

User Manual

Thank you for selecting Keyking products. Please read this manual thoroughly before using.



BPU8018 Bank Access control



KEYKING GROUP LIMITED

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Chapter 1 KEYKING bank Access control system

1.1 System introduction

The KEYKING bank access control system consists of BPU801P controller, MR600 reader, electric lock, Sphinx software and cable accessories.



Figure 1-1 BPU8018P&MR600

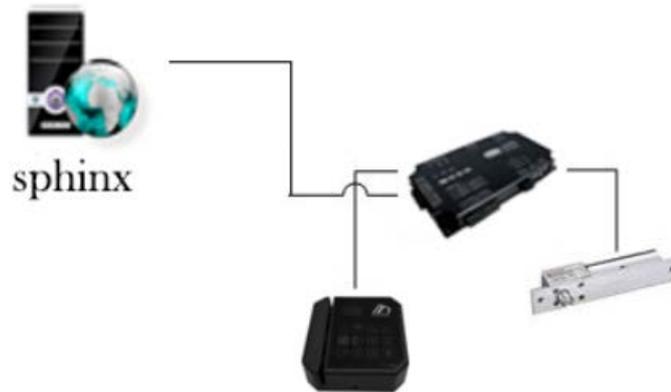
1.2 Application method



Figure 1-2 24-hour self-service bank

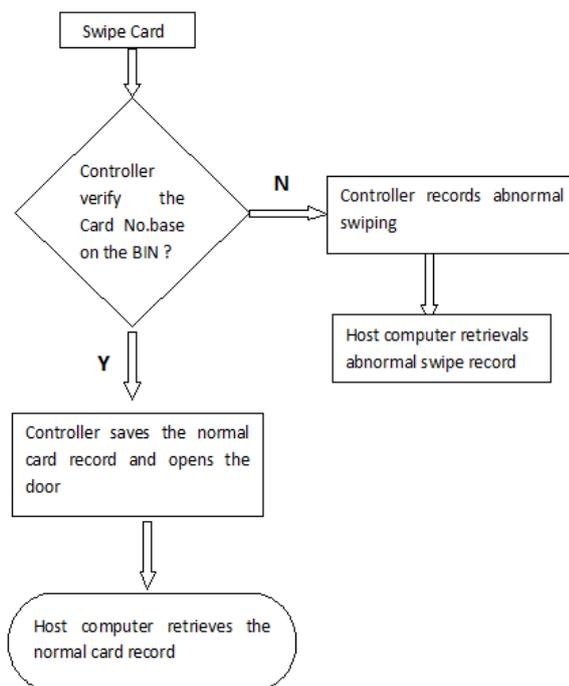
The magnetic card reader is installed in the self-service hall. All the people must swipe the card before entering. The access information can be recorded for inquiry. The time zone control mode can be set, for example, the door can be automatically sensed during the day, and the card verification function is enabled on night or when the guard is on duty.

In this working mode, please check the Bank Identification Number (BIN) under the software parameter setting, the bank card with the same identification Number can be opened directly by the card and can work offline. Information such as swiping the door when working offline is automatically stored in the controller.



Figur1-2 structure

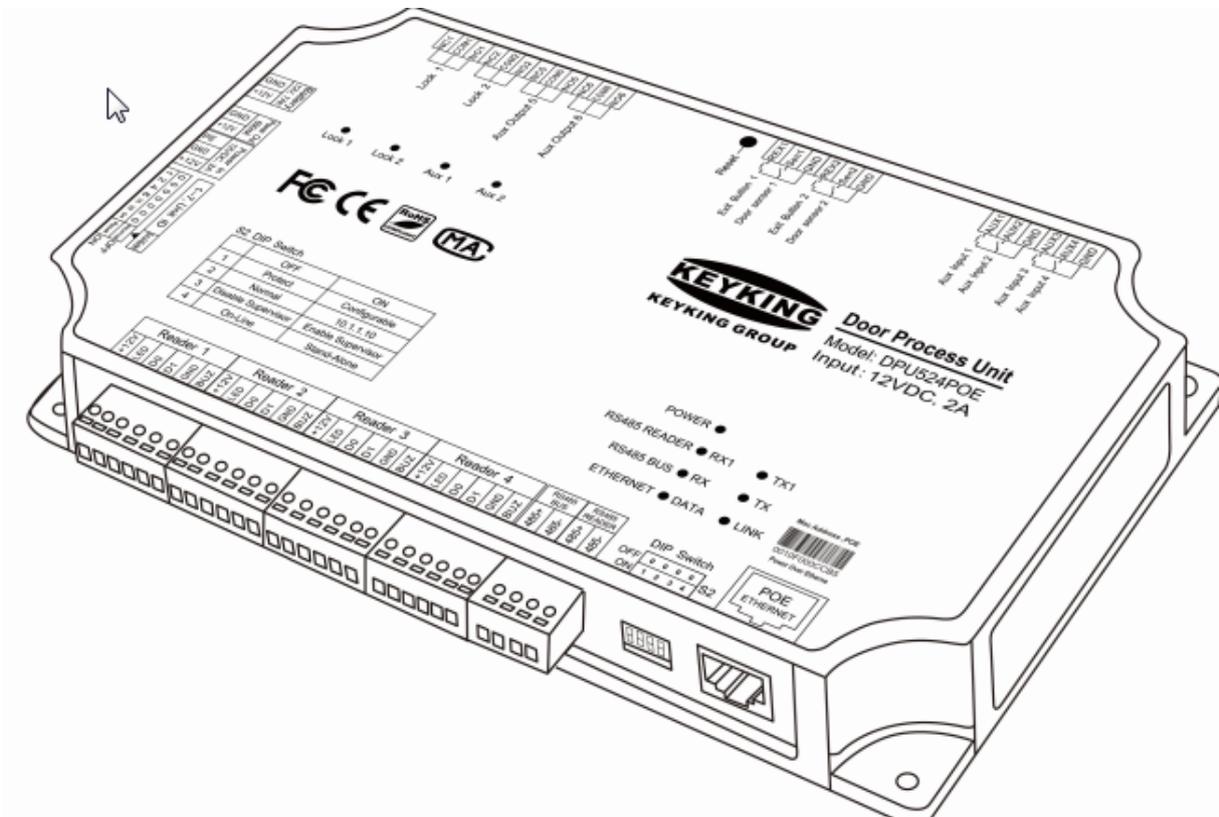
Work flow:



Chapter 2 Structure and function

2.1 BPU8018P Bank Access controller

BPU8018P bank access controller is specially designed for self-service banking, supporting LAN access. The BPU8018P enables remote communication and networking functions with auxiliary input and output for various linkage functions. BPU8018P can control one-way or two-way access of one door. Each controller can work independently and is not affected by the of the control computer. When connected with the computer, the data is automatically uploaded to the computer through the Sphinx software. All transaction records and data are stored. Bank magnetic stripe cards (such as savings cards, credit cards, passbooks) can be used as the transmission medium. All bank cards that have been logged in by the system can enter and exit freely. Depending on the input device, the contactless IC card can also be used as an entry medium to record the cardholder's incoming and outgoing information in real time, which can effectively prevent unrelated personnel from entering the unattended self-service bank point.



