

Keyestudio Electronic Ink Screen Module 1.54 Inch



Description

When we do DIY experiments, we often need to use the display.

The Keyestudio E-screen module has a 1.54-inch display with a black and white color and a resolution of 200*200. The module dynamically displays the pattern via SPI communication.

For your convenience, we also provide detailed methods for using the display module and the arduino microcontroller. At the same time, in order to fix the module on other equipments, the module comes with 4 positioning holes with a



diameter of 3mm. We also provide 4 pcs M3*10MM double-pass hex copper posts and 4pcs M3*6MM round head screws.

Special Note: When testing it, we use the 1.8.9 version of the IDE software, if you use other versions of the IDE, code may be incompatible.

Technical parameters

- Working voltage: DC 5V
- Working current: 150mA
- Maximum power: 0.75W
- Display color: black and white
- Display size: 1.54 inch
- Display resolution: 200*200
- Interface type: 8pin header with 2.54mm pitch
- Operating temperature range: -20°C to +60°C
- Positioning hole diameter: 3mm
- Size: 55*34*7mm
- Weight: 14.5g
- Environmental attributes: ROHS



Wiring Diagram



Test code link

https://1drv.ms/u/s!ArhgRvK6-RyJghuBfPkm8Ca_cn6N?e=g7FMQr

Code setting method

A. When setting up, we need to install **Image2Lcd modulo software**. After installation, register with the registration code.

B. Use the drawing software to draw the pattern you need, the export is set to black and white, and the pixel is set to 200*200.

C. Open the modulo software and set the following picture.



| Image2Lcd v3.2 | | | | | | | × |
|--|-----------------------|--|---------------------|--|-------------------------|--|---|
| | 600 换 设置 | 20 () () () () () () () () () (| | ● 帮助 | <i>IZL</i> 关于 | | |
| 輸出数据类型: C语言数组(*.c) 打描模式: 水平扫描 輸出灰度: 単色 | | | | | | | |
| □ 包含图像头数据 □ 字节内象素数据反序 □ 自右至左扫描 □ 自底至顶扫描 □ 高位在前(MSB First) | 亮度: 对比度: 输出图像调整 | 恢复缺省值 , , 256色 4096色 | ■ 颜色反转 16位彩色 18位 | 」 正 一 〕 〕 〕 〕 〕 〕 〕 〕 〕 〕 〕 〕 〕 | 常显示 <u> 2彩色</u> 32位彩 | | |

Click select the pattern you exported, as shown below.

Positive (black on white), then tick "color reversal"; negative display (white on black) does not need to tick.



| Image2Lcd v3.2 | | | | | | < |
|--|-----------------|---|--|-------|-----|---|
| ○ 日 日本 | 60 换 设置 重 | 図 ↓ ↓ 新载入 上一幅 下一幅 | ● I2L 帮助 关于 | | | |
| 输出数据类型: C语言数组(*.c) 扫描模式: 水平扫描 输出灰度: 单色 量色 ● | key | estudio | ke | yestu | dio | |
| 200 200 | | | | | | |
| 包含图像头数据 字节内象素数据反序 自右至左扫描 自底至顶扫描 高位在前(MSB First) | 亮度: 对比度: | 恢复缺省值 厂 颜色反转 | 正常5 | 示 _ | 1 | |
| | 输出图像调整 2 | 56色 4096色 16位彩色 1 | 8位彩色 24位彩色 | 32位彩色 | | |
| 输入图像: 469.bmp (200,20 | 00) | 輸出图像: | (200,200) | | | 1 |

Tap "Save" 🗳 , to generate the corresponding C language code file, as shown

below.



| 0469.c - Notepad | × |
|---|---|
| <u>File Edit Format View H</u> elp | |
| 0X00,0X7C,0X00,0X00,0X00,0X00,0X00,0X00, | ^ |
| 0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X7C,0X00,0X00 | |
| 0X00,0X | |
| 0X00,0X00,0X00,0XF8,0X00,0X00,0X00,0X00, | |
| 0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X0 | |
| 0X00.0X000.0X00.0X00.0X00.0X00.0X00.0X00.0X00.0X00.0X00.0X00.0X00.0X00.0 | |
| 0X00.0X00.0X00.0X00.0X01.0XF0.0X00.0X00. | |
| 0X00.0X00.0X00.0X00.0X00.0X00.0X00.0X0 | |
| 0X00.0X | |
| 0X00.0X00.0X00.0X00.0X00.0X00.0X01.0XF0.0X00.0X0 | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| 0X00,000000 | |
| 0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00, | |
| 0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00, | |
| 0X00,0X | |
| 0X00,0X | |
| 0X00,0X | |
| 0X00,0X | * |

Copy and paste the generated C language code to the **const unsigned char**

IMAGE_DATA[] PROGMEM location in the code, as shown below.

| 💿 epd1in54_V2 - imagedata.cpp Arduino 1.8.9 | 77 <u>—</u> 75 | | × |
|---|-------------------|-----------|---------|
| File Edit Sketch Tools Help | | | |
| | | | ø |
| epd1in54_V2 epd1in54_V2.cpp epd1in54_V2.h epdif.cpp epdif.h epdpaint.cpp epdpaint.h font12.c font16.c font20.c font20.c font24.c font8.c fonts.h imagedata.cpp | imagedata.h | | |
| OXFF, | | | ^ |
| const unsigned char IMAGE DATA() FROGMEM - (| | | |
| 0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X0 | | | |
| | | | |
| 0x00, | | | |
| | | | |
| | | | |
| 0x00, | | | |
| 0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00, | | | |
| | | | |
| 0x00, 0 | | | |
| | | | |
| | | | |
| | | | ~ |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | 01447 |
| ************************************** | interiorentinio d | She sh co | o metro |



Test Result

The test code is successfully uploaded. After power-on, the display will display various patterns, as shown below.

