Generic 12864 Panel

Product Introduction

This is a opensouce, cheap, with RGB indicator, common to marlin's display, supports offline printing, resolution is 12864, display area is 3.2", SD card holder can be side or vertical, Dimensional compatible with REPRAP_DISCOUNT_FULL_GRAPHIC_SMART_CONTROLLER, Software compatible with MINIPANEL in marlin firmware.

Available in a single backlight color version, also available in RGB backlight (NEOPIXEL_LED)version.Choose according to your preferences！

Features

- 3.2" inch high contrast Graphic LCD,Dimensional compatible with REPRAP_DISCOUNT_FULL_GRAPHIC_SMART_CONTROLLER
- Black-gray/black-green/white-black/white-blue/green-black, 5 display styles
- SPI communication to host micro-controller
- Support Vertical or side SD slot with card detect,with a optional SD module
- Software configurable contrast setting
- 3D printable case and mount STL file

- Configurable RGB backlight, WS2811 single line control.
- Black background or transparent backgroun.
- The extra EXP3 is 1284P or a motherboard that requires a single display function.

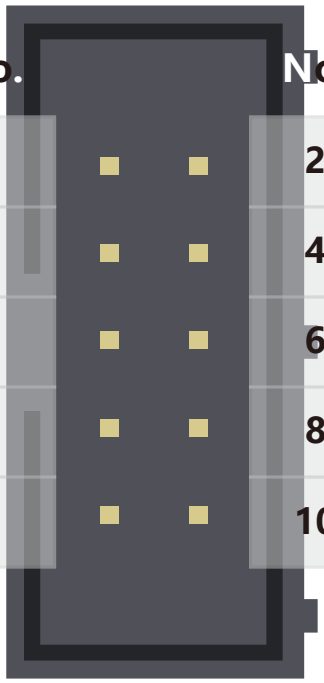
Application

3D printer，CNC machines，Other micro controller projects

Typical Wiring

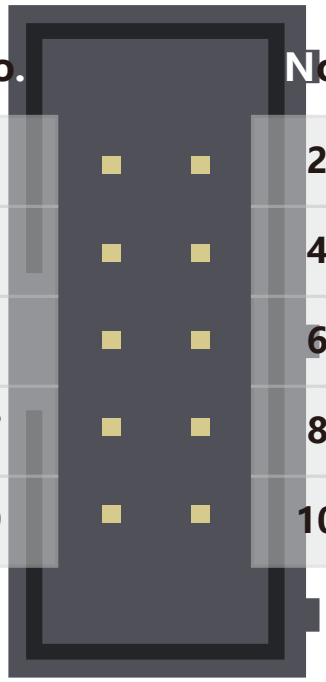
EXP1 Define

Mini 12864	RAMPS PIN	RAMPS Def.	No.		No.	RAMPS Def.	RAMPS PIN	Mini 12864
VCC	VCC	VCC	1		2	GND	GND	GND
BLUE	D29	LCD_D7	3		4	LCD_D6	D27	GREEN
RED	D25	LCD_D5	5		6	LCD_D4	D23	LCD RST
LCD A0	D16	LCD_RS	7		8	LCD_EN	D17	LCD CS
BTN_ENC	D35	BTN_ENC	9		10	BEEP	D37	BEEP



EXP2 Define

Mini 12864	RAMPS PIN	RAMPS Def.	No.		No.	RAMPS Def.	RAMPS PIN	Mini 12864
KILL	D41	KILL	1		2	GND	GND	GND
RST	RST	RST	3		4	CD	D49	CD
MOSI	D51	MOSI	5		6	BTN_EN2	D33	BTN_EN2
SS	D53	SS	7		8	BTN_EN1	D31	BTN_EN1
SCK	D52	SCK	9		10	MISO	D50	MISO



Firmware config

This screen driver is ST7567 and is compatible with the marlin Mini panel (UC1701,same as ST7567). It has been tested well, and the following configuration is required.

Before you start, please install the latest version of U8glib.

STEP1. CHANGES THE PINS.

