5.5" HDMI OLED-Display with Capacitive Touchscreen V1.0 SKU:DFR0524

This is a 5.5" HDMI OLED-Display with Capacitive Touchscreen. It has 1920×1080 HDMI high-definition output and comes with a capacitive touch panel on its screen. The touch panel supports multi-touch which can simultaneously identify 5 touch points at most. Besides, the USB touchscreen adopts DFRobot driver-free technology. So without the special requirement of installing drivers, the touchscreen can be used as easy as a keyboard or a mouse. It can be directly plugged into a computer for touching control, which is able to replace the mouse. In combination with an HDMI display screen, the display device turns into a tablet PC in seconds!

The screen supports three mainstream operating system: Windows, Linux, and MACOS. It can work with Lattepanda, Raspberry Pi and other devices with HDMI output, which can truly be totally compatible with all platforms. The design of the special hole on the back of the screen is convenient for the direct installation of the product in Raspberry PI's controller. There is no need to provide an external power supply for the screen as it can be powered by USB port. In addition, the display supports hardware backlight adjustment. The function can be easily realized by turning the potentiometer on the back of the display.

⚠️ NOTE: Please guarantee the external power supply current is above 1.5A@5V when it is driven by raspberry Pi.

The lower current will darken the screen and reduce the touching sensitivity.

Features

- Capacitive Touchscreen, Support 5 Touch Points
- HDMI Interface
- USB Power Supply, Driver-free Installation

Specification

- Operating Voltage: 5V
- Operating Current: 700mA
- Refresh Frequency: 60Hz
- Screen Resolution: 1920 x 1080
- Viewing Angle: 160°
- Video Interface: MINI-HDMI
- Touch Interface: Micro-USB
- Dimension: 130mm x 71mm
- Mounting Hole Size: M2.5
- Outside Mounting Hole Position: 123mm x 64mm
- Inside Mounting Hole Position: 58mm x 49mm
- Weight :150g

Board Overview
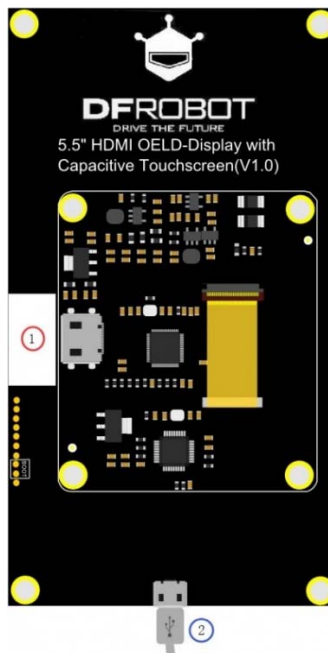
The back of the 5.5'' touchscreen

1. Standard MINI-HDMI
2. Standard Micro USB(Touch&Power Supply)

Tutorial

The screen supports Windows, Linux and MACOS. You can configure the output resolution through setup on Windows and MAC, and through command on Linux.

Touchscreen with Raspberry Pi

You need to reset resolution to avoid touch deviation caused by resolution difference between Raspberry Pi and the Touchscreen when you use 5.5" FHD touchscreen. (The lower current will affect the touching sensitivity.)

- **Screen display resolution configuration**

  In the terminal, enter /boot/config.txt, add the following code to the end:

```
hdmi_ignore_edid=0xa5000080
config_hdmi_boost=4
#hdmi_timings=1080 0 1 2 2 1920 0 32 2 28 0 0 0 48 0 99532800 3
hdmi_cvt=1080 1920 48 3 0 0 0
hdmi_driver=2
hdmi_group=2
hdmi_mode=87
max_framebuffer_width=1080
max_framebuffer_height=1920
display_rotate=1
```

  display_rotate=0, 1, 2, 3 (represent to rotate the screen 0°, 90°, 180°, 270° respectively)

