B2000

Installation Guide

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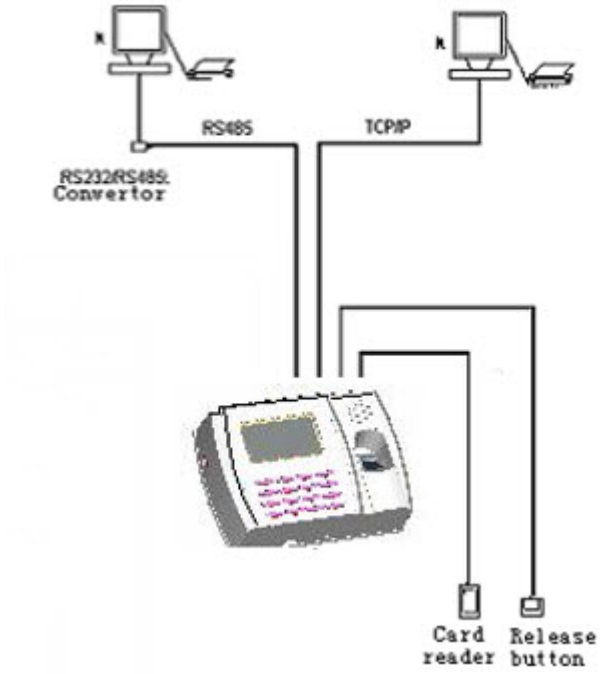
Installation Notice

This device was manufactured following China, USA and EU manufacture and inspection specifications. Read this document carefully to ensure proper use and installation of the device. Incorrect installation may damage the unit.

1. **Prior to installation, make sure you have turned off the power supply.** Accidental contact of the power cable during installation can damage the device.
2. **Connect the power cable after all other wiring is completed.** If the device is not working properly after installation, turn off the power first, then make changes. Any damage done to the device by installing it while powered on is not covered under the warranty.
3. Make sure you do not install or operate the device where there is very strong light. Intense light will adversely impact the fingerprint sensor's ability to accurately read fingerprints. The device is designed for indoor use. If it must be installed outdoors, protect it with an all-weather protective covering.
4. The device's operating temperate range is 0° to 40° C (32° to 105° F). Do not operate the device in very hot environments. Keep the device away from direct heat sources and provide adequate ventilation to prevent the device from overheating.
5. The height at which you should mount the device is between 4 and 5 feet.
6. After installing, please run the auto-test function on the device to confirm the installation is completed.
7. This device has an auto-sleep and wake up function set by default. After installation, please review the default settings and make any changes as needed.
8. **We recommend using the supplied 12V DC 1.5 amp power source for the device.** Using a power source other than that supplied may cause damage to the device. Any damage caused by using a different power source is not covered under warranty.
9. Improper wiring may cause the B2000's main circuit board and fingerprint sensor to burn out. Resulting damage from improper wiring is not covered under manufacturer's warranty.
10. Only use the supplied transformer and cord. Do not attempt extending the cord by cutting or splicing.
11. **Before connecting the device please review the information in the user manual.**

Chapter 1: Device Overview

1.1 System Configuration



This device supports RS232 and TCP/IP connections to the PC.

