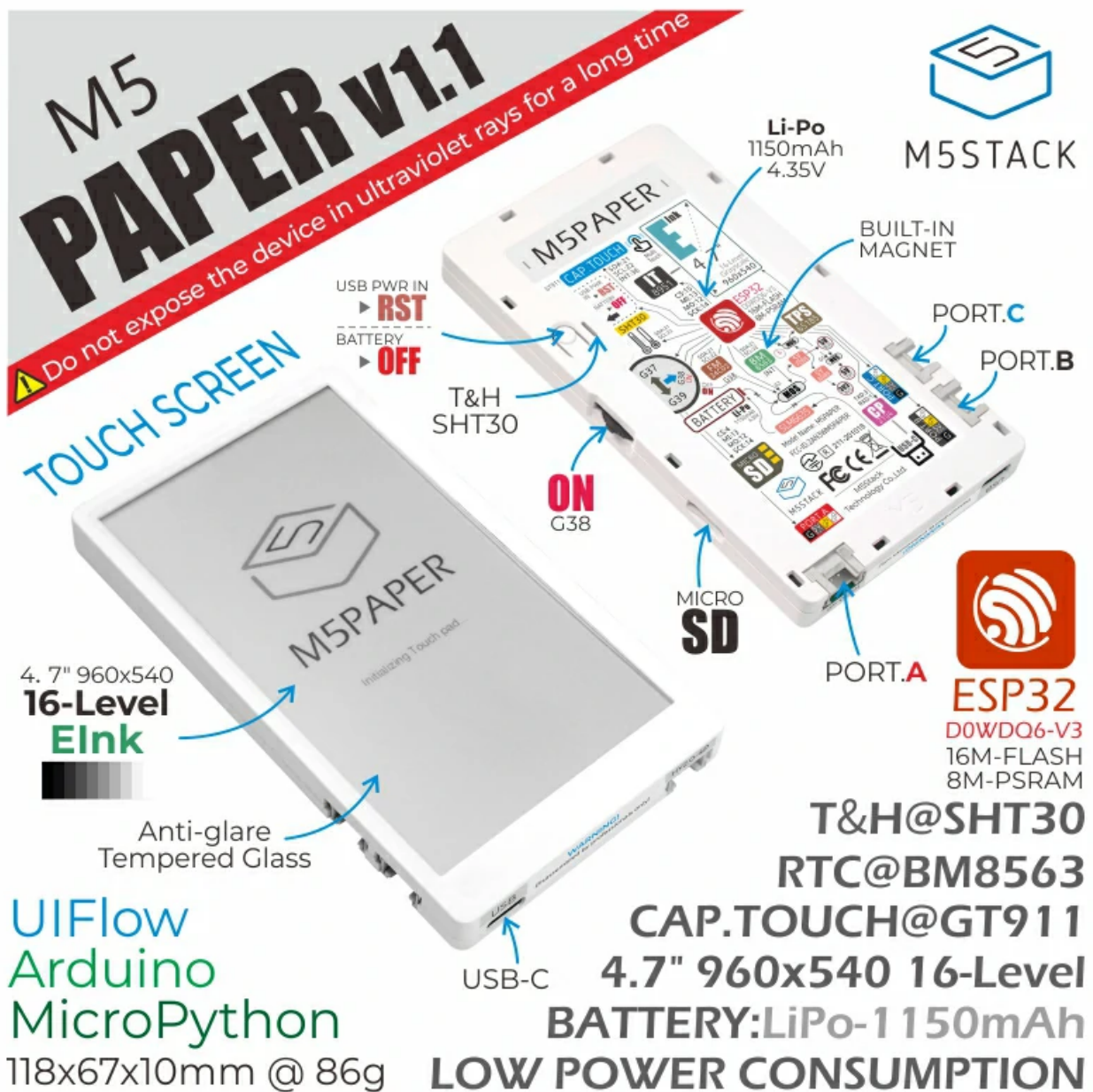# M5Paper v1.1

SKU:K049-B

Description

M5Paper v1.1 is M5Stacks latest core device with a touch enabled E-ink display. Powered by the ESP32-D0WDQ6-V3 this is our first device to integrate a super sized 540*960 @4.7" E-ink display,which supports 16 grayscale levels. The display is a GT911 capacitive touch screen,which supports two point touch and a variety of gesture controls . Compared to a regular LCD,E-ink displays are easier on the eyes, which makes them a great choice for reading or viewing for longer periods. Other benefits are the low power consumption and the ability to retain the image even if power to the display is terminated. Integrated in the CoreInk are an multi-function button for operation, SHT30 temperature and moisture sensor, physical buttons and an TF-card(microSD) port for data storage.

