

User Manual

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



TA7003NT Time & Attendance Standalone



KEYKING GROUP LIMITED

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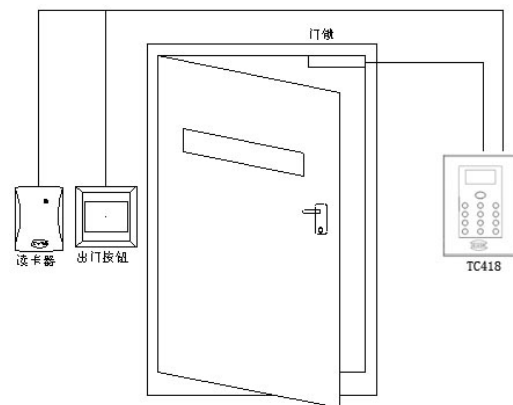
Chapter1 Introduction

1.1 Summary

TA7003NT is a new outstanding T&A standalone controller with OLED screen developed by KEYKING. When TA7003NT works with a fingerprint reader as T&A controller, employees need to press their finger on the reader(who has been authorized) to complete attendance. The OLED screen will display time and staff ID info. This system greatly improved the T&A simplicity and offered cost saving on traditional tags. When TA7003NT works as an access controller, the traditional key is no longer needed, employees can enter their special space by flashing authorized cards. TA7003NT can by itself control a door, both in and out, at least one reader is needed for one side, and the other side can be controlled either by a reader or a Rex Button. This system provides a more convenient and secured access environment, it also makes it possible for managers to verify the attendance in time. TA7003NT is compatible with a big range of applications including, building management, enterprise management, government, military and prison.



TA7003NT Appearance



TA7003NT Diagram

Model Definition:

TA7003NT/E-----Built in EM Card Reader

TA7003NT/H-----Built in HID Card Reader;

TA7003NT/U-----Built in Mifare\CPU Card Reader;

Supported Card Type:

E: EM Card; Exp EM4100, TK4100 Series.

H: HID Card; Exp: 1326、1386 Series.

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

1.2 Features

1. TA7003NT is a new generation product of high value which has integrated keypad, text display, single door control and T&A. Its 3 flexible uses are as below.
 - T&A: TA7003NT can directly communicate with host PC via RS485 or TCP/IP which managed by software AccessWatch3000.
 - Single Door Controller: TA7003NT can work as a access controller with external readers for single door In/Out control.
 - Wiegand Reader With OLED Display: TA7003NT can work as a reader which outputs wiegand26 or wiegand34 signal while the OLED screen shows time and card number.
2. 1 Rex Button output, 1 magnetic input, 1 Wiegand 26/34 input/output(both IC, ID card compatible, IC card reads serial number), 2 auxiliary inputs, 2 relay outputs, 1 RS485 interface, 1 door bell interface.
3. Can connect with external Wiegand26/34 reader (keypad reader included), Entrance/exit can be controlled by “Card/PIN” or “Card + PIN”.
4. Customized OLED LOGO display, English menu with backlight. Showing the name and card number when reading a card.
5. Network (127 for RS485, no limit for TCP/IP), offline mode available but customers need to configure via the keypad before work offline.
6. The system can register 100 pcs Wiegand26/34 RFID cards and store 200000 events when it's offline mode. When it comes to online mode, all data can be uploaded to host PC and 30000 cards can be registered.
7. 8 sorts of alarm clock for 9 to 5.
8. System can assign different time groups for 124 user departments within 365 days. Each door can be authorized with 31 time groups, 7 holiday groups. Any days of a year can be the composition of a holiday group. Anyone who has no access authority of holiday group will not be entrance allowed. The system will inform all controllers to adjust time schedule if the date in the 2 temporary time group triggered. The system will automatically sync the clock to ensure accurate event alert.
9. Remote door control available, multiple incidents alarm functions, exp as door open timeout, door close timeout, intrusion alarm, duress alarm, tamper alarm and fire alarm.

10. Specifications

Work Mode:

- Card Mode;
- PIN Mode;
- Card/PIN Mode;
- Card + PIN(interval time 8 sec)

Supported User Number: 30000 pcs

PIN User Number: 10

Communicate Frequency:

125KHZ:

E: EM;

13.56MHZ:

M: Mifare;

U: CPU

Read Range: 3-15CM

Outputs: NC/NO, 30VDC, 5A

Power Supply: 12VDC \pm 10% , 200MA

Dimension: 117mm (H) x 86mm (W) x 22mm (D)

