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Fingerprint Access Control

FP1-PROX

User Manual

Please read the manual carefully before installing this unit

1. Packing list

Name	Quantity	Remarks
Fingerprint/proximity reader	1	FP1-PROX
Infrared remote control	1	
Manager cards	2	Add & delete cards
User manual	1	
Screw driver	1	Special screw tool
Security screws	1	Φ3mm×7.5 mm, to fix device to back cover
Self-tapping screws	4	Φ4mm×25 mm, used for fixing
Rubber wall plug	4	Φ6mm×25 mm, used for fixing
Diode	1	IN4004

Please ensure that all the above contents are correct. If any are missing please notify us immediately.

2. Description

The FP1-PROX is a standalone or Wiegand fingerprint and EM RFID card reader for access control. It uses the American Atmel's MCU, with precise electron circuit and productive technology. This unit applies world advanced fingerprint identification technology, making it safe and reliable, which means it is an ideal choice for situations demanding high security.

Its programming is done by infrared remote control, master fingerprint or manager cards. It can store up to 1,000 fingerprints, including two master fingerprints and 998 user fingerprints, and up to 2,000 cards. The unit is very easy to install and program.

3. Features

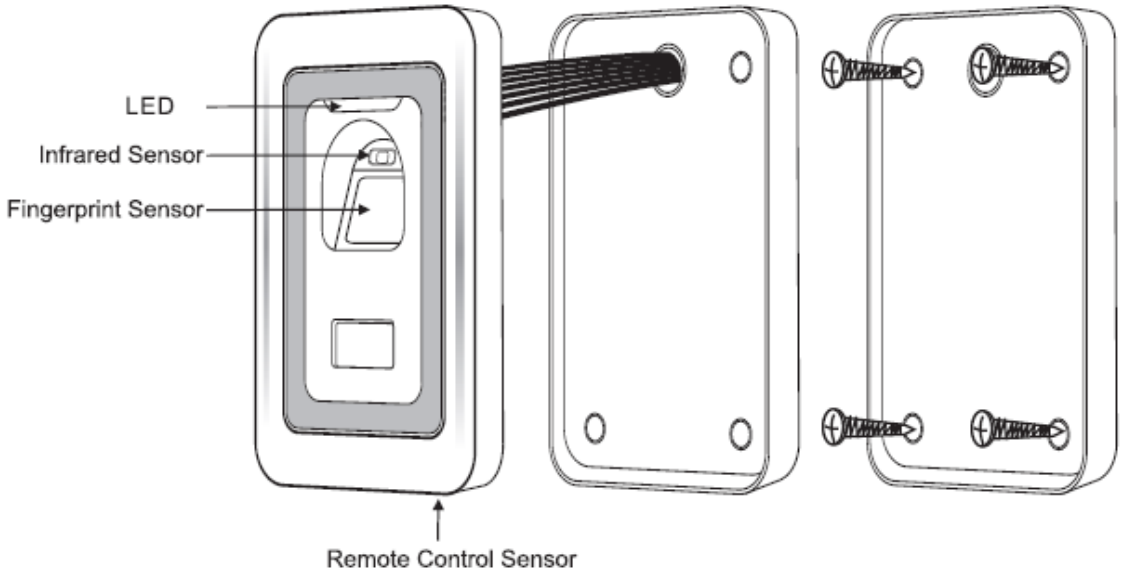
- Zinc alloy, anti-vandal shell
- 3000 user capacity, including 1000 fingerprints and 2000 cards
- Wiegand 26 output and Wiegand 26 input
- Besides standalone, it can connect to a controller as a slave reader
- Infrared remote control and manager cards for programming
- Two devices can be interconnected and two devices can be interlocked
- Red, yellow and green LEDs display the working status
- Built in buzzer for anti-tamper alarm, and external alarm output
- Adjustable door output, alarm and door open times
- Fast operating speed

4. Specification

Input voltage	12V dc ± 10%
Sleeping current consumption	≤20mA
Idle current consumption	≤80mA
Operating temperature	-20 to 50°C
Operating humidity	20% to 95% RH
User capacity	1000 fingerprints, 2000 cards
Card type	EM 125KHz
Reading distance	3-6cm
Resolution	450 DPI
Fingerprint input time	<1s
Identification time	<1s
FAR	<0.0000256%
FRR	<0.0198%
Structure	Zinc alloy
Dimensions	115 x 70 x 35 mm
Weight	500g

