

# User Manual

## MKW Series

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English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



For further details, please visit our Company's website  
[www.zkteco.com](http://www.zkteco.com).

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If there is any issue related to the product, please contact us.

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To know more about our global branches, visit [www.zkteco.com](http://www.zkteco.com).

## About the Company

ZKTeco is one of the world's largest manufacturer of RFID and Biometric (Fingerprint, Facial, Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

## About the Manual

This manual introduces the operations of the MKW Series product.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.

## Document Conventions

Conventions used in this manual are listed below:

### GUI Conventions

| For Software     |                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Convention       | Description                                                                                                                 |
| <b>Bold font</b> | Used to identify software interface names e.g. <b>OK</b> , <b>Confirm</b> , <b>Cancel</b>                                   |
| >                | Multi-level menus are separated by these brackets. For example, File > Create > Folder.                                     |
| For Device       |                                                                                                                             |
| Convention       | Description                                                                                                                 |
| < >              | Button or key names for devices. For example, press <OK>                                                                    |
| [ ]              | Window names, menu items, data table, and field names are inside square brackets. For example, pop up the [New User] window |
| /                | Multi-level menus are separated by forwarding slashes. For example, [File/Create/Folder].                                   |

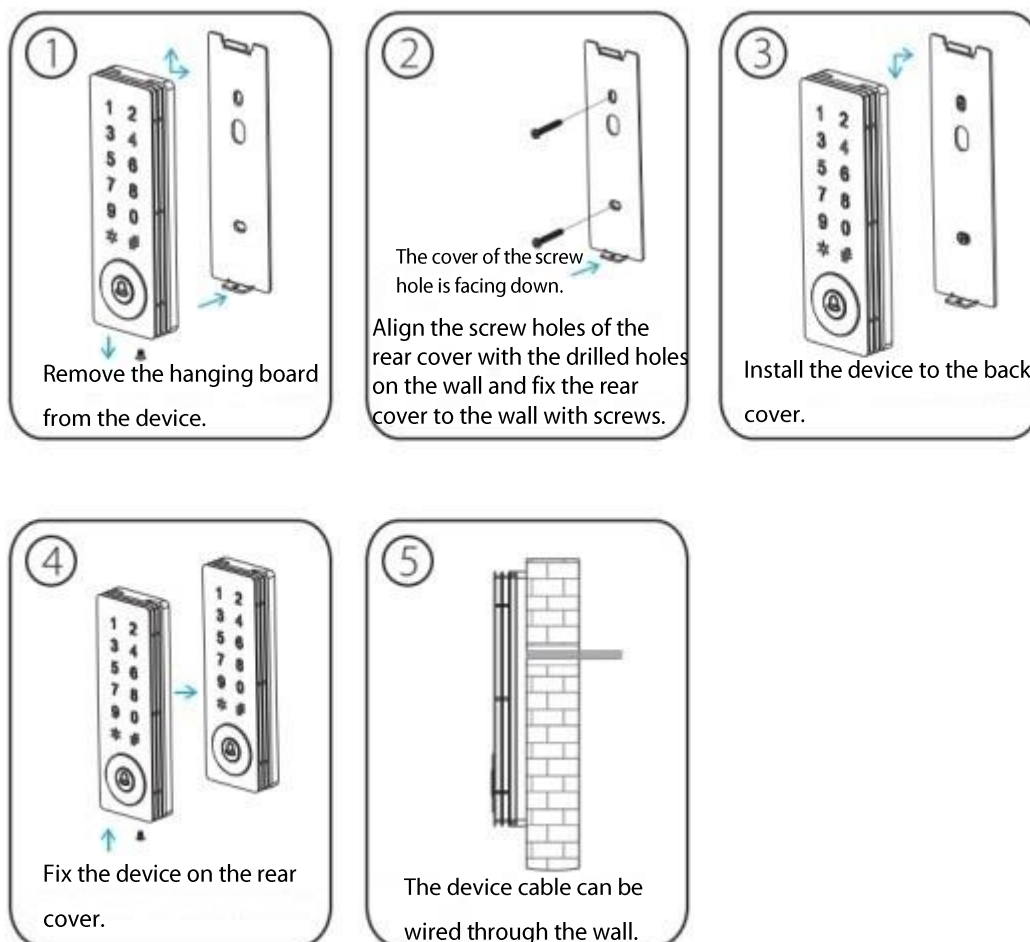
### Symbols

| Convention                                                                          | Description                                                                            |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  | This implies about the notice or pays attention to, in the manual                      |
|  | The general information which helps in performing the operations faster                |
|  | The information which is significant                                                   |
|  | Care taken to avoid danger or mistakes                                                 |
|  | The statement or event that warns of something or that serves as a cautionary example. |

