Access Control/Reader
X series

User Manual

INTRODUCTION

This device is standalone access control. It supports access by RFID card, pin, and multi users, also support visit users (temporary users). The user data can be transferred and copied into other devices. Other functions supported door contact, 2 devices can be interlock, anti-duress.
It can be also set as Wiegand reader work with access controller.
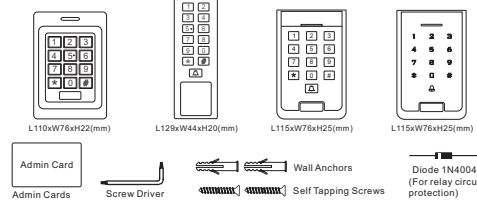
Features and Benefits

> Waterproof, conforms to IP67
> 5 Visitor Users
> User data can be transferred
> Adding card automatically function: solve the problem of getting back the registered cards when add/replace a new device
> Support bulk addition with cards numbered sequentially
> Pulse Mode, Toggle Mode
> Wiegand 26bit∼44bit, 56bit, 58bit, 64bit, 66bit Output/ Input PIN: 4bit/ 8bit/ Virtual card number output
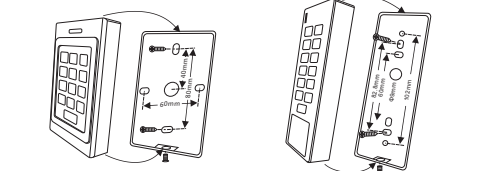> Mifare card type: DESFire/ PLUS/ NFC/ UltraLight/ S50/ S70/ Class/ Pro

Specifications

Operating Voltage	10-24V DC
User Capacity	3000
Idle Current	<40mA
Working Current	<100mA
Read Range	<10cm
Card type	EM/ Mifare/ EM+Mifare Card
Card Frequency	125KHz/ 13.56MHz
Lock Output Load	<2A
Alarm Output Load	<500mA
Operating Temperature	-40°C∼+60°C,(-40°F∼140°F)
Operating Humidity	10%∼98%RH

Packing List

INSTALLATION

> Remove the back cover from the unit with screw.
> Drill hole on the wall according to the back size of the machine and fix the back cover to the wall.
> Thread the cable through cable hole, connect related cable. For the un-used cable please separate with insulating tape.
> After wiring, install front casing to the back casing and fix well.

Sound and Light Indication

Operation Status	Light	Buzzer
Stand by	Red light bright	– –
Enter programming mode	Red light shines	– –
In the programming mode	Orange light bright	– –
Open lock	Green light bright	One beep
Operation failed	– –	3 beeps

Wiring

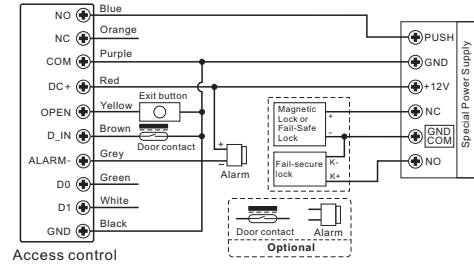| Wire Color	Function	Notes
Orange	NC	Relay NC
Purple	COM	Relay COM
Blue	NO	Relay NO
Black	GND	Negative Pole
Red	DC+	10-24V DC Power Input
Yellow	OPEN	Request to Exit Button
Brown	D_IN	Door Contact
Grey	ALARM-	Alarm Negative
Green	D0	Wiegand output/input
White	D1	Wiegand output/input
Pink	BELL	External BELL
Pink	BELL	External BELL

Factory Default settings and add admin cards

1. The first step, please connect one port of the exit button to the yellow cable of the device, another port connected to the negative pole of the power. Then follow the next operations.

2. Power off, press and hold on the push button, power on, release the push button after hearing two beeps. The LED light flash alternately red and green, swipe the card twice in a row, hearing a long beep, and then entering standby mode. Factory reset successfully for the device.

1) Reset to factory default will not delete the user data.

2) During the initialization, you may swipe one card, and the card will be Admin Card. If you do not want to add new Admin card, you should press and hold the push button for 5 seconds and release it after hearing a long beep.

3) One Admin Card in the factory packaging, which has added into the device. If you add one new card into it as Admin Card, the old one will be deleted automatically. The device can be only set one Admin Card.