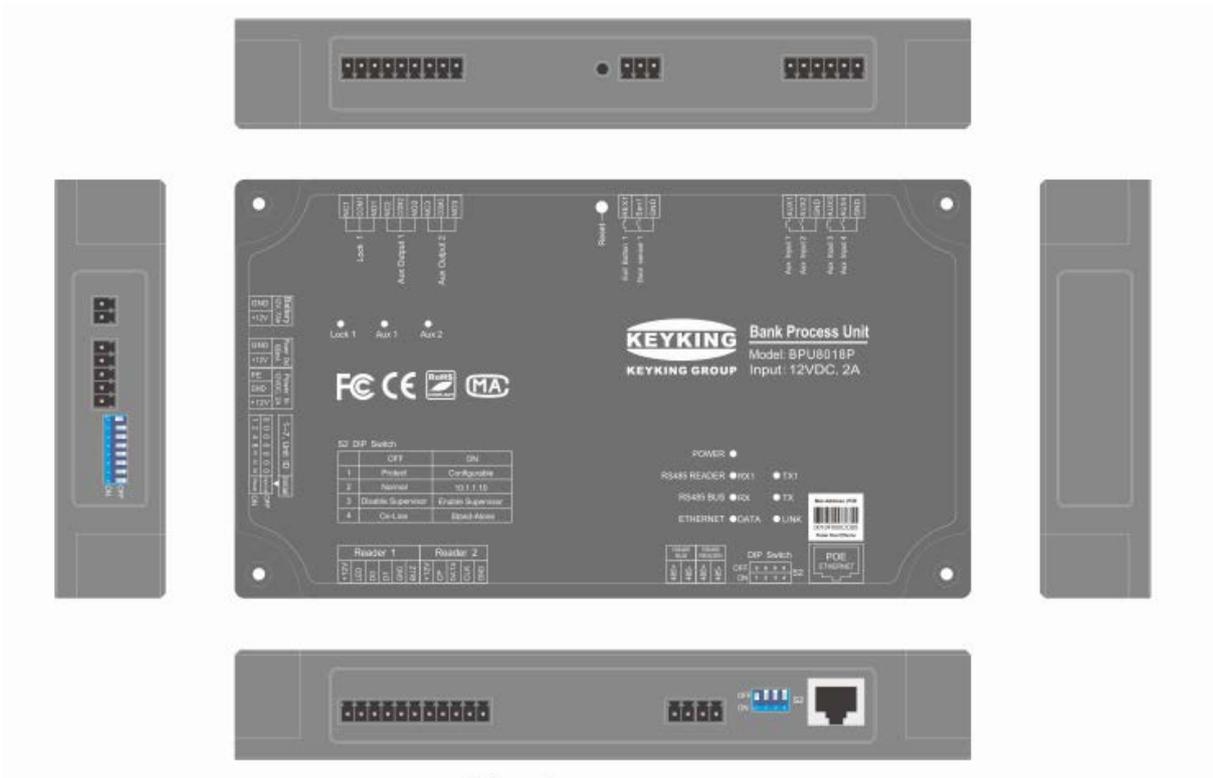


Figure 2-1 BPU801P Access controller

BPU8018P bank access controller has a powerful internal point interlock function. It can arbitrarily set the interlocking of each point in each control board, restricting each other and improving safety. It is especially suitable for places with high security requirements such as banks and institutions. The BPU8018P can also use any event information to generate various control actions. For example, when the door point is abnormally opened, the controller can be set to automatically lock another related door point and generate an alarm signal. BPU8018P self-service bank access controller has auxiliary input and output points, which can connect analog or digital and switch status signals such as smoke and wetness, and can control lighting, CCTV, fire alarm and other equipment, and can realize various linkage functions. The BPU8018P adopts the most advanced design method and is compact in structure, avoiding waste of resources and increasing the stability of the controller.

2.2 Features



medium:

- Magnetic stripe cards
- Contactless IC card



Ultra-fast speed

- 100, 000 card holder, recognition in 0.1 seconds



RS485 Reader

- Compatible with RS485 reader, convenient wiring and saving resource



POE Power Supply

- Provide power to controller and reader via CAT5\6 cable, also supply power for lock which needs small electric current.



Linkage

- Very flexible, programmable control linkage settings. Can be set between all inputs and outputs



Online\Offline Mode

- Online: connect to PC server, Offline: work as a standalone, disconnect to PC



Confirmed by center

- Practical and high security of door opened by “confirmed by center” function



Door state controllable

- Normal mode: Open the door after authorized
- Timing control mode: NO, NC, Sleep, Time opening



Authorized Bank card

- Support all banks' magnetic stripe cards

2.3 Specification

- CPU: 32 bits ARM@ Cortex-M4 Processor
- PoE: 803.11af
- 1 Door Relay (NC/NO)
- 1 Door Sensor (NO)

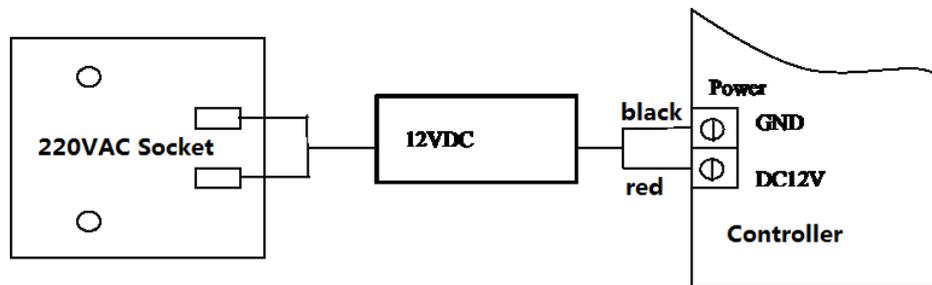
- 1 Exit Button
- Auxiliary Output Relays
- Auxiliary Inputs
- 1 ABA track II magnetic Reader
- 1 Wiegand Reader
- RS-232/RS-485/TCP/IP interface
- Up to 127 controllers per RS-485 bus
- Supports online computer polling
- Communication speed: 19200/9600/4800
- 15 Time Groups for each door
- Card Capacity: 100,000 kinds of bank card or 30,000 full card number card holder
- Transaction Storage: 200,000 events
- Maximum LAN Distance: 1200 meters (4000ft) using RS-485.
- Operating Voltage: 12V DC ($\pm 10\%$)
- PoE or 12V DC 3A Power Supply
- Operating Current: $\leq 200\text{mA}$
- Standby Current: $\leq 150\text{mA}$
- Working Temperature: $-20\text{C} \sim 65\text{C}$
- Metal case dimensions: 403mm x 384mm x 72mm
- Weight: 0.2Kg (without metal case)
- 4.7Kg (with metal case & PSU)

Chapter 3 Wiring

Wiring and installation include power connection, network connection between controllers, wiring between reader and controller, electric lock, exit button.

3.1 Power

3.1.1 220VAC supply



Power:

| No. | Controller socket | Identification | Color | Remark |
|-----|-------------------|----------------|--------|--------|
| 1 | Power In | PE | Yellow | |
| 2 | | GND | Black | |
| 3 | | DC 12V | Red | |

3.1.2 POE Power Supply

The POE provides power and data from a single point, using Power over Ethernet over a single Cat-5 cable. The nine fast Ethernet ports can be used for any 10\100 Mbps link and four of these ports can supply industry-standard IEEE802.3af power. Advances auto-sensing algorithm gives power only to IEEE802.3af end devices, so no need to worry about damaging proprietary POE or non-POE equipment.



Notes:

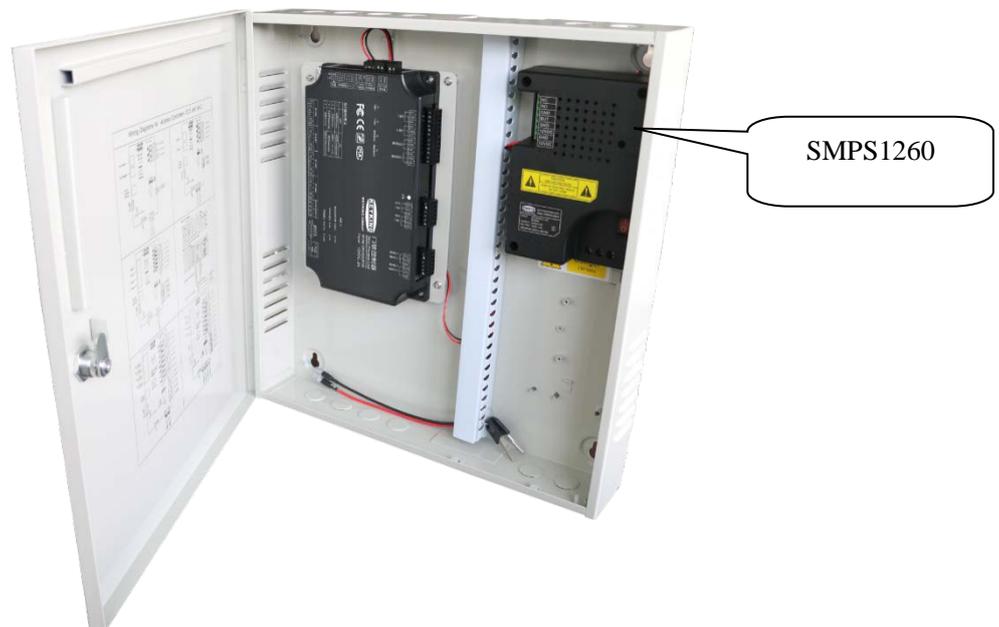
- 220VAC power and POE power supply, two choose one, do not use at the same time.
- When using POE power supply, total current \leq 1000mA, output current \leq 600mA
- Please check the working current carefully to avoid the shortage of power supply when connecting the reader.
- When using a magnetic lock, please do not take electricity from the controller in case the power

supply is insufficient.

