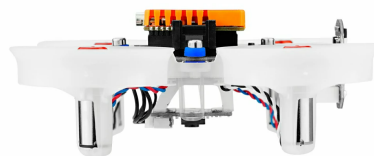
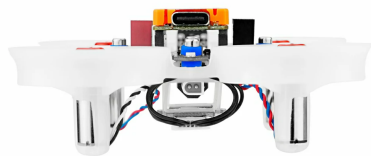


StampFly v1.1

SKU:K138-V11





Description

StampFly v1.1 is a programmable open-source quadcopter kit, an iterative upgrade of the StampFly series. The core improvement is the main control module upgraded from Stamp-S3 to the more powerful Stamp-S3A, with a newly optimized antenna structure design that significantly enhances wireless signal reception performance, resulting in a more stable remote connection.

The drone integrates a BMI270 six-axis gyroscope and a BMM150 three-axis magnetometer for accurate attitude and orientation detection. Paired with a BMP280 pressure sensor and two VL53L3 distance sensors, it achieves stable precise altitude hold and intelligent obstacle avoidance. Onboard buzzer, reset button, and WS2812 RGB LED are used for human-machine interaction and device status indication. It comes with a 320mAh high-voltage battery and four high-speed coreless motors, providing ample power output.

An onboard INA3221AIRGVR chip monitors real-time current and voltage. Two Grove expansion interfaces are reserved for flexible connection of various sensors and peripherals. The product is pre-loaded with a debugging program. When used with the Atom Joystick remote controller, it establishes wireless communication via the ESP-NOW protocol, supporting both manual and automatic flight modes, enabling features like fixed-point hovering and aerial flips. The complete firmware source code is open-source, facilitating secondary development and feature customization. It is suitable for STEM education, scientific research experiments, drone project development, and embedded learning training.

Tutorial



StampFly & Atom Joystick Tutorial

This tutorial will introduce you to using M5Burner to flash the factory firmware on StampFly & Atom Joystick, pairing, and the basic operation and indicators of the quadcopter.

Note

Charging Notice

Connect the battery to the charging slot of the Atom Joystick, then connect the data cable to the Atom Joystick to start charging.

Battery Maintenance

1. Do not discharge the battery below 3V per cell under load.
2. Do not store a fully charged battery for more than 3 days. For long-term storage, keep the voltage between 3.8V and 3.9V.

Features

- Stamp-S3A main controller
- BMP280 atmospheric pressure detection
- VL53L3 distance sensor for altitude hold and obstacle avoidance
- 6-axis attitude sensor
- 3-axis magnetometer for direction detection
- 320mAh high-voltage battery
- Current and voltage detection
- Grove expansion interface

Includes

- 1x Stamp Fly v1.1
- 1x 320mAh battery
- 1x Propeller remover
- 2x Propeller (0.8mm hole diameter)

Applications

- STEM education
- Open-source DIY creative projects
- Drone R&D
- Intelligent flight algorithm validation

Specifications

Specification	Parameter
Module	Stamp-S3A
SoC	ESP32-S3@Xtensa LX7 dual-core, 240MHz
USB	USB OTG, USB Serial/JTAG
Flash	8MB
Wi-Fi	2.4 GHz Wi-Fi
Drive Motors	716-17600kv
Distance Sensor	VL53L3C (7-bit accuracy, max range 3m)
Pressure Sensor	BMP280 (sensing range: 300~1100hPa)
3-Axis Magnetometer	BMM150
6-Axis Attitude Sensor	BMI270
Interface	I2C / UART
Battery	320mAh battery
Battery Output Voltage	4.35V
Flight Time	Approx. 4 minutes
Charging Parameters	Input 5V@1A, full charge approx. 55 minutes
Monitoring Chip	INA3221AIRGVR voltage/current monitor
Buzzer	Onboard 5020 passive buzzer
Operating Temperature	0 ~ 40°C
Product Weight	27.6g
Product Size	73.6 x 73.6 x 32.0mm
Package Size	126.0 x 99.0 x 30.0mm
Gross Weight	80.0g

