

CONTENTS

INTRODUCTION

1

STANDALONE MODE

5

WIEGAND READER MODE

14

INSTALLATION

3

CONTROLLER MODE

12

ADVANCED APPLICATION

15

INTRODUCTION

The device is a single door multifunction standalone access controller or a Wiegand output reader. It uses Atmel MCU assuring stable performance. The operation is very user-friendly, and low-power circuit makes it long service life.

The device can be made with Bluetooth version or with WIFI version.

Features

- > Capacitive fingerprint sensor, Touch key
- > Metal case, anti-vandal
- > Waterproof, conforms to IP66
- > PIN length: 4-6 digits
- > EM card, EM+ Mifare cards optional
- > EM card: Wiegand 26-44 bits input & output
- > Mifare card: Wiegand 26-44bits, 56bits, 58bits input & output
- > Can be used as Wiegand reader with LED & buzzer output
- > Card block enrollment
- > Tri-color LED status display
- > Integrated alarm & buzzer output
- > Pulse mode, Toggle mode
- > User data can be transferred (except fingerprint users)
- > 2 devices can be interlocked for 2 doors
- > Built-in light dependent resistor (LDR) for anti tamper
- > Backlit keypad, can set automatic OFF after 20 seconds

Specifications

User Capacity	10500
Common Card/PIN User	9988
Fingerprint User	500
Panic User	2
Visitor User	10
Operating Voltage	12-18V DC
Working Current	≤150mA
Idle Current	≤60mA
Proximity Card Reader	EM / EM+ Mifare
Radio Technology	125KHz / 125KHz + 13.56MHz
Read Range	2-6 cm
PIN Length	4-6 digits
Wiring Connections	Relay Output, Exit Button, Alarm, Door Contact, Wiegand Input, Wiegand Output

RELAY

Adjustable Relay Output Time
Lock Output Load

Wiegand Interface

One (NO, NC, Common)
0-99 Seconds (5 seconds default)
2 Amp Maximum

EM card: Wiegand 26-44 bits input & output.
Mifare card: Wiegand 26-44bits, 56bits, 58bits input & output.
(Factory default: Wiegand 26bits for EM card, Wiegand 34bits for Mifare card)
4 bits, 8 bits(ASCII), 10 digits Virtual Number (Factory Default: 4 bits)

PIN Output

Environment
Operating Temperature
Operating Humidity

Meets IP66
-30°C ~ 60°C (-22°F ~ 140°F)
0%RH-98%RH

Physical
Colour
Dimensions

Zinc-Alloy (A/B) ABS(C)
Silver & Black (A/B) Black(C)
L148 x W43.5 x D22 (mm) → A/C
L165 x W44 x D22 (mm) → B
330g → A 415g → B 190g → C
405g → A 500g → B 280g → C

Unit Weight
Shipping Weight

Carton Inventory

INSTALLATION

- > Remove the back cover from the unit
- > Drill 2 holes(A,C) on the wall for the screws and one hole for the cable
- > Knock the supplied rubber bungs to the screw holes(A,C)
- > Fix the back cover firmly on the wall with 4 flat head screws
- > Thread the cable through the cable hole(B)
- > Attach the unit to the back cover

Wiring (for Slim device)

Wire Color	Function	Notes
Red	DC+	12-18V 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 (Wiegand Reader or Controller)		
Green	Data 0	Wiegand Output (Pass-through) Data 0
White	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 Closed)
Brown & Black	Doorbell A	Contact for Doorbell
Yellow & Black	Doorbell B	Contact for Doorbell

Sound and Light Indication

Operation Status	LED	Buzzer
Stand by	Red light bright	—
Enter into programming mode	Red light shines	One beep
In the programming mode	Orange light bright	One beep
Operation error	—	Three beeps
Exit from the Programming mode	Red light bright	One beep
Open lock	Green light bright	One beep
Alarm	Red light Shines quickly	Beeps

Basic Configure

Enter and Exit Program Mode

Programming Step	Keystroke Combination
1. Enter Program Mode	★ (Master Code) #
2. Update Master Code	0 (New Master Code) # (Repeat New Master Code) #
3. Exit Program Mode	★

