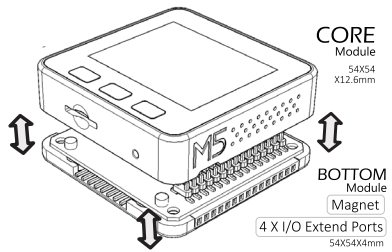


# M5 CORE GREY DEVELOPMENT KIT

- ESP32-Microcontroller with Wifi and Bluetooth
- 5.08 cm (2") LCD, 1W speaker, microSD slot, I2C port, 3D antenna
- 150 mAh Battery, GPIO pins incl. USB-C cable
- Incl. MPU6886 BMM150 motion sensor



- ESP32 Wi-Fi BLE 3D-Antenna 5.08 cm (2") LCD 320x240
- 1W Speaker TYPE-C USB 2A Battery Management
- SD-Reader GROVE I2C Plastic C.A.S.E 3 Buttons BMM150



## Operation

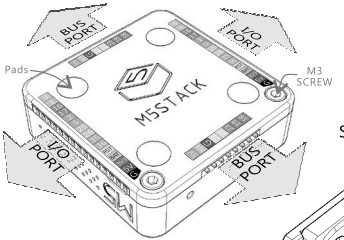
- single press **POWER ON** when using battery. and **RESET**.
- double press **POWER OFF** when using battery.

**TYPE C** Power Supply Charge UART/Upload

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

MicroSD Card (SD-Card) ≤16GB

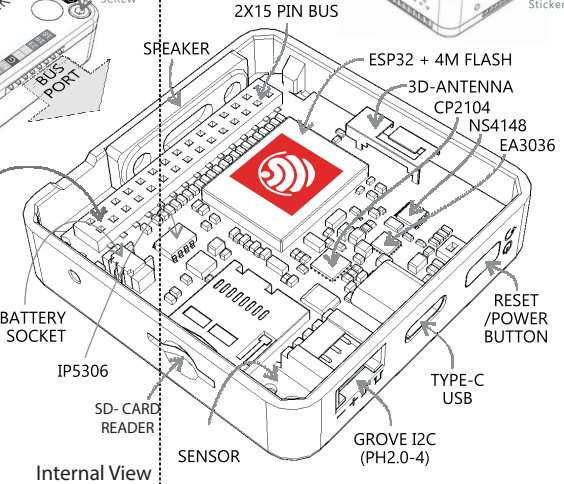
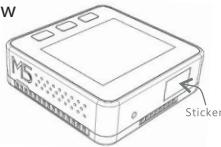
## Bottom View



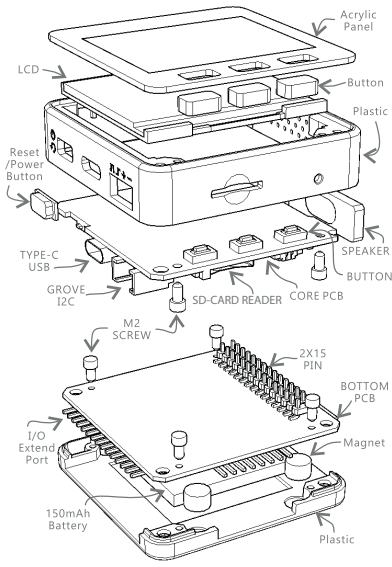
## M BUS

GND	ADC	G35
GND	ADC	G36
GND	RST	EN
G23	MOSI	DAC/SPKG25
G19	MISO	DAC G26
G18	SCK	<b>3.3V</b>
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	<b>5V</b>	
HPWR	<b>BATTERY</b>	

