

Operation Manual

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



Models: TC418/419
Standalone Controller

KEYKING **KEYKING GROUP**

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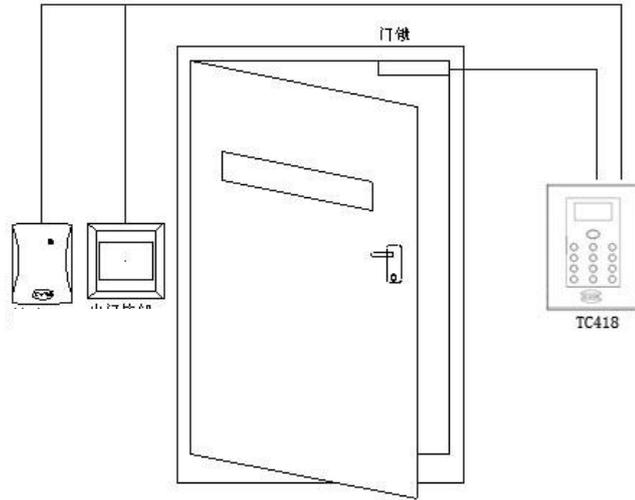
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Chapter 1: Summay

1.1 Outline



TC418/419 Controller



TC418/419 Schematic Diagram

Model Definitions & Card Types:

TC418/419E---EM Proximity; 125KHz

E = Proximity Card; EM4100, TK4100 Series

TC418/419H-- HID Compatible; 125KHz

H = HID Card; 1326, 1386

TC418/419U---Mifare \ CPU \ RC; 13.56MHz

U=FM1208 CPU Card, Philips S50, Mifare-1 Compatible

Model	Cardholder	User PINs	Transactions	Software	Work Mode
TC418	2,550	10	None	No	<ul style="list-style-type: none"> ■ Card Only ■ PIN Only ■ Card + PIN ■ Card or PIN
TC419	2,550	10	10,000	Yes	<ul style="list-style-type: none"> ■ Card Only ■ PIN Only ■ Card + PIN ■ Card or PIN

1.2 Specifications

Work Mode:

- Card Only
- PIN Only
- Card or PIN

- Card + PIN (Period should be less than 8 seconds between card badge and PIN)

Read Range: 3-15CM
 Relay Output: NC/NO, 30VDC, 5A
 Power: 12VDC±10% , 200MA
 Size: 117mm (H) x 86mm (W) x 22mm (D)
 Weight: 300g

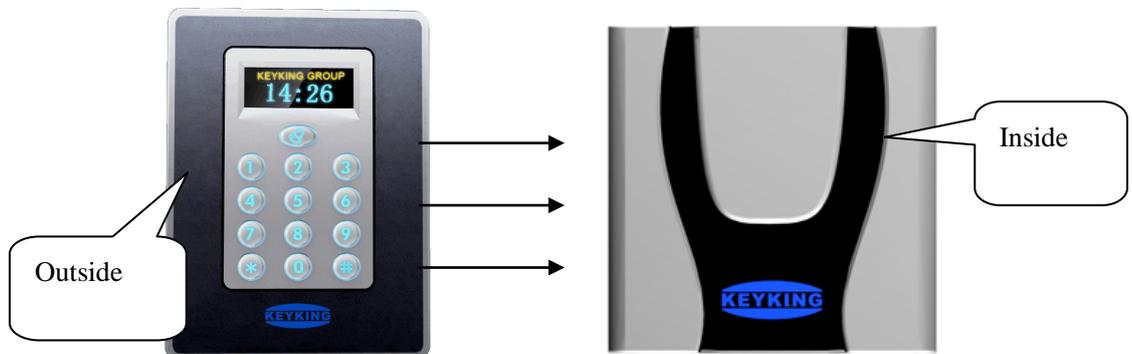
1.3 Application Modes

There are 3 different application modes as follows:

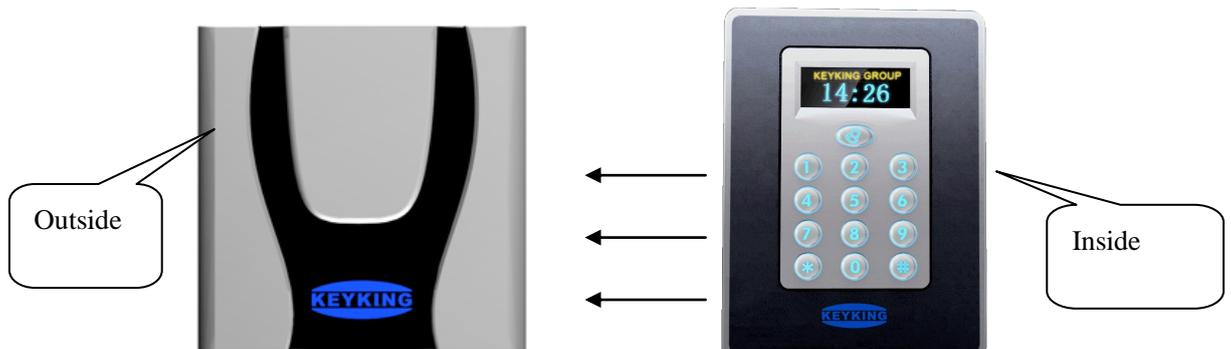
- **Mode #1: Entry only, Controller is outside, Low Security**



