

search

DFRobot Products (DFR) Index &gt;

Sensor (SEN) Index &gt;

Telecom Module (TEL) Index &gt;

Motor Driver (DR) Index &gt;

Fitting (FIT) Index &gt;

Robot (ROB) Index &gt;

micro:bit (MBT) Index &gt;

Kit (KIT) Index &gt;

Toy (TOY) Index &gt;

Servos (SER) Index &gt;

What is XX series &gt;

How to select series &gt;

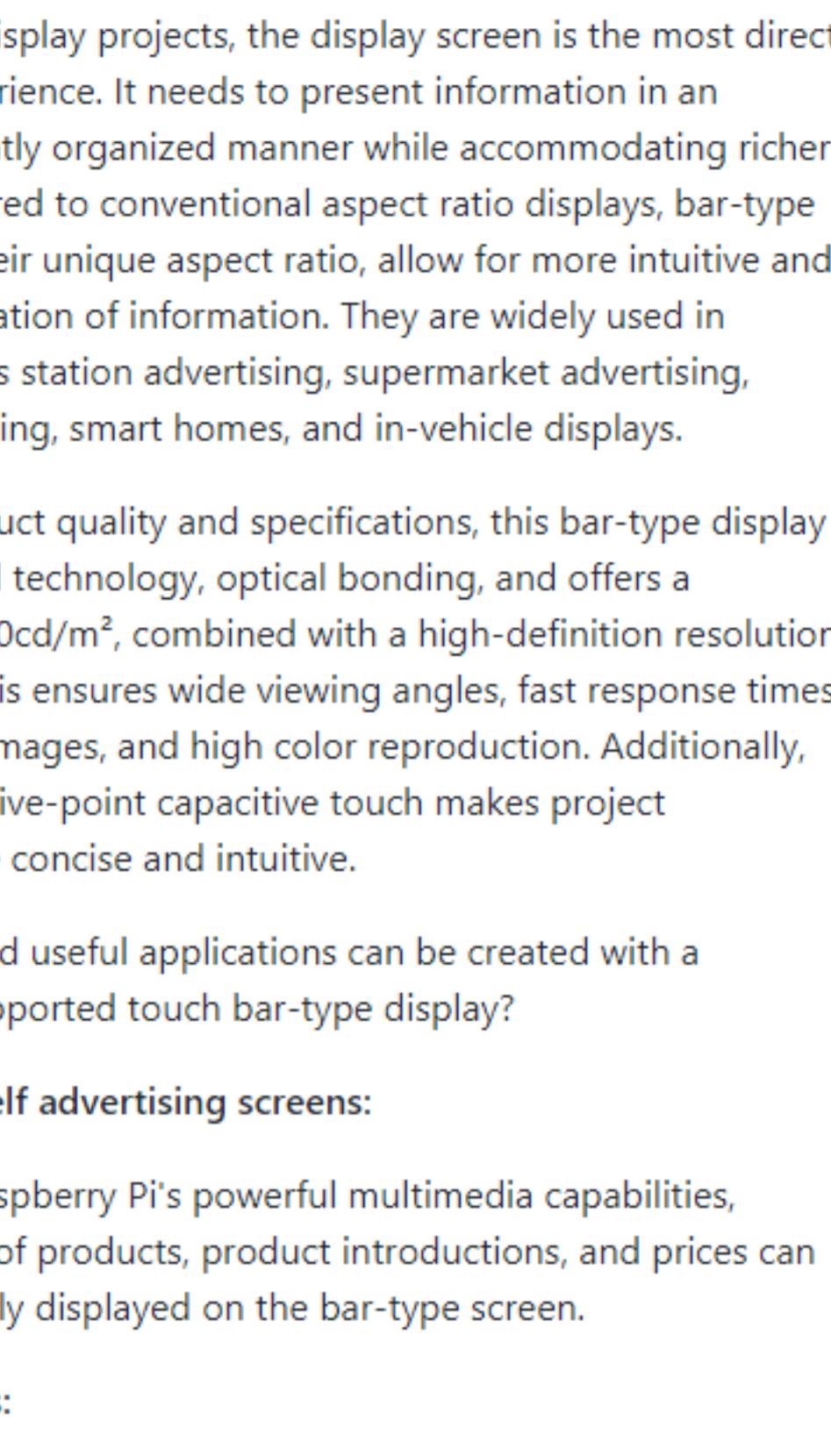
How it works series &gt;

