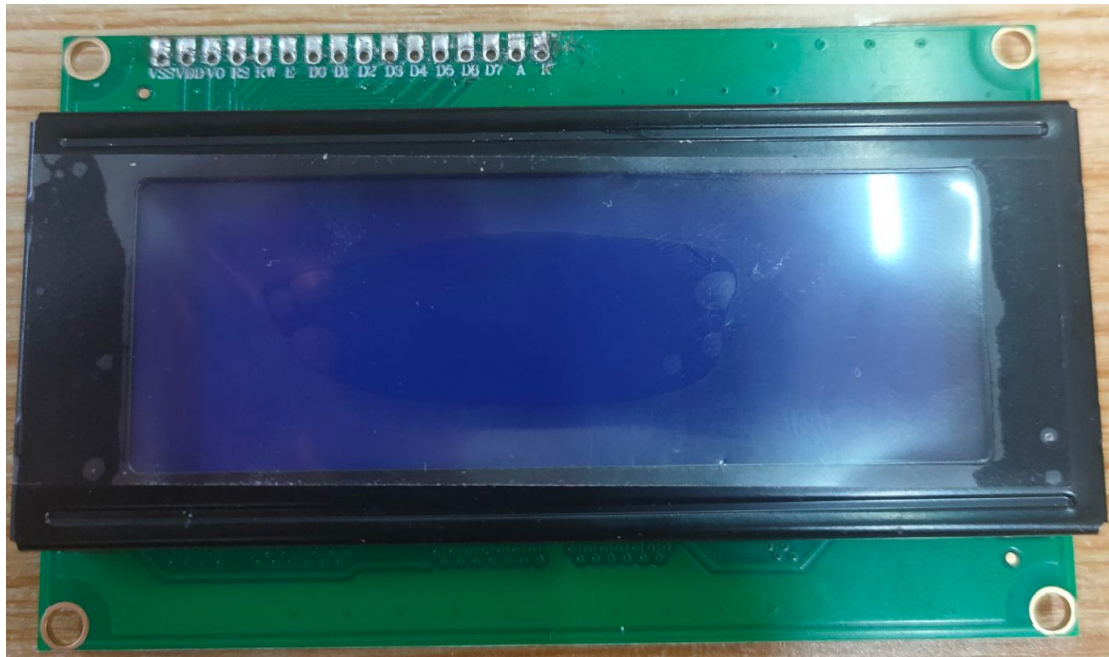


LCD 2004A



1. Overview

The structure of the LCD is to place liquid crystals between two parallel pieces of glass. There are multiple small vertical and horizontal wires between the two pieces of glass. The rod-shaped crystal molecules are controlled to change directions by whether they are energized or not, and the light is refracted to produce images.

It features longer service life, lower energy consumption and lower cost than CRT. What' s more, it is generally used with an I2C transfer module for it requires more IO ports to connect to the controller.

2. Features

Model: LCD 2004A

Overall dimensions: 98.0mm×60.0mm

Connection method: Conductive tape

Viewing area dimensions: 76.0mm×26.0mm

Interface mode: Single row parallel port

Dot dimensions: 0.55mm×0.55mm

Backlight type: EL/LED

Character dimensions: 29.5mm×47.5mm

Backlight color: white light

Display content: 20 characters × 4 lines

Operating voltage: +5V

Display screen: blue

Working temperature: -10 ~ +60°C

Storage temperature: -20 ~ +70°C

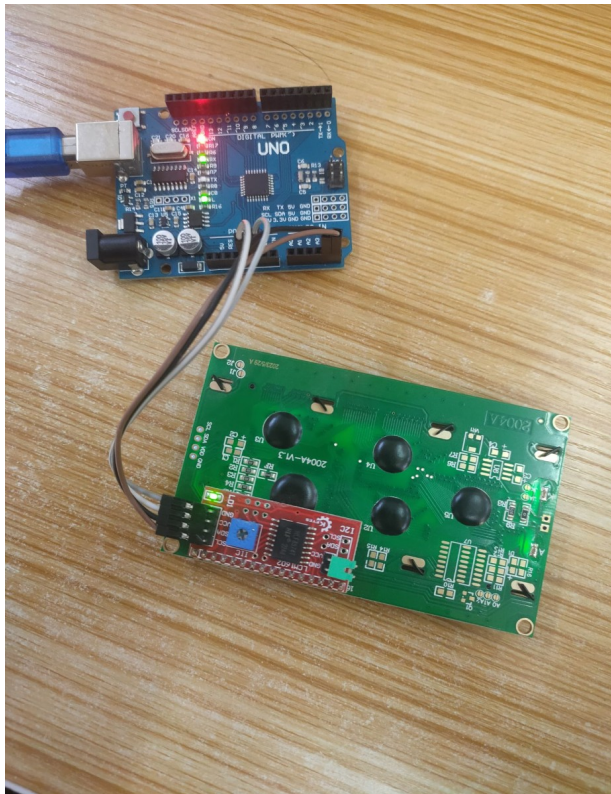
3. Pins Description

Pin	Name	Description
1	VSS	Power ground(0V)
2	VDD	Power voltage(+5V)
3	VO	LCD driving voltage(Adjustable, usually 0.8V)
4	RS	RS=0, select instruction register RS=1, select data register

5	RW	R/W=0 writing operation;R/W=1 reading operation
6	E	During writing operation, the falling edge of the signal is valid, during reading operation, the high level is valid.
7	D0	The 8-bit bus mode is data port 0. In the 4-bit bus mode, the D0~D3 pins are disconnected.
8	D1	The 8-bit bus mode is data port 1. In the 4-bit bus mode, the D0~D3 pins are disconnected.
9	D2	The 8-bit bus mode is data port 2. In the 4-bit bus mode, the D0~D3 pins are disconnected.
10	D3	The 8-bit bus mode is data port 3. In the 4-bit bus mode, the D0~D3 pins are disconnected.
11	D4	The 8-bit bus mode is data port 4. In the 4-bit bus mode, the D0~D3 pins are disconnected.
12	D5	The 8-bit bus mode is data port 5. In the 4-bit bus mode, the D0~D3 pins are disconnected.
13	D6	The 8-bit bus mode is data port 6. In the 4-bit bus mode, the D0~D3 pins are disconnected.
14	D7	The 8-bit bus mode is data port 7. In the 4-bit bus mode, the D0~D3 pins are disconnected.

15	A	Backlight power positive pole(+5V)
16	K	Backlight power ground(0V)

4. Wiring Diagram



2004 I2C Blue Screen	UNO R3 Control Board
GND	GND
VCC	5V
SDA	A4
SCL	A5

5. Test Code

```
#include <Wire.h>

#include <LiquidCrystal_I2C.h>

LiquidCrystal_I2C lcd(0x27,20,4); // set the LCD address to
0x27 for a 16 chars and 2 line display

void setup()
{
  lcd.init();           // initialize the lcd
  lcd.init();

  // Print a message to the LCD.
  lcd.backlight();

  lcd.setCursor(3,0);
  lcd.print("Hello, world!");

  lcd.setCursor(3,1);
  lcd.print("Hello, keyes!");

  lcd.setCursor(5,2);
  lcd.print("2024 03 04");

  lcd.setCursor(0,3);
  lcd.print("ABCDEFGHJKLMNOPQRST");
}

void loop()
{
}
```

6. Test Result

Wire up and upload the code successfully, then power on, it will show as shown below:

