

Specifications

Product Name	SpeedyBee F405 V3 30x30 Flight Controller
MCU	STM32F405
IMU(Gyro)	BMI270
USB Port Type	Type-C
Barometer	Built-in
OSD Chip	AT7456E chip
BLE Bluetooth	Supported. Used for Flight Controller configuration
DJI Air Unit Connection Way	Two ways supported: 6-pin connector or direct soldering.
Blackbox MicroSD Card Slot	*Betaflight firmware requires the type of the microSD card to be either Standard (SDSC) or High capacity (SDHC),so extended capacity cards (SDXC) are not supported(Many high-speed U3 cards are SDXC). Also the card MUST be formatted with the FAT16 or FAT32 (recommended) filesystems. So, you could use any SD card less than 32GB, but the Betaflight can only recognize 4GB maximum. We suggest you use this 3rd party formatting tool and choose 'Overwrite format' then format your card.
BetaFlight Camera Control Pad	Yes(CC pad on the front side)
Current Sensor Input	Supported. For SpeedyBee BLS 50A ESC, please set scale = 386 a
Power Input	3S - 6S Lipo(Through G, BAT pins/pads from the 8-pin connector or bottom side)
5V Output	9 groups of 5V output, four +5V pads and 1 BZ+ pad(used for Buzz and 4x LED 5V pads. The total current load is 2A.
9V Output	2 groups of 9V output, one +9V pad on front side and other included on bottom side. The total current load is 2A.

3.3V Output	Supported. Designed for 3.3V-input receivers. Up to 500mA current
4.5V Output	Supported. Designed for receiver and GPS module even when the f through the USB port. Up to 1A current load.
ESC Signal	M1 - M4 on bottom side and M5-M8 on front side.
UART	5 sets(UART1, UART2, UART3, UART4(For ESC Telemetry), UART
ESC Telemetry UART	R4(UART4)
I2C	Supported. SDA & SCL pads on front side. Used for magnetometer,
Traditional Betaflight LED Pad	Supported. 5V, G and LED pads on bottom of the front side. Used fo controlled by Betaflight firmware.
Buzzer	BZ+ and BZ- pad used for 5V Buzzer
BOOT Button	Supported. [A]. Press and hold BOOT button and power the FC on at the same time will force the FC to enter DFU mode, this is for firmware flashing when the FC gets bricked. [B]. When the FC is powered on and in standby mode, the BOOT button can be used to controller the LED strips connected to LED1-LED4 connectors on the bottom side. By default, short-press the BOOT button to cycle the LED displaying mode. Long-press the BOOT button to switch between SpeedyBee-LED mode and BF-LED mode. Under BF-LED mode, all the LED1-LED4 strips will be controlled by Betaflight firmware.
RSSI Input	Supported. Named as RS on the front side.
SmartPort	Use any TX pad of UART for the SmartPort feature.
Supported Flight Controller Firmware	BetaFlight(Default), EMUFlight, INAV
Firmware Target Name	SPEEDYBEEF405V3
Mounting	30.5 x 30.5mm(4mm hole diameter)

Dimension	41.6(L) x 39.4(W) x 7.8(H)mm
Weight	9.6g

Product Name	SpeedyBee BLS 50A 30x30 4-in-1 ESC
Firmware	BLHeli_S JH50
Wireless Configuration	Full Configuration Supported in the SpeedyBee app
PC Configurator Download Link	https://esc-configurator.com/
Continuous Current	50A * 4
Burst Current	55A(5S)
TVS Protective diode	Yes
External Capacitor	1500uF Low ESR Capacitor(In the package)
ESC Protocol	DSHOT300/600
Power Input	3-6S LiPo
Power Output	VBAT
Current Sensor	Support (Scale=386 Offset=0)
Mounting	30.5 x 30.5mm(4mm hole diameter)
Dimension	45.6(L) * 44(W) * 6.1mm(H)
Weight	13.8g

SpeedyBee F405 V3 BLS 50A Stack

**So so many cool features,
at an unbelievable price!**



Wireless FC & ESC
Full Configuration



Real 50A 4-in-1
BlheliS ESC



Onboard 4-level
Battery Indicators



8 Motors Support



SD Card Slot
4GB Max Blackbox



4 x LED Strips
Soldering Pads



Change Motor
Direction Wirelessly



1500uF Huge
Filtering Capacitor



DJI Air Unit
Plug and Play



Sufficient 4 x UARTs



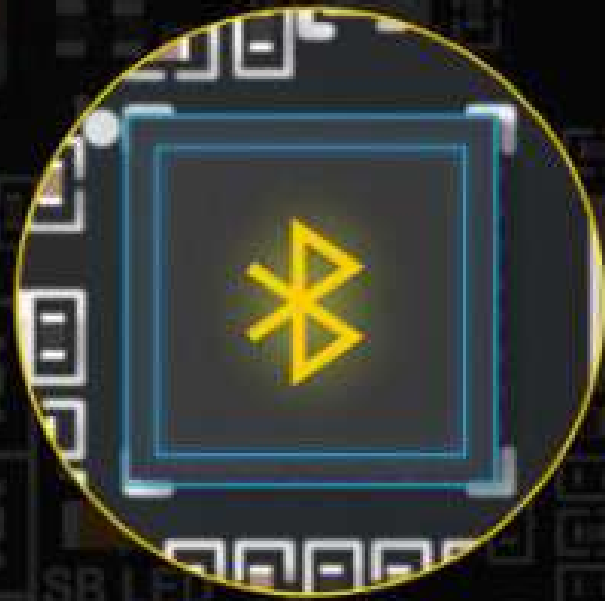
5V 2A & 9V 2A
Individual BECs



Built-in Barometer

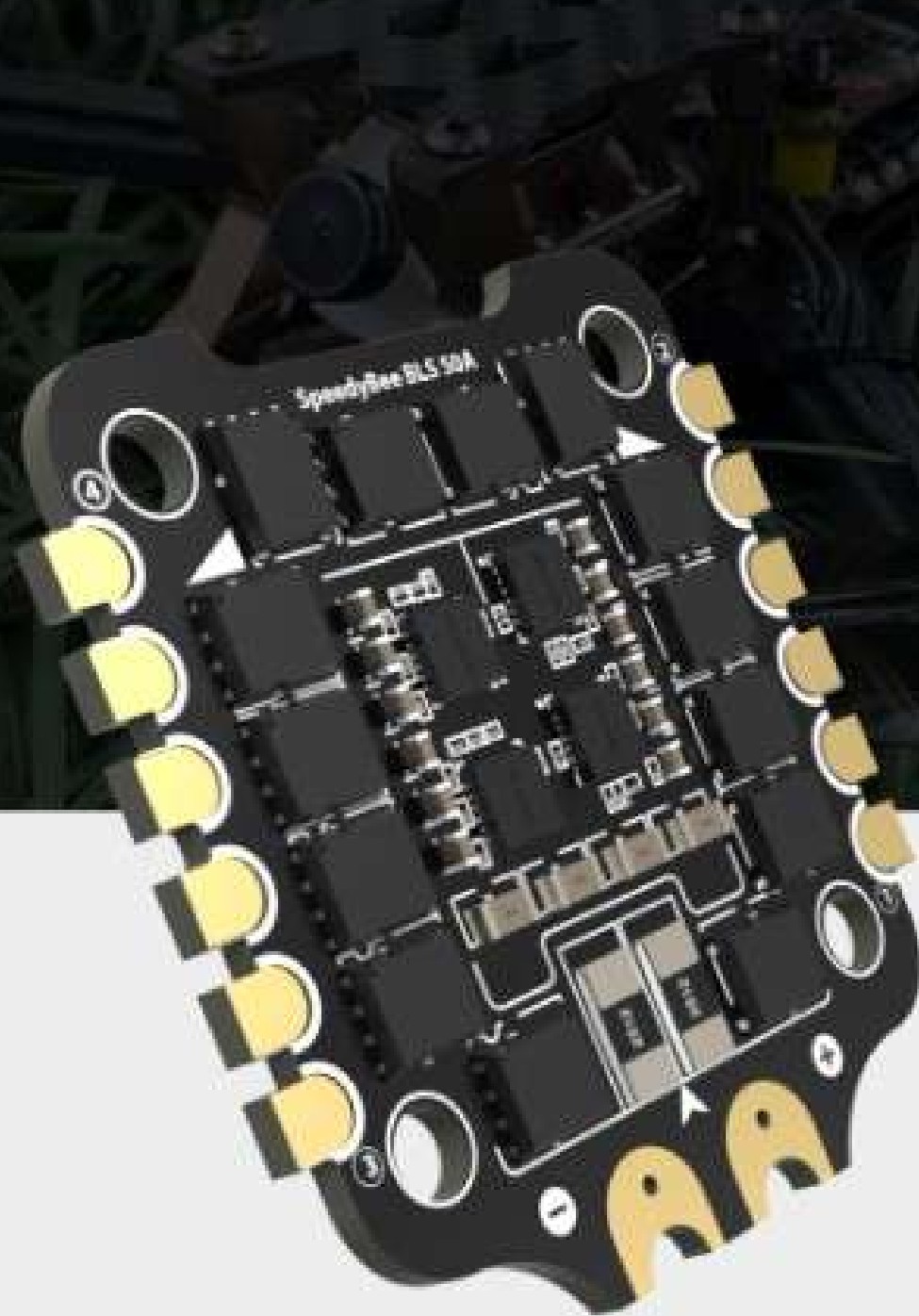
Configure your FC and ESC via Bluetooth

With SpeedyBee app, turn your phone into an all-in-one FC configurator and tune your quad anytime, anywhere. Experience wireless, fully configurable ESC experience with SpeedyBee app.



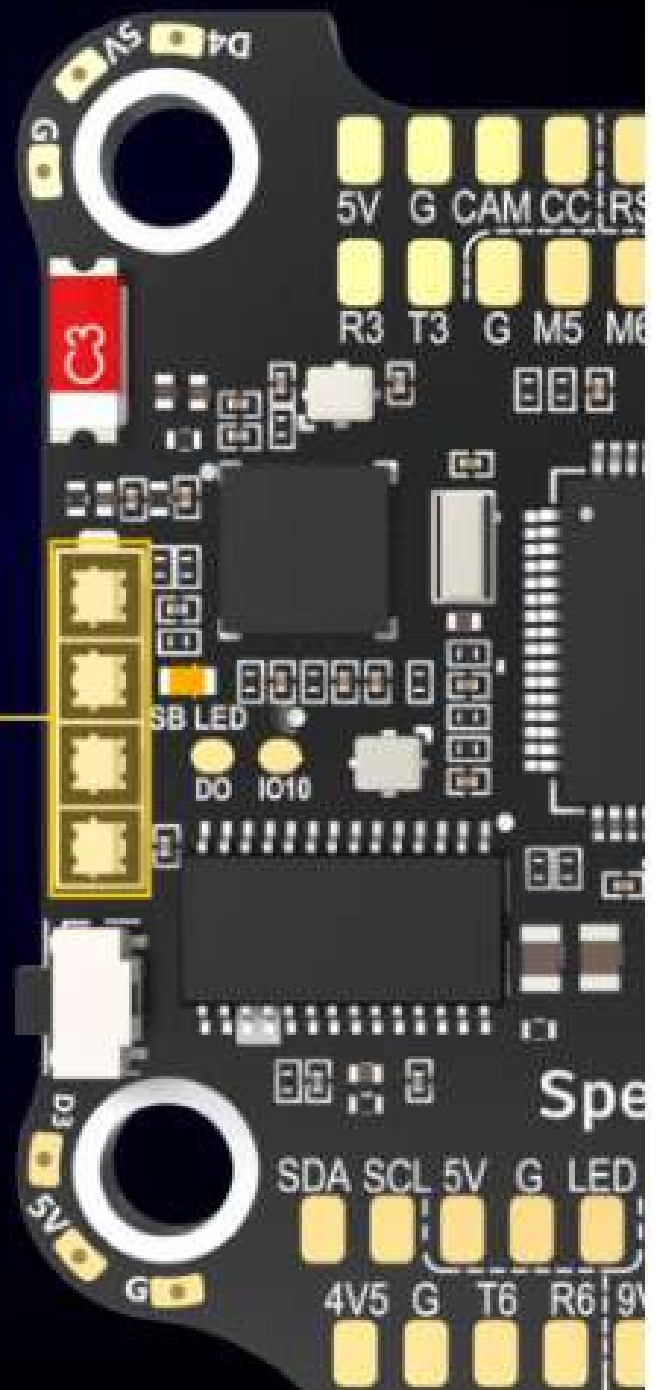
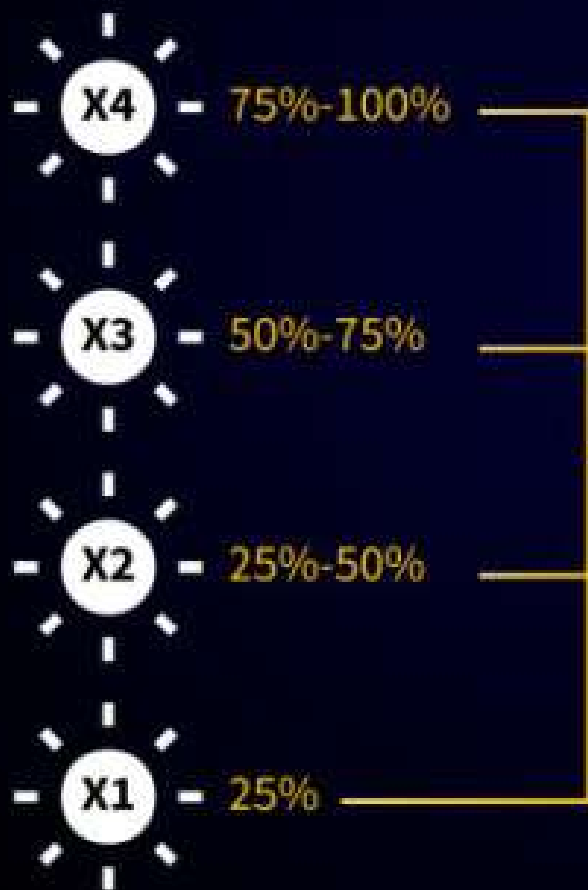
Powerful Real 50A 4-in-1 ESC!

Built with the robust BB21 MCU and large motor pads for easy soldering. Built with Japan made TDK filtering SMT capacitors + onboard TVS protective diode, brings smooth flight experience. Real 50A output, ready for your baddest 6S motors.



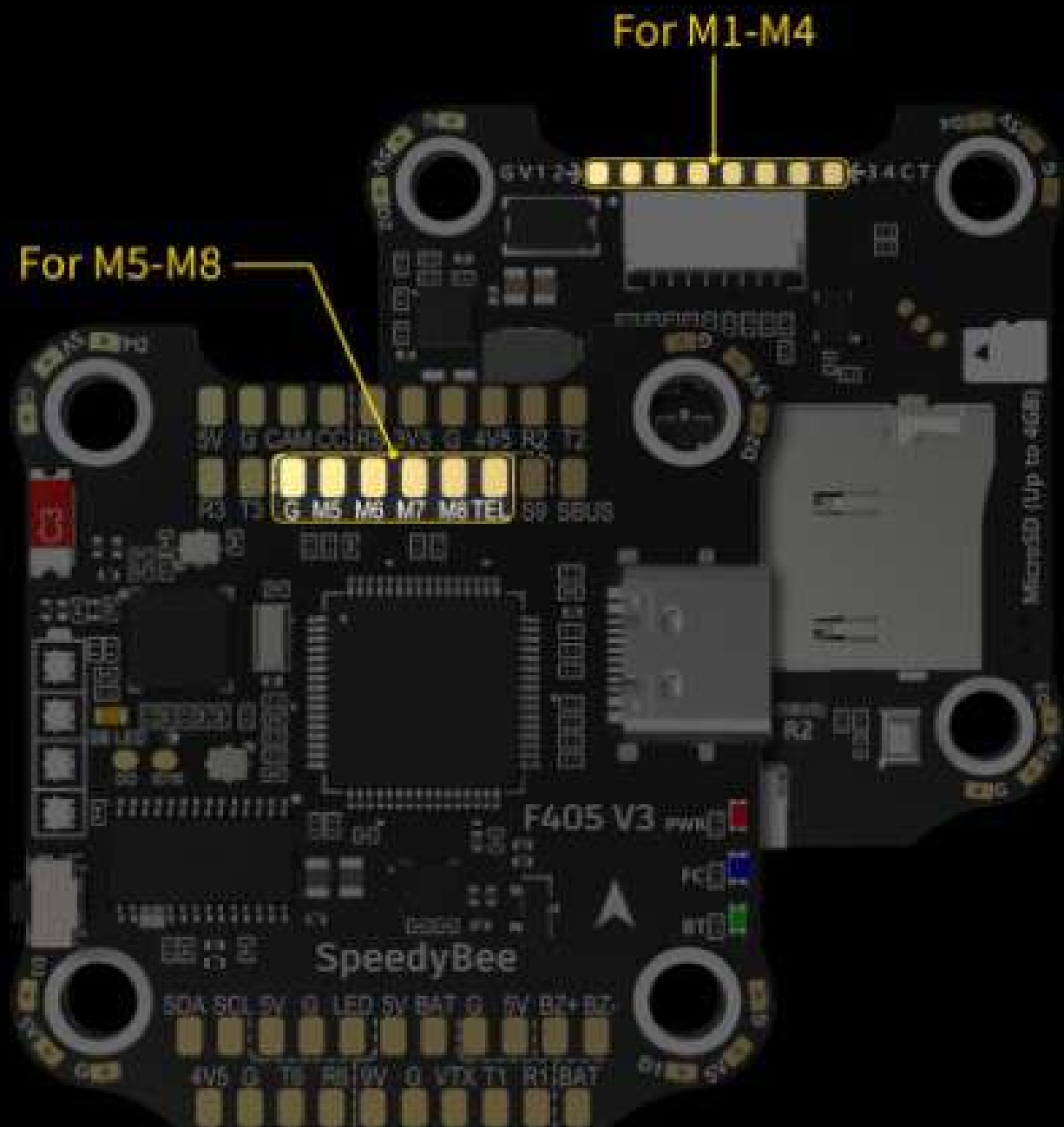
Forgot your LiPo checker? Just look at the FC!

Built with a 4-level LED battery indicator, now you can fly anywhere worry-free- even without your lipo checker!



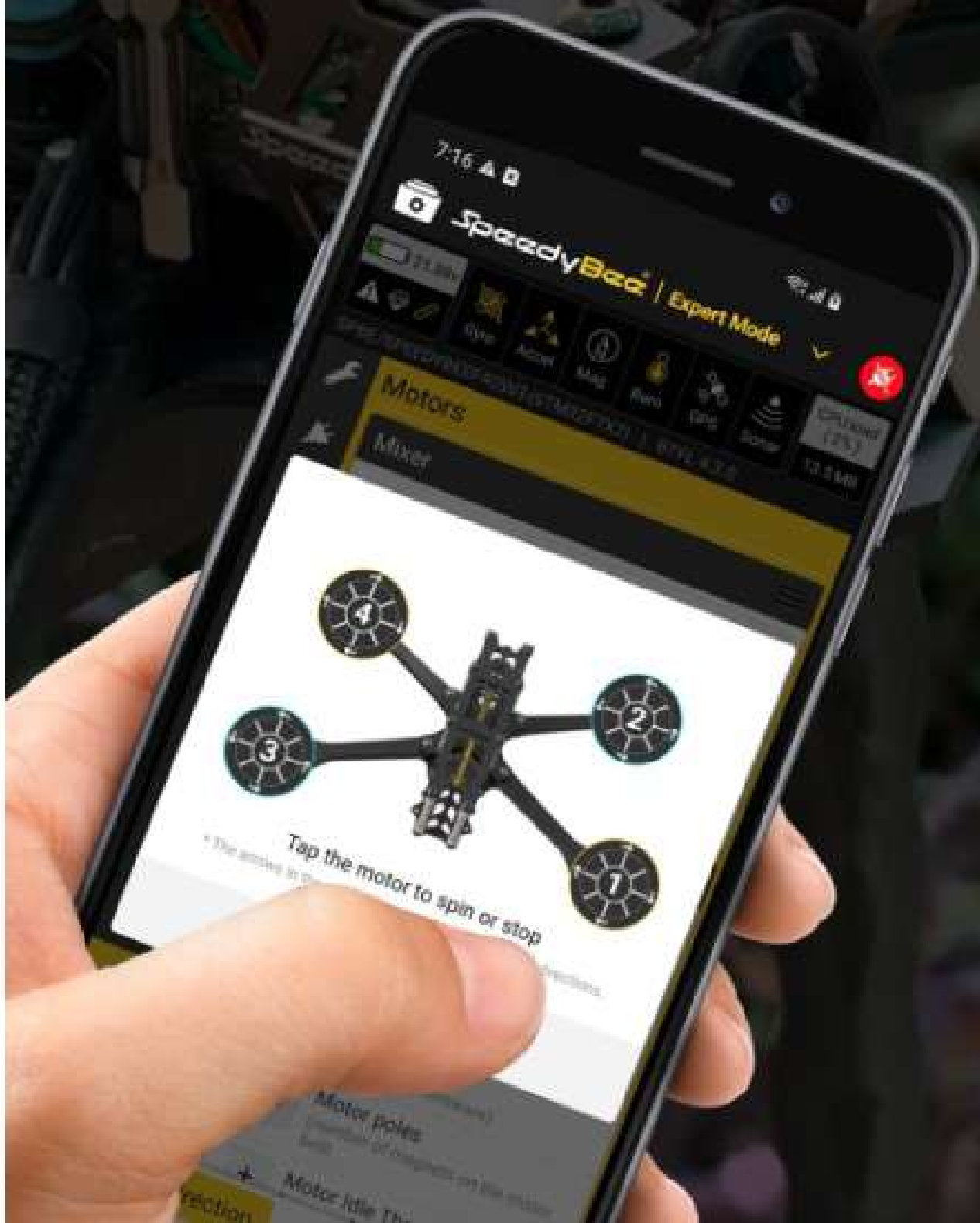
8 motors output for X8/Y6/ fixed-wings

You could use this stack to build your X8 drones, Y6 drones or fixed wings. Forget about crawling through your massive build just to plug in that USB cable. Just take out your phone to configure everything in the SpeedyBee app.



Change motor directions wirelessly!

Finishing your latest build? Just replaced your motor after a crash? Take your smartphone out, and configure your motor direction wirelessly with the latest SpeedyBee app. Works for all BLHeli32 / BLHeli_S / BlueJay ESCs.

