Two door two-way Slave Access Controller

User’s Manual

V1.0.0

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Overview

This document elaborates on structure, installation, interface and wiring of two-door slave access controller.

Symbol Definition

The following symbols may appear in this document. And their meanings are as follows:

Symbol	Note
 Danger	It indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 Warning	It indicates a moderate or low level of potential danger which, if not avoided, could result in minor or moderate injury.
 Caution	It indicates a potential risk that, if ignored, could result in damage to device, loss of data, degraded performance, or unpredictable results.
 Anti-static	It means electrostatic-sensitive device.
 Protection against electric shock	It means high-voltage danger.
 Laser radiation	It means intensive laser radiation.
 Tip	It means that it can help you to solve some problems or save your time.
 Note	It means the additional information, which is to emphasis or supplement.

Important Safeguards and Warnings

The following description is the correct application method of the device. Please read the manual carefully before use, in order to prevent danger and property loss. Strictly conform to the manual during application and keep it properly after reading.

Operating Requirement

- Please don't place and install the device in an area exposed to direct sunlight or near heat generating device.
- Please don't install the device in a humid, dusty or fuliginous area.
- Please keep its horizontal installation, or install it at stable places, and prevent it from falling.
- Please don't drip or splash liquids onto the device; don't put on the device anything filled with liquids, in order to prevent liquids from flowing into the device.
- Please install the device at well-ventilated places; don't block its ventilation opening.
- Use the device only within rated input and output range.
- Please don't dismantle the device arbitrarily.
- Please transport, use and store the device within allowed humidity and temperature range.

Power Requirement

- Please make sure to use batteries according to requirements; otherwise, it may result in fire, explosion or burning risks of batteries!
- To replace batteries, only the same type of batteries can be used!
- The product shall use electric cables (power cables) recommended by this area, which shall be used within its rated specification!
- Please use standard power adapter matched with the device. Otherwise, the user shall undertake resulting personnel injury or device damage.
- Please use power supply that meets SELV (safety extra low voltage) requirements, and supply power with rated voltage that conforms to Limited Power Source in IEC60950-1. For specific power supply requirements, please refer to device labels.
- Products with category I structure shall be connected to grid power output socket, which is equipped with protective grounding.
- Appliance coupler is a disconnecting device. During normal use, please keep an angle that facilitates operation.

Table of Contents

1 Overview

As a slave controller of access master controller, two-door slave access controller is matched with access master controller and is widely used in banks, prisons and safe places.

Its rich functions are as follows:

- Adopt sliding rail type and lock type installation, convenient installation and maintenance.
- Integrate alarm and fire alarm.
- Support 4 sets of card readers.
- Support 9 groups of signal input (exit button *2, door sensor *2 and intrusion alarm *5).
- Support 5 groups of control output (electric lock *2 and alarm output *3).
- With RS485 port, it may extend to connect lift control module, alarm or household control module.
- Support CAN bus and connect master controller.
- FLASH storage capacity is 16M (which may extend to 32M), max supports 20,000 card holders and 30,000 offline records.
- Support illegal intrusion alarm, exit overtime alarm, duress card alarm and duress code setup. Also support black-white list and patrol card setup.
- Data storage during outage, built-in RTC (support DST), online upgrading.


Caution

If this product needs to connect external power supply, please use 12V 0.5A adapter and ensure that working temperature shall not exceed -5℃～+55℃.

2 Packing List

Before installation, please check according to Table 2-1.

No.	Name	Quantity
1	Access controller	1
2	Installation positioning drawing	1
3	Accessory kit (screw, expansion pipe and wiring terminal)	1
4	Quick start guide	1
5	Certificate of qualification	1

Table 2-1

3 Installation Guide

3.1 System Structure

System structure of two-door slave access controller, door lock and reader is shown in Figure 3-1.

