



DARKMATTER®

Disruptive Momentum

IAF ISO 9001:2015

GST: 19AAVFD6551E1Z1

STACK 750

DATASHEET

MADE IN INDIA

TABLE OF CONTENTS

CONTENTS	PAGE
BRAHMA F7 Specifications	3 - 5
VISHNU 50 Specifications	6
BRAHMA F7 Dimensions	7
VISHNU 50 Dimensions	8
Flight Controller Layout	9
Flight Controller - Peripheral Connection	10
4 in 1 ESC Plug and Play Connection	11
4 in 1 ESC Direct Soldering Connection	12
4 in 1 ESC Motor Connection Numbering	13
2 x 4 in 1 ESC Direct Soldering Connection For 8 Motors	14
Single ESCs Direct Soldering Connection For 8 Motors	15
STACK 750 - Package Contents	16
Warranty Details	17

BRAHMA F7 – Specifications 1/3

Product Name	DARKMATTER BRAHMA F7
Product Category	Flight Controller
Processor (MCU)	F7 – STM32F722
Gyroscope (IMU)	ICM42688P
Barometer	DPS310
On-Screen Display	AT7456E
Blackbox	32MB Winbond Blackbox
USB Port Type	Type-C
Supported Flight Controller Firmware	BetaFlight (Default), INAV
Power Input	3-6S LiPo
Mounting	30.5 X 30.5mm (4mm hole size)
Dimensions	39mm(L) x 37mm(W) x 5mm(H)
Weight	9g

BRAHMA F7 – 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 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
ESC Signal	M1 - M4 on front side M5-M8 on bottom side
DJI Air Unit Connection Way	Plug & Play Port

BRAHMA F7 – 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	6 sets(UART1, UART2, UART3(For ESC Telemetry), UART4, UART5, UART6)
ESC Telemetry UART	R3(UART3)
I2C	Supported. SDA & SCL pads on front side. Used for magnetometer, sonar, etc.
OPERATING TEMPERATURE	-10° C TO 55° C
COUNTRY OF ORIGIN	INDIA

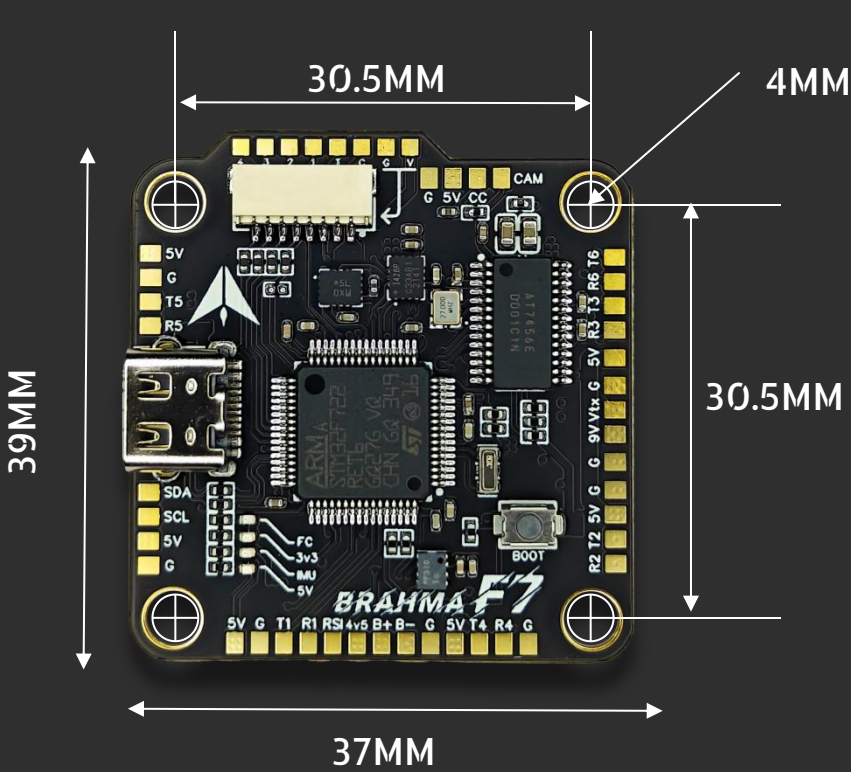
VISHNU 50 – Specifications

Product Name	DARKMATTER VISHNU 50
Product Category	ELECTRONIC SPEED CONTROLLER (ESC)
Firmware	BLHeli_S JH50
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 should be needed for 6S