On a RAMPS-compatible board, you need to make the following changes in pins_RAMPS.h:

pins_RAMPS.h

```
#elif ENABLED(MINIPANEL)
      #define BEEPER_PIN 37
      // Pins for DOGM SPI LCD Support
      #define DOGLCD_A0  16
      #define DOGLCD_CS  17
      #define LCD_BACKLIGHT_PIN 27 // backlight LED on A11/D65
      #define LCD_RESET_PIN  23
      #define SDSS   53

      #define KILL_PIN -1
      #define LCD_CONTRAST 200
      #define BTN_EN1 31
      #define BTN_EN2 33
      #define BTN_ENC 35  //the click switch

      #define SD_DETECT_PIN 49
```

On a our F6 board, you need to make the following changes in pins_FYSETC_F6_V13.h:

pins_FYSETC_F6_V13.h

```
//////////////////////////
// LCDs and Controllers //
//////////////////////////

    // #define LCD_PINS_RS         16
    // #define LCD_PINS_ENABLE     17
    // #define LCD_PINS_D4         23
    // #define LCD_PINS_D5         25
    // #define LCD_PINS_D6         27
    // #define LCD_PINS_D7         29

    // Pins for DOGM SPI LCD Support
    #define DOGLCD_A0  16
    #define DOGLCD_CS  17
    #define LCD_BACKLIGHT_PIN 27
    #define LCD_RESET_PIN  23
    #define LCD_CONTRAST 200

    #define SDSS   53
    #define BEEPER_PIN          37
    #define BTN_EN1             31
    #define BTN_EN2             33
    #define BTN_ENC             35
    #define SD_DETECT_PIN       49
    #define KILL_PIN            -1
```

STEP2. CONFIG THE CONFIGURATION.H.

In order to control RGB-LED, you also need to turn on the RGB control in marlin.

For RGB version:

You only need enable the NEOPIXEL_LED.

configration.h

```
// Support for Adafruit Neopixel LED driver
/********** 1. only need enable the NEOPINEL_LED for mini12864 V2.1 **********/
#define NEOPIXEL_LED
#if ENABLED(NEOPIXEL_LED)
  #define NEOPIXEL_TYPE   NEO_GRBW // NEO_GRBW / NEO_GRB - four/three channel
driver type (defined in Adafruit_NeoPixel.h)
  #define NEOPIXEL_PIN    27        // LED driving pin on motherboard 4 => D4
(EXP2-5 on Printrboard) / 30 => PC7 (EXP3-13 on Rumba)
  #define NEOPIXEL_PIXELS 1       // Number of LEDs in the strip
  #define NEOPIXEL_IS_SEQUENTIAL   // Sequential display for temperature change -
LED by LED. Disable to change all LEDs at once.
  #define NEOPIXEL_BRIGHTNESS 127  // Initial brightness (0-255)
  //#define NEOPIXEL_STARTUP_TEST  // Cycle through colors at startup
#endif
```

```
#endif
```

STEP3. CONFIG THE CONFIGURATION_ADV.H.

If you need to change the RGB-color manually, then you need to enable the LED_CONTROL_MENU in configuration_adv.h. If you don't need it, you can skip this step.

configration_adv.h

```
/**
 * LED Control Menu
 * Enable this feature to add LED Control to the LCD menu
 */
/********** 1. enable the LED_CONTROL_MENU RGB manual control **********/
#define LED_CONTROL_MENU
#if ENABLED(LED_CONTROL_MENU)
  #define LED_COLOR_PRESETS                 // Enable the Preset Color menu
option
  #if ENABLED(LED_COLOR_PRESETS)
    #define LED_USER_PRESET_RED        255  // User defined RED value
    #define LED_USER_PRESET_GREEN      128  // User defined GREEN value
    #define LED_USER_PRESET_BLUE         0  // User defined BLUE value
    #define LED_USER_PRESET_WHITE      255  // User defined WHITE value
    #define LED_USER_PRESET_BRIGHTNESS 255  // User defined intensity
    //#define LED_USER_PRESET_STARTUP       // Have the printer display the user
preset color on startup
  #endif
#endif // LED_CONTROL_MENU
```

STEP4. ADD THE CODES IN ULTRALCD_IMPL_DOGM.H.

