

LCD12864 Shield SKU:DFR0287

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18B20 Temperature Sensor V2 SKU:DFR0024

Introduction

This framed LCD12864 Shield with LED backlight is compatible with most of Arduino controllers and supports English/Chinese/Picture display. With 5 analog extension pins and 8 digital pins, the LCD12864 Shield also integrates a 5-key joystick for controlling additional functions, making it an ideal module for prototyping and interactive projects.

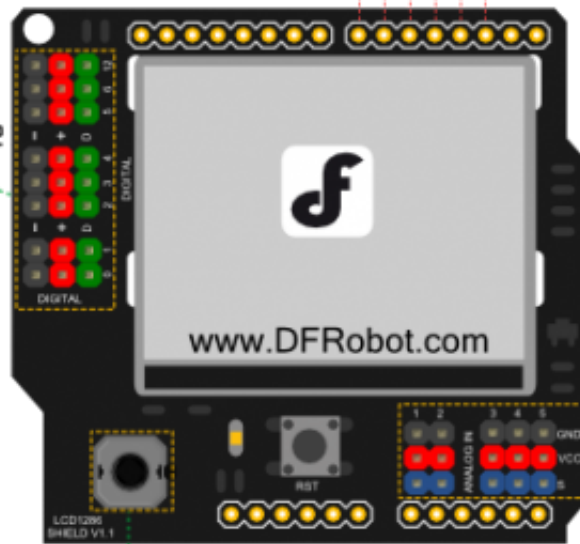
Specification

- Power supply: 3.3V
- Pin used: D7, D8, D9, D10, D11, D13, A0
- Reset button
- 5 degree joystick (using Arduino Analog Pin 0)
- Backlit control (using Arduino Digital Pin 7)
- Extra 5 Analog pins & 8 Digital pins
- Size:60x55x20mm

Pin Out

D7~D11,D13 have been occupied

Digital Pins(0~1&2~6&12 with Gnd and Power



Analog Pins(A1~A5) with Gnd and Power

A five degree joystick using A0

Instruction for Digital Pin 7 To 11,13 and Analog

Pin	Function	Pin Property
Digital 13(D13)	SPI Interface: SCK	
Digital 11(D11)	SPI Interface: MOSI	
Digital 10(D10)	SPI Interface: CS	SPI Interface D7~D11,13
Digital 9(D9)	SPI Interface: CD	
Digital 8(D8)	SPI Interface: RST	
Digital 7(D7)	To control the LCD backlight	Black Control Pin
Analog0(A0)	To control the 5 degree joystick	Analog Pin

Note:

- Please config the driving pin using this `U8GLIB_NHD_C12864 u8g(13, 11, 10, 9, 8);` command.. And notice to enable this command when using the u8glib example codes also.
- Use "setContrast" to config the contrast as you want. We highly recommend you to `setContrast` to 0 to get the best display effect.
- "setRot90/setRot180/setRot270" functions will be helpful to rotate the display direction as you want.Recommend to use `setRot180`.

For more useful lcd driving functions, please check u8glib userreference (<https://code.google.com/p/u8glib/wiki/userreference#setPrintPos>) page.

Sample Code

Please download the U8glib u8glib arduino library (http://u8glib.googlecode.com/files/u8glib_arduino_v1.14.zip) first before compiling or uploading the sample code.

```
?
1 #include "U8glib.h"
2
3 U8GLIB_NHD_C12864 u8g(13, 11, 10, 9, 8);    // SPI Com: SCK = 13, MOSI = 11, CS =
4 10, CD = 9, RST = 8
5
6
7 void draw(void) {
8     // graphic commands to redraw the complete screen should be placed here
9     u8g.setFont(u8g_font_unifont);
10    //u8g.setFont(u8g_font_osb21);
11    u8g.drawStr( 0, 20, "www.DFRobot.com");
12}
13
14 void setup(void) {
15     u8g.setContrast(0); // Config the contrast to the best effect
16     u8g.setRot180();// rotate screen, if required
17     // set SPI backup if required
18     //u8g.setHardwareBackup(u8g_backup_avr_spi);
19
20     // assign default color value
21     if ( u8g.getMode() == U8G_MODE_R3G3B2 ) {
22         u8g.setColorIndex(255);    // white
23     }
24     else if ( u8g.getMode() == U8G_MODE_GRAY2BIT ) {
25         u8g.setColorIndex(3);      // max intensity
26     }
27     else if ( u8g.getMode() == U8G_MODE_BW ) {
28         u8g.setColorIndex(1);      // pixel on
29     }
30     else if ( u8g.getMode() == U8G_MODE_HICOLOR ) {
31         u8g.setHiColorByRGB(255,255,255);
32     }
33}
34
35 void loop(void) {
36     // picture loop
37     u8g.firstPage();
38     do {
39         draw();
40     }
41     while( u8g.nextPage() );
```

```
42 // rebuild the picture after some delay
43 delay(500);
44}
```

Documents

- Schematic (http://www.dfrobot.com/image/data/DFR0287/DFR0287_Schematic_V1.pdf)
- u8glib userreference (<https://code.google.com/p/u8glib/wiki/userreference#setPrintPos>)
- U8glib library (http://u8glib.googlecode.com/files/u8glib_arduino_v1.14.zip)

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