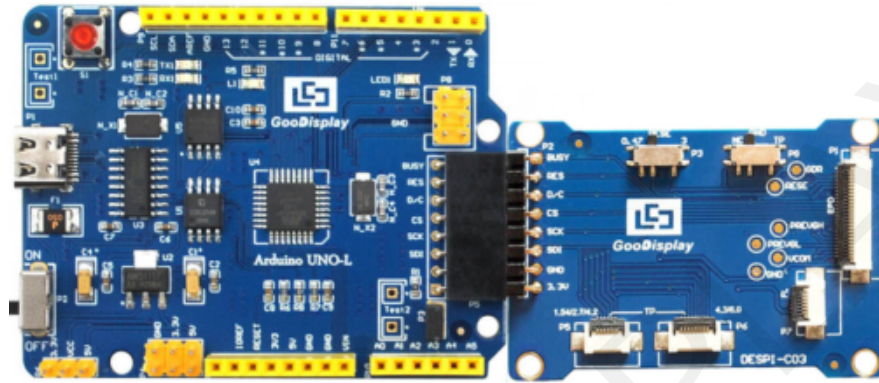




Evaluation Kit for E-Paper Display Arduino UNO-L(C102)

Dalian Good Display Co., Ltd.

Product Specifications



Customer	Standard
Description	Evaluation Kit For E-paper Display
Model Name	Arduino UNO-L(C102)
Date	2022/10/19
Revision	1.0

	Design Engineering		
	Approval	Check	Design
			

Zhongnan Building, No.18, Zhonghua West ST,Ganjingzi DST,Dalian,CHINA

Tel: +86-411-84619565

Email: info@good-display.com

Website: www.good-display.com

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GOOD DISPLAY

1. Overview

Arduino is a simple I/O platform based on open raw code, using languages similar to Java and C. The Arduino language functions some of the parameter settings so that users don't need to know the underlying code.

Arduino UNO-L evaluation kit is used to help users develop e-paper display projects with provided source code to create more differentiated solutions. It is specially designed for SPI interface e-paper display, and supports driving 1.02 inch e-paper GDEW0102I3F and GDEW0102T4.

DEArduino-L (C102) development kit consists of motherboard Arduino UNO-L for EPD and connector board DESPI-C102.

2. Structure Specification

Parameter	Specification
Model	Arduino UNO-L (C102)
Platform	Arduino
Dimension	Mother Board: 70mm x 54mm (Arduino UNO-L) Adapter : 33.8mm x 22.2mm (DESPI-C102)
Power Interface	Type-C
Example Code	Available
Operating Temp.	-20 ~70 (-4 ~158)
Main Function	Learn to drive E-paper display; Test and evaluate E-paper display; Support secondary development
Additional Function	Type-C port, LED indicator light, Reset button, Font chip, Flash chip, Current detection

3. Diagram

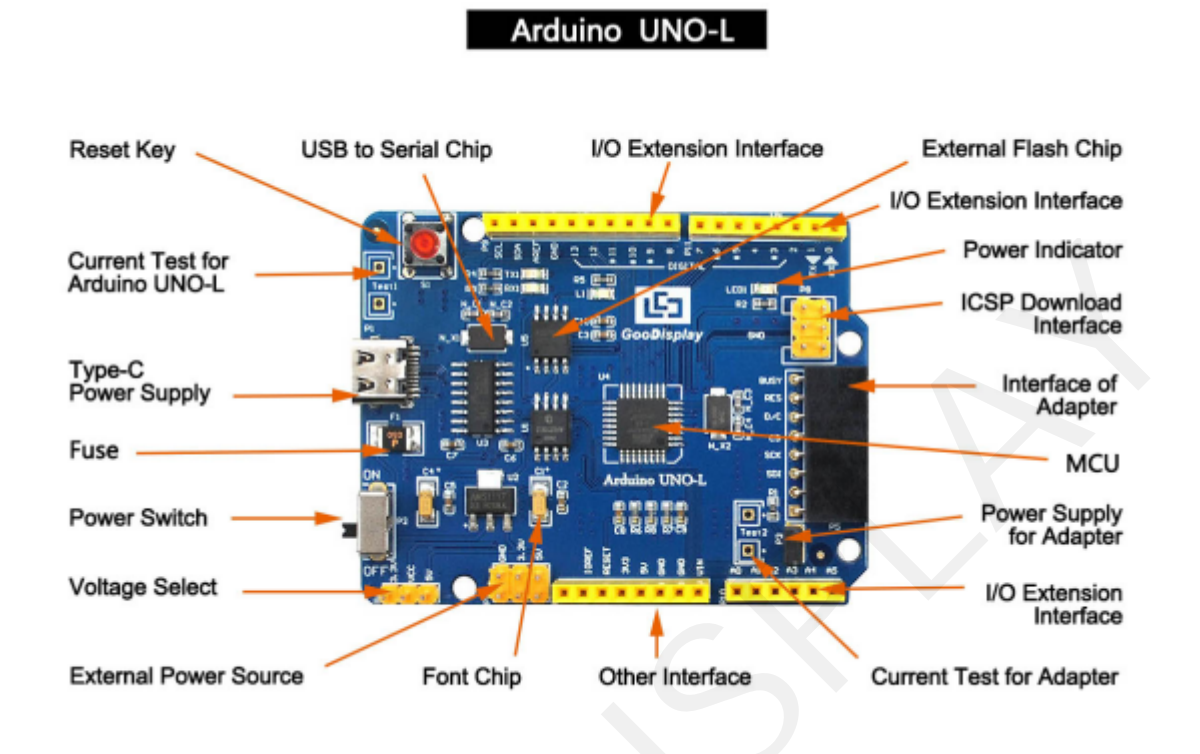


Figure 1: Arduino UNO-L

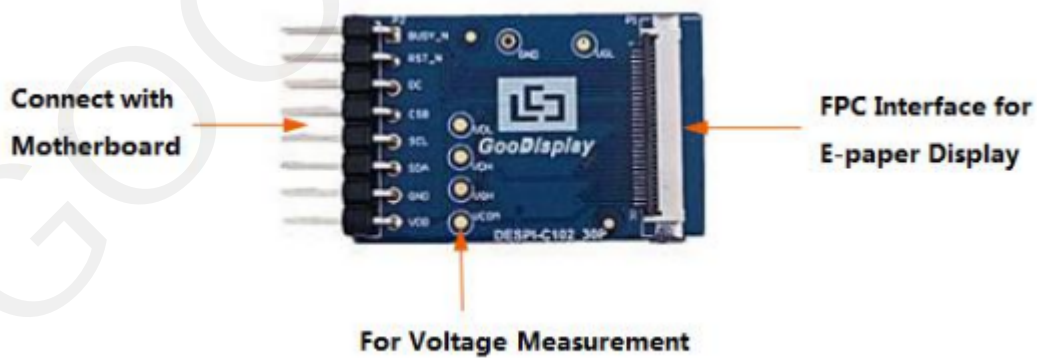


Figure 2: DESPI-C102

3.1 Power Supply

The input voltage of this board is DC5V, which is powered by the USB port. Since the e-paper is 3.3V powered, it is necessary to connect VCC at P6 to 3.3V when using.

Tips: If you use 5V power supply, the E-paper can be driven theoretically, but it is not recommended, long-term operation will make E-paper damage.

3.2 USB to serial port

This development board uses USB to serial port communication. Users should install CH340 driver on computer before downloading program.

3.3 P3 short-circuit jumper

P3 short-circuit jumper controls DESPI-C102 's power supply, which is e-paper 's power supply. Be sure to short it when using.

3.4 Current measurement

The development kit supports current measurement of Arduino UNO for EPD and DESPI-C102.

- 1) Arduino UNO for EPD: Power off and make series connection between ampere meter and TEST1.
- 2) DESPI-C102: Power on and take off the short-circuit jumper P3, then make series connection between ampere meter and TEST2. Put on the short-circuit jumper P3 after measurement.

3.5 I/O port extension

This development board led out the digital I/O 0~13 and the analog I/O 0~5 for development.

3.6 LED indicator light

There is a indicator light reserved for developing.

3.7 Reset Key

This development board contains a reset key for users operation.

3.8 Expanded Functions

Built-in Chinese font chip GT30L32S4W.

Built-in data storage chip W25Q16.

4. Connection Mode and RESE Selection

4.1 Connection between e-paper display and development board

Connect DESPI-C102 to Arduino for EPD as shown in Figure 3. Connect e-paper FPC to DESPI-C102 as shown in Figure 4. (Pay attention to the direction of the e-paper.)

