

DARKMATTER®

Disruptive Momentum

IAF ISO 9001:2015

GST: 19AAVFD6551E1Z1

STACK 450

DATASHEET

MADE IN INDIA

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BRAHMA F4 – Specifications 1/3

Product Name	DARKMATTER BRAHMA F4 MKIII
Product Category	Flight Controller
Processor (MCU)	F4 – STM32F405
Gyroscope (IMU)	BOSCH BMI270 – 6 Axis
Barometer	DPS310
On-Screen Display	AT7456E
Blackbox	32MB Winbond Blackbox
USB Port Type	Type-C
Supported Flight Controller Firmware	BetaFlight (Default), iNav, Ardupilot
Power Input	3-6S LiPo (Through G, V pins/pads from the 8-pin connector or 8-pads on the bottom side)
Mounting	30.5 X 30.5mm (4mm hole size)
Dimensions	37mm(L) x 37mm(W) x 5mm(H)
Weight	9g

BRAHMA F4 – Specifications 2/3

5V Output	7 groups of 5V output, four +5V pads and 1 BZ+ pad (used for Buzzer) on front side, and 2x LED 5V pads. The total current load is 2A.
9V Output	1 groups of 9V output, one +9V pad on front side. The total current load is 2A.
4v5 Output	1 4.5V output, 500mA from USB to connect receiver or other peripherals
3.3V Output	Supported. Up to 500mA current load.
Traditional BetaFlight LED Pad	Supported. 5V, G and LED pads on the bottom side. Used for WS2812 LED controlled by BetaFlight firmware.
Buzzer	BZ+ and BZ- pad used for 5V Buzzer
Motors Supported	8 Motors
ESC Signal	M1 - M8 on bottom side
DJI Air Unit Connection Way	Supported: Direct soldering

BRAHMA F4 – Specifications 3/3

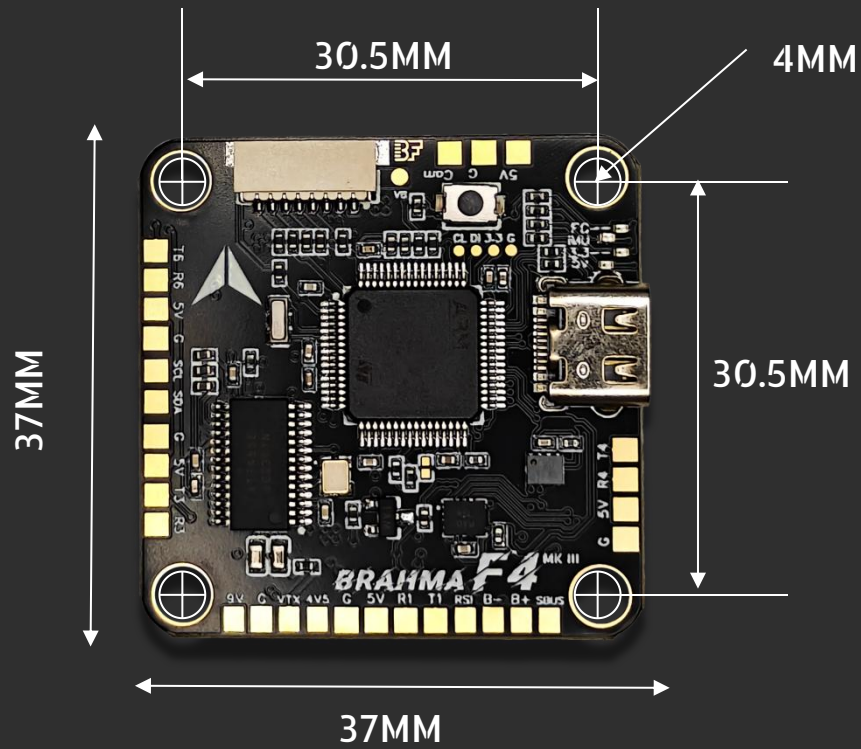
BOOT Button	Supported. Press and hold BOOT button and power the FC on at the same time will force the FC to enter DFU mode, this is for firmware flashing when the FC gets bricked.
RSSI Input	Supported. Named as RSI on the front side.
SmartPort	Use any TX pad of UART for the SmartPort feature.
UART	4 sets(UART1, UART3(For ESC Telemetry), UART4, UART6)
ESC Telemetry UART	R3(UART3)
I2C	Supported. SDA & SCL pads on front side. Used for magnetometer, sonar, etc.
BETAFLIGHT TARGET NAME	BRAHMA_F405
OPERATING TEMPERATURE	-10° C TO 55° C
COUNTRY OF ORIGIN	INDIA

VISHNU 50 – Specifications

Product Name	DARKMATTER VISHNU 50 - MK III
Product Category	ELECTRONIC SPEED CONTROLLER (ESC)
Firmware	BLHeli_S /BlueJay
Burst Current	55A (5 Seconds)
Continuous Current	50A x 4
ESC Protocol	DSHOT300/600
Power Input	3-6S LiPo IMPORTANT Please solder the low ESR capacitor between VBAT "+" and "-", and the VBAT "-" should be connected to the -ve side of the capacitor only.
Power Output	VBAT
Current Sensor	SUPPORTED
Mounting	30.5 x 30.5mm, 4mm hole size
Dimensions	46 * 48.8 * 5.7mm
Weight	12.5g
Supported Motor	1900KV or below rating motors should be used with 6S
Operating Temperature	-10 to 60 Degree Celsius