| Learn

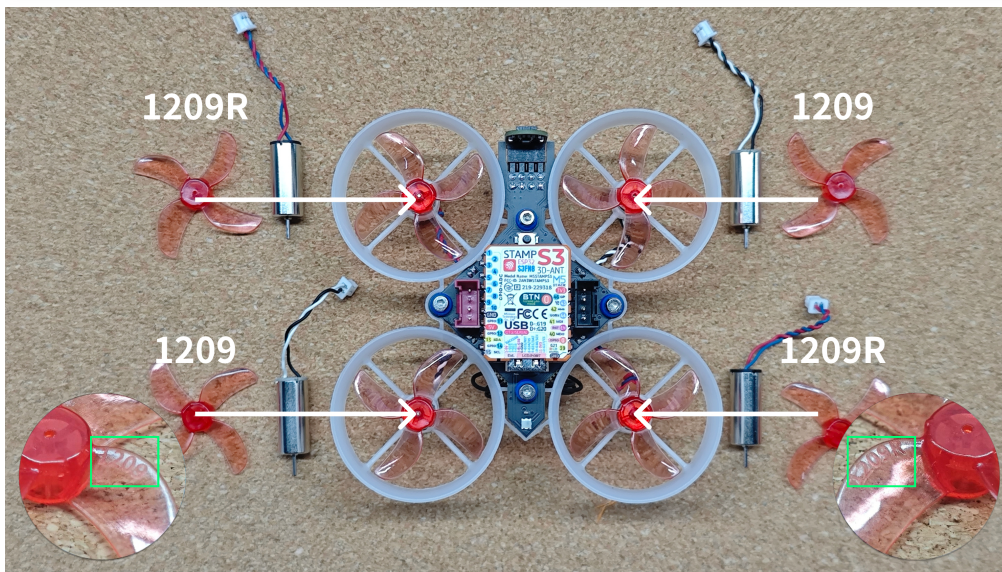
BMM150 Magnetic Interference

Products with magnets may interfere with the BMM150 magnetic sensor, causing abnormal readings. When used with M5 main controllers that contain magnets, the magnet must be removed, and the BMM150 sensor should be kept away from strong magnetic fields.