- **Touchscreen Configuration**

  Download **DFRobot_RaspberryPi_TouchScreen_Firmware** to the host, default to the file **Downloads**. Press **Ctrl+Alt+T** simultaneously to open the terminal as shown below:
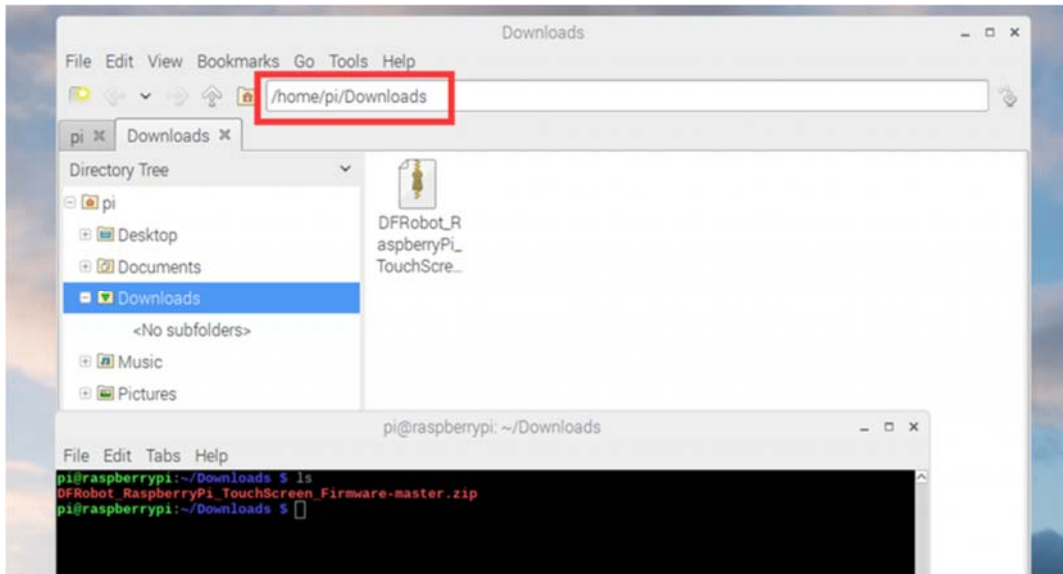
Enter **/home/pi/Downloads**, then input the command **unzip DFRobot_RaspberryPi_TouchScreen_Firmware-master.zip** to extract the file as shown below:
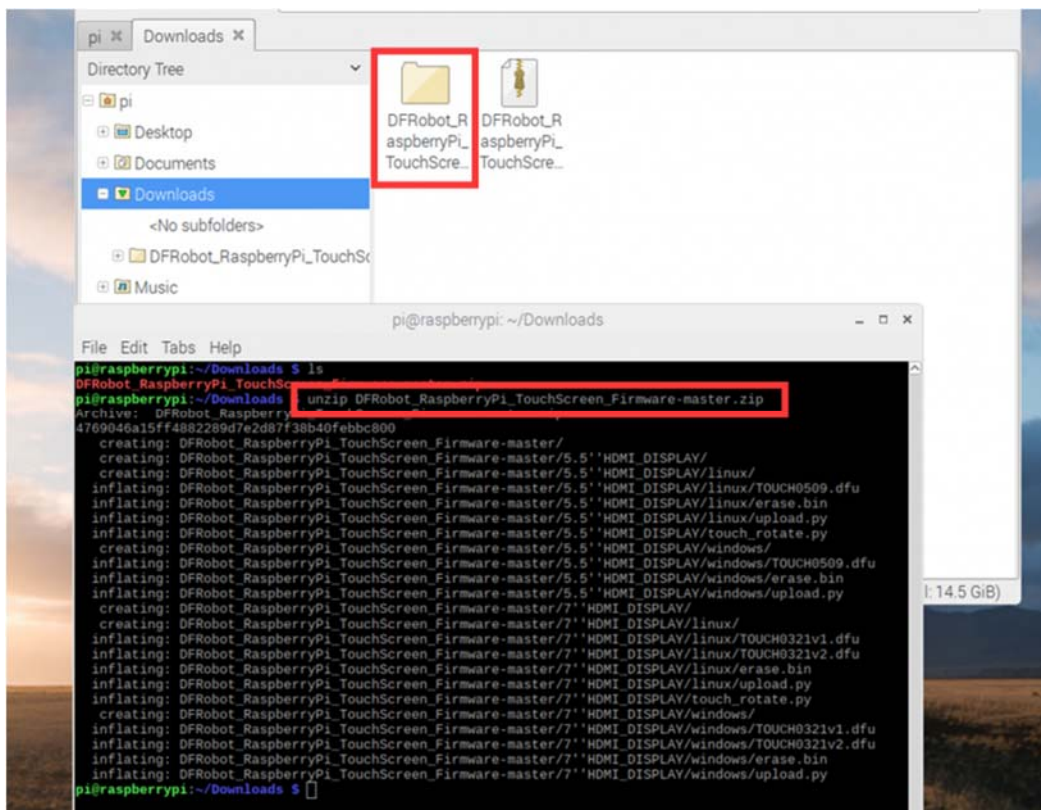
Enter the folder **DFRobot_RaspberryPi_TouchScreen_Firmware-master/5.5 HDMI_DISPLAY**, then input **sudo python touch_rotate.py** and the value of **display-rotate** in **config.txt**. Now you just need to wait for the restart of the Raspberry Pi.

Firmware Update

The firmware update method of 5.5" FHD touchscreen is same as 7" touchscreen.

Dfu-util (Device Firmware Upgrade Utilities) is a free, open-source, cross-platform firmware update program. Without platform limitations, it is easy to update firmware for devices with microcontrollers.
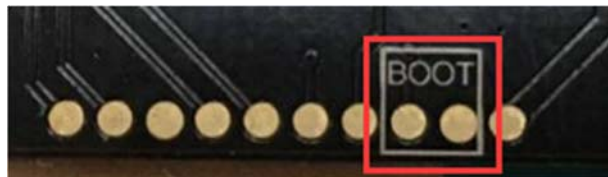
Please check the official web: http://dfu-util.sourceforge.net for more details.

In Windows

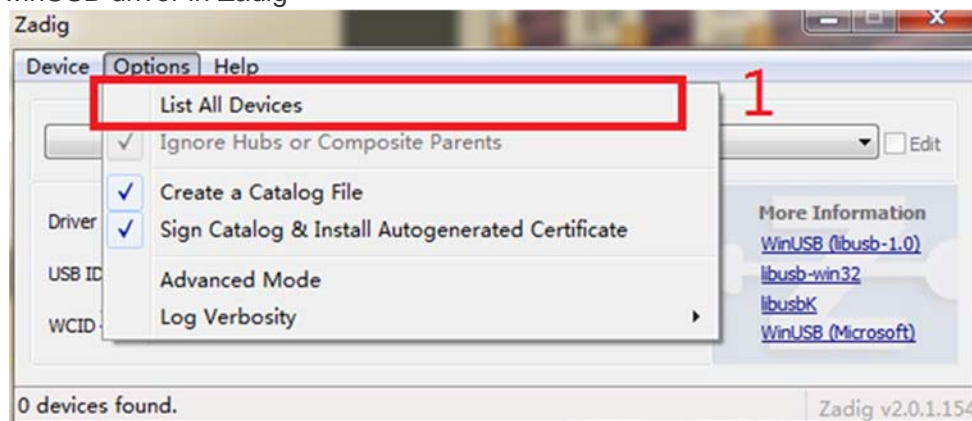1. Download USB driver installation tools zadig.exe

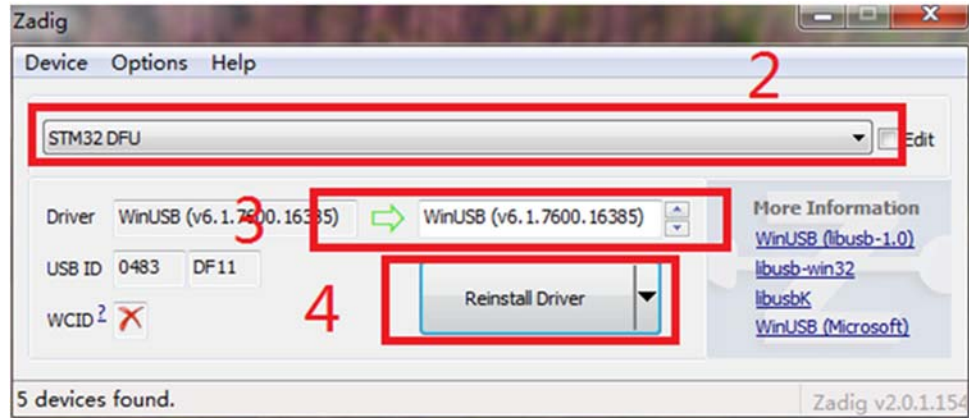- Address:http://zadig.akeo.ie/downloads/zadig_2.2.exe