- When using POE power supply, you can connect the battery to the controller.

3.1.3 SMPS1260 Power Supply

The SMPS1260 is a heavy duty Switch Mode Power Supply with a 110-123V input. It has 2 outputs, a 12V DC 6 Amp primary output and a secondary 12V DC battery charging output.



3.2 Network connection

The BPU801P controller supports three networking modes: RS232, RS485, and TCP/IP. One controller can be selected in any one of them, but only one method can be selected and cannot be used at the same time.

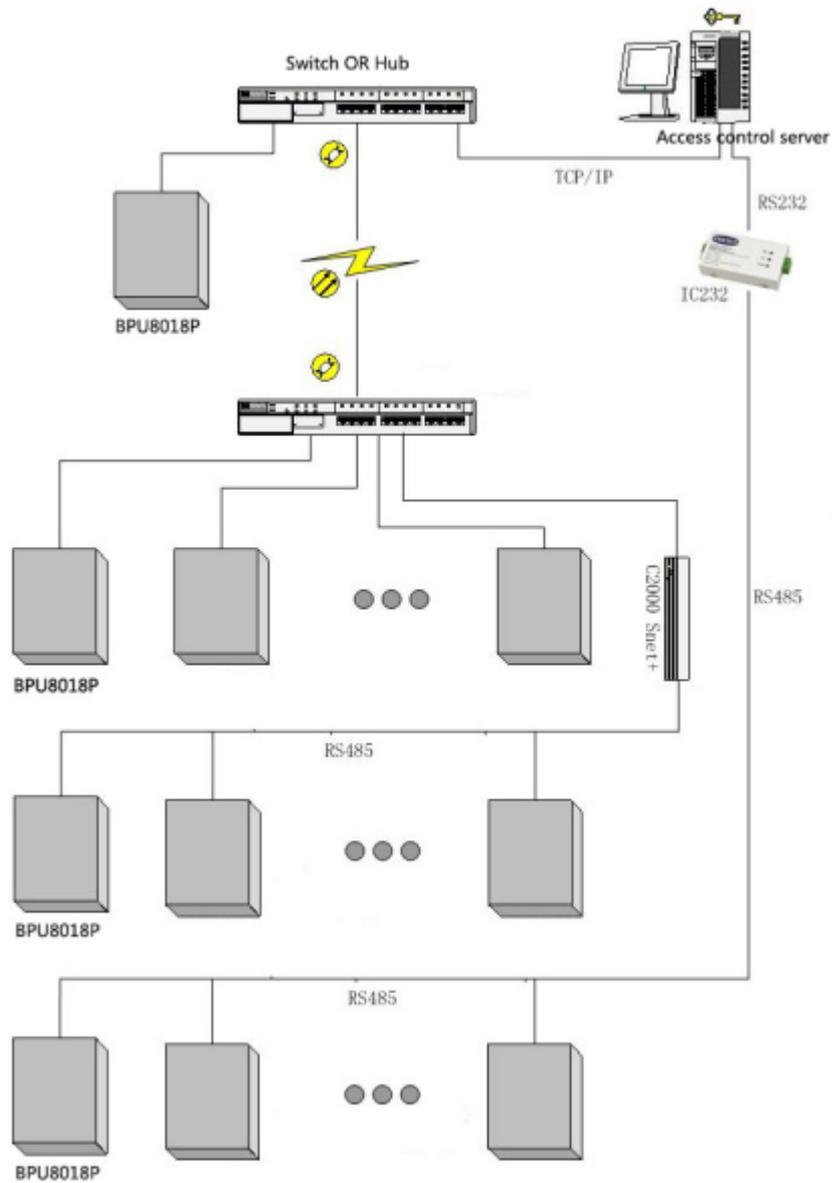


Figure 3-1

3.3 Reader connection

The BPU8018P supports multiple card reader input methods:

- ABA Track II (second track)
- RS485 card reader
- Wiegand card reader

3.3.1 MR600 magnetic card reader (ABA)



Figure 3-2 MR600

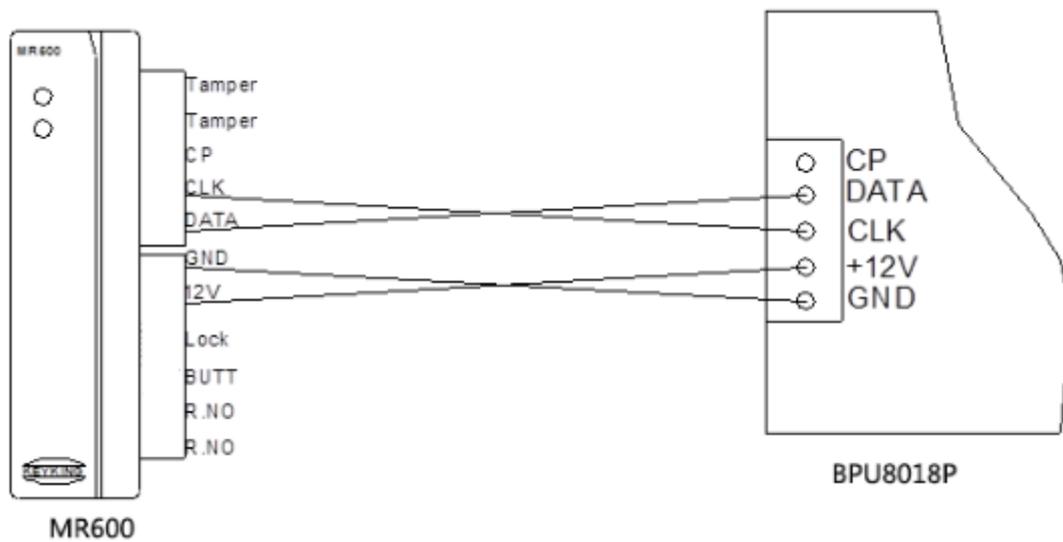


Figure 3-3 ABA wiring

When the distance between the sensor and the controller exceeds 60 meters, please connect data 0 (Data0) and data 1 (Data1) with two pairs of twisted pairs to thicken the cross-sectional area of the transfer line. Reduce the resistance to achieve a farther transmission. It is best to use a $1*1.0\text{mm}^2$ multi-strand copper core wire to connect the ground wire of the reader to the ground wire on the control board for better common ground effect.

The KEYKING ABA format reader PIN are defined as follows:

| No | COLOR | DEFINE |
|----|--------|---------------|
| 1 | Black | GND |
| 2 | | |
| 3 | Blue | Green LED |
| 4 | Yellow | Buzzer |
| 5 | Green | Data0 (Data) |
| 6 | White | Data1 (Clock) |
| 7 | Brown | HOLD (CP) |
| 8 | Red | 5V~15VDC |
| 9 | Orange | |

3.3.2 MR600 Wiegand wiring

Each card reader socket of the controller has a current protector Fuse, the operating current is greater than 135mA, the protector acts and cuts off power fail automatically; when card reader current is less than 135mA, the protector back to normal mode.

