CORE
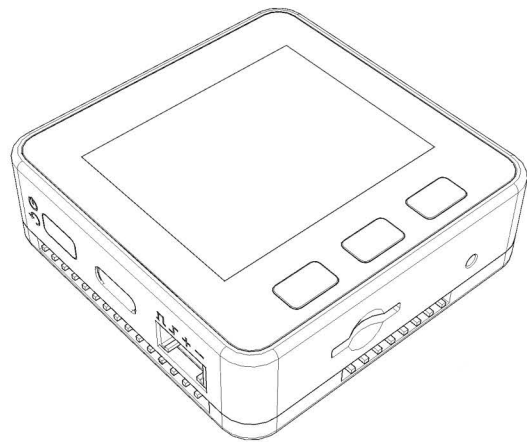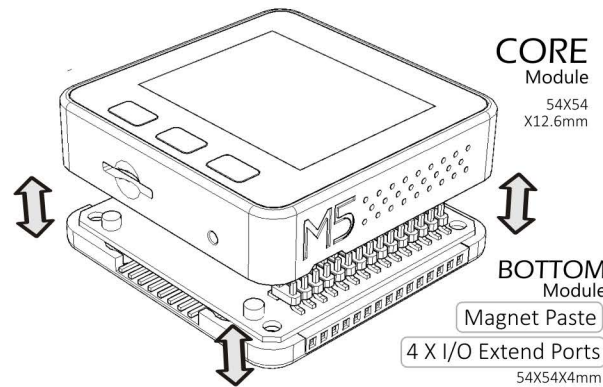## DEVELOPMENT KIT
V1.0

M5STACK

ESP32 | Wi-Fi | BLE | 3D-Antenna | 2 inch LCD@320X240
1W Speaker | TYPE-C USB | 2A Battery Management
TF-Reader | GROVE I2C | Plastic C.A.S.E | 3 Buttons

CORE Module
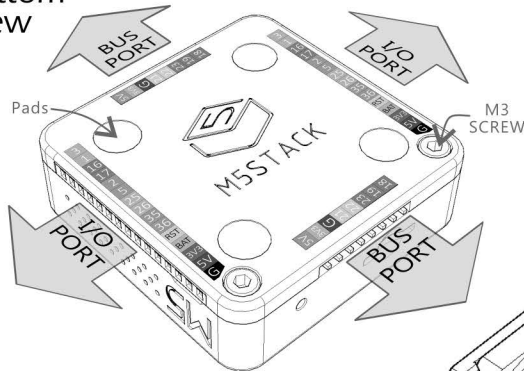54X54 X12.6mm

BOTTOM Module
Magnet Paste
4 X I/O Extend Ports
54X54X4mm

Operation

- single press ● POWER ON when using battery. and RESET.
- double press ●● POWER OFF when using battery.
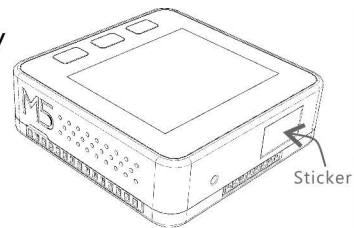
TYPE C | Power Supply / Charge / UART/Upload