2. Enter dfu mode

Short-circuit the boot's two pins, and then connect it to the computer via USB (Short-circuit first and connect).



3. Install winUSB driver in Zadig

- Click Options, select List All Devices (1)
- Select "STM32 DFU" in the drop-down box (2)
- Select "WinUSB" in Driver (3)
- Click Install Driver (4)

  Click continue to install if a dialog box pops-up.

  - When it fails to install winUSB driver with zadig , the following interface will appear, which prompts that the file msvcr100d.dll is missing. (Win10 systems already has the file msvcr100d.dll and won't report errors)
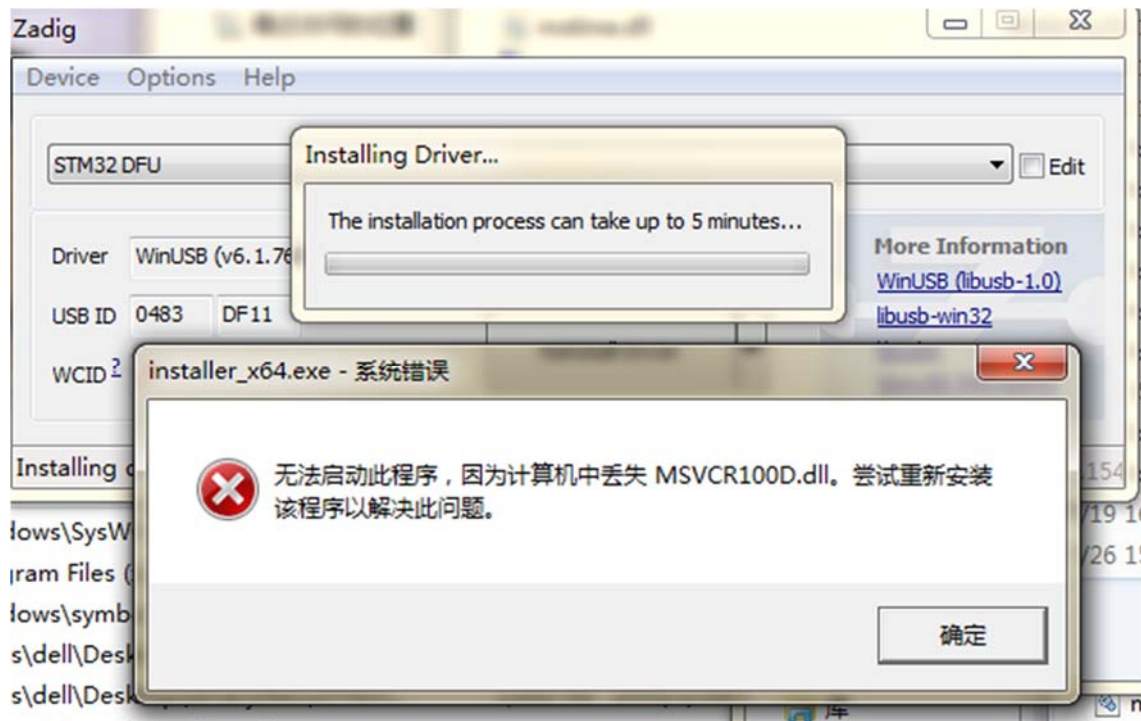
- Win7(32 bit/64 bit)

Download **msvcr100d.dll**, place it in the C:\Windows\System32 directory, and re-install the driver, then it won't report errors.
https://github.com/DFRobot/binaryfiles/blob/master/DFR0506/32bits/msvcr100d.dll

