

CoreInk

SKU:K048



Tutorial&Quick-Start

view the corresponding tutorial&quick-Start.

[Arduino](#) [UIFlow](#)

Description

CoreInk is a brand new E-ink display in the M5Stack cores range. Controlled by the ESP32-PICO-D4 This new device includes a 200x200 1.54" Black and White E-Ink Display. 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. For control the CoreInk integrates an multi-function button,A physical button, integrated status LED and buzzer.The device also includes a 390mAh Lipo, RTC(BM8563)for controlling accurate timing and deep sleep functionality. CoreInk features independent reset and power buttons, expansion ports(HY2.0-4P, M-BUS, HAT expansion)for attaching external sensors to expand functionality, for unlimited possibilities.



Caution:

Do not expose the device in ultraviolet rays for a long time, or it may damage the screen.

Precautions: Please avoid long-time high-frequency refresh when using it. The recommended refresh interval is (15s/time). Do not expose to ultraviolet rays for a long time, otherwise it may cause irreversible damage to the ink screen. The low-power power management solution adopted by CoreInk 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.



| Product Features

- ESP32 Standard wireless functions WiFi,Bluetooth
- Internal 4M Flash
- Low Power Display
- 180 degree viewing angle
- Expansion ports
- Built-in Magnet
- Internal Battery
- Expandable

| Includes

- 1x CoreInk
- 1x Type-C USB(20cm)

| Application

- IoT Terminal
- E-Book
- Industrial Control Panel
- Electronic Tag

| Specification

■

Resource

Parameter

ESP32-PICO-D4	240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi, dual mode Bluetooth
Flash	4MB Flash
Input Voltage	5V @ 500mA
Ports	TypeC*1, HY2.0-4P*1, M-BUS Female Connector, Pin Array/ Hat Expansion
Screen	GDEW0154M09 SPI Port 200*200@1.54" Dpi:184 1-bit Black & White(Grayscale: 2) Viewing Area(mm): 27.6x27.6 Dot pitch(mm) 0.138x0.138 Refresh Time (s) 0.82 /Partial refresh (s) 0.24
Physical Buttons	Programmable *1, Reset *1, Power *1
LED	Green LED x 1
RTC	BM8563
Buzzer	Passive Buzzer*1
Wifi	2.4G 3D Antenna
PINS	G25, G26, G36, G23, G34, G18, G21, G22, G14, G13
Battery	390mAh@3.7V
Working Temp	32°F to 104°F (0°C to 40°C)
Net Weight	32g
Gross Weight	55g
Dimensions	56*40*16mm
Package Size	82*46*20mm
Case Material	Plastic (PC)

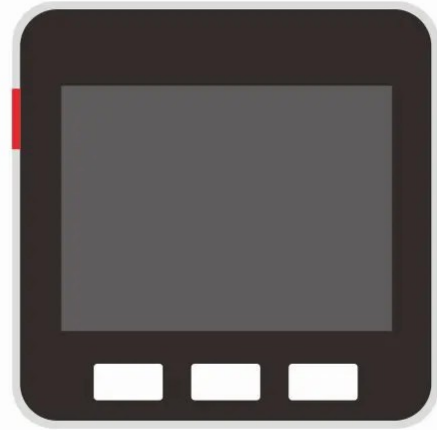
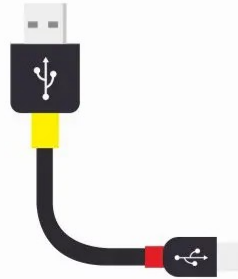
EasyLoader

EasyLoader is a concise and fast program writer, which has a built-in case program related to the product. It can be burned to the main control by simple steps to perform a series of function verification. Please install the corresponding driver according to the device type. M5Core host [Please click here to view the CP210X driver installation tutorial](#), M5StickC/V/T/ATOM series can be used without driver)

2, Select COM



1, Downloads



Core \ M5StickC \ M5StickV...

3, Burn Firmware

Windows MacOS

| Pin Mapping

E-Ink Display

Screen Resolution: 200x200

ESP32 Chip	GPIO4	GPIO0	GPIO15	GPIO9	GPIO18	GPIO23
GDEW0154M09	BUSY	RST	D/C	CS	SCK	MOSI

Multi-function button & Physical Button & LED & Buzzer

ESP32 Chip	GPIO37	GPIO38	GPIO39	GPIO5	GPIO10	GPIO2	GPIO12
Multi-function button	Left position	Button press	Right position	/	/	/	/
Physical Button	/	/	/	Physical Button	/	/	/
LED	/	/	/	/	LED	/	/
Buzzer	/	/	/	/	/	Buzzer	/
Power Control	/	/	/	/	/	/	MOS

USB Serial

ESP32 Chip	GPIO1	GPIO3
CP2104	RXD	TXD

Internal I2C Connection

ESP32 Chip	GPIO21	GPIO22
BM8563	SDA	SCL

| Coreink-HY2.0 4P Port

PORT	PIN	Protocol:
EXT-PORT	G32/33	I2C

| 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 Docs [ESP32 datasheet](#)

| Related Link

- **Datasheet**
 - [ESP32](#)
 - [BM8563](#)
 - [SY7088](#)
 - [GDEW0154M09](#)
- **API**
 - [Arduino API](#)

| Example

1. Arduino

- [Github Lib & Example](#)

| Schematic