。

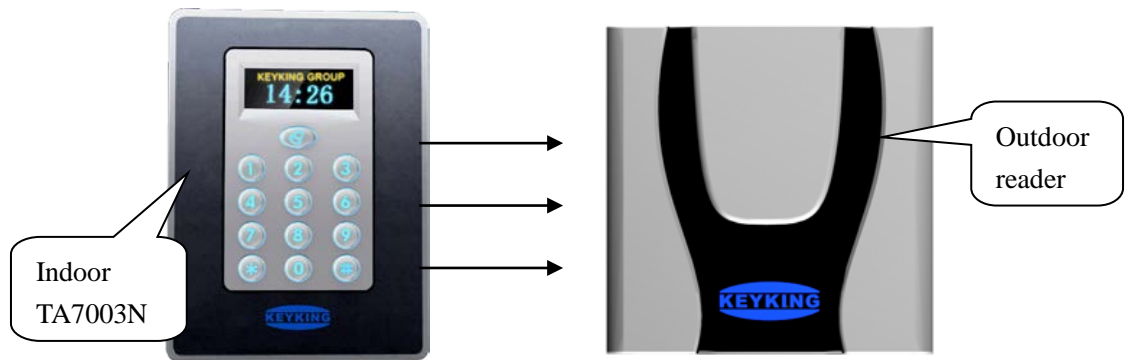
1.3 Application Mode

3 Application Modes:

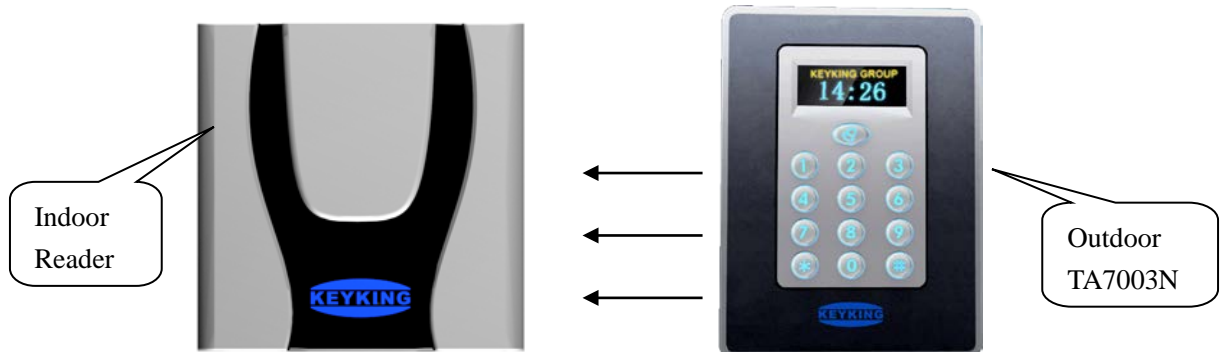
- Standalone



- Outdoor external reader, indoor TA7003NT



- Indoor external reader, outdoor TA7003NT



Chapter2 Wiring Diagram

2.1 TA7003NT Appearance

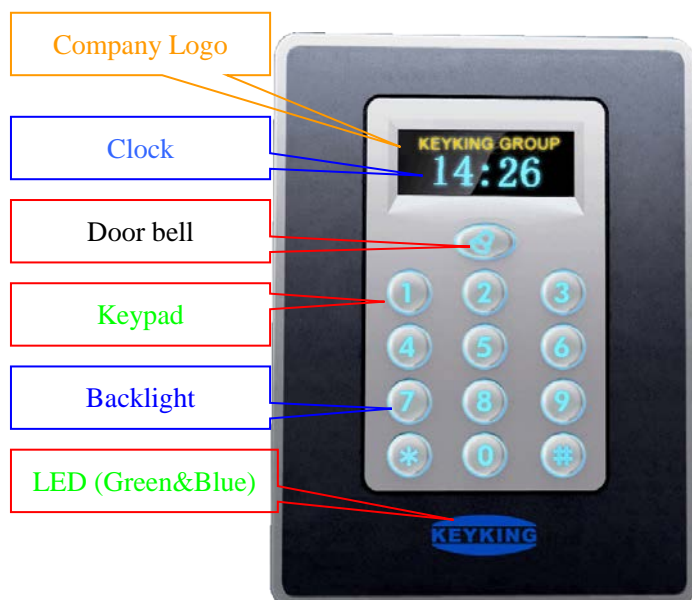


Figure 2-1

LED:

- Blue LED: Power indicator
- Green LED: Sensor indicator (Relay turned on indicator)

Keypad:

NO.	Key	Description	NO.	Key	Description
1	1	Numeral 1	7	7	Numeral 7
2	2	Numeral 2	8	8	Numeral 8
3	3	Numeral 3	9	9	Numeral 9
4	4	Numeral 4	10	0	Numeral 0
5	5	Numeral 5	1	*	Cancel / Start
6	6	Numeral 6	12	#	Enter / Confirm

2.2 Wiring Diagram

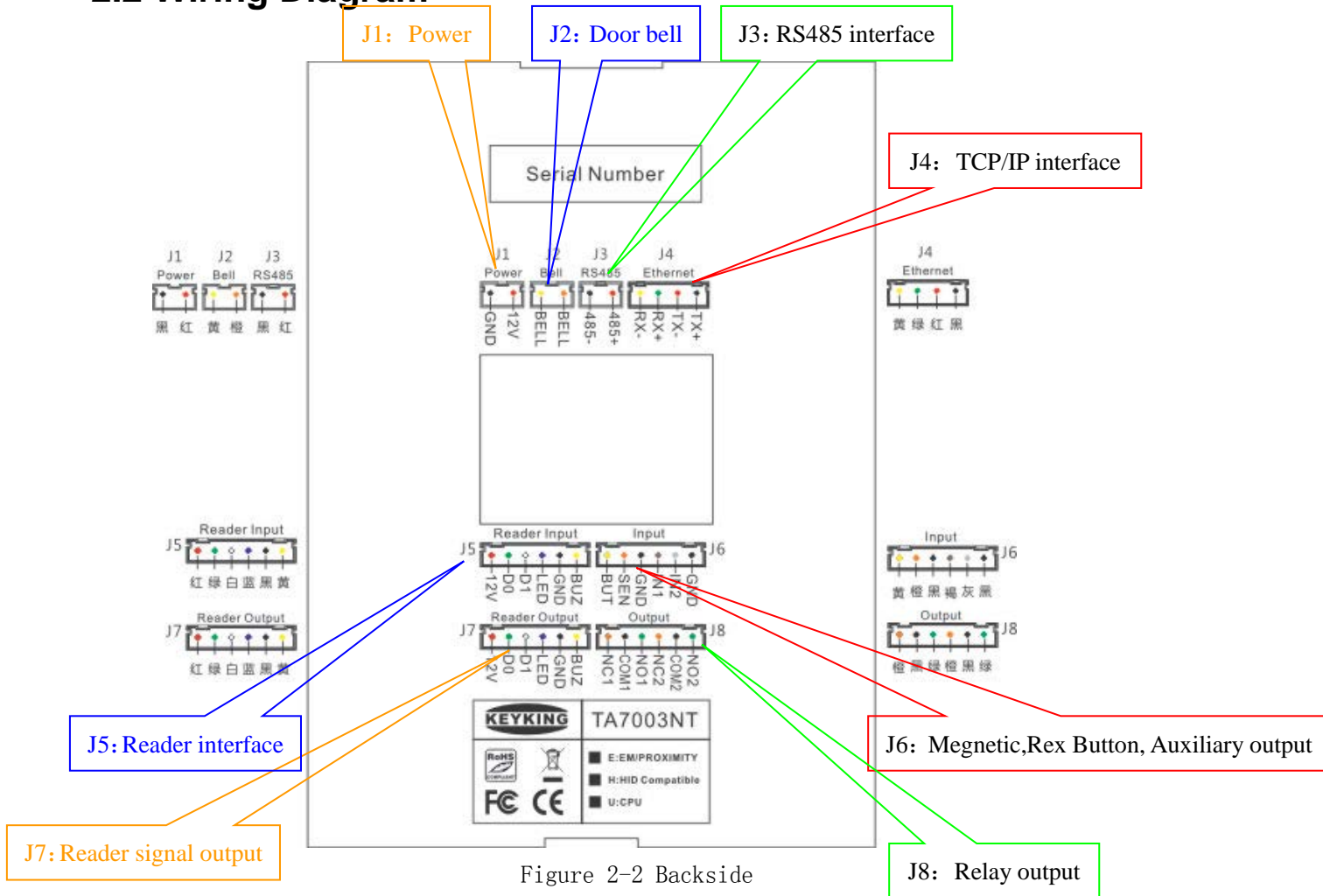


Figure 2-2 Backside

TCP/IP interface, as shown below:



Figure 2-3

Icon	NO	Connection	Definition	Icon	NO	Connection	Definition
J1	1	GND	Power supply	J6	17	BUT	Magnetic, Rex Button, Auxiliary output
	2	12V			18	SEN	
J2	3	BELL	Door bell		19	GND	
	4	BELL			20	IN1	
J3	5	485-	485 interface		21	IN2	
	6	485+			22	GND	
J4	7	RX-	TCP/IP interface	J7	23	12V	Reader signal output
	8	RX+			24	D0	
	9	TX-			25	D1	
	10	TX+			26	LED	
J5	11	12V	External reader interface		27	GND	
	12	D0			28	BUZ	
	13	D1		J8	29	NC1	Relay output
	14	LED			30	COM1	
	15	GND			31	NO1	
	16	BUZ			32	NC2	
				33	COM2		
					34	NO2	



2-1

Wiring Description:

J1: Power Supply

- ✓ 12V: DC 12V Positive
- ✓ GND: Ground

J2: Door Bell

- ✓ Normally, J2 outputs open signal if  is not pressed.
- ✓ If door bell is used,  is pressed and J2 will outputs close signal to drive door bell rings.

