Elecrow Limited

Elecrow RR050 5 Inch 800x480 Resistive Touch Screen TFT Display for Raspberry Pi B+2B3B4B5

Part Number:RPA05010R
Customer:_____
Date:_20250120_____

Version:V1.0.0

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1.Description

Now we have this 5-inch TFT display with a touch screen that can provide a high-resolution picture and a large viewing screen for your Raspberry Pi. The small display supports any revision of Raspberry Pi and works perfectly for Raspberry Pi B+/ 2B/ 3B. It is the low power consumption for the backlight of the screen. The high 800 x 480 resolution can give you a full-color experience, the touch screen allows users to play easily.

Although the 800 x 480 common mini display is designed for Raspberry Pi, you can use it in others not only for Raspberry Pi.

Model:RPA05010R

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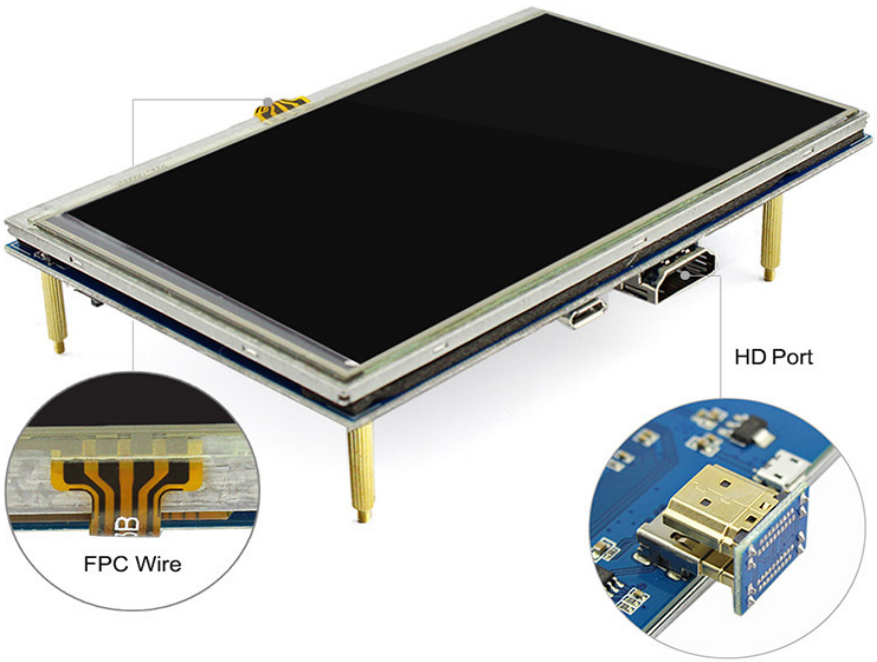
Wide Viewing Angle

5 inch HD display monitor with high resolution picture and large viewing screen



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Raspberry Pi Display
(Not included raspberry pi)

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*When working with Raspberry Pi 4, for the system image of Raspberry Pi after 2021-10-30, for example on Bullseye, please modify "dtoverlay = vc4-kms-v3d" to "dtoverlay = vc4-fkms-v3d" in the config file, otherwise it may fail to start. But on Buster, please comment out "dtoverlay = vc4-fkms-V3D" by adding #.

2.Features

1) 5-inch display monitor with video interface features high-resolution picture and large viewing screen.

