

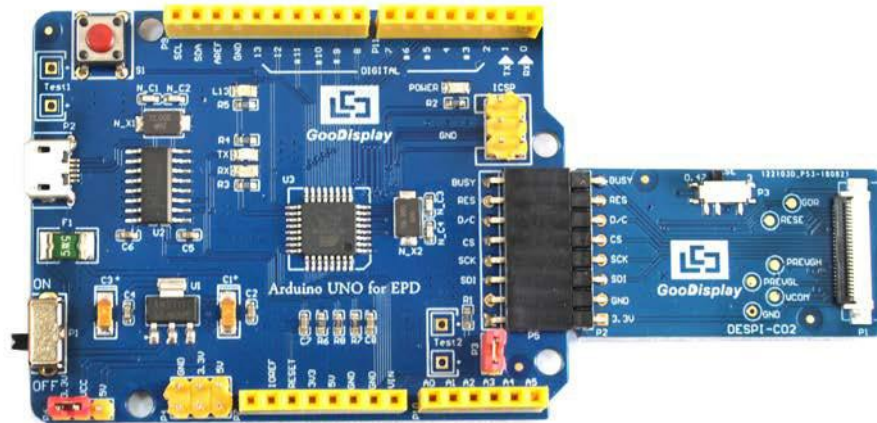


Development Kit for E-paper Display

DEArduino (C02)

Dalian Good Display Co., Ltd.

Product Specifications



Customer	Standard
Description	Development Kit for E-paper Display
Model Name	DEArduino (C02)
Date	2020/03/11
Revision	1.1

	Design Engineering		
	Approval	Check	Design
			

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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.

This development kit is used to help users develop e-paper display projects with provided source code to create more differentiated solutions. It is designed for SPI e-paper display. It supports driving Good Display's black-white e-paper display and three-color (black, white and red/Yellow) e-paper display: 1.54", 2.04", 2.13", 2.6", 2.7", 2.9", 3.71", 4.2", 5.83" and 7.5".

DEArduino (C02) development kit consists of motherboard Arduino UNO for EPD and connector board DESPI-C02.

2.Mechanical Specifications

Parameter	Specification
Model	DEArduino (C02)
Platform	Arduino
Dimension	70mm x 54mm (Arduino UNO for EPD) 41mm x 22mm (DESPI-C02)
Power Interface	USB interface
Sample Code	Available (please contact sales)
Operating Temp.	-20°C ~+70°C
Main Function	Learn to drive e-paper display; Test and evaluate e-paper display; For secondary development.
Additional Function	USB to serial port; Indicator light; Reset key; Current measurement.