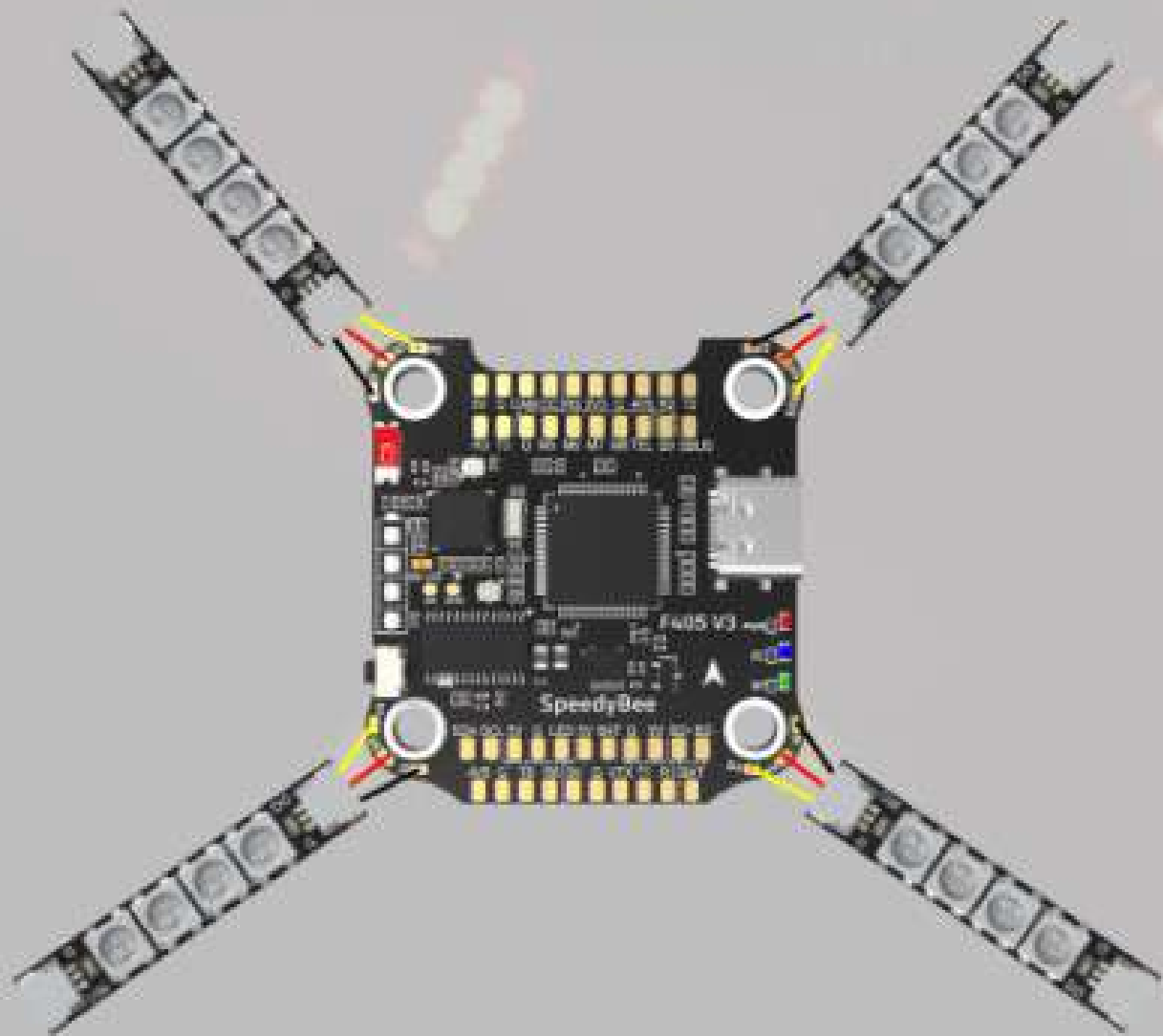


4 sets of LED pads with simple switching

Need more visibility at night? Just solder up your LED strips* and blaze the darkest trail you can find. With just one tap on the BOOT button, you can cycle through all different LED presets** and pick the one you love!

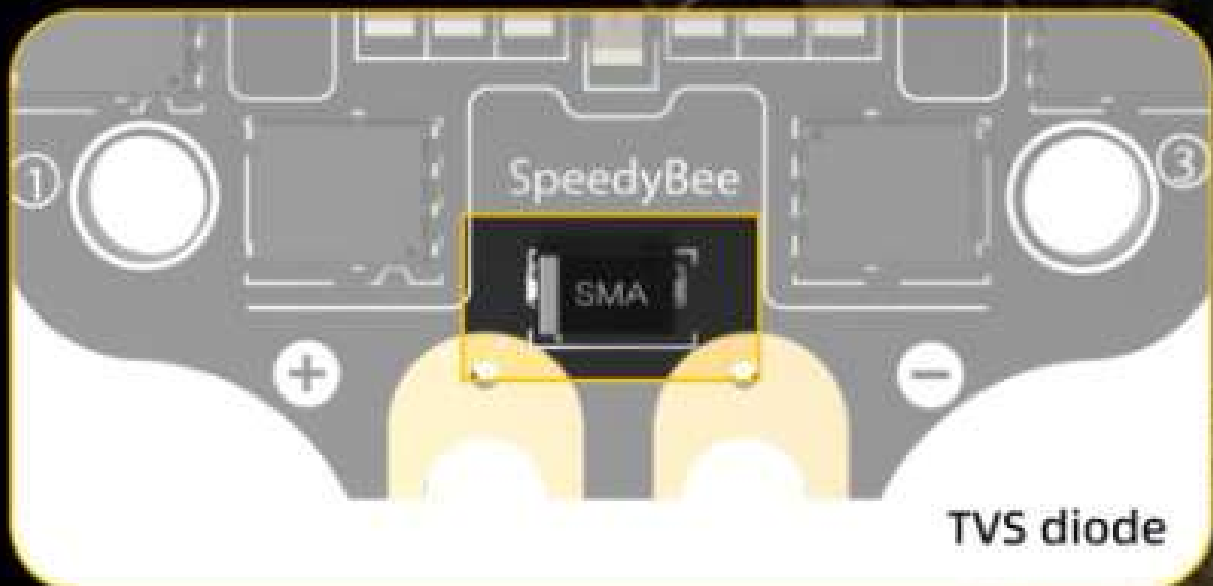
* LED strips could be purchased [here](#)

**Or long press the boot button to switch to Betaflight LED mode



1500uF Low ESR capacitor + TVS protective diode = Extra protection

The ESC is built with TVS protective diode to absorb the voltage spike when you plug in the battery, or during crashes that block your props. We also provide a humongous 1500uF low ESR capacitor, ensuring clean data from the gyro to the FC.