BRAHMA F7 DIMENSIONS



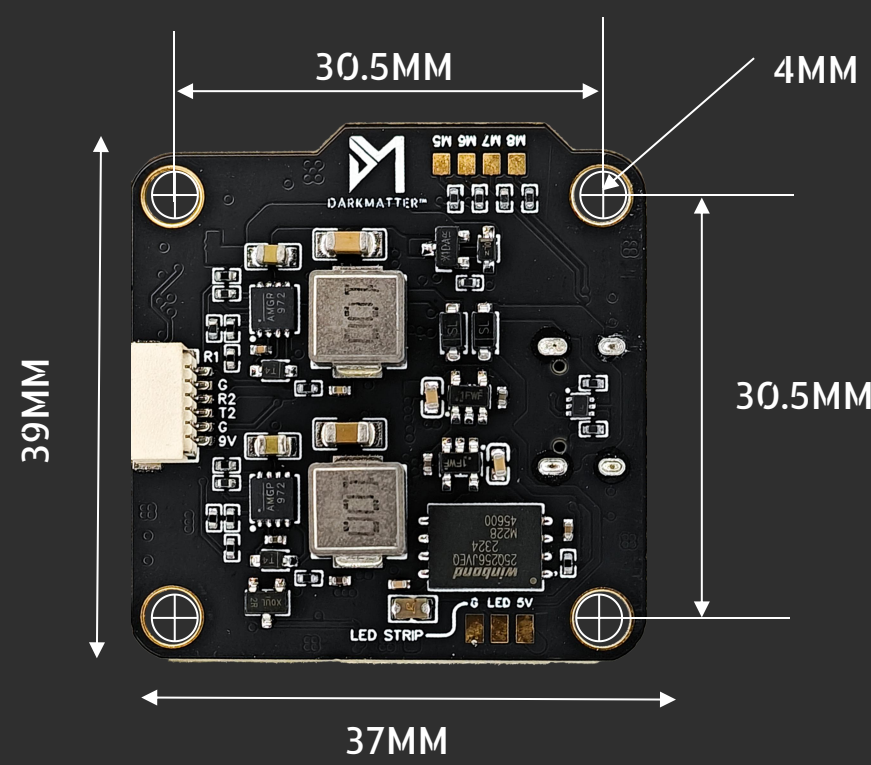
Front



Side

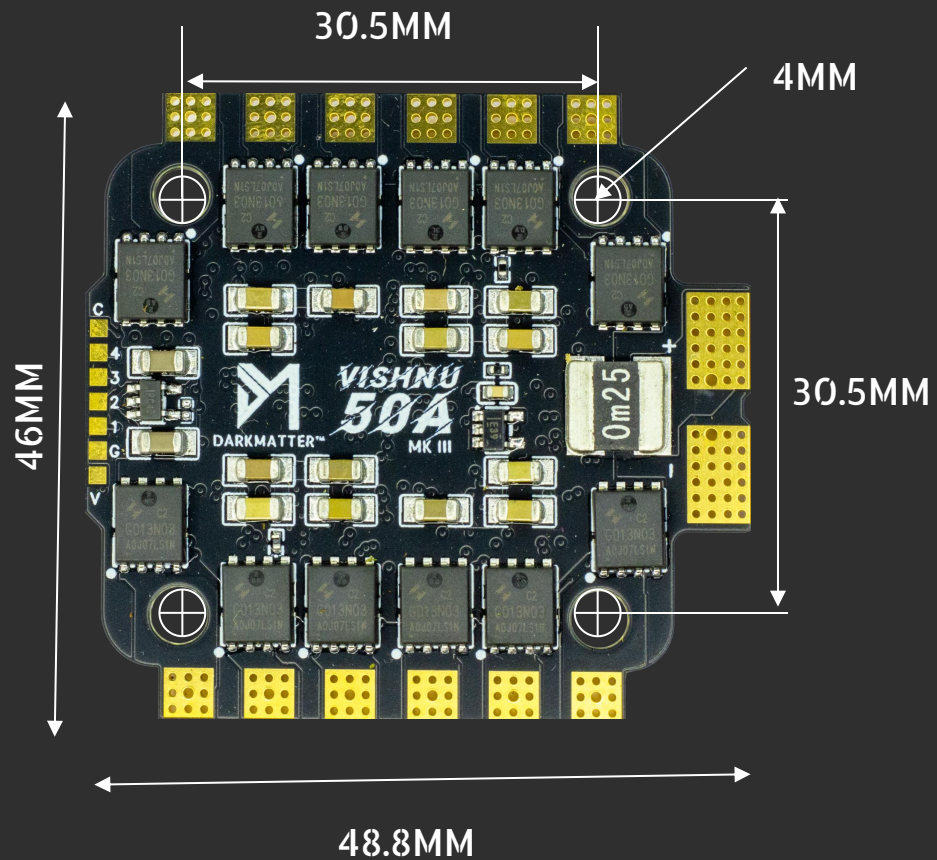


Back

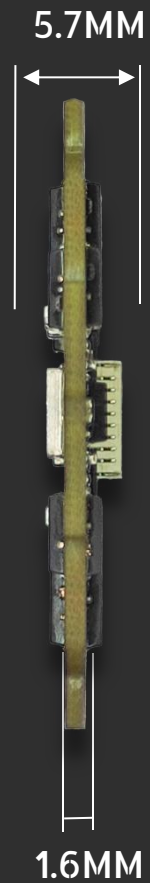