DIMENSIONS

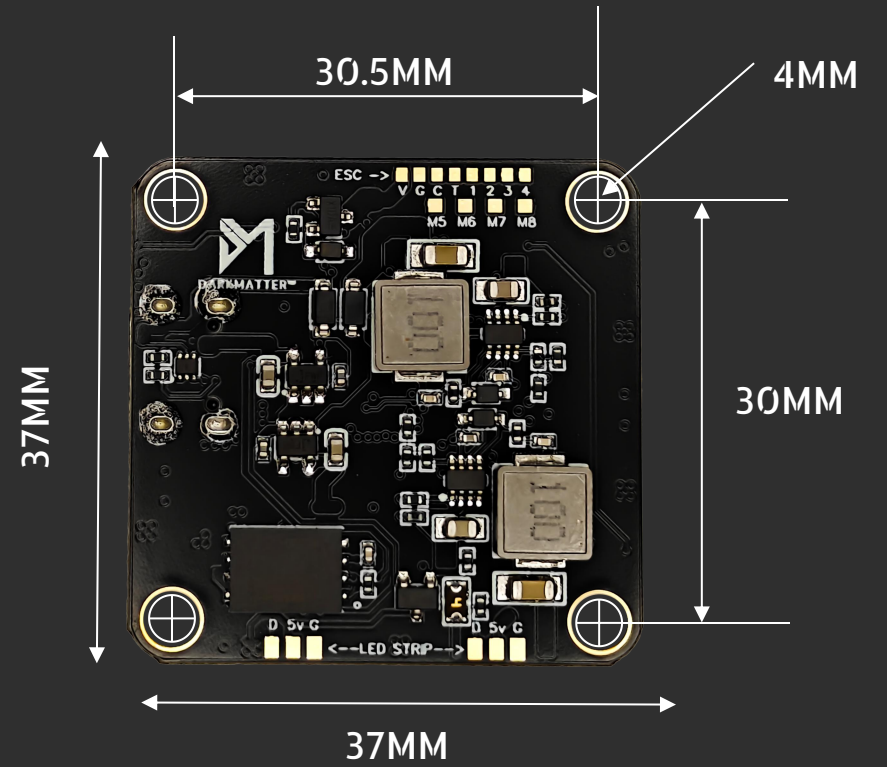
Front



Side

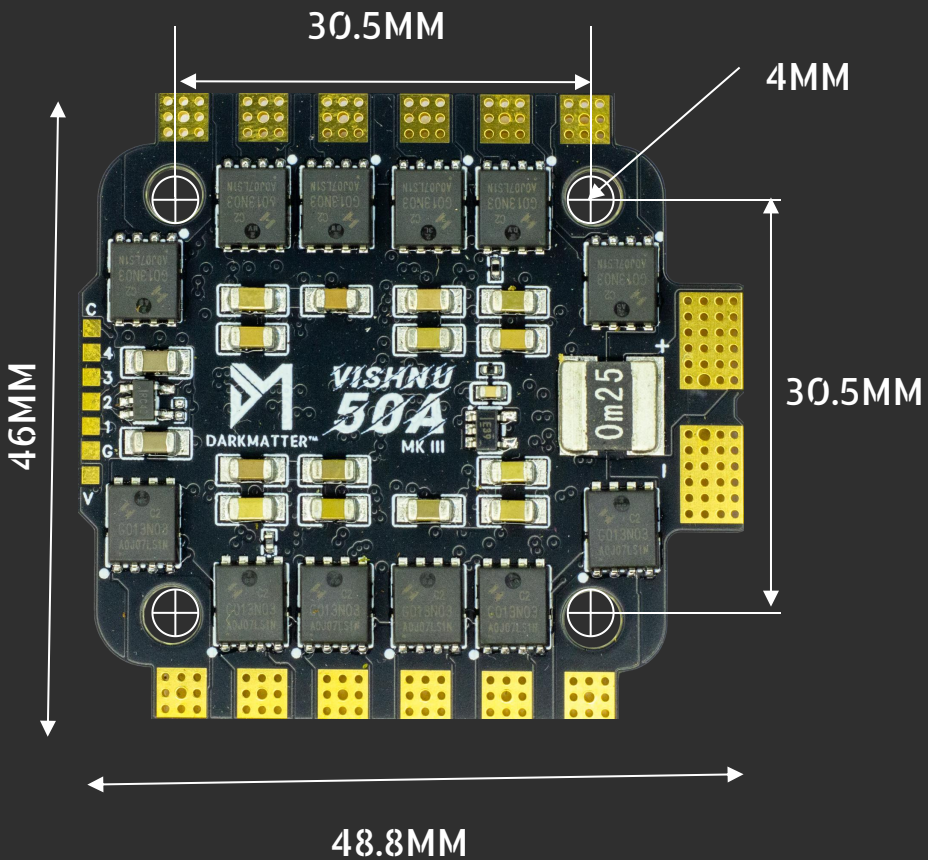