1.2 Device Interface

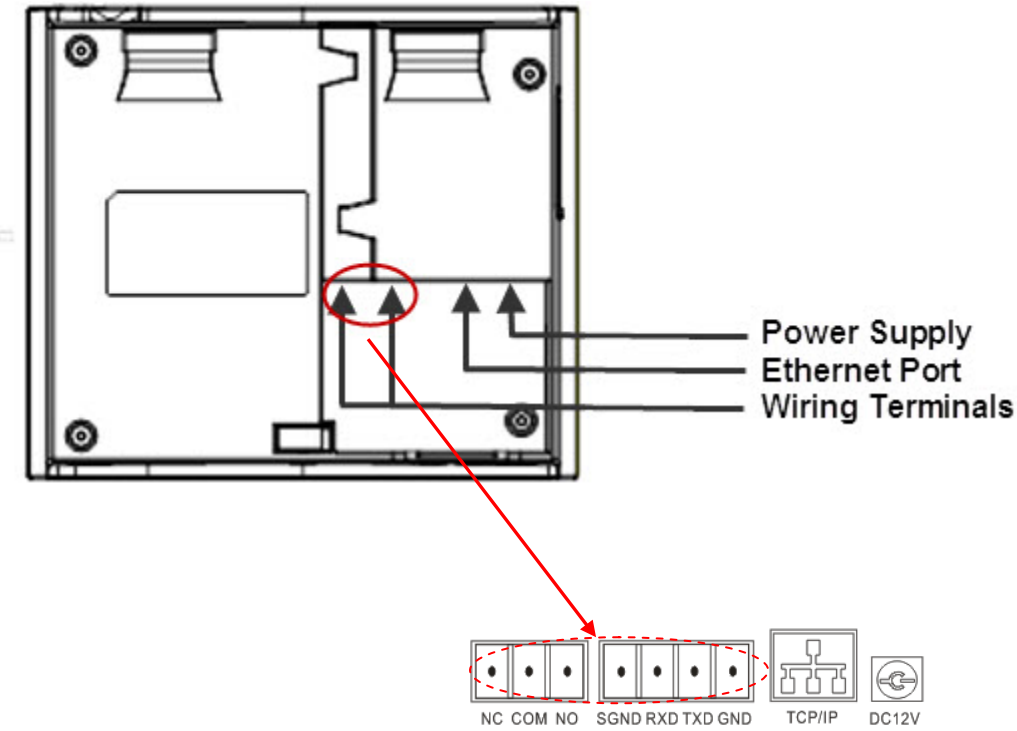
Front View:

- **Led Indicator:**

Status Indicator	
Blinking Green	Normal State
Solid Green (three seconds)	Verification Successful
Solid Red (three seconds)	Verification Failed

- **Speaker:** Plays the beep sound and voice prompts.
- **Screen**: Displays all visual information, including time and menu screens for operation prompts.
- **Fingerprint Scanner:** Used to enroll or verify user identities.
- **Keyboard:** Used to input information to the device or execute the menu operation.
- **Power Button:** The 0 key acts as the power and restart button. To power on the device, press the 0 key. To turn off the device, press and hold down the 0 button for three seconds.

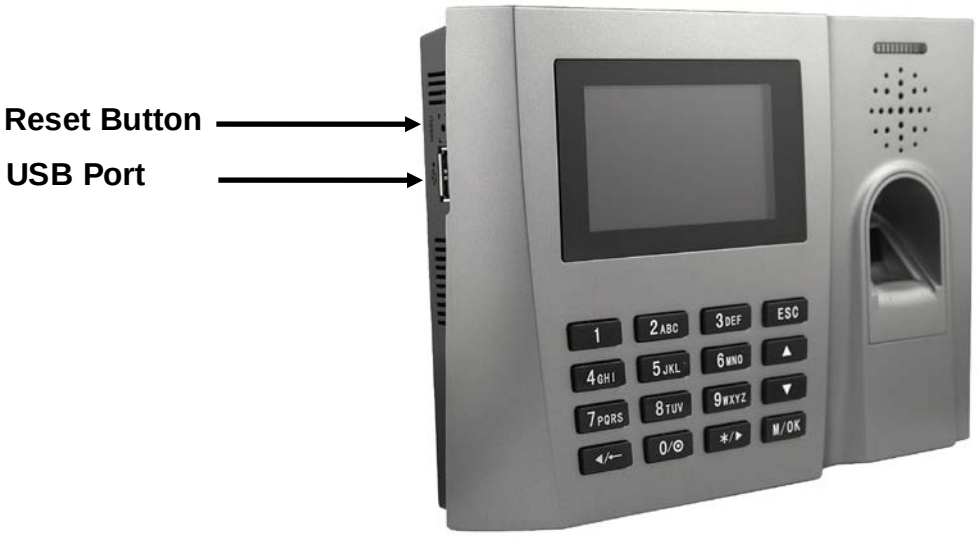
Back View:



- **Power Supply:** Use to connect to the power supply.
- **Ethernet Port:** Connect the device to the Internet or connect directly to the PC.
- **Wiring Terminals:** Use to connect with RS232 communication (or connect with the printer).

Note: You cannot use RS232 communication and connect to a printer at the same time.

Side View:



- **USB Port** – You can use the U disk to download or upload user information and verification records.

- **Reset Function** – If the device is not working properly, you can use the Reset function to restart it. To reset, open the black rubber cap, then use a sharp tool (less with 2mm tip) into the Reset button hole.