And packaged with more useful features

- Built-in barometer for accurate height calculation
- SD Card slot can support up to 4GB Blackbox data*
- Dedicated DJI Air Unit connector for a quick digital build
- 9V 2A + 5V 2A individual BECs
- 4 x UARTs for your receiver + VTX + camera + GPS.
- Power your GPS with a USB cable- no battery needed. No extra heat, no worries.
- 22mm cutouts for FPV camera in your tight build



Built-in Barometer



SD Card Slot
4GB Max Blackbox



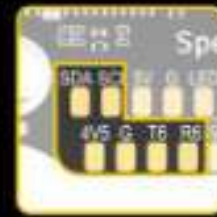
DJI Plug & Play



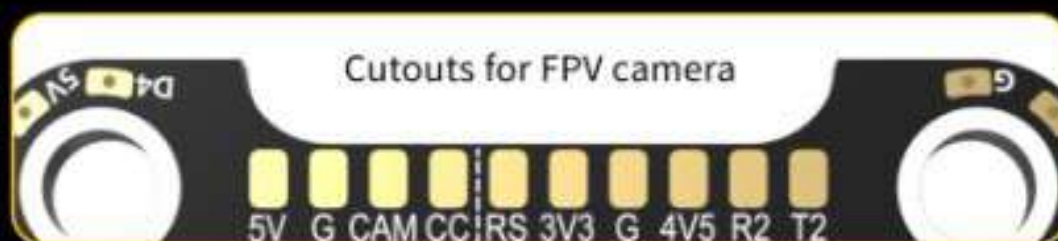
5V 2A & 9V 2A
Individual BECs



Sufficient 4 x UARTs

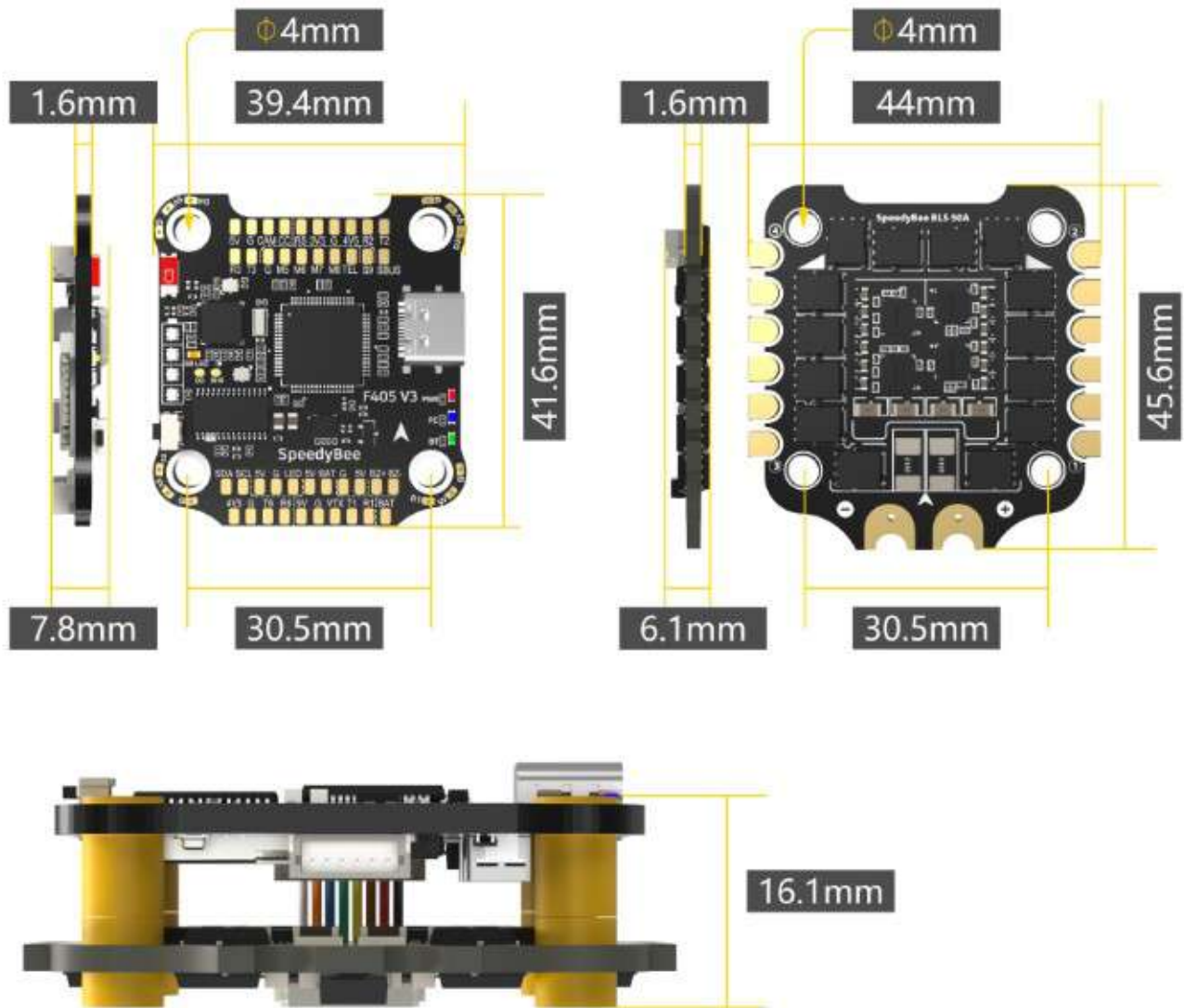


4.5V output for
GPS module

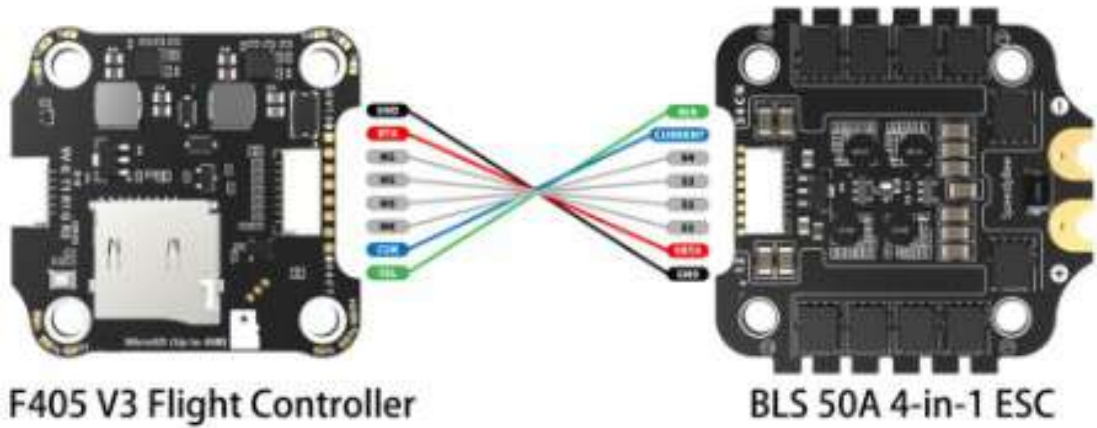
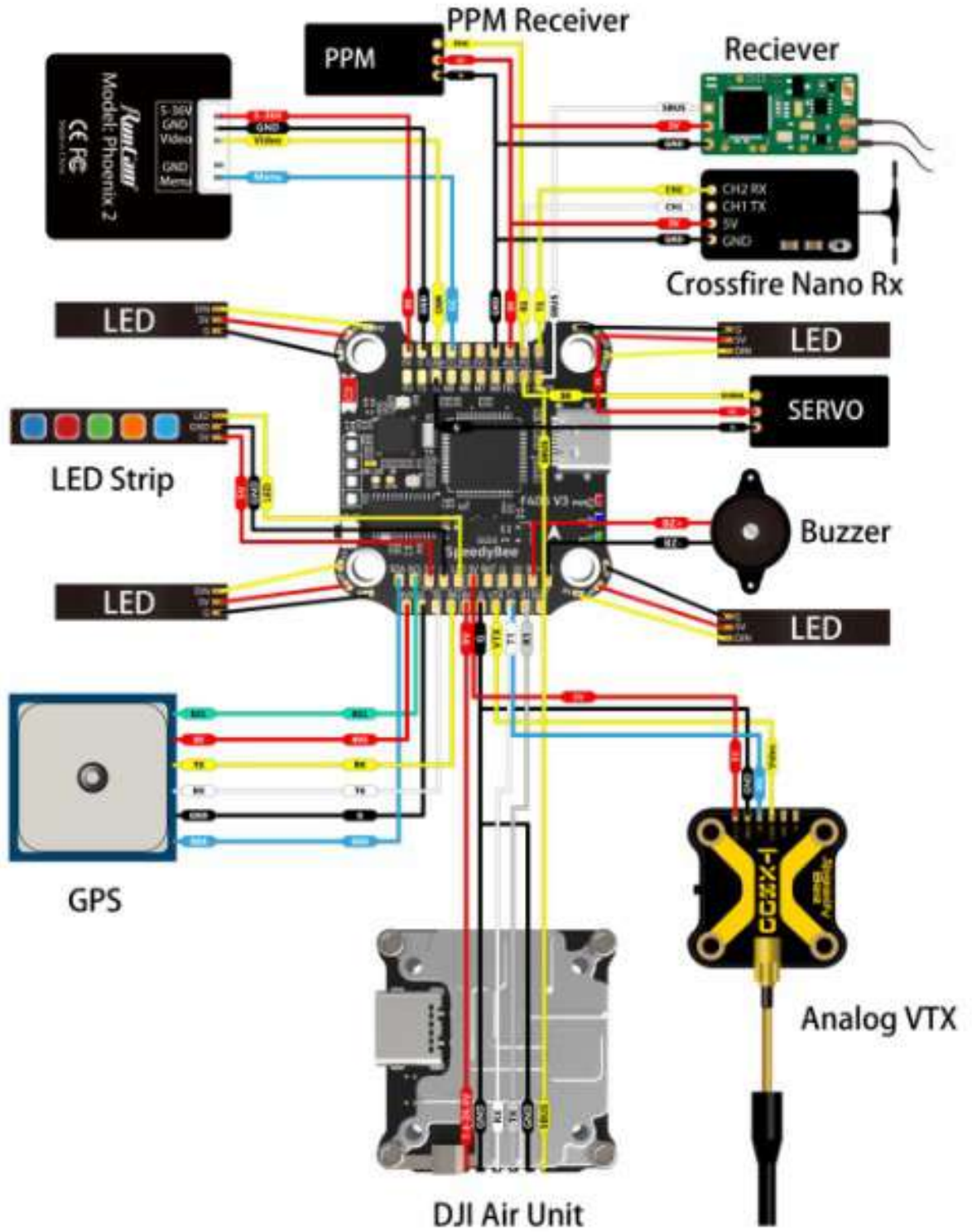