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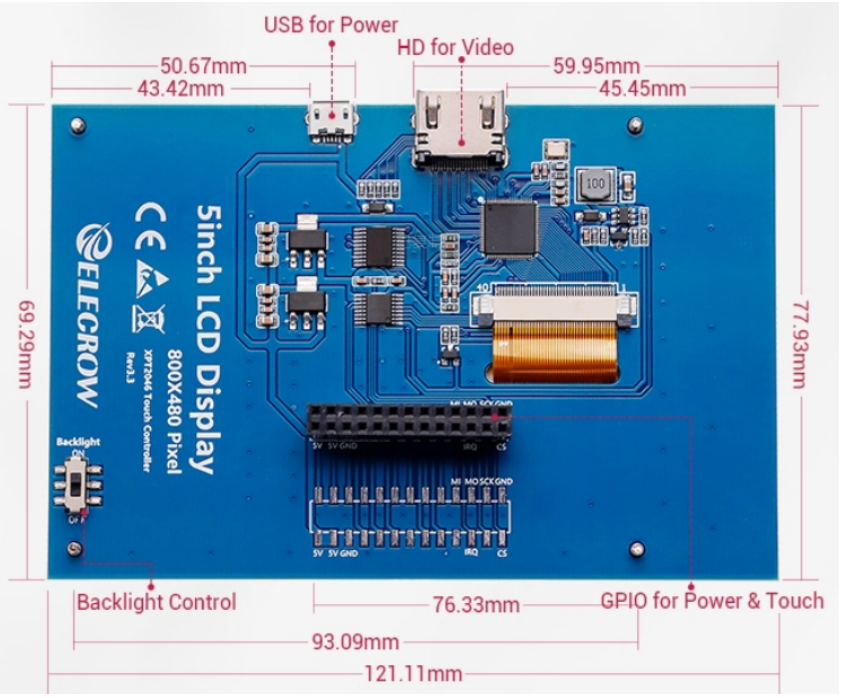
2) Resolution: 800x480 LCD Display with touch function, 5 inches, backlight control to lower power consumption.
3) Large viewing angle, fast response time, full-color display. Could provide the driver for Raspberry Pi 2B B+ Raspberry Pi 3B.
4) Supporting any revision of Raspberry Pi and works perfectly for Raspberry Pi B +/2B/3B/4B/5.

3.Specifications

- Model: RR050
- Size:5inch
- Resolution: 800 x 480
- USB cable for 5V/ 1A power
- Lcd driver IC: ILI6122+ILI5960
- Refreshrate：60HZ
- Workingtemperature (℃) :-20~70℃• BacklightLifespan：50000h
- Appearance Size：121mm*78mm
- Screen Size：119mm*66mm*7.2mm

4.Interface Function



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PIN NO.	SYMBOL	DESCRIPTION
1, 17	3.3V	Power positive (3.3V power input)
2, 4	5V	Power positive (5V power input)
3, 5, 7, 8, 10, 12, 13, 15, 16, 18, 24	NC	NC
11	Backlight Control	Control the backlight through pin 11
6, 9, 14, 20, 25	GND	Ground
19	TP_SI	SPI data input of Touch Panel
21	TP_SO	SPI data output of Touch Panel
22	TP_IRQ	Touch panel interrupt, low level while the touch panel detects touching
23	TP_SCK	SPI clock of touch panel
26	TP_CS	Touch panel chip selection, low active

① USB interface：Get 5V Power from USB,If has been connected, that
this USB interface can be No Connect.
② HDMI interface：For HDMI transmission.
③ Backlight Power switch：Controls the backlight turned on and off to save power.
④ 13*2 Pin Socket：Get 5V Power from raspberry Pi to LCD, at the
same time transfer touch signal back to raspberry Pi.
⑤ extended interface：extended The signal Pin-to-Pin.

5.Usage

Our 5 inch screen supports Raspbian,Ubuntu Mate,Kali Linux and Retropie system for Raspberry Pi.If you use it on PC or others t hat the touch function is unable to use.
And next, we will teach you how to install the driver for your ras pberry pi OS. If no system in your SD card, please refer to the R aspberry Pi
office tutorial.asp

Step1: Install the 5 inch LCD

Install the 5 inch LCD to Raspberry-Pi 3B/2B/B+ board as below:

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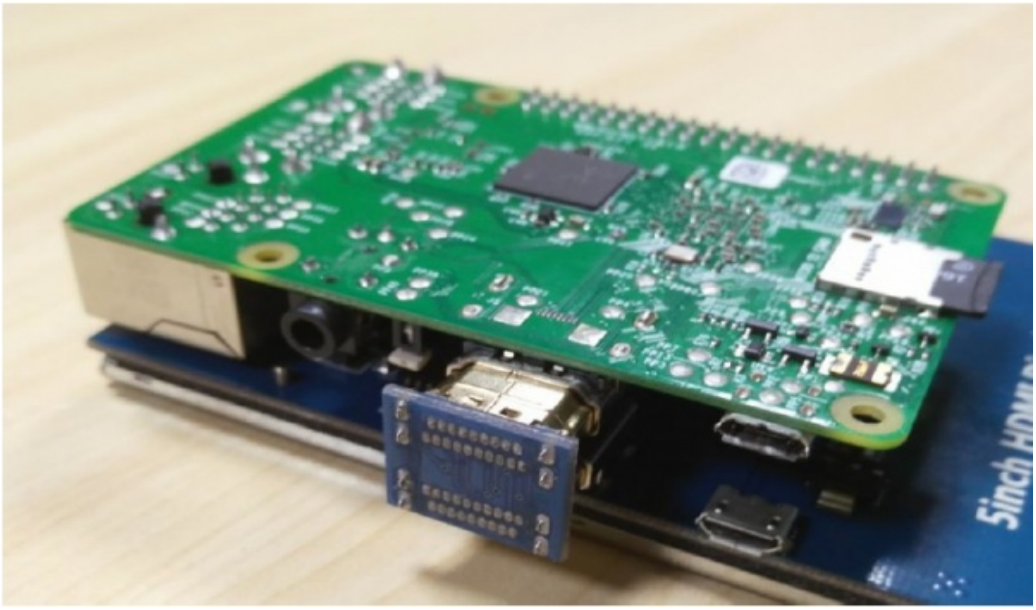

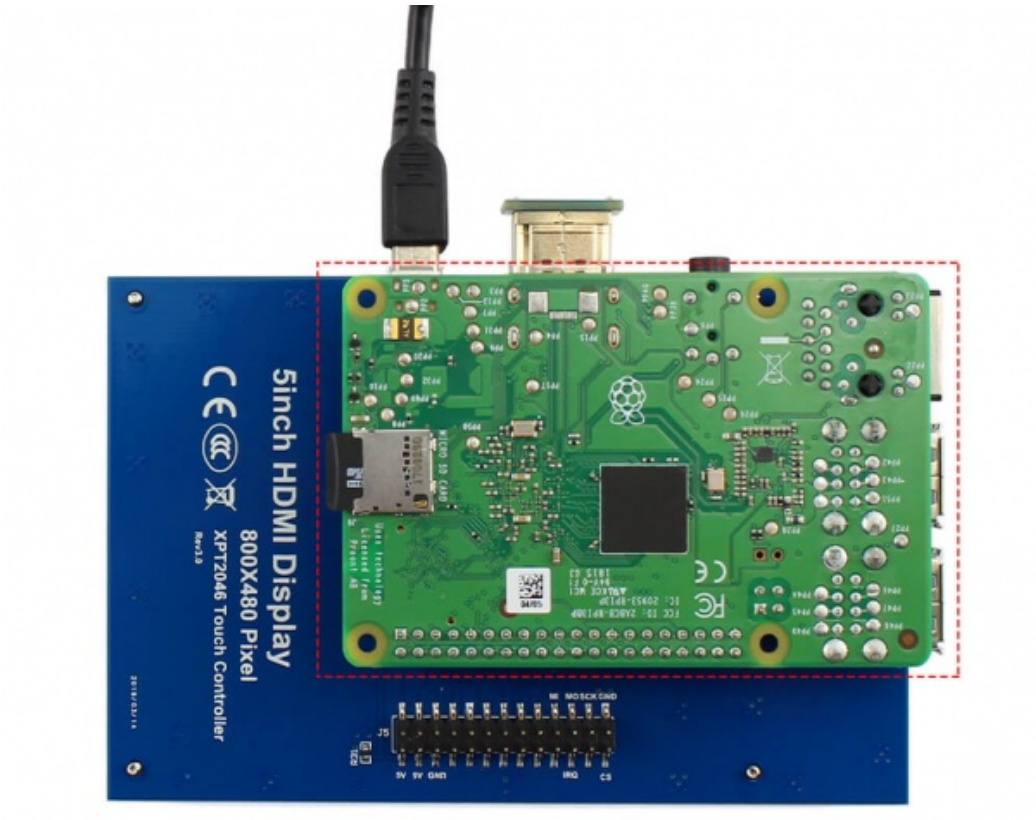

Step2: Modify your config.txt file

Tips: If you use SSH to control Pi,please skip this step.