- **Mode 2#: Entry + Exit, Controller is outside, Medium Security**

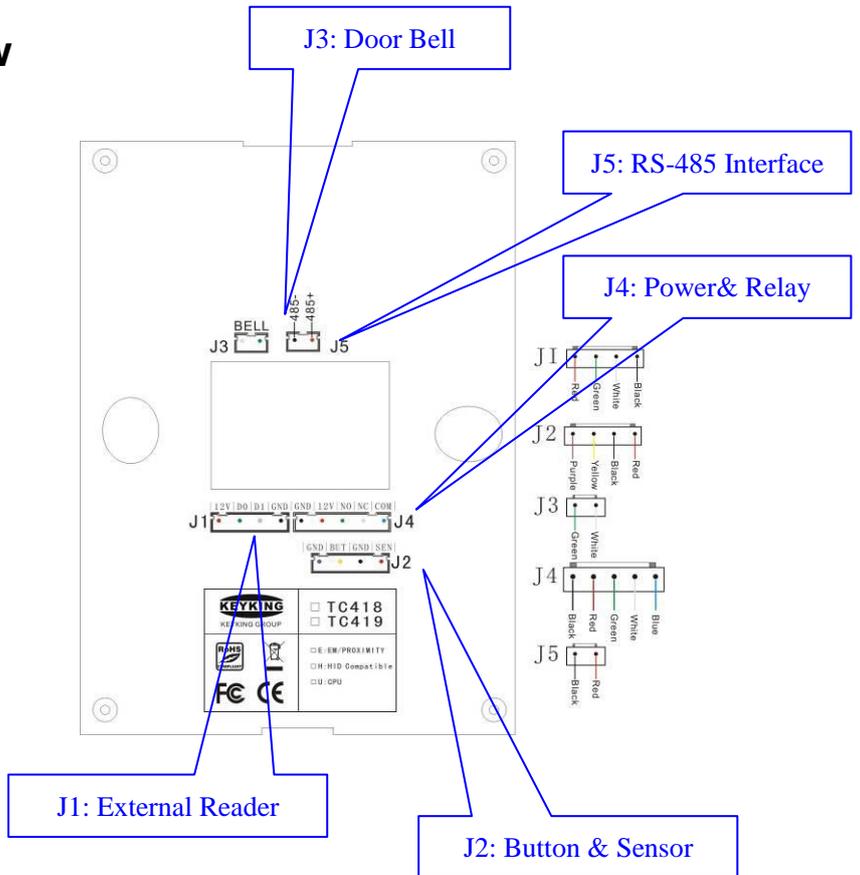
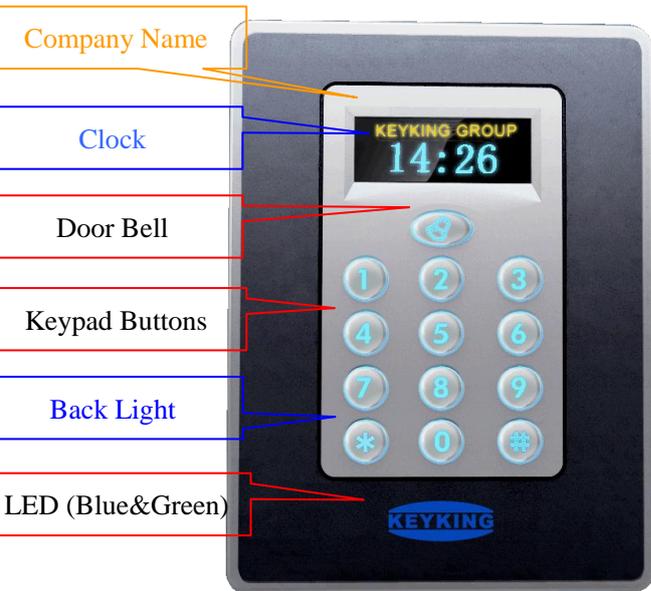


- **Mode 3#: Entry + Exit, Controller is inside, High Security**



Chapter 2: Diagrams

2.1 TC418/419 Overview



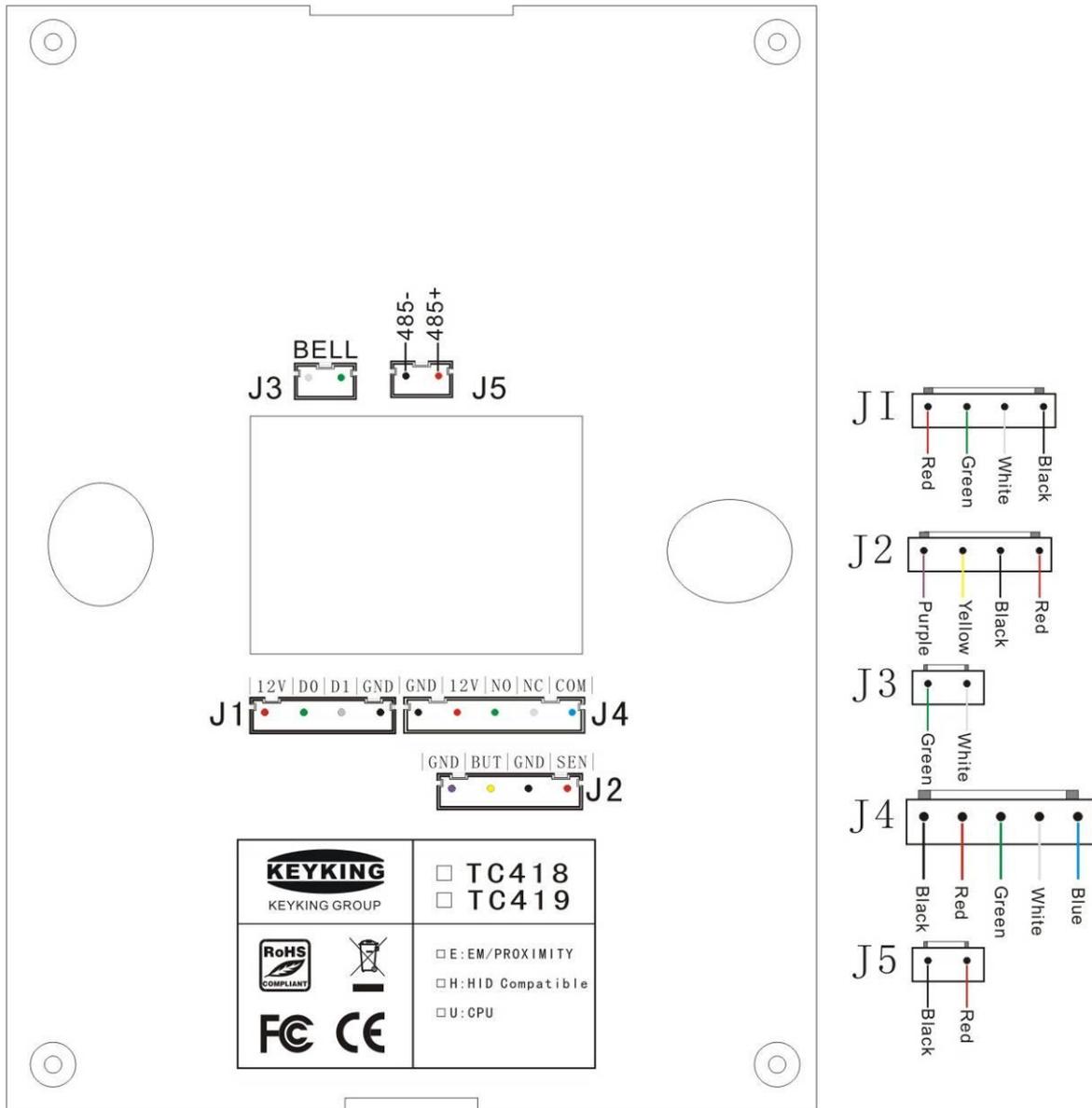
LED's:

- Blue LED for power indication.
- Green LED for card reading indication.

Keypad Key Functions:

No.	Mark	Function	No.	Mark	Function
1	1	Digit 1	7	7	Digit 7
2	2	Digit 2	8	8	Digit 8
3	3	Digit 3	9	9	Digit 9
4	4	Digit 4	10	0	Digit 0
5	5	Digit 5	1	*	Cancel / Start
6	6	Digit 6	12	#	Enter / Confirm

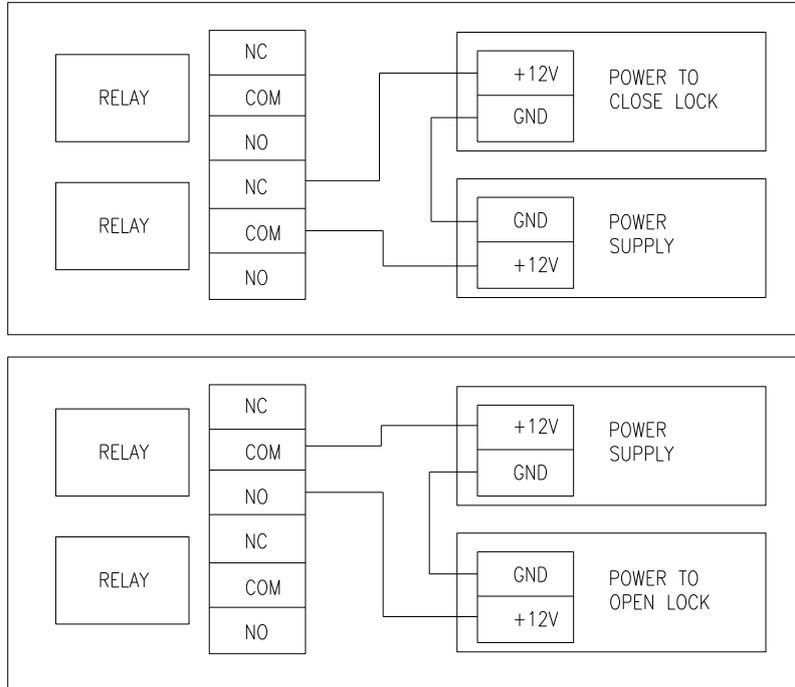
2.2 Wiring Connectors



Socket	No.	Label	Description	Socket	No.	Label	Description
J3	1	BELL	Door Bell	J1	9	12V	External Reader
	2	BELL			10	D0	
J5	3	485-	RS-485		11	D1	
	4	485+			12	GND	
J2	5	BUT	Exit Button	J4	13	GND	Power Supply
	6	GND			14	+12V	
	7	SEN	Door Sensor		15	NO	Door Relay
	8	GND			16	NC	
					17	COM	

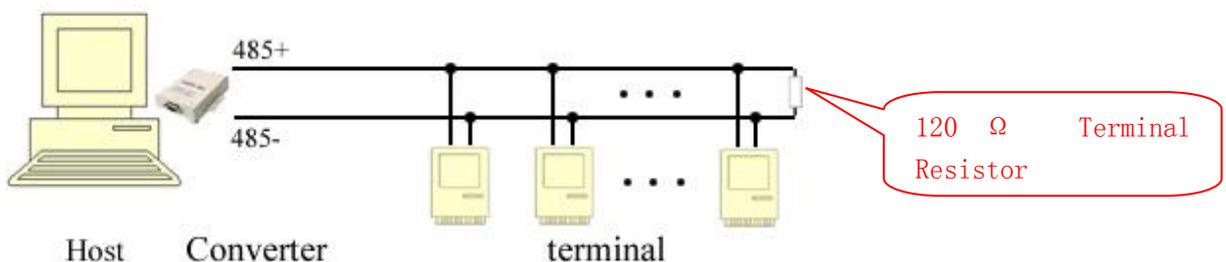
2.3 Lock Diagrams

J4: Door Relay (to Lock)