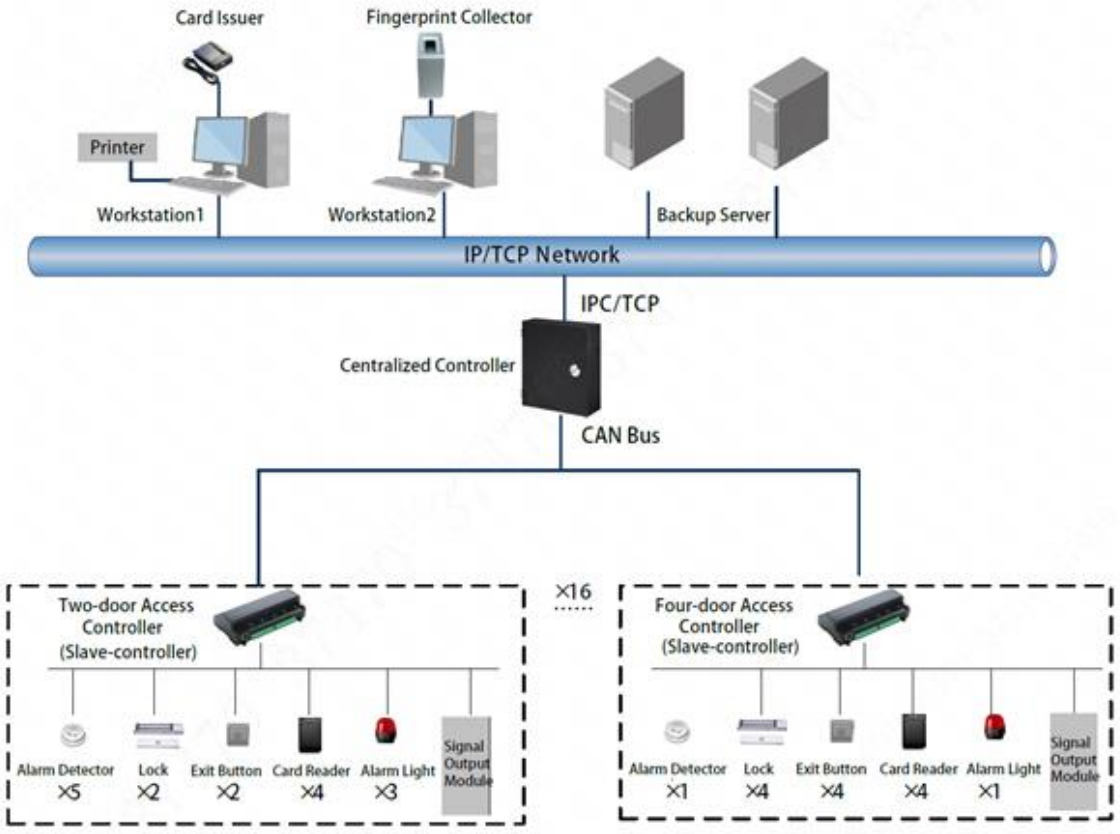


Figure 3-1

3.2 External Dimension

Its appearance and dimension is shown in Figure 3-2 and Figure 3-3. The unit is mm.