DIMENSIONS

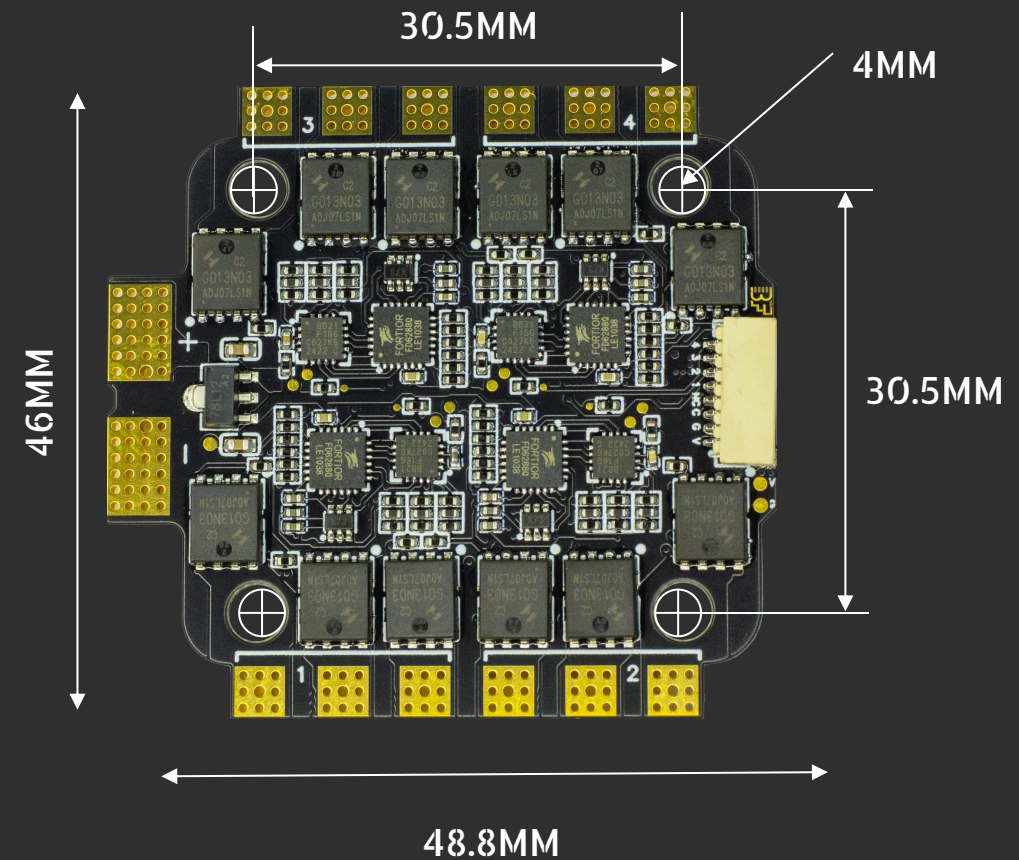
Front



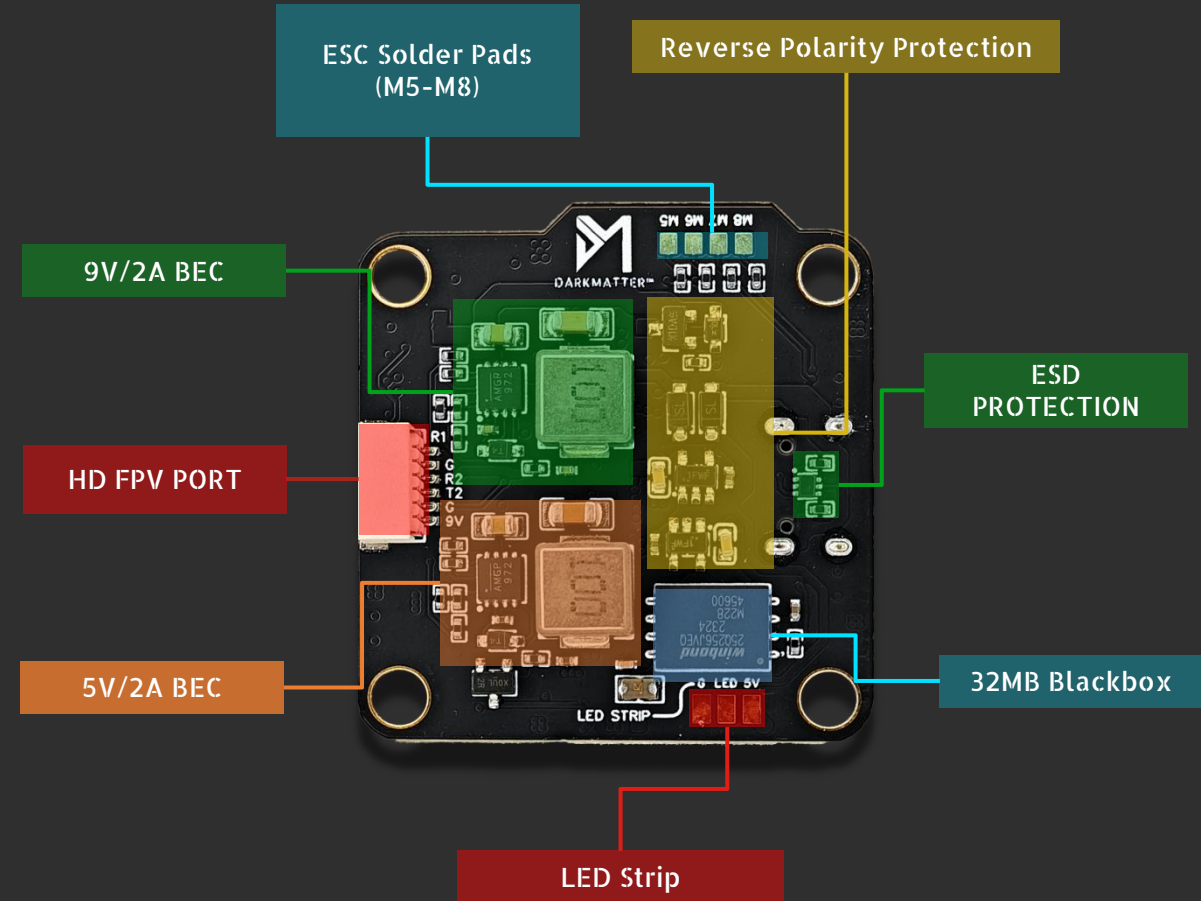
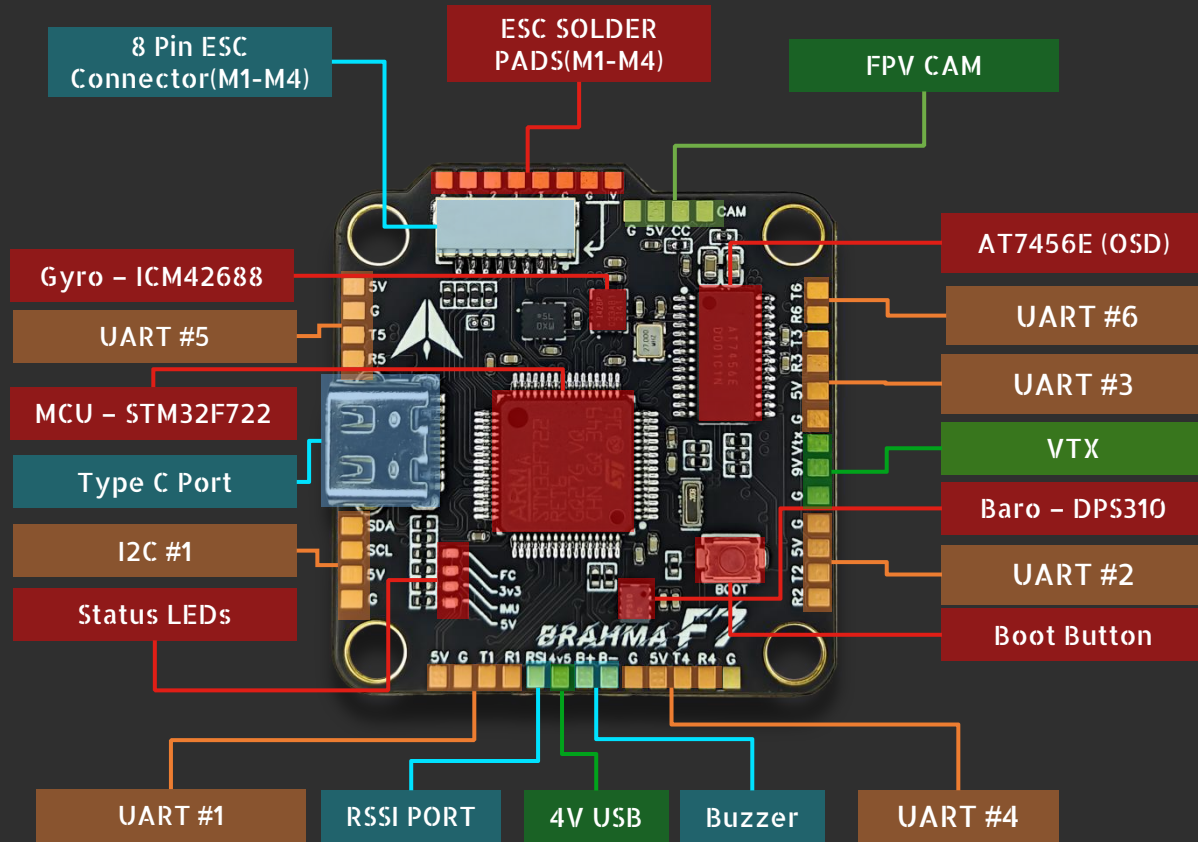
Side