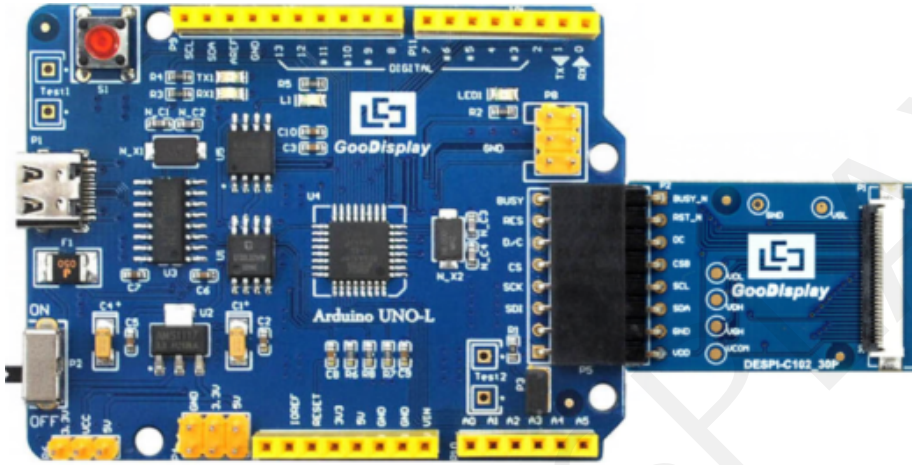


Figure 3 : Connection between Arduino UNO-L and DESPI-C102

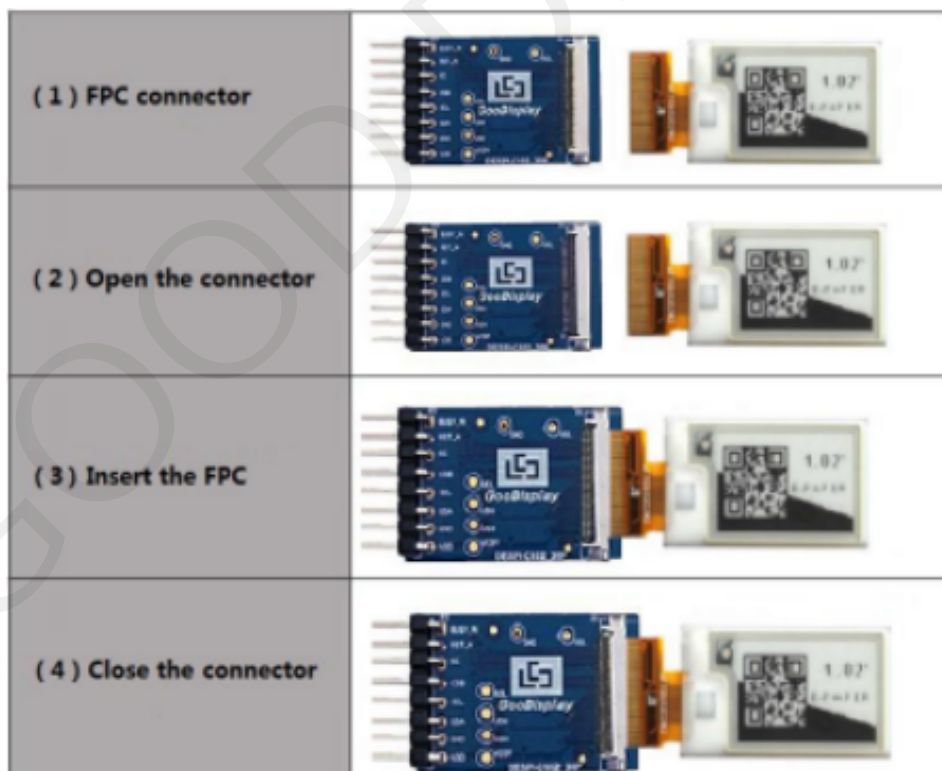


Figure 4 : Connection between DESPI-C102 and e-paper display

5. Program Downloading

This development board uses serial port to download the program, need to use data cable with micro USB interface, CH340 driver and Arduino programming software, the operation steps are as follows:

- 1) Install CH340 driver in computer before downloading for the first time.
- 2) Connect the micro USB port of the development board to computer with a USB data cable.
- 3) Open the Arduino.ino file in the folder shown in Figure 5 with Arduino 1.8.6.