The following table list the correct PIN connections for the most common type of Wiegand devices.

| NO. | function | Keyking Reader | |
|-----|----------|----------------|----------------|
| | | Color | Identification |
| 1 | +12V | Red | 7-14VDC |
| 2 | LED | Blue | Green LED |
| 3 | Data 0 | Green | Data0 |
| 4 | Data 1 | White | Data1 |
| 5 | GND | Black | GND |
| 6 | Buz | Yellow | BUZ |

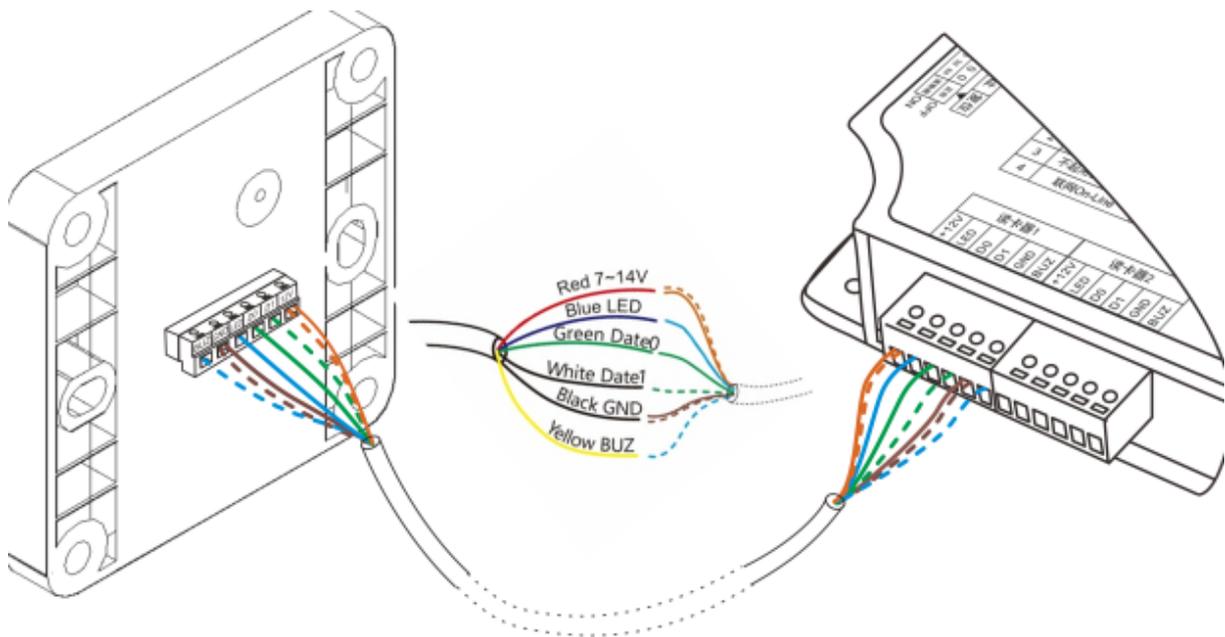


Figure 3-4 Wiegand wiring

- It is recommended to use CAT5E or CAT6 wires between reader and controller, the wire size is not less than 24AWG (0.206mm), normal distance is 60 meters, a maximum range of 100 meters.
- In order to ensure the reliability of data transfer, data 0 (Data0) and data 1 (Data1) must use a pair of twisted pair, such as green, green-white.
- Each reader of controller interface has a current protector Fuse, the reader current is greater than 135mA, the protector action and cut off power automatically; Reader current is less than 135mA, the protector back to normal mode. If you choose a remote reader or card reader current requirements greater than 135mA, please do not get power directly from the card reader interface.
- In order to ensure the reliability of data transmission, please make sure that the card reader and the controller are in good condition (voltage difference is less than 0.5V). If the voltage difference between the two ground lines is too large, please double the ground wire between the two to reduce the resistance, thereby reducing the potential difference.
- If the distance between reader and controller is more than 60 meters, please use special wire CAT6 (six lines) or consult your supplier.
- The power line ends of the card reader do not connect with the ground wire, or it may burn out the card reader.

3.3.3 MR600 RS485 Wiring

The power supply of the RS485 reader can be taken from the power supply side of the controller or directly from the Wiegand card reader port. However, please take care of Port Fuse current limit if the reader power is taken from the Wiegand card reader port, When the card reader is restart, the fuse is automatically protected and powered off, resulting in an illusion of system failure.

| Socket | Function | RS485 Reader | |
|--------|----------|--------------|----------------|
| | | Color | Identification |
| 1 | +12V | Red | +12V |
| 2 | GND | Black | GND |
| 3 | 485+ | Green | 485+ |
| 4 | 485- | White | 485- |

- The address of the RS485 reader should be set by special software. Before installation, please use the corresponding software and 485 communication converter to set the reader address and write the address on the reader label;
- The address of the RS485 reader corresponds to the label of the Wiegand reader;
- RS485 reader and Wiegand card reader can be used at the same time, card number can be read whether from the RS485 reader or Wiegand card reader, and it will be sent to the controller to open the corresponding door if it is a valid card.
- There are two indicators of RX and TX on the controller panel to monitor the data transmission status of the RS485 reader. RX means "receive", TX means "send".

3.4 Lock wiring

The circuit of the electric lock should be wired according to actual needs.

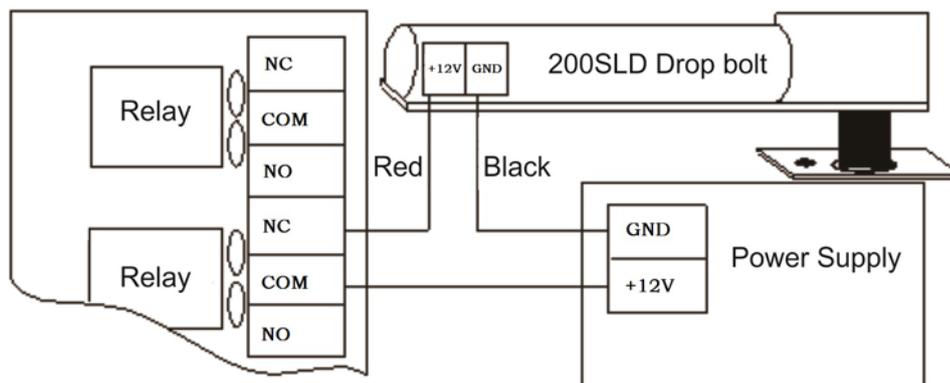


Figure 3-5 Drop bolt (Fail Safe)

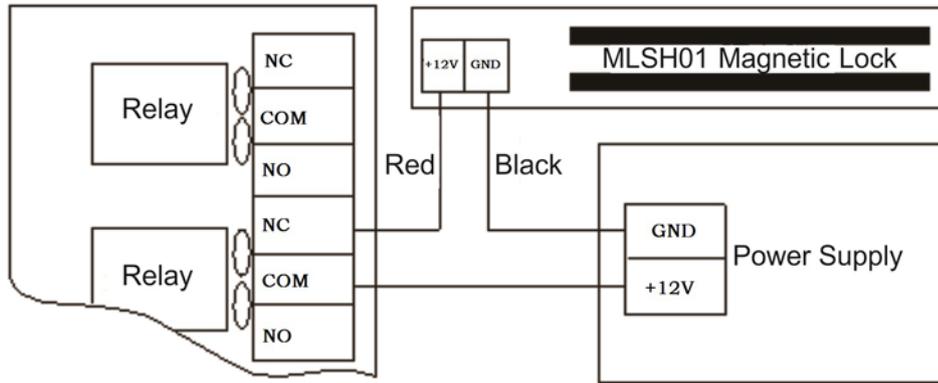


Figure 3-6 Magnetic Lock (Fail Safe)

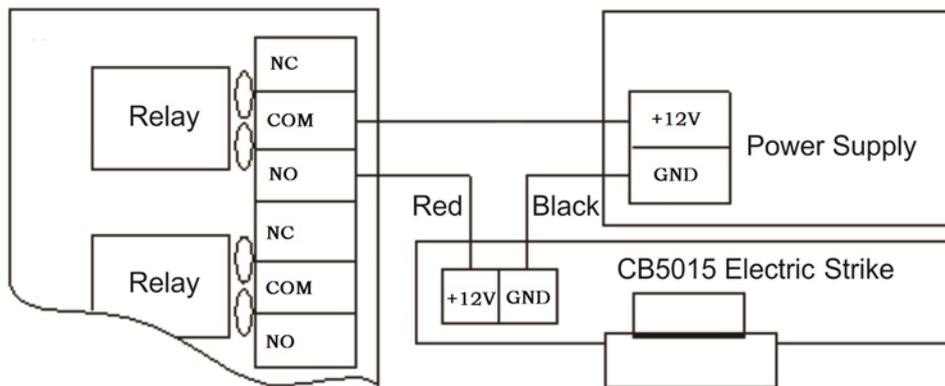


Figure 3-7 Strike (Fail Secure)

3.5 Controller DIP Switch

3.5.1 DIP Switch 1

S1 or Dip Switch 1 is a blue 8 way Dip Switch located at the top of the PCB. This switch is used for two functions, the controller RS485 address and for setting the initialization. When using RS485 each controller must have its own ID selected by DIP Switches S1-S7. The 1st 7 switches of Dip Switch 1 are used for setting the RS-485 ID address using Binary. When the switch is ON this means a 1, when it is OFF it means a 0. The 1st position is a 1, the 2nd a 2, the 3rd a 4, the 4th a 8, the 5th a 16, the 6th a 32 and the 7th a 64. So if all these 7 switches are on it means an address of: $1 + 2 + 4 + 8 + 16 + 32 + 64 = 127$. So the largest address is "111111" in Binary which is 127 in decimal.