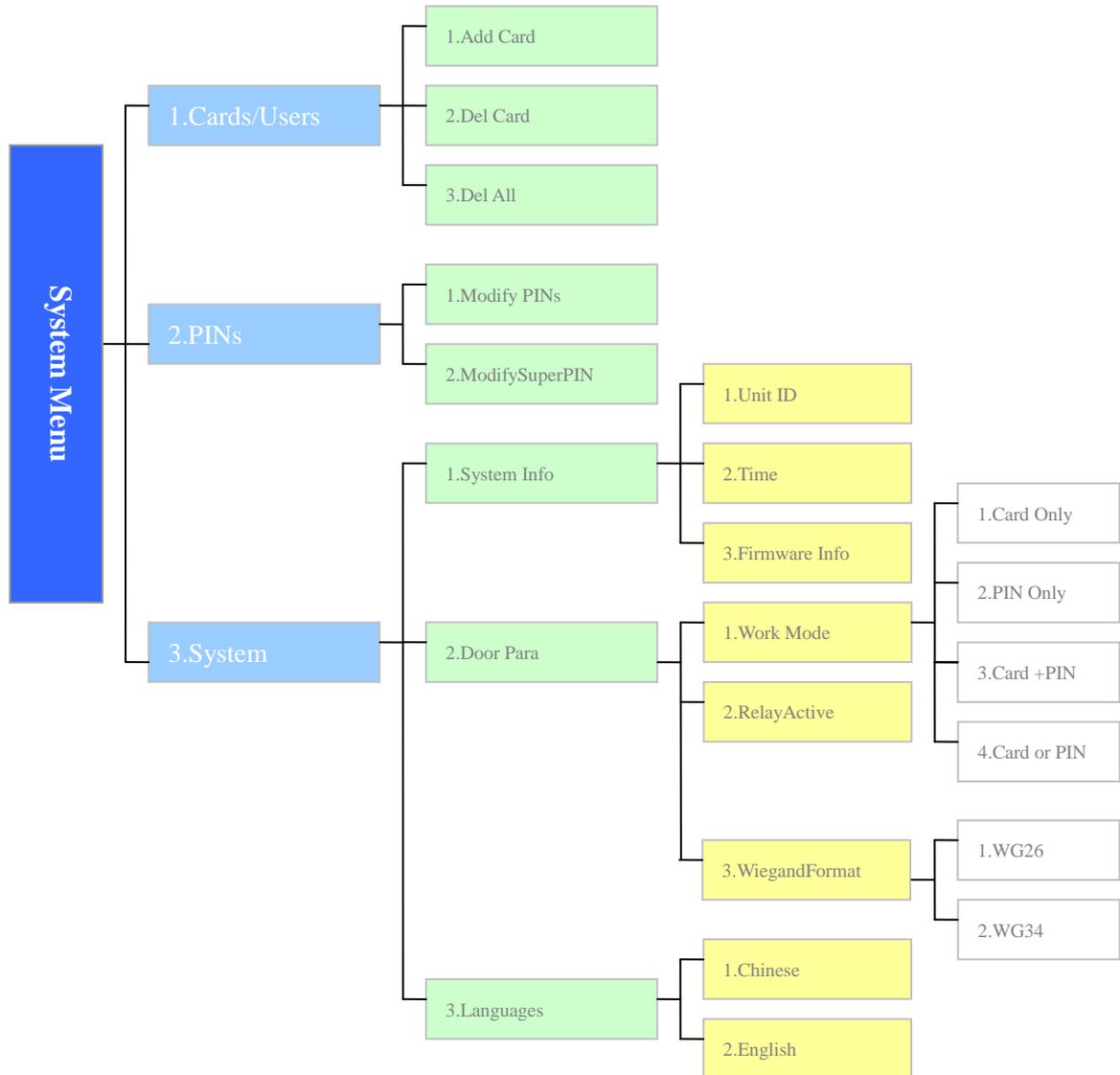
2.4 RS-485 Bus

The RS-232 to RS-485 converter shown is used to convert RS-232 serial port data from a PC to RS-485 data for use with the TC-419 controller. The maximum distance of the RS-485 line is 1.2 km, 4000 feet, from the converter to the controller. The maximum distance that the converter can be away from the PC serial port is 15 m, 50 feet. Multiple (maximum 255) TC-419 controllers (terminal in the diagram below) can be placed on a RS-485 bus if required. The last controller should have a 120 ohm RS-485 terminating resistor placed across the RS-485 lines, see below diagram



Chapter 3: Operation Menu

3.1 Menu Structure



3.2 User Management

3.2.1 Add User

1. Power on and the TC418/9 will check the memory automatically. During the checking procedure, do not press keys or flash a card. After checking, you will see the message below appear on the LED display.



- Press *888888# to enter menu management (888888 is the default SuperPIN). The message below will appear on the LED display.



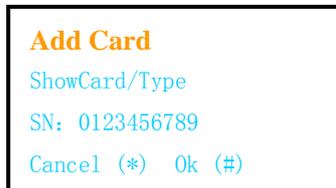
- After (Menu), press 1 to enter the Cards/User sub menu:



- After (Card/User), press 1 to enter Add Card

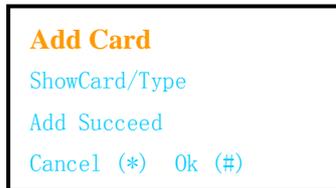


- Please badge the card or type the card number as a decimal number.



If you see the above message it means the card number "123456789" is added into the controller and this card can now open the door.

- Press "#" to confirm this operation and the message below will appear.

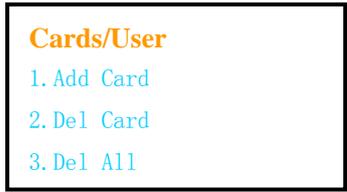


Please badge another card if you want to add more cards.
Press "*" to go back to the previous menu.

- If you badge a card that has already been entered then the below message will appear:



3.2.2 Delete User



1. After (Card/User), Press 2 to enter the Del Card sub menu



2. Please badge the card or type the card number as a decimal number.



3. Press “#” to confirm this operation and the message below will appear.



Please badge another card if you want to delete more cards.
Press “*” go back to the previous menu.

3.2.3 Delete All Users



1. After (Card/User), press 2 to enter the delete all sub menu



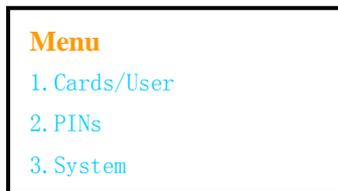
2. Press “#” to confirm this operation.

3.3 PINs

The TC418/419 controllers support 1 group SuperPIN and 10 group User PINs.