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) #
3. Exit Program Mode	★

Set the Working Mode

Notes: The device has 3 working modes: Standalone Mode, Controller Mode, Wiegand Reader Mode, choose the mode you use. (Factory default is Standalone Mode / Controller Mode)

Programming Step	Keystroke Combination
1. Enter Program Mode	★ (Master Code) #
2. Standalone/Controller Mode	7 7 # (Factory default)
3. Wiegand Reader Mode	7 8 #
4. Exit	★

STANDALONE MODE

The device can work as Standalone Access Control for single door.
(Factory default mode) → 7 7 #

Connection Diagram

Common Power Supply

Attention:

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

Access Control Power Supply

Programming

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

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: 1-9998
Panic User ID: 9999-9999
Visitor User ID: 9991-10000
Fingerprint User ID: 10001-10500

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

> Proximity Card:

Proximity Card: EM card/ EM+ Mifare cards

> PIN:

PIN: can be any 4-6 digits.

Add 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) #
Add Fingerprint User	
2. Using Auto ID	1 (Fingerprint) (Repeat Fingerprint again)
(Allows the device to assign Fingerprint to next available User ID number)	Fingerprints can be added continuously.
OR	
2. Select Specific ID	1 (User ID) # (Fingerprint) (Repeat Fingerprint) (Repeat Fingerprint again)
(Allows Master to define a specific User ID to associate the fingerprint to)	Fingerprints can be added continuously.

Add Card User

2. Using Auto ID
(Allows the device to assign Card to next available User ID number)

OR

2. Select Specific 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 888 cards to the Reader in a single step)
Card's number must be consecutive; Card quantity = number of cards to be enrolled.

Add PIN User

2. Select Specific ID
(Allows manager to define a specific User ID to associate the PIN to)

3. Exit

Tips for PIN Security (Only valid for 6 digits PIN):

For higher security we allow you to hide your correct PIN with other numbers up to a max of 10 digits.

Example PIN: 123434

You could use *(123434) ** or *(123434) (** means times of usage, 0-10 times)

Add Master Fingerprint (By Specified ID: 10500)

Programming Step	Keystroke Combination
1. Enter Program Mode	★ (Master Code) #
2. Add Card	1 (User ID) # (0-9) # (Read Card) / (Input 8/10/17 Digits Card Number) #
OR	
2. Add PIN	1 (User ID) # (0-9) # (PIN) #
3. Exit	★

Add Panic Users (Valid for Card/ PIN Users)

(User ID number is 9999,9999 PIN length: 4-6 digits)

Programming Step	Keystroke Combination
1. Enter Program Mode	★ (Master Code) #
2. Add Card	1 (User ID) # (Read Card) / (Input 8/10/17 Digits Card Number) #
OR	
2. Add PIN	1 (User ID) # (PIN) #
3. Exit	★

Add Visitor Users (Valid for Card/ PIN Users)

(User ID number is 9991-10000 PIN length: 4-6 digits)
There are 10 groups Visitor PINcard available, the users can be specified up to 10 times of usage, after a certain number of times, i.e. 5 times, the PINcard become invalid automatically.

Programming Step	Keystroke Combination
1. Enter Program Mode	★ (Master Code) #
2. Add Card	1 (User ID) # (0-9) # (Read Card) / (Input 8/10/17 Digits Card Number) #
OR	
2. Add PIN	1 (User ID) # (0-9) # (PIN) #
3. Exit	★

Change PIN Users(PIN length: 4-6 digits)

Programming Step	Keystroke Combination
1. Enter Program Mode	★ (Master Code) #
2. Card Access	3 (1-99) # (factory default)
OR	
2. PIN Access	The relay time is 1-99 seconds. (Default is 5 seconds)
OR	
2. Fingerprint Access	3 0 #
3. Exit	★

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. Card Access	4 0 #
OR	
2. PIN Access	4 1 #
OR	
2. Fingerprint Access	4 2 #
3. Exit	★

Set Access Mode

For Multi user access mode, the interval time of reading can not exceed 5 seconds, or else, the device will exit to standby automatically.

Programming Step	Keystroke Combination
1. Enter Program Mode	★ (Master Code) #
2. Card Access	4 0 #
OR	
2. PIN Access	4 1 #
OR	
2. Fingerprint Access	4 2 #
3. Exit	★