PinPong Library &gt;

- 1. Introduction
- 2. Features
- 3. Application
- 4. Specifications
- 5. Dimensional Diagram
- 6. Function Indicator Diagram
- 7. Raspberry Pi User Guide
- 7.3 Display Orientation Settings
- 7.4 Backlight Settings
- 8. Download Resources
- 9. Frequently Asked Questions

## SKU:FIT0941

### 1. Introduction



This is a unique 8.8-inch capacitive touch bar-type display with a resolution of 480x1920 and a distinctive aspect ratio of 4:1. It supports the Raspberry Pi DSI interface, allowing for the quick development of specialized Raspberry Pi applications.

In information display projects, the display screen is the most direct medium of experience. It needs to present information in an intuitive and neatly organized manner while accommodating richer content. Compared to conventional aspect ratio displays, bar-type displays, with their unique aspect ratio, allow for more intuitive and focused presentation of information. They are widely used in scenarios such as station advertising, supermarket advertising, elevator advertising, smart homes, and in-vehicle displays.

In terms of product quality and specifications, this bar-type display adopts IPS panel technology, optical bonding, and offers a brightness of 600cd/m<sup>2</sup>, combined with a high-definition resolution of 480x1920. This ensures wide viewing angles, fast response times, fine and bright images, and high color reproduction. Additionally, the support for five-point capacitive touch makes project interaction more concise and intuitive.

So, what cool and useful applications can be created with a Raspberry Pi-supported touch bar-type display?

#### Counter and shelf advertising screens:

Based on the Raspberry Pi's powerful multimedia capabilities, dynamic videos of products, product introductions, and prices can be simultaneously displayed on the bar-type screen.

Desktop screens:

The study or office desk is always an important application scenario for displays. The unique aspect ratio of the bar-type display allows it to be used for functions such as photo album display, information and news push, music spectrum analyzer, video and animation playback, and weather display. It can showcase a personalized desktop in a cool way.

#### Measurement instruments and equipment:

In measurement devices, using a bar-type display allows for neater and more intuitive layout, with richer content displayed without the need for frequent switching or paging. Additionally, the bar-type aspect ratio allows for smaller device sizes, making installation and use more flexible.

Not limited to the above scenarios, bar-type displays have even more diverse and interesting applications, such as gaming consoles, smart home appliance modifications, advanced calculators, robot control centers, and IoT control terminals, among others.

### 2. Features

- 480x1920 high-definition resolution
- 1:4 bar-type display aspect ratio
- 600cd/m<sup>2</sup> high brightness
- IPS panel
- Full bonding process
- 5-point capacitive touch
- Raspberry Pi DSI driver
- Compatible with Raspberry Pi 3B/3B+/4B

### 3. Application

- Music spectrum analyzer
- Advanced calculator
- Mini weather station
- Simulator gaming console
- IoT terminal data panel
- Electronic photo album
- Touchscreen digital control panel
- Car modification dashboard
- Measurement instrument panel
- Robot display panel

