



1 Operating Instructions for download

Use the link www.conrad.com/downloads (alternatively scan the QR code) to download the complete operating instructions (or new/current versions if available). Follow the instructions on the web page.

2 Safety information

Before installing and configuring the product, read the safety instructions provided with the product.

3 Delivery contents

- Wi-Fi Access control
- 2x Screws
- 2x Dowels
- Diode
- Wrench
- Master card
- Safety instructions
- Operating instructions

4 Quick start guide

4.1 Programming

Function Description	Operation
Enter Programming Mode	* - Master Code - # (123456 is the factory default master code)
Change the Master Code	0 - New Code - # - Repeat the New Code - # (code: 6 digits)
Add Card User	1 - Read Card - # (can add cards continuously)
Add Fingerprint User	1 - Fingerprint - Repeat Fingerprint - Repeat Fingerprint Again - #
Add PIN User	1 (User ID) - PIN - # (The PIN is any 4~6 digits)
Delete User	2 - Fingerprint - # 2 - Read Card - # 2 - User ID - #
Exit Programming Mode	*

4.2 Using the door lock

How to release the door	
Fingerprint User	Input Fingerprint
Card User	Read Card
PIN User	Input PIN #

5 Technical data

5.1 User Capacity

Total users	10500
Common Card/PIN User.....	9988
Fingerprint User.....	500
Panic User.....	2
Visitor User.....	10

5.2 Operating Voltage

Operating Voltage.....	12 - 18 V/DC
Working Current	≤150 mA
Idle Current.....	≤60 mA

5.3 Proximity Card Reader EM

Radio Technology.....	125 kHz
Reading Range.....	2 - 6 cm

5.4 PIN Length

PIN Length.....	4 - 6 digits
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5.5 Wiring

Wiring Connections	Relay Output, Exit Button, Alarm, Door Contact, Wiegand Input, Wiegand Output
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5.6 Relay

Relay	One (NO, NC, Common)
Adjustable Relay Output Time.....	0 - 99 Seconds (5 seconds default)
Lock Output Load	max. 2 A

5.7 Wiegand Interface

EM card

Wiegand 26 - 44 bits input and output

PIN Output

4 bits, 8 bits (ASCII), 10 digits Virtual Number (Factory Default: 4 bits)

5.8 Environment

Environment	Meets IP66
Operating Temperature.....	-30 to +60 °C
Operating Humidity.....	0 - 98 % RH

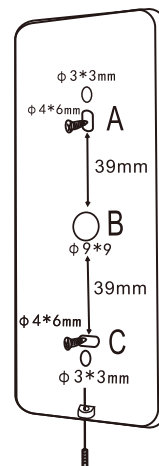
5.9 Physical

Housing material.....	Zinc-Alloy
Dimensions (W × H × D).....	44 × 148 × 22 mm
Weight	330 g

6 Installation

6.1 Mounting

1. Remove the back cover from the unit.
2. Drill 2x holes (A and C) in the wall for the screws and one hole (B) for the cable.
3. Insert the supplied rubber bungs into the screw holes (A and C).
4. Secure the back cover to the wall using four flat head screws.
5. Thread the cable through the cable hole (B).
6. Attach the unit to the back cover.



6.2 Wiring

Wire color	Function	Notes
Basic Standalone Wiring		
Red	DC+	12 - 18 V/DC power input
Black	GND	Negative pole of DC power input
Blue & Black	Relay NO	Normally open relay output (Install diode provided)
White & Black	Relay common	Common connection for Relay Output
Green & Black	Relay NC	Normally closed Relay Output (Install diode provided)
Yellow	OPEN	Request to Exit (REX) Input
Pass-through wiring (Wiring (Wiegand reader or controller)		
Green	Data 0	Wiegand Output (Pass-through) Data 0
Brown	Data 1	Wiegand Output (Pass-through) Data 1
Advanced input and output features		
Grey	Alarm output	Negative contact for alarm
Brown	Contact input	Door/Gate contact input (Normally colsed)
WIFI version with Doorbell		
Brown & Black	Doorbell A	Contact for Doorbell
Yellow & Black	Doorbell B	Contact for Doorbell