Propeller Installation Direction Diagram

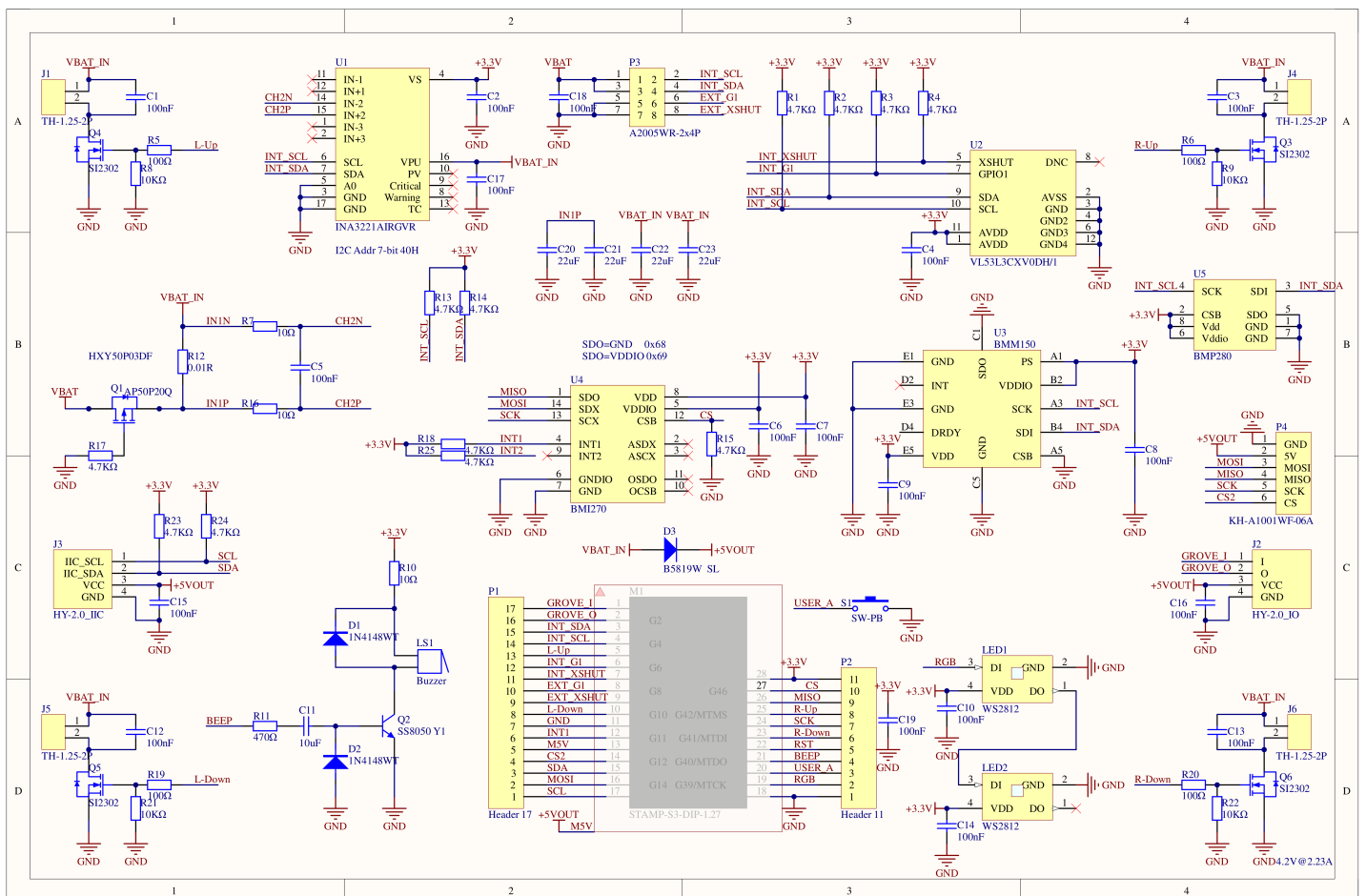
