

FLIGHT CONTROL STACK · F4 V2 | BLS 60A · 3S-6S LIPO · V2.0

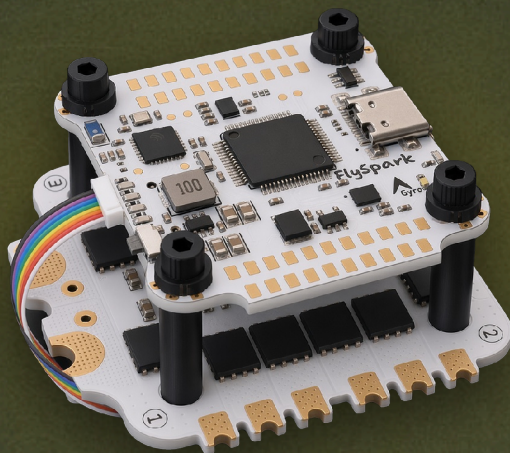
FLYSPARK F4 V2

BLS 60A STACK



FIELD SERIES · BUILT TO IPC CLASS 3. READY FOR THE FIELD.

STM32F405 flight controller and 60 A 4-in-1 ESC on IPC Class 3, heavy-copper, white boards, with built-in Bluetooth and open firmware. Designed and made in India.



FC + ESC ASSEMBLED STACK

01

BUILT TO IPC CLASS 3

All three boards fabricated to IPC Class 3 on 170 Tg laminate. 100 % flying-probe and 4-wire Kelvin tested.

02

HEAVY COPPER

Flight controller 4 oz / 2 oz. ESC power board 6 oz / 4 oz, 6 layers, 2.0 mm thick.

03

60 A ×4 ESC, 3-6S

60 A continuous and 80 A burst (10 s) per motor. BLHeli_S J_H_40 16.7, DShot300 recommended.

04

COMPLETE F405 CONTROLLER

STM32F405, ICM-42688-P, DPS310, MAX7456 + HD OSD, microSD, 6 UARTs, 8 motor outputs.

05

BLUETOOTH BUILT IN

ESP32-C3 bridge for MSP and MAVLink. Configure from the FlySpark Station app. 4-LED battery gauge.

06

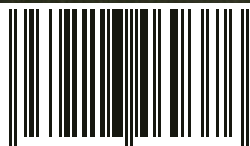
OPEN FIRMWARE

Betaflight 2026.6.2 hardware verified. INAV 9.1.0 and ArduPilot 4.7.1 supported. Published on GitHub.

PART NUMBER

F4B60-V2

EAN 8939116469376



8 939116 469376

ANUSHAKTI INFOTECH PVT. LTD.
GANDHINAGAR, GUJARAT, INDIA
WWW.FLYSPARK.IN · 1-YEAR WARRANTY



FLIGHT CONTROLLER

STM32F405 controller with built-in Bluetooth on a 4-layer, 4 oz copper board built to IPC Class 3.

T-1 FLIGHT CONTROLLER SPECIFICATIONS

PROCESSING & SENSORS	
MCU	STM32F405RGT6, 168 MHz, 1 MB flash
GYRO / BARO	ICM-42688-P (SPI1) · DPS310 (I ² C1, 0x76)
COMPASS	Not on board; external on I ² C1
OSD	MAX7456 analog (SPI2) + MSP DisplayPort (DJI / HD)
BLACKBOX	microSD card slot (SPI3)
INTERFACES	
BLUETOOTH	ESP32-C3 bridge on UART4, 115200 baud; MSP + MAVLink; bridge firmware V12
UARTS	6: UART1, 2, 3, 6 on pads · UART4 internal (Bluetooth) · UART5 RX only (TEL pad)
RC INPUT	Serial on UART2 · SBUS via hardware inverter · PPM
MOTOR OUTPUTS	8 (M1-M8); M1-M4 via the ESC connector
OTHER I/O	I ² C1, LED strip (WS2812), buzzer, camera control, analog RSSI, input for an external current sensor (CUR)
BATTERY GAUGE	4 on-board LEDs (Betaflight, INAV, ArduPilot)
CONNECTORS	USB-C · DJI 6-pin · 8-pin ESC (SH 1.0 mm) · BOOT button

