [5-bit programming password]+[#]**

| Sound Prompt  | Description                                                                                    |
|---------------|------------------------------------------------------------------------------------------------|
| 3 Slow Beeps  | The operation of rebooting is failed.                                                          |
| 2 Rapid Beeps | The operation of rebooting is successful. And after 1 second, the controller starts rebooting. |



In the programming mode, the buzzer buzzes two beeps and the controller is switched to the normal mode after no operation for 30 seconds.