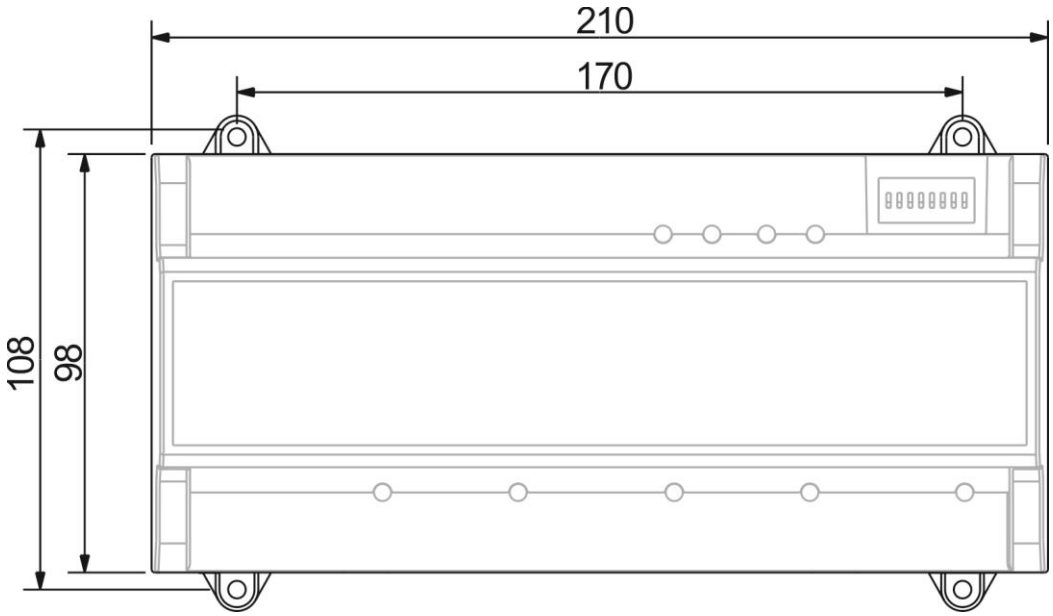


Figure 3-2

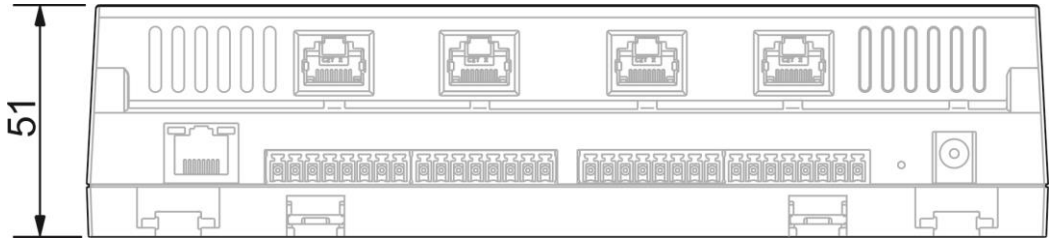


Figure 3-3

3.3 Device Installation

There are two installation modes.

- Mode 1: fix the whole device onto the wall with screws.
- Mode 2: install U-shaped guide rail, and hang the whole device onto the wall (U-shaped guide rail is a self-bought fitting).

Mode 1

Installation diagram is shown in Figure 3-4.

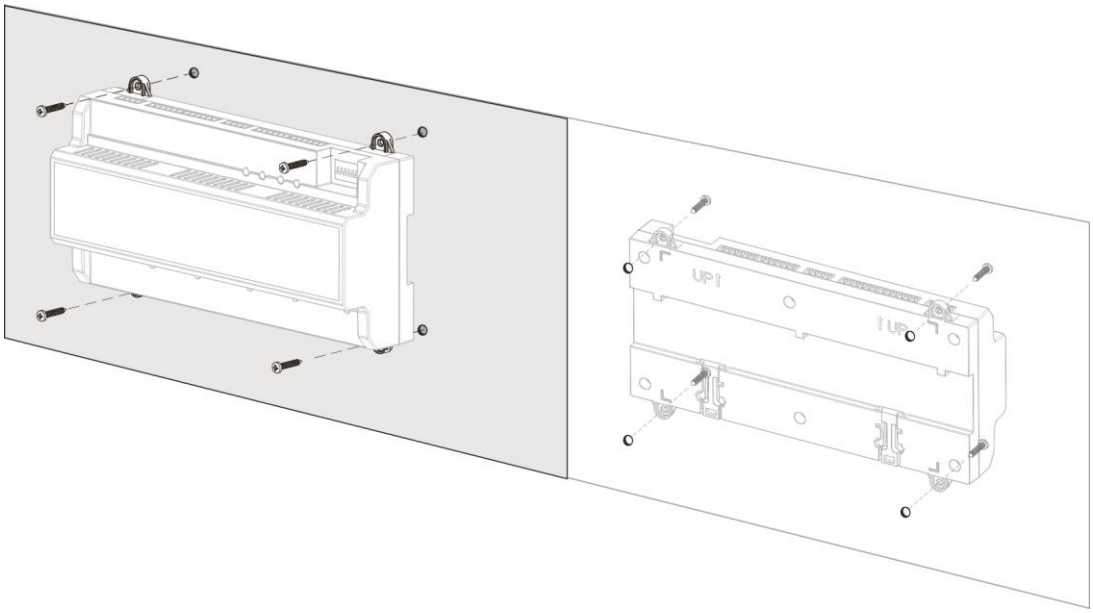


Figure 3-4

Mode 2

Installation diagram is shown in Figure 3-5.