4) Admin Card is only used for adding/deleting card users into the access control system. If you want to add/delete pin users, you should operate it with Admin Card.
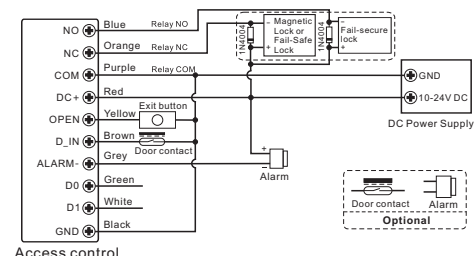
STANDALONE MODE

Connection Diagram

Special Power Supply for access control system

Access control

Common power supply

Attention: Install a 1N4004 or equivalent diode is needed when use a common power supply, or the reader might be damaged. (1N4004 is included in the packing).

Access control

Using Admin Cards to add delete card users

Add card users by Admin Add Card (Adding card automatically function)	1. Device is in standby mode, swipe the Admin Card for one time, LED flash green 2. Swipe the cards which you want to added into the access control system 3. Swipe the Admin Card for one time to finish adding, the device return to standby mode
Delete card users by Admin Card	1. Device is in standby mode, swipe the Admin Card for two times, LED flash orange 2. Swipe the cards which you want to delete from the access control system 3. Swipe the Admin Card for one time to finish deleting, the device return to standby mode

Note: 1. Admin Card can only add/delete card users quickly, cannot add/delete pin users.

Enter and Exit Program mode

Programming Step	Keystroke Combination
Enter Program Mode	✱ (Admin Code) # (Factory default is 123456)
Exit Program Mode	✱

Note: Admin should enter Program Mode, then the settings can be set or reset. For security, you must change the Admin Code and then keep in mind.

Modify Admin Code

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Update Admin Code	0# (New Admin Code) # (Repeat New Admin Code) #	Orange bright
Exit Program Mode	✱	Red bright

The length of the admin code is 6 digits, the admin should keep it in mind.

Add Users by Keypad (ID Number:1∼3000)

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines

Add Users

	Keystroke Combination	LED
Add Card: By Card	1# (Read Card) …	
Add Card: By Card Number	1# (8/10 digits card number) #	Orange bright
Add Card: by ID number (ID number: 1∼3000)	1# (Input ID number) # (Read Card / input card number #) …	
Add proximity cards numbered sequentially (ID number: 1∼3000)	95# (Input the first ID number) # (Input card number of the first card) # (Quantity) #	Orange bright
Add anti-duress users (ID number: 3001, 3002)	1# (Input ID number) # (Read Card or 4∼6 digits PIN #)	Orange bright
Add Visitor Users (ID number: 3005∼3009)	96# (Input ID number) # (1∼5) # (Read Card or 4∼6 digits PIN #)	Orange bright
Exit Program Mode	✱	Red

Note: 1. When swiping cards to add users, the user ID will be added in automatically, and ID number will be from small to big, ranged from 1∼3000.

2. Before add the proximity cards numbered sequentially, the ID number should be sequential and empty.

3. How many times the temporary users can open the door? 1∼5 times. When it is used out, the temporary card/temporary pin will be deleted automatically.

4. If under threat, swiping the Anti-duress card or input Anti-duress PIN, the door will open, but the external alarm will activate to inform your friend to help you.

Quick Start and Operation

Quick Settings	
Enter the Programming Mode	✱ - Admin Code - # Then you can do the programming (Factory default is 123456)
Change the Admin Code	0# - New Code # - Repeat the New Code # (New Code: any 6 digits)
Add Card User	1# - Read Card (Cards can be added in continuously)
Add PIN User	1# - User ID # - PIN # - Repeat the PIN # (ID number:1-3000)
Delete User	2# - Read Card (for Card User) 2# - User ID # (for PIN User)
Exit from the Programming Mode	✱

How to release the door	
Open door by card	(Read Card)
Open door by User PIN	(Users PIN) #
Open door by user card + PIN	(Read Card) (Users PIN) #

Add PIN users by Keypad (ID Number:1∼3000)

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Add PIN users	1# (Input ID Number) # (4∼6 digits PIN) # (Repeat 4∼6 digits PIN) #	Orange bright
Exit Program Mode	✱	Red bright

Note: 1. The users cannot have the same access PIN code.

2. Please do remember the ID number of the PIN code when add the new PIN code users so as to change or delete the code in the future.