3.Functions

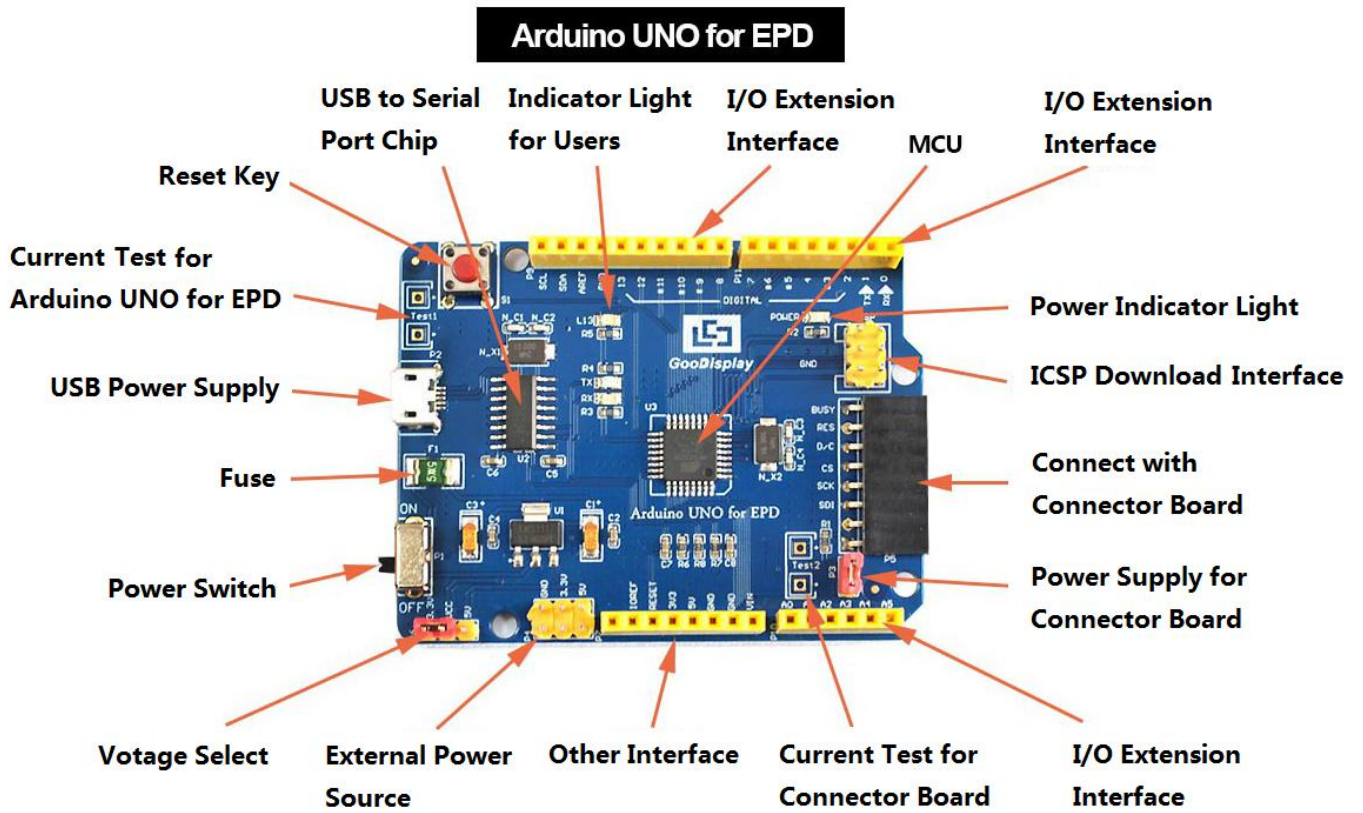


Figure 1 : Arduino UNO for EPD

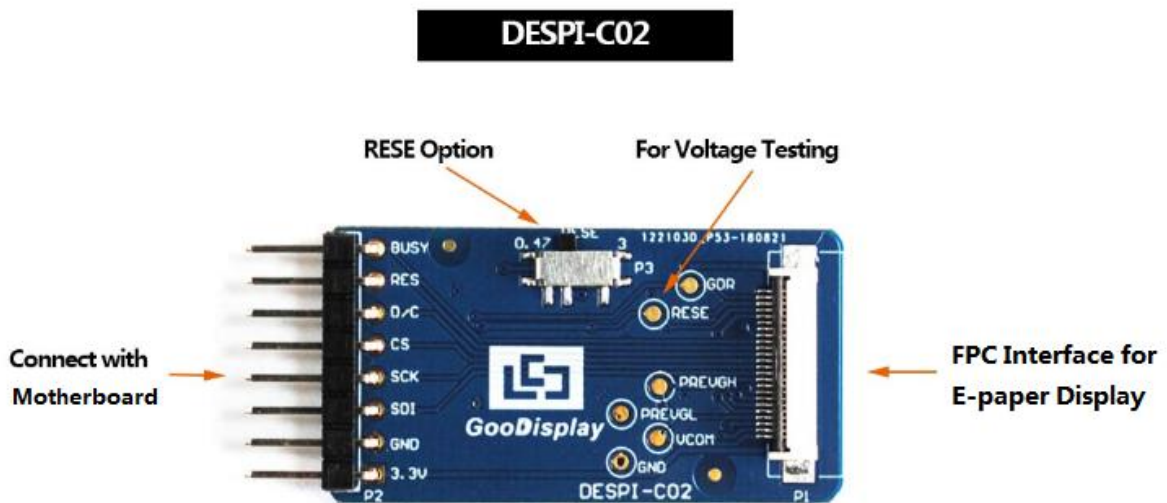


Figure 2 : DESPI-C02

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 transmission

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-C02'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-C02.