### 4. Specifications

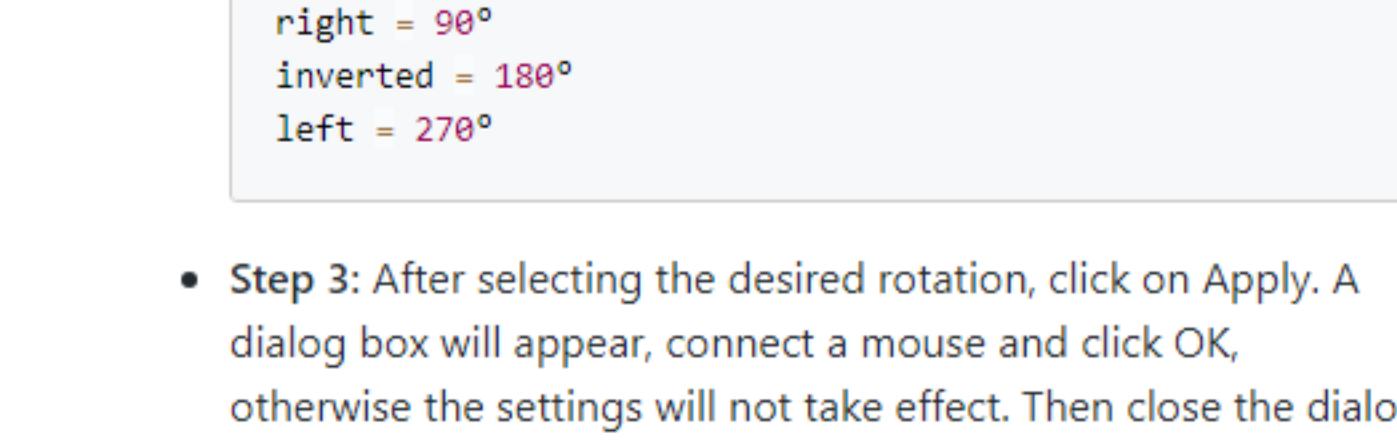
#### Basic Parameters

Operating Voltage	5V
Power Interface	USB-C
Static Working Current	Approximately 700mA
Display Interface	Raspberry Pi DSI
2P - Spring Plunger	Power Interface, 5V 1.5A
Raspberry Pi Mounting Hole Size	58mmx49mm
Driver Board PCB Size	94mmx56mmx1.6mm
Weight	278g

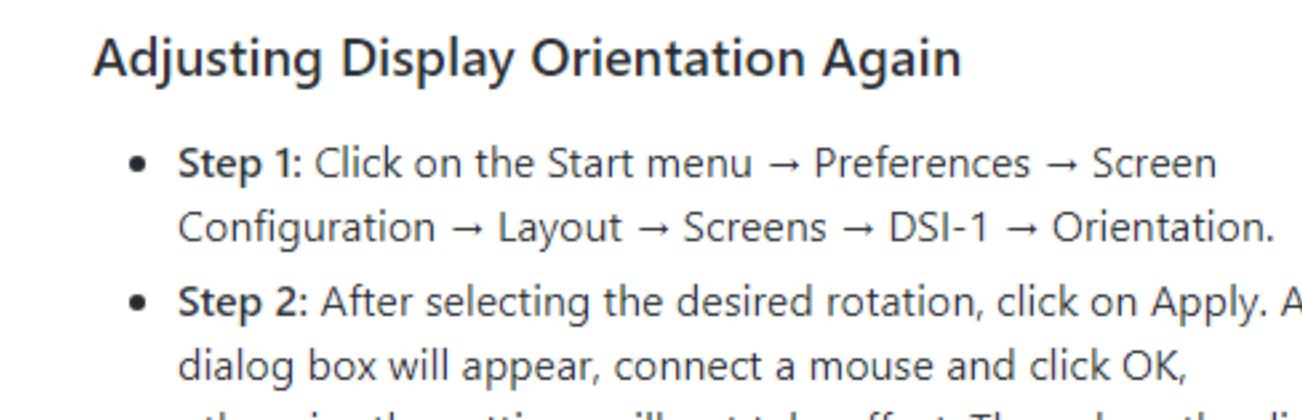
#### Screen Parameters

LCD Size	8.8 inches
Resolution	480x1920
Pixel Pitch	0.114(H)x0.114(V)
Pixel Arrangement	RGB Vertical Stripe
NTSC	50%
Viewing Angle	170°
Refresh Rate	60Hz
Contrast Ratio	800:1
Response Time	30ms
Brightness	600cd/m <sup>2</sup>
Bonding Method	Full Lamination
Touch Points	5-point Capacitive
Viewable Area (mm)	54.72(W)x218.88(L)
Dimensions (mm)	64.3(W)x231.3(H)x18(T)

### 5. Dimensional Diagram



### 6. Function Indicator Diagram



Name	Function Description
Display Power Interface	USB-C, powered by 5V voltage (it is recommended to use a 5V@2.5A Raspberry Pi power adapter for power supply).
Raspberry Pi Power Interface	When the Raspberry Pi is installed on the driver board, this interface is used to connect the Raspberry Pi's 5V and GND pins to provide power to the Raspberry Pi.
DSI Interface	This interface is connected to the Raspberry Pi's DISPLAY interface via a DSI cable.