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## 1 Installation Procedure



## 2 Wiring Instructions

**⚠ Wiring should not be done when the power is on.**

### Note:

- 1) The system supports NO LOCK and NC LOCK. The NO LOCK (normally open by power on) is connected with NO terminal, and the NC LOCK is connected with the NC terminal.
- 2) To prevent the generation of self-inductance EMF which would affect the system, when the electrical lock is linked to the Access Control System; it is required to connect one FR107 diode (equipped in the package, do not reverse the polarities) in parallel to release the self-inductance EMF.

Under the following criteria, the device shares power with the lock:

- When  $U_{LOCK}=12V, I > I_{Device} + I_{lock}$
- When the lock is near the device

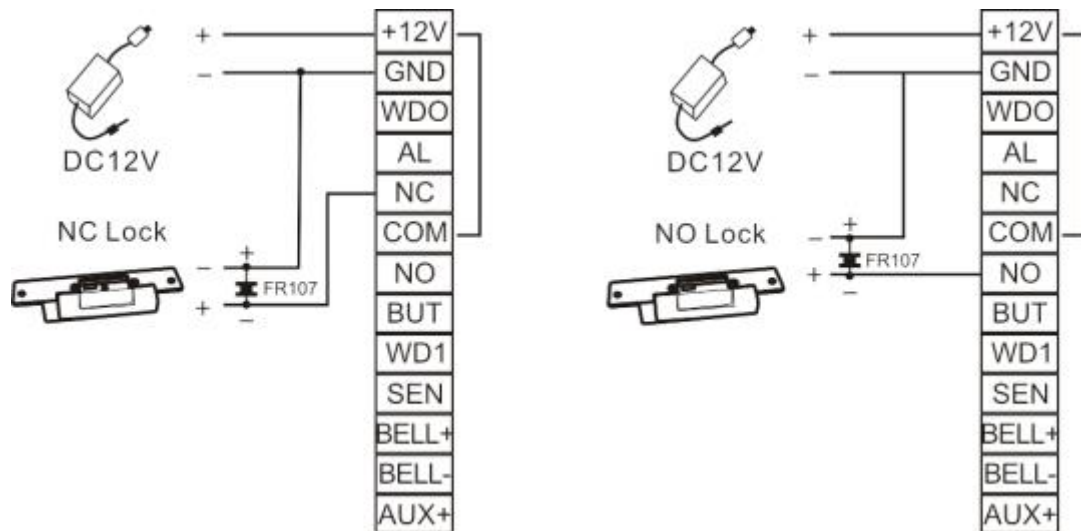


Figure 1-1

Under the following criteria, the device does not share the power with the lock:

- When  $U_{LOCK}=12V, I < I_{Device} + I_{Lock}$
- When  $U_{LOCK} \neq 12V$
- When the lock is far from the device