GROVE PH2.0-4
| SCL | SDA | 5V | GND |

MicroSD Card (TF-Card) ≤16GB
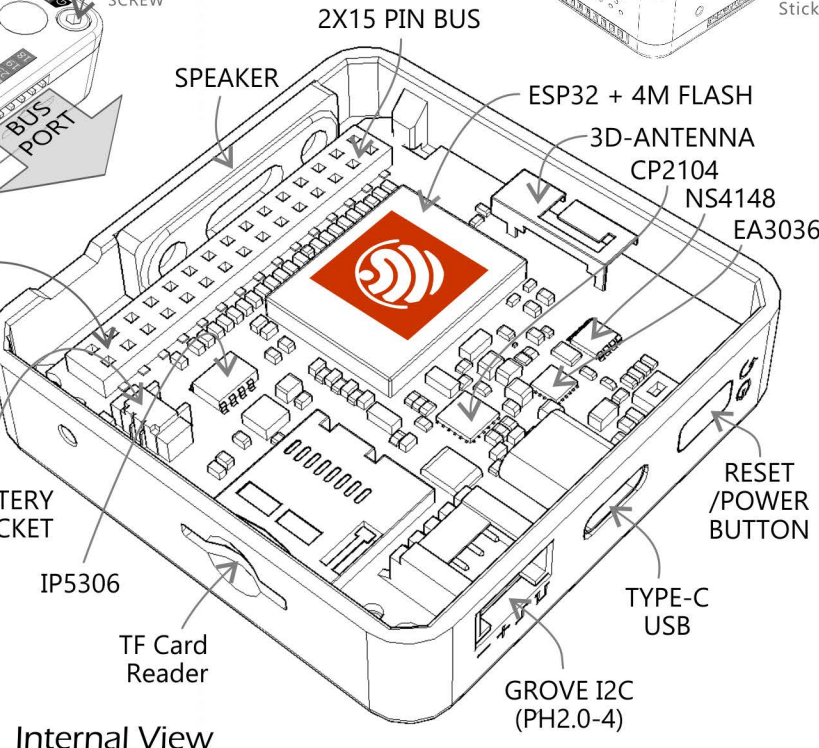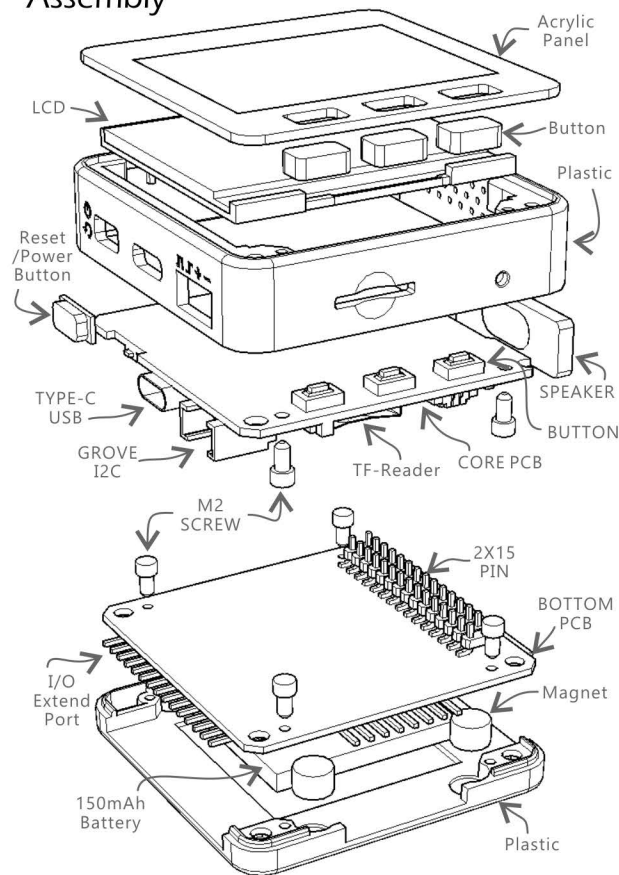
M BUS

GND		ADC	G35
GND		ADC	G36
GND		RST	EN
G23	MOSI	DAC/SPK	G25
G19	MISO	DAC	G26
G18	SCK	3.3V	
G3	RXD0	TXD0	G1
G16	RXD2	TXD2	G17
G21	SDA	SCL	G22
G2	GPIO	GPIO	G5
G12	IIS_SK	IIS_WS	G13
G15	IISOUT	IIS_MK	G0
HPWR		IIS_IN	G34
HPWR		5V	
HPWR		BATTERY	

Bottom View

BUS PORT
I/O PORT
Pads
M3 SCREW
I/O PORT
BUS PORT

Side View

M5
Sticker

Internal View

SPEAKER
2X15 PIN BUS
ESP32 + 4M FLASH
3D-ANTENNA
CP2104
NS4148
EA3036
BATTERY SOCKET
IP5306
TF Card Reader
RESET /POWER BUTTON
TYPE-C USB
GROVE I2C (PH2.0-4)

Assembly

Acrylic Panel
LCD
Button
Plastic
Reset /Power Button
SPEAKER
BUTTON
TYPE-C USB
GROVE I2C
TF-Reader
CORE PCB
M2 SCREW
2X15 PIN
BOTTOM PCB
I/O Extend Port
Magnet
150mAh Battery
Plastic