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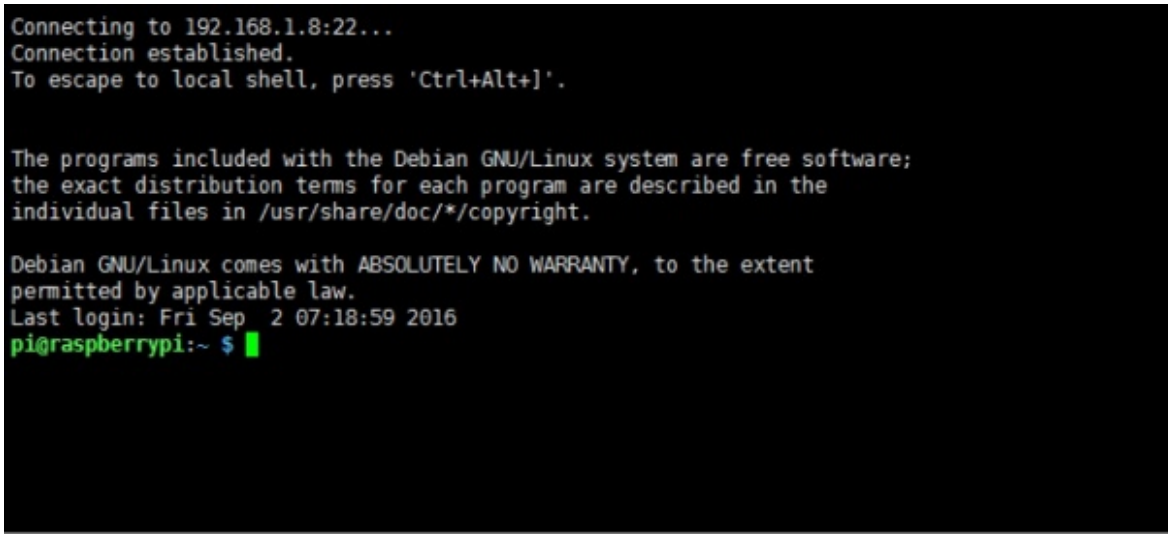
Insert the SD card to your Windows/Mac PC. Find the config. txt in the SD `s root and open it. Then add the following code in the end.

```
# --- added by elecrow-pitft-setup  ---
hdmi_force_hotplug=1
max_usb_current=1
hdmi_drive=1
hdmi_group=2
hdmi_mode=1
hdmi_mode=87
hdmi_cvt 800 480 60 6 0 0 0
dtoverlay=ads7846,cs=1,penirq=25,penirq_pull=2,speed=50000,keep_
vref_on=0,swapxy=0,pmax=255,xohms=150,xmin=200,xmax=3900,ymin
=200,ymax=3900
display_rotate=0
# --- end elecrow-pitft-setup  ---
```

Step3: Power ON and open terminal
Tips: When the Raspberry startup, it can normal display and next step you need to install the driver.



Step4: Download the driver
Method 1: Online installation (Raspberry Pi needs to be connected to the Internet)
Run:

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```
chmod -R 755 LCD-show
cd LCD-show/
sudo ./LCD5-show
```

Method 2: Offline installation

Download LCD-show.zip Unzip 'LCD-show.zip' and copy the folder to the root directory of Raspberry Pi after flashing the image.

Run:

```
cd /boot
cd LCD-show/
sudo ./LCD5-show
```

Step5: Rebot

The screen should be working now.

Touch screen calibration:

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Old Version
Install the xinput-calibrator
Run:
sudo apt-get install -y xinput-calibrator
And next:
1.Click the Men button on the task bar, choose Preference -> Calibrate
Touchscreen.
2.Finish the touch calibration following the prompts. Maybe rebooting is required to make calibration active.
3.You can create a 99-calibration.conf file to save the touch parameters (not necessary if file exists).

/etc/X11/xorg.conf.d/99-calibration.conf

4.Save the touch parameters (may differ depending on LCD) to 99-calibration.conf, as shown in the picture:

```
Section "InputClass"
        Identifier      "calibration"
        MatchProduct    "ADS7846 Touchscreen"
        Option  "Calibration"   "208 3905 288 3910"
        Option  "SwapAxes"      "0"
EndSection
```


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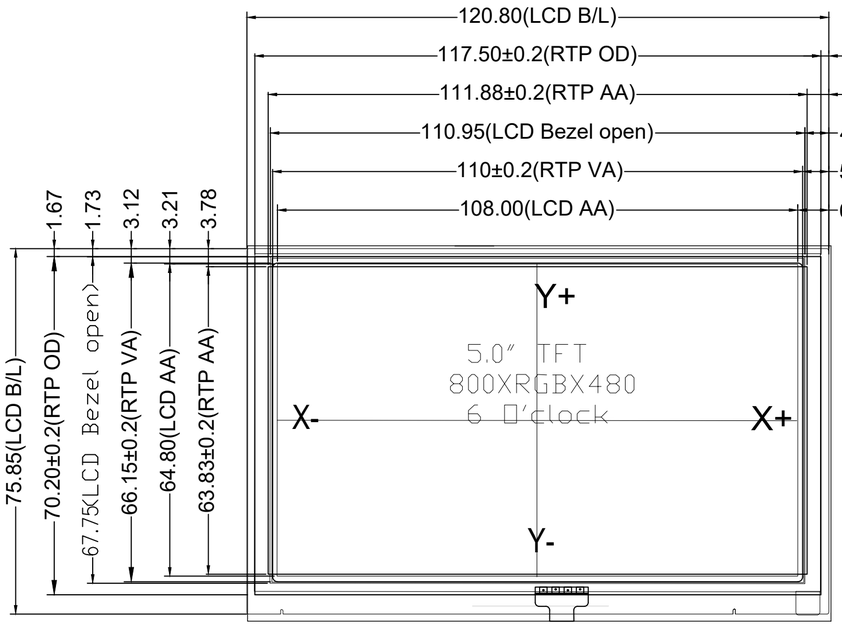
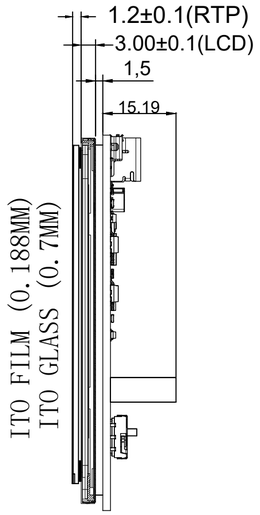
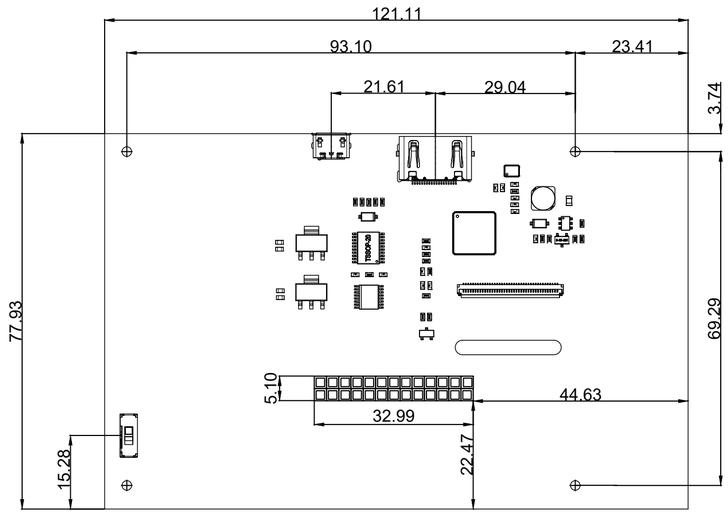
REVISION	RECORD	Date







NOTES:

1. DISPLAY TYPE:TN
2. VIEWING DIRECTION:6 O'CLOCK
3. RESOLUTION:800*RGB*480
4. INTERFACE:HDMI
5. UNMARKER TOLERANCE:±0.2
6. OPERATING TEMP:-20℃~60℃

ELECROW						DRG DATE	
						DRAWING	
TITLE.	LCM OUTLINE	REV.	UNIT	SIZE	(3)	CHECK	
MODEL.			mm	A4		APPROVE	