J3: 485 Interfaces

- ✓ An IC232 or RS485HUB is needed to connect host PC.
- ✓ Customer can set all configurations when it's connected to host PC. Moreover user authorization and exporting card events can also be done via AccessWatch3000.

J4: TCP/IP Interfaces

- ✓ Available to use a switch or directly connect to host PC via Ethernet port.
- ✓ Customer can set all configurations when it's connected to host PC. Moreover user authorization and exporting card events can also be done via AccessWatch3000.

J5: External Reader Interfaces

- ✓ 12V: External reader power supply (Positive)
- ✓ D0: Wiegand input
- ✓ D1: Wiegand output
- ✓ LED: Indicator connector
- ✓ GND: Ground.

- ✓ BUZ: Buzzer connector

J6: Magnetic Switch, Rex Button, Auxiliary Input

- ✓ BUT: Rex Button connector (GND for the other side) .
- ✓ SEN: Magnetic switch connector (GND for the other side) .
- ✓ GND: Negative (Public side) .
- ✓ IN1: Auxiliary input 1.
- ✓ IN2: Auxiliary input 2.

J7: Built-in Reader Output

- ✓ 12V: Positive
- ✓ D0: Wiegand output 0
- ✓ D1: Wiegand output 1
- ✓ LED: Indicator connector
- ✓ GND: Negative (Public side) .
- ✓ BUZ: Buzzer connector

J8: Electronic Lock、Relay Output

- ✓ Based on customized lock model.

2.3 Lock Wiring Diagram

J4: Relay Output (Lock Control)

As shown below.

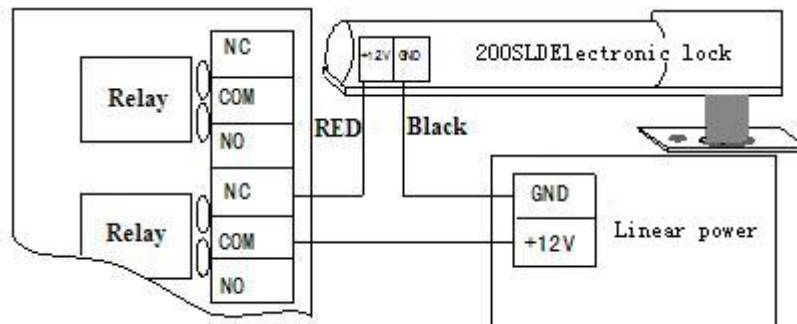


Figure 2-4 Electronic Strike Lock

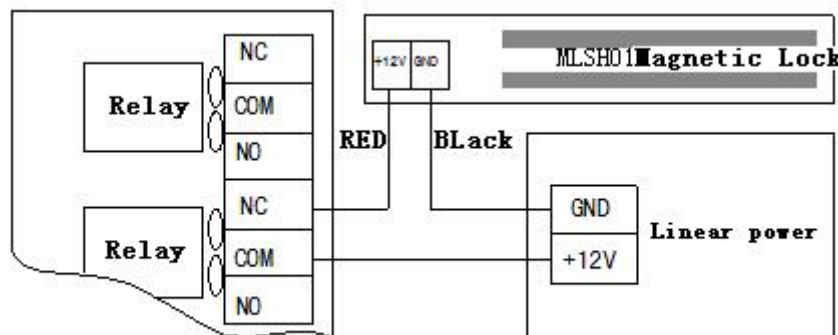


Figure 2-5 Magnetic Lock (Fail safe)

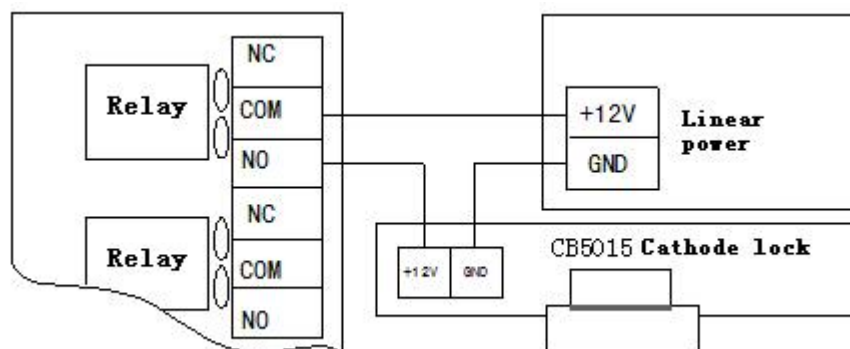


Figure 2-6 Cathode lock (Fail secure)

2.4 RS485 Net Bus

TA7003NT can communicate via half-duplex RS485 bus, up to 1200m communication distance. Terminals use series connection.

Please make sure power supply is in off state before do wiring. This helps to avoid any damage maybe caused to the device.

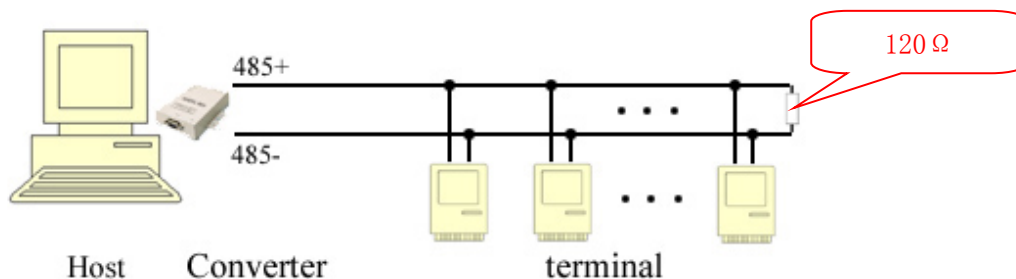


Figure 2-7

- **Twisted-pair:** Twisted-pair are used to connect controller to controller. No GND is needed.
- **Series connection:** Terminals are connecting via series connection. A multi-bus RS485HUB is needed if customer needs parallel connection.
- **RS485 Single Point Ground:** If controller transmission line is with shielding or needs ground line, then all controllers' transmission line can be grounded in either controller. Please note do not gather all metal side to the GND of controller.
- **Terminal Resistance:** Series connected at the end of the circuit.