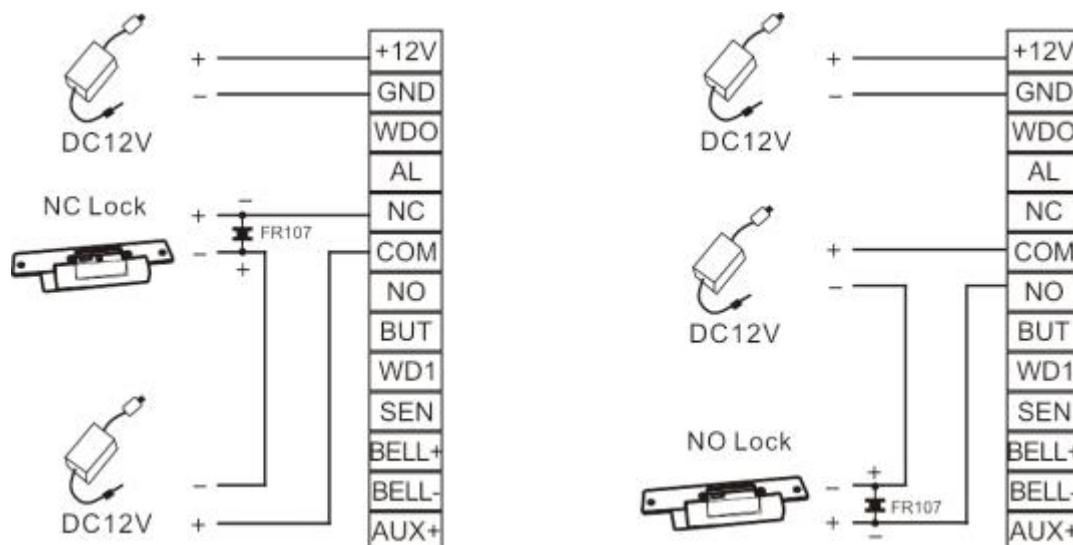


Figure 1-2

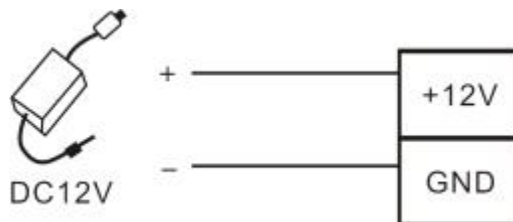
I - Device's current output

$U_{LOCK}$  - Lock Voltage

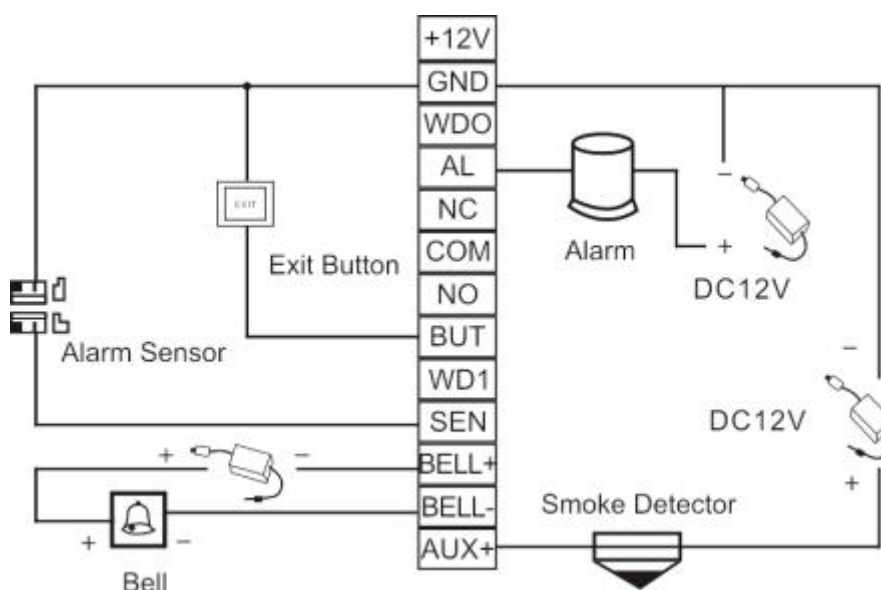
$I_{LOCK}$  - Lock Current

## Power Connection

The Input power is DC12V,  $\leq 200\text{mA}$  ( $\leq 150\text{mA}$  standby). The Positive Terminal must be connected with + 12V, and the negative terminal must be connected with GND (do not reverse the polarities).



## Connection with other Devices



## 3 Basic Functionalities

To understand the functions and operations of the access control device more quickly, you need to understand the following basic concepts.

### 3.1 Button Functions

| Button | Definition                                                   |
|--------|--------------------------------------------------------------|
| 0      | Modify the Administrator password or set the Management Card |
| 1      | Add users with Card                                          |
| 2      | Add users with Password                                      |
| 3      | Add Card & Password users                                    |
| 4      | Delete single users                                          |

|          |                                                   |
|----------|---------------------------------------------------|
| <b>5</b> | Delete all users                                  |
| <b>6</b> | Modify User password                              |
| <b>7</b> | Modify the door open delay time                   |
| <b>8</b> | Restore default settings                          |
| <b>9</b> | Set the Door open password, Add card, Delete card |