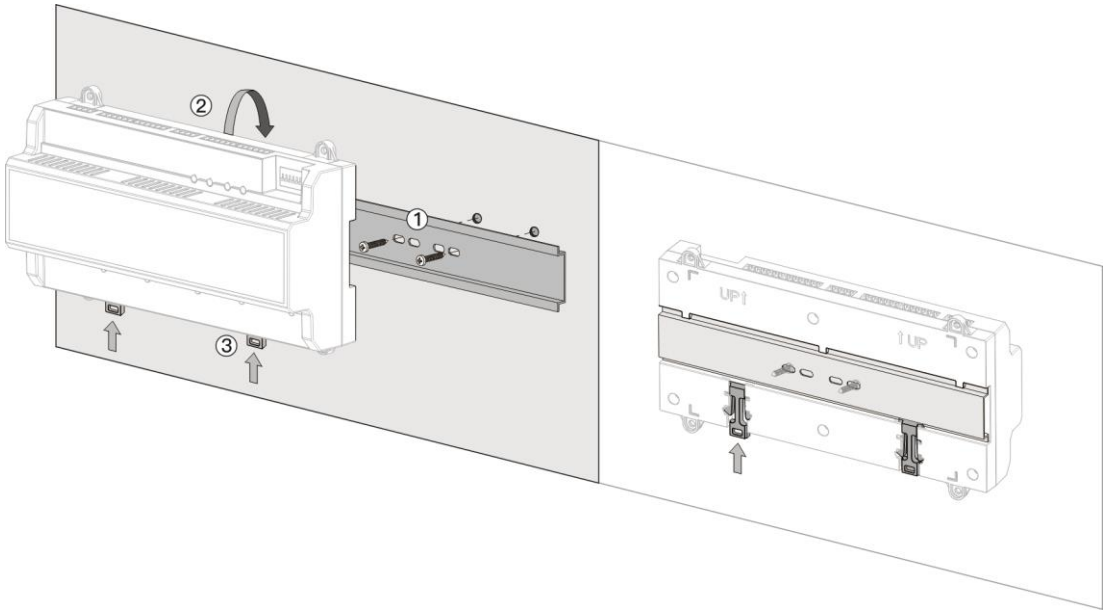


Figure 3-5

Step 1 Fix the U-shaped guide rail onto the wall with screws.

Step 2 Buckle the upper rear part of the device into upper groove of U-shaped guide rail.

Step 3 Push the snap joint at the bottom of the device upwards. The installation is completed when you hear the fitting sound.

3.4 Disassembly

If the device is installed with mode 2, please disassemble it according to Figure 3-6.

Align a screwdriver with the snap joint, press it down and the snap joint will pop up, so the

whole device can be disassembled smoothly.

