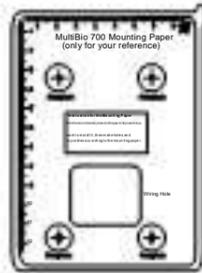# MultiBio 700 Installation Guide
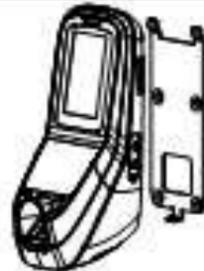
Version: V1.1   Date: Nov. 2011

1. Equiment Installation

(1) Post the mounting template on the wall.Drill the holes according to the marks on the template（holes for screw and wiring).

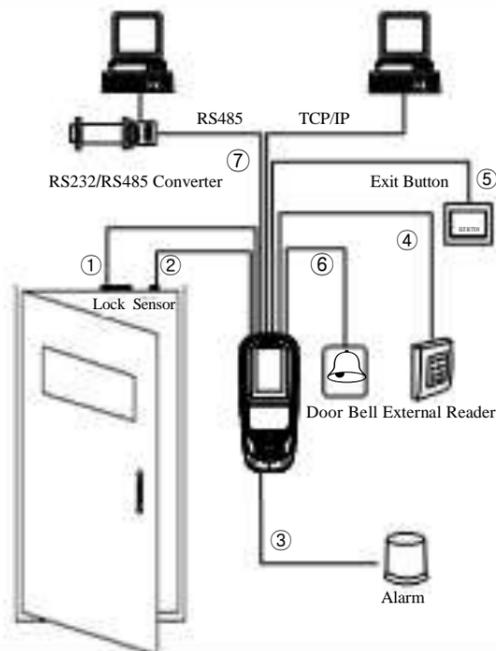(2) Remove the screw on the bottom of device.

(3) Take away the back plate.

(4) Fix the back plate on the wall according to the mounting paper.

(5) Fix the device to the back plate.

2. Structure and Function

RS485   TCP/IP

RS232/RS485 Converter

Exit Button ⑤

① ② ⑥ ④

Lock Sensor

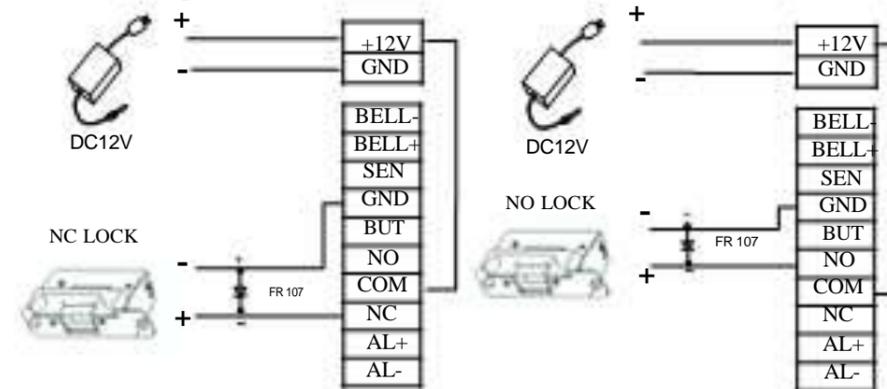Door Bell External Reader

Alarm

Access Control System Function

(1) If a registered user verified, the device will export the signal to unlock the door.

(2) Door sensor will detect the on-off state. If the door is un-expected opened or improperly closed, the alarm signal (digital value) will be triggered.

(3) As the d evice is removed illegally , it will output an alarm signal.

(4) External card reader is supported.

(5) External exit button is supported, it is convenient to open the door inside.

(6) External door bell is supported.

(7) Supports RS485 , TCP/IP modes to connect with PC. One PC can manage multiple devices.

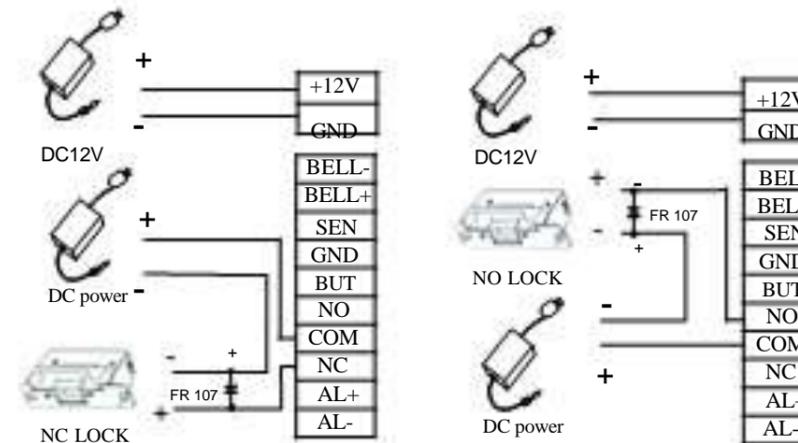## 3.Lock Connection

(1) Shares power with the lock:

DC12V

NC LOCK

DC12V

NO LOCK

+12V / GND / BELL- / BELL+ / SEN / GND / BUT / NO / COM / NC / AL+ / AL-

Device shares power with the lock:

$U_{LOCK} = 12V$, $I\text{-}I_{LOCK} > 1A$…… ①

And the lock is near to the device.

(2) Does not share power with the lock:

DC12V

DC power

NC LOCK

DC12V

NO LOCK

DC power

+12V / GND / BELL- / BELL+ / SEN / GND / BUT / NO / COM / NC / AL+ / AL-

Device does not shares power with the lock:

A. $U_{LOCK} = 12V$ $I\text{-}I_{LOCK} \leq 1A$;

B. $U_{LOCK} \neq 12V$;

C. The lock is far apart from the device.

(1) The system supporst NO LOCK and NC LOCK. For example the NO LOCK (normally open at power on) is connected with 'NO' terminal, and the NC LOCK is connected with 'NC' terminal.

(2) When the Electrical Lock is connected to the Access Cont rol System, you need to parallel one FR107 diode (equipped in the package) to prevent the self-inductance EMF affecting the system, **do not reverse the polarities**.
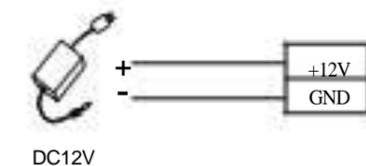
4. Connected with other parts:

Door Bell

Exit Button

Alarm Power

Alarm

BELL- / BELL+ / SEN / GND / BUT / NO / COM / NC / AL+ / AL-

Door Sensor
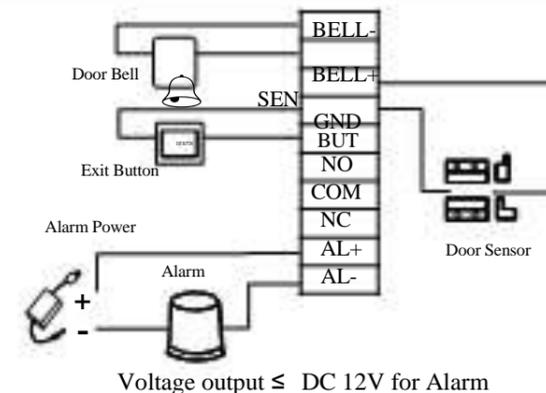
Voltage output ≤ DC 12V for Alarm

5. Connected with Power:

Input DC 12V, 500mA (50mA standby)

Positive is connected with '+12V', negative is connected with 'GND' (**do not reverse the polarities**).
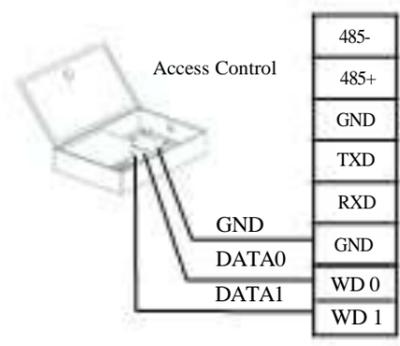

+12V / GND

DC12V

①:'I': device output current, ' U_{LOCK} I_{LOCK}': lock voltage,' ': lock current

6. Wiegand Output

The device supports standard Wiegand 26 output, as a reader device it has a very good compatibility.

Access Control

| 485- |
| 485+ |
| GND |
| TXD |
| RXD |
| GND |
| WD 0 |
| WD 1 |

GND
DATA0
DATA1

(1) Please keep the distance between the device and Access Control or Card Reader less than 90 meters(Please use Wiegand signal extender in long distance or interference environment).

(2) To keep the stability of Wiegand signal, connect the device and the Access Control or Card Reader in same 'GND' in any case.

