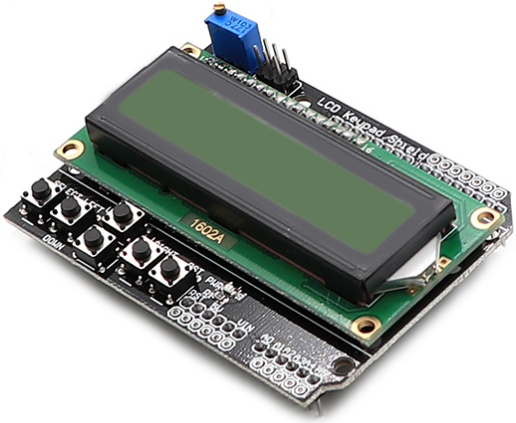
ARDUINO LCD1602 KEYPAD SHIELD V2.0

User Manual



Module Test :

Connect Arduino LCD Keypad Shield with Arduino. Download "LCD4Bit_mod.h" library file and save to the "arduino-0021 hardware libraries". Compile the test program below and download to Arduino. If you use the Aduino Keypad LCD Shield for the first time and see nothing on the screen, you may need to use screwdriver to adjust RP1 which controls contrast. If clockwise rotation, characters can appear clearly.

Connecting With GP2D12 :

GP2D12 distance measurement code:

```
# Include

LCD4Bit_mod lcd = LCD4Bit_mod (2);

char GP2D12;
char a, b;
char str1 [ ] = "Renge:";
char str2 [ ] = "Renge Over";
char str3 [ ] = "cm";

void setup ()
{

lcd.init ();
lcd.clear ();
lcd.println ("GP2D12 testing ...");

}

void loop ()
{
GP2D12 = read_gp2d12_range (1);
if (GP2D12> 80 | | GP2D12 <10)
{
lcd.cursorTo (2,0);
lcd.println (str2);
}
```

```
else
{
a = 0x30 + GP2D12/10;
b = 0x30 + GP2D12% 10;
lcd.cursorTo (2, 3);
lcd.printIn (str1);
lcd.print (a);
lcd.print (b);
lcd.printIn (str3);
}
delay (50);
}

float read_gp2d12_range (byte pin)
{
inttmp;
tmp = analogRead (pin);
if (tmp<3) return -1;
return (6787.0 / ((float) tmp - 3.0)) - 4.0;
}
```

And you can also use the official Libraries, and only need to set interface :

Test Code :

```
/*
  The circuit:
 * LCD RS pin to digital pin 8
 * LCD Enable pin to digital pin 9
 * LCD D4 pin to digital pin 4
 * LCD D5 pin to digital pin 5
 * LCD D6 pin to digital pin 6
 * LCD D7 pin to digital pin 7
 * LCD BL pin to digital pin 10
 * KEY pin to analogl pin 0
 */

#include <LiquidCrystal.h>

LiquidCrystallcd(8, 13, 9, 4, 5, 6, 7);

char msgs[5][16] = {"Right Key OK ",
                    "Up Key OK    ",
                    "Down Key OK  ",
                    "Left Key OK  ",
                    "Select Key OK" };

intadc_key_val[5] ={50, 200, 400, 600, 800 };
int NUM_KEYS = 5;
intadc_key_in;
int key=-1;
intoldkey=-1;
```

```
 void setup()
 {
  lcd.clear();
  lcd.begin(16, 2);
  lcd.setCursor(0,0);
  lcd.print("ADC key testing");
 }

 void loop()
 {
  adc_key_in = analogRead(0);    // read the value from the sensor
  key = get_key(adc_key_in);  // convert into key press

  if (key != oldkey)   // if keypress is detected
   {
    delay(50);  // wait for debounce time
    adc_key_in = analogRead(0);    // read the value from the sensor
    key = get_key(adc_key_in);    // convert into key press
  if (key != oldkey)
  {
    lcd.setCursor(0, 1);
    oldkey = key;
    if (key >=0){
        lcd.print(msgs[key]);
    }
  }
 }
delay(100);
}

// Convert ADC value to key number
intget_key(unsigned int input)
{
  int k;

  for (k = 0; k < NUM_KEYS; k++)
  {
    if (input <adc_key_val[k])
{
        return k;
     }
  }

  if (k >= NUM_KEYS)k = -1;  // No valid key pressed
  return k;
```