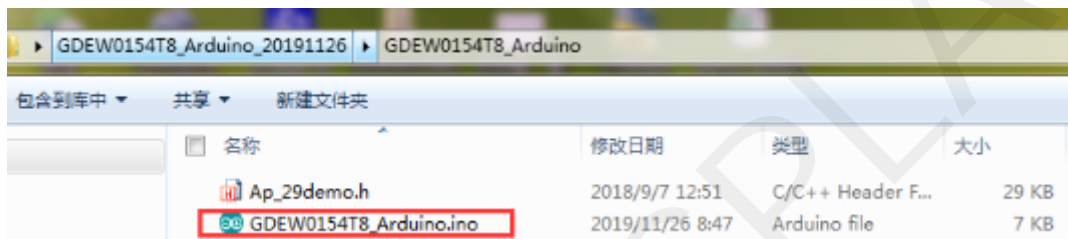




Figure 5 : Open Arduino.ino

- 4) Configure in "Tools" in Figure 6.
- 5) Select development board model "Arduino/Genuino Uno" in position 1 of Figure 6.
- 6) Select COM port in position 2 of Figure 6.
- 7) Select programmer model "AVRISP MKII" in position 3 of Figure 6.
- 8) Click position 4  of Figure 6 to compile the program.
- 9) Click position 5  of Figure 6 to download the program to development board.
- 10) After downloading successfully, power off the development board, connect the e-paper to DESPI-C03 and re-power the development board. Then the E-paper can display the image normally.

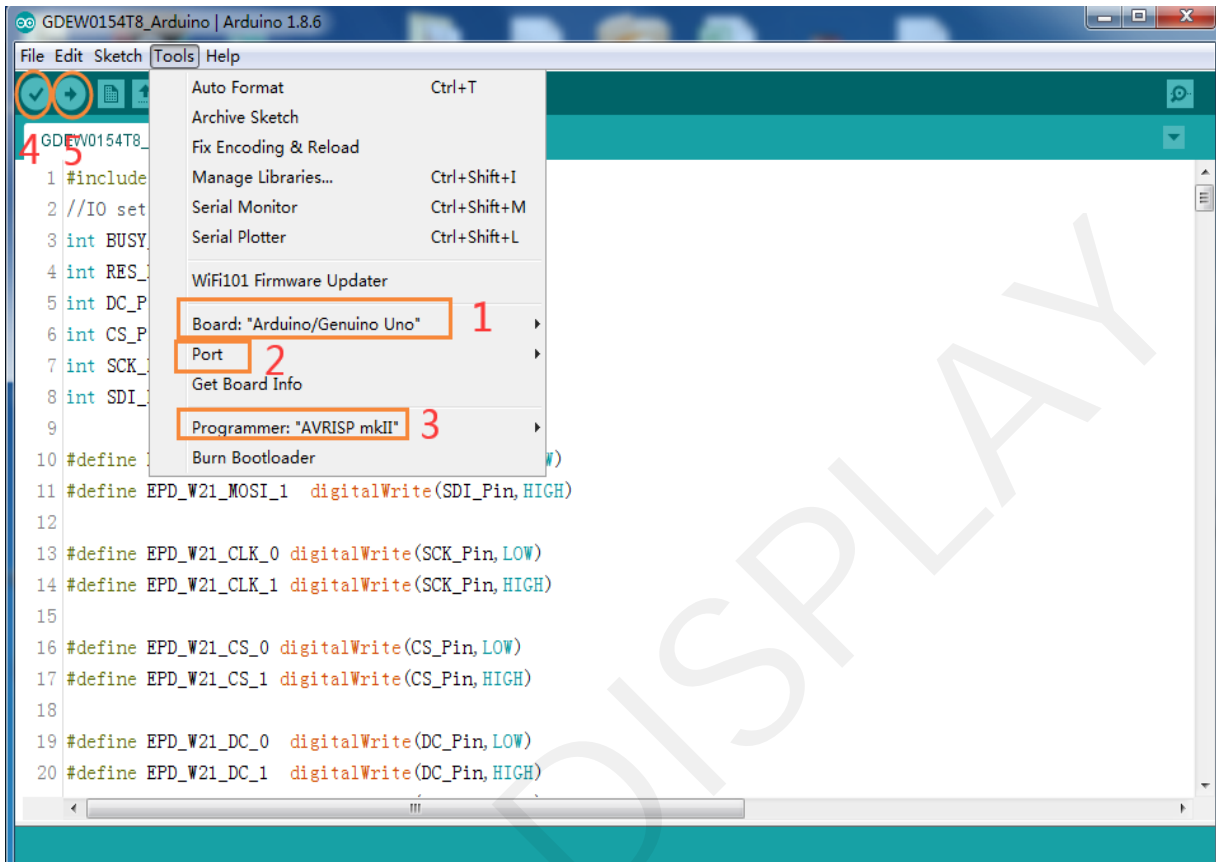


Figure 6 : Steps of downloading program