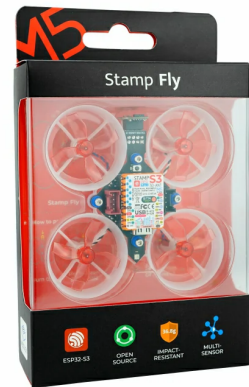
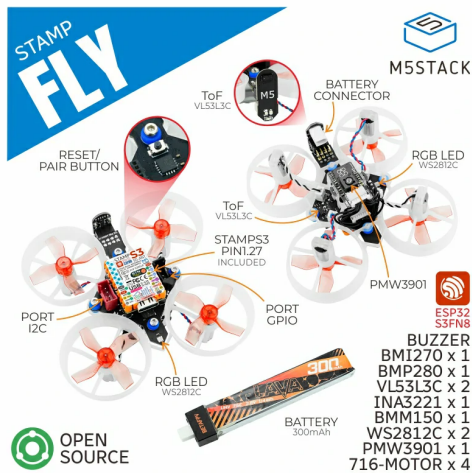


Stamp Fly

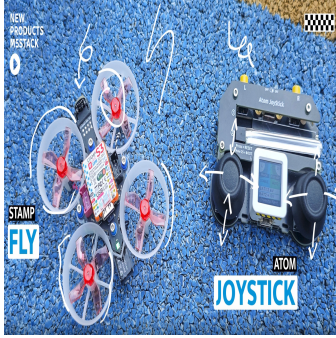
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Description

M5Stamp Fly is a programmable open-source quadcopter kit, featuring the **StampS3** as the main controller. It integrates a **BMI270** 6-axis gyroscope and a **BMM150** 3-axis magnetometer for attitude and direction detection. The BMP280 barometric pressure sensor and two VL53L3 distance sensors enable precise altitude hold and obstacle avoidance. The PMW3901MB-TXQT optical flow sensor provides displacement detection. The kit includes a buzzer, a reset button, and **WS2812** RGB LEDs for interaction and status indication. It is equipped with a 300mAh high-voltage battery and four high-speed coreless motors. The PCB features an **INA3221AIRGVR** for real-time current/voltage monitoring and has two Grove connectors for additional sensors and peripherals. Preloaded with debugging firmware, the Stamp Fly can be controlled using an Atom Joystick via the **ESP-NOW** protocol. Users can choose between automatic and manual modes, allowing for easy implementation of functions like precise hovering and flips. The firmware source code is **open-source**, making the product suitable for education, research, and various drone development projects.

[StampFly & Atom Joystick Firmware Flashing](#)



StampFly & Atom Joystick Firmware Flashing and Getting Started Guide

This tutorial will guide you through using M5Burner to flash the factory firmware onto the StampFly & Atom Joystick, pairing them, and the basic operations and instructions for the quadcopter.

Charge

When the battery is depleted, insert the battery into the charging slot of the Atom Joystick. Connect the data cable to the Atom Joystick to start charging.

Battery maintenance

1. Never discharge the battery to a level below 3V per cell with load.
2. Do not store fully charged batteries for more than 3 days. For long-term storage, maintain the voltage between 3.8V and 3.9V.

Product Features

- M5StampS3 as the main controller
- BMP280 for barometric pressure detection
- VL53L3 distance sensors for altitude hold and obstacle avoidance
- 6-axis attitude sensor
- 3-axis magnetometer for direction detection
- Optical flow detection for hovering and displacement detection
- Buzzer
- 300mAh high-voltage battery
- Current and voltage detection
- Grove connector expansion

Includes

- 1x Stamp Fly
- 1x 300mAh high-voltage lithium battery

Applications

- Education
- Research
- Drone development
- DIY projects

Specifications

Specification	Parameter
M5StampS3	ESP32-S3@Xtensa LX7, 8M-FLASH, WiFi, OTG\CDC support
Motor	716-17600kv
Distance Sensor	VL53L3CXV0DH/1 (0x52) @ max 3m
Optical Flow Sensor	PMW3901MB-TXQT
Barometric Sensor	BMP280 (0x76) @ 300-1100hPa
3-axis Magnetometer	BMM150 (0x10)
6-axis IMU Sensor	BMI270
Grove	I2C+UART
Battery	300mAh 1S high-voltage lithium battery
Battery output voltage	4.35V

Battery life	约4分钟
Current/Voltage Detection	INA3221AIRGVR (0x40)
Buzzer	Built-in Passive Buzzer @ 5020
operating temperature	0-40°C
Product Size	81.5*81.5*31mm
Packaging Size	162*99*36mm
Product Weight	36.8g
Packaging Weight	70.7g



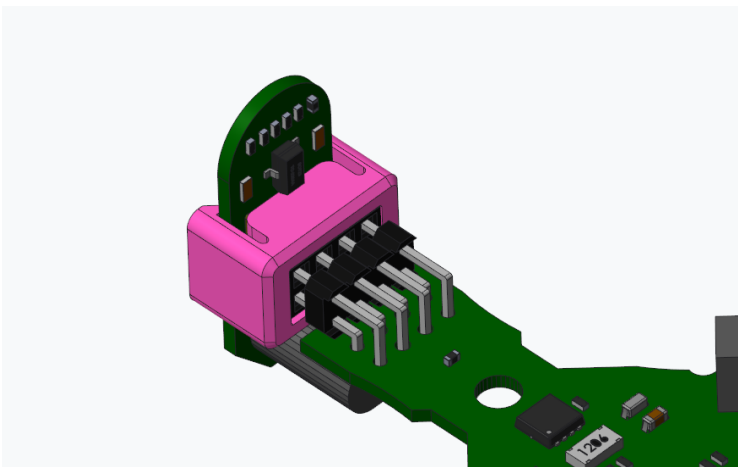
EasyLoader

EasyLoader is a simple and fast program burner that comes with a product-related example program. By following a few easy steps, you can burn the program to the main controller and perform a series of functional verifications.