## Side View



## Assembly



Item no. 2179959

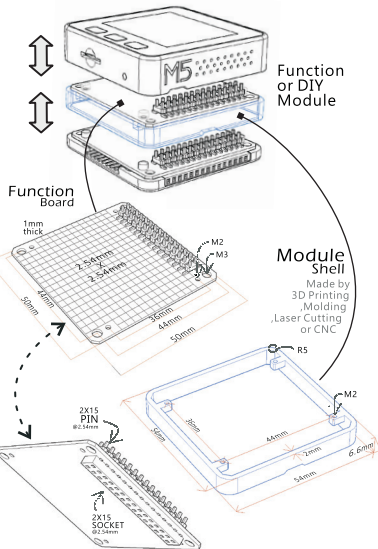


<https://www.conrad.de/>



<https://docs.makerfactory.io/>

## Extension



Function or DIY Module

Module Shell

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

2X15 PIN  
Ø2.54mm

2X15 SOCKET  
Ø2.54mm

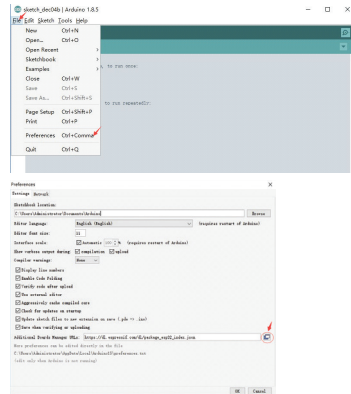
## Quick Start

### 1. Install Arduino IDE.

From: <https://www.arduino.cc/en/Main/Software>

### 2. Download Arduino-ESP32 Support.

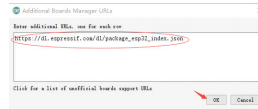
Open Arduino IDE, and click: **File->Preferences->Settings**



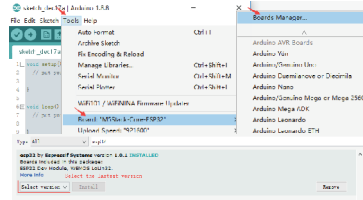
Input last esp32 board manager URL

Now the last board manager URL:

[https://dl.espressif.com/dl/package\\_esp32\\_index.json](https://dl.espressif.com/dl/package_esp32_index.json)

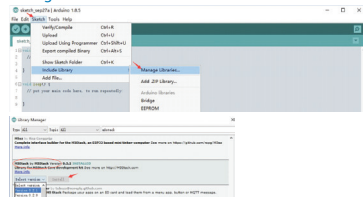


Click **Tools->Board->Boards Manager...ESP32** in the new pop-up dialog, click: **install**



### 3. Download the M5Stack Lib.

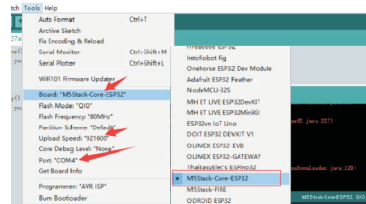
Open Arduino IDE, then select: **Sketch->Include Library->Manage Libraries...** Search **M5Stack** and install it



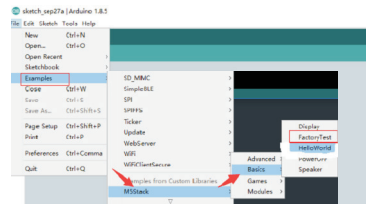
## Example

### 1. Execute a example like **FactoryTest.ino**

Select your board name, baud rate, the specified serial port: M5Stack-Core-ESP32, 921600, COM4. The serial port you will be connected to on your PC is **COM4**



Then select an example like **FactoryTest.ino**



Upload it



### 2. New M5Stack program

Open Arduino IDE, then a new .ino file, rename it **my\_test.ino**

Copy the below code to my\_test.ino

```
#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!");
}

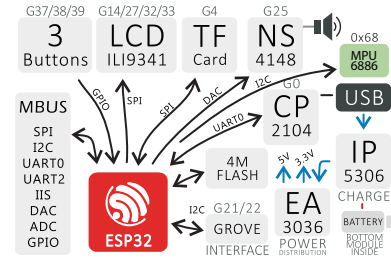
// the loop routine runs over and over again forever
void loop() {
}
```

compile it and upload, the M5Stack screen will show "Hello World!" "M5Stack is running successfully!"

PC or MAC



## Schematic



## Technical Data

Model	CORE Kit
ESP32	240 MHz dual core Tensilica LX6 microcontroller with 600 DMIPS, Integrated 520 KB SRAM, Integrated 802.11 b/g/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	5.08 cm (2") LCD 320x240, color TFT LCD, ILI9342
Sensor	MPU6886 BMM150
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.