- 1) Arduino UNO for EPD: Power off and make series connection between ampere meter and TEST1.
- 2) DESPI-C02: 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 D0~D12 and the analog I/O A0 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.

4.Connection Mode and RESE Selection

4.1 Connection between e-paper and development board

Connect DESPI-C02 to Arduino UNO for EPD as shown in Figure 3. Connect e-paper FPC to DESPI-C02 as shown in Figure 4. (Pay attention to the direction of the e-paper.)

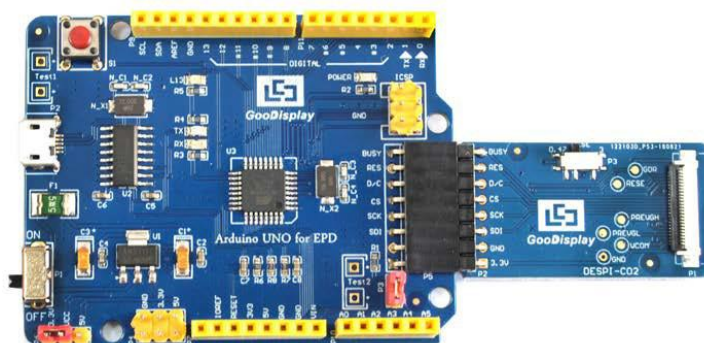


Figure 3 : Connection between Arduino UNO for EPD and DESPI-C02

<p>(1) FPC connector</p>	
<p>(2) Open the connector</p>	
<p>(3) Insert the FPC</p>	
<p>(4) Close the connector</p>	

Figure 4 : Connection between DESPI-C02 and e-paper

4.2 RESE resistor selection of DESPI-C02

The switch on DESPI-C02 is used to select the RESE resistor, different e-papers need to match different RESE resistors, a wrong RESE resistor will cause the e-paper cannot be refreshed.

When RESE is set to 0.47 :

1.54 inch : GDEW0154T8、GDEW0154I9F、GDEW0154Z17、
GDEW0154Z04、GDEW0154C39

2.13 inch : GDEW0213T5、GDEW0213I5F、GDEW0213Z16、
GDEW0213C38

2.6 inch : GDEW026T0、GDEW026Z3

2.7 inch : GDEW027W3、GDEW027C44

2.9 inch : GDEW029T5、GDEW029I6F、GDEW029Z10、
GDEW029C32

3.71 inch : GDEW0371W7、GDEW0371Z80

4.2 inch : GDEW042T2、GDEW042Z15、GDEW042C37

5.83 inch : GDEW0583T8、GDEW0583Z21、GDEW0583Z83、
GDEW0583C64

7.5 inch : GDEW075T7、GDEW075Z08、GDEW075Z09、
GDEW075C21、GDEW075C64

When RESE is set to 3 :

1.54 inch : GDEP015OC1、GDEH0154D67、GDEM0154E97LT

2.04 inch : GDE021A1

2.13 inch : GDEH0213B73、GDEH0213D30LT、GDEM0213E28LT

2.9 inch : GDEH029A1、GDEH029D56LT、GDEM029E27LT

5.83 inch : GDEW0583T7

7.5 inch : GDEW075T8

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.

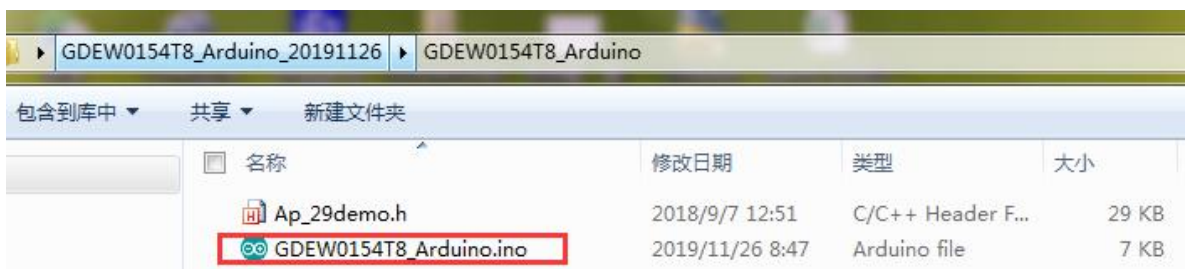




Figure 5 : Open Arduino.ino

- 4) Configure in “工具” 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-C02 and re-power the development board. Then the e-paper can display the image normally.