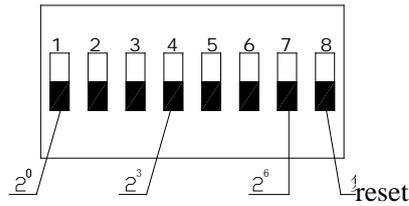


Figure 3-8 DIP Switch 1

| DIP ID \ DIP | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
|--------------|----|----|----|----|----|----|----|--------|-------|
| 1 | ON | | | | | | | Status | Reset |
| 2 | | ON | | | | | | ON | Cold |
| 3 | ON | ON | | | | | | | |
| | | | | | | | | OFF | Hot |
| 127 | ON | | |

Notes:

- When using TCP communication, if the DIP switch is all OFF, physical ID = 0, at this time it is the universal address.
- As long as the DIP switch is not all OFF, it is the actual address

3.5.2 DIP Switch 2

S2 or Dip Switch 2 is the 2nd dip switch on the controllers, The functions for Dip Switch 2 are detailed below.

| DIP | OFF | ON |
|-----|--------------------|---------------------|
| 1 | Protect | Configurable |
| 2 | Normal | Force IP: 10.1.1.10 |
| 3 | Disable Supervisor | Enable Supervisor |
| 4 | On-Line | Stand-Alone |

DIP 1: IP write protection. Controller all parameters can be configurable and writeable. When the dip 1 is off, Parameters including Password, IP, Host IP cannot be changed.

DIP 2: Controller works normally when dip 2 is off. When the IP address of the controller is not known, switch DIP2 to on. The IP address will default to 10.0.0.10, and the user name & password will default to system & system.

DIP 3: Enable \ Disable supervisor

DIP 4: ON--Disconnect, work as a standalone, will not connect to a PC; OFF-Connect, Enable TCP/IP.

3.6 Cable Specifications

The table below lists the recommended cables for use with the BPU8018P Controller.

| Use | Wiring Location | Cable Specification |
|---------------------------------------|---|--|
| Cable 1 Wiegand Reader Cable | From Wiegand reader to controller | 4 pair shielded twisted pair .24AWG (0.206mm) is recommended (Belden 9841) however parallel core security cable or Cat 5 UTP will work adequately in areas of low electromagnetic interference. Maximum distance 150m (500 feet) |
| Cable 2 Assorted Inputs | Door sensor, REX, break glass monitoring, bond sense, tongue sense, auxiliary input | 6, 8, 10 or 12 core 0.2 mm ² or 0.5 mm ² parallel core security cable or standard Cat 5 UTP. Does not normally need to be shielded unless in an area of exceptionally high electromagnetic interference |
| Cable 3 Lock Power Cable | From controller and power supply to locks via break glass (if fitted) | This cable depends upon distance and lock current draw. For small runs (up to 10-15m) a twin 0.75mm ² cable is normally sufficient. For longer runs a twin 1mm ² .a twin 1.5mm ² or even a twin 2.5mm ² cable could be required, not shielded. |
| Cable 4a RS-485 Cable | From converters to controllers and from controllers to controllers | 4 pair shielded twisted pair .24AWG (0.206mm) is recommended.(Belden 9841) The maximum range is 1200m (4000 ft) Cat 5 UTP will work adequately in areas of low electromagnetic interference however a shielded cable is recommended. |
| Cable 4b TCP/IP Cable | From converters / controllers to a TCP/IP hub/switch | Cat 6 or above UTP. Maximum distance 100m |
| Cable 5 230v Power Supply Cable | From a switched 230 volt power supply source to the controller power supply | A single twin and earth 1.5mm ² or similar depending upon local regulations |
| Controller Earth | From the Ground terminal of the controller or power supply to a valid earth | A single core 1mm ² or similar |

Twisted pair cabling is a type of wiring in which two conductors of a single circuit are twisted together for the purposes of canceling out electromagnetic interference (EMI) from external sources; for instance, electromagnetic radiation from unshielded twisted pair (UTP) cables, and crosstalk between neighboring pairs.

Twisted pair cable consists of a pair of insulated wires twisted together. It is a cable type used in telecommunication for very long time. Cable twisting helps to reduce noise pickup

from outside sources and crosstalk on multi-pair cables. Twisted pair cable is good for transferring balanced differential signal.

Chapter 4 System operation

4.1 Hardware operation

4.1.1 Controller ID Setting

Disconnect the power supply before setting the address, then set the DIP switch 1-7 bit to the appropriate location, the address number cannot be repeated, otherwise it will cause 485 network communication failure.

Clear the memory RAM of the controller (if necessary). If you want to remove the RAM memory in the controller, set the SW 8 of the DIP switch to ON, By pressing the Reset button when power is on, the data in the controller RAM will be cleared.

Notes: Eliminate system RAM will completely erase all information in the BPU8018P controller and cannot be recovered.

4.1.2 Controller IP Configuration

Set DIP1 of SW2 to the ON position so that the IP and network parameters of the controller are configurable.

4.1.3 Security Check

- To ensure safety, please make sure that the ground terminal in the control box has been connected to the equipment GND of the building before the first power is delivered
- Make sure that all cables are securely connected and that they are energized.
- Cut off the power supply if the wire needs to be reconnect to avoid charging plug.

4.1.4 Controller Light Condition

➤ **The Power Indicator:**

The power indicator light is yellow (normally flashing every second).

➤ **TCP/IP Communication Indicator:**

LINK lights are always on, DATA lights flashing fast after communication is normal.

➤ **RS485 Communication Indicator:**

RX: Data receive indicator, red (as received data will flash fast).

TX: The data sending indicator, green (if data is being sent out, LED will flash fast).

4.1.5 Buzzer & LED Instructions

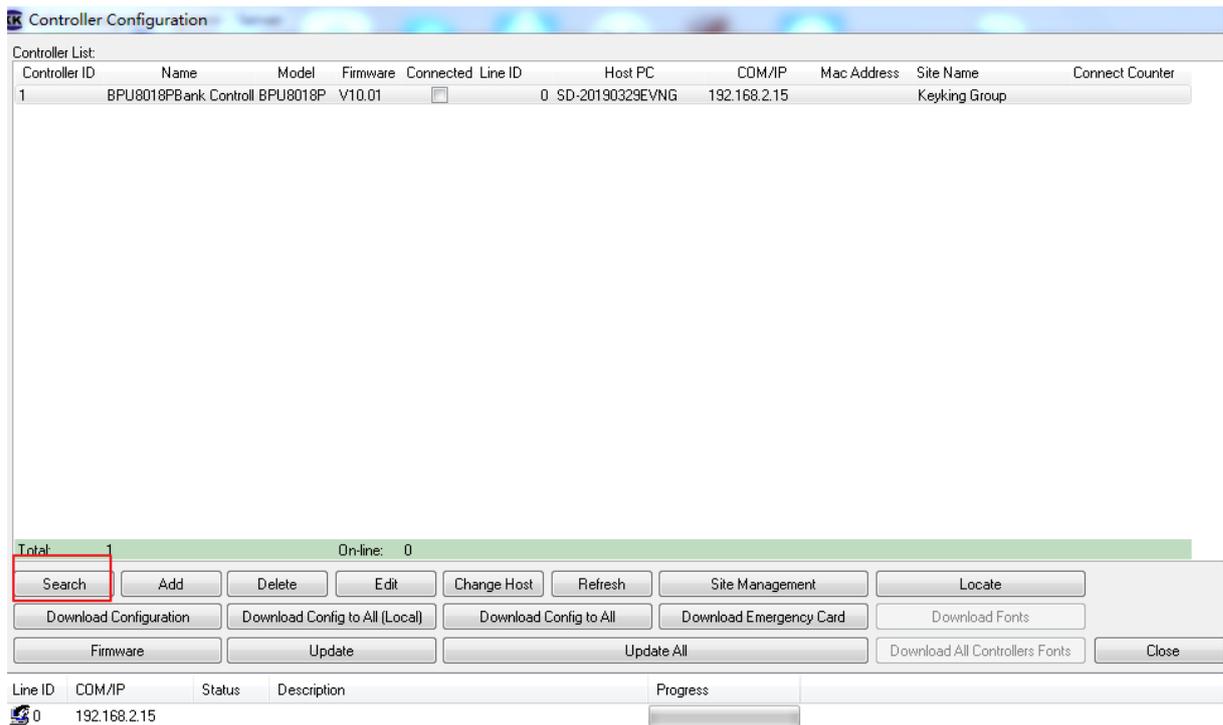
In order to distinguish different events, the reader will make some specific responses in daily operation,. The following table shows the response of the reader's LED indicator and buzzer to different events