Back



DIMENSIONS

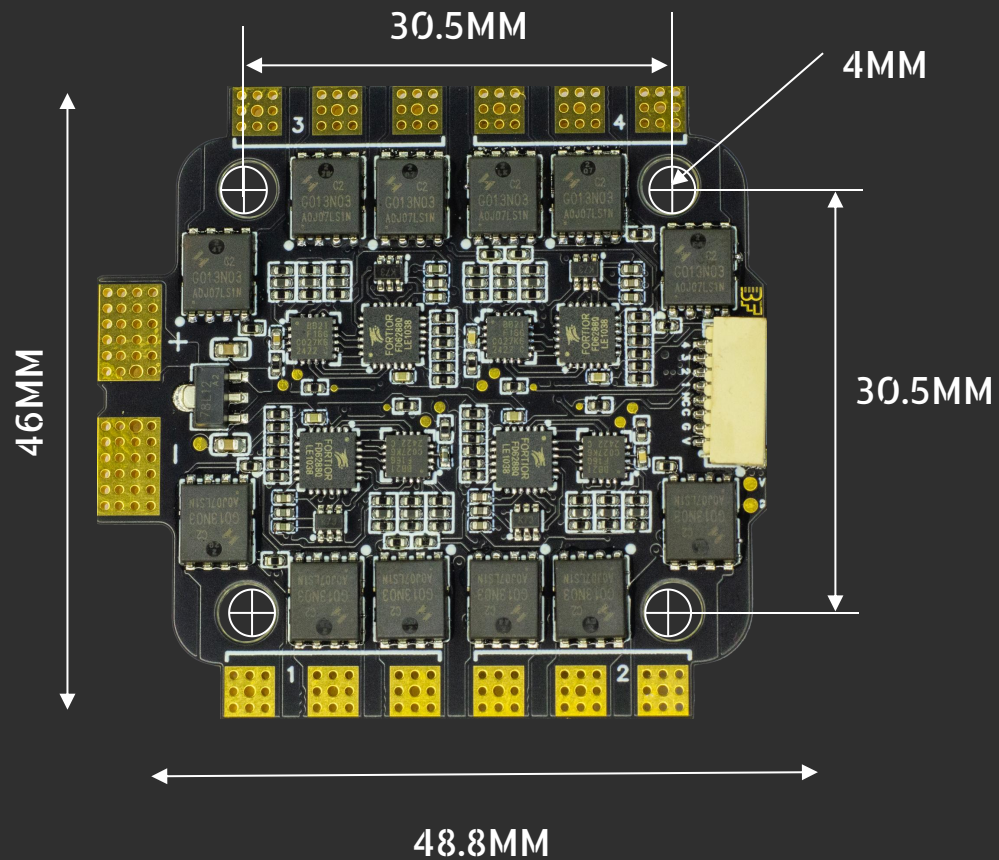
Front