Additionally the FM24C02 internal eeprom chip provided 2K-bit(256x8)-EEPROM can be used to store vital data even when the device is off. A 1150mAh lipo battery keeps the device going for long periods and battery life can be further preserved by using the RTC(BM8563)to set the device into deep sleep and wake it up again when needed。 Three HY2.0-4P expansion ports are included which allow for building complex projects using the existing sensors in the M5Stack ecosystem.

M5Paper v1.1 adopts flexible e-Ink screen panel, which is the same model as that of M5Paper v1.0 hard e-Ink screen panel. All features and specs are the same for both models.

Warning: Do not expose to ultraviolet rays for a long time, otherwise it may cause irreversible damage to the E-ink screen. The low-power power management solution adopted by M5Paper is different from that of CORE and StickC devices. When in use, the PWR button is used as a power-on button(long press 2s). If you need to shut down the device, you need to use the software API or press the reset button on the back, when using USB power supply, it cannot be shut down.

Product Features

- ESP32 Standard wireless functions WiFi、Bluetooth
- Internal 16M Flash
- Low Power Display
- Multi-Point touch screen
- 180 degree viewing angle
- Built-in Magnet
- Internal 1150mAh Battery
- Expandable - HY2.0-4P 3 x external expansion ports

Include

1x M5Paper v1.1

Applications

- IoT Terminal
- E-Book
- Industrial Control Panel
- Smart Home Panel

Version distinction

M5Paper	M5Paper v1.1
Hard display panel	Flexible display panel

Specification

Resources	Parameter
ESP32-D0WDQ6-V3	240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi, dual mode Bluetooth
Flash	16MB
PSRAM	8MB
Input Voltage	5V @ 500mA
Ports	TypeC*1, HY2.0-4P*3 , TF-card(microSD) slot
E-Ink Display	Model Number : EPD_ED047TC1	540*960@4.7"	Grayscale : 16 Levels	Display area : 58.32*103.68mm	Display Driver : IT8951E
Physical Button	Multi-function button*1 , Reset Button*1
RTC	BM8563
Antenna	2.4G 3D Antenna
PINS	G25, G32, G26, G33, G18, G19
Battery	1150mAh@3.7V
Working Temp	0°C to 60°C
Net Weight	86g
Gross Weight	100g
Product Dimension	118*66x*10mm
Packaging Dimension	120*70x*14mm
Casing Material	Plastic (PC)

EasyLoader

- **Windows**

  - [FactoryTest](#)
  - [ToDo](#)
  - [Calculator](#)
- **MacOS**

  - [FactoryTest](#)
  - [ToDo](#)
  - [Calculator](#)

PinMap

E-INK & TF-card(microSD)

Resolution : 540*960

ESP32 Chip	GPIO13	GPIO12	GPIO14	GPIO15	GPIO4
IT8951E	MISO	MOSI	SCK	CS	/
TF-card(microSD)	MISO	MOSI	SCK	/	CS

Multi-function button & PWR

ESP32 Chip	GPIO37	GPIO38	GPIO39	GPIO2
Multi-function button	Right	BTN/PWR	Left	/
Power Control	/	/	/	MOS

Internal I2C Connection

ESP32 Chip	GPIO21	GPIO22	GPIO36
GT911	SDA	SCL	INT
SHT30	SDA	SCL	/
BM8563	SDA	SCL	/
FM24C02	SDA	SCL	/

USB Serial

ESP32 Chip	GPIO1	GPIO3
CP2104	RXD	TXD

M5Paper-HY2.0 4P Port

PORT	PIN	Protocol:
PORT.A	G25,G32	I2C
PORT.B	G26,G33	DAC/ADC
PORT.C	G18,G19	UART

ESP32 ADC/DAC Mappable Pins

ADC1	ADC2	DAC1	DAC2
8 Channel	10 Channel	2 Channel	2 Channel
G32-39	G0/2/4/12-15/25-27	G25	G26

For more info on specific pin functions refer to the official ESP32 DocsESP32 datasheet