- **SuperPIN:** Used to access the Menu. The default SuperPIN is **888888**.
- **User PINs:** Used to open the door. A total of 10 PIN numbers from 0 to 9 are allowed.

3.3.1 Modify User PIN



1. After (Menu), press 2 to entry PINs Management sub menu:



2. Press 1 to modify User PINs



- The PIN Number locations are from 0 to 9, the total is 10.
- Press 0 to modify PIN 0, then press 6 digits, eg 123456; press # to confirm.
- Press 1 to modify PIN 1, then press 6 digits, eg 111111; press # to confirm.
-
- Press 9 to modify PIN 9, then press 6 digits, eg 999999; press # to confirm.

3.3.2 Modify SuperPIN



1. After (Menu), press 2 to enter the PINs Management sub menu:



2. Press 2 to modify the SuperPIN



- The SuperPIN is the password to access the menu. It is not a UserPIN and cannot open the door. Press 6 digits, eg 987654; Press # to confirm.

3.4 System Info

3.4.1 System Info

3.4.1.1 Setup Unit ID

1. Press *SuperPIN# to enter the Management Menu (888888 is the default SuperPIN), The message below will appear on the LED display.



2. After “Menu”, press 3 to enter the System sub menu:



3. Press 1 to enter the System Info sub menu:



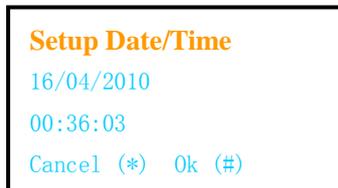
4. Press 1 to check or setup the Unit ID, you will see the current Unit ID (eg 001).
 - Every controller should have an exclusive ID when it is connected to a RS-485 bus.
 - The Unit ID can be from 1 to 255, minimum is 1, maximum is 255.



5. Press ID number to change the Unit ID. This is only necessary if you have more than 1 controller on a RS-485 bus.

3.4.1.2 Setup Date/Time

1. After System Info, press 2 to enter the Setup Date/Time sub menu



Date: DD/MM/YYYY

Time: HH: MM: SS

- If you want to change the date and time press DD/MM/YYYY and HH: MM: SS.
- Press # to confirm or press * to cancel.

3.4.1.3 Firmware Info

1. After System Info, press 3 to see the Firmware Version.

Firmware Version: TC419 V1.06
 Build Time: 20100815(Aug 15th, 2010)



3.4.2 Door Parameters

3.4.2.1 Setup Work Mode

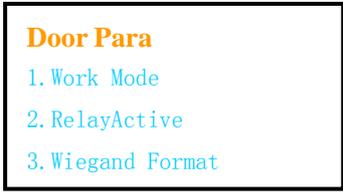
1. Enter the *SuperPIN# to enter Menu Management (888888 is the default SuperPIN), The message below will appear on the LED display.



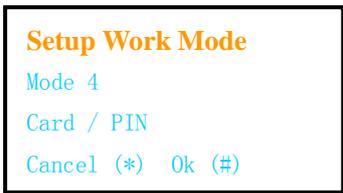
2. After "Menu", press 3 to enter the System sub menu:



- Press 2 to enter the Door Parameters sub menu:

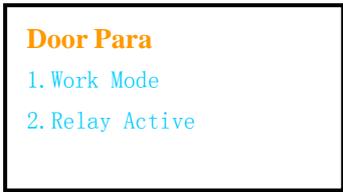


- Press 1 to Setup the work mode. Refer to section 3.5 for a detailed description of the work modes.

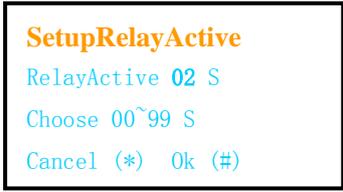


After the work mode has been selected press 3 to confirm the operation.

3.4.2.2 Setup Relay Active Time

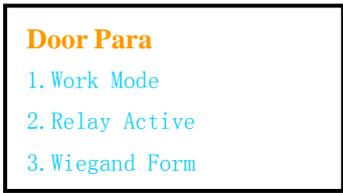


- After Door Para, press 2 to Setup Relay Active time.

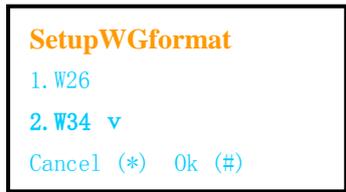


- You will see the current Relay Active time is 2 seconds.
- If you want to change this time enter the number of seconds via the keypad.
- Press # to confirm the operation or press * to cancel.

3.4.2.3 Setup Wiegand Format



- After Door Para, press 3 to Setup Wiegand Format.



- Press 1 to choose Wiegand 26Bits for both (TC419 and External reader).
- Press 2 to choose Wiegand 34Bits for both (TC419 and External reader).
- Press # to confirm the operation or press * to cancel.

3.4.3 Languages

1. After System Menu press 3 to enter the Language sub menu.



2. Press 1 to select Chinese or press 2 to select English.



3. Press # to confirm the operation or press * to cancel.

3.5 Work Modes

The TC418/419 controller supports 4 different types of work mode:

- 1) Card Only
- 2) PIN Only, User PIN + #.
For example, press 123456# (In case of User PIN 0 is 123456).
- 3) Card + PIN, badge the users card and press User PIN + #.
For example, badge a valid card, and press 123456# (In case of User PIN 0 is 123456).
- 4) Card or PIN
For example, badge a valid user card **or** press User PIN + #.

3.6 Reset

After reset all parameters will return to the default values.

The default values for the TC418/419 controller are:

- SuperPIN: 888888
- Relay Active Time: 5 Seconds
- Work Mode: 4, Card or PIN

- Valid cards: None.
- UserPINs: None.

Option #1: When you know the SuperPIN a reset can be performed via the management menu as follows:

- Change the SuperPIN back to 888888.
- Change the Relay Active Time back to 5S.
- Change the Work Mode back to 4.
- Delete All users.
- Change all PINs to none.

