

الحمادي للألكترونيات
ALHAMMADI FOR ELECTRONICS

Infrared remote control module

1. Product introduction

This is a new ultra-thin 38K universal infrared remote control, using NEC encoding format, mainly used in car MP3, foot bath, lighting equipment, digital photo frames, microcontroller development boards and learning boards. Because it is based on wireless remote control, it is convenient and effective for people to use, and now the application field is getting wider and wider, so we will introduce this product as follows.

Second, technical parameters

Infrared remote control distance: more than 8 meters

Transmitter IR wavelength: 940Nm

Crystal frequency: 455KHZ crystal oscillator

Carrier frequency: 38KHZ

Encoding: The encoding format is NEC

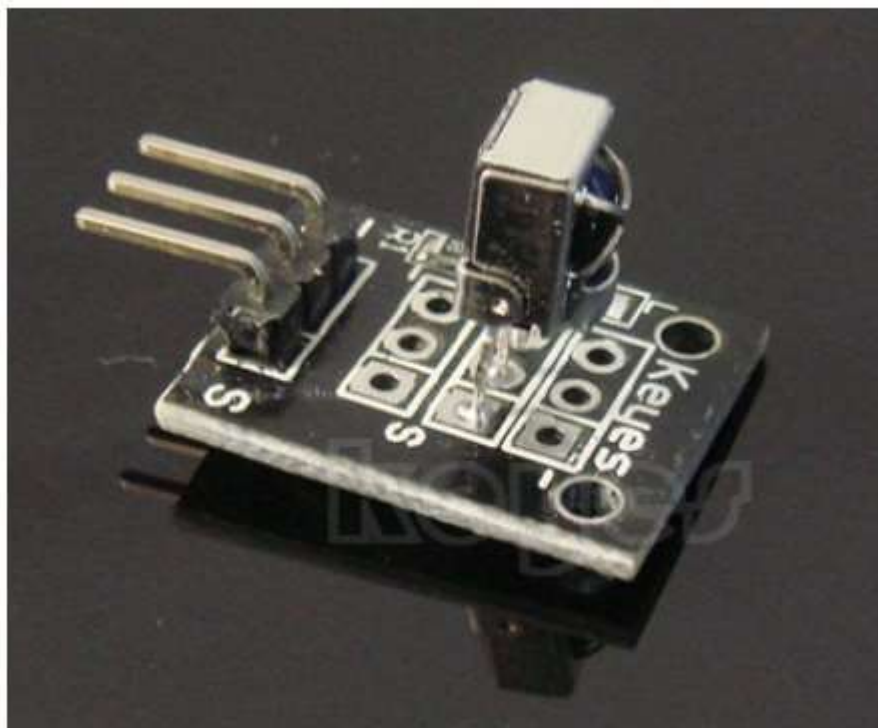
Size: 86*40*6mm

power supply: CR2025/1600mAH

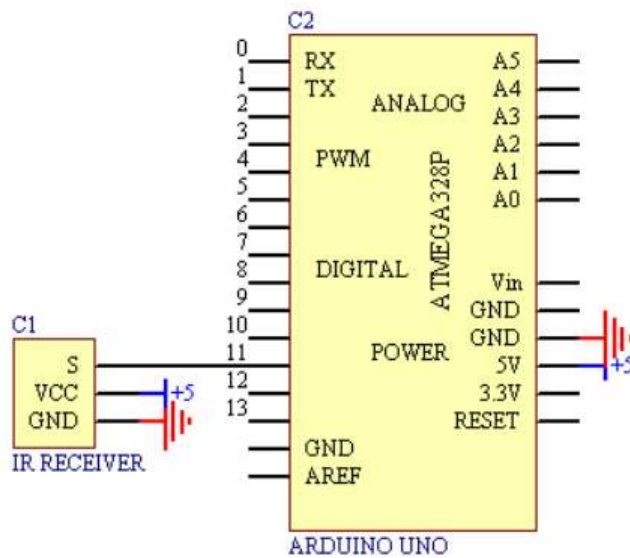
3. Instructions for use

Before use, you must remember to put the battery on the infrared remote control, and the infrared remote control should be used in combination with the infrared receiving module, which is responsible for receiving the information transmitted by the infrared remote control and decoding it into hexadecimal code, so as to achieve the established communication.

Connect the IR receiver module with the **Arduino** correctly, where **S** is connected to **D11**, **VCC** is connected to **+5V**, **GND** is connected to **GND**, And fix it;



Here's how it connects to Arduino



Fourth, module testing

1. Arduino controller × 1
2. USB cable × 1
3. Infrared remote control × 1
4. Infrared receiving module × 1

Connect the test circuit according to the instructions for use,

Okay, plug in the circuit, and let's start testing

In this test, we have displayed the encoding of the

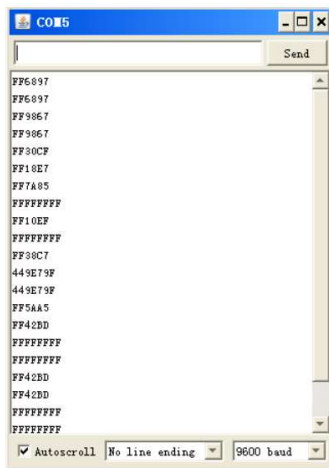
corresponding key in the **Serial Monitor** window

Let's start with the test code:

```
#include <IRremote.h>
int RECV_PIN = 11; //define input pin on Arduino
IRrecv irrecv(RECV_PIN);
decode_results results;
void setup()
{
  Serial.begin(9600);
```

```
irrecv.enableIRIn(); // Start the receiver
}
void loop() {
if (irrecv.decode(&results)) {
Serial.println(results.value, HEX);
irrecv.resume(); // Receive the next value
}
}
```

After compiling the above code, we can download the test, pay attention to make sure that the remote control is on the battery before testing! Here are some of the test results:



During the test, pay attention to the position of the infrared remote control and the infrared receiver to ensure that the infrared receiver can well receive the signal emitted by the remote control; From the test results, you can see that each key has its own hexadecimal encoding, if we hold down a button, FFFFFFFF will be displayed in the **Serial Monitor** window.