7 Sound and light indications

Operation status	LED	Buzzer
Stand by	Red LED is lit solid	--
Enter into programming mode	Red LED is lit solid	One beep
In the programming mode	Orange LED is lit solid	One beep
Operation error	--	Three beeps
Exit from the programming mode	Red LED is lit solid	One beep
Open lock	Green LED flashes	One beep
Alarm	Red LED flashes	Beeps continuously

8 Basic programming

8.1 Enter and Exit program mode

Programming step	Keystroke combination
Enter Program Mode	* (Master code) # (Factory default is 123456)
Exit Program Mode	*

8.2 Set Master code

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Update Master Code	0 (New Master Code) # (Repeat New Master Code) # (Master Code is any 6 digits)
3. Exit Program Mode	*

8.3 Selecting the Working Mode

The device has 3 working modes: Standalone Mode, Controller Mode, Wiegand Reader Mode.
Factory default mode: Standalone Mode / Controller Mode

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Standalone / Controller mode OR 2. Wiegand Reader Mode	7 7 # (Factory default) 7 8 #
3. Exit	*

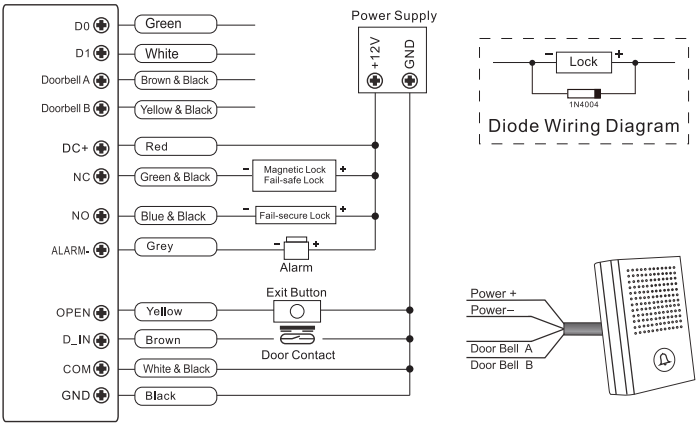
9 Standalone mode

The device can operate as a standalone access control system for a single door.
(Factory default mode: 7 7 #)

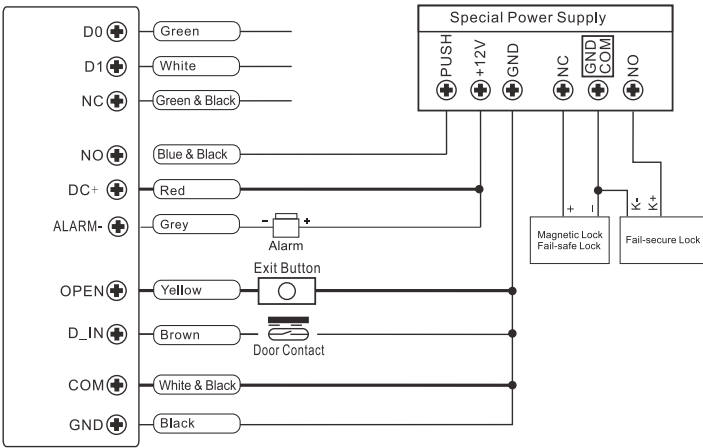
9.1 Common power supply

Important:

If you use a common power supply, you must install a 1N4004 diode (or equivalent) to prevent damage to the keypad. The 1N4004 diode is included in the package.



9.2 Access control power supply



9.3 Programming

Programming will be vary depending on the access configuration. Follow the instructions according to your access configuration.

Important:

- User IDs do not have to be proceded with any leading zeros.
- Recording of user ID is critical.
- Modifications to the user require the user ID be available.

Notes:

User ID number: Assign a user ID to the access fingerprint/card/PIN in order to track it.
User ID number:
The common card/PIN user ID: 1 - 9988
Panic user ID: 9989 - 9990
Visitor user ID: 9991 - 10000
Fingerprint user ID: 10001 - 10500
Proximity card: EM card
PIN: Can be any 4 - 6 digits.