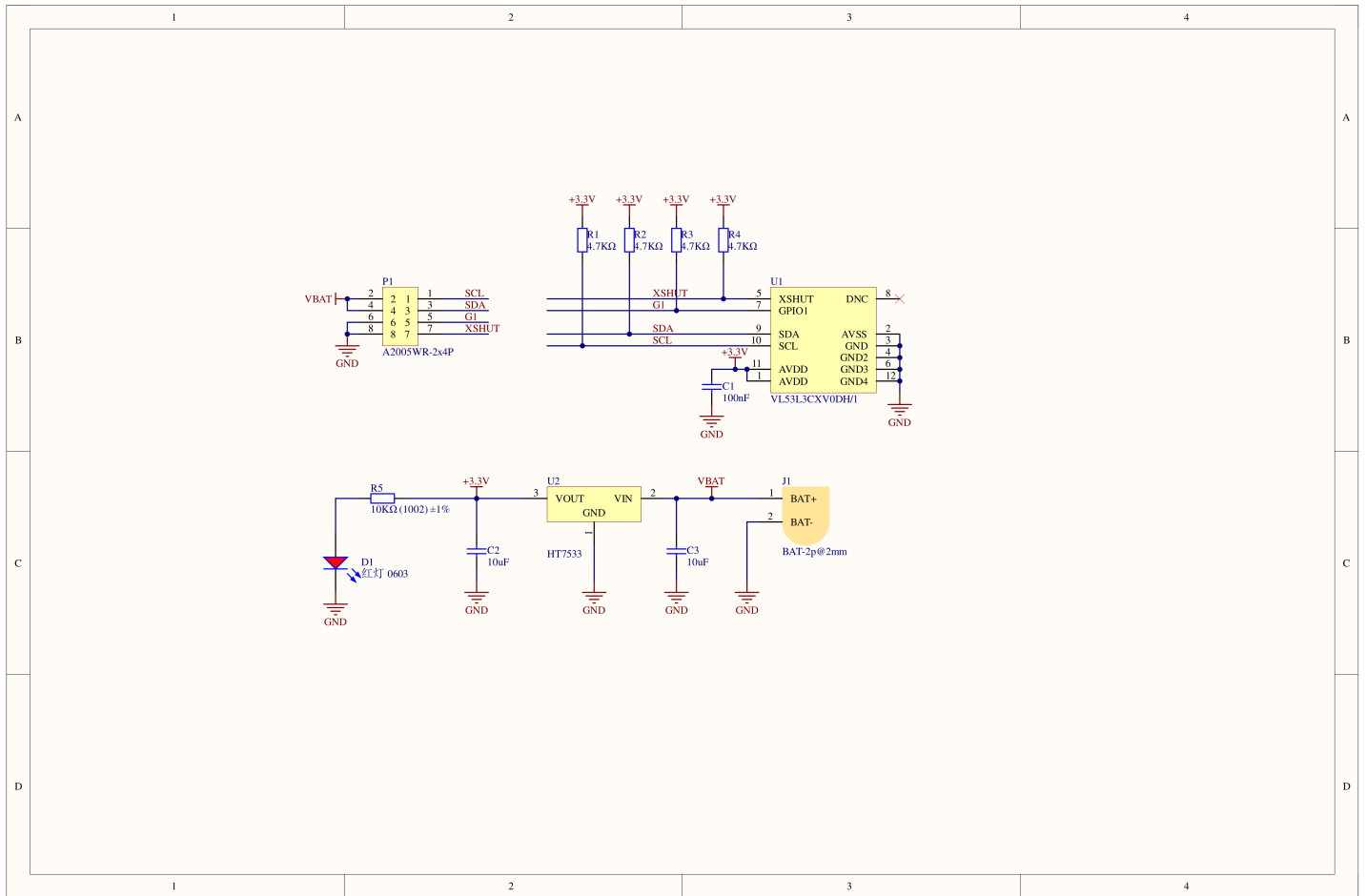
Note

