Manuals+ — User Manuals Simplified.

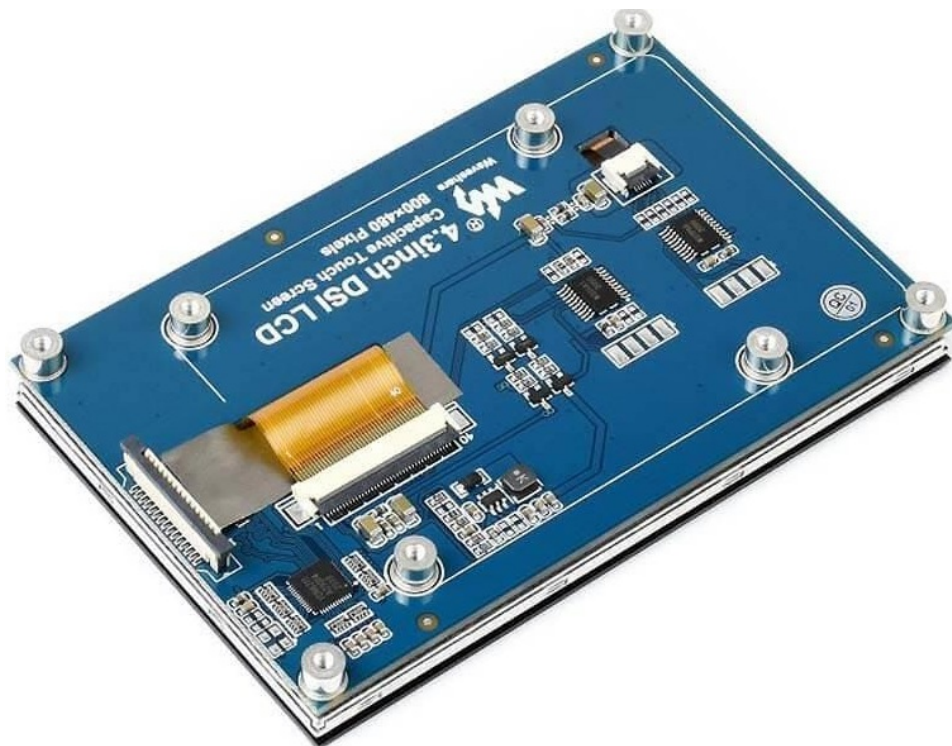# Waveshare DSI LCD 4.3inch Capacitive Touch Display for Raspberry Pi User Manual

Contents

Waveshare DSI LCD 4.3inch Capacitive Touch Display for Raspberry Pi

Product Information

Specifications

- **Screen Size:** 4.3 inches
- **Resolution:** 800 x 480
- **Touch Panel:** Capacitive, support 5-point touch
- **Interface:** DSI
- **Refresh Rate:** Up to 60Hz
- **Compatibility:** Raspberry Pi 4B/3B+/3A+/3B/2B/B+/A+

Features

- 4.3-inch IPS screen with tempered glass capacitive touch panel (hardness up to 6H)
- Driver-free operation with Raspberry Pi OS / Ubuntu / Kali and Retropie
- Software control of backlight brightness

Product Usage Instructions

Hardware Connection

- Connect the DSI interface of the 4.3-inch DSI LCD to the DSI interface of the Raspberry Pi. For easy use, you can fix the Raspberry Pi on the backside of the 4.3-inch DSI LCD using screws.

Software Setting

- Add the following lines to the config.txt file: dtoverlay=vc4-kms-v3d
  dtoverlay=vc4-kms-dsi-7inch

- Power on the Raspberry Pi and wait for a few seconds until the LCDs normally. The touch function will also work after the system starts.