| Event | Parameters | LED | Buzzer | Frequency |
|-----------------------------|--|----------------|----------------|-----------|
| Invalid card | NULL | Flash 3 times | Di Di Di | 2.5HZ |
| Invalid date or time | NULL | Flash 3 times | Di Di Di | 2.5HZ |
| Door open unnormal | <input checked="" type="checkbox"/> Door Forced Open | Follow Buzzer | Di Di | 1HZ |
| | <input type="checkbox"/> Door Forced Open | NONE | NONE | 1HZ |
| DOTL | <input checked="" type="checkbox"/> Door Opened too Long | Follow Buzzer | Di Di Di | 2HZ |
| | <input type="checkbox"/> Door Opened too Long | Normal | NONE | |
| Door closed | NULL | Back to Normal | Back to Normal | |
| Valid Card | <input checked="" type="checkbox"/> Valid Card | Follow Relay | Diiii(1s) | 1HZ |
| | <input type="checkbox"/> Valid Card | Follow Relay | Di | |

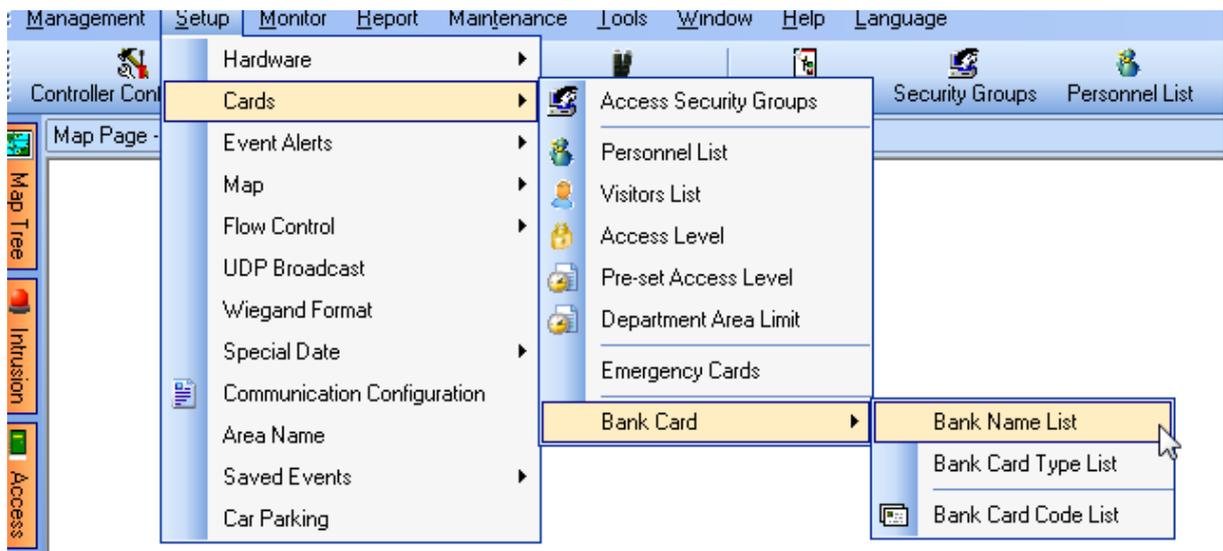
4.2 Software operation

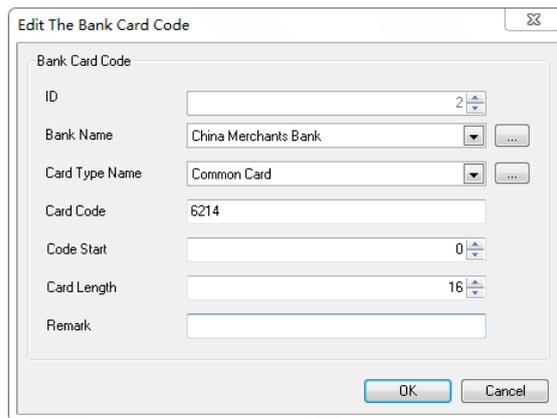
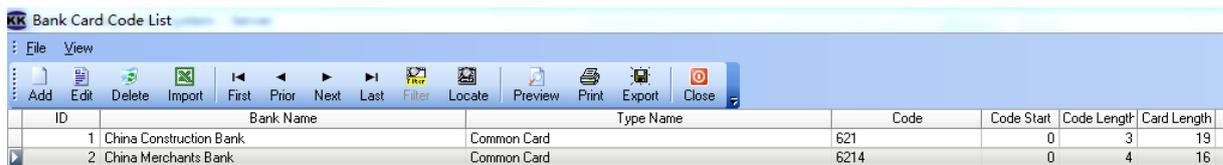
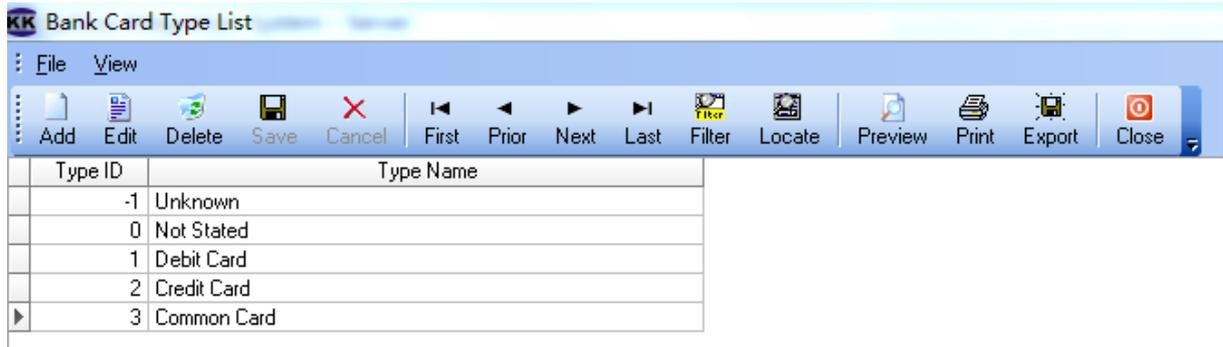
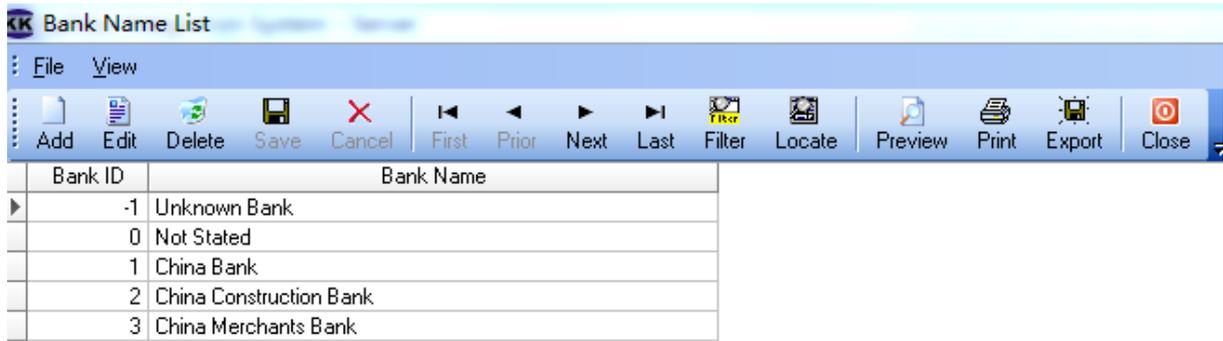
4.2.1 Setting

- 1) Open the Sphinx software, click **setup**, then **Hardware**, next **controller configuration**, search the controller.