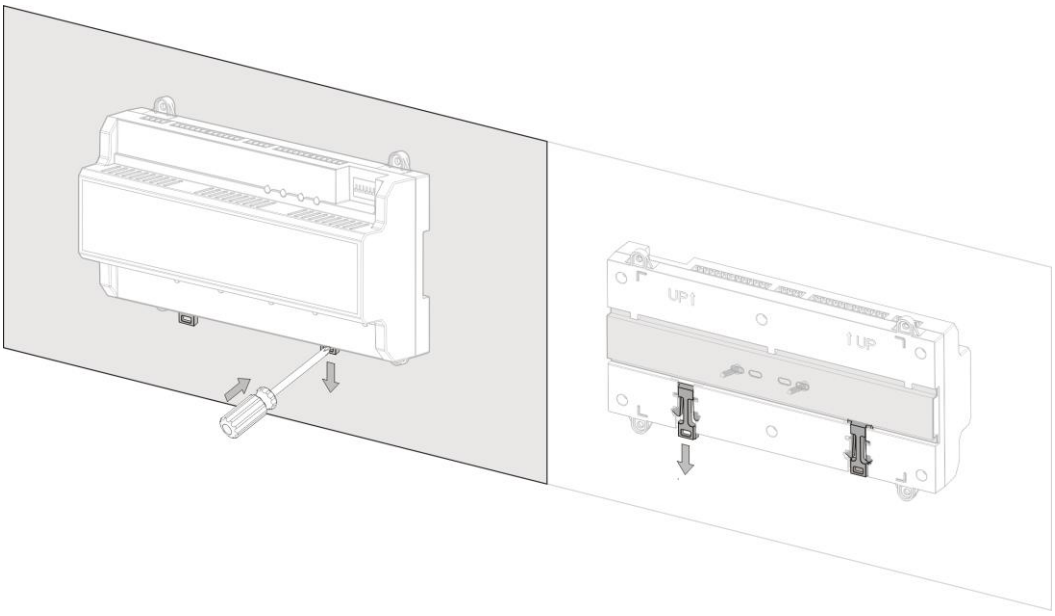


Figure 3-6

3.5 Wiring Description

Device wiring diagram is shown in Figure 3-7.

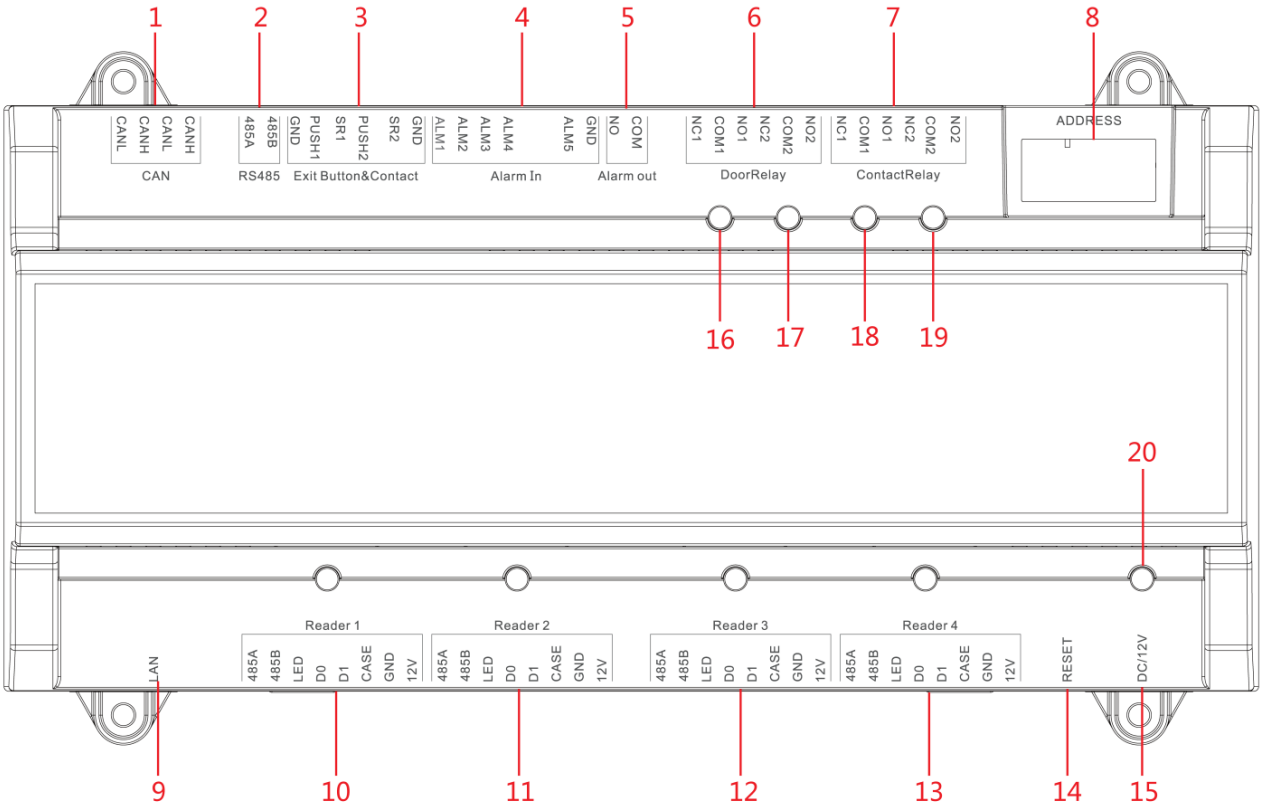


Figure 3-7

Interfaces are described in Table 3-1.