Change PIN (ID Number:1∼3000)

Programming Step	Keystroke Combination
Change PIN user	✱ (ID number) # (old PIN) # (New PIN) # (Repeat New PIN) #

Note:1, The PIN can be changed to any one 4-6 digits.

2, The access PIN code cannot be changed to the same with other users'.

Admin Super Code

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Add Admin Super Code	91# (Admin super code) # (Repeat Admin super code) #	Orange bright
Delete Admin Super Code	91# 0000#	Orange bright
Exit Program Mode	✱	Red bright

Note: 1. The Admin Super Code should be 6 digits, and cannot be the same as pin users.

2. Only 1 Admin Super Code can be set, if you add new one, the old one will be deleted automatically.

3. Comparison for Admin Code and Admin Super Code. 1) the Admin Code cannot open the door, it is used for managing the access control system. 2) the Admin Super Code can open the door no matter what Access Mode you set.

Delete Users by Keypad (ID Number:1∼3000)

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines

Delete Card User-Common

	Keystroke Combination	LED
Delete Card: By Card	2# (Read Card) #	
Delete Card: By Card number	2# (Input 8/10 digits Card number) #	Orange bright
Delete Card: By ID number	2# (Input the ID number corresponding to the user card) #	

Delete PIN users by Keypad

	Keystroke Combination	LED
Delete PIN: By ID number	2# (Input the ID number corresponding to the user PIN code) #	Orange bright

Delete All User

	Keystroke Combination	LED
Delete All User	2# 0000 #	Orange bright
Exit Program Mode	✱	Red bright

Pulse Mode and Toggle Mode Setting

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Pulse Mode	3# (0∼120) #	Orange bright
Toggle Mode	3# 9999 #	Orange bright
Exit Program Mode	✱	Red bright

Note: 1. Access time range: 1∼120 seconds, factory default is Pulse Mode and the access time is 5 seconds. When set the access time to "9999", the device will be in Toggle Mode.

2. **Pulse Mode:** The door will be closed automatically after opening the door for a while.

3. **Toggle Mode:** Under this mode, after opening the door, the door won't be closed automatically until next valid user input. That is to say, whether open or close the door, you must swipe valid card or input valid PIN.

Access Mode Setting

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Open door by card	4# 0#	
Open door by PIN	4# 1#	
Open door by card + PIN	4# 2#	Orange bright
Open door by card or PIN	4# 3 # (Factory default)	
Open door by multi-user	4# 4# (2∼5)#	
Exit Program Mode	✱	Red bright

Note: The number of Multi-User access can be set to 2∼5. If the user number is set to 5, it should input 5 different valid users continuously to access.

Alarm Output Time Setting

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Set alarm time	5# (0∼3) #	Orange bright
Exit Program Mode	✱	Red bright

Note:1. Factory default is 1 minute. 0 minute: Turn off alarm

1. Alarm output time includes: the alarm time of anti-vandal, closing terminal.

2. Swipe valid card can remove the alarm.

Set Safe Mode

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Normal Mode	6# 0# (Factory default)	
Lockout Mode	6# 1#	Orange bright
Alarm output Mode	6# 2#	
Exit Program Mode	✱	Red bright

Note: Lockout Mode: If swipe card/input PIN with invalid users for 10 times in 1 minute, the device will be lockout for 1 minutes. When the device repowered, the lockout will be canceled.

Alarm Output Mode: If swipe card/input PIN with invalid users for 10 times in 1 minute, the device will beep and external alarm will activate. The valid user can remove the alarm.

Door Detection Setting

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
To disable door detection	98 0# (Factory Default)	
To enable door detection	98 1#	Orange bright
Exit Program Mode	✱	Red bright

Note: After enable the door detection function, you must connect the detection switch into the wiring. There will be two detection status:

1. The door is opened by valid user, but not closed in 1 minute, the device will beep.
How to stop the warnings: Close the door/valid user/ Automatically stop when the alarm time is up.

2. If the door opened by force, the device and external alarm will activate.
How to stop the alarm: Valid user/Automatically stop when the alarm time is up.

Sound and Light mode Setting

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Control Sounds: OFF	92# 0#	
ON	92# 1# (Factory Default)	
Control red LED: OFF	928 2#	
ON	928 3# (Factory Default)	Orange bright
Control Keypad Backlit: OFF	924 4#	
ON	92# 5# (Factory Default)	
Anti-tamper Alarm: OFF	926 6# (Factory Default)	
ON	92# 7#	
Exit Program Mode	✱	Red bright

Copy User Data

Connecting the two devices with the wires for Wiegand. Operating on the device that stores user data. The Admin Code of them should be the same.