M5STACK

www.M5Stack.com

Extension

Function or DIY Module

Function Board

1mm thick

2.54mm
2.54mm

M2
M3

Module Shell
Made by 3D Printing ,Molding ,Laser Cutting or CNC

50mm
4mm
36mm
44mm
50mm

R5

M2

2X15 PIN @2.54mm

2X15 SOCKET @2.54mm

2mm
6.6mm

54mm
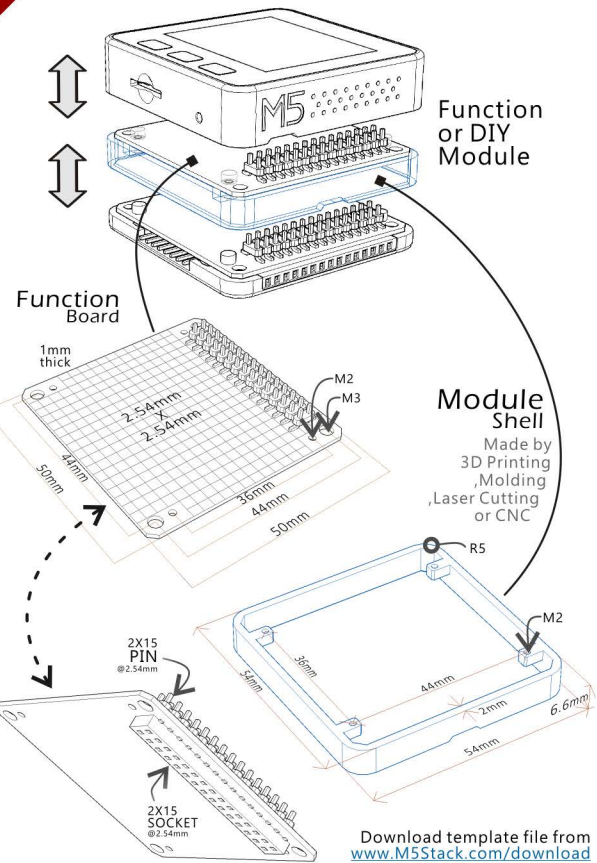
Download template file from
www.M5Stack.com/download

Software Installation

1. Install Arduino IDE.
From: https://www.arduino.cc/en/Main/Software

2. Install M5Stack.
• Run Arduino IDE, and click: File -> Preferences ,

• Click the button like this:

• Add the following URL into the box, and Click OK.
http://www.M5Stack.com/download/package_m5stack_index.json

• Click: Tools -> Board: -> Boards Manager...

• And Select M5Stack-Core-ESP32, Click Install.

• Done!

Hello World!

1. Select: Tools -> Board: -> M5Stack
2. Click: Files->Examples->M5Stack ->Basics->Hello

```
#include <M5Stack.h>
// the setup routine runs once when M5Stack starts up
void setup(){
  // initialize the M5Stack object
  M5.begin();
  // lcd display
  M5.Lcd.printf("Hello World!");
}

// the loop routine runs over and over again forever
void loop(){
}
```

3. Connect to PC or MAC with a usb cable.
4. Select: Tools->Port->ComX.
5. Click: Sketch->Upload.
6. Running.

PC or MAC

Hello World!
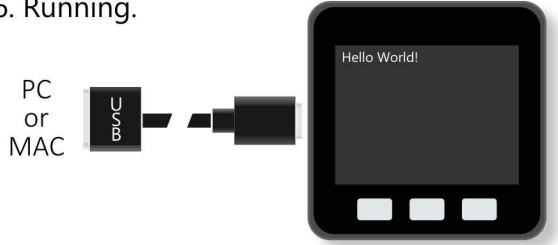
ƒx Function List

SYSTEM
M5.begin();
M5.update();

LCD
M5.Lcd.setLight(int light);
M5.Lcd.setCursor(int x, int y);
M5.Lcd.putChar(int x, int y, char ch);
M5.Lcd.putStr(int x, int y, string str);
M5.Lcd.printf(char* str,...);
M5.Lcd.fillScreen(uint16 color);
M5.Lcd.pixel(int x, int y, uint16 color);
M5.Lcd.line(int x1,y1,x2,y2,uint16 color);
M5.Lcd.drawRect(int x1,y1,x2,y2,uint16 color);
M5.Lcd.fillRect(int x1,y1,x2,y2,uint16 color);

BUTTON
M5.BtnA/B/C.pressed();
M5.BtnA/B/C.released();
M5.BtnA/B/C.held();
M5.BtnA/B/C.repeated();

SPEAKER
M5.Speaker.tone(int freq);
M5.Speaker.mute();
M5.Speaker.setBeep(int freq,int time);
M5.Speaker.beep();

SERIAL
M5.Serial0/2.begin(int bps);
M5.Serial0/2.print(char* str);
M5.Serial0/2.println(char* str);
M5.Serial0/2.read();

Specifications

Model	CORE Kit
ESP32	240 MHz dual core Tensilica LX6 microcontroller with 600 DMIPS, Integrated 520 KB SRAM,Integrated 802.11 b/g/n-HT20 ,n-HT40 Wi-Fi transceiver, baseband, stack and LWIP, Integrated dual mode Bluetooth.
Input	5V @ 500mA
Interface	SPIx1, I2C(GROVE)x1, Uartx2,IISx1, TFx1
LCD	320x240 Colorful TFT LCD, ILI9341
Speaker	1W-0928
Battery	150mAh@3.7V, Bottom module-inside.
Op.Temp.	32°F to 104°F (0°C to 40°C)
Size	54x54x17mm with Bottom, 54x54x12.6mm only CORE.
C.A.S.E	Plastic(PC)
Weight	120g with Bottom, 100g only CORE.