INSTRUCTION MANUAL

R3
Metal waterproof access control

R3-K
Metal waterproof PIN access control

1. Introduction

The R3/R3-K is a waterproof, standalone proximity reader. It can read EM, HID and Mifare cards, with multiple data format output, can be compatible with most access controllers.

2. Technical Specifications

Item No.	R3-EM	R3-H	R3-H&EM	R3-M
Item No.	R3-K EM	R3-K H	R3-K H&EM	R3-K M
Card type	EM	HID	HID&EM	IC/CPU
Frequency	125KHz	125KHz	125KHz	13.56MHz
Max proximity card read range	3~6cm	3~6cm	3~6cm	2~6cm
Operating voltage	DC 12V			
Static current	＜30mA	≤30mA	＜30mA	≤20mA
Operating temperature range	-40~60℃	-40~60℃	-40~60℃	-20~60℃
Operating humidity range	0~95%			
IP	IP65			
Dimensions	128X82X28mm			

Output Format	
EM	Wiegand 26-37, 26 bit is factory default setting (Wiegand 26-37 can be customized to manufacturer)
HID	Wiegand 26-37,Wiegand 26 card reader. It will output Wiegand 26-37 bit according to HID card's format automatically)
HID&EM	Wiegand 26-37,Wiegand 26 card reader. It will output wiegand 26-37 bit according to HID card's format automatically)
IC/CPU	Wiegand 26-37,Wiegand 26 bit is factory default setting(Wiegand 26-37 can be customized to manufacturer)

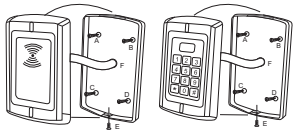
Note: 1. The factory default output is Wiegand 26 format. Wiegand 27～37 can be customized to the manufacturer.
2. Ask ISO14443Astandard ICor CPU card.

3. Wiring Definition

Color	Functionality	Description
Red	+12V	+12V Power Input
Black	GND	GND
Green	D0	Wiegand output D0
White	D1	Wiegand output D1
Brown	LED	Green light input
Yellow	BELL	Buzzer input

4. Installation Procedure

> Mark 4 dots (A, B, C, D) on the wall for screws and 1 dot (F) for the cable, then drill hole (A,B,C,D) in 6mm diameter,and drill the hole(F) in 10mm diameter.
> Plug the Rubber Bungs into the 4 holes (A, B, C, D). Fix the back cover firmly on the wall with Self-tapping screws.
> Thread the cable through the cable hole.
> Attach the front cover to the back cover, and use the screw E to fix it.



R3 R3-K

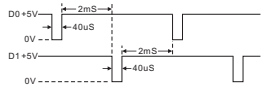
5. Functional Description

> After reading a card, the Color of the LED will turn Green, the buzzer sound a long beep.
> Then, the Color of the LED will turn Red, at the same time, the reader output the Wiegand signal.

> When you pressing the key, the Wiegand signal will output at the same time. Pressing the number key, the buzzer sound a short beep; pressing the *, the buzzer sound a long beep; and pressing #, the Color of the LED will turn Green, the buzzer sound a long beep, then ,the Color of the LED turn Red(For R3-K).
> The color of the LED will turn Green when the Input Voltage for LED is low, and will turn Red when the Input Voltage for LED is high.
> The buzzer will sound when the Input Voltage for the Bell is low, and it will turn normal after 30 seconds or the Input Voltage go high.
> When the enclosure is opened, the buzzer will alarm. And it will turn off the sound of alarm automatically after one minute.

6. Instruction for the Wiegand Data

The buyers can customize the Wiegand bit of this reader, Range: Wiegand 26~37. Wiegand 26 card reader, HID card can output Wiegand 26~37 automatically, other cards are output Wiegand 26 compulsively.
Wiegand 27~37 card reader,all cards are forced output Wiegand 27~37.
The wire in green(D0) is the wire for Wiegand 0, and the wire in white is the wire for Wiegand 1. The input voltage is high at ordinary time, and when it is low, there is data output from the reader. The pulse width for low voltage is 40uS; and the time interval is 2mS。Below is the data for "0101" oscillogram.



7. Description for Key Wiegand output (only available for R3-K)

The format of key output: 4bit, 8bit, virtual card number, three formats.4bit is factory default setting, buyers can order by your demands.
Virtual card number format: when input an 4-6 digits PIN, press '#', output a 26～37 Bit of 10-bit decimal card number. The meaning of the card number as follows: to use 26BIT card number format output, the password is 999999, then the output card number is: 0000999999 ,10-bit decimal card number of the equipment can be seen on 0000999999.

4 bit no checked format, that is , each key press sends 4 bits data, the corresponding relation is:
1（0001）, 2（0010）, 3（0011）
4（0100）, 5（0101）, 6（0110）
7（0111）, 8（1000）, 9（1001）
*（1010）, 0（0000）, #（1011）
8 bit ones-complement code, that is, each key press sends 8bit output data, the first 4 bits is ones-complement code for the last 4 bits, the corresponding relationship is:
1（11100001）, 2（11010010）, 3（11000011）
4（10110100）, 5（10100101）, 6（10010110）
7（10000111）, 8（01111000）, 9（01101001）
*（01011010）, 0（11110000）, #（01001011）

8. Packing List

Name	Quantity	Remark
Packing Box	1	
Card Reader	1	Reading type to see labels
User Manual	1	
Rubber Bungs	4	White 6mm×24 mm,used for fixing
Self Tapping Screws	4	Stainless steel KA4mm×25 mm,used for fixing