T-1 CONTINUED

POWER	
INPUT	3-6S LiPo, TVS diode on the battery input
REGULATORS	5 V 3 A · 9 V 3 A (VTX / DJI) · 3.3 V · 4.5 V
VOLTAGE SENSING	10 kΩ / 1 kΩ divider (Betaflight scale 110)
MECHANICAL	
SIZE / MOUNTING	39.4 × 41.6 mm board · 30.5 × 30.5 mm, Ø4 mm holes (M3 with grommets)
PCB	4 layers, 4 oz / 2 oz copper, 170 Tg, IPC Class 3, ENIG 2 μ", white mask
WEIGHT	TBC (V2 not yet weighed)
FIRMWARE	
BETAFLIGHT	2026.6.2 · FLYSPARKF4 HARDWARE VERIFIED
INAV	9.1.0 · FlySparkF4v1 SUPPORTED
ARDUPILOT	4.7.1 · FlysparkF4 SUPPORTED

Betaflight factory installed. ArduPilot Copter / Plane, board ID 1361. Built from official release tags; binaries, SHA256 and patches: github.com/flyspark015/FlySpark. INAV and ArduPilot bench validation in progress. UART defaults and timer groups: user manual, ch. 7.

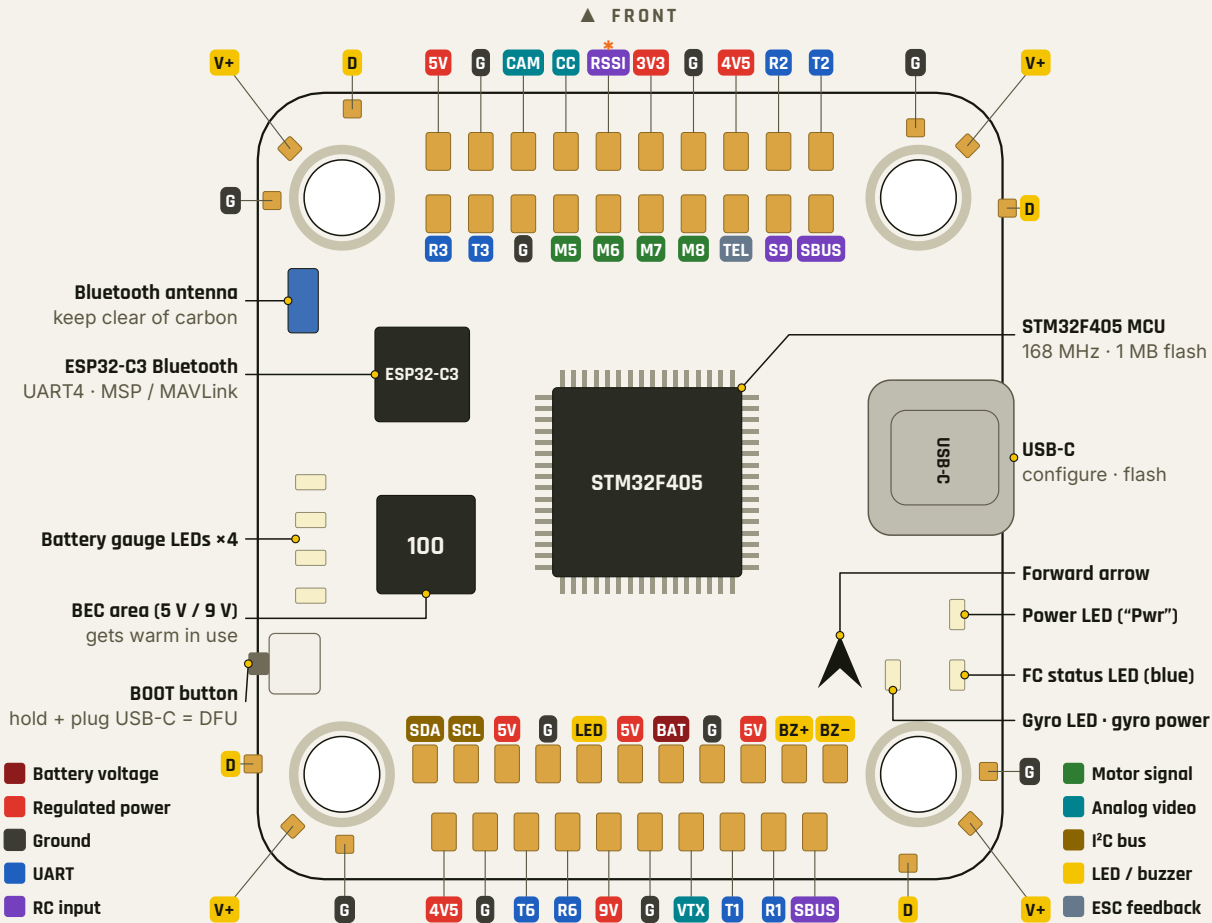


FIG-1 Pad layout, top view (diagram, not to scale). * Printed "R3" on the V2 silkscreen; the manual documents it as the analog RSSI input (PC5), to be confirmed. Both SBUS pads feed UART2 RX through the inverter: never wire SBUS and R2 together; CRSF / ELRS use T2 / R2. Corner pads V+ · D · G: LED pads, data source TBC.

ESC & BUILD STANDARD

60 A 4-in-1 ESC for 3–6S on a 6-layer, 6 oz copper, 2.0 mm power board.

T-2 ESC SPECIFICATIONS

ELECTRICAL	
CONTINUOUS	60 A per motor (×4)
BURST	80 A per motor, 10 s maximum
INPUT	3–6S LiPo
PROTECTION	TVS diode