7. Wiegand Input

The device has the function of Wiegand signal input . It s upports to connect with an independent card reader. They are installed each side of the door, to control the lock and access together.

| 12Vout | +12V |
GND	GND
IWD1	DATA1
IWD0	DATA0
RLED	RLED
GLED	GLED
BEEP	BEEP
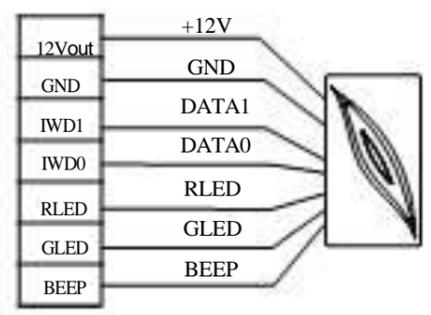
8.Other Functions

(1) Manual Reset:

If the device does not work properly because of misoperation or other abnormality, you can use 'Reset' function to restart it.
Operation: Remove the black rubber cap, then stick the Reset button hole with a sharp tool (the tip diameter less than 2mm).

(2) Recovery Factory Settings:

You can use the tamper switch to recovery factory setting, such as device number, system password, IP address, RS485 address, etc. More information please refers to the user manual.
Operation: Press the tamper switch three times after the alarm being triggered 30 seconds but no more than 60 seconds.

Note: The user data won't be cleared.

Side View   Back View

Reset Button   Tamper Switch
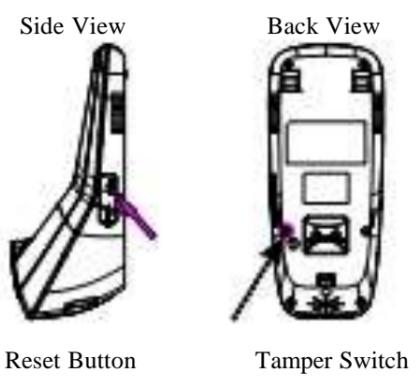
9. Communication

There are three modes that the PC software communicate and exchange information with the device: RS232, RS485 and TCP/IP, and the last two mode support remote control.
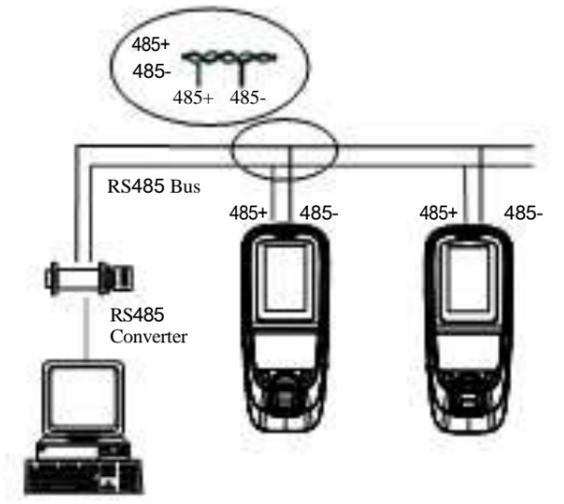
(1) RS232 Mode:

Terminals:

Terminals	PC Serial Ports
GND	Pin5-Gnd
RXD	Pin3-Txd
TXD	Pin2-Rxd

(2) RS485 Mode:

Please use specified RS485 wire, RS485 active converter and bus-type wiring.
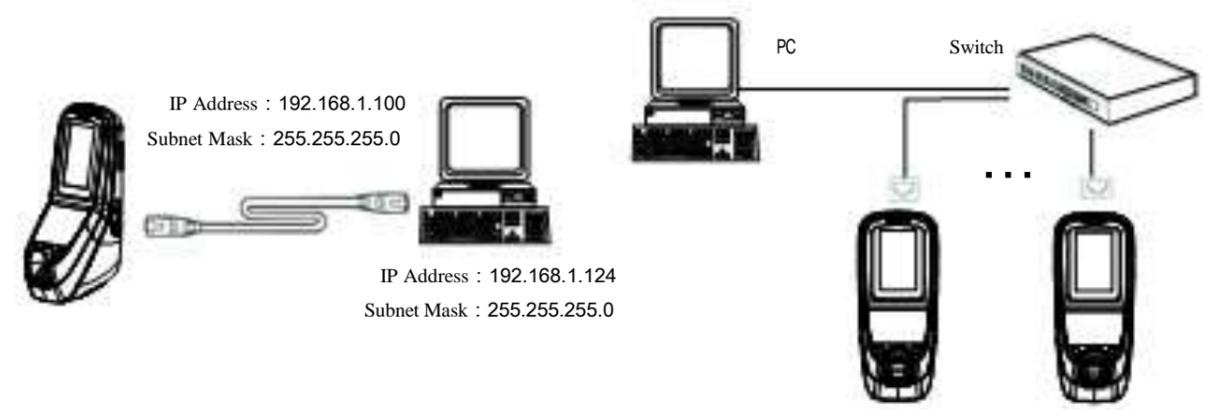
Terminals:

Terminals	PC Serial Ports
485+	RS485+
485-	RS485-

485+
485-
485+   485-

RS485 Bus

485+   485-   485+   485-

RS485 Converter

(3) TCP/IP Mode:

(A) Crossover cable: The device and PC connected directly.