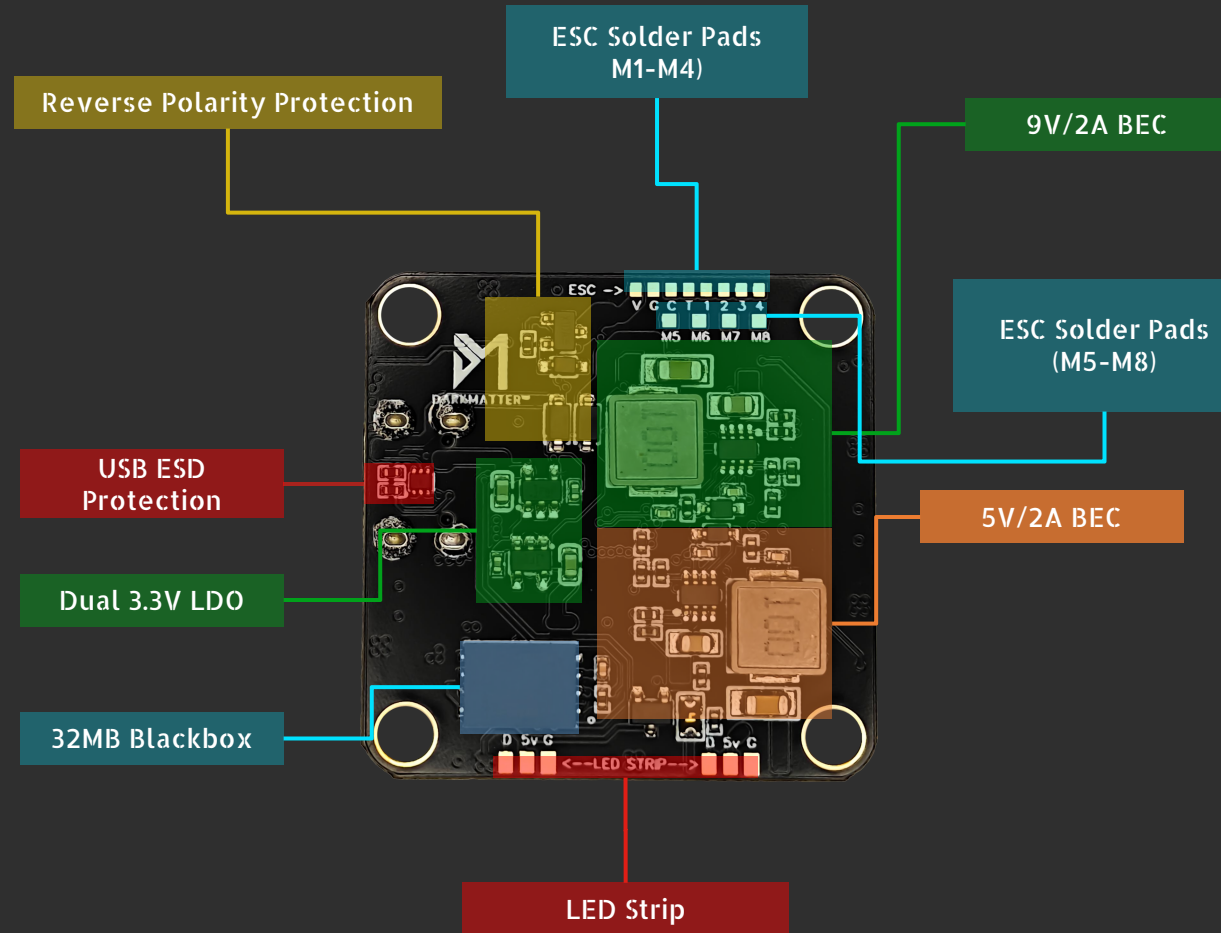
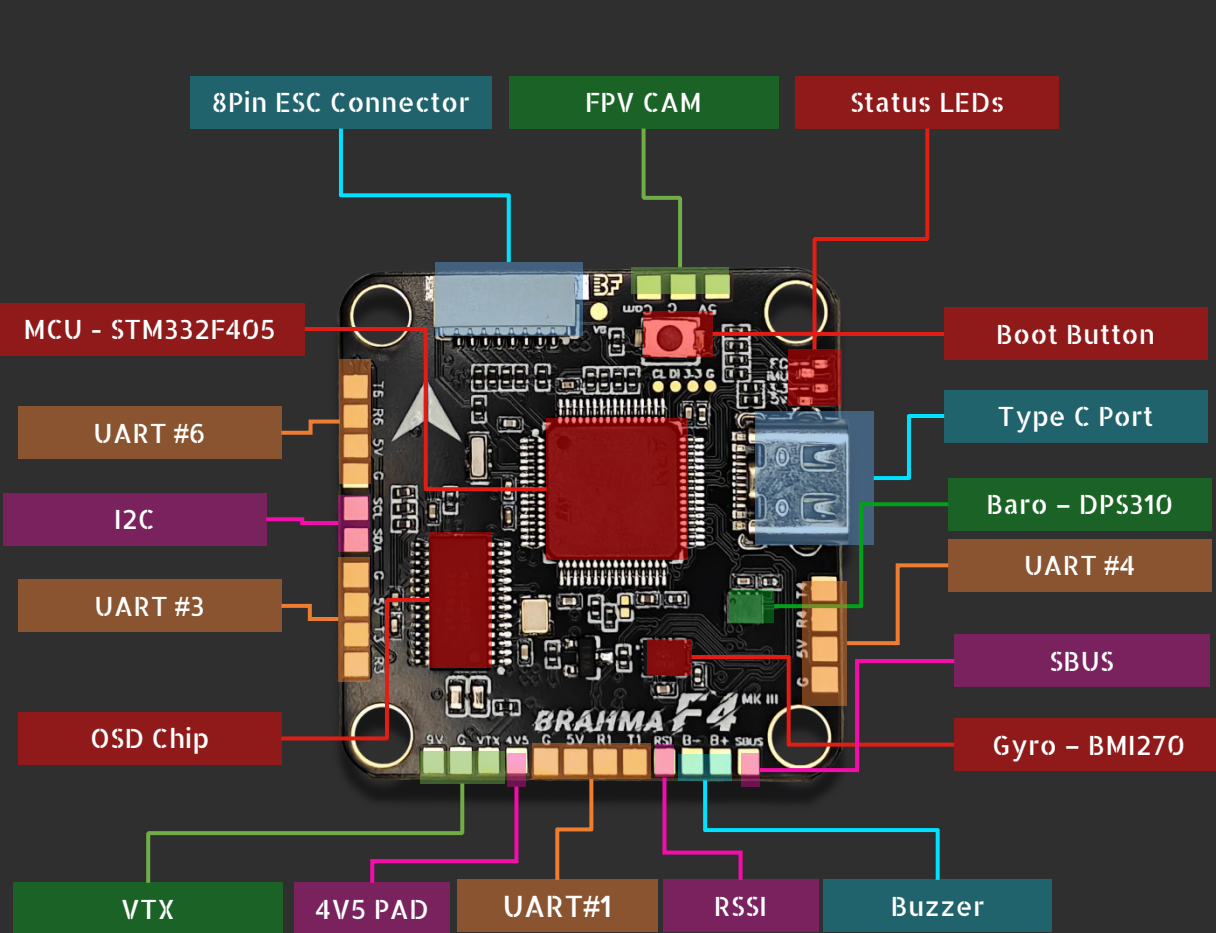
Side



