

GRAY M5Stack Manual

FACES Kit is a feast of functional panels, contains the most commonly used panels and keyboards with MEGA328 processor inside, communication protocol through IIC(0x08) as slave mode. With these 3 different panels, it will be very easy to support keyboard interaction with your M5Core. If you up for some classic video game, PyGamer panel plus M5Core is the perfect combination. All you need to do is upload an game simulator onto M5 controller, and attach the PyGamer panel underneath.

Product Features:

- 5V DC power supply
- USB Type-C
- ESP32-based
- 16 MByte flash + 520K RAM
- MPU9250
- 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

Part List:

- 1x GRAY M5Stack Controller(M5Core)
- 1x FACES Charger table
- 1x FACES sling
- 1x panel sticker
- 3x FACES Keyboard(PyGamer, Calculator, QWERTY)
- 10x Femal-male dupont
- 6x M3x10 screw
- 1x hexagon screw key

Peripherals Pin Map

LCD & TF card

LCD: 320x240 TF card Maximum size 16GB

ESP32 Chip	GPIO23	GPIO19	GPIO18	GPIO14	GPIO27	GPIO33	GPIO32	GPIO4
ILI9341	MOSI	/	CLK	CS	DC	RST	BL	
TF Card	MOSI	MISO	CLK					CS

Button & Speaker

ESP32 Chip	GPIO39	GPIO38	GPIO37	GPIO25
Button Pin	BUTTON A	BUTTON B	BUTTON C	
Speaker				Speaker Pin

GROVE Port A & IP5306

We've use the customized I2C version of IP5306, on power management. Its I2C address is 0x75.

ESP32 Chip	GPIO22	GPIO21	5V	GND
GROVE A	SCL	SDA	5V	GND
IP5306	SCL	SDA	5V	GND

Datasheet:

https://github.com/m5stack/M5-Schematic/blob/master/Core/IIC_IP5306_REG_V1.4.pdf

9-Axis Posture Sensor MPU9250

I2C address 0x68

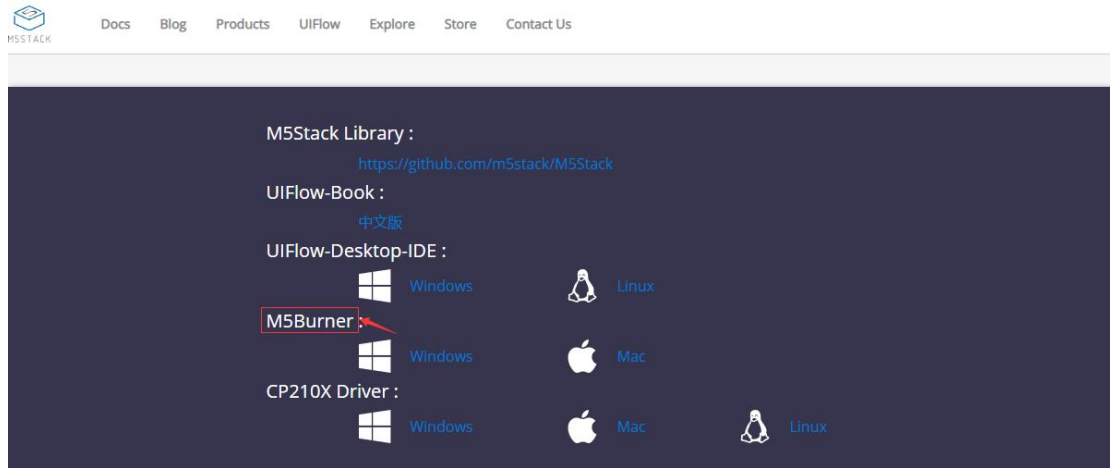
ESP32 Chip	GPIO22	GPIO21	5V	GND
MPU9250	SCL	SDA	5V	GND

Technical details:

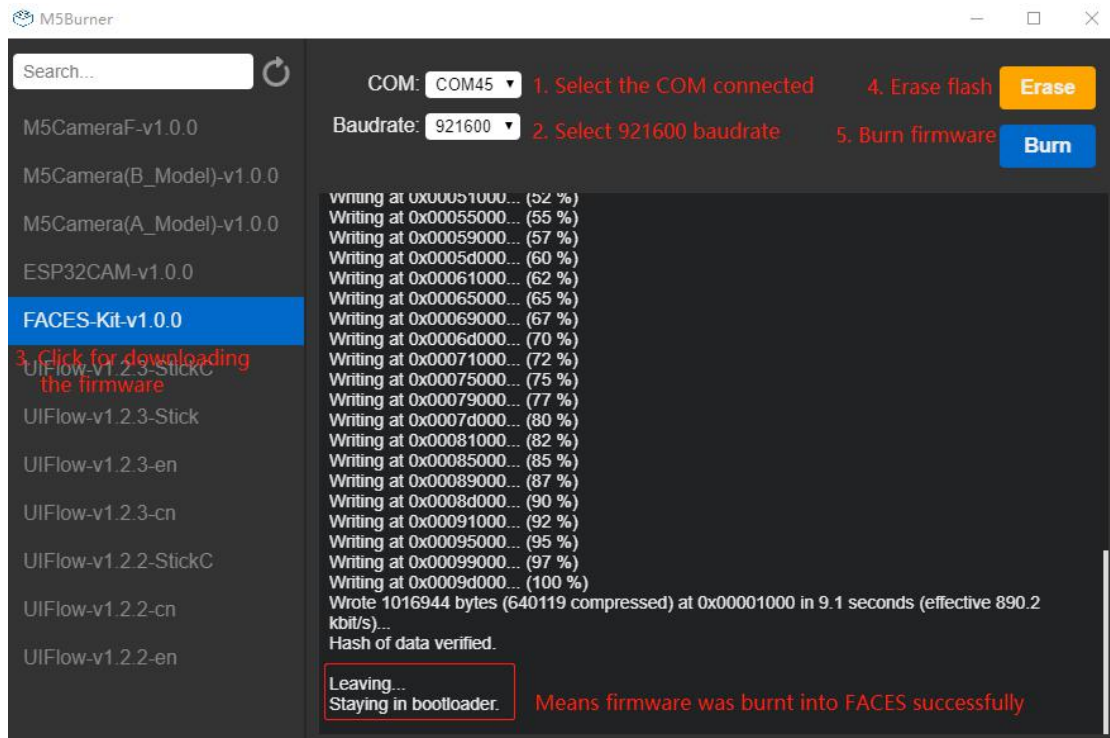
Resources	Parameter
ESP32	240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi, dual mode Bluetooth
Flash Memory	16MB (old: 4MB)
Power Input	5V @ 150mA
Port	TypeC x 1, GROVE(I2C+I/O+UART) x 1
LCD Screen	2 inch, 320x240 Colorful TFT LCD, ILI9341
Speaker	1W-0928
Battery	150mAh @ 3.7V
Operating Temperature	32°F to 104°F (0°C to 40°C)
Size	54 x 54 x 12.5 mm
Case Material	Plastic (PC)

Download the factory test code (Win)

Go to M5stack and download M5Burner.: <https://m5stack.com/pages/download>



Connect FACES to PC thru Type-C.
 Click Erase, wait until erase down.
 Find FACES Kit firmware, click click Burn



Documents:

Datasheet

- ESP32: www.espressif.com/sites/default/files/documentation/esp32_datasheet_cn.pdf

- MPU9250: www.invensense.com/download-pdf/mpu-9250-datasheet/

Register Manual

- IP5306: github.com/m5stack/M5-Schematic/blob/master/Core/IIC_IP5306_REG_V1.4.pdf

M5Core Schematic:

[github.com/m5stack/M5-Schematic/blob/master/Core/Basic/M5-Core-Schematic\(20171206\).pdf](https://github.com/m5stack/M5-Schematic/blob/master/Core/Basic/M5-Core-Schematic(20171206).pdf)

Example: github.com/m5stack/M5Stack/tree/master/examples/Modules/FACES

Panel Firmware: github.com/m5stack/FACES-Firmware

PyGamer

Burn A Nes Game

Download NES Game {docsify-ignore-all}

Here teaches you how to setup a game simulator, and burn some classic game onto the device.

CONTENT:

https://github.com/m5stack/m5-product-docs/blob/master/core/faces-kit/gameboy_burn_a_nes_game.md#%E4%B8%8B%E8%BD%BD%E5%9B%BA%E4%BB%B6

1. download firmware
2. download firmware and game file
3. Reboot FACES