2.5 TCP/IP Network

TA7003NT TCP/IP network

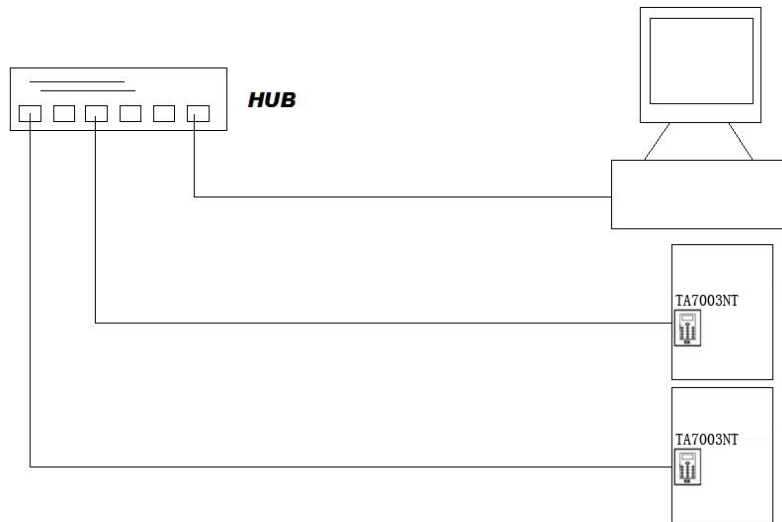


Figure 2-8

TCP/IP crystal head

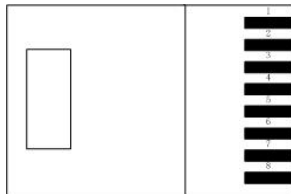


Figure 2-9

RJ45 NO.	Difination
1	TX+
2	TX-
3	RX+
6	RX-

Sheet 2-2

Normal net cable (to switch)

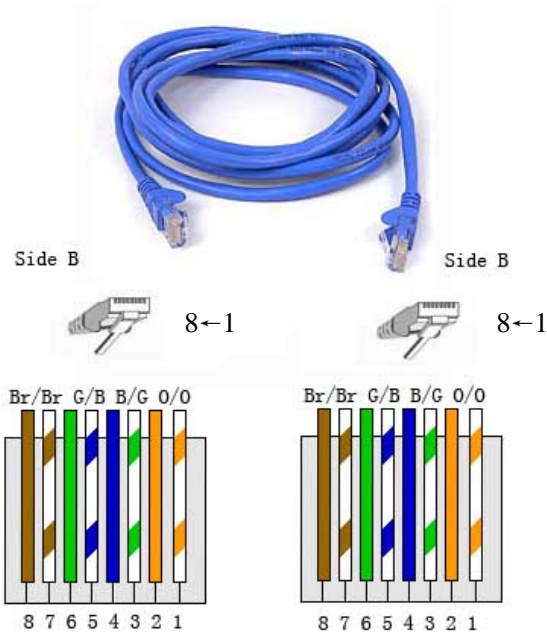


图 2-10

Crossed cable (to PC)

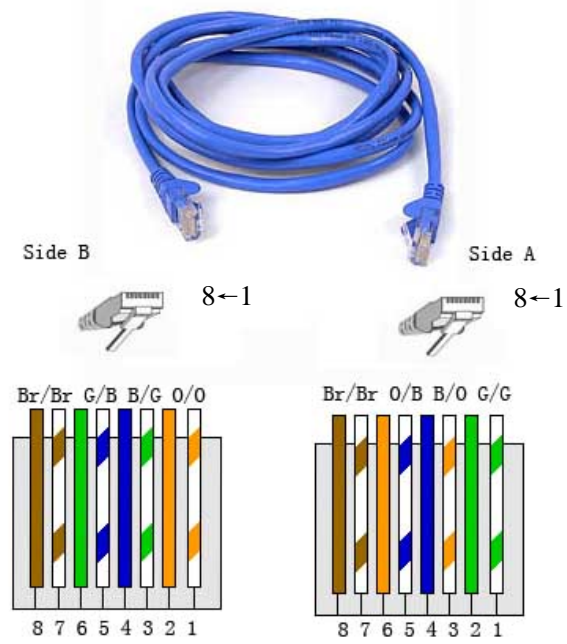
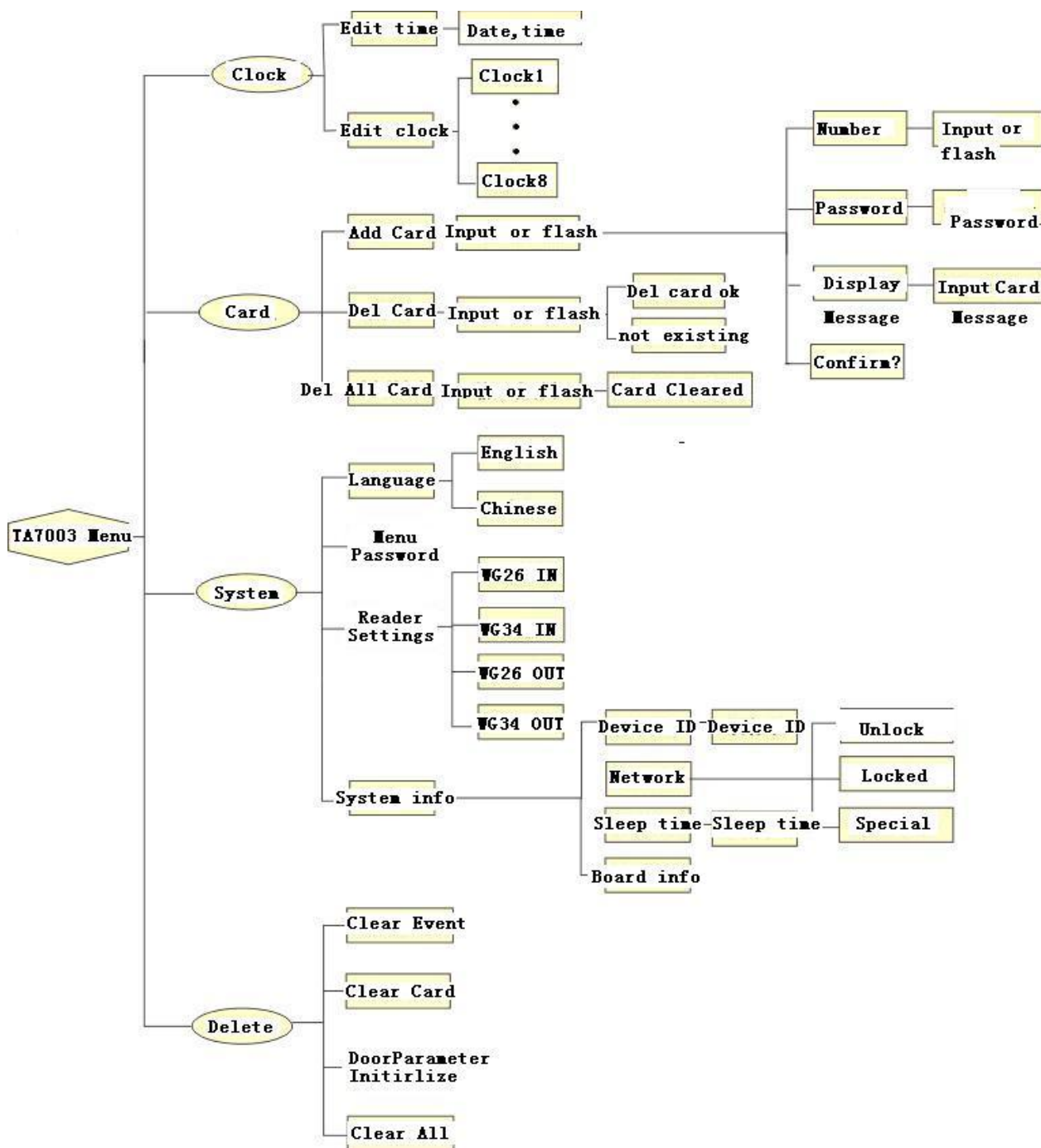