## 3.2 Card Type Definition

| Card Type          | Definition                                                                                                                                                                                                                                                                                                                          |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Manage Card</b> | In standby mode, the shortcut operations are as follows:<br><br>(1) Swipe the management card once to open the administrator mode.<br><br>(2) Swipe the management card twice to enter the door magnetic normally open / normally closed switching mode.<br><br>(3) Swipe the management card three times to enter the reader mode. |
| <b>Add card</b>    | Used to add user cards.                                                                                                                                                                                                                                                                                                             |
| <b>Delete card</b> | Used to delete user cards.                                                                                                                                                                                                                                                                                                          |

## 3.3 User Type Definition

| User Type                            | Definition                                              |
|--------------------------------------|---------------------------------------------------------|
| <b>Card type user</b>                | Can only be opened by swiping the card                  |
| <b>Password type user</b>            | Can only be opened by password verification             |
| <b>Card &amp; password type user</b> | Can only be opened by swiping and entering the password |

## 3.4 DIP Switch Definition

1. When the 1st and 2nd digits are turned ON, it enters the Wiegand input mode.
2. When the 3rd and 4th digits are turned ON, it enters the Wiegand output mode (Factory Default).
3. When the 5th and 6th digits are turned ON, it enters the data copy mode.
4. When the 1st, 2nd, 3rd, and 4th digits are turned ON, the device is powered on and enters the factory reset.

## 3.5 Wiring Definition

| Controller Mode |        |
|-----------------|--------|
| <b>Red</b>      | DC 12V |
| <b>Black</b>    | GND    |

|                         |                                                                                               |
|-------------------------|-----------------------------------------------------------------------------------------------|
| <b>Yellow</b>           | NC                                                                                            |
| <b>Pink</b>             | COM                                                                                           |
| <b>Blue</b>             | NO                                                                                            |
| <b>Light Blue</b>       | SEN                                                                                           |
| <b>Gray</b>             | BUT                                                                                           |
| <b>Purple</b>           | BELL+                                                                                         |
| <b>Brown</b>            | BELL-                                                                                         |
| <b>Weigand/UART</b>     |                                                                                               |
| <b>Green</b>            | When the 1st and 2nd digits of the DIP switch are turned ON. (Green: WD0-in, White: WD1-in)   |
| <b>White</b>            | When the 3rd and 4th digits of the DIP switch are turned ON. (Green: WD0-out, White: WD1-out) |
|                         | When the 5th and 6th digits of the DIP switch are turned ON. (Green: RXD, White: TXD)         |
| <b>Linkage Function</b> |                                                                                               |
| <b>Orange</b>           | AL(Alarm)                                                                                     |
| <b>Light Green</b>      | AUX+                                                                                          |
| <b>Reader Mode</b>      |                                                                                               |
| <b>Red</b>              | DC 12V                                                                                        |
| <b>Black</b>            | GND                                                                                           |
| <b>Green</b>            | WD0                                                                                           |
| <b>White</b>            | WD1                                                                                           |
| <b>Gray</b>             | BEEP                                                                                          |
| <b>Light Blue</b>       | LED                                                                                           |
| <b>Purple</b>           | BELL+                                                                                         |
| <b>Brown</b>            | BELL-                                                                                         |

### 3.6 Standby

- In standby mode, the blue light flashes to indicate the controller mode.
- In standby mode, the blue light is always on, indicating that it is in reader mode.

## 4 Operational Settings

When the operation is successful, the green light will flash and when it fails, the blue light will flash.

### **Factory Reset**

- 1) After getting the new access control device, restore the factory Settings to complete product initialization before other operations.
- 2) Pull the 1, 2, 3, and 4 digits of the DIP switch on the back of the access control device to the ON position at the same time. After the device is powered on, you can enter the factory reset operation.
- 3) After the factory reset is successful, pull the 3rd and 4th digits of the DIP switch to the ON position, in the Wiegand output mode (factory default state), and then power on the device again.

**Note:** Restoring the factory settings will delete all the user data, please be cautious.

### **Log out**

Press \* to exit the administrator status or no action will automatically exit the management state after 10 seconds.

