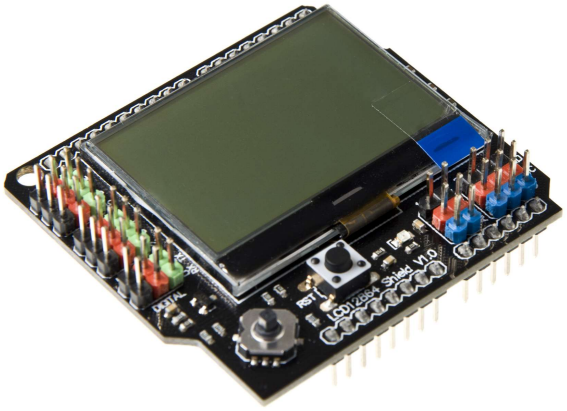
Introduction



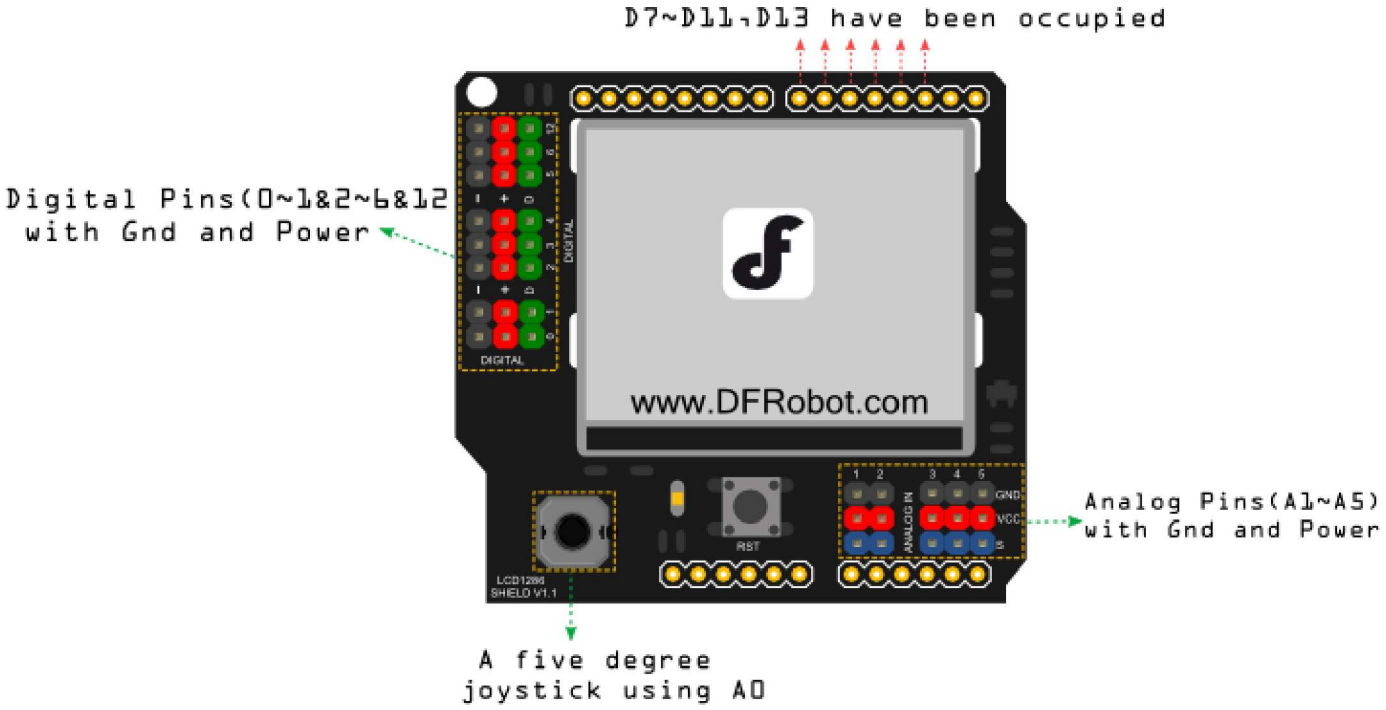
(https://www.dfrobot.com/product-1084.html)

This framed LCD12864 Shield with LED backlight is compatible with most of Arduino controllers and supports English/Chinese/Picture display. With 5 analog extention pins and 8 digital pins, the LCD12864 Shield also integrates a 5-key joystick for controlling addtional 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

Board Overview



Instruction for Digital Pin 7 To 11,13 and Analog

Pin	Function	Pin Property
Digital 13(D13)	SPI Interface: SCK	SPI Interface D7~D11,13
Digital 11(D11)	SPI Interface: MOSI	
Digital 10(D0)	SPI Interface: CS	
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.

Tutorial

Requirements

- **Hardware**
  - DFRduino UNO R3 (https://www.dfrobot.com/product-838.html) (or similar) x 1
  - LCD12864 Shield for Arduino (https://www.dfrobot.com/product-1084.html) x 1
  - M-M/F-M/F-F Jumper wires
- **Software**
  - Arduino IDE (https://www.arduino.cc/en/Main/Software)
  - Download and install the U8glib arduino Library. (About how to install the library? (https://www.arduino.cc/en/Guide/Libraries#.UxU8mdzF9H0))

Sample Code

```
#include "U8glib.h"

U8GLIB_NHD_C12864 u8g(13, 11, 10, 9, 8);    // SPI Com: SCK = 13, MOSI = 11, CS = 10, CD =


void draw(void) {
  // graphic commands to redraw the complete screen should be placed here
  u8g.setFont(u8g_font_unifont);
  //u8g.setFont(u8g_font_osb21);
  u8g.drawStr( 0, 20, "www.DFRobot.com");
}

void setup(void) {
  u8g.setContrast(0); // Config the contrast to the best effect
  u8g.setRot180();// rotate screen, if required
  // set SPI backup if required
  //u8g.setHardwareBackup(u8g_backup_avr_spi);

  // assign default color value
  if ( u8g.getMode() == U8G_MODE_R3G3B2 ) {
    u8g.setColorIndex(255);     // white
  }
  else if ( u8g.getMode() == U8G_MODE_GRAY2BIT ) {
    u8g.setColorIndex(3);         // max intensity
  }
  else if ( u8g.getMode() == U8G_MODE_BW ) {
    u8g.setColorIndex(1);         // pixel on
  }
  else if ( u8g.getMode() == U8G_MODE_HICOLOR ) {
    u8g.setHiColorByRGB(255,255,255);
  }
}

void loop(void) {
  // picture loop
  u8g.firstPage();
  do {
    draw();
  }
  while( u8g.nextPage() );

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

More Documents

- Schematic (https://github.com/Arduinolibrary/DFR0287_LCD12864_Shield_for_Arduino/raw/master/LCD12864%20Shield%20V1.1%20SCH.pdf)
- u8glib userreference (https://code.google.com/p/u8glib/wiki/userreference#setPrintPos)
- U8glib library (http://u8glib.googlecode.com/files/u8glib_arduino_v1.14.zip)

 Get **Gravity: LCD12864 Shield for Arduino** (https://www.dfrobot.com/product-1084.html) from DFRobot Store or **DFRobot Distributor**. (https://www.dfrobot.com/index.php?route=information/distributorslogo)

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