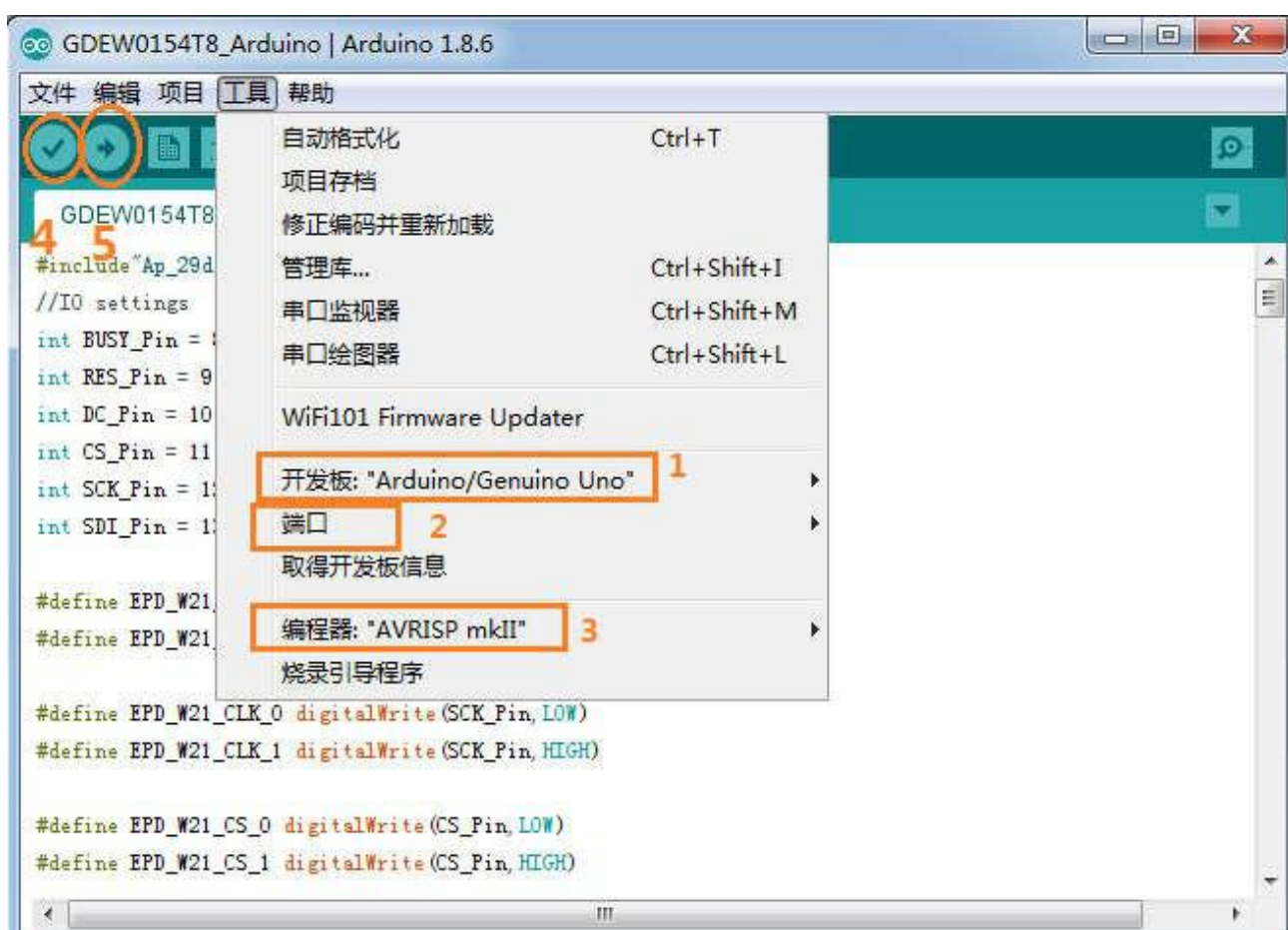


Figure 6 : Steps of downloading program