

Flameback

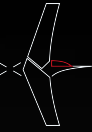
***Battle-Grade Propulsion & Critical Subsystems
for UAVs***

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Flameback has arrived.

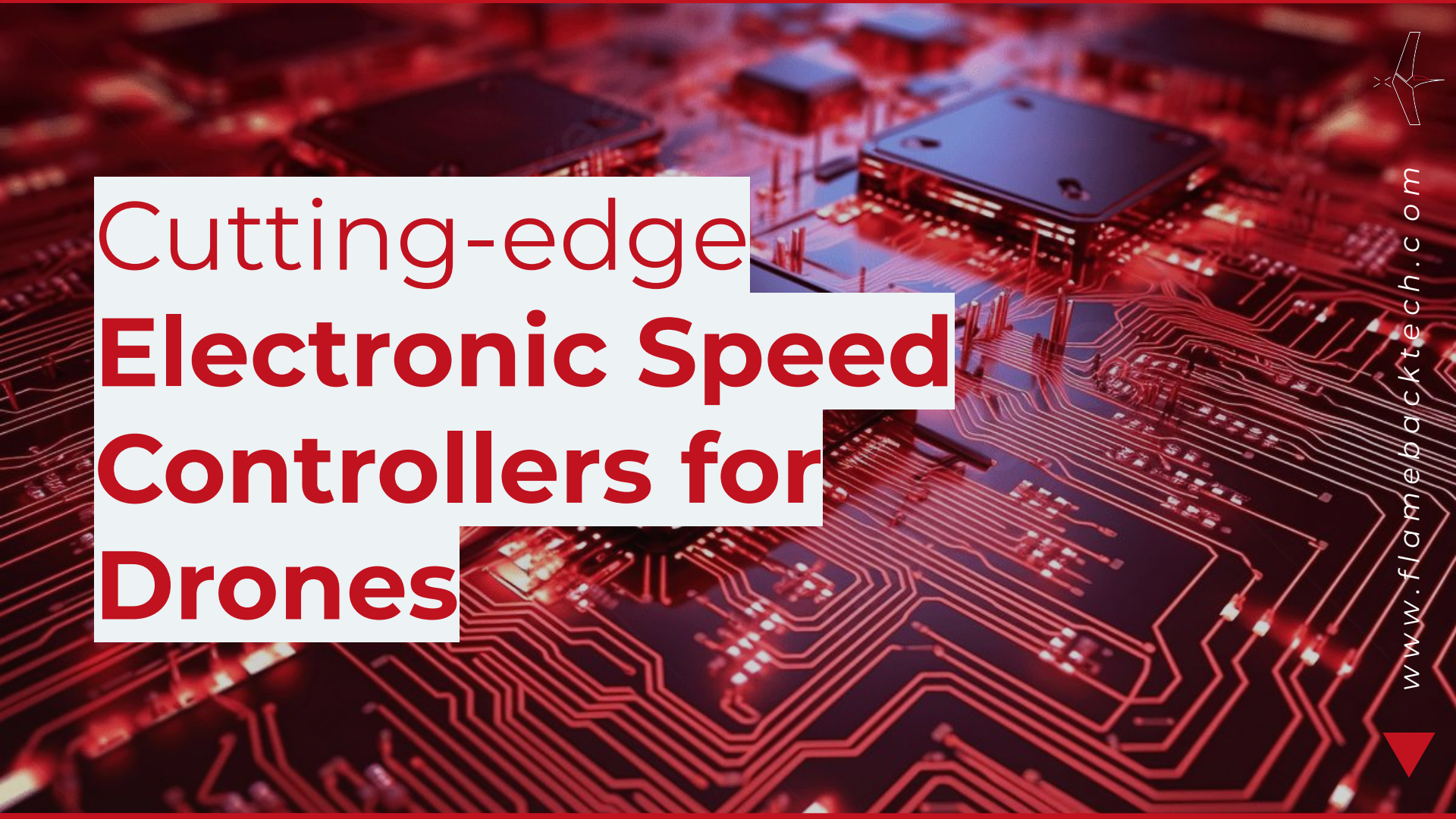
An
Integrated, Interconnected, and Indigenous
Ecosystem of high-performance Drone
Subsystems powering the next wave of
Autonomous Machines.

Propulsion • Motion Systems • Flight Control • Avionics • Autonomy • Power Systems • Payloads



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Cutting-edge **Electronic Speed Controllers for Drones**



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45A 3-6S ESC

FBT-ESC-45A6S

Flameback's flagship product.

Designed and Manufactured in India for high-performance drone applications, the FBT-ESC-45A6S delivers reliable, smooth, accurate and efficient power control across the full throttle range. It is well tested, tuned and integrated with several key Drone Manufacturers and OEMs.

It supports a wide range of protocols such as PWM, Oneshot125, Oneshot42, Multishot, and DSHOT (150/300/600), and offers maximum versatility for advanced UAV setups.

Flameback's advanced systems have been tested by customers in very demanding environments. These systems are fully engineered and calibrated to the highest performance parameters to ensure maximum endurance and longevity.