Figure 2-11

Chapter3 Instructions

User Management、PIN management、Work mode and Time set are configured in the manage menu. Menu structure is shown below.

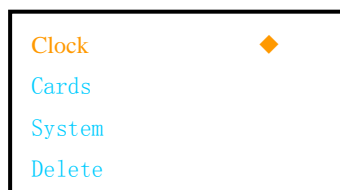
Press * 39 # to enter manage menu when idle. In the main menu, “*” works as “cancel”, “#” works as “confirm”, “3” works as “Up”, “9” works as “down”.



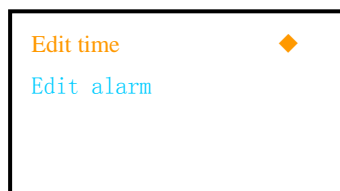
3.1 Clock Configuration

3.1.1 Edit Time

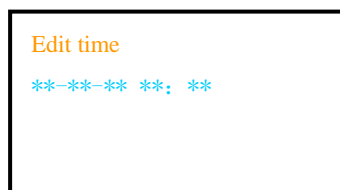
1. Press * 39 # to enter manage menu when idle. In the main menu, “*” works as “cancel”, “#” works as “confirm”, “3” works as “Up”, “9” works as “down”.



2. Press “#” to edit time.



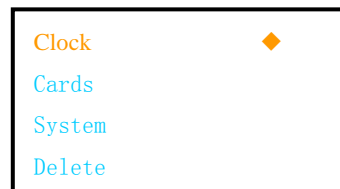
3. Use keypad to set the current time, press “#” to confirm.



Time format: Year-Month-Day Hour: Minute

3.1.2 Edit Alarm

1. Press * 39 # to enter manage menu when idle.



2. Press # to enter Clock menu, press 9 to select edit alarm.



2. Press # to enter edit alarm.

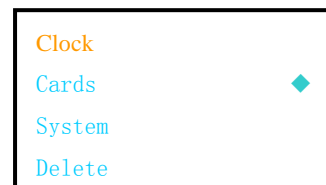


Press # to select a alarm to be edited. Use keypad to enter the alarm details.

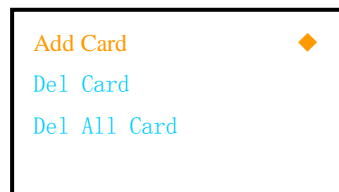
3.2 Card Configuration

3.2. 1 Add Card

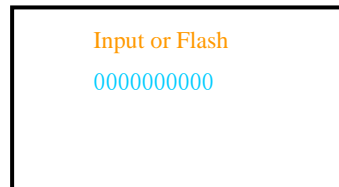
1. Use button 3 or 9 to select Cards when enter the manage menu.



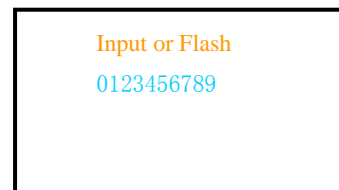
2. Use button 3 or 9 to select Add Card.



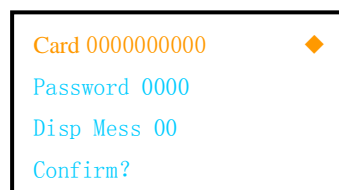
3. Press # to enter register interface.



4. Input a ten digits number or flash the card you want to register on TA7003NT, the card number will be read by TA7003NT automatically and shows up on the screen.



5. Press # to enter the next menu.



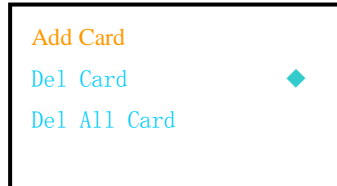
Verify the card information and input the password if needed then select “Confirm?” and press# to confirm. If customer wants to add another or more cards, please go back to step 3 and repeat the process.

3.2. 2 Delete Card

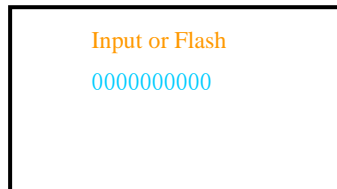
1. Use button 3 or 9 to select Cards when enter the manage menu.



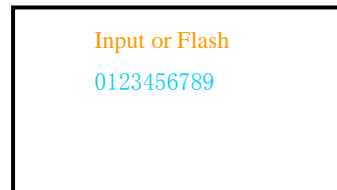
2. Use button 3 or 9 to select Del Card.



3. Press # to enter delete card interface.



4. Input a ten digits number or flash the card you want to register on TA7003NT, the card number will be read by TA7003NT automatically and shows up on the screen.



5. Press # to enter the next menu.



Note: When the screen shows Del Card OK, it means you have successfully deleted a registered card. If customer wants to delete more cards, just continue flashing card and press # to confirm deleting. There is no need to go back to step 2.

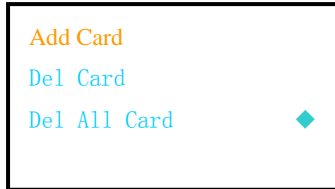
3.2.3 Del All Cards

Use Del All Cards to clear all cards.