No.	Interface Description	No.	Interface Description
1	CAN bus	9	Not available at present
2	External extension module	10	Entry reader of door 1
3	Door sensor and exit button	11	Exit reader of door 1
4	External alarm input	12	Entry reader of door 2
5	External alarm output	13	Exit reader of door 2
6	Lock control output	14	Reboot
7	Internal alarm output	15	DC 12V power interface
8	Address code/transmission rate		

Table 3-1

Indicator lights are described in Table 3-2.

No.	Description
16	Lock status indicator
17	
18	Alarm status indicator
19	
20	Power indicator

Table 3-2

3.5.1 Wiring Description of CAN Bus

Wiring terminals of CAN bus are described in Table 3-3.

Interface	Wiring Terminal	Description
CAN bus	CANL	CAN bus input
	CANH	
	CANL	CAN bus output
	CANH	

Table 3-3

3.5.2 Wiring Description of Exit Button/Door Sensor

Corresponding wiring terminals of exit button and door sensor are shown in Figure 3-8. Please refer to Table 3-4 for descriptions of wiring terminals.

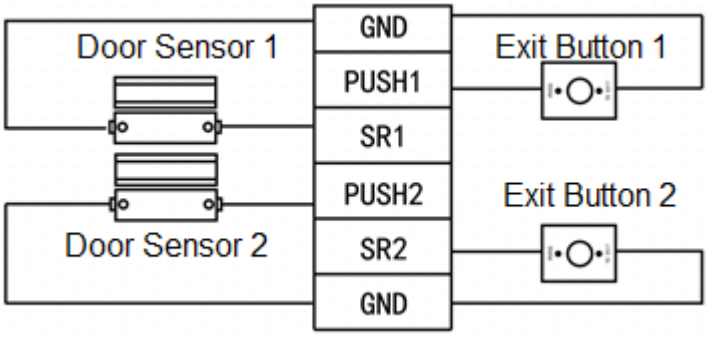


Figure 3-8

Interface	Wiring Terminal	Description
Exit button+ door	GND	Shared by exit button of door 1 and door

Interface	Wiring Terminal	Description
sensor		sensor input of door 1
	PUSH1	Exit button of door 1
	SR1	Door sensor input of door 1
	PUSH2	Exit button of door 2
	SR2	Door sensor input of door 2
	GND	Shared by exit button of door 2 and door sensor input of door 2

Table 3-4

3.5.3 Wiring Description of External Alarm Input

External alarm input connection is shown in Figure 3-9. Please refer to Table 3-4 for descriptions of wiring terminals.

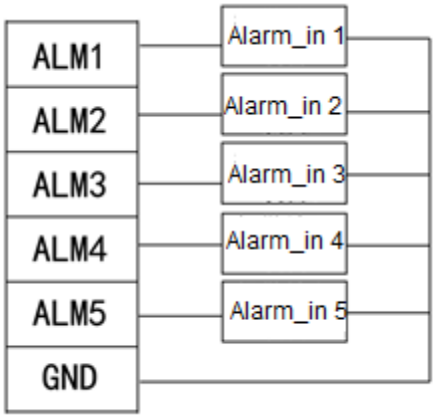


Figure 3-9

Interface	Wiring Terminal		Description
External alarm input	ALM1	Alarm input interface 1	External alarm input interfaces are able to connect smoke detector and IR detector etc..
	ALM2	Alarm input interface 2	
	ALM3	Alarm input interface 3	
	ALM4	Alarm input interface 4	
	ALM5	Alarm input interface 5 (reserved)	
	GND	Shared by alarm input interface 1, 2, 3, 4 and 5	

Table 3-5

3.5.4 Wiring Description of External Alarm Output

There are two connection modes of external alarm output, depending on alarm device. For example, IPC can use Mode 1, whereas audible and visual siren can use Mode 2, as shown in Figure 3-10 and Figure 3-11. Please refer to Table 3-6 for descriptions about wiring terminals.