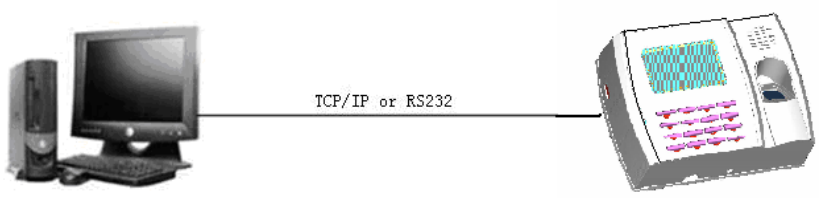
Chapter 2 – Device Installation and Wiring

2.1 Wall Mounting

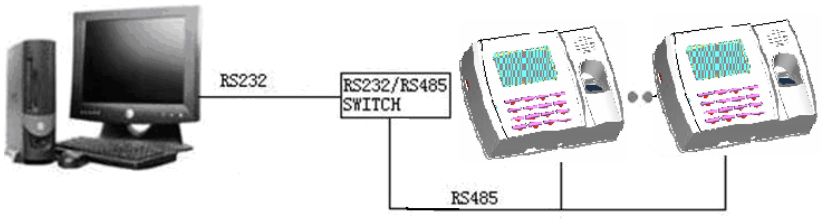
1. Separate the mounting plate from the B2000 by removing the screw at the bottom edge of the clock. A special screwdriver is supplied.
2. Determine the position of the mounting plate on the wall. The B2000 should be mounted on the external wall of the door approximately 4 to 5 feet from the ground. After the desired position is determined, cut out an opening (approximately 1 ½ inch x 1 ½ inch) for cables (see shadowed area on illustration below).
3. Line up the opening of the mounting plate with the newly cut-out opening on the wall, then screw the plate to the wall.
4. After installation, make sure the mounting plate is tightly secured to the wall.

2.2 Communication Connection

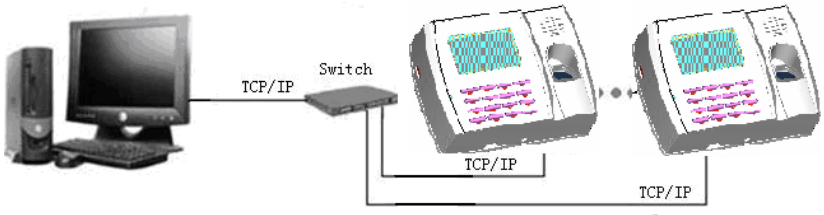
The B2000 can directly connect with a PC through RS232 or Ethernet:



The B2000 can connect with a PC through RS485 network:



The B2000 can connect with a PC through Ethernet network:



2.4 Power Connection

This device is powered by 12VDC. A 12V power supply adapter is provided with the device. Plug the 12V power supply into the power port at the back of the device (see section 1.2).

2.5 Test After Installation

After installation is complete, perform a test of functionality.

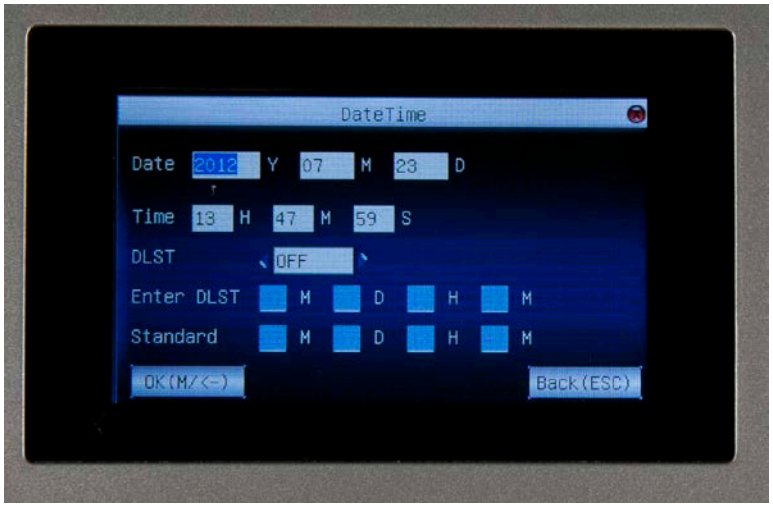
1. Power on the device using the power button (see section 1.2). The green LED should begin to glow.
2. Press the **M** key to enter the device **Main** menu.
3. Use the arrow keys to highlight **Auto Test**, then press the **M** key.
4. Highlight **All Test**, then press the **M** key.
5. After the test is complete, press **ESC** to return to the **Main** Menu. Highlight **User Mng** and press the **M** key.
6. Enroll a new user and card (see the B2000 User Manual for details). Test the device by swiping the card.
7. If the card is not read correctly, delete the enrolled user and card and check the installation procedures. Refer to **Appendix I – Troubleshooting** for assistance.