9.3.1 Adding common users

Fingerprint user ID: 10001 - 10499
PIN/card user ID: 1 - 9988
PIN length: 4 - 6 digits)

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
Adding a fingerprint for the user	
2. Using auto ID (Allows the device to assign Fingerprint to next available user ID number) OR 2. Select specified ID (Allows Master to define a specific user ID to associate the Fingerprint to)	1 (Fingerprint) (Repeat Fingerprint) (Repeat Fingerprint again) Fingerprints can be added continuously. 1 (User ID) # (Fingerprint) (Repeat Fingerprint) (Repeat Fingerprint again) Fingerprints can be added continuously.
Adding a card for the user	
2 Using auto ID (Allows the device to assign Card to next available user ID number) OR 2. Select specified ID (Allows Master to define a specific user ID to associate the Card to) OR 2. Add card: Block enrollment (Allows Master to add up to 200 cards to the Reader in a single step) Takes 2 minutes to program.	1 (Read card) / (Input 8/10/17 digits card number) # The cards can be added continuously. 1 (User ID) # (Read card) / (Input 8/10/17 digits card number) # 1 (User ID) # (Card quantity) # (The first card 8/10/17 digits number) # The card numbers must be consecutive; Card quantity = number of cards to be enrolled.
Add PIN user	
2 Select specific ID (Allows the administrator to define a specific user ID to associate the PIN to)	1 (User ID) # (PIN) #
3. Exit	*

Security tip:

Tips for PIN security (only valid for 6 digits PIN):

For higher security we allow you to hide your correct PIN with other number up to a max of 10 digits.
Example PIN: 123434
You could use *(123434)** or *(123434)
("*" can be any numbers from 0 - 9)

9.3.2 Adding master fingerprint (via ID 10500)

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Add Master Fingerprint	1 (10500) # (Fingerprint) (Repeat Fingerprint) (Repeat Fingerprint again)
3. Exit	*

9.3.3 Adding panic users (valid for card/PIN users)

User ID number: 9989, 9990
PIN length: 4 - 6 digits

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Add card OR 2. Add PIN	1 (User ID) # (Read card / Input 8/10/17 digits card number) # 1 (User ID) # (PIN) #
3. Exit	*

9.3.4 Adding visitors (valid for card/PIN users)

User ID number: 9991 - 10000
PIN length: 4 - 6 digits

There are 10 visitor PIN/card groups available. Each group can be set for up to 10 uses. After the specified number of uses (e.g., 5 times), the PIN or card automatically becomes invalid.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Add card OR 2. Add PIN	1 (User ID) # (0 - 9) (Read card) / (Input 8/10/17 digits card number) # 1 (User ID) # (0 - 9) # (PIN) # (0 - 9 means times of usage, 0=10 times)
3. Exit	*

9.3.5 Changing user PIN

PIN length: 4 - 6 digits

Programming step	Keystroke combination
Notes: Below is done outside programming mode, users can undertake this themselves	
Change PIN	* (User ID) # (Old PIN) # (New PIN) # (Repeat new PIN) #

9.3.6 Deleting users

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Delete user - by Fingerprint/Card OR 2. Delete user - by ID number OR 2 Delete user - by card number OR 2. Delete ALL users	2 (Input Fingerprint) / (Read card) # The users can be deleted continuously. 2 (User ID) # 2 (Input 8/10/17 digits card number) # 2 (Master code) #
3. Exit	*

9.3.7 Set relay configuration

The relay configuration sets the behaviour of the output relay on activation.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Pulse Mode OR 2. Toggle Mode	3 (1 - 99) # (Factory default) The relay time is 1 - 99 seconds. (Default is 5 seconds) 3 0 # Sets the relay to ON/OFF Toggle Mode
3. Exit	*

9.3.8 Set access mode

In multi-user access mode, the interval between readings must not exceed 5 seconds. Otherwise, the product will automatically return to standby mode.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Card access OR 2. PIN access OR 2. Fingerprint access OR 2. Multi user access OR 2. Fingerprint or Card or PIN access	4 0 # 4 1 # 4 2 # 4 3 (2 - 9) # (Only after 2 - 9 valid users, the door be opened) 4 3 # (Factory default)
3. Exit	*