You need to add a shorts codes to ultralcd_impl_DOGM.h, otherwise your screen may not have text displayed, or it may not be clear. Add "u8g.setContrast(255);" in the "static void lcd_implementation_init()" function:

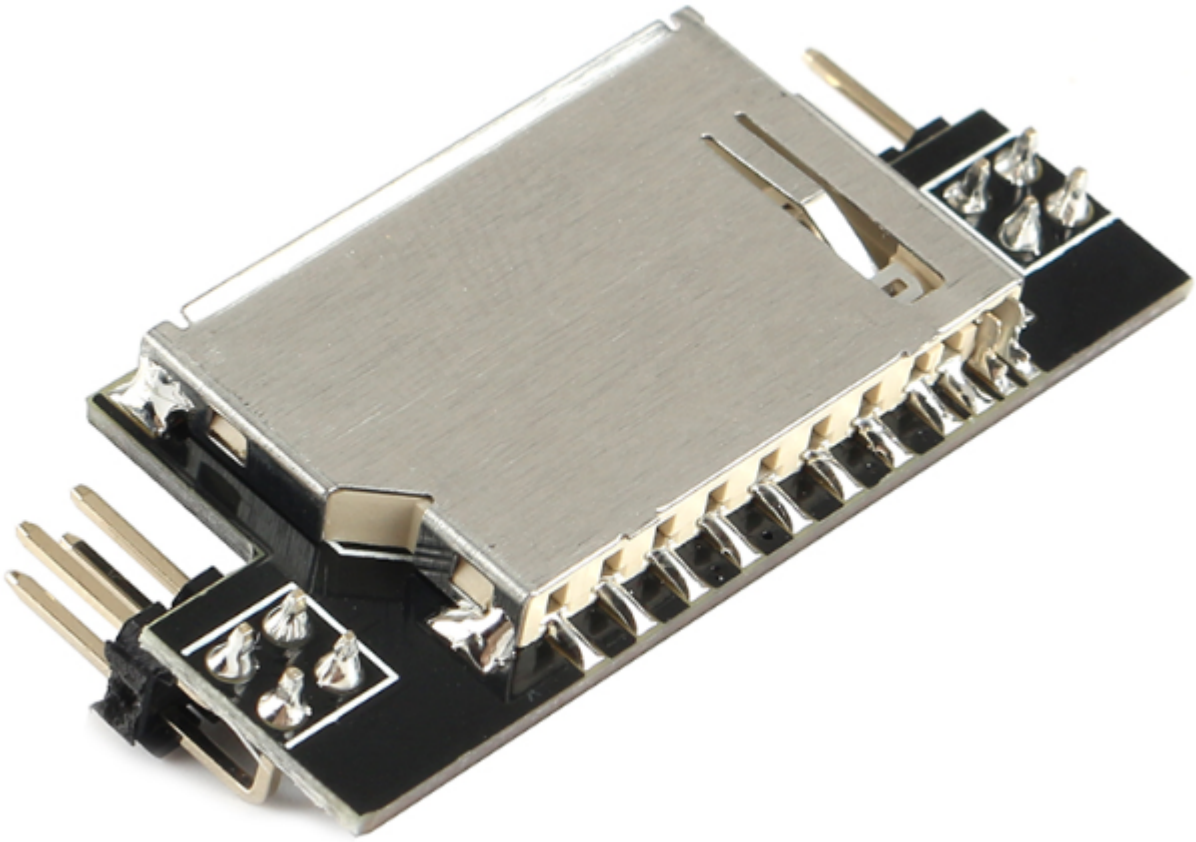
```
#if DISABLED(MINIPANEL) // setContrast not working for Mini Panel
  u8g.setContrast(lcd_contrast);
#endif

u8g.setContrast(255);

#if ENABLED(LCD_SCREEN_ROT_90)
  u8g.setRot90();   // Rotate screen by 90°
#elif ENABLED(LCD_SCREEN_ROT_180)
  u8g.setRot180();  // Rotate screen by 180°
#elif ENABLED(LCD_SCREEN_ROT_270)
  u8g.setRot270();  // Rotate screen by 270°
#endif
```

Optional Hardware module:

The SD card of mini12864 can be set on the side or in the front, which requires a module to implement. As shown below:



Attention

-TBD-

FAQ

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