Backlight Controlling

- To adjust the brightness, open a terminal and type the following command: `echo X > /sys/class/backlight/rpi_backlight/brightness`
- Replace X with a value in the range of 0 to 255. The backlight is darkest at 0 and brightest at 255.
- **Example commands:** `echo 100 > /sys/class/backlight/rpi_backlight/brightness echo 0 > /sys/class/backlight/rpi_backlight/brightness echo 255 > /sys/class/backlight/rpi_backlight/brightness`
- You can also download and install the brightness adjustment software using the following commands: `wget https://www.com.waveshare.net/w/upload/3/39/Brightness.tar.gztar-xzf-Brightness.tar.gzcd` **brightness.install.sh**
- After installation, go to Menu -> Accessories -> Brightness to open the adjustment software.
- **Note:** If you use the 2021-10-30-raspios-bullseye-armhf image or the latest version, add the line "dtoverlay=rpi-backlight" to the config.txt file and reboot.

Sleep Mode

- To put the screen into sleep mode, run the following command on the Raspberry Pi terminal: `xset dpms force off`

Disable Touch

- To disable touch, add the following command to the end of the config.txt file: `sudo apt-get install matchbox-keyboard`
- **Note:** After adding the command, restart the system for it to take effect.

FAQ

Question: What is the power consumption of the 4.3-inch DSI LCD?

- **Answer:** Using a 5V power supply, the maximum brightness operating current is about 250mA, and the minimum brightness working current is about 150mA.

Question: What is the maximum brightness of the 4.3-inch DSI LCD?

- **Answer:** The maximum brightness is not specified in the user manual.

Question: What is the overall thickness of the 4.3-inch DSI LCD?

- **Answer:** The overall thickness is 14.05mm.

Question: Will the 4.3-inch DSI LCD automatically turn off the backlight when the system sleeps?

- **Answer:** No, it won't. The backlight needs to be manually controlled.

Question: What is the working current of the 4.3-inch DSI LCD?

- **Answer:** The working current is not specified in the user manual.

Introduction

- 4.3-inch Capacitive Touch Display for Raspberry Pi, 800 × 480, IPS Wide Angle, MIPI DSI Interface.

## Features

4.3inch DSI LCD

4.3inch capacitive Touch Screen LCD for Raspberry Pi, DSI Interface

- 4. 3inch IPS screen, 800 x 480 hardware resolution.
- The capacitive touch panel supports a 5-point touch.
- Supports Pi 4B/3B+/3A+/3B/2B/B+/A+, another adapter board ⬚ is required for CM3/3+/4.
- Tempered glass capacitive touch panel, hardness up to 6H.
- DSI interface, refresh rate up to 60Hz.
- When used with Raspberry Pi, supports Raspberry Pi OS / Ubuntu / Kali and Retropie, driver free.
- Supports software control of backlight brightness.

Work with RPI

Hardware connection

- Connect the DSI interface of the 4.3-inch DSI LCD to the DSI interface of Raspberry Pi.
- For easy use, you can fix the Raspberry Pi on the backside of the 4.3inch DSI LCD by screws
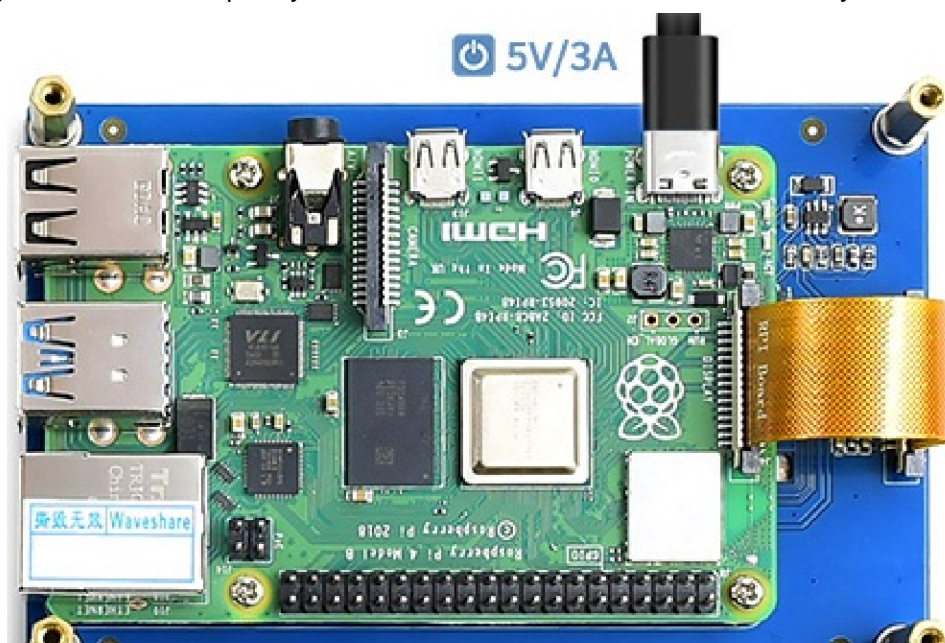
Software setting