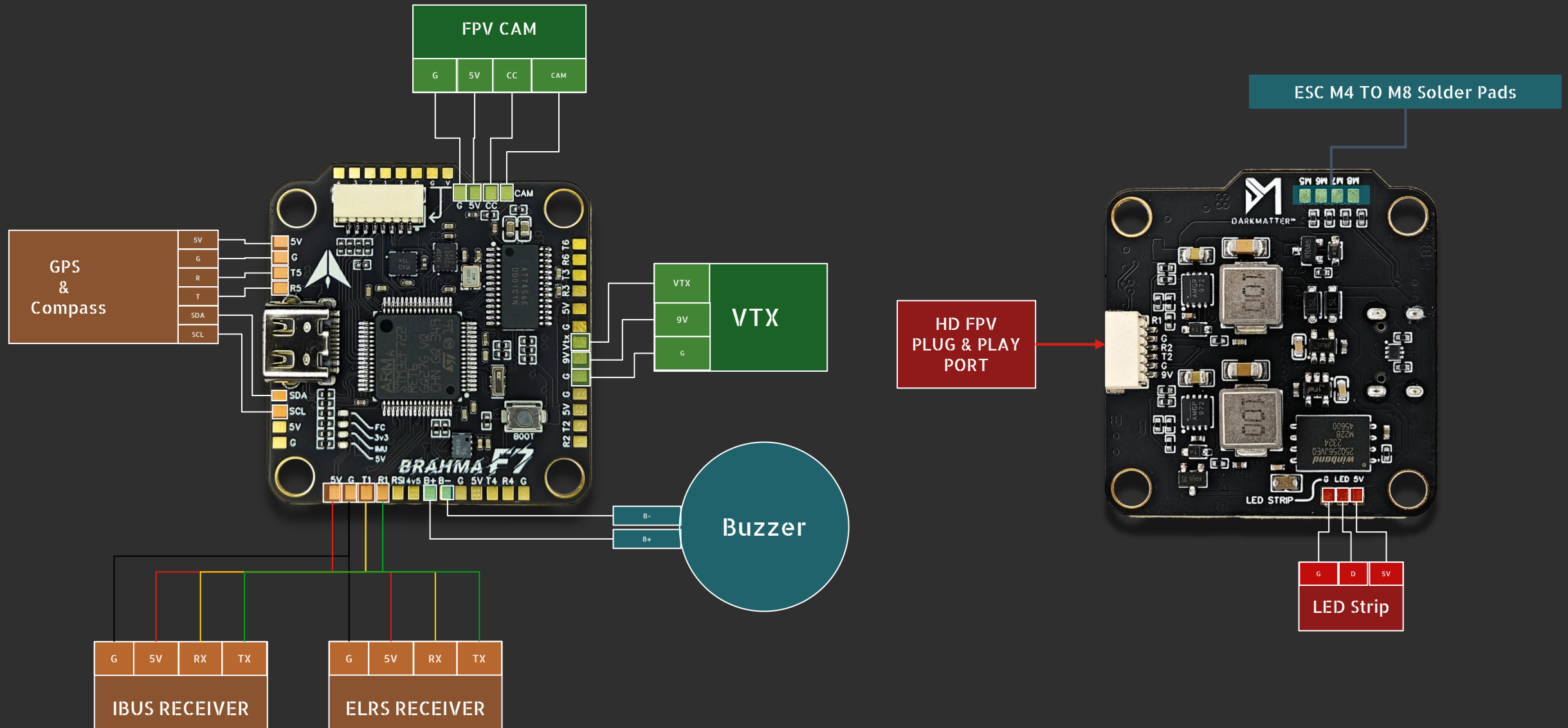
Back



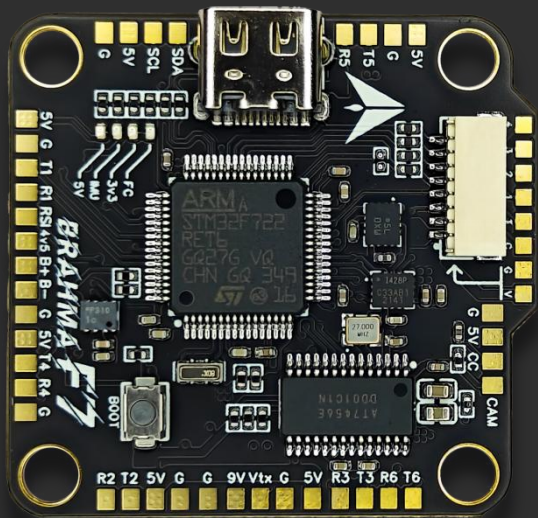
Flight Controller Layout



Flight Controller – Peripheral Connection



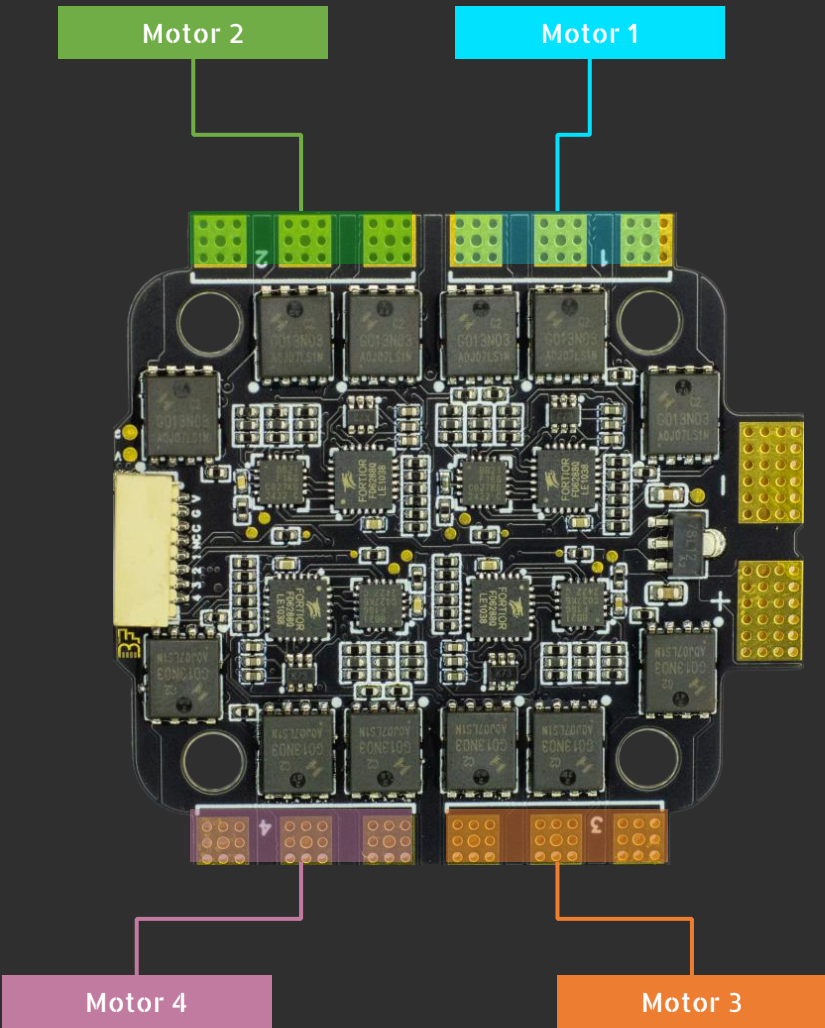
4 in 1 ESC Plug and Play Connection



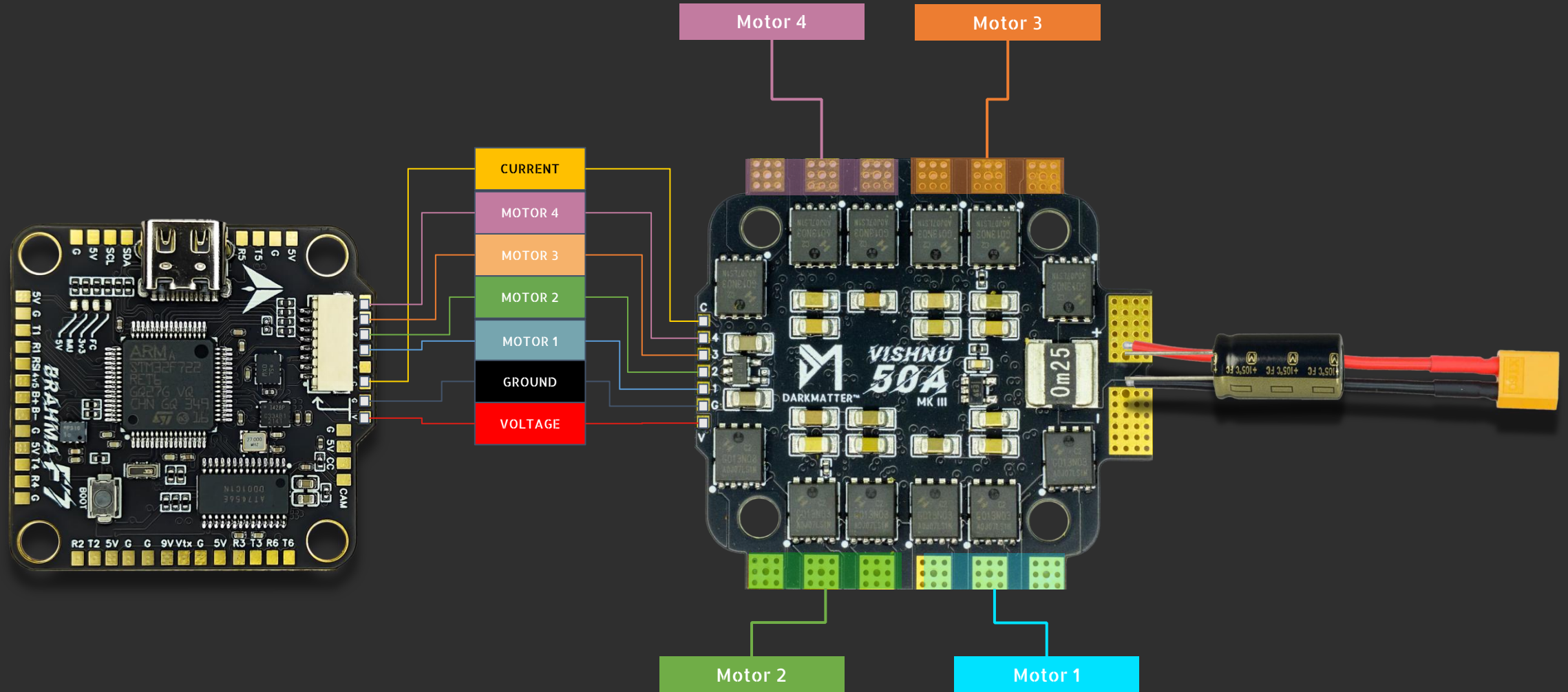
VOLTAGE
GROUND
CURRENT
TELEMETRY
MOTOR 1
MOTOR 2
MOTOR 3
MOTOR 4