POWER STAGE	24 MOSFETs (6 per motor)
CAPACITOR	1000 µF 50 V low-ESR (supplied)
MECHANICAL	
FC LINK	8-pin SH 1.0 mm cable or direct solder (GND, VBAT, M1–M4, CUR, TEL)
SIZE / MOUNTING	47.8 × 47.5 mm board · 30.5 × 30.5 mm, Ø4 mm holes

T-2 CONTINUED

CONTROL	
MCU	SiLabs EFM8BB21
FIRMWARE	BLHeli_S J_H_40, rev 16.7 (Bluejay - flashable)
PROTOCOLS	DSHOT150 / 300 / 600, Oneshot125, PWM
RECOMMENDED	DSHOT300; bidirectional DSHOT OFF
CURRENT / TELEMETRY	None (no current sensor, no ESC telemetry)
MECHANICAL (CONTINUED)	
WEIGHT	TBC (V1 ESC approx. 24 g)

Note: the flight controller measures battery voltage. The ESC has no current sensor and no telemetry; for current and mAh, fit an external analog sensor on the CUR pad. FC connector J3 (pin 1 → 8): TEL · CURRENT · M4 · M3 · M2 · M1 · VBAT · GND.

T-3 BARE-BOARD SPECIFICATION (V2 PCB PURCHASE RECORDS)

BOARD	LAYERS	COPPER OUT/IN	THICKNESS	LAMINATE	CLASS	FINISH	ELECTRICAL TEST
Flight controller	4	4 oz / 2 oz	TBC	170 Tg Shengyi S1170G	IPC Class 3 bare-board fabrication	ENIG, 2 µ" gold	100 % flying-probe + 4-wire Kelvin
ESC control board	4	4 oz / 2 oz	TBC				
ESC power board	6	6 oz / 4 oz	2.0 mm				

White solder mask on all boards. **IPC Class 3** refers to the fabrication of the bare printed circuit boards; it is not a certification of the assembled product. V1 for reference: FC 1 oz / 0.5 oz, ESC power board 3 oz / 2 oz at 1.6 mm, 135 Tg, IPC Class 2.