(B) Straight cable: The device and PC connected to LAN/WAN through switch/Lanswitch.

IP Address : 192.168.1.100
Subnet Mask : 255.255.255.0

IP Address : 192.168.1.124
Subnet Mask : 255.255.255.0

PC   Switch

10. Cautions:

(1) **Power cable is connected after all the other wiring.** If the device is working abnormally, please shut down the power first, then make the necessary check . Kindly reminds you that any hot-line work may damage the device, and it is not included in the warranty.

(2) We recommend the 3A/12V DC Power supply. Please contact our technical staff for details.

(3) **Please read the terminals description carefully and wiring by rule strictly**. Any damage caused by improper operations will not under warranty.

(4) **Keep the exposed part of wire less than 5mm**, to avoid unexpected connection.

(5) **Please connect the 'GND'** before all the other wiring especially under the environment, to prevent the overlarge instantaneous electrostatic to damage device.

(6) Do not change the cable type because of long distance between the power and the device.

(7) Please use specified RS485 wire, RS485 active converter and bus-type wiring.

2. Main Menu

There are two types of rights respectively granted to two types of users: the **Ordinary users** and **administrators**. Ordinary users are only granted the rights of face, fingerprint, password or card verification, while administrators are granted access to the main menu for various operations apart from having all the privileges granted to ordinary users.

Press [**Menu**] on the initial interface to access the main menu, as shown in the following figure:

The main menu includes nine sub menus:

Add User: Through this submenu, you can add a new user and input the information on the device, including the user ID★, name, fingerprint★, face, card★, password, rights, group No. ★ and user access★.

User Mgt.: Through this submenu, you can browse the user information stored on the device, including the user ID, name, fingerprint★, face, card★, password, rights, group No★. and user access★. Here you can also add,

modify or delete a user's information.

Comm.: Through this submenu, you can set related parameters for communication between the device and PC, including the IP address, gateway, subnet mask, baud rate★, device No. and communication password.

System: Through this submenu, you can set system-related parameters, including the basic parameters, interface parameters, fingerprint★, face and attendance parameters, Keyboard definitions, Access settings★, firmware update etc. to enable the device to meet the user's requirements to the greatest extent in terms of functionality and display.

Data Mgt.: Through this submenu, you can perform management of data stored on the device, for example, deleting the attendance records, all data, clear administrator, restore to factory settings and query records.

Date/Time: Through this submenu, you can set the alarm time and duration, or set the Bell.

Auto Test: This submenu enables the system to automatically test whether functions of various modules are normal, including the screen, sensor, voice, face, keyboard, clock tests and screen calibration.

Dn/Upload: Through this submenu, you can download user information and attendance data stored in the device through a USB disk to related software or other fingerprint recognition equipment.

Sys Info.: Through this submenu, you can browse the records and device

information.

> **i**
>
> Any user can access the main menu by pressing the [**Menu**] key if the system does not have an administrator. After administrators are configured on the device, the device needs to verify the administrators' identity before granting them access to the main menu. To ensure device security, it is recommended to set an administrator when using the terminal initially. For detailed operations, see **3.8 Modifying User Right.**

3. Add User

Press [Add] on the [User Mgt.] interface to display the [Add User] interface as shown below.

User ID: Enter a user ID. 1 to 9 digits user IDs are supported by default.

Name: Enter a user name. 12 characters user names are supported by default.

Fingerprint★: Enroll a user's fingerprint and the device displays the number of enrolled fingerprints. A user can enroll 10 fingerprints at maximum.

Password: Enroll a user's password. The device supports 1-8 digit passwords by default.

Face: Enroll a user's face.

Group No.★: Setting in the group of user.

Role: Set the rights of a user. A user is set to **ordinary user** by default and can also be set to **administrator**. Ordinary users are only granted the rights of face, fingerprint or password verification, while administrators are granted access to the main menu for various operations apart from having all the privileges granted to ordinary users.

Photo★: Enroll a user's photo. During user verification is success; the user's photo is displayed on screen.

User Access★: Set the lock control and access control parameters.