Supports Raspberry Pi OS / Ubuntu / Kali and Retropie systems for Raspberry Pi.

1. Download the image from the Raspberry Pi website E.
2. Download the compressed file to the PC, and unzip it to get the image file.
3. Connect the TF card to the PC, and use SDFormatter I software to format the TF card.
4. Open the Win32DiskImager I software, select the system image downloaded in step 2, and click 'Write' to write the system image.
5. After the programming is completed, open the config. txt file in the root directory of the
   - TF card, add the following code at the end of config. txt, save, and eject the TF card safely.
   - **dtoverlay=vc4**-KMS-v3d
   - **dtoverlay=vc4**-KMS-dsi-7inch
6. 6) Power on the Raspberry Pi and wait for a few seconds until the LCDs are normal.
   - And the touch function can also work after the system starts.

Backlight Controlling

- Open a terminal and type the following command to adjust the brightness.
- **Note:** If the command reports the 'Permission denied' error, please switch to the 'root' user mode and execute it again.

```
echo X > /sys/class/backlight/rpi_backlight/brightness
```

- X can be a value in the range 0~255. The backlight is darkest if you set it to 0 and the backlight is set to lightest if you set it to 255

```
echo 100 > /sys/class/backlight/rpi_backlight/brightness
echo 0 > /sys/class/backlight/rpi_backlight/brightness
echo 255 > /sys/class/backlight/rpi_backlight/brightness
```

- We also provide an example for brightness adjusting, you can download and install it by following commands:

```
wget https://www.waveshare.net/w/upload/3/39/Brightness.tar.gz
tar -xzf Brightness.tar.gz
cd brightness
./install.sh
```

- After connecting, you can choose Menu -> Accessories -> Brightness to open the adjustment software
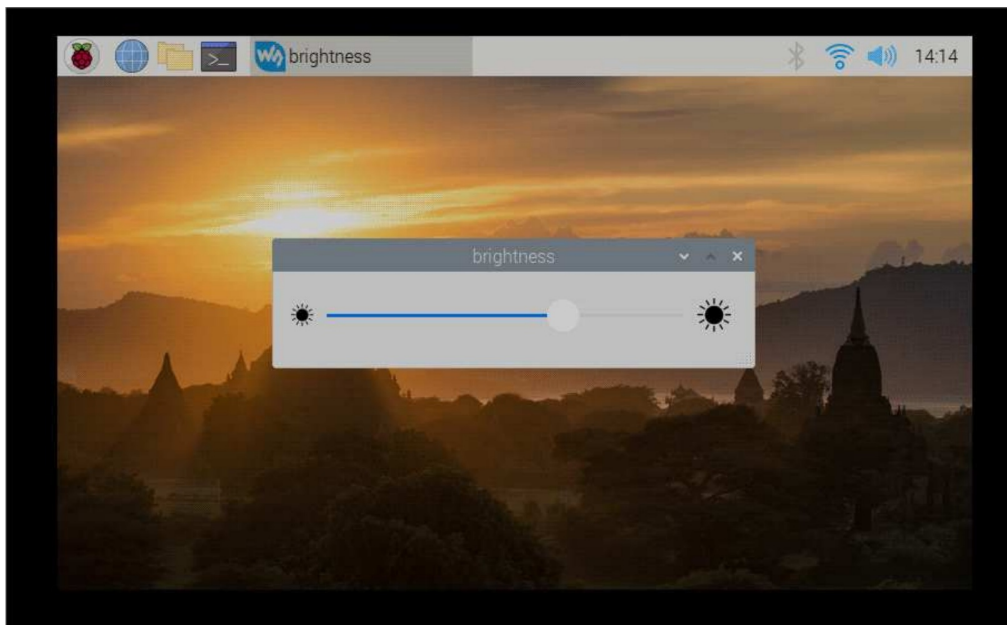
- **Note:** If you use the 2021-10-30-raspios-bullseye-armhf image or the later version, please add the line dtoverlay=rpi-backlight to the config.txt file and reboot.