- Win8

- 32 bit

Download **msvcr100d.dll**, place it in the C:\Windows\System32 directory, and re-install the driver, then it won't report errors.
https://github.com/DFRobot/binaryfiles/blob/master/DFR0506/32bits/msvcr100d.dll

- 64 bit

Download **msvcr100d.dll**, place it in the same level directory of zadig.exe.(if you place it in the C:\Windows\System32 directory, there will be a new error report.)
https://github.com/DFRobot/binaryfiles/blob/master/DFR0506/32bits/msvcr100d.dll

zadig.exe	2012/5/30 18:12	应用程序	6,203 KB
msvcr100d.dll	2010/3/18 9:36	应用程序扩展	1,816 KB

4. Download dfu-uti tool

- **Click to download** dfu-util for 32bit
  https://github.com/DFRobot/binaryfiles/raw/master/DFR0506/dfu-util-0.6.rar
- **Click to download** dfu-util for 64bit
  https://github.com/DFRobot/binaryfiles/raw/master/DFR0506/dfu-util-0.9-win64.zip
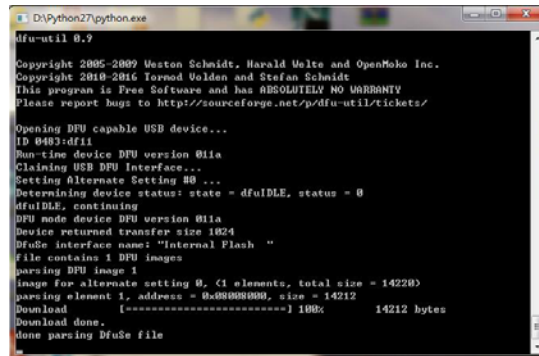
5. Unzip the file to you computer, such as "desktop>dfu-util-0.9-win64", and uyos can ue it directly without installation.

6. **Click to download** files for a firmware update, then unzip the file and copy the xxxx.dfu, erase.bin, upload.py in the /5.5"HMDI_DISPLY/windows directory to the directory "desktop>dfu-util-0.9-win64".
https://codeload.github.com/DFRobot/DFRobot_RaspberryPi_TouchScreen_Firmware/zip/master

7. Run upload.py (Windows needs to install python firstly.**Click to download python**)
https://www.python.org/downloads/release/python-2714/

8. The following interface indicates that the program is being burned. The progress is finished when the progress bar goes to 100%.

9. After the burning is finished, re-plug USB device.

In Linux

1. Enter dfu mode

Short-circuit the boot's two pins, and then connect it to the computer via USB (Short-circuit first and connect).

2. Use apt-get to install dfu-util

- apt-get install dfu-util

3. Upgrade firmware through upload.py(root privileges are required)

4. **Click to download** files for firmware update.
https://codeload.github.com/DFRobot/DFRobot_RaspberryPi_TouchScreen_Firmware/zip/master
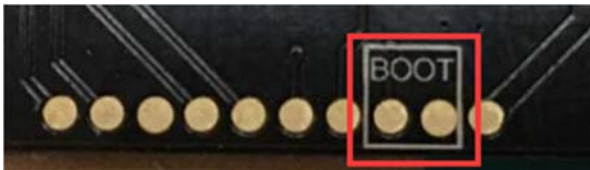
- Open the terminal to enter the newly downloaded firmware directory DFRobot_RaspberryPi_TouchScreen_Firmware/5.5"HMDI_DISPLY/linux
- Use the command: sudo python upload.py to run the program

5. Re-plug USB device

In Mac

1. Enter dfu mode

Short-circuit the boot's two pins, and then connect it to the computer via USB (Short-circuit first and connect).

2. Open the command terminal

- Open launcpad

- Search for "terminal" on the top of the screen.

- Open the terminal

3. Install dfu-util

- brew install dfu-util

4. Use upload.py for firmware upgrade (root privileges are required.)

5. **Click to download** files for a firmware update.

- Open the terminal to enter the newly downloaded directory DFRobot_RaspberryPi_TouchScreen_Firmware/5.5"HMDI_DISPLY/linux
- Use the command: sudo python upload.py to run the program.

6. Re-plug USB device

Dimension Diagram

5.5" *Touchscreen's dimensional drawing*