

4.2" e-Paper Module User Manual

For Raspberry Pi

1. Install Function Library

You need to install necessary function library before the E-Ink display module works for Raspberry Pi, otherwise the following sample program might not work properly.

You can click: http://www.waveshare.net/wiki/Pioneer600_Datasheets for the detailed installation of Raspberry Pi Libraries, including wiringPi, bcm2835 and python function library.

2. Hardware Connection

Here we use Raspberry Pi 3B as an example.

E-Paper	Raspberry Pi 3B
3.3V	3.3V
GND	GND
DIN	MOSI
CLK	SCLK
CS	CEO
DC	25 (BCM)
RST	17 (BCM)
BUSY	24 (BCM)

3. Expected Results

1) Install the library, copy the corresponding program into Raspberry Pi and enter the corresponding directory:

- **bcm2835:** Execute the command: make. It will compile the code and create an executable file called epd. Execute the command: sudo. / epd, the program will run.
- **wiringpi:** Execute the command: make. It will compile the code and create an executable file called epd. Execute the command: sudo. / epd, the program will run.
- **python:** Execute the command: sudo python main. py

2) The screen will display graphics.

Note: This module does not support partial refreshing. It takes about 2 seconds to refresh. Please be patient.

For Arduino

1. Hardware Connection

Connect E-Paper to UNO:

E-Paper	Arduino
3.3V	3V3
GND	GND
DIN	D11
CLK	D13
CS	D10
DC	D9
RST	D8
BUSY	D7

2. Expected Results

- 1) Copy the files of the sample program package in the arduino/libraries directory to documents\arduino\libraries, which can be specified by Arduino IDE → File → Preferences → Sketchbook location.
- 2) Click Upload to upload the program.
- 3) The screen will display graphics.

Note: This module does not support partial refreshing. It takes about 2 seconds to refresh. Please be patient.

For STM32 development board

- The MCU of development board used in this sample program is STM32F103ZE.
- This sample program is based on HAL library, so you can use STM32CubeMX to port the sample program to other STM chip.
- This sample program is compiled and passed in Keil v5 environment.

1. Hardware Connection

Connect E-Paper to STM32F103ZE:

E-Paper	STM32F103ZE
3.3V	3.3V
GND	GND
DIN	PA7 (MOSI)
CLK	PA5 (SCK)
CS	PA4
BUSY	PA3
DC	PA2
RST	PA1

2. Expected Results

- 1) Open the Keil program (epd-demo.uvprojx) under the MDK-ARM directory.
- 2) Click Build to compile the program.

3) Click Download to write the program to the chip.

4) After the development board is reset, the screen will display graphics.

Note: This module does not support partial refreshing. It takes about 2 seconds to refresh. Please be patient.