Option #2: When the SuperPIN is not known then a hardware reset is required as follows:

- Power off.
- Connect the wires of J2 together, that is short SEN, GND and BUT together.
- Power it on. The screen will show “Intialising...”, and you will hear “Di...”, then all configuration will go back Default value.
- A reset will not delete any review events in the memory.

Chapter 4: Installation

Installation Procedure:

4.1 Install on the wall (Based on the Internal Back Box)

1. **Install a Reader Back Box inside the wall:** Determine an appropriate **mounting position** for the reader. Install a single or double standard electrical box (86*86mm) inside the wall. If mounting to a metal surface, drill two 7/64 (.109) inch holes and use the enclosed self tapping screws for mounting.

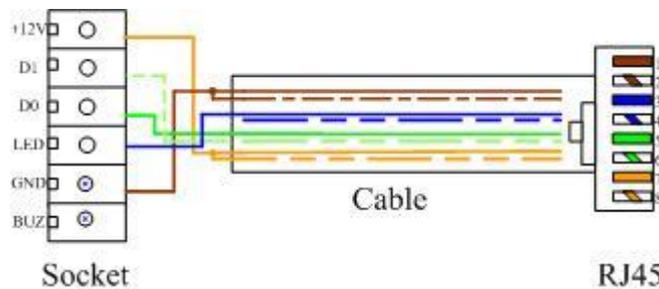


a). Reader Back Box (Standard Electrical Box, single)

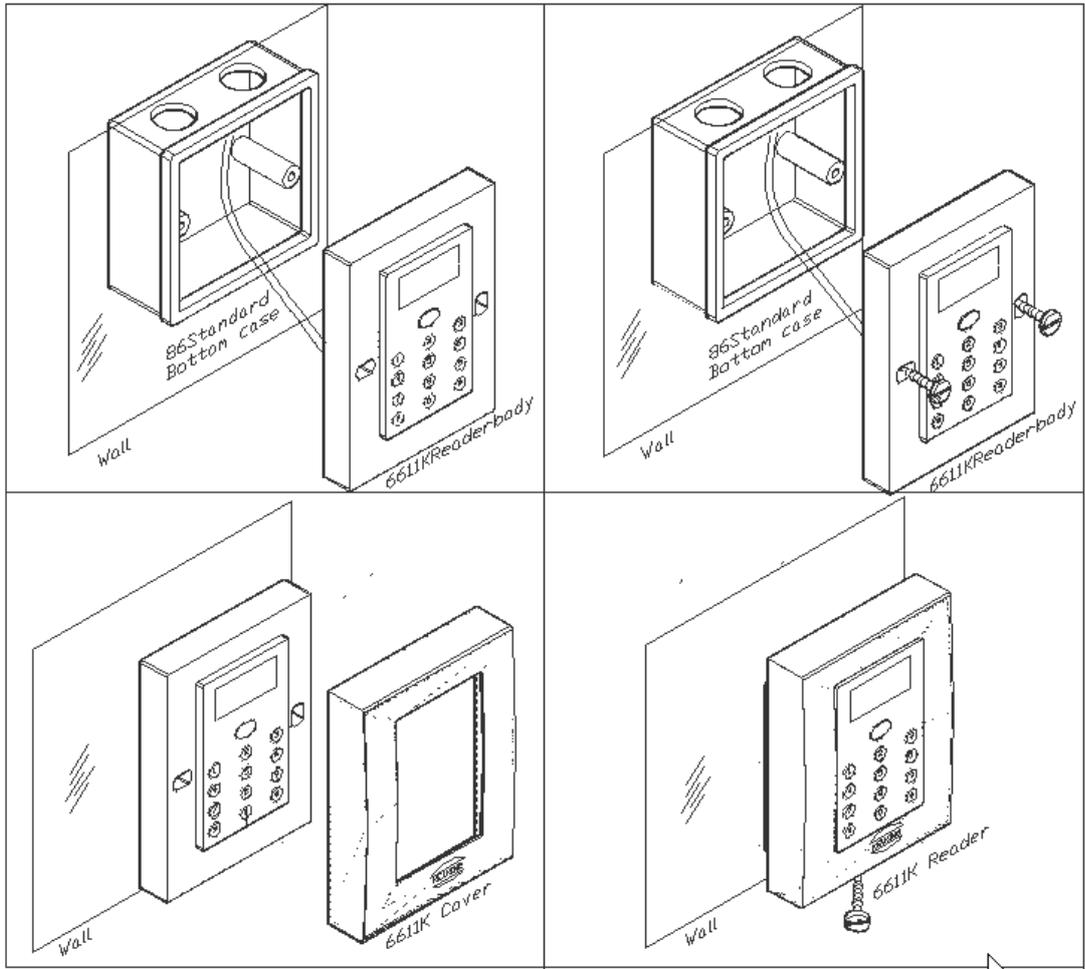


b). Reader Back Box (Double)

2. **Route:** Route the interface cable from the reader to the Host.
3. **Wiring:** Install all the wires to the green connector according to the diagram below



4. **Plug in the Green Connector:** Plug the green connector into the reader socket.
5. **Set the JUMPER (Output mode):** Select W26 or W34 bit output mode of reader.
6. **Mount the reader body:** Mount the reader body to the Electrical Box (Reader Back Box) using the two screws. Two #6-32 x 1 inch screws are provided for mounting to a gang box or metal surface.
7. **Put on the top cover** and face plate.