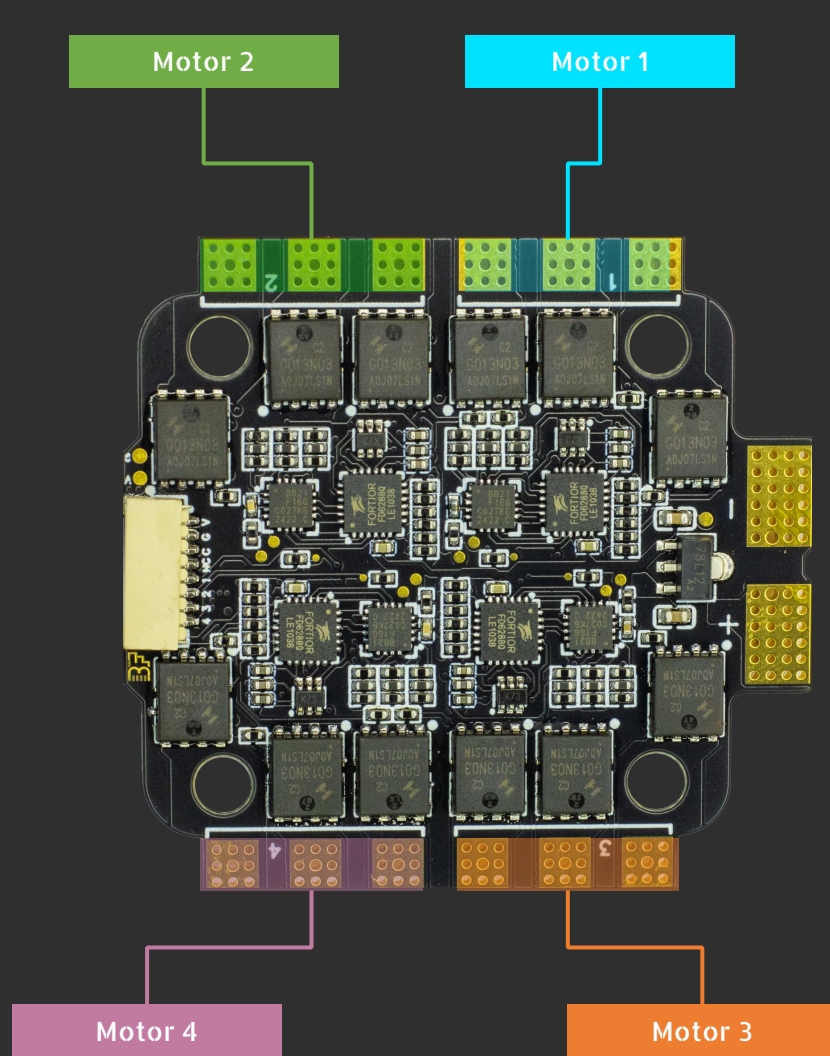
**BETAFLIGHT
STANDARD
CONNECTOR**



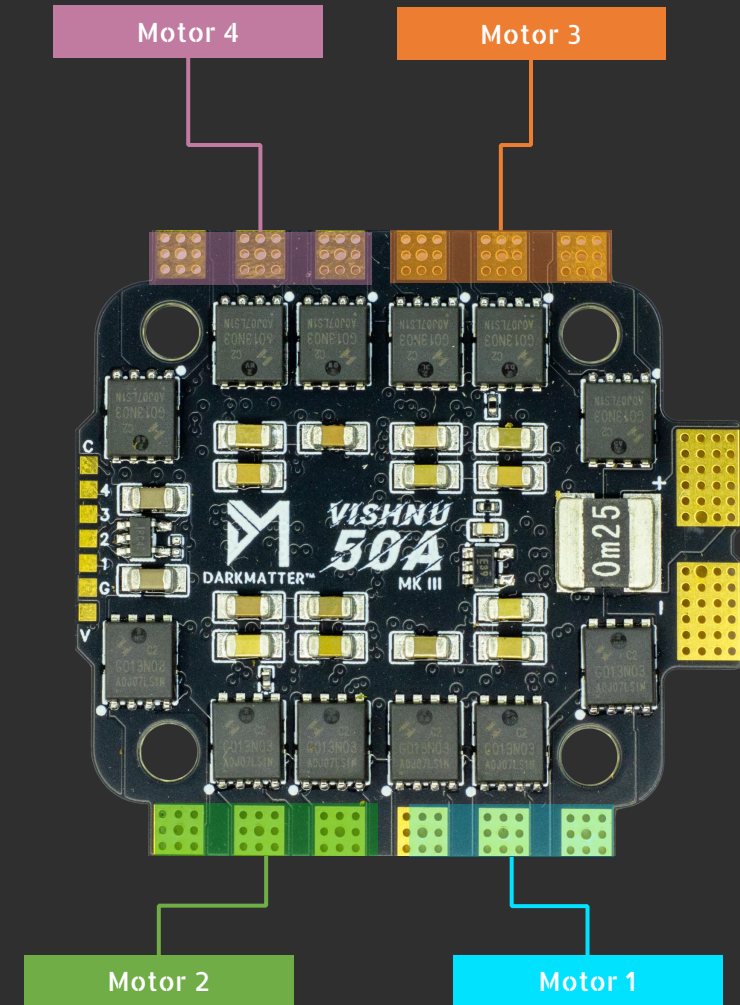
4 in 1 ESC Direct Soldering Connection



4 in 1 ESC Motor Connection Numbering

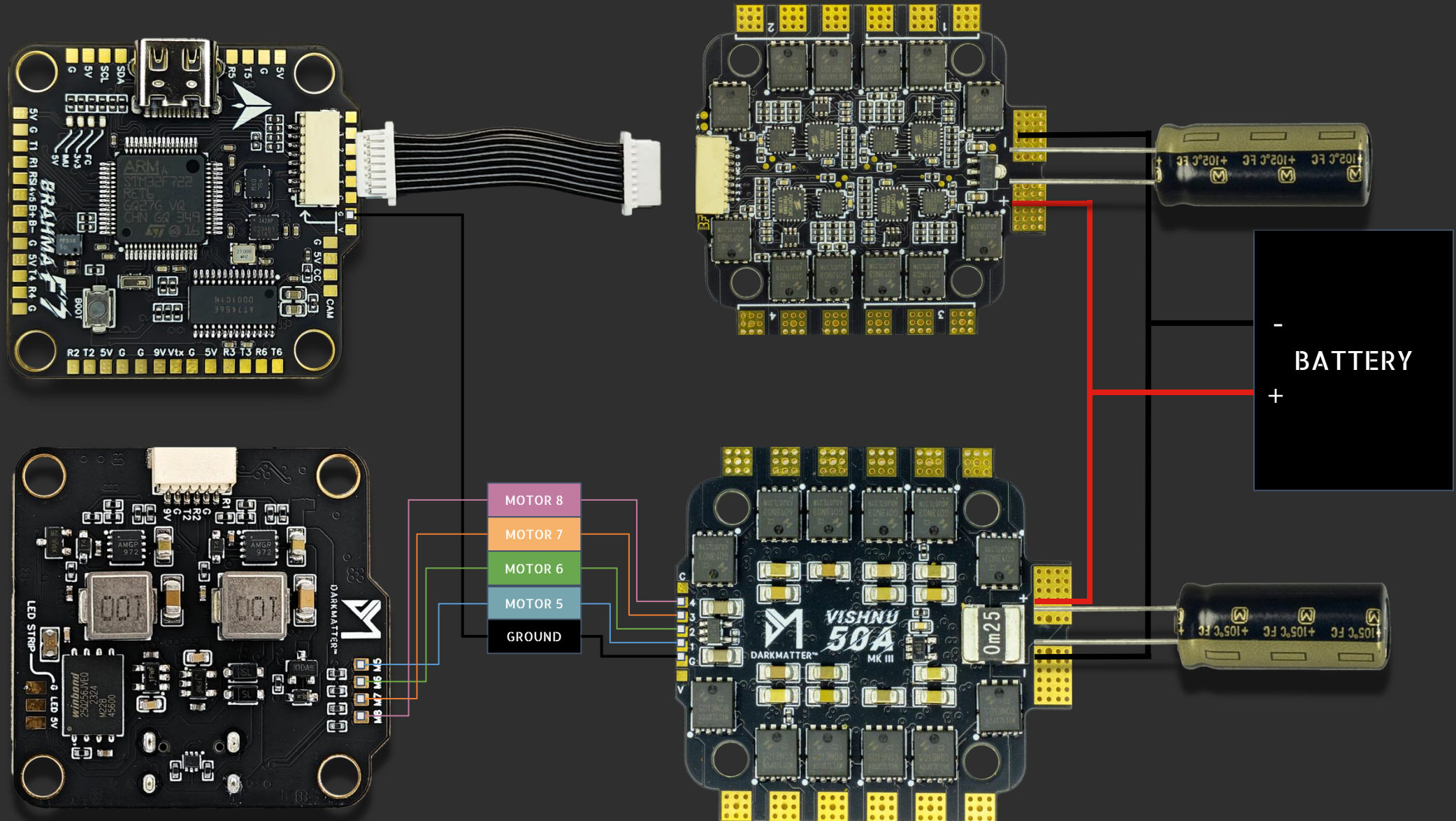


THIS SIDE FACING UP

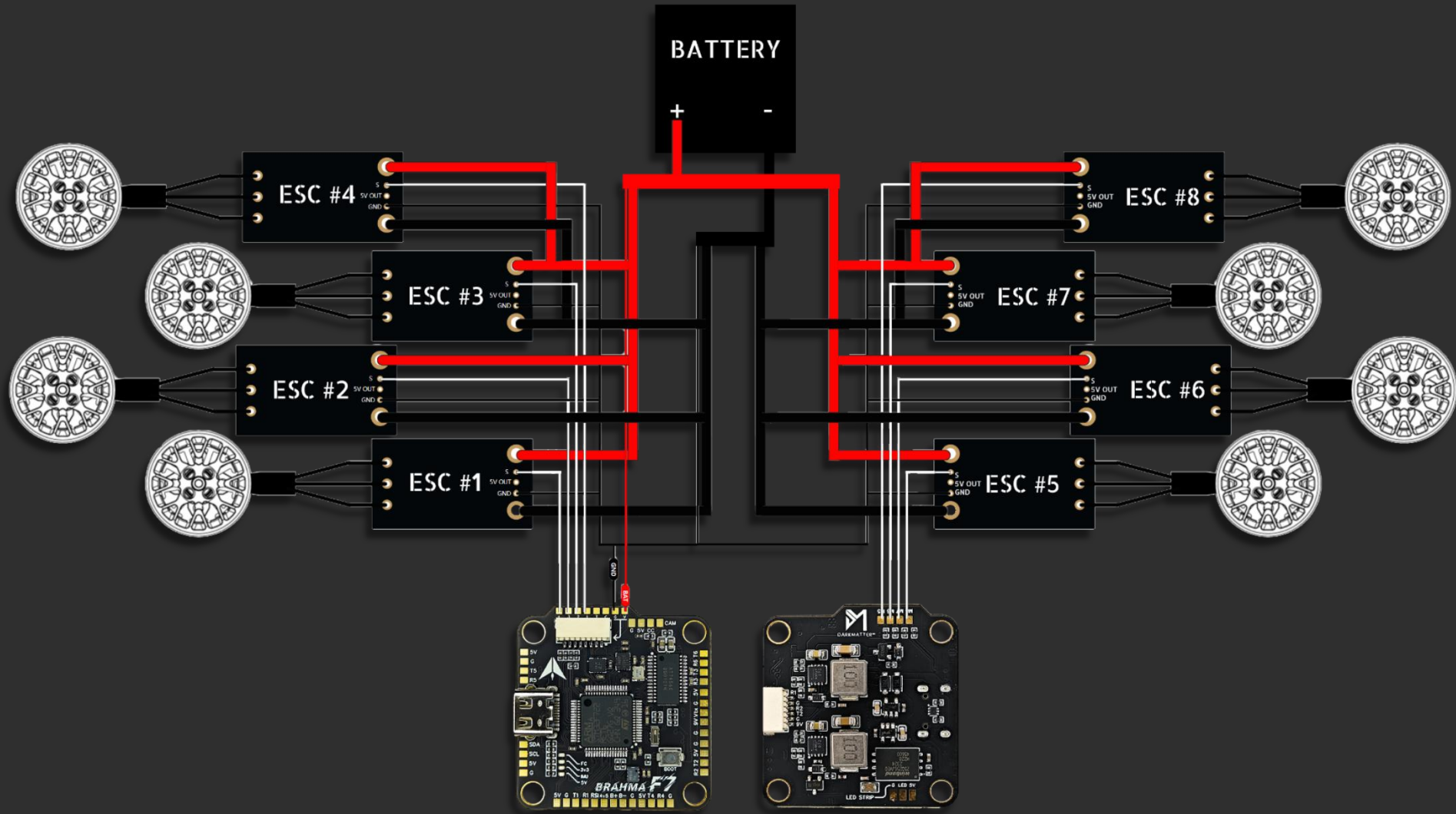