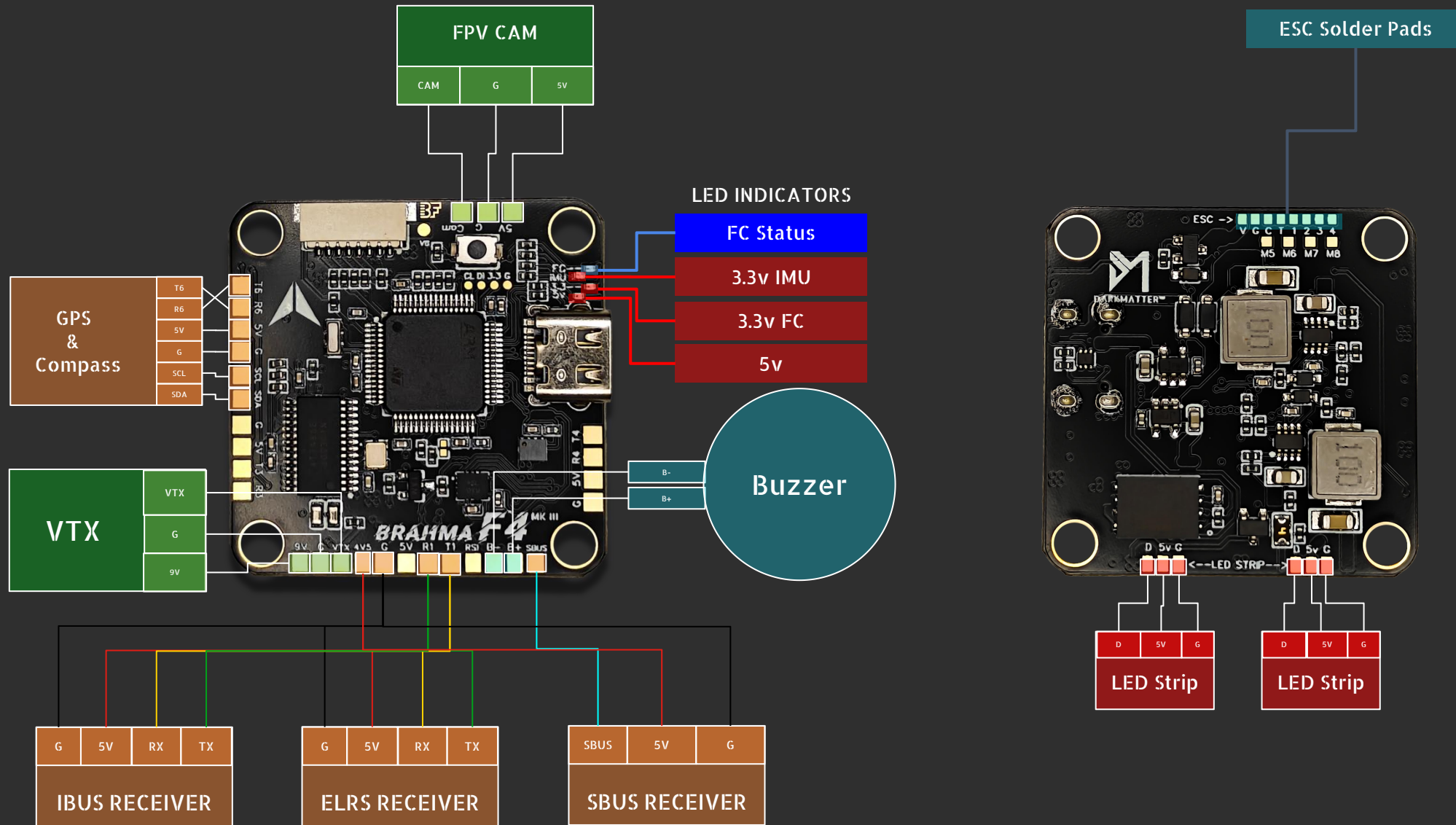
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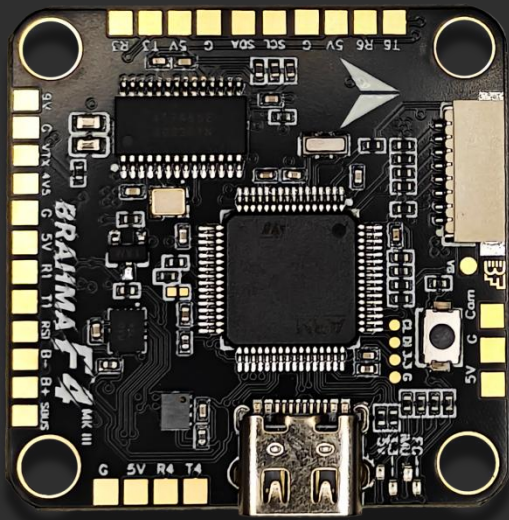
Flight Controller Layout