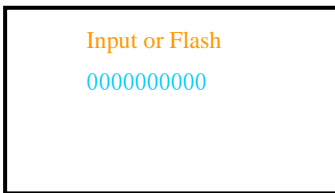
1. Use button 3 or 9 to select Cards when enter the manage menu.



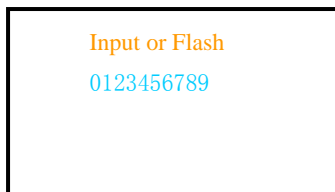
2. Use button 3 or 9 to select Del All Card



3. Press # to enter Delete All Card interface.



4. Input a ten digits number or flash the card you want to register on TA7003NT, the card number will be read by TA7003NT automatically and shows up on the screen.



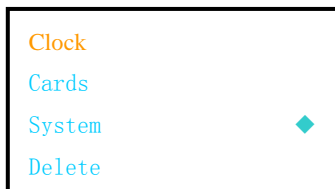
5. Press # to enter the next menu.

3.3 System Configuration

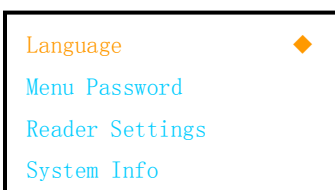
3.3.1 Language Setting

TA7003NT support two languages. (English and Chinese)

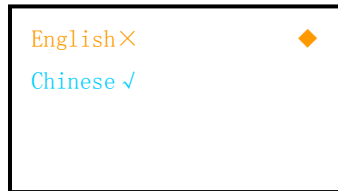
1. Use button 3 or 9 to select System when enter the manage menu.



2. Press # to enter System interface.



3. Press # to enter language setting interface.

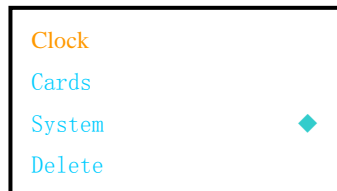


Use button 3 or 9 to select the language customer wanted. Press # to confirm.

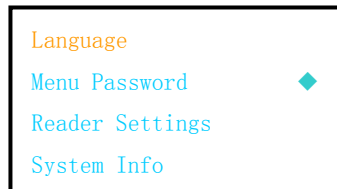
3.3.2 Menu Password

There is no defaulted password, customer can set favored password. Steps:

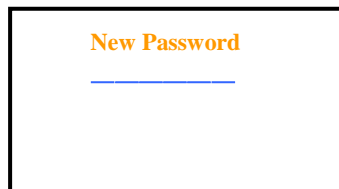
1. Use button 3 or 9 to select System when enter the manage menu.



2. Use button 3 or 9 to select Menu Password.



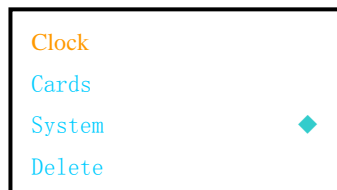
3. Press # to enter Menu Password setting interface



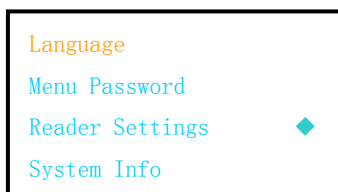
Use the keypad to input 6 digits password and press # to confirm. User will have to input the password if he wants to enter manage menu.

3.3.3 Reader Settings

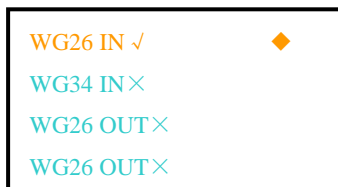
1. Use button 3 or 9 to select System when enter the manage menu.



2. Use button 3 or 9 to select Reader Settings.



3. Press # to enter Reader setting interface

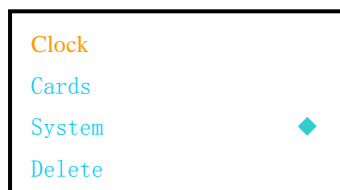


Use button 3 or 9 to select reader Input/output format.

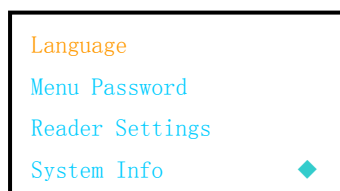
3.3.4 System Info Configuration

3.3.4.1 Device ID

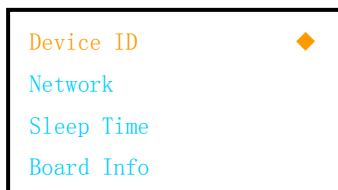
1. Use button 3 or 9 to select System when enter the manage menu.



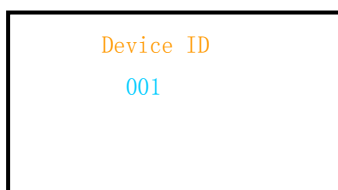
2. Use button 3 or 9 to select System Info.



3. Press # to enter System Info setting interface



4. Use button 3 or 9 to select Device ID and press # to confirm.



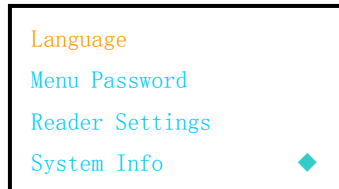
Press # to confirm Device ID setting. Device ID must be set when using multiple TA7003NT while it's not necessary for standalone.

3.3.4.2 Network Configuration

1. Use button 3 or 9 to select System when enter the manage menu.



2. Use button 3 or 9 to select System Info.



3. Press # to enter System Info setting interface



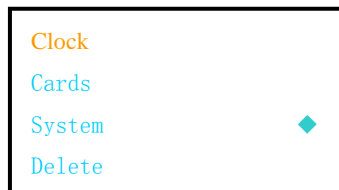
4. Use button 3 or 9 to select Network and press # to confirm.



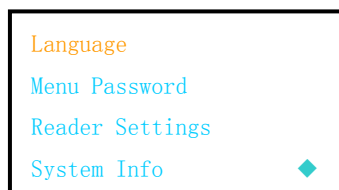
Use button 3 or 9 to select network mode. The defaulted IP address is 10.1.1.10

3.3.4.3 Sleep Time

1. Use button 3 or 9 to select System when enter the manage menu.



2. Use button 3 or 9 to select System Info.



3. Press # to enter System Info setting interface.



- Use button 3 or 9 to select Sleep Time and press # to confirm.



Use keypad to input sleep time (sec), press # to confirm.

3.3.4.4 Board Info

Use to check TA7003NT version and production date.