Chapter 3 - Date/Time

This screen allows you to manually set the date and time.

1. On the Main menu, highlight the **Date/Time** icon and press the **M** key.

The **DateTime** screen appears:



2. Use the up and down arrow keys to put your cursor in the desired field.

3. Use the right and left arrow keys to set the date (year, month and date) and/or time (hour, minute and second).

4. Use the right and left arrow keys to select the **Time Format**. Options are 12 hour or 24 hour.

5. Use the right and left arrow keys to turn DLST (Day Light Savings Time) on or off. If DLST is turned on, you have several additional options to select:

a. **Date Mode** – Use the left and right arrow keys to select how you want the date to display. Options are MM-DD hh:mm or MM-WS-WK hh:mm.
b. Enter **Start** and **End** times. The allowed range for number of weeks (WS) is 1-6. The allowed range for day of the wk (WK) is 0-6. 0 = Sunday, 1=Monday, etc.

6. After you have made changes, press the **M** key. A message will appear stating "*Changes Saved Successfully!*".

7. Press the **M** key to return to the **Main** Menu.

Appendix I – Troubleshooting

Trouble	Cause & Measure
Power LED is off	**Cause**: No power or lack of voltage. **Solution** : Check and examine the connection of power supply. Measure the supply voltage, ensure that it is 12VDC.
Device is unable to connect with PC	**Cause**: Disruption in the connection. **Solution**: Make sure the RS232 or TCP/IP cable are securely connected to the clock.
When the device is powered on, it cannot enter the main menu	**Cause**: Chip-on-board is broken. **Solution**: Need to contact supplier and ask for repair.
The time display as “00:00” after restarting	**Cause**: The clock battery is broken. **Solution**: Contact the reseller to replace a battery.
Keystroke without sound	**Cause**: ①Trouble in the buzzer, loud- speaker or circuit. ②Set the parameter button beep to “N” in the device **Solution**: ①Need to replace the buzzer and loudspeaker. ②Enter the Menu - Options-System Opt - Adv Option - Button Beep, turn the parameter to “Y”

Appendix II – WiFi Function

This device has included WiFi functionality. WiFi modules can be built-in to the device.

WiFi is a type of WLAN (wireless local area network) that uses the 802.11b specification. The biggest advantage of WiFi is the high speed of wireless transmission, which is up to 11 Mbps. WiFi is compatible with most 802.11 DSSS devices. IEEE 802.11b wireless networking specification is a variant of IEEEE 802.11. The maximum bandwidth is 11 Mbps. If the signal is weak or there is interference, the bandwidth can adjust to 5.5Mbps, 2Mbps or 1Mbps. The automatic bandwidth adjustment can protect network stability and reliability effectively.

The main features are: high speed, high reliability, communication distance up to 305 meters in open areas, and communication distance of 76 to 122 meters in closed areas. WiFi is convenient, and network costs are lower than in existing wired Ethernet.

Appendix III – Environmental-Friendly Use Description

The Environment Friendly Use Period (EFUP) marked on this product refers to the safety period of time in which the product is used under the conditions specified in the product instructions without leakage of noxious and harmful substances.
The EFUP of this product does not cover the consumable parts that need to be replaced on a regular basis such as batteries and so on. The EFUP of batteries is 5 years.

Names and Concentration of Toxic and Hazardous Substances or Elements

Parts Name	Toxic and Hazardous Substances or Elements					
	Pb	Hg	Cd	Cr6+	PBB	PBDE
Chip resistor	×	○	○	○	○	○
Chip capacitor	×	○	○	○	○	○
Chip inductor	×	○	○	○	○	○
Chip diode	×	○	○	○	○	○
ESD components	×	○	○	○	○	○
Buzzer	×	○	○	○	○	○
Adapter	×	○	○	○	○	○
Screws	○	○	○	×	○	○

○: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.

×: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials for this part is above the limit requirement in SJ/T11363-2006.

Note: 80% of the parts in this product are manufactured with non-hazardous environment-friendly materials. The hazardous substances or elements contained cannot be replaced with environment-friendly materials at present due to technical or economical constraints.