Sleep

- Run the following commands on the Raspberry Pi terminal, and the screen will enter sleep mode: **xset dpms force off**

Disable touch

- At the end of the config.txt file, add the following commands corresponding to disabling touch (the config file is located in the root directory of the TF card, and can also be accessed through the command: sudo nano /boot/config.txt)
- **sudo apt-get install matchbox-keyboard**
- **Note:** After adding the command, it needs to be restarted to take effect.

Resources

Software

- Panasonic SDFormatter
- Win32DiskImager
- PuTTY

Drawing

- 4.3inch DSI LCD 3D Drawing

FAQ

Question: What is the power consumption of a 4.3-inch DSI LCD?

- **Answer:** Using a 5V power supply, the maximum brightness operating current is about 250mA, and the minimum brightness working current is about 150mA.

Question: What is the maximum brightness of a 4.3-inch DSI LCD?

- **Answer:** 370cd/m2

Question: What is the overall thickness of the 4.3-inch DSI LCD?

- **Answer:** 14.05mm

Question: Will the 4.3-inch DSI LCD automatically turn off the backlight when the system sleeps?

- **Answer:** No, it won't.

Question: What is the working current of a 4.3-inch DSI LCD?

Answer:

- The normal working current of Raspberry PI 4B alone with a 5V power supply is 450mA- 500mA ;
- Using a 5V power supply Raspberry PI 4B+4.3inch DSI LCD maximum brightness normal operating current is 700mA-750mA ;
- Using a 5V power supply Raspberry PI 4B+4.3inch DSI LCD minimum brightness normal operating current is 550mA-580mA ;

Question: How to adjust the backlight?