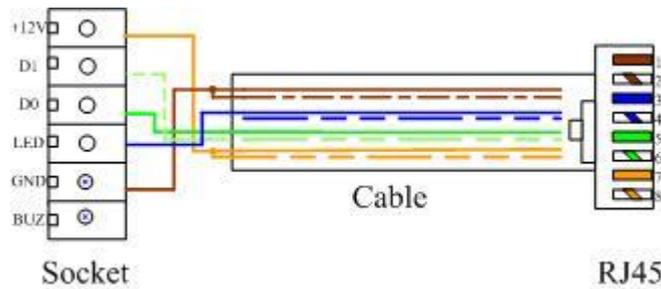


4.2 Install on the wall (Based on the Surface Back Box)

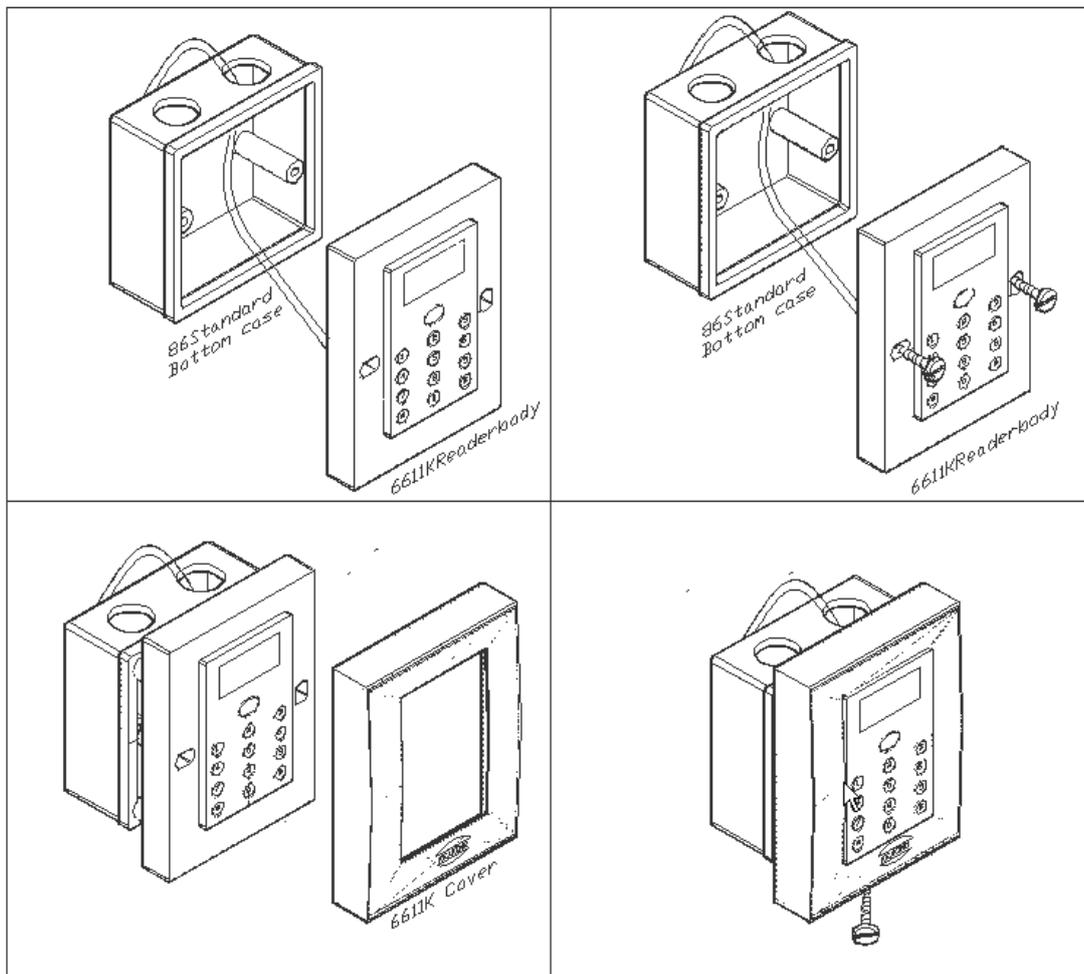
1. **Install a Reader Back Box on the wall:** Determine an appropriate **mounting position** for the reader. Install a single or double standard electrical box (86*86mm) on the wall using 4 screws.



- a). Reader Back Box (Surface, Standard Electrical Box, single)
2. **Route:** Route the interface cable from the reader to the Host.
 3. **Wiring:** Install all the wires to the green connector according to the following diagram.

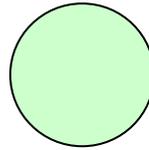


4. **Plug in the Green Connector:** Plug the green connector into the reader socket.
5. **Set the JUMPER (Output mode):** Select W26 or W34 bit output mode of reader.
6. **Mount the reader body:** Mount the reader body to the Electrical Box (Reader Back Box) using the two screws. Two #6-32 x 1 inch screws are provided for mounting to a gang box or metal surface.
7. **Put on the top cover and face plate.**



4.3 Install on the wall (Surface, Without Back Box)

1. **Drill a $\phi 30$ hole on the wall:** Drill a $\phi 30$ hole using a professional drill.

