

EN 3.5" 320 x 480 touchscreen for Raspberry Pi

WPI400



Introduction



To all residents of the European Union **Important environmental information about this product**

This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.

If in doubt, contact your local waste disposal authorities.

Thank you for choosing Whadda! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

Safety Instructions



Read and understand this manual and all safety signs before using this appliance.



For indoor use only.

- This device can be used by children aged from 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the device in a safe way and understand the hazards involved. Children shall not play with the device. Cleaning and user maintenance shall not be made by children without supervision.

General Guidelines

- Refer to the Velleman® Service and Quality Warranty on the last pages of this manual.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorized way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.
- Nor Velleman Group nv nor its dealers can be held responsible for any damage (extraordinary, incidental or indirect) – of any nature (financial, physical...) arising from the possession, use or failure of this product.
- Keep this manual for future reference.

What is Arduino®

Arduino® is an open-source prototyping platform based on easy-to-use hardware and software. Arduino® boards are able to read inputs – light-on sensor, a finger on a button or a Twitter message – and turn it into an output – activating of a motor, turning on an LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so, you use the Arduino programming language (based on Wiring) and the Arduino® software IDE (based on Processing). Additional shields/modules/components are required for reading a twitter message or publishing online. Surf to www.arduino.cc for more information.

Product Overview

This 3.5" resistive touchscreen for the Raspberry Pi is perfect for creating portable and embedded projects where a keyboard and mouse would be in the way.

Specifications

- LCD type: TFT
- LCD interface: SPI
- touch screen type: resistive
- backlight: LED
- resolution: 320 x 480 pixels
- aspect ratio: 8:5

Features

- 320 x 480 resolution
- resistive touch control
- supports any revision of Raspberry Pi
- works directly with your Raspbian/Ubuntu
- its size perfectly fits the Raspberry Pi

Pin Layout

pin #	symbol	description
1, 17	3.3 V	power positive (3.3 V power input)
2, 4	5 V	power positive (5 V power input)
3, 5, 7, 8, 10, 12, 13, 15, 16	NC	NC
6, 9, 14, 20, 25	GND	ground
11	TP_IRQ	touch panel interrupt, low level while the panel detects touching
18	LCD_RS	instruction/data register selection
19	LCD_SI/TP_SI	SPI data input of LCD/touch panel
21	TP_SO	SPI data output of touch panel
22	RST	reset
23	LCD_SCK/TP_SCK	SPI clock of LCD/touch panel
24	LCD_CS	LCD chip selection, low active
26	TP_CS	touch panel chip selection, low active

Example

Required Hardware

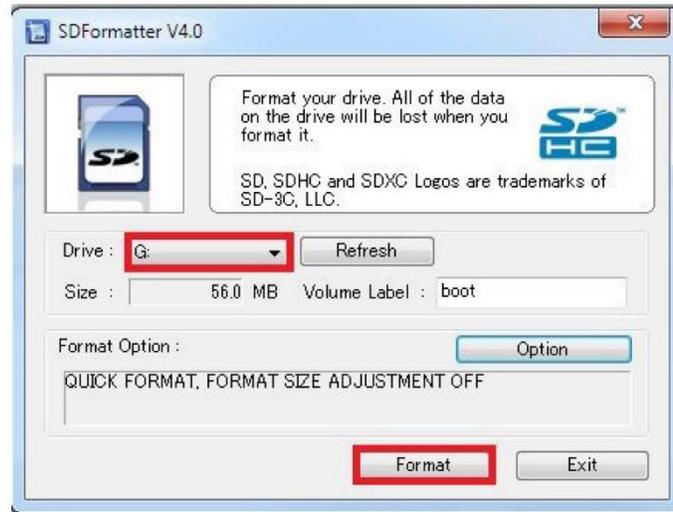
- 1 x Raspberry Pi 1/2/3 main board
- 1 x microSD card (> 8 GB, image file ± 7.5 GB)
- 1 x microSD card reader
- 1 x microUSB cable
- 1 x USB keyboard
- 3.5" LCD module (WPI400)

Required Software

- SD formatter
- Win32DiskImager
- Raspberry Pi OS IMAGE
- LCD driver

Connection

1. Format the SD card. Open SDFormatter, select your SD card and click <Format>.



2. Burn the Raspberry Pi OS IMAGE onto the SD card. Open Win32DiskImager, select the file and SD card, and click <Write>. The burning process may take a few minutes.



3. Make the hardware connection. Connect the WPI400 screen to the Raspberry Pi. Wait for the device to switch on.



Note that your screen might not show anything if the driver hasn't been installed yet.

Driver Installation

Obtaining the LCD Driver – Online Installation

Log onto the Raspberry Pi user system to command line (initial username: pi, password: raspberry).

Get the newest driver from GitHub (the Raspberry Pi should be connected to the Internet).

```
git clone https://github.com/goodtft/LCD-show.git chmod -R 755 LCD-show  
cd LCD-show/
```

Installing the LCD Driver

The corresponding execution for this 3.5" LCD:

```
sudo ./LCD35-show
```

The corresponding execution to switch back to the traditional HDMI display:

```
sudo ./LCD-hdmi
```

Wait for a moment after executing the above command before you can use the LCD.



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