Example:

Version: .TA7003 Ver 03.00

Date: 20100415 (Programmed date 2010-4-15)

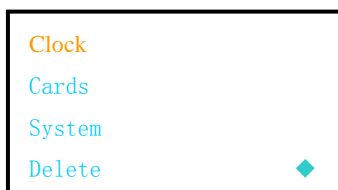
IP Address: 192.168.1.100

MAC Address: 0010F0040413

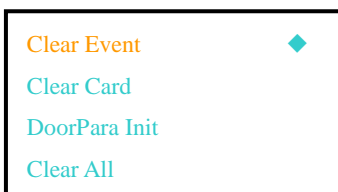
3.4 Delete

3.4.1 Clear Event

- Use button 3 or 9 to select Delete when enter the manage menu.



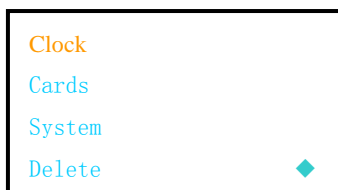
- Press # to enter Delete interface.



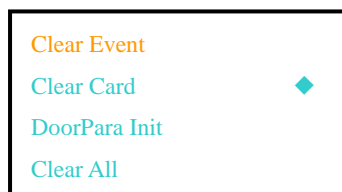
Press # again to confirm Clear Event.

3.4.2 Clear Card

- Use button 3 or 9 to select Delete when enter the manage menu.



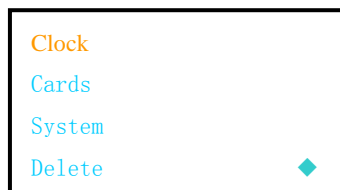
- Press # to enter Delete interface and use button 3 or 9 to select Clear Card.



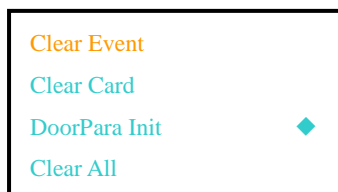
Press # again to confirm Clear Card.

3.4.3 Door Parameter Initialize

1. Use button 3 or 9 to select Delete when enter the manage menu.



2. Press # to enter Delete interface and use button 3 or 9 to select DoorPara Init.



Press # again to confirm Door Parameter Initialize.

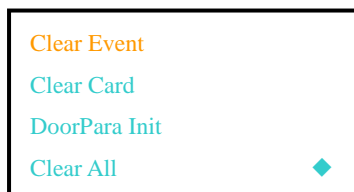
3.4.4 Clear All

If somehow the entire data, time, password or work mode is messed up, we can use Clear All to reset the controller to defaulted state.

1. Use button 3 or 9 to select Delete when enter the manage menu.



2. Press # to enter Delete interface and use button 3 or 9 to select Clear All.



Press # again to confirm Clear All and all configuration will be set to defaulted.

3.5 Door Open Mode

- 1 By Card

Steps: 1. Register your card by using Add Card in the manage menu. 2. Flash the card on TA7003NT. (3-10cm read range) 3. The screen shows card number, owner name. 4. Relay responds, door open.N

Please note that if the card is not registered, the TA7003NT will beep three short sounds and shows invalid card on the screen. Door will stay closed.

2 By card + PIN

Steps: 1. Register your card and set password by using Add Card in the manage menu. Password is limited to 4 digits. 2. Flash the card on TA7003NT. (3-10cm read range) Input your password after a long beep sound and press # to confirm. Password should be inputted in 8 seconds after flashing your card.

Chapter 4 Installation

Steps:

4.1 In the Wall

1. Use installation box: Drill a hole on the wall (size:86x86mm) where you want to install your reader. Then install the installation box in the hole.

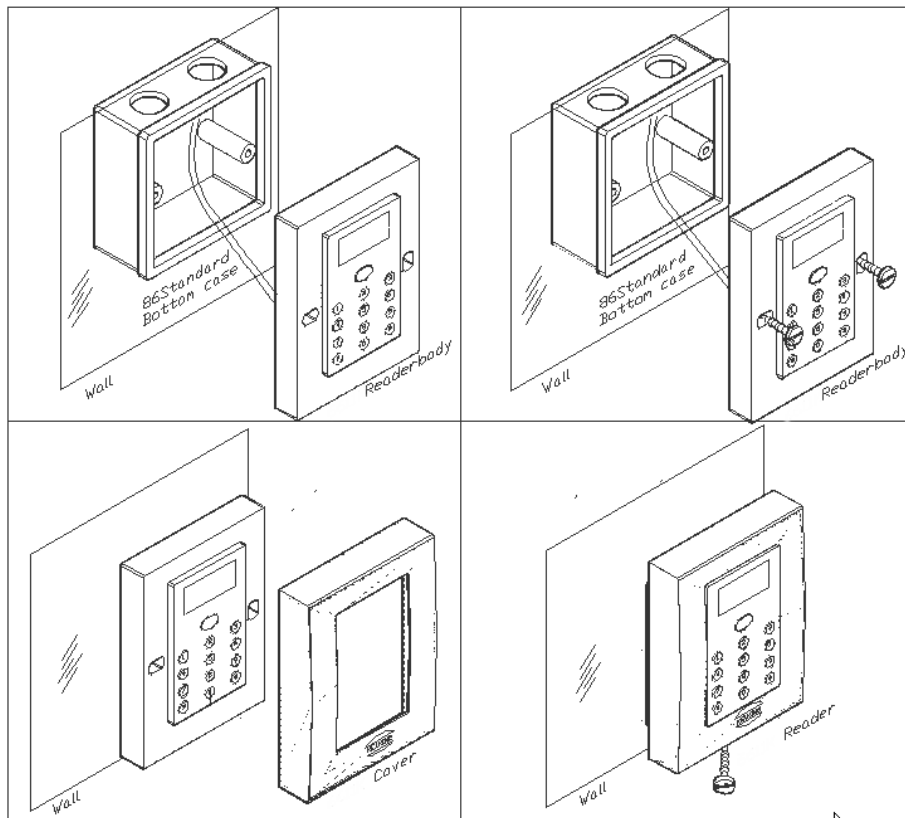


a). Installation box (Standard 86 box, single)



b). Installation box (double)

2. Wiring: Design the wiring between reader and controller, then process wiring.
3. Connection: Please refer to chapter 2 of the connections.
4. Fix reader on the box: Use 2 M6*30 screws to fix reader on the box.
5. Cover up.