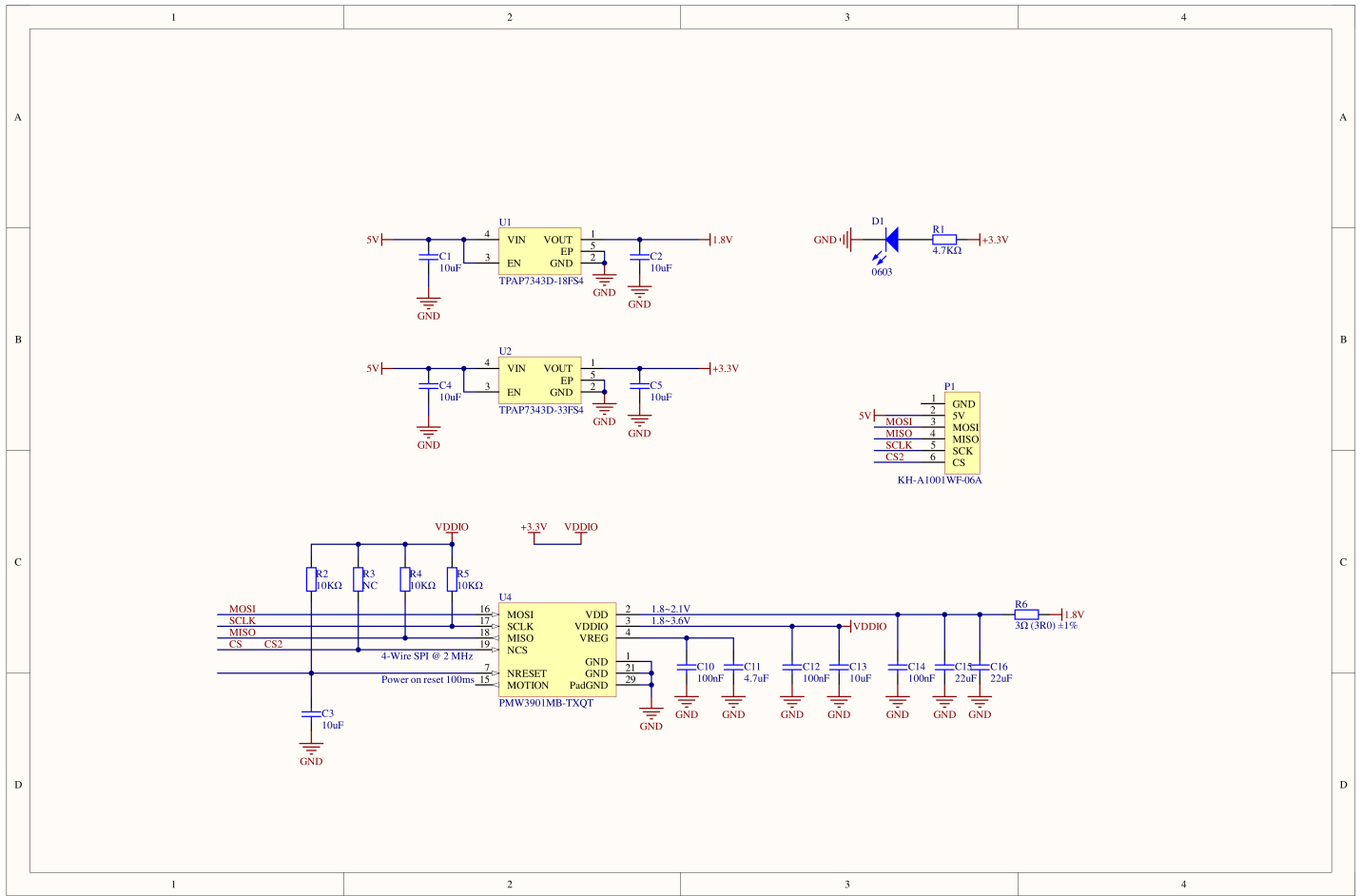
Use the [StampFly Repair Kit](#) to replace the propellers. Please check the propeller orientation during installation; incorrect mounting will prevent the device from working properly.