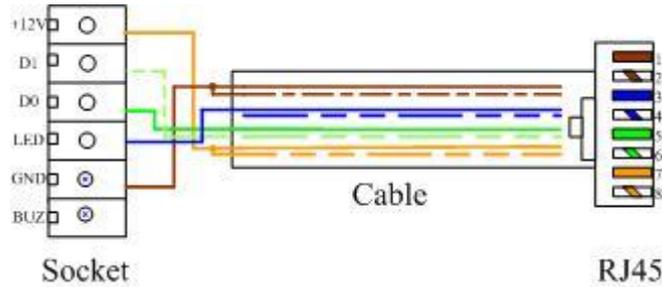


a). ϕ 30 drill, professional tool

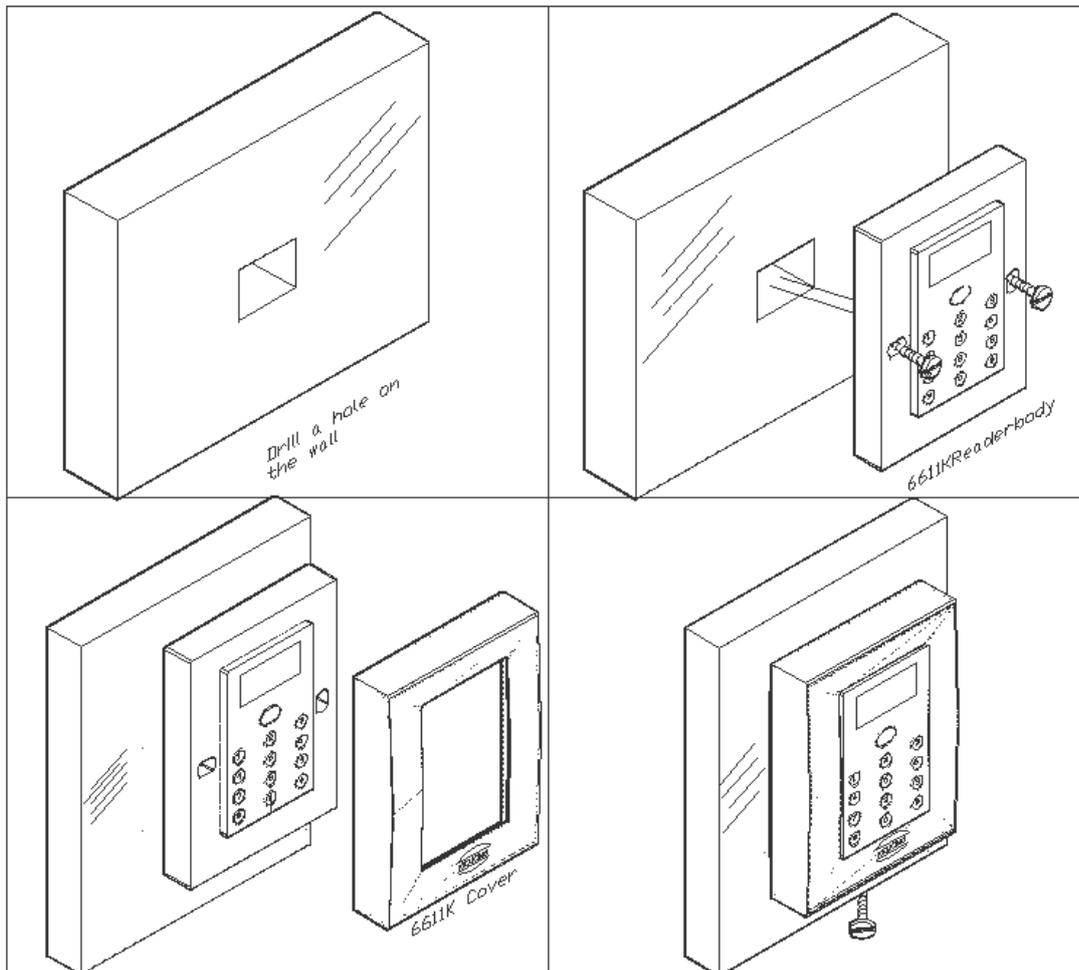
b). A hole on the wall, ϕ 30

Note: This drill can drill the metal wall and wooden wall, it cannot drill a stone or cement wall.

2. **Route:** Route the interface cable from the reader to the Host.
3. **Wiring:** Install all wires to the green connector according to the diagram below.



4. **Plug in the Green Connector:** Plug the green connector into the reader socket.
5. **Set the JUMPER (Output mode):** Select W26 or W34 bit output mode of reader.
6. **Mount the reader body:** Mount the reader body to the wall.
7. **Put on the top cover and face plate.**



4.4 Notes

Cable Notes:

External Reader:

- 1) **Cable type:** CAT5, 24AWG.
- 2) **Same Ground:** the reader and host must have the same ground. If a different power supply is used for the reader and controller, then connect the GND of the reader to the GND of the controller.
- 3) **Max Cable Length:** The MAX LENGTH is up to 60 meters from TC419 to the external reader. This is the value from Wiegand format.
- 4) **Shield:** The shield wire should be connected to GND of controller.

Power supply and Locks:

- 1) **Cable type:** 2*0.75mm² .
- 2) **Exit button & Door sensor cable:** 2*0.5mm² .

Other Notes:

- 1) **Metal Interference:** the reader cannot be installed on a metal wall, otherwise the read range will be reduced and could result in the reader not reading cards. Avoid placing the reader adjacent to metal.

Chapter 5: Troubleshooting

No.	Problem	Solution
1	No card response	<ul style="list-style-type: none"> ● Controller has no power. (Power on.) ● Different card type. (Make sure you are using proximity card or Mifare card, Change to correct card type)
2	Door Open Too Long	<ul style="list-style-type: none"> ● Reduce the Relay Active time, ie to 5 seconds.
3	Do not have the SuperPIN	<ul style="list-style-type: none"> ● Need to perform a hardware Reset. (Connect all wires of J2 together. Short SEN, GND & BUT together.)
4	Badge the card but the door does not open	<ul style="list-style-type: none"> ● Wrong lock wiring. (please check) ● Invalid card. (Please add this card.) ● The Work Mode is not correct, it could be waiting for a PIN. (Change the Work Mode to Card or PIN, or ask the administrator for a PIN.)
5	Badge a valid card and press PIN, but the door does not open in "Card + PIN" mode.	<ul style="list-style-type: none"> ● Wrong PIN. ● Forgot to press # after entering the PIN number. ● Timeout after badge card, more than 10 seconds between card and PIN.
6	PIN cannot open the door	<ul style="list-style-type: none"> ● Wrong PIN. ● Forgot to press # after press PIN. ● The Work Mode is not correct, it could be waiting for a card. (Change the Work Mode to Card or PIN, or ask the administrator for a PIN.)
7	Press Door Bell button, but door bell does not work.	<ul style="list-style-type: none"> ● Did not connect bell button wire to door bell. ● Door bell is faulty or damaged.
8	Clock is wrong.	<ul style="list-style-type: none"> ● Setup Time by Menu or application.

Attachments:

Notes:

- Please record all information.
- If records are kept and a staff member loses their card or does not offer back their card when they leave your company, the card number can be deleted or the PIN changed using the following lists.

User PIN List

PIN No.	Holder Name	PIN	Date	Remarks
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				

Card Holder Record

No.	Name	Card Number	Registration Date	Remarks
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
.....				
2550				