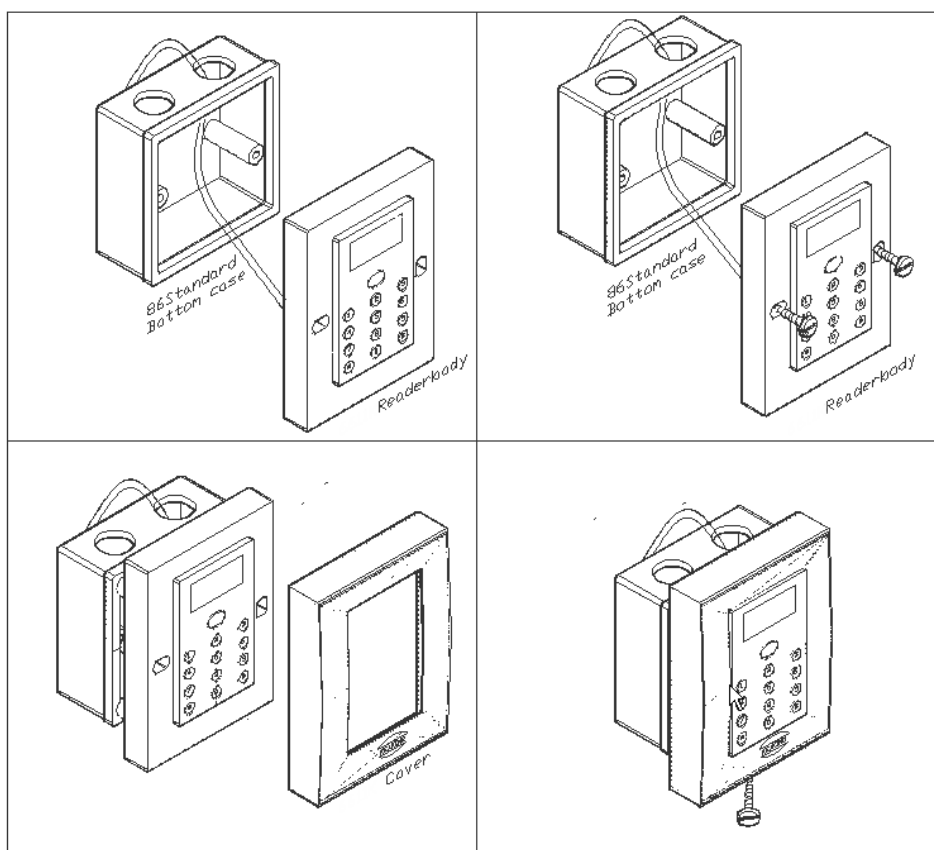


4.2 On the Wall

1. Use installation box: Use 4 screws to fix standard 86 box on the wall.



- a). Installation box (Standard 86 box, single)
2. Wiring: Design the wiring between reader and controller, then process wiring.
3. Connection: Please refer to chapter 2 of the connections.
4. Fix reader on the box: Use 2 M6*30 screws to fix reader on the box.
5. Cover up.



4.3 Without Installation Box

1. Drill a hole in the wall with ϕ 30mm

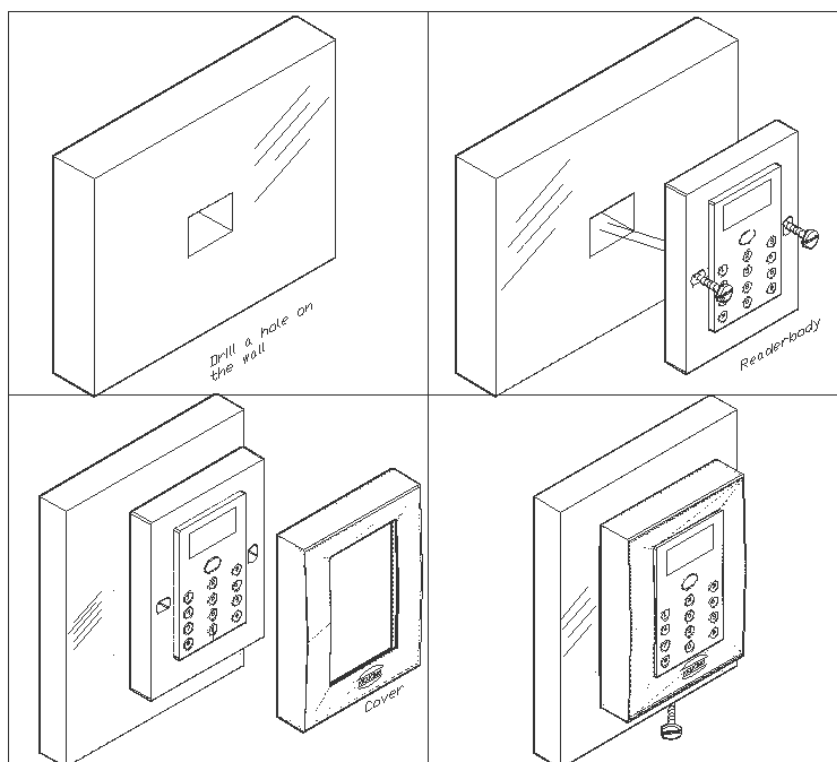


- a). ϕ 30mm drill tool

- b). Hole diameter ϕ 30mm

Note: This tool is used for metal and wooden wall, no good for stone or cement wall.

2. Wiring: Design the wiring between reader and controller, then process wiring.
3. Connection: Please refer to chapter 2 of the connections.
4. Fix reader: Use 2 ϕ 4mm, 30mm long screws to fix reader on the wall.
5. Cover up.



Chapter 5 FAQ

NO	Descriptions	Solution
1	No response for flashing (indicator off, buzzer no beeping)	<ul style="list-style-type: none"> ● Power problem (check power supply) ● Invalid card type (use supported card)
2	Door stays opened	<ul style="list-style-type: none"> ● Set short relay responding time in manage menu
3	Password missing	<ul style="list-style-type: none"> ● Reset password in PC.(Connect to PC first)
4	Can not open door by flashing card	<ul style="list-style-type: none"> ● Device not powered up (TA7003NT, lock) ● Invalid card (register your card) ● Door open mode (Set to Card, not Card + PIN)
5	Set door open mode as "Card + PIN" in normal state, but can not open the door by card + PIN.	<ul style="list-style-type: none"> ● Invalid card (register your card) ● Wrong password (Check password or set a new one) ● Press # when finish entering password ● Enter password 3 or 4 seconds later (must be entered in 10 seconds)
6	Can not open the door by PIN when it's normal state.	<ul style="list-style-type: none"> ● Fail add PIN user (Retry) ● Wrong password (enter the password again) ● Forget to press "*" before entering PIN. ● Forget to press "# " after entering PIN. ● Wrong door open mode (To set door open mode as PIN or Card + PIN)
7	Door bell not working	<ul style="list-style-type: none"> ● No connected door bells ● Cable problem ● Faulty door bells
8	Wrong Time/Date	<ul style="list-style-type: none"> ● Set Time/Date in manage menu.

Attached:

Note: Please record card registration events as per attached form when using Card/Card + PIN mode. This will help to make a good management if customer wants to register a card or delete a card.

Card User Records

NO	Name	Card Number	PIN	Register Date	Note
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
.....					
30000					