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Dimensions

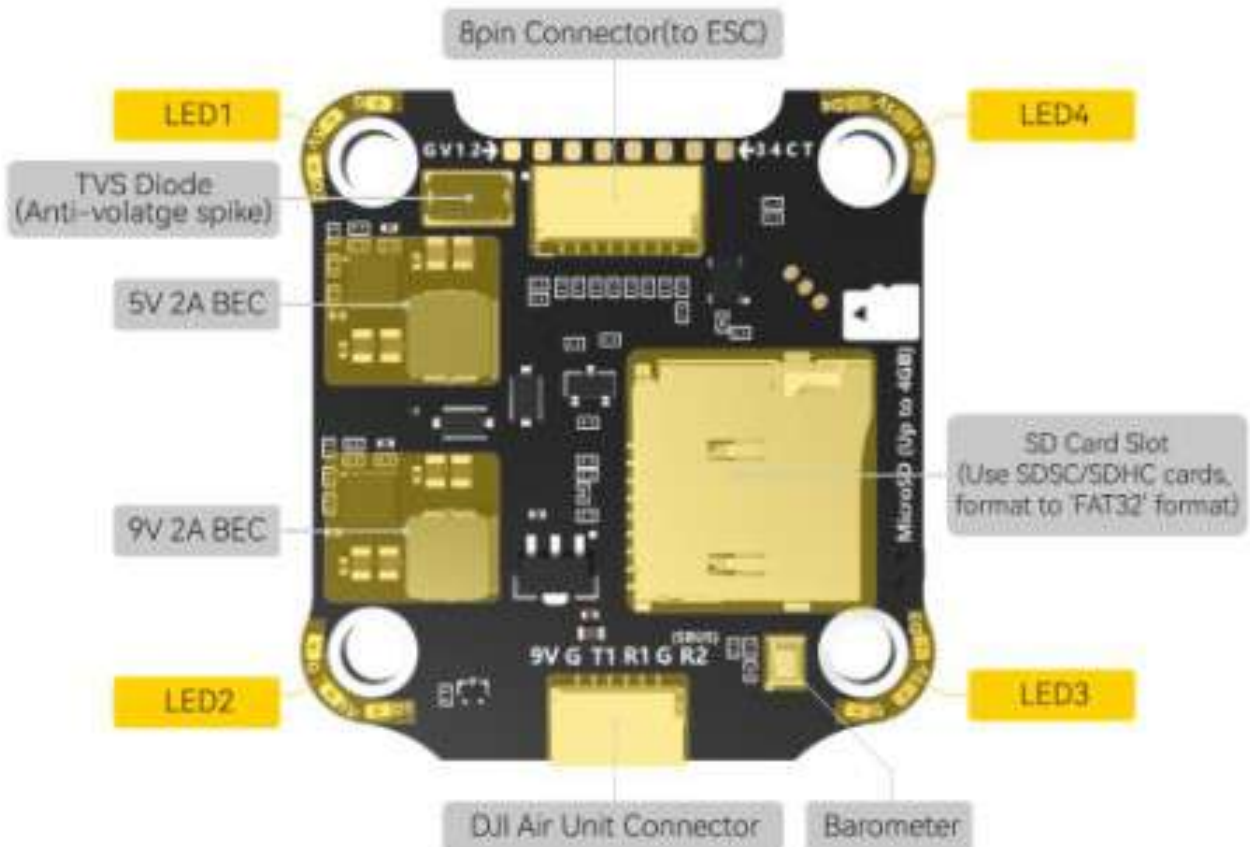
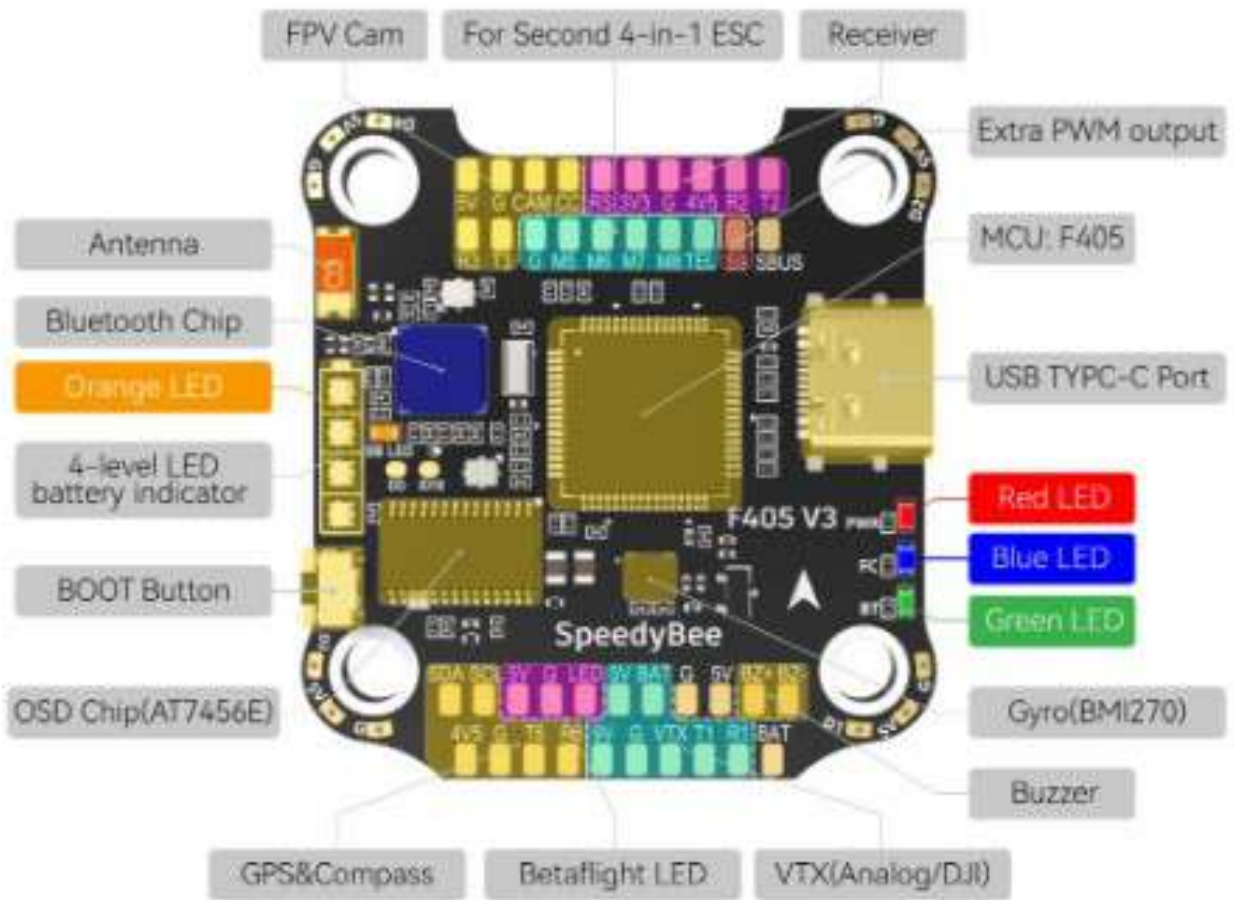


Wiring Diagram



Layout

F405 V3 Flight Controller



BLS 50A 4-in-1 ESC