3.1 Entering a User ID

The device automatically allocates an ID starting from 1 for every user in sequence. If you use the ID allocated by the device, you may skip this section.
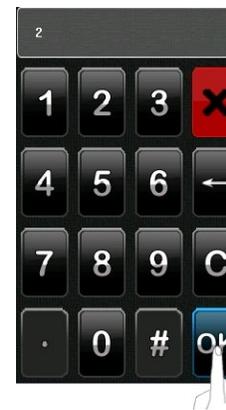
1. Press [User ID] on the [Add User] interface to display the user ID management interface.

✍ **Tip: The user ID can be modified during initial enrollment, but once enrolled, it cannot be modified.**

2. On the displayed keyboard interface, enter a user ID and press [OK]. If the message "The user ID already exists!" is displayed, enter another ID.

✍ **Tip: The device supports 1 to 9 digits user IDs by default. If you need to extend the length of current user ID numbers, please consult our commercial representatives or technical pre-sales.**

3. After the user ID is entered, press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.

3.2 Entering a Name

Use T9 input method to enter the user name through the keyboard.

1. Press [Name] on the [Add User] interface to display the name input interface.

2. On the displayed keyboard interface, enter a user name and press [X].

For details of operations on the keyboard interface, see 12.1 T9 Input Instructions.

3. After the user name is entered, press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.

✎ **Tip:** The device supports the 1 to 12 characters names by default.

3.3 Enrolling a Fingerprint★

1. Press [Fingerprint] on the [Add User] interface to display the [Enroll Fingerprint] interface.

2. On the displayed [Enroll Fingerprint] interface, place your finger on the fingerprint sensor properly according to the system prompt. For details, see 1.3 Finger Placement.

3. Place the same finger on the fingerprint sensor for three consecutive times correctly. If the enrollment succeeds, the system will display a prompt message and automatically return to the [Add User] interface. If the enrollment fails, the system will display a prompt message and return to the [Enroll Fingerprint] interface. In this case, you need to repeat the operations of step 2.

4. You can enroll the backup fingerprint by pressing [Fingerprint] again. A user can enroll 10 fingerprints at maximum.

5. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.

3.4 Enrolling a Password

1. Press [**Password**] on the [**Add User**] interface to display the password management interface.

2. On the displayed keyboard interface, enter a password and press [**OK**]. Re-enter the password according to the system prompt and then press [**OK**].

✍ **Tip: The device supports 1-8 digit passwords by default.**

3. After the password is entered, an interface is displayed as shown below. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.

3.5 Enrolling an ID card★

1. Press [Card] on the [Add User] interface to display the [Enroll Card] interface.

2. The [Punch Card!] interface pops up as shown below. Swipe your ID card properly in the swiping area. For details, see <u>1.6 Appearance of Device</u>.

3. If the card passes the verification, the device will display a prompt message "Read Successfully! Card No.: **********", and returns to the [Add User] interface.

4. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.
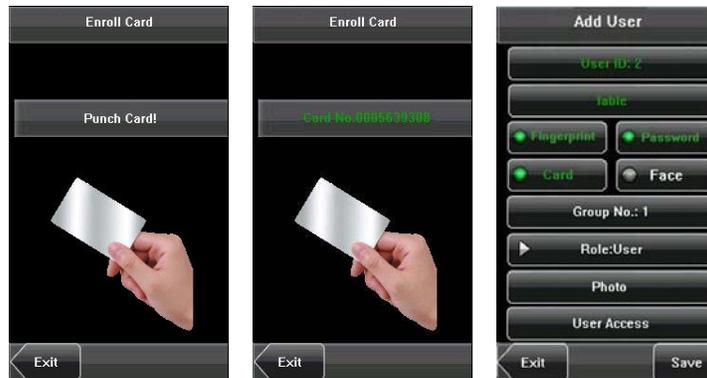
☺**Note**: 3 inches Facial & Fingerprint Recognition support Mifare card function. It is an option function, if you want to customize the Mifare card function, please consult our commercial representatives or pre-sales technical support engineers.

3.6 Enrolling a Face

1. Press [Face] on the [Add User] interface to display the face enrollment interface.

2. On the displayed face enrollment interface, turn your head to the left and right slightly, raise and lower your head according to the voice prompts, so as to enroll different parts of your face into the system to assure the accurate verification. See 1.2 Enrollment Face Expressions.

3. If your face image is enrolled successfully, the system will display a prompt message and automatically return to the [Add User] interface.

4. Press [Save] to save the current information and return to the previous interface. Press [Exit] to return to the previous interface without saving the current information.

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