[Download Windows Version EasyLoader](#)

Related Links

- [VL53L3 \(ToF\)](#)
- [PMW3901MB-TXQT \(Optical Flow Sensor Chip\)](#)
- [BMP280 \(Pressure Sensor Chip\)](#)
- [BMM150 \(3D Magnetometer Compass\)](#)
- [BMI270 \(6-axis Inertial Measurement Unit \(IMU\) Sensor\)](#)
- [Battery anti-dork STL structure file](#)



Schematic Diagram

Stamp Fly (StampS3)	G3	G4
INA3221AIRGVG	INA_SDA	INA_SCL
BMM150	INA_SDA	INA_SCL
BMP280	INA_SDA	INA_SCL
VL53L3	INA_SDA	INA_SCL

SPI Interface

Stamp Fly (StampS3)	G14	G44	G43	G46	G12
BMI270	MOSI	SCK	MISO	CS	
PMW3901MB-TXQT	MOSI	SCK	MISO		CS2

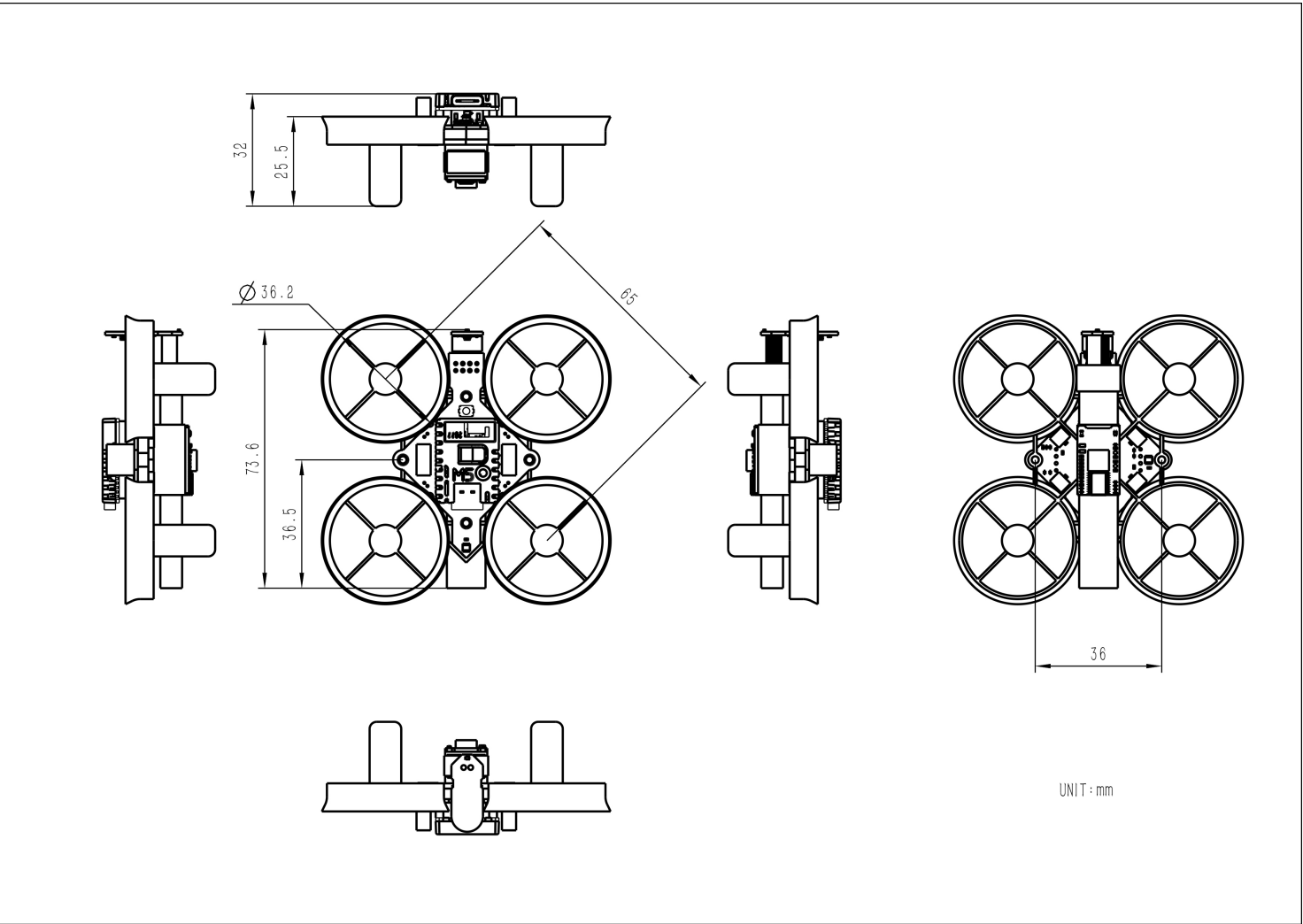
Grove Interface

Stamp Fly (StampS3)	G13	G15	G1	G2
Grove (RED)	SDA	SCL		
Grove (BLACK)			GROVE I	GROVE O

Buzzer and RGB LEDs

Stamp Fly (StampS3)	G12	G14
BEEP	BEEP	
WS2812		RGB

Module Size



Example

Arduino

[M5StampFly firmware source code](#)

| Video

- Atom JoyStick with Stamp Fly quadcopter basic function demonstration

[StampFly、AtomJoyStick video.mp4](#)