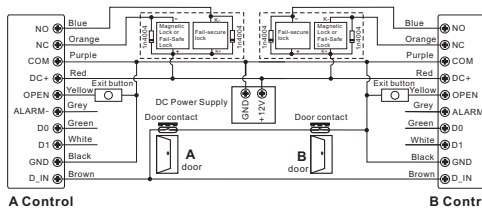| Programming Step	Keystroke Combination
Enter Program Mode	✱ (Admin Code) #
Enter the menus	6# 5#
Copy the user data	The LED light flash orange during the copying, and will back to standby mode when finished

INTERLOCK MODE

Interlock for two doors, this function usually apply in the places with high safety. For example, there are two doors name A and B in the passage. You access door A with card, and then you cannot access door B with the card until door A closed. That is to say: both of the doors should be closed, then you can swipe your card on one of them.

Interlock Mode Setting

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ (Admin Code) #	Red shines
Close Interlock Mode	92# 8# (Factory Default)	Orange bright
Enable Interlock Mode	92# 9#	Orange bright
Exit Program Mode	68 7#	Red bright

Note: The Door Contact must be installed, or this function cannot be enable.
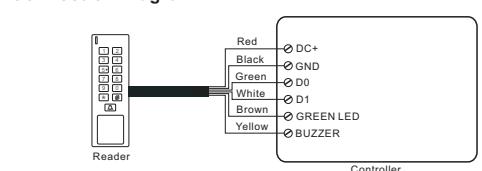
Wiring diagram of Interlock

A Control B Control

WIEGAND READER MODE

Connection Diagram

Reader Controller

Set access control mode / Wiegand reader mode

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ Admin Code #	Red shines
Access control Mode	68 6# (Factory Default)	Orange bright
Wiegand reader Mode	68 7#	Orange bright
Exit Program Mode	✱	Red bright

Note: In wiegand reader mode, brown wire control the Green LED. Yellow wire control the buzzer, only active with low voltage.

Set Wiegand Output Formats of Card

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ Admin Code #	Red shines
EM Wiegand Format	7# (26# ∼ 44#) (Factory Default 26 bits)	Orange bright
Mifare Wiegand Format	8# (26# ∼ 44# , 56# , 58# 64# , 66#) (Factory Default 34 bits)	Orange bright
Exit Program Mode	✱	Red bright

Set Wiegand Output Formats of Password

Programming Step	Keystroke Combination	LED
Enter Program Mode	✱ Admin Code #	Red shines
4 bits	8# 4 # (Factory Default)	
8 bits (ASCII)	8# 8 #	Orange bright
10 Digits Virtual Card Number output	8# 10 #	
Exit Program Mode	✱	Red bright

Note: (1) 10 Digits Virtual Card Number: Input 4-6 digits pin, press "#", output a 10-bit decimal card number. For example, input password 999999, the output card number is 0000999999.
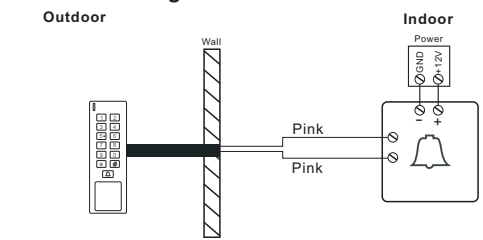
(2) Each key press sends 4 bits data, the corresponding relationship is:

1 (0001)   2 (0010)   3 (0011)
4 (0100)   5 (0101)   6 (0110)
7 (0111)   8 (1000)   9 (1001)
✱ (1010)   0 (0000)   # (1011)

(3) Each key press sends 8 bits data, the corresponding relationship is:

1 (1110 0001)   2 (1101 0010)   3 (1100 0011)
4 (1011 0100)   5 (1010 0101)   6 (1001 0110)
7 (1000 0111)   8 (0111 1000)   9 (0110 1001)
✱ (0101 1010)   0 (1111 0000)   # (0100 1011)

Doorbell Wiring

Outdoor Indoor

Users Setting

How to release the door	
Open door by card	(Read Card)
Open door by User PIN	(Users PIN) #
Open door by user card + PIN	(Read Card) (Users PIN) #