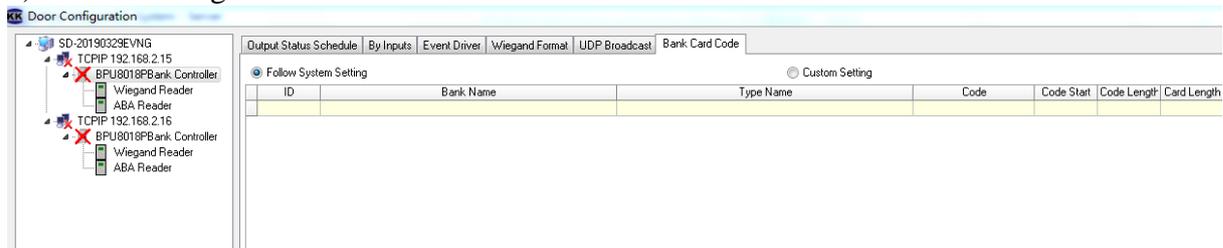


- 2) Add bank name ,card type, bank card code(Bank identification number)





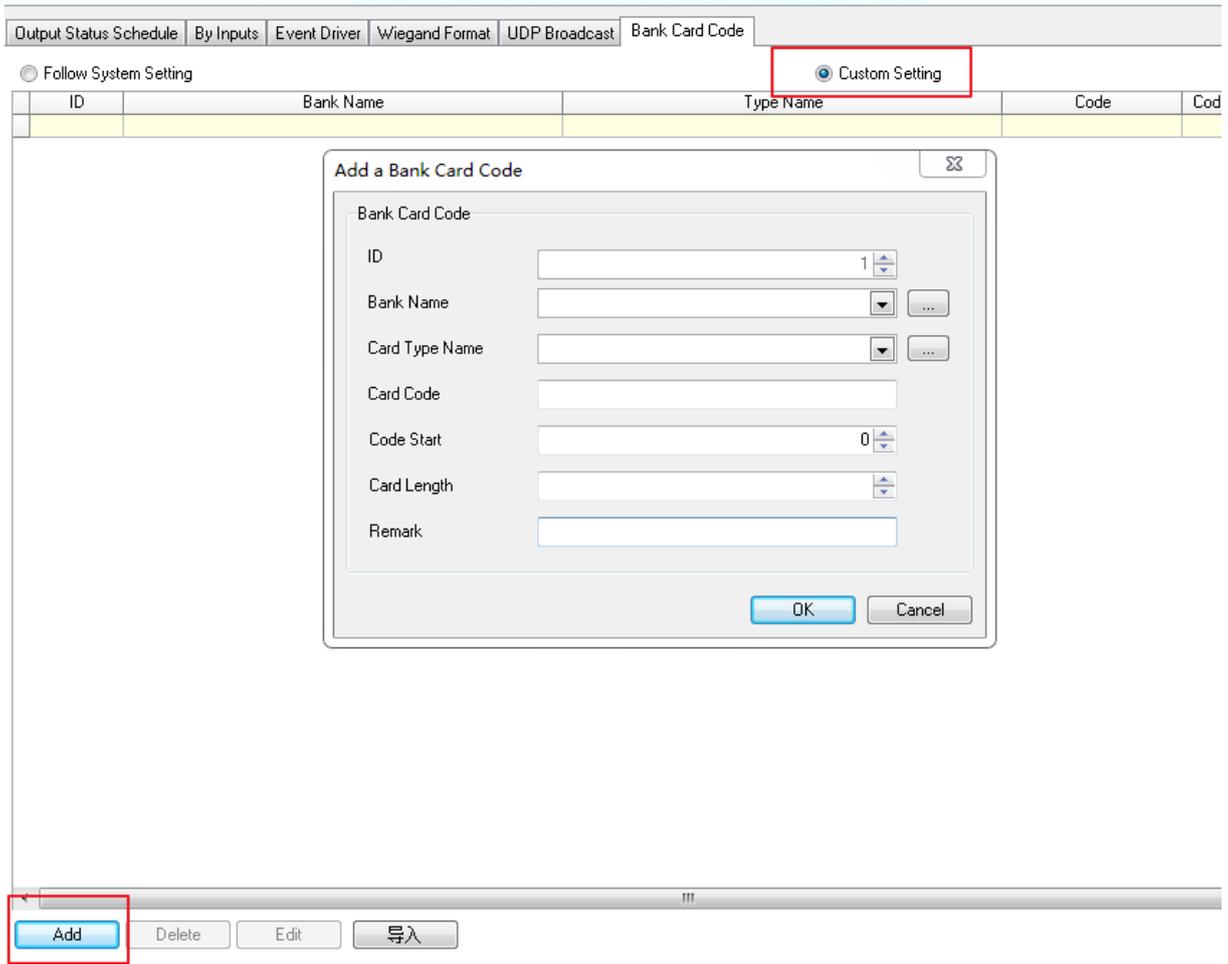
3) Door Configuration



In this box, there are two methods to configure the opening

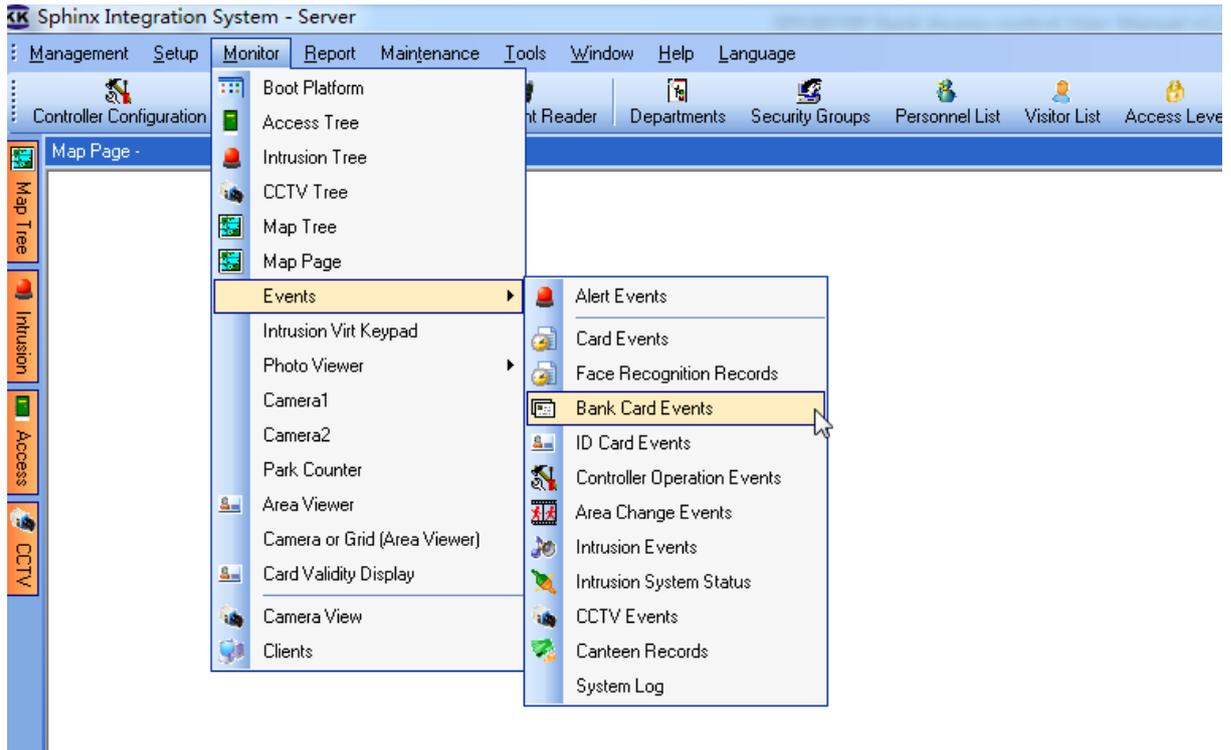
- Follow System Setting
If the card has the same card code in card code list, it has the permission to open the door
- Custom setting

In this mode, Only the specified card can open the door, this specified can be added by **ADD** button



4.2.2 Example

Click the **Monitor** , then **Events**, then **Bank Card Events**,we can check the records.