Figure 3-10

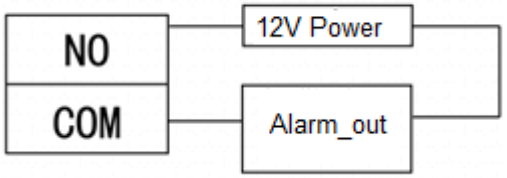


Figure 3-11

Interface	Wiring Terminal	Description
External alarm output	NO	External alarm output interfaces are able to connect audible and visual sirens.
	COM	

Table 3-6

3.5.5 Wiring Description of Lock

Support 2 groups of lock control outputs; serial numbers after the terminals represent corresponding doors. Please choose a proper connection mode according to lock type, as shown in Figure 3-12, Figure 3-13 and Figure 3-14. Please refer to Table 3-7 for descriptions of wiring terminals.

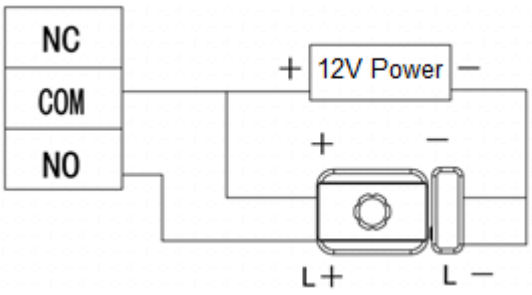


Figure 3-12

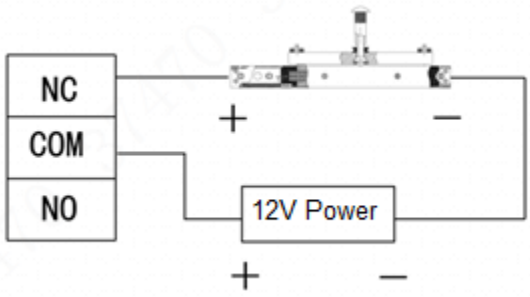


Figure 3-13

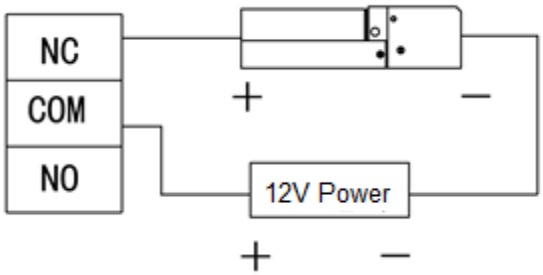


Figure 3-14

Interface	Wiring Terminal	Description
Lock control output	NC1	Lock control of door 1
	COM1	
	NO1	
	NC2	Lock control of door 2
	COM2	
	NO2	

Table 3-7

3.5.6 Wiring Description of Internal Alarm Output

Corresponding wiring terminals of internal alarm control output are shown in Table 3-8.

Interface	Wiring Terminal	Description
Internal alarm control output	NC1	Intrusion, overtime and vandal-proof alarm output of door 1. Output time lasts for 15s.
	COM1	
	NO1	
	NC2	Intrusion, overtime and vandal-proof alarm output of door 2. Output time lasts for 15s.
	COM2	
	NO42	

Table 3-8

3.5.7 Wiring Description of Reader

Note

1 door only supports to connect one type of reader—485 or Wiegand.

Please refer to Table 3-9 for descriptions of wiring terminals corresponding to readers. Take Door 1 for example, and other readers are the same as door 1. Please refer to Table 3-10 for descriptions of video cable specification and length.