- **Answer:** it is by PWM.
- You need to remove the resistor and wire the top pad to P1 of Raspberry Pi and control
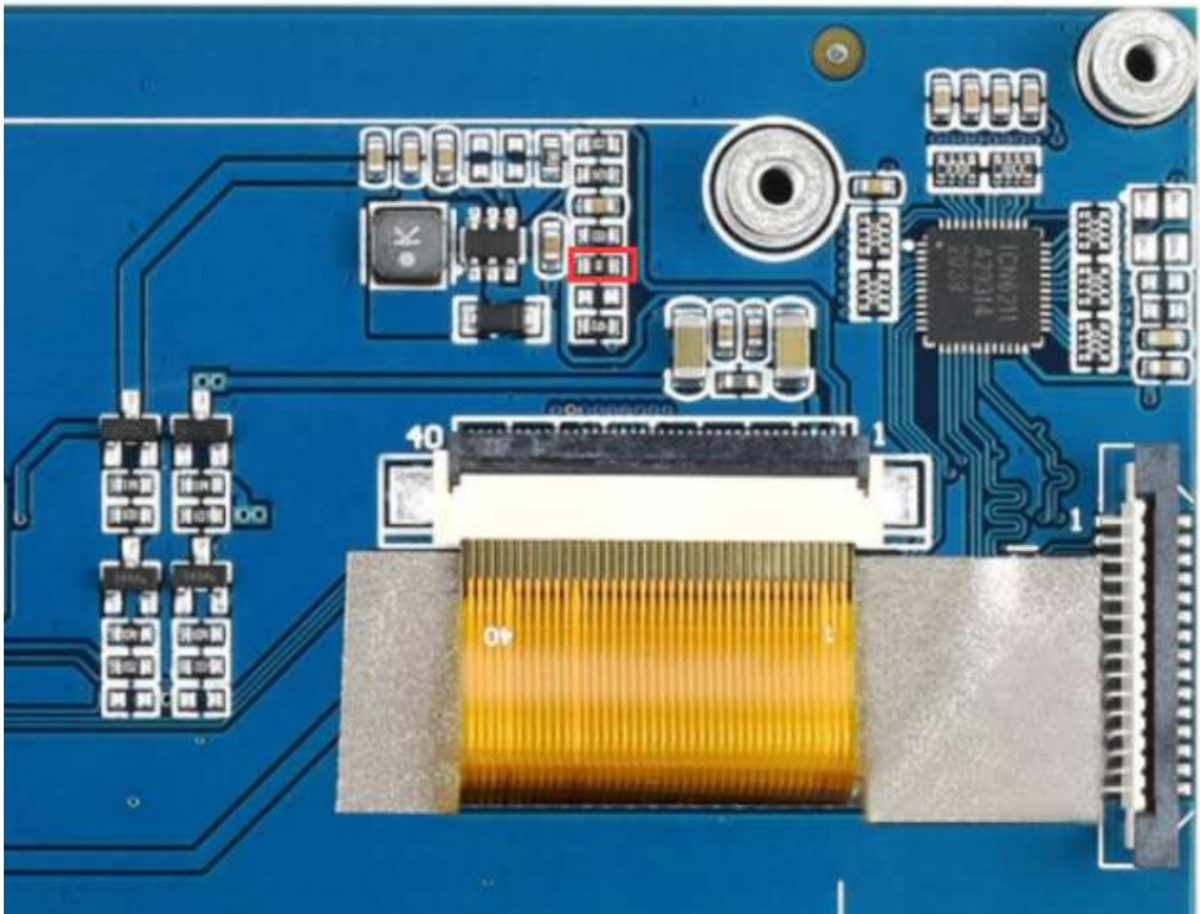
```
gpio -g pwm 18 0
gpio -g mode 18 pwm
gpio pwmc 1000
gpio -g pwm 18 X (X is in range 0~1024, 0: Darkest, 1024: brightest)
```

- **PS:** To ensure a good customer experience, the default factory minimum brightness is the visible state.
- If you need to completely turn off the backlight to achieve a black screen effect, please manually change the 100K resistor in the picture below to a 68K resistor.
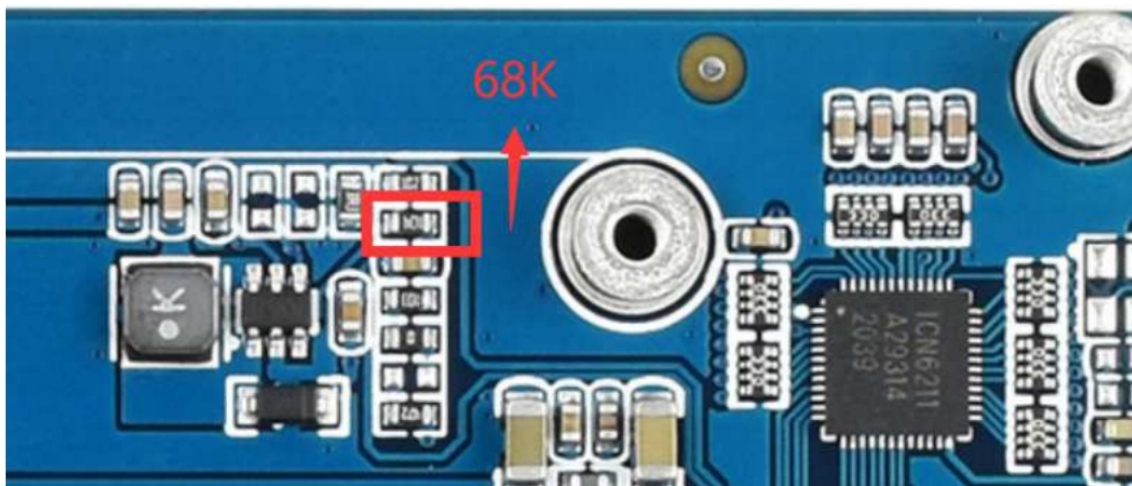

Question: How to control a 4.3-inch DSI LCD to enter sleep mode?