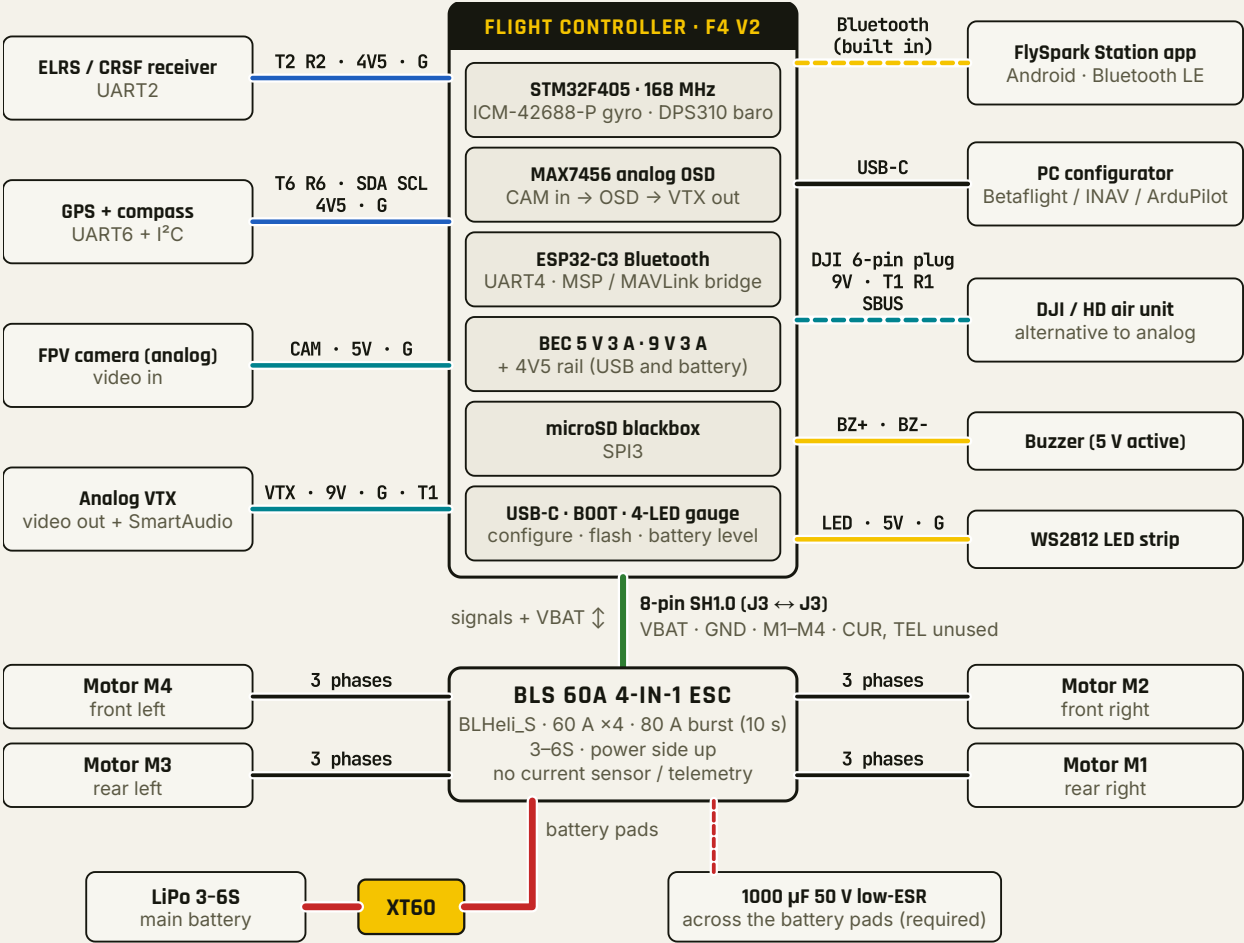
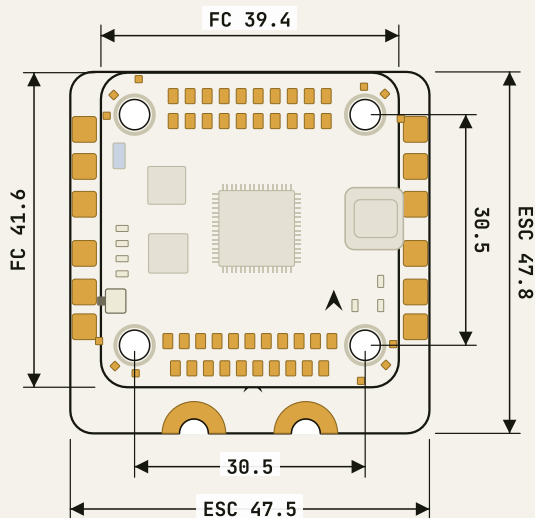


FIG-2 System wiring (diagram, not to scale). Solder the capacitor directly at the ESC battery pads, observing polarity.