Flight Controller – Peripheral Connection



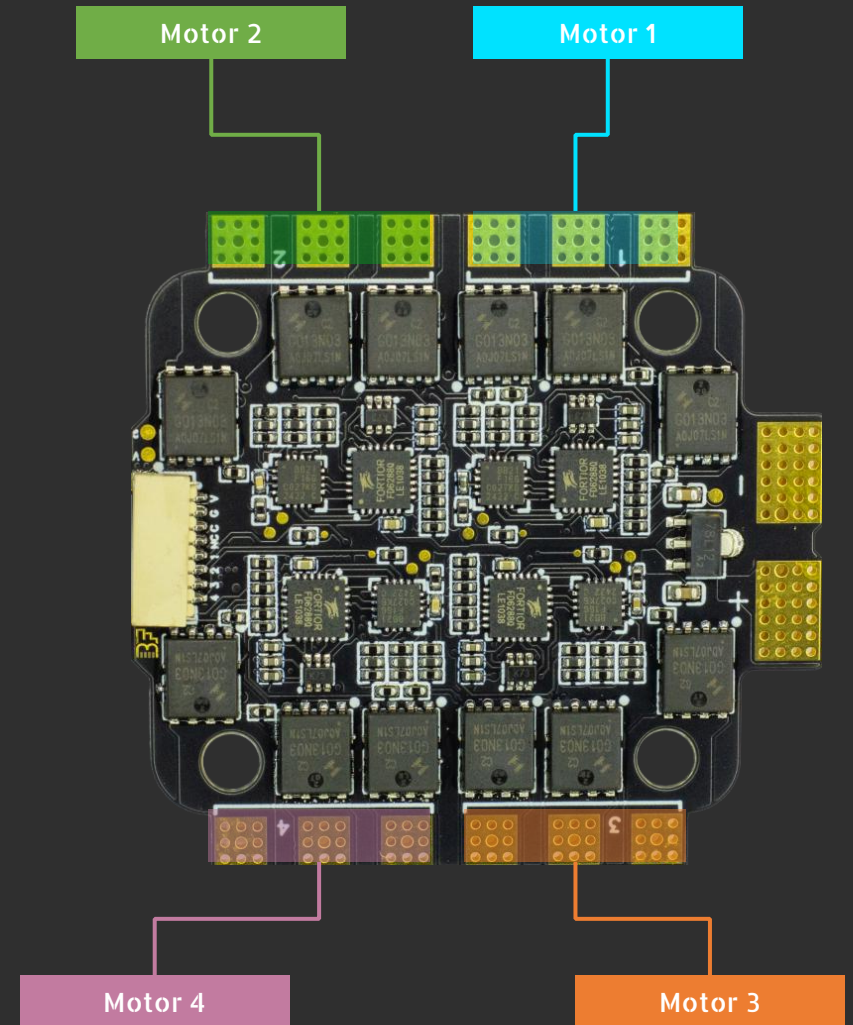
4 in 1 ESC Plug and Play Connection



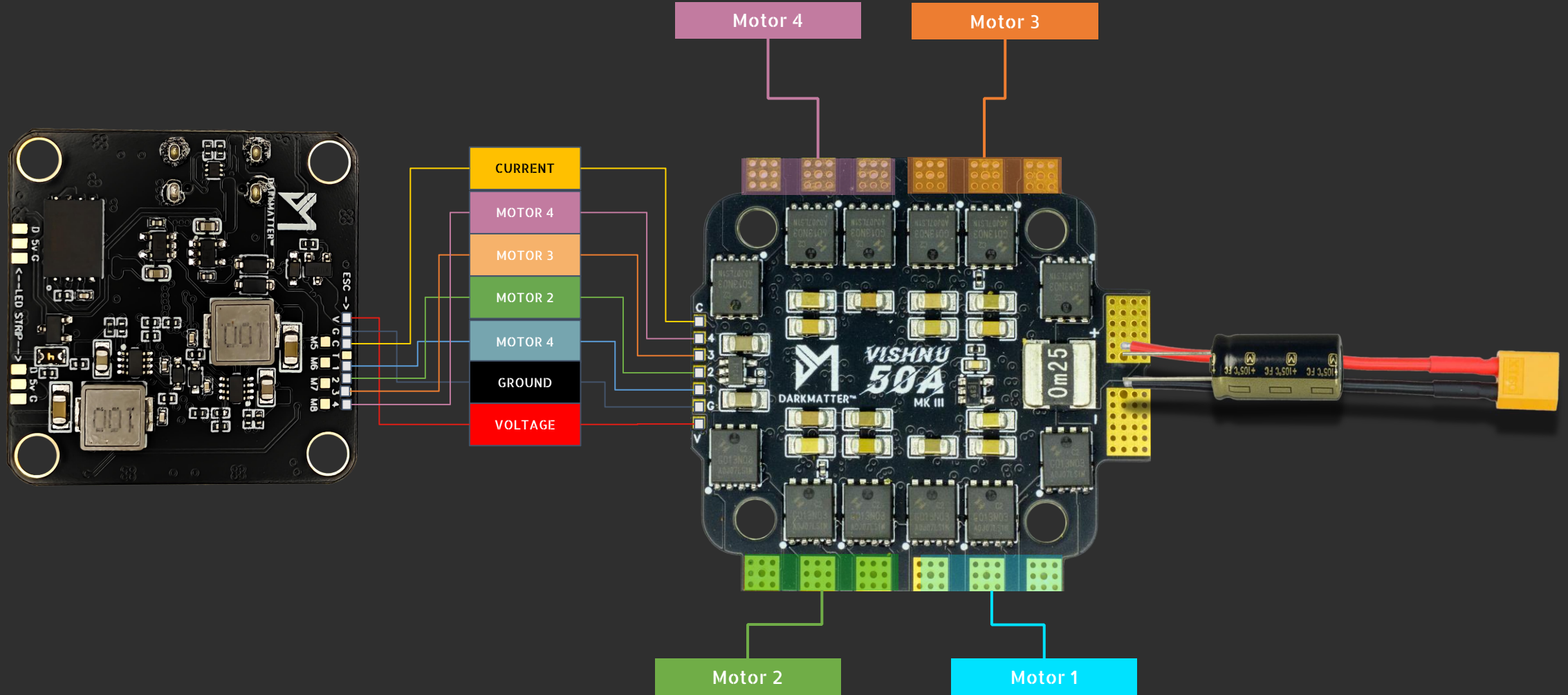
VOLTAGE
GROUND
CURRENT
TELEMETRY
MOTOR 1
MOTOR 2
MOTOR 3
MOTOR 4