9.3.9 Setting strike-out alarm

The Strike-out alarm engages after 10 failed entry attempts (Factory is OFF).
It can be set to deny access for 10 minutes after engaging or disengage only after entering a valid Fingerprint/Card/PIN or Master Code/Fingerprint/Card.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Strike-out OFF OR 2. Strike-out ON OR 2. Strike-out ON (Alarm) Set alarm time	6 0 # (Factory default) 6 1 # Access will be denied for 10 minutes (Exit button is still workable) 6 2 # 5 (0 - 3) # (Factory default is 1 minute) Enter Master Code # or Master Fingerprint/Card or valid user Fingerprint/Card/PIN to silence
3. Exit	*

9.3.10 Set door open detection

Door open too long (DOTL) detection

If you use an optional magnetic contact or the lock’s built-in magnetic contact, if the door is opened normally but not closed within 1 minute, the internal buzzer will sound to remind users to close the door. The buzzer will stop when the door is closed or when a master user or valid user intervenes. Otherwise, it will continue to sound for the duration set by the alarm timer.

Door force open detection

If you use an optional magnetic contact or the lock’s built-in magnetic contact and if the door is forced open the internal buzzer and the external alarm (if connected) activate. Only the master user or a valid user can stop the buzzer and alarm, otherwise it continues to sound for the duration set by the alarm timer.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Disable door open detection OR 2. Enable door open detection Set alarm time	6 3 # (Factory default) 6 4 # 5 (0 - 3) # (factory default is 1 minute)
3. Exit	*

The function **Set alarm time** also applies to the anti-tamper alarm function.

9.3.11 Setting audible and visual response {OK}

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Disable sound Enable sound OR 2. LED always OFF LED always ON OR 2. Keypad backlit always OFF Keypad backlit always ON Keypad backlit automatic OFF	7 0 # 7 1 # (Factory default) 7 2 # 7 3 # (Factory default) 7 4 # 7 5 # 7 6 # (Factory default) Automatic OFF after 20 seconds, it will go ON by pressing any key (this key is not taken into consideration)
3. Exit	*

9.3.12 Using master fingerprint/card to add/delete users

Add Fingerprint/Card/PIN users	1. Input (Master Fingerprint/Card). 2. Input (Fingerprint three times) or (Card) or (User ID#PIN#). Repeat step 2 for additional users. 3. Input (Master Fingerprint/Card) again.
Delete Fingerprint/Card/PIN users	1. Input (Master Fingerprint/Card twice within 5s). 2. Input (Fingerprint) or (Card) or (User ID#). 3. Repeat step 2 for additional users. 4. Input (Master Fingerprint/Card) again.

9.3.13 Using the door lock

Opening the door:

Read a valid user fingerprint or user card or input valid user PIN#.

Removing alarm:

Enter the master code# or master fingerprint/card or valid user fingerprint/card/PIN.

9.3.14 Resetting the product (and adding a new master card)

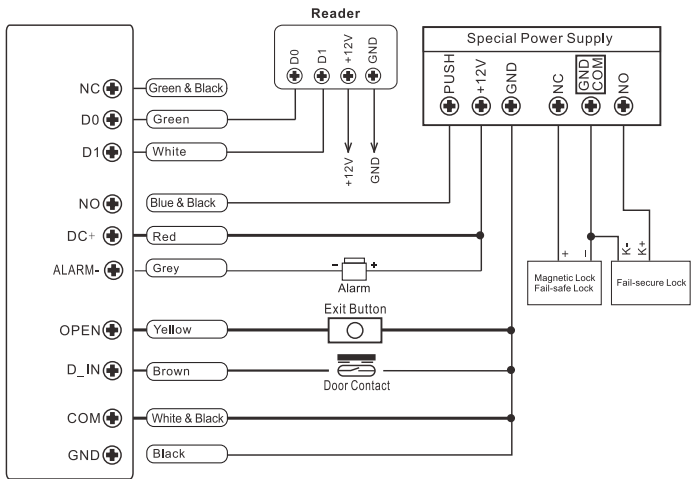
Reset the product if you want to reset the product to the default settings or add a new master card. Resetting, **does not remove existing user records**; existing records are retained. In any case, resetting the product to the factory defaults, invalidates any registered master card.

