

Using an OLED screen on an Arduino

Introduction of OLED screen

OLED (Organic Light-Emitting Diode), also known as organic electric laser display, organic light-emitting semiconductor (Organic Electroluminescence Display, OLED). OLED belongs to a current-type organic light-emitting device, which generates light through the injection and recombination of carriers, and the light-emitting intensity is proportional to the injected current. And the power consumption is relatively low.

OLED screens are more and more used in embedded electronic devices because of their small size, lightness and low power consumption. There are different types of OLED screens, and the colors displayed are also different. Commonly used ones are white display, blue display and yellow-blue two-color display. There are also various screen sizes and built-in driver chips. The commonly used driver interfaces are SPI and IIC. Introduced in this article is a 0.96-inch blue IIC driver screen, and its built-in driver chip is SSD1306.

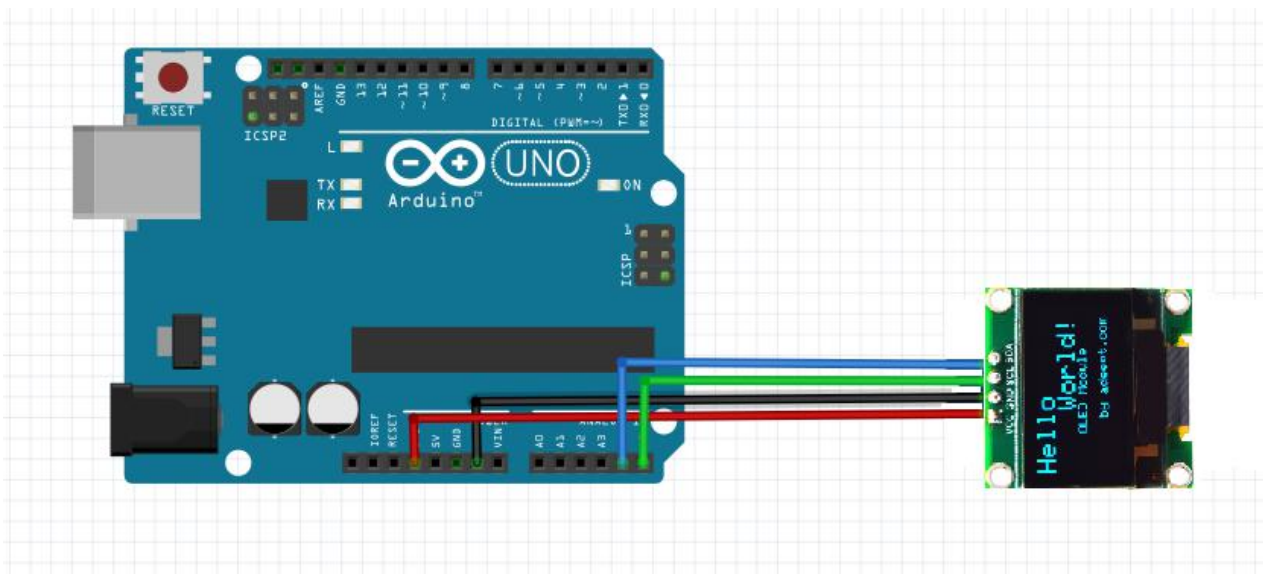


Circuit diagram (wiring diagram)

The IIC interface requires only two wires. The VCC and GND of the OLED screen are respectively connected to 3.3V and GND of the development board, and the SDA and SCL of the OLED screen are respectively connected to the development board A4 and A5.

OLED screen pins	Arduino
VCC	3.3V
GND	GNG
SCL	A5
SDA	A4

The figure below uses the Arduino UNO version as an example wiring diagram.



Upload program code

1. Enter the `for_Arduino/Arduino_helloWorld` folder in the data package, and open the `helloWorld.ino` file through the Arduino IDE.



```
helloWorld
#include <SPI.h>
#include <Wire.h>
#include <Adafruit_GFX.h>
#include <Adafruit_SSD1306.h>

//Define the resolution of the OLED
Adafruit_SSD1306 display = Adafruit_SSD1306(128, 64, &Wire);

void setup() {
  Serial.begin(9600);

  Serial.println("OLED FeatherWing test");
  display.begin(SSD1306_SWITCHCAPVCC, 0x3C); //Set the I2C address of the OLED

  display.clearDisplay(); //Clear screen

  display.setTextSize(2); //Set font size,1-8
  display.setTextColor(SSD1306_WHITE);
  display.setCursor(0,0); //Set start coordinates
  display.println("Hello");|
  display.println("   World!");
  display.setTextSize(1);
  display.println("   OLED Module   ");
  display.println(" ");
  display.println("       by adeept.com");
  display.display(); //Make the changed display effective
}
```

2. Connect the development board and the computer through the data cable, and set the corresponding port number and development board type in the Arduino IED.
3. Click the upload button to upload the program to the Arduino development board.
4. After the upload is successful, you can see the words "Hello world!" displayed on the OLED screen.



Other programs

We provide 5 programs in the [for_Arduino](#) folder, which can display different contents on the OLED screen. Users can upload these 5 programs to the Arduino respectively, and then observe the OLED screen.