Use the **Follow System Setting** method

| Time | Event Name | Site Name | Line ID | ID | Controller Name | Component Name | Bank Card | Bank Name | Type Name |
|--------------------|---------------------|---------------|---------|----|-----------------|----------------|---------------------|-----------|-----------|
| 2019/5/16 22:11:29 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6210985620001517666 | 中国建设 | 普通卡 |
| 2019/5/16 22:11:26 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6214856553895917 | | |
| 2019/5/16 22:11:15 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6217002660008030168 | 中国建设 | 普通卡 |
| 2019/5/16 22:11:09 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6217002660008030168 | 中国建设 | 普通卡 |
| 2019/5/16 22:10:50 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6214856553895917 | | |
| 2019/5/16 22:05:50 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6210985620001517666 | 中国建设 | 普通卡 |
| 2019/5/16 22:05:43 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6214856553895917 | | |
| 2019/5/16 22:05:37 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 2 ABA读卡器 | 6214856553895917 | | |
| 2019/5/16 22:05:10 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6214856553895917 | | |
| 2019/5/16 22:05:06 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6210985620001517666 | 中国建设 | 普通卡 |
| 2019/5/16 22:04:54 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6210985620001517666 | 中国建设 | 普通卡 |
| 2019/5/16 22:04:48 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6214856553895917 | | |
| 2019/5/16 22:03:52 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6214856553895917 | 中国建设 | 普通卡 |
| 2019/5/16 22:03:43 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6210985620001517666 | 中国建设 | 普通卡 |
| 2019/5/16 22:02:17 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6214856553895917 | 招商 | 普通卡 |
| 2019/5/16 22:02:12 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6214856553895917 | 招商 | 普通卡 |
| 2019/5/16 22:01:54 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6210985620001517666 | 招商 | 普通卡 |
| 2019/5/16 22:01:49 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6259650861542469 | 中国建设 | 普通卡 |
| 2019/5/16 22:01:43 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6259650861542469 | 中国建设 | 普通卡 |
| 2019/5/16 22:00:57 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6259650861542469 | 中国建设 | 普通卡 |
| 2019/5/16 22:00:48 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6214856553895917 | 招商 | 普通卡 |
| 2019/5/16 22:00:10 | Bank card open door | Keyking Group | 1 | 1 | BPU8018F自助银行控制器 | 1 维康读卡器 | 6214856553895917 | 招商 | 普通卡 |

Use **custom setting** method, if we don't add the specified card, although the card in the card code list, it is still the invalid card

| | | | | | | | | | |
|-----------------|--------------|---------------|--|------------------|---------|--|--|-------------------|--|
| 9/5/16 09:15:28 | Invalid Card | | | | | | | | |
| 9/5/16 09:15:27 | Invalid Card | Keyking Group | | 6259650861542469 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:15:02 | Invalid Card | Keyking Group | | 6259650861542469 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:15:01 | Invalid Card | Keyking Group | | 6259650861542469 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:14:58 | Invalid Card | Keyking Group | | 6259650861542469 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:14:47 | Invalid Card | Keyking Group | | 6259650861542469 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:13:56 | Invalid Card | Keyking Group | | 6259650861542469 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:13:38 | Invalid Card | Keyking Group | | 6214856553895917 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:13:34 | Invalid Card | Keyking Group | | 6214856553895917 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:09:44 | Invalid Card | Keyking Group | | 6214856553895917 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:09:43 | Invalid Card | Keyking Group | | 6214856553895917 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:09:39 | Invalid Card | Keyking Group | | 6214856553895917 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |
| 9/5/16 09:09:37 | Invalid Card | Keyking Group | | 6214856553895917 | 1 维康读卡器 | | | 1 BPU8018F自助银行控制器 | |

Chapter 5 Trouble shooting

List of conventional instrument tools used to installing and diagnosing the system:

- Standard Screwdriver
- 6mm Corss Screwdriver
- Digital Multimeter
- Oblique Pliers
- Electric Iron and Solder Wire

| Symptom | Possible Cause | Remedy |
|--|--|---|
| Yellow power LED dead | No power or low power | Check the input voltage at the terminals on the bottom of the PCB. It should be between 12V and 14VDC. |
| LED on reader dead | No power or low power | Check voltage at reader, it should be approximately 12v DC between red and black. Check that the total current draw from the controller is within limits. |
| Reader range is too short. | There is a magnetic field near the reader | Remove the item which produces the magnetic field. |
| | The reader cable is not shielded. | Use the shielded cable. Confirm there is at least 100mm between the reader cable and any high voltage cables. |
| | The reader has been mounted on a metallic surface. | Remount the reader on a non metallic surface |
| Cannot open the door when flashing the cards. (Check review event on PC first) | The card is invalid for the door. | Use software to enable the card for the door |
| | Time zone of the card is invalid. | Use software to set the user time zone to valid |
| | Communication problem between reader and the controller. | Check to see if the problem is caused by electromagnetic interference If so increase the distance between the reader cable and the interference or use shielded cable |
| | Lock problem | Check if the lock is working correctly |
| With power on, the reader goes "BEEP" but the controller cannot process the information. | Wrong connection between controller and readers. | Check the connection is correct. |
| | Wiegand format is not correct. | Please check your reader and card formats. As a test place all bits as 1 in the Wiegand Format Setup screen in the software for that particular bit |

| | | |
|---|---|--|
| | | format. |
| | Losing data from the controller. | Download the data again from the PC. |
| The controller cannot communicate with the converter. | Converter power is off. | Supply power. |
| | The baud rate setting is incorrect. | Set the baud rate the same as the software |
| | The RS-485 wires are reversed | Use the correct connections |
| Converter cannot communicate with PC. | The COM port setting is incorrect. | Correct the Com Port setting. Note use Windows Device Manager to find the correct comm. port. |
| | The RS-232 connections are reversed | Use the correct connections. |
| | The power supply of the converter is not sufficient. | The 9v PSU must be able to supply at least 300mA. If you use a USB cable as a PSU, please use a 2nd USB socket for the PSU or use a 12V 300mA PSU. |
| Some of the controllers on the RS-485 LAN cannot communicate. | Duplicate addresses | Make sure controllers have unique addresses |
| | The data in the RAM of the controller is corrupted. | Download the configuration again by using the software. |
| | RS485+ and RS485- reversed | Use the correct connections |
| The lock cannot be locked. | No power or low power for the lock. | Check the power supply for lock. Check that the output relay operates |
| The card number is different to what is expected | The reader output is set to 26 when 34 is required or the other way around | Reset reader output |
| Communication with the controllers intermittent | On a busy network the communication to the controllers may time out | Increase the "Network Delay Time" to 200ms |
| No communication with controllers | The software uses Port 8000 to communicate with the controllers. Make sure that no other software is using port 8000. | Change the Sphinx software to use another port |
| No communication with RS-232 or RS-485 controllers | The Desktop reader software could be using the same port as the controller communication | Check and change the Desktop reader port |

Notes:

Please see the following functions, if the user does not know, may be considered to be faulty.

➤ **Boss Card:**

- (1) can open all the door alltime without setting access level;
- (2) door stay opened once swipe the boss card twice.;
- (3) door status back to normal when double swipe the boss card again .

➤ **Manager Card (No Anti-PassBack):**

- (1) door stay opened once swipe the card twice;
- (2) door status back to normal when double swipe the card again.