5. Installation

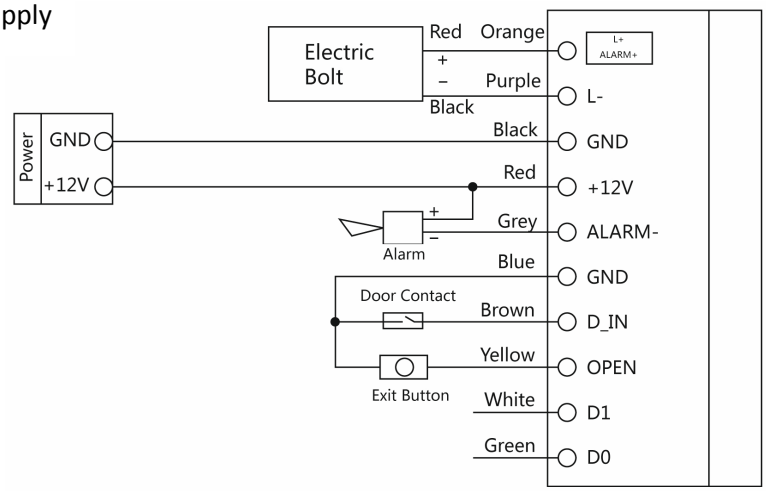
- Remove the back cover using the supplied security driver
- Use the back cover to mark the four fixing holes and one cable hole, drill holes.
- Fit back cover firmly to the wall using the wall plugs and flat head screws.
- Thread the wires through the hole.
- Attach the front to the back cover.

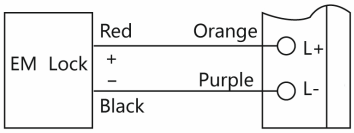


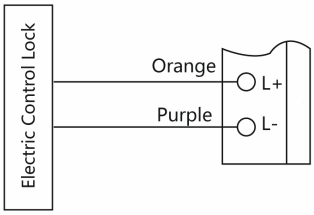
6. Wiring

Colour	Function	Description
Green	D0	Wiegand output D0
White	D1	Wiegand output D1
Grey	Alarm-	Alarm negative
Yellow	OPEN	Exit button
Brown	D_IN	Door contact
Red	12V +	12V + DC regulated power input
Black	GND	12V – DC regulated power input
Blue	GND	GND for exit button and door contact
Purple	L-	Lock negative
Orange	L+/Alarm+	Lock positive/alarm positive

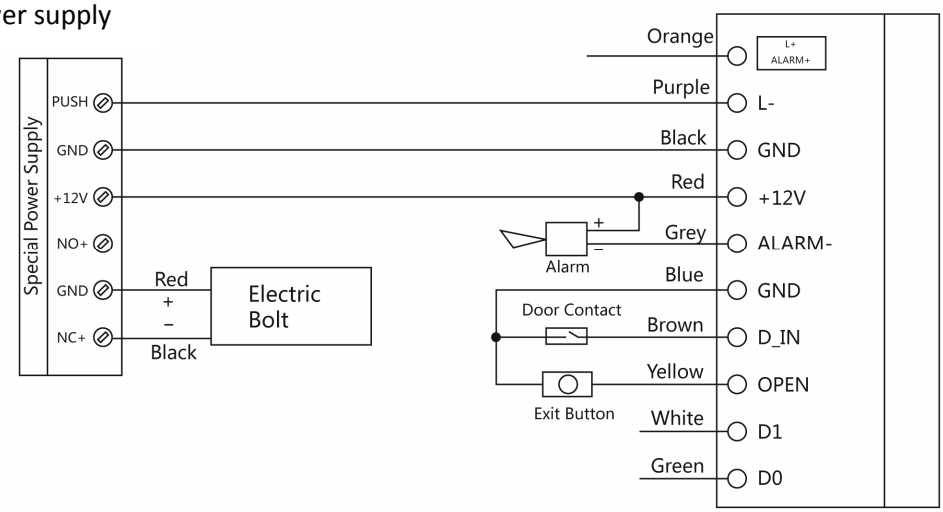
Common power supply

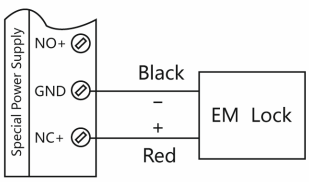


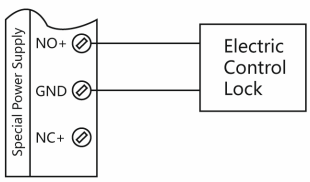




Special power supply







7. To reset to factory default

a. Disconnect power from the unit.
b. Press and hold the 'Reset' button on the PCB whilst powering the unit back up, unit you hear two short beeps and the LED shines yellow.
c. Then read two proximity cards, the LED will turn red, system is now back to factory default
d. Of the two cards read, the first is the manager add card, the second is the manager delete card.