Interface	Wiring Terminal	Cable Color	Description
Entry Reader of Door 1	485+	Purple	485 reader
	485-	Yellow	
	LED	Brown	Wiegand reader
	D0	Green	
	D1	White	
	CASE	Blue	
	GND	Black	Reader power supply

Interface	Wiring Terminal	Cable Color	Description
	12V	Red	

Table 3-9

Reader Type	Connection Mode	Length
485 Reader	CAT5e network cable, 485 connection	100m
Wiegand Reader	CAT5e network cable, Wiegand connection	30m

Table 3-10

3.6 DIP Switch

Set device number and speed with DIP switch. DIP switch is shown in Figure 3-15. Please refer to

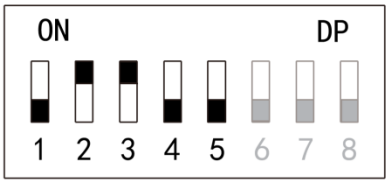
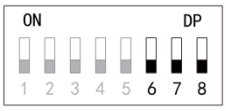
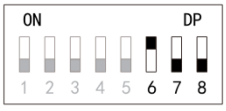
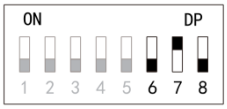
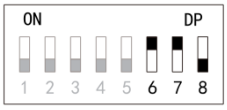
Function	No.	Description
Device Number	1～5	Set device number with binary system. The left is the lowest order. For example:  Binary representation 00110 corresponds to 6 in decimal system.
Speed	6～8	Set the speed. ● All of them are at the bottom transmission speed is 50kb/s.  , ● Only digit 6 is at ON position transmission speed is 80kb/s.  , ● Only digit 7 is at ON position transmission speed is 100kb/s.  , ● Digits 6 and 7 are at ON position transmission speed is 125kb/s.  ,

Table 3-11 for details.

-  the switch is at ON position, meaning 1.
-  the switch is at the bottom, meaning 0.

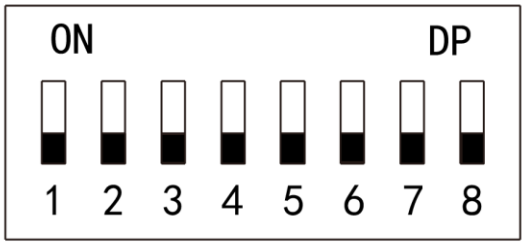


Figure 3-15

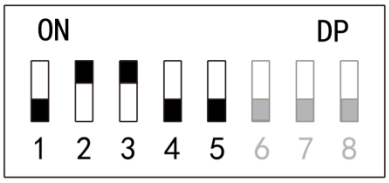
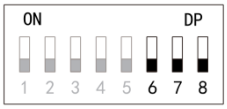
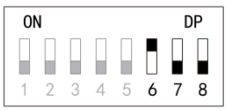
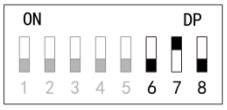
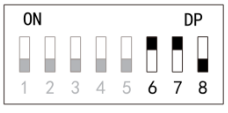
Function	No.	Description
Device Number	1～5	Set device number with binary system. The left is the lowest order. For example:  Binary representation 00110 corresponds to 6 in decimal system.
Speed	6～8	Set the speed. ● All of them are at the bottom transmission speed is 50kb/s.  , ● Only digit 6 is at ON position transmission speed is 80kb/s.  , ● Only digit 7 is at ON position transmission speed is 100kb/s.  , ● Digits 6 and 7 are at ON position transmission speed is 125kb/s.  ,

Table 3-11

3.7 Reboot

Insert a needle into RESET hole, and long press the reboot controller.

4 Technical Parameters

Parameter	Specification
Processor	32-bit ARM processor
Storage Capacity	16M
Max User	20,000
Max Record	30,000
Communication Port of Reader	Wiegand,RS485
Communication Port	CAN
Quantity of Connected Reader	4 groups
Working Power	Rated power 10V～15V DC, rated current 0.75A
Real-time Monitoring	Support
Fire Alarm Linkage	Support
Vandal-proof Alarm	Support
Illegal Intrusion Alarm	Support
Unlock Overtime Alarm	Support
Duress Card Setup	Support
DST and Time Sync	Support
Online Upgrading	Support