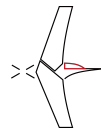
These ESCs incorporate the latest and greatest MOSFET and PCB technology, and deploy processors which allows us to incorporate smarter features than other available ESCs available in the market.

All core parameters are clearly marked for smooth assembly and quality control procedures. Flameback ESCs are backed by a 1-year manufacturers warranty against defects in materials and workmanship.

Built with high-quality Rubycon capacitors and low-resistance MOSFETs, it guarantees low noise operation, superior efficiency, and long-term reliability.

Weights under 20 grams!

continued...



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25A 3-6S ESC

FBT-ESC-25A6S

Parameter	Specification
ESC : Motor Configuration	1:1
Internal BEC	No
Voltage rating	3 - 6S
Current rating	Continuous: 25A Burst: 35A
Signal Frequency	50 Hz - 500 Hz
Product Dimensions (excl. Power & signal wires)	45 x 27.5 x 10.85 mm
Weight	19.55g, excl. wires
Ambient Operating Temperature	-20 - 60 °C
Peak ESC Temperature	140 °C
Programmable Protection	70 - 140 °C
Supported protocols	PWM, Oneshot125, Oneshot42, Multishot, DSHOT150, DSHOT300, DSHOT600
Environmental Robustness	IP56 pending Resistant to water splashes and dust.

Parameter	Specification
Compliance	RoHS pending Electrostatic discharge (ESD) sensitive device
Testing & QA	Visual inspection: IPC-A-600 class 2 Electrical test / flying probe test
Reports / documentation available	PCB inspection report Impedance control report
Wiring	Signal wire with female jumper connector Silicone power & motor wires (16 AWG)
Programming Parameters	▶ Startup Power ▶ Temperature Protection ▶ Low RPM Power Protection ▶ Motor Direction ▶ Demag Compensation ▶ Motor Commutation Timing ▶ Throttle Range Setting ▶ Brake on Stop ▶ Beep and Signal Volumes

Extensive Test data available on request.



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45A 3-8S ESC

FBT-ESC-45A8S

Parameter	Specification
ESC : Motor Configuration	1:1
Internal BEC	No
Voltage rating	3 - 8S
Current rating	Continuous: 45A Burst: 50A
Signal Frequency	50 Hz - 500 Hz
Product Dimensions (excl. Power & signal wires), incl. electrolytic capacitors	45 x 27.5 x 10.85 mm
Board Weight, incl. Wires	53.5 g
Product Weight, incl. Shrink & Wires	90 g
Ambient Operating Temperature	-20 - 60 °C
Peak ESC Temperature	140 °C
Programmable Protection	70 - 140 °C
Supported protocols	PWM, Oneshot125, Oneshot42, Multishot, DSHOT150, DSHOT300, DSHOT600
Environmental Robustness	IP56 pending Resistant to water splashes and dust.

Parameter	Specification
Compliance	RoHS pending Electrostatic discharge (ESD) sensitive device
Testing & QA	Visual inspection: IPC-A-600 class 2 Electrical test / flying probe test
Reports / documentation available	PCB inspection report Impedance control report
Wiring	Signal wire with female jumper connector Silicone power & motor wires (16 AWG)
Programming Parameters	▶ Startup Power ▶ Temperature Protection ▶ Low RPM Power Protection ▶ Motor Direction ▶ Demag Compensation ▶ Motor Commutation Timing ▶ Throttle Range Setting ▶ Brake on Stop ▶ Beep and Signal Volumes

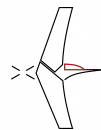
Extensive Test data available on request.



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60A 3-6S ESC

FBT-ESC-60A6S



Parameter	Specification
ESC : Motor Configuration	1:1
Internal BEC	No
Voltage rating	3 - 6S
Current rating	Continuous: 60A Burst: 65A
Signal Frequency	50 Hz - 500 Hz
Product Dimensions (excl. Power & signal wires), incl. electrolytic capacitors	45 x 27.5 x 10.85 mm
Board Weight, incl. Wires	53.5 g
Product Weight, incl. Shrink & Wires	90 g
Ambient Operating Temperature	-20 - 60 °C
Peak ESC Temperature	140 °C
Programmable Protection	70 - 140 °C
Supported protocols	PWM, Oneshot125, Oneshot42, Multishot, DSHOT150, DSHOT300, DSHOT600
Environmental Robustness	IP56 pending Resistant to water splashes and dust.

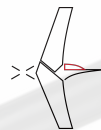
Parameter	Specification
Compliance	RoHS pending Electrostatic discharge (ESD) sensitive device
Testing & QA	Visual inspection: IPC-A-600 class 2 Electrical test / flying probe test
Reports / documentation available	PCB inspection report Impedance control report
Wiring	Signal wire with female jumper connector Silicone power & motor wires (16 AWG)
Programming Parameters	▶ Startup Power ▶ Temperature Protection ▶ Low RPM Power Protection ▶ Motor Direction ▶ Demag Compensation ▶ Motor Commutation Timing ▶ Throttle Range Setting ▶ Brake on Stop ▶ Beep and Signal Volumes

Extensive Test data available on request.

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60A 6-12S ESC