Please note only installer data is restored, user data will not be affected. When reset to factory default, the two manager card must be re-enrolled.

8. Sound and light indication

Operation Status	Indicator LED	Finger Sensor Light	Buzzer
Reset to factory default	Orange	-	2 short rings
Sleeping	Slow flash in red	-	-
Standby	Slow flash in red	Shine	-
Enter programming	Red solid	-	Long ring
Exit programming	Slow flash in red	-	Long ring
Wrong operation	-	-	3 short rings
Unlock the Door	Green	-	Long ring
Alarm	Quick flash in red	Bright	Alarm

9. Manager operation

There are 3 ways to add and delete users:

1. By manager card
2. By remote control
3. By manager fingerprint

9.1 By manager card (the most convenient way)

9.1.2 Add fingerprint user

Manager add card **Enter 1st user fingerprint twice** **2nd user fingerprint twice** **…** **Manager add card**

When adding fingerprints, please input each fingerprint twice, during which the LED shines red and then turns green, meaning the fingerprint is enrolled successfully. When deleting, only input fingerprint once.

9.1.2 Add card user

Manager add card **1st card user** **2nd card user** **…** **Manager add card**

Fingerprint user ID is 3 – 1000, card user ID is 1001 – 3000. When adding fingerprints or cards by manager card, user ID is automatically generated from 3 – 1000 or 1001 – 3000. (ID 1 and 2 are for manager fingerprints.)

9.1.3 Delete users

Manager delete card **User card** **or** **Fingerprint once** **…** **Manager delete card**

To delete more than 1 card or fingerprint, just input them continuously.

9.2 By remote control

9.2.1 Enter into programming mode

***** **Master code** **#** Default master code is 888888

All the steps below must be done after entering into programming mode.

9.2.2 Add users

A. ID number – Auto generation

To add fingerprint users:

1 **Input fingerprint twice** **#**

To add more than one fingerprint, just input continuously.

To add card users:

1 **User card** **#** **or** **1** **Input card number (8 digits)** **#**

To add more than one card, just input cards or card numbers continuously.

User ID numbers will be auto generated from 3 – 1000 for fingerprints and 1001 – 3000 for cards.

B. ID number – Appointment

To add fingerprint users:

1 **ID number** **#** **Input user fingerprint twice** **#**

Fingerprint user ID number can be any digit between 3 & 1000. One fingerprint per ID number.

To add fingerprint users continuously:

1 **3** **#** **Input 1st user fingerprint twice** **4** **#** **Input 2nd user fingerprint twice** **…** **N** **#** **Input Nth user fingerprint** **#**

To add card users:

1 **ID number** **#** **User card** **#** **or** **1** **ID number** **#** **Input card number (8 digits)** **#**

Card user ID number can be any digit between 1001 & 3000. One user card per ID number.

To add card users continuously:

1 **1001** **#** **1st user card** **1002** **#** **2nd user card** **…** **N** **#** **Nth user card** **#** **or**

1 **1001** **#** **1st user card number** **1002** **#** **2nd user card number** **…** **N** **#** **Nth user card number** **#**

9.2.3 Delete users

Delete fingerprint users:

2 **Input fingerprint once** **#**

Delete card users:

2 **User card** **#** **or** **2** **User card number** **#**

To delete users continuously, just input fingerprints or cards continuously.

9.2.4 Delete users by ID number

2 ID number #

When deleting users this way, the master can just delete the ID number without the need to input the fingerprint or present the card, therefore making it a good option if users have left or lost cards.

9.2.5 Save and exit programming mode: *

9.3 By manager fingerprint

9.3.1 Enter into programming mode

*** Master code #**

9.3.2 Add manager fingerprints

1 1 # Input fingerprint twice 2 # Input another fingerprint twice *

ID number 1: Manager add fingerprint – for adding users

ID number 2: Manager delete fingerprint – for deleting users

9.3.3 Add user

Fingerprint:

Manager add fingerprint Input user fingerprint twice Manager add fingerprint

Card:

Manager add fingerprint User card Manager add fingerprint

9.3.4 Add users continuously

Fingerprint:

Manager add fingerprint Input 1st user fingerprint twice Input 2nd user fingerprint twice … Input Nth user fingerprint twice Manager add fingerprint

Card:

Manager add fingerprint 1st user card 2nd user card … Nth user card Manager add fingerprint

9.3.5 Delete users

Fingerprint:

Manager delete fingerprint Input 1st user fingerprint once Input 2nd user fingerprint once … Input Nth user fingerprint once Manager delete fingerprint

Card:

Manager delete fingerprint 1st user card 2nd user card … Nth user card Manager delete fingerprint

9.4 Delete all users

*** Master code # 20000 # ***

This will delete all user fingerprints and cards. It will also delete master fingerprints, but not master cards.

9.5 Setting facility code

3 0-255 #

This operation may be required when FP1-PROX is acting as a Wiegand reader and connecting to a multi door controller

9.6 Setting lock type and door relay time

Fail secure (unlock when power on)

*** Master code # 4 0-99 #**

Fail safe (unlock when power off)

*** Master code # 5 0-99 #**

0-99 is to set the door relay time to 0-99 seconds. Factory default is fail safe lock, relay time 5 seconds.

9.7 Setting door open detection

*** Master code #**

6 0 # To disable this function (factory default setting)

6 1 # To enable this function

When this function is enabled:

a) If the door is opened normally, but not closed after one minute, the internal buzzer will sound automatically, the alarm will turn off after one minute.
b) If the door is forced open, or the door was not opened within two minutes of the lock being released, the internal buzzer and external alarm will both activate.

9.8 Setting security status

*** Master code #**

7 0 # Normal status (factory default setting)

7 1 # Lock on status

If there is 10 invalid cards or fingerprints read in 10 minutes, the device will lock out for 10 minutes.

7 2 # Alarm status

If there is 10 invalid cards or fingerprints read in 10 minutes, the device will alarm.

9.9 Setting two devices interlocked

*** Master code #**

8 0 # To disable this function (factory default setting)

8 1 # To enable this function

9.10 Alarm signal output time

*** Master code #**

8 0 - 3 #

Alarm time is 0 – 3 minutes, factory default is 1 minute.

10. User operation

10.1 User to release the door

Card user: **Read card**

Fingerprint user: **Input fingerprint**

10.2 Remove alarm

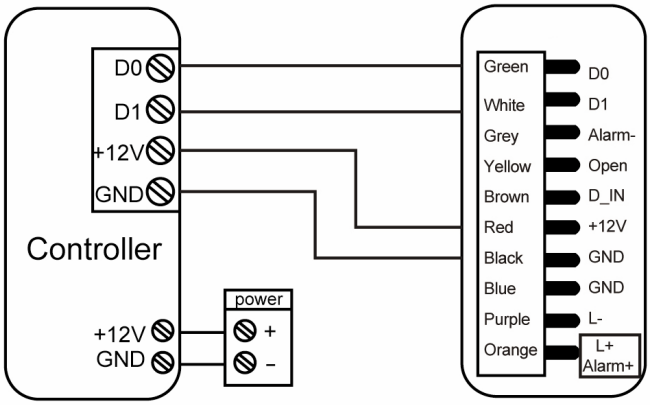
When the device alarm is activated (from the built in buzzer or the external alarm), to remove it:

Read valid user card or fingerprint **or** **Manager card or fingerprint** **or** **Master code**

11. Advanced applications

11.1 FP1-PROX works as a slave reader, connecting to a controller

FP1-PROX supports Wiegand output. It can be connected to a controller which supports Wiegand 26 input as its slave reader, connections as shown in the following diagram:



If the controller has a PC connection, the users ID can be shown in the software.

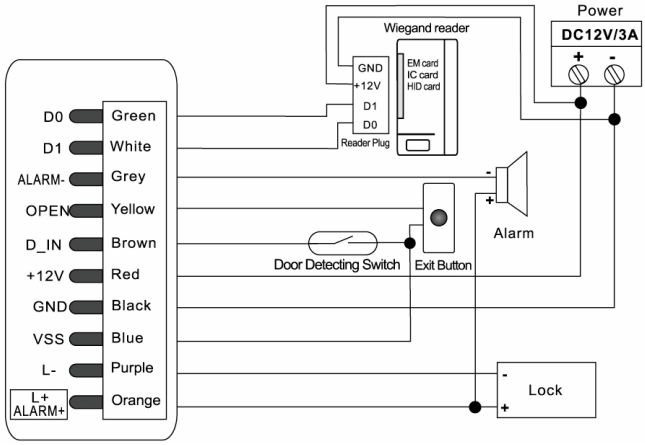
a) Card user, its ID is the same as the card number.
b) Fingerprint user, its ID is the combination of device ID and fingerprint ID. The device ID is set as below:

***** **Master code** **#** **3** **Device ID** **#**

Device ID can be any digit between 0 & 255
For example, if device ID was set to 255 and fingerprint ID is 3, then its ID to the controller is 255 00003.

11.2 FP1-PROX works as controller, connecting slave reader

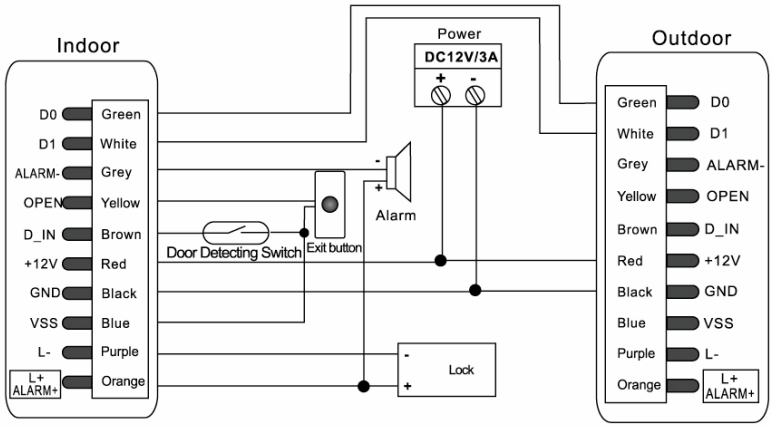
FP1-PROX supports Wiegand input, any card reader which supports Wiegand 26 interface can connect to it as a slave reader, regardless of what type of cards it reads (EM, MIFARE, etc.) The connections are shown in the below diagram. When adding cards, it is required to do it at the slave reader, not the controller (except EM card reader, which can be added on both the reader and controller).



11.3 Two devices interconnected – Single door

Wiegand output, Wiegand input: One FP1-PROX installed inside the door, another outside the door. Either device acts as the controller and reader at the same time. It has the following features:

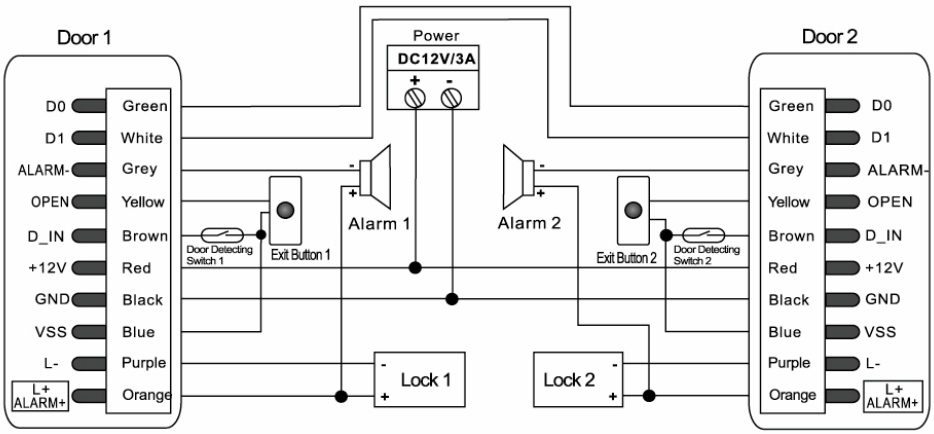
- Users can be enrolled on either device.
- The information of the two devices can be communicated.
- In this situation, the user capacity for one door can be 6000.
- Each user can use fingerprint or card for access.
- The setting of both devices must be the same. If the master codes were set different, the user enrolled in the outdoor unit can't access from the inside.



11.4 Two devices interconnected & interlocked – Two doors

The connection, as shown below, is for two doors. Each door has one device and one lock. The interlock function will go when either door is unlocked and opened, it must be shut before the other door can be opened. This function is mainly used in banks, prisons and other places that require high security, with two doors fitted for one access route.

The user enters fingerprint or card on controller 1, they open door 1 and enter. They close door 1, only after that can door 2 be opened by entering fingerprint or card on controller 2.



12. Issue record

Site		Door location	

User ID number	Card/fob number	User name	Issue date