1. Power off the product.
2. Press and hold the Exit button and power on the product again.
→ Two beeps will sound.
3. Release the Exit button.
→ The status LED turns solid yellow.
4. (If adding a new master card) Read any 125 KHz EM card
→ The status LED turns solid red.
5. (Without adding a new master card) exit the reset mode by pressing and holding the Exit button for at least 5 seconds.
→ The product is successfully reset.
→ The new master card is registered, if you decided to register a new one.
→ The old master card is no longer valid.

10 Controller mode

The device can operate as a controller when connected to an external Wiegand reader.
Factory default mode: 7 7 #

10.1 Connection diagram



Important:

If you use a common power supply, you must install a 1N4004 diode (or equivalent) to prevent damage to the keypad. The 1N4004 diode is included in the package.

10.2 Set Wiegand input formats

Set the Wiegand input format according to the Wiegand output format of the external reader.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Wiegand input bit	For EM Card: 8 (26 - 44) # (Factory default is 26 bits)
3. Disable Parity Bit Enable Parity Bit	8 0 # 8 1 # (Factory default)
4. Exit	*

Note:

To connect Wiegand readers with 32, 40, or 56-bit output, disable the parity bits.

10.3 Programming

For basic programming tasks, refer to the programming instructions in "Standalone Mode".
Programming differences between "Standalone Mode" and "Controller mode" are explained in the following topics.

10.3.1 Use with an external card reader

- If connected to an EM card reader, users can be added or deleted on either the device or the external reader.
- If connected to a HID card reader, users can only be added or deleted on the external reader.

10.3.2 Programming via external fingerprint reader

Setup:

1. Connect a compatible fingerprint reader to the product.
2. Add a fingerprint to the finger print reader.
3. Add the same fingerprint to the product.

Programming:

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. ID auto allocated	1 (Press Fingerprint A once on SF1) # (ID auto allocated)
OR	
2. Select specific ID	1 (User ID) # (Press Fingerprint A once on SF1) # (Select specific ID)
3. Exit	*

10.3.3 Programming via external keypad reader

The keypad reader can be 4 bits, 8 bits (ASCII) or 10 bits output format.
Choose the below operation according to the PIN output format of your reader.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. PIN input bits	8 (4 or 8 or 10) # (Factory default is 4 bits) <i>Note: 4 = 4 bits, 8 = 8 bits, 10 = 10 bits</i>
3. Exit	*

Adding PIN users:

To add PIN users, after enter into Programming Mode on the device, PIN(s) can be input/added on either the device or the external Keypad Reader.

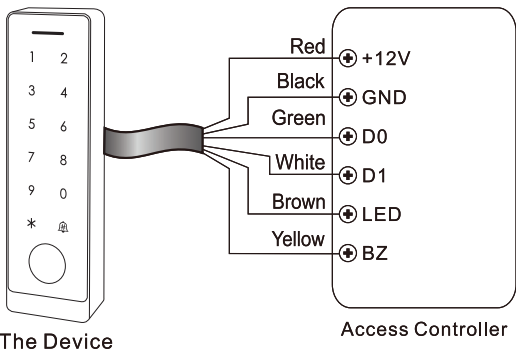
Deleting PIN users:

To delete PIN users, follow the instructions for adding users.

11 Wiegand Reader Mode

If connected to a third-party controller, the product can operate as a standard Wiegand reader -- 7 8 #

11.1 Connection diagram



When the device is set to Wiegand Reader mode, most settings from the "Controller mode" become invalid.

The brown and yellow wires are redefined as follows:

- Brown wire: Green LED control
- Yellow wire: Buzzer control

If you need to connect the brown or yellow wires:

When the input voltage for the LED is low, the LED will turn green. When the input voltage for the buzzer is low, the buzzer will sound.

11.2 Setting Wiegand output formats

Set the Wiegand output formats of Reader according to the Wiegand input formats of the Controller.