### **Initial Password**

| No. | Category               | Description                                                                                                                                     |
|-----|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Administrator Password | The default password is 1234, and the password length is 1-8 digits.                                                                            |
| 2   | Door password          | The default password is 8888, the password length is 4-6 digits, and the general password can be set by the administrator for opening the door. |
| 3   | User password          | User-defined opening password, there is no default password, and the password length 4-6 digits.                                                |
| 4   | Data copy password     | The default password is *1514885702#, which is used for data transfer between two devices. It cannot be changed.                                |

### **Set Door Password**

Press \*# administrator password → 9 → input 4-6 door password #

**Note:** The default administrator password is 1234, and the default door password is 8888.

To delete the door password, press \*# administrator password → 9 → 0000#

### **Set Manage Card**

Press \*# → administrator password → 0 → Swipe card

**Note:** After you swipe the manage card, you can enter the administrator status.

### **Add Card and Delete Card**

Press \*# administrator password→9→swipe the first card as an add card.

swipe the second card as a delete card.

### **Set Quick Operation**

In the standby mode, you can enter different functional modes by using the manage card, add card, and delete card.

- 1) Swipe the management card once, to enter the administrator mode.
- 2) Swipe the management card twice, to enter the door magnetic normally open / normally closed switching mode.
- 3) Swipe the management card three times, to enter the reader mode.
- 4) Swipe the add card directly to enter the batch add card type user mode.
- 5) Swipe the delete card directly to enter the batch delete card type user mode.

### **Add Card Type User**

Press \*# administrator password→1→Swipe card

**Note:** Continuously swiping the card can add card type users in batches.

### **Add Password Type User**

Press \*# administrator password→2→enter the 4 to 6 digits user password #

**Note:**

- 1) The user password must be at least 4 to 6 digits.
- 2) After adding a password type user successfully, continue to enter the user password to continuously add a password type user.

### **Add Card & Password Type User**

The device supports two ways to add card & password type user.

- 1) Press \*# administrator password→3→user password#→swipe card
- 2) Press \*# administrator password→3→swiping card→user password #

**Note:**

- a) After adding a card & password type user, continue to add a card & password type user in batches based on the above methods.
- b) You can open the door by entering the password and then swipe the card or swipe the card first and then enter the password.

### **Delete Single User**

You can delete a single user in three ways:

- 1) Press \*# administrator password→4→enter the user password #

**Note:** Enter the password continuously to delete the user.

- 2) Press \*# administrator password→4→swipe card

**Note:** Swipe card continuously to delete the user

- 3) Press \*# administrator password→4→enter decimal card number #

**Note:**

- Enter the decimal card number continuously to delete the user.
- Automatically deletes the card & password when deleting the card or password.

### **Delete All User**

The device supports two ways to delete all the users:

- 1) Press \*→#→administrator password→5→#
- 2) In standby mode, swipe the management card (to enter the management state), delete card, add card, delete card.

### **Modify Administrator Password**

Press \*#→administrator password→0→New password→#→New password→#

**Note:**

The administrator password is 1 to 8 digits in length. If you forget the administrator password, you can reset the administrator password by swiping the management card.

### **Modify User Password**

Perform the following ways to modify the user password:

- 1) Password type user: Press \*# administrator password→6→old password #4 to 6-digit New password #
- 2) Card & Password type user: Press \*#administrator password→6→swiping card→4-6-digit New password #

### **Set Open Delay Time**

Press\*# administrator password→7→1→input open delay time#

**Note:** The door open delay time is 0 to 60 seconds, the default is 3 seconds, and the maximum is 60 seconds.

### **Set Button Backlight**

Press \*# administrator password→7→5→0/1/2

(0: Normally closed, 1: Normally Bright, 2: Touch button press will light)

### **Set Indicator Light**

Press \*# administrator password→7→6→0 or 1 (0: Close, 1: Open)

### **Set Door Sensor Alarm Delay**

Press \*# administrator password→7→7→input alarm delay time #

**Note:** The door sensor alarm delay is 0 to 255 seconds, the default is 15 seconds.

### **Set Door Sensor Mode**

Press \*# administrator password→7→4→0/1(0: Normally closed, 1: Normally open)

### **Set Alarm Main Switch**

In standby mode, it is supported to enable or disable the door sensor alarm, tamper alarm, and wrong press alarm by shortcut operation mode.

- 1) Turn on the alarm: Directly swipe the add card three times to open the door sensor alarm, tamper alarm, and wrong press alarm.
- 2) Turn off the alarm: Directly swipe the delete card three times to close the door sensor alarm, tamper alarm, and wrong press alarm.

