



ESP32 GREY Development Kit with 9Axis Sensor

SKU: K002

M5Stack GRAY Kit is from one of the M5Stack development kit series, it's a upgrade from the Basic kits. In comparison, Gray kit provide a extra IMU sensor, MPU6886+BMM150.

With a IMU posture sensor, you can include posture detection in your work : accelerated speed, angulation, and trajectory detection. You can make relative products like sports data collector, 3D remote gesture controller and more.

GRAY is M5 Core device. Its modular, stackable, scalable, and portable device is powered with an ESP-32 core, which makes it open source, low cost, full-function, and easy for developers to handle new product development on all stages include circuit design, PCB design, software, mold design and production.

Ever wanted to explore the fastest way of IoT prototyping, M5Stack development board is the perfect solution. Not like others, M5Stack development board is highly productized, covered with industrial grade case, and **ESP32-based** development board. **ESP32** is a hybrid Wi-Fi & Bluetooth chip contains a dual-core and 4MB of SPI Flash . Together with 30+ M5Stack stackable modules([M5Modules-link](#)), 40+ extendable units([M5Units-link](#)), and different levels of program language, you can create and verify your IoT product in a very short time. Supported development platforms and program languages: Arduino, Blockly language with UIFlow([link](#)), Micropython. Regardless of what level program skill you have, M5Stack would guide you in every step of the way to realize your idea as well as to the final product utilization.

If you ever played with ESP8266, you would realize that ESP32 is a perfect upgrade from ESP8266. In comparison, ESP32 is full-feathered with more GPIO, plenty of analog inputs and two analog outputs, multiple extra peripherals(like a spare UART). Official development platform ESP-IDF have planted with FreeRTOS. With dual-core and real time OS you can get more organized code and much high speed processor.

Features

Product Features

- 5V DC power supply
- USB Type-C
- ESP32-based
- 16 MByte flash + 520K RAM
- MPU6886+BMM150
- Speaker, 3 Buttons, LCD(320*240), 1 Reset
- 2.4G Antenna: Proant 440
- TF card slot (16G Maximum size)
- Battery Socket & 150 mAh Lipo Battery
- Extendable Pins & Holes
- Grove Port
- M-Bus Socket & Pins
- Development Platform [UIFlow](#), [MicroPython](#), [Arduino](#)

ESP32 Features

- 240 MHz dual core Tensilica LX6 microcontroller with 600 DMIPS
- Integrated 520 KB SRAM
- Integrated 802.11b/g/n HT40 Wi-Fi transceiver, baseband, stack and LWIP
- Integrated dual mode Bluetooth (classic and BLE)
- Hall sensor
- 10x capacitive touch interface
- 32 kHz crystal oscillator
- PWM/timer input/output available on every GPIO pin
- SDIO master/slave 50MHz
- SD-card interface support

Kit includes:

- 1x M5Stack Gray Controller
- 1x Basic Base
- 10x Femal-male Dupont
- Type-C USB cable
- User Manual





<https://m5stack.com/products/grey-development-core/10-2-19>