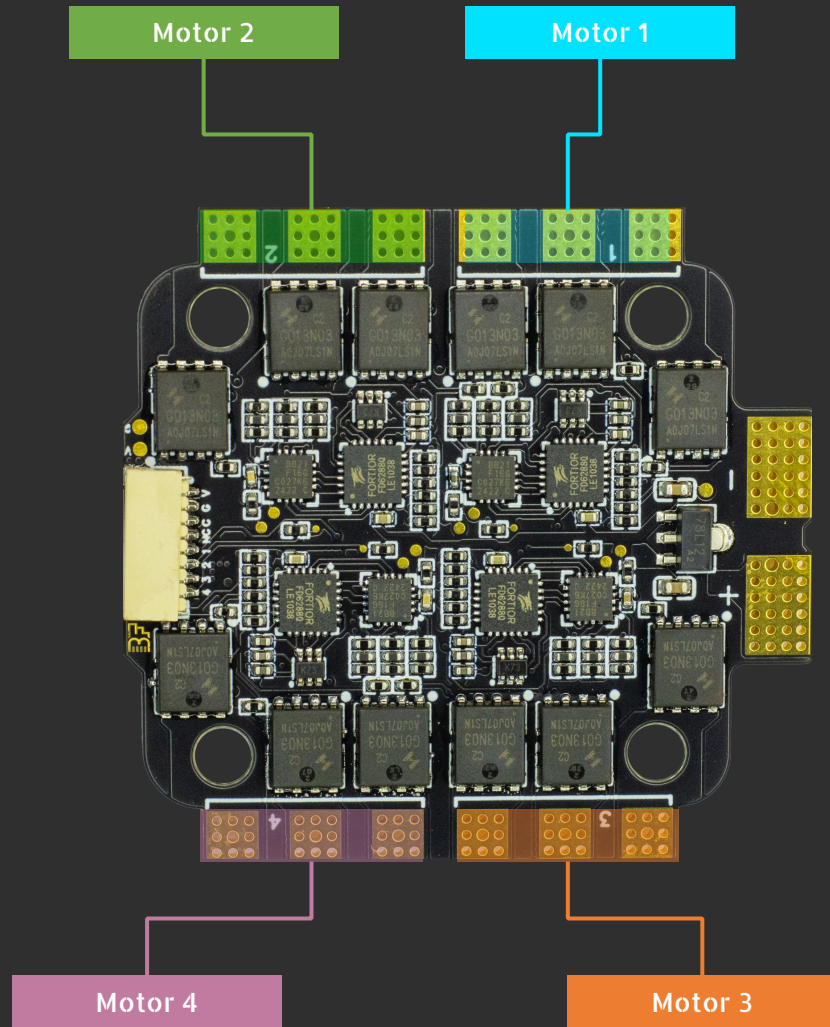
**BETAFLIGHT
STANDARD
CONNECTOR**



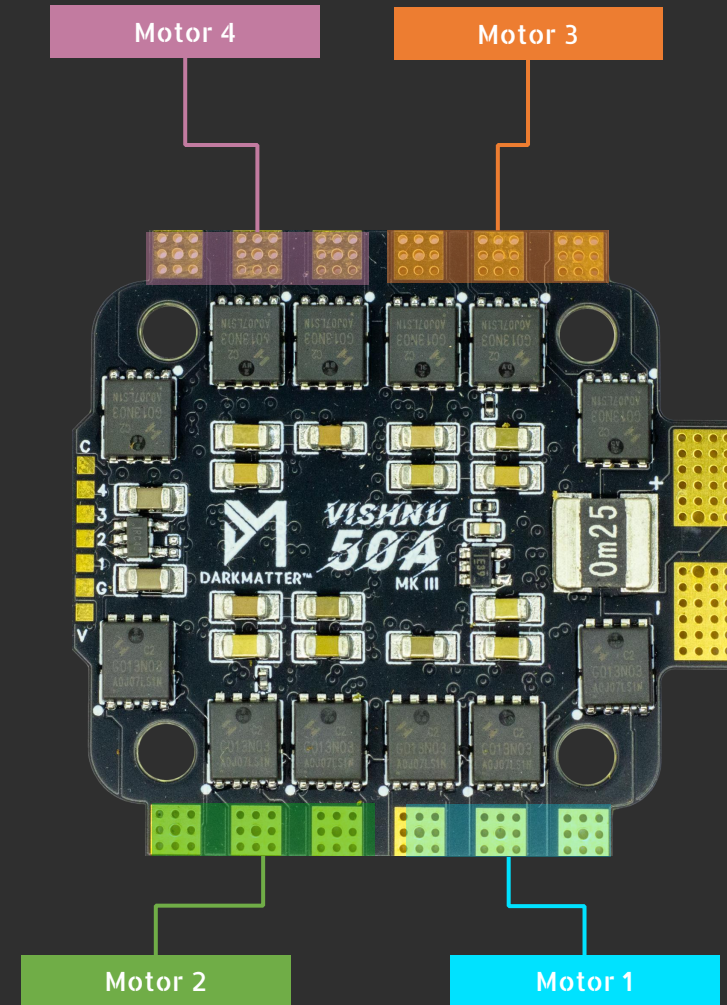
4 in 1 ESC Direct Soldering Connection



4 in 1 ESC Motor Connection Numbering

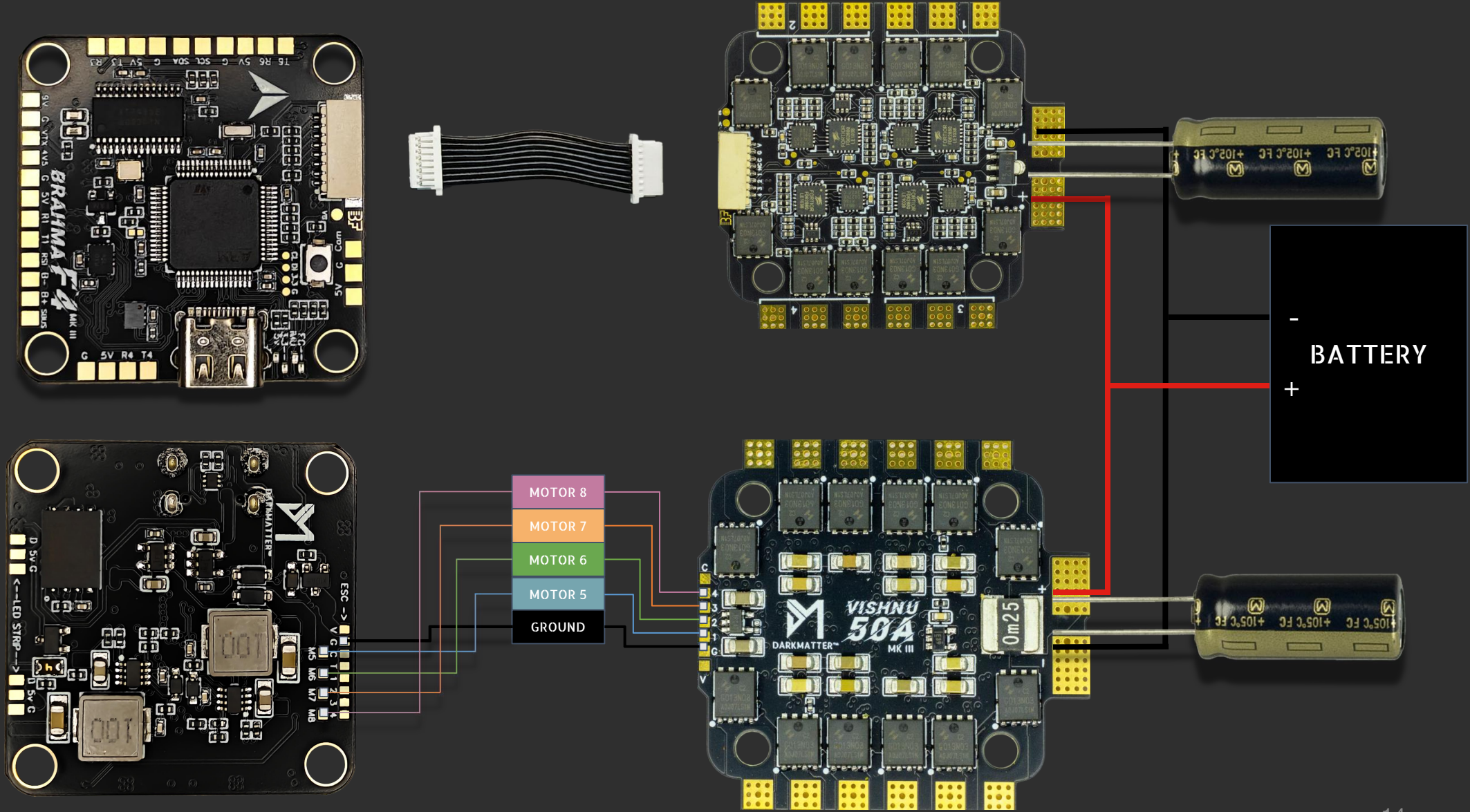


THIS SIDE FACING UP

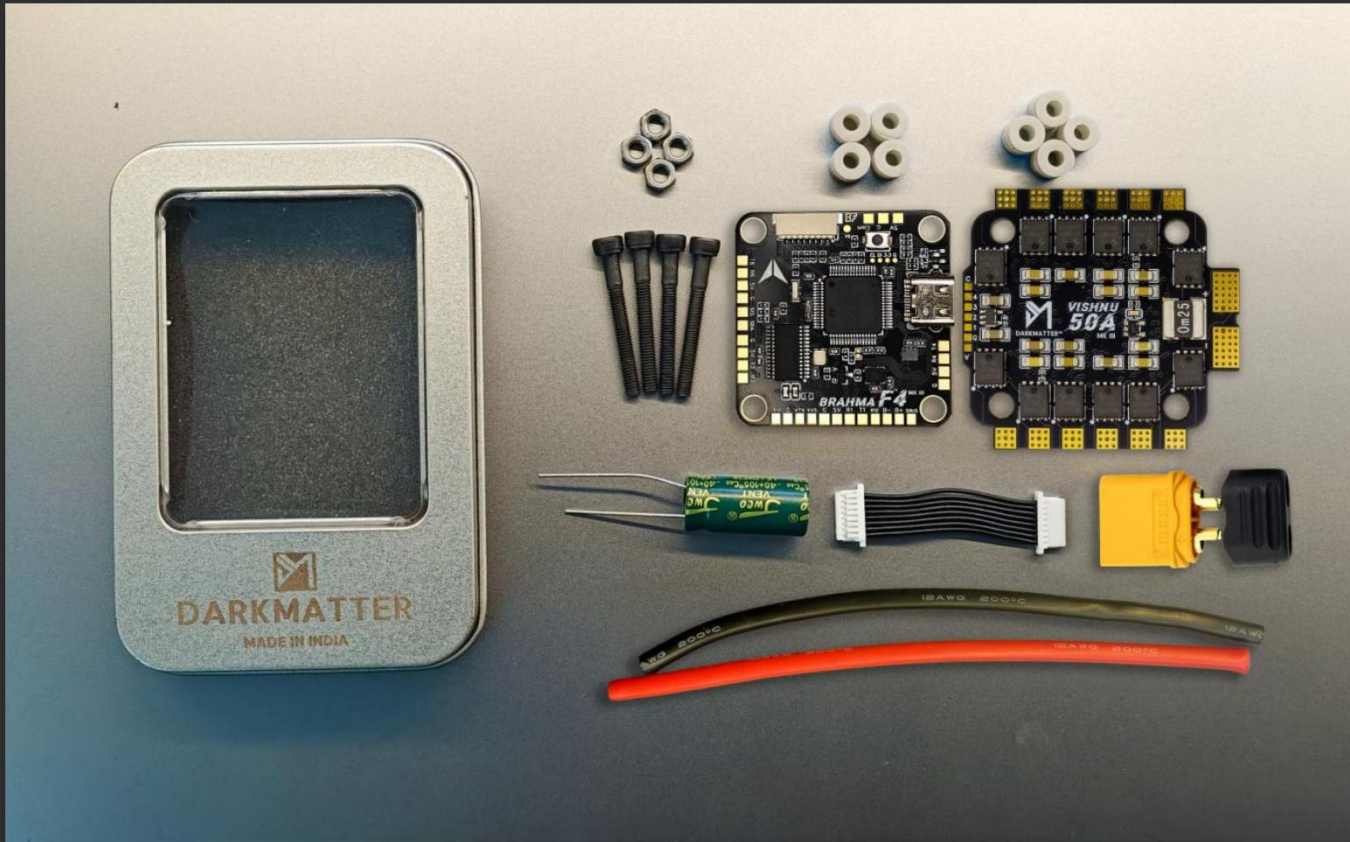


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2 x 4 in 1 ESC Direct Soldering Connection For 8 Motors



STACK 450 – Package Contents



- 1x Brahma F4
- 1x Vishnu 50
- 1x 8Pin ESC FC Connector Cable
- 8x Grommets (Gummies)
- 1x 1000uF Low ESR Capacitor
- 1x XT60 Battery Connector Plug
- 1x 12AWG Wire for Battery Connection
- 4x M3 25mm Screws
- 4x M3 Bolts
- 1x Awesome Tin Container Box



DARKMATTER STACK 450 - 6 Months Warranty

- **Warranty Period:** The STACK 450 comes with a 6-month warranty from the date of purchase.
- **Proof of Purchase:** Please retain and provide a copy of the purchase invoice for warranty claims.
- **Exclusions:** The warranty does not cover any physical damage to the product, including water damage or burns.
- **Warranty Process:** If a claim is made within the warranty period, we will examine the PCB for physical damage. If the product is eligible, we will provide a replacement at no additional cost.

Your satisfaction and product performance are our top priorities.

For any warranty-related inquiries, please contact us at +91-8017193277.



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Thank you!

Please visit thedarkmatter.in for firmwares,
manuals and support.