MECHANICAL & ORDERING

TOP VIEW • ▲ FRONT



SIDE VIEW · from the right · FRONT →

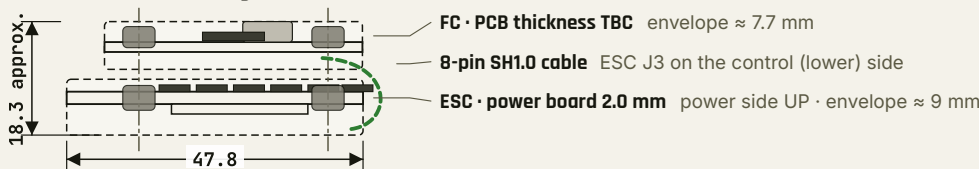


FIG-3 Dimensions in mm, not to scale. Heights approx. (V1 data); side view simplified.

IN THE BOX

#	ITEM	QTY
1	FlySpark F4 V2 flight controller	1
2	FlySpark BLS 60A 4-in-1 ESC	1
3	1000 μ F 50 V low-ESR capacitor	1
4	Heat-shrink tube (capacitor leads)	2
5	XT60 power lead (100 mm)	1
6	8-pin SH 1.0 mm cable (25 mm and 75 mm)	2
7	DJI 6-pin cable (80 mm)	1
8	M3 $\times$ 30 mm black hex socket screws	4
9	M3 steel nuts	4
10	Silicone grommets	8
11	Silicone O-rings	4

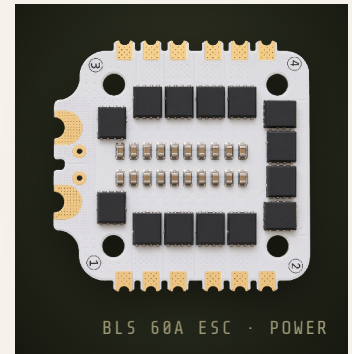
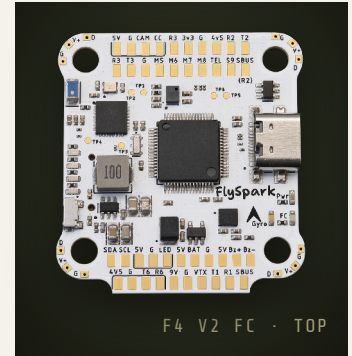
Packed in a retail box with a foam tray and a separate accessories box. Not included: USB-C cable, battery, motors, propellers, receiver, VTX and camera.

KEY DIMENSIONS

Stack outline	47.8 × 47.5 mm
Stack height	18.3 mm (approx.)
Mounting	30.5 × 30.5 mm
Holes	Ø4 mm • M3 + grommets
FC PCB	39.4 × 41.6 mm
ESC power board	2.0 mm thick
Screws (in kit)	M3 × 30 mm ×4

ESC POWER SIDE UP ▲

FC on top, ESC below it with the power side (MOSFETs) facing up.
▲ = forward arrow / FRONT.



FLYSPARK STATION APP



Android app over the built-in Bluetooth LE link or USB OTG. Detects Betaflight, INAV (MSP) or ArduPilot (MAVLink 2): live dashboard, quick setup, CLI backup.

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Package in.flyspark.station
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www.flyspark.in/app

Google Play listing coming soon

ORDERING INFORMATION

PART NUMBER	F4B60-V2
PRODUCT	F4 V2 BLS 60A Stack, Field Series
EAN	8939116469376
TRACEABILITY	Batch-coded packaging
WARRANTY	1 year, against manufacturing defects
HSN CODE	TBC
MOQ / LEAD TIME	On request

MANUFACTURED & MARKETING BY

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DESIGNED & MADE IN INDIA. Supported directly by the engineering team in Gandhinagar.



WHATSAPP

Subject to change without notice. TBC = being confirmed on V2 hardware; approx. = V1 measurement, to be confirmed on V2. Betaflight, INAV, ArduPilot and DJI are trademarks of their owners, used only to describe compatibility. © 2026 Anushakti Infotech Pvt. Ltd.