### 7. Raspberry Pi User Guide

#### 7.1 Installing the Display Driver

Before connecting the display, the Raspberry Pi needs to install the driver for this screen.

The current display driver supports the following Raspberry Pi kernel versions (only 64-bit systems are supported): 6.1.x and 6.0.x.

To check the Raspberry Pi system kernel version, enter the command `uname -r` in the command line terminal.

#### Driver Installation Steps:

1. Download the deb package and install it on the Raspberry Pi system.

Click to download: [dfrobot-8.8-inch-dsi-20240322.zip](#)

2. Open the command line terminal and install the dependencies by executing the following command:

```
sudo apt install -y raspberrypi-kernel-headers
```

3. Install the deb package, ensuring that superuser privileges are used for installation.

```
sudo dpkg -i dfrobot-8.8-inch-dsi-20240322.deb
```

4. After installation, reboot the system.

```
sudo reboot
```

#### 7.2 Hardware Connection

After the software driver installation is complete, proceed with connecting the display.

Taking the Raspberry Pi 4B as an example, the hardware connection diagram is as follows:



- Step 1: Connect the display and Raspberry Pi.

Align the four mounting holes on the Raspberry Pi with the PCB standoffs on the driver board, and secure them with the installation screws. Note: After installation, please check if the spring plunger is correctly aligned with the 5V and GND pins on the Raspberry Pi.

• Step 2: Power the Raspberry Pi or display driver board.

• Step 3: Power the Raspberry Pi or display driver board.

• Step 4: After connecting the display, connect a mouse and click OK. A dialog box will appear, connect a mouse and click OK. Then close the dialog box.

• Step 5: A dialog box will prompt for a restart, click OK to restart and apply the settings. This step is only required for the initial display orientation setup.

#### 7.3 Display Orientation Settings

##### Initial Display Orientation Setup

- Step 1: Click on the Start menu → Preferences → Screen Configuration → Layout → Layout → Screens → DSI-1 → Orientation → 90°.

Select the desired display rotation angle in the Orientation dialog box.

• Step 2: Click on the Start menu → Preferences → Screen Configuration → Layout → Layout → Screens → DSI-1 → Orientation.

When the Raspberry Pi is installed on the driver board, this interface is used to connect the Raspberry Pi's 5V and GND pins to provide power to the Raspberry Pi.

• Step 3: Click on the Start menu → Preferences → Screen Configuration → Layout → Layout → Screens → DSI-1 → Orientation → 90°.

• Step 4: Click on the Start menu → Preferences → Screen Configuration → Layout → Layout → Screens → DSI-1 → Orientation → 90°.

• Step 5: Click on the Start menu → Preferences → Screen Configuration → Layout → Layout → Screens → DSI-1 → Orientation → 90°.

#### Adjusting Display Orientation Again

- Step 1: Click on the Start menu → Preferences → Screen Configuration → Layout → Layout → Screens → DSI-1 → Orientation.

• Step 2: After selecting the desired rotation, click OK. A dialog box will appear, connect a mouse and click OK. Then close the dialog box to complete the setup.

#### 7.4 Backlight Settings

This product supports software backlight adjustment and is set to the highest brightness by default.

To adjust the backlight brightness, you can use the following command:

```
sudo su # Switch to superuser first
```

```
echo 255 > /sys/class/backlight/dfrobot/brightness # The back
```

### 8. Download Resources

- [FIT0941\\_3D\\_File.zip](#)

- [FIT0941\\_2D\\_CAD.zip](#)

- [FIT0941\\_2D\\_CAD.zip](#)

### 9. Frequently Asked Questions

- 1. Q: Do I need to assemble the display and Raspberry Pi together to use them?

A: It is not necessary. They can be used separately. When using them separately, make sure to provide power to the USB-C interface of both the Raspberry Pi and the display individually.

2. Q: I connected the display to the Raspberry Pi, but it is not turning on. What should I do?

A: Please check if you have correctly installed the display driver. Without the driver installed, the display will not turn on after connecting it.

For any questions, advice or cool ideas to share, please visit the DFRobot Forum.