Schematics

- [StampS3_Fly_Hat Schematic PDF](#)
- [Stamp_Fly Schematic PDF](#)
- [PMW3901MB Schematic PDF](#)





PinMap

I2C Interface

StampFly v1.1 (Stamp-S3A)	G3	G4
INA3221AIRGVG (0x40)	INA_SDA	INA_SCL
BMM150 (0x10)	INA_SDA	INA_SCL
BMP280 (0x76)	INA_SDA	INA_SCL
VL53L3 (0x29)	INA_SDA	INA_SCL

SPI Interface

StampFly v1.1 (Stamp-S3A)	G14	G44	G43	G46	G12
BMI270	MOSI	SCK	MISO	CS	
PMW3901MB-TXQT	MOSI	SCK	MISO		CS2

Grove Interface

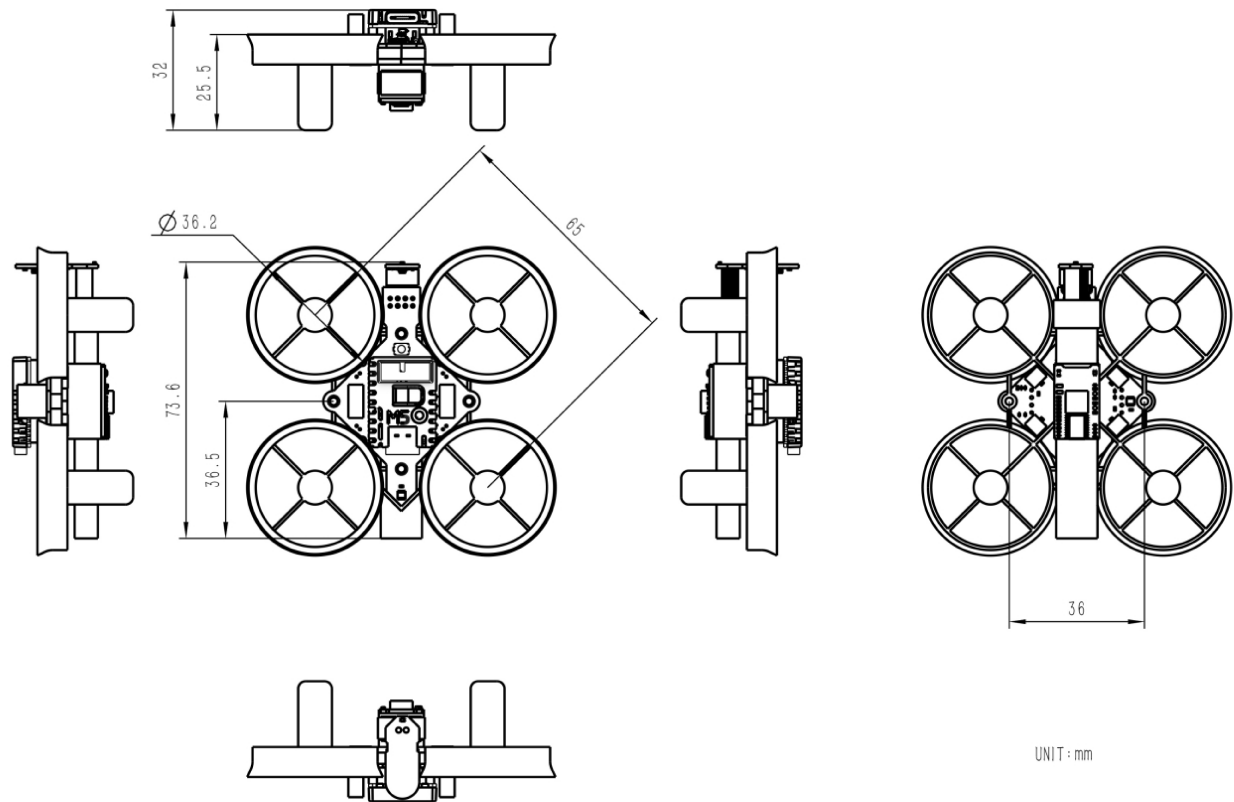
StampFly v1.1 (Stamp-S3A)	G13	G15	G1	G2
Grove (RED)	SDA	SCL		
Grove (BLACK)			GROVE I	GROVE O

Buzzer and RGB LED

StampFly v1.1 (Stamp-S3A)	G40	G39
BEEP	BEEP	
WS2812		RGB

Model Size

- [StampFly v1.1 Model Size PDF](#)



Structure

- [StampFly v1.1 Structure Files](#)

Datasheets

- [VL53L3\(ToF\)](#)
- [PMW3901MB-TXQT](#)
- [BMP280](#)
- [BMM150](#)
- [BMI270](#)

Softwares

Arduino

- [StampFly v1.1 Firmware](#)

Easyloader

Easyloader	Download Link	Note
StampFly Firmware Easyloader	download	/

Video

- Basic function demonstration of Atom Joystick with Stamp Fly quadcopter

[StampFly](#)、[AtomJoyStick video.mp4](#)

Product Comparison

Product Compare		
 StampFly v1.1  StampFly		
Core Module	Stamp-S3A	StampS3
Antenna Design	Optimized design, stronger signal	Standard design
StampS3 Module Boot Button	Optimized button feel, button spec 4.0 x 3.0 x 2.0mm	Button spec 2.6 x 1.6 x 0.55mm
Power Consumption	Optimized for lower power consumption	Standard design
Battery Capacity	320mAh	300mAh