### **Set Door Sensor Alarm Switch**

Press \*# administrator password→7→2→0 or 1 (0: Close, 1: Open)

### **Set Tamper Alarm Switch**

Press \*# administrator password→7→3→0 or 1 (0: Close, 1: Open)

### **Set Wrong Press Alarm Switch**

Press \*#administrator password→7→8→0/1(0: Close, 1: Open)

#### **Note:**

- 1) The default state of the wrong press alarm switch is on. After entering the wrong administrator password continuously 5 times, only the button can be pressed in 10 seconds and if the card is not opened, the normal operation can be resumed after 10 seconds.
- 2) If the number of wrong clicks does not exceed five times, after 1 minute of no operation, the number of wrong clicks will be restored to 5 times.

## **Restore Default Settings**

You can restore the default settings of the access control device by performing the following steps:

- 1) Press \*# administrator password→8#→0#
- 2) In standby mode, the quick operation mode: Directly swipe the delete card, add card, delete card in sequence, and then complete the default parameter setting initialization.

**Note:** After initialization is successful, all the settings will be cleared but user data will be retained.

### **Default parameter setting**

|                              |                                   |
|------------------------------|-----------------------------------|
| Door Password                | The default password is 8888.     |
| Door Sensor Mode             | Normally open                     |
| Open Delay Time              | 0-60 seconds, default 3 seconds   |
| Door Sensor Alarm Delay Time | 0-255 seconds, default 15 seconds |
| Door Sensor Alarm            | Open                              |
| Tamper Alarm                 | Open                              |
| Working Mode                 | Controller Mode                   |
| Key Backlight                | Constantly bright                 |

## **5 Working Mode Conversion**

- In standby mode, the blue light flashes to indicate the controller mode.
  - In standby mode, the blue light glows constantly, indicating that it is working in reader mode.
1. Reader mode switch controller mode
    - a) Mechanical button type: Continuously press \* for 5 seconds, then press #→administrator password→8→1→0
    - b) Touch button type: Press \* for 5 times, then press #→administrator password→8→1→0
  2. Controller mode switch reader mode
    - a) Set the Wiegand mode of reader head. (Make sure that the 3rd and 4th digits of the DIP switch are turned ON position and the device is in Wiegand output mode.)

Standard Wiegand mode: Press \*# administrator password→8→2→0

Custom Wiegand Mode 1 (Spain): Press \*# administrator password→8→2→1

Custom Wiegand Mode 2 (Russia): Press \*# administrator password→8→2→2

- b) Then set the Wiegand format.

Press \*# administrator password→8→1→1 or 2 or 3 or 7 (1:WG26, 2:WG34, 3: WG42, 7:WG44)

## 6 Data Transfer

### 1. Copy data through the access control device:

- a) Pull the 5th and 6th positions of the DIP switches of the two access control devices to the ON position.
- b) The TXD of the main access control device is connected with the RXD of the auxiliary access control device, and the RXD of the main access control device is connected with the TXD of the auxiliary access control device, and the GND of the two access control devices are connected.
- c) Enter the data copy password \*1514885702# on the main access control device. In the two access control devices, the blue and green indicator lights will flash at the same time, and wait until the sound drops to complete the data copying process.

**Note:** The main access control device is the data access control device, and the auxiliary access control device is an access control device that needs to write data.

### 2. Copy data through DEMO software:

- a) Pull the 5th and 6th positions of the DIP switches of the two access control devices to the ON position.
- b) The RXD of the access control device is connected with the TXD of the serial port tool, and the TXD of the access control device is connected with the RXD of the serial port tool. The GND of the access control device and serial port tool are connected.
- c) You can export the user data of the access control device to a local computer through DEMO software.
- d) You can Import the user data exported from the access control device into other access control devices through DEMO software. Or fill in the user data according to the template, and then import the user data through the DEMO software.

**Note:** Please contact the technical professional to get DEMO software.

## 7 FAQ

| Issue                                                 | Solution                                                                                                                                                                               |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>After swiping the card, the door is not opened</b> | <ol style="list-style-type: none"> <li>1. Check if the card is registered.</li> <li>2. Make sure the access control mode is correct.</li> </ol>                                        |
| <b>The Card is not read</b>                           | <ol style="list-style-type: none"> <li>1. Check if the card type is correct or the card is damaged.</li> <li>2. Check if the external card reader is too close to the host.</li> </ol> |

#### FCC warning:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: 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:

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

The device has been evaluated to meet general. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device complies with part 15 of the FCC Rules. Operation is subject to the

- (1) This device may not cause harmful interference,
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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