- **Answer:** Use xset dpms force off and xset dpms force on commands to control screen sleep and wake up

Anti-Piracy

- Since the first-generation Raspberry Pi was released, Waveshare has been working on designing, developing, and producing various fantastic touch LCDs for the Pi. Unfortunately, there are quite a few pirated/knock-off products in the market.
- They're usually some poor copies of our early hardware revisions and come with no support service.
- To avoid becoming a victim of pirated products, please pay attention to the following features when purchasing:
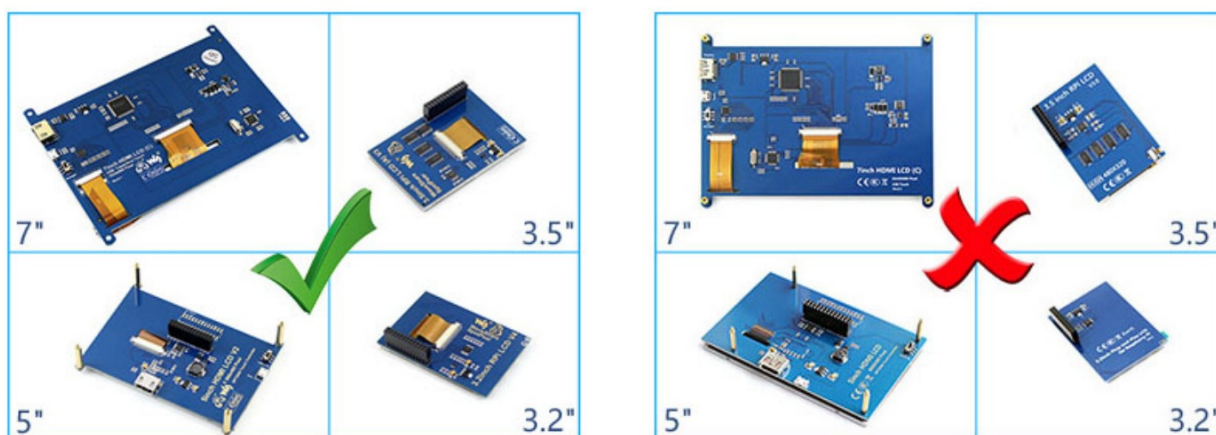
- (Click to enlarge)

Beware of knock-offs

- Please note that we've found some poor copies of this item in the market. They are usually made of inferior materials and shipped without any testing.
- You might be wondering if the one you're watching or you've purchased in other nonofficial stores is original, feel free to contact us.

Support

- If you require technical support, please go to the page and open a ticket.

Documents / Resources

	Waveshare DSI LCD 4.3inch Capacitive Touch Display for Raspberry Pi [pdf] User Manual DSI LCD 4.3inch Capacitive Touch Display for Raspberry Pi, DSI LCD, 4.3inch Capacitive Touch Display for Raspberry PiTouch Display for Raspberry Pi, Display for Raspberry Pi, Raspberry Pi

References

- ![W] [waveshare.com/w/upload/6/6d/RPi-LCD-Anti-Piracy-l.jpg](#)
- ![R] **[Operating system images – Raspberry Pi](#)**
- ![W] **[File:4.3DSI-12.png - Waveshare Wiki](#)**
- ![W] **[File:4.3DSI-13.png - Waveshare Wiki](#)**
- ![W] **[File:4.3inch-DSI-LCD-0.jpg - Waveshare Wiki](#)**
- ![W] **[File:4.3inch-DSI-LCD-2.jpg - Waveshare Wiki](#)**
- ![W] **[File:5inch-DSI-LCD-3.gif - Waveshare Wiki](#)**
- ![W] **[Waveshare Wiki](#)**
- ![W] **[waveshare.net/w/upload/3/39/Brightness.tar.gz](#)**
- **[User Manual](#)**