THIS SIDE FACING DOWN

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

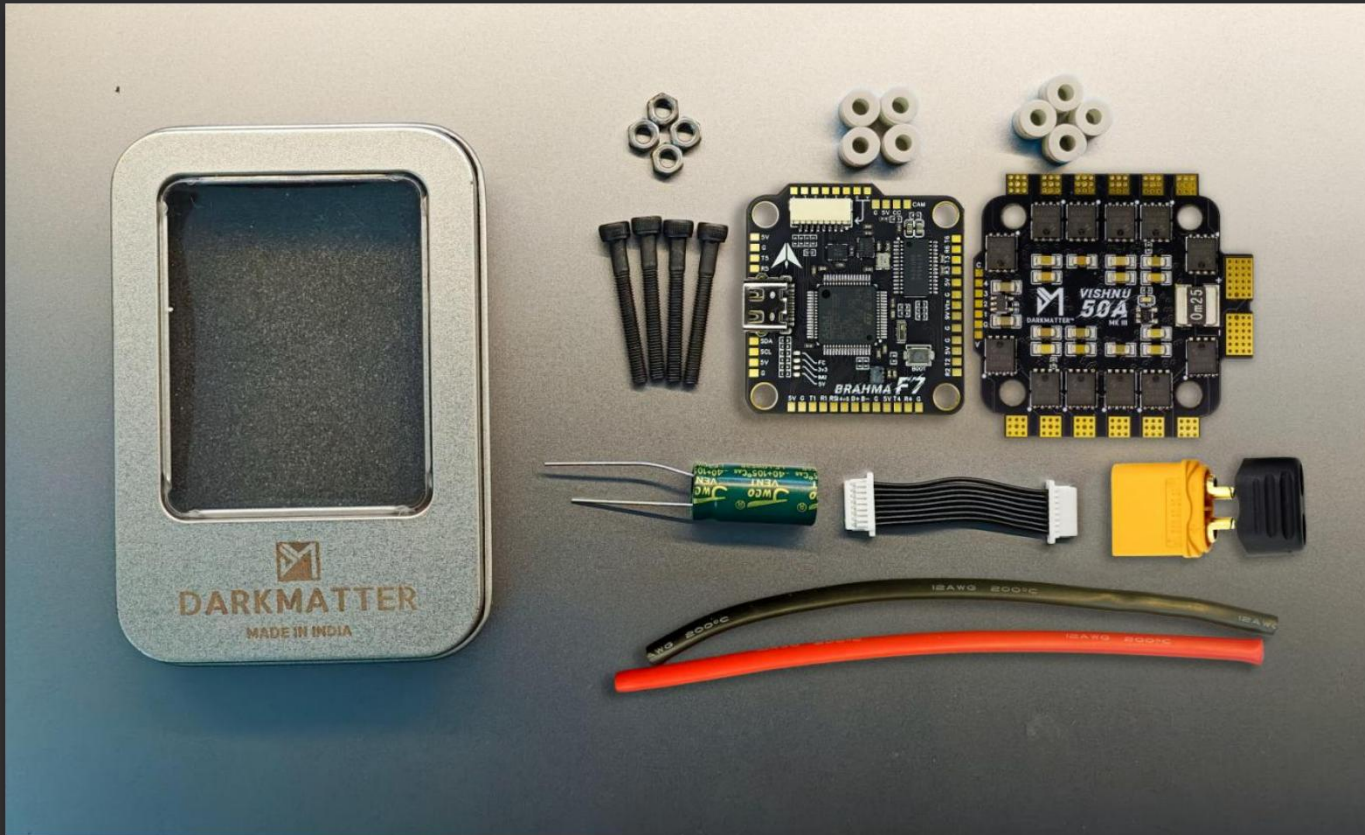


Single ESCs Direct Soldering Connection For 8 Motors



IMPORTANT: PLEASE DO NOT CONNECT THE 5V OUT OF THE ESC TO FC, IT WILL CAUSE THE ESC/FC TO BURN

Flight Controller – Package Contents



- 1x Brahma F7
- 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 750 - 6 Months Warranty

- **Warranty Period:** The STACK 750 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.



DARKMATTER®

Disruptive Momentum

IAF ISO 9001:2015

GST: 19AAVFD6551E1Z1

Thank you!

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