

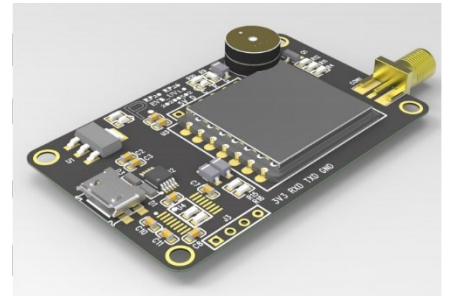
R200 User Manual

Thank you for using our UHF reader. Please read this document carefully for your convenience.

1. R200 Introduction

Radio Frequency Identification (RFID) is the abbreviation of RadioFrequency Identification. Its principle is non-contact data communication between the reader and the tag. RFID is widely used to achieve the purpose of identification. Typical applications include animal chip, car chip anti-theft device, access control system, parking lot control, production line automation, and material management.

This module is the UHF identification module of RFID, and has the ability to quickly identify multiple tags at the same time. UHF belongs to the principle of electromagnetic backscatter coupling, which is radar type. According to the spatial propagation law of electromagnetic wave, that is, the electromagnetic wave emitted will reflect back after hitting the target, and carry the target information at the same time.



2. Operation Steps

(1) Install Driver

① The driver needs to be installed before use, which can be installed according to the serial port driver installation method

(2) Antenna connection

① Test antenna with SMA connector to the module. Refer to the video for the antenna connection. [.. \R200 SDK\Arduino hardware connection explanation.mp4:](#)

Shenzhen YanPoDo Technology Co.,Ltd

- ② When connecting other types of antennas, it is necessary to pay attention to the interface mode to ensure that the RF cable is firmly connected ;
- ③ When using the test antenna, it is necessary to suspend the antenna for reading to avoid shortening the reading distance. If you have certain requirements for the reading effect, you can contact our company to purchase a flat antenna.

(3) Use of upper computer

- ① Refer to video for tag operation [R200 Basic operation video.mp4](#). This video has a detailed description of the tag reading and writing operation and the interface.

3. Tag description

(1) The tag is divided into EPC, RFU, TID and USER fields

- ① EPC: It is a code of 4~12 bytes, and the code read by the reader/writer for the first time is this code;
- ② RFU: The operation of dosing the tag, killing the password, etc., is generally not to be operated;
- ③ TID: It is the globally unique code of the label, and it cannot be changed forever;
- ④ USER: Mainly save user data

4.Read distance description

(1)Tag reading distance

The reading distance is affected by the reader power, reader antenna gain, environmental interference, tag antenna gain, and tag chip sensitivity;

Anti-metal labels are required for use on metal articles;

In objects with more liquid moisture, anti-liquid labels need to be used;

If the test antenna cannot reach a long distance, it can be replaced with a other high gain panel antenna.

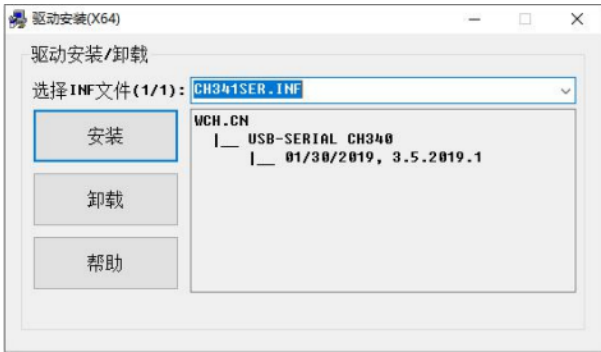
5.FAQ Troubleshooting

(1)The computer cannot recognize the serial port

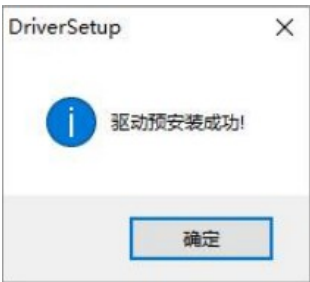
①Check whether the CH340 driver is installed on the computer. The driver file can be found in the "R200 User Guide". [CH341SER.EXE](#)



After clicking Run, the following interface will appear:



③ After clicking "Install", the message "Driver pre-installed successfully!"



④ After that, connect the module to the computer via USB, and "CH340" appears in the device manager, which means that the driver is successfully installed.



(2)How to use it in combination with STM32 and other one-chip computer? What is the connection method?

The UHF modules R200 can be used in combination with the one-chip computer. The connection mode is through the UART serial port at TTL level. See the following documents

- ① [..\R200_SDK\STM32 Routine explanation. mp4](#)
- ② [..\R200_SDK\R200_STM32 Control routine. zip](#)

(3)How to develop connection with Arduino?

See the following information

- ① [..\R200_SDK\Arduino_driver routine. zip](#)
- ② [..\R200_SDK\Arduino Routine explanation. mp4](#)

(4)How to design the base plate?

Our company provides the schematic diagram of the base plate, which can be designed and developed by referring to the following documents。 ① [..\R200_SDK\R200 SCH. pdf](#)

- ② [..\R200_SDK\R200 Hardware Design Manual. pdf](#)

(5)What is the difference between UHF module and reader/writer?

Module refers to the core module of the stamp hole, the reader/writer has a black backplane, USB interface, TTL serial port module refers to the core module of the stamp hole, the reader/writer has a black backplane, USB interface, TTL serial port.

(6)After the module and Raspberry Pi are integrated, the recognition and reading are unstable

First, check whether the power value of the reader/writer is too low, whether there is metal interference around the antenna, and whether the tag is disturbed. Finally, considering the power supply problem, it is recommended to connect the 5V of the module to the 5V of the Raspberry Pi input.