Note:
To connect Wiegand readers with 32, 40, or 56-bit input, disable the parity bits.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Wiegand output bits	For EM Card: 8 (26 - 44) # (Factory default is 26 bits) 8 (4 or 8 or 10) # (Factory default is 4 bits)
PIN output bits	
3. Disable Parity Bit Enable Parity Bit	8 0 # 8 1 # (Factory default)
4. Exit	*

12 Advanced application

12.1 “Collection” card mode

After this mode is turned on, all cards can open the lock, At the same time, the card is added to the product.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Collection Card Mode OFF OR 2. Collection Card Mode ON	9 2 # (Factory default) 9 3 #
3. Exit	*

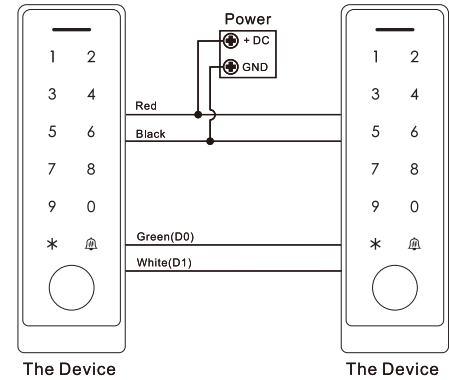
12.2 Transferring user database between units (valid for card/PIN users)

The product supports user information transfer. You can transfer enrolled users (cards and PINs) from one device (the “Source unit”) to another device (the “Target unit”).

12.2.1 Constraints

- The source unit and target unit must be products of the same series.
- The master code on both the source unit and target unit must be identical.
- Perform the transfer operation only on the source unit.
- If the target unit already has enrolled users, this data will be overwritten during the transfer.
- For a fully enrolled user database, the transfer takes about 30 seconds.

12.2.2 Connecting source unit and target unit



12.2.3 Performing transfers

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Start the transfer	9 8 #
Successful transfer is indicated as follows: 1. Within 30 seconds, the green LED lights up. 2. The product emits one beep. 3. The LED then turns red.	
4. Exit	*

12.2.4 Interlock

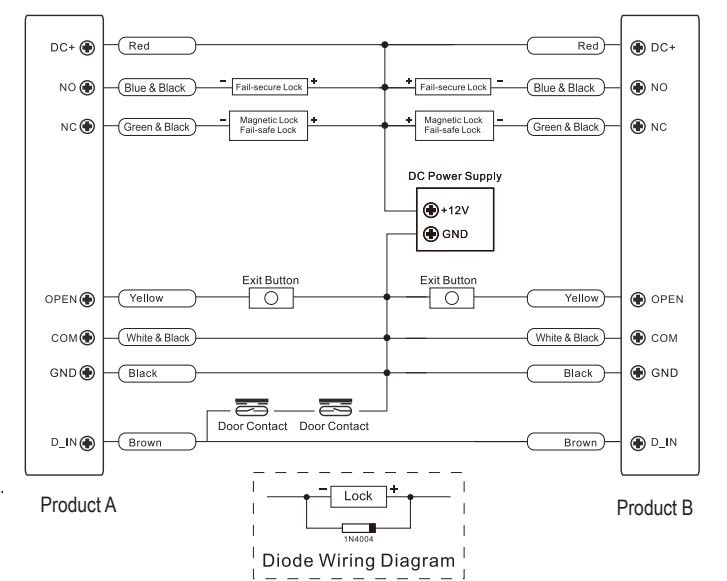
The product supports the interlock function, which is designed for use with two products controlling two doors. The interlock function is mainly used in banks, prisons, and other locations that require a higher level of security.

Assume two products “A” and “B” for doors “1” and “2,” respectively. After enabling interlock:

- You can only open door 1 if door 2 is closed.
- You can only open door 2 if door 1 is closed.

12.2.5 Connection diagram

The door contact must be installed and connected as shown in the diagram.



12.2.6 Programming interlock function

1. Enroll users on one product and then transfer the user information to the other product. Follow the instructions in “Transferring user database between units (valid for card/PIN users)”.
2. Set both products (A and B) to interlock mode.

Programming step	Keystroke combination
1. Enter Program Mode	* (Master code) #
2. Disable Interlock OR 2. Enable Interlock	9 0 # (Factory default) 9 1 #
3. Exit	*