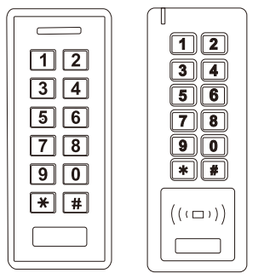
Keypad Reader



ABS Metal

User Manual

Packing list:

No	Name	Quantity
1	Keypad Reader	1
2	Manual	1
3	Wall Fixing Plugs	2
4	Self Tapping Screws	2

1. Introduction

It is a waterproof Wiegand output keypad, with integrated proximity reader, can be mounted either indoor or outdoor in harsh environments.

Four versions are available:
- EM version: read 125KHz EM card only
- EM+HID version: can read both 125KHz EM and HID cards
- Mifare version: can read 13.56MHz Mifare card
- EM+HID+Mifare version: can read 125KHz EM+ 125KHz HID+ 13.56MHz Mifare cards

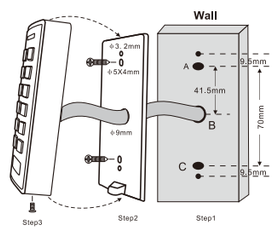
Features:
Waterproof, conforms to IP66
Programmable Wiegand output: 26~44, 56, 58 bits
Programmable Keypad Transmission: 4bits, 8bits or virtual card number format
Card type: EM card or EM+HID cards or Mifare card, or EM+HID+Mifare cards
Reading range: 3~8cm
External LED Control & External Buzzer Control

Specification:

Version	EM	EM+ HID	Mifare	EM+ HID+ Mifare
Frequency	125KHz	125KHz	13.56MHz	125KHz & 13.56MHz
Card Type	125KHz EM Card	125KHz EM & HID Cards	13.56MHz Mifare Card	125KHz EM&HID Cards & 13.56MHz Mifare Card
Read Range	3~8 cm			
Standby Current	≤35mA			
Operating Voltage	9~18V DC			
Wiegand Output Format	Wiegand 26~44, 56, 58 bits output (Factory default: 26bits for EM card, 34bits for Mifare card, Auto output for HID card)			
Keypad Transmission Format	4bits (factory default) 8bits or virtual card number format can be set			
Operating Temperature	-40℃~60℃			
Operating Humidity	0% RH ~ 95% RH			
Physical	**ABS, Metal optional**			
Color	ABS: Black/Ivory		Metal: Silver	
Index of Protection	IP66			
Dimension	ABS: L122 x W50 x D21 mm		Metal: L148 x W56 x D22.5 mm	
Net Weight	ABS: 155g		Metal: 450g	
Shipment Weight	ABS: 210g		Metal: 500g	

2. Installation

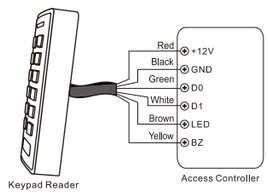
- Drill 2 holes (A, C) on the wall for the screws and one hole (B) for the cable
- Knock the rubber bungs to the holes (A, C)
- Fix the back cover on the wall with 2 screws
- Thread the cable though the cable hole (B)
- Attach the unit to the back cover



Wiring

Color	Function	Notes
Red	Power +	9-18V DC Power Input
Black	GND	Ground
Green	D0	Wiegand Data 0 Output
White	D1	Wiegand Data 1 Output
Brown	LED	Green LED Light Control
Yellow	Buzzer	Buzzer Control

Connection Diagram



3. Programming

Change the configure settings according to your application (optional). Multiple configuration settings can be changed at one time: enter program mode, change desired settings, then exit program mode.

Set Master Code
The 4-6 digits Master Code is used to prevent unauthorized access to the system. To interface with the keypad reader, the manager will need a Master Code **(factory default code: 123456), we highly** recommend immediately updating it and recording the New Master Code.

Note: When enter program mode, please press * for 5 seconds, and then press 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	*

Set Wiegand output format for EM Card

Programming Step	Keystroke Combination
1. Enter Program Mode	* **(Master Code) #**
2. Format Setting	1 (26~44) # (Factory default is 26bits)
3. Exit	*

Set Wiegand output format for HID Card

Programming Step	Keystroke Combination
1. Enter Program Mode	* **(Master Code) #**
2. Format Setting	2 (0) # (Auto output, factory default) 2 (26~37) #
3. Exit	*

Set Wiegand output format for Mifare Card

Programming Step	Keystroke Combination
1. Enter Program Mode	* **(Master Code) #**
2. Format Setting	3 (0) # (Auto output) 3 (26~44, 56, 58) # (Factory default is 34bits)
3. Exit	*

Set PIN output format
The keypad reader can be set to 4bits(factory default), 8 bits, or virtual card number format

Programming Step	Keystroke Combination
1. Enter Program Mode	* **(Master Code) #**
2. Format Setting Virtual Card Number 4Bits 8Bits	 4 (0) # 4 (4) # 4 (8) #
3. Exit	*

Set Audible and Visual Response

Programming Step	Keystroke Combination
1. Enter Program Mode	* **(Master Code) #**
2. LED Always ON LED Always OFF **OR** 2. Enable Sound Disable Sound **OR** Keypad Backlit Always ON Keypad Backlit Automatic OFF	5 (1) # (Factory default) 5 (2) # 5 (3) # (Factory default) 5 (4) # 5 (5) # (Factory default) 5 (6) # Automatic OFF after 20 seconds, it will go ON by pressing any key (this key isn't taken into consideration)
3. Exit	*

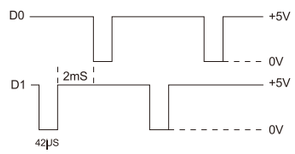
Reset to Factory Default:
There are two methods to reset the device to factory default.
Method 1:
* (Master Code) # 5(0) #

Method 2 (This way is suitable for users forget the Master Code):
Power off, connect Yellow cable and GND cable, and then power on, hold it for 5 seconds, there will be a long beep, means reset to factory default successfully.

4. Data Signal

The below table shows the wave form of pulse width time (the duration of a pulse) and pulse interval time (the time between pulses) of the Wiegand data output from the readers.
(Example 1010)

Pulse Times	
Description	Typical Time
Pulse Width Time	42 μs
Pulse Interval Time	2 ms



5. Keypad Transmission Format

The default keypad transmission format is 4bits, 8 bits or virtual card number format can be set.

Virtual Card Number
The reader will transmit the PIN data when it receives the last key (#) after PIN code Example:
PIN code: 999999 Press 999999 #, then the output format will be: 0000999999

4 bits
The reader will transmit the PIN data after every key is pressed:

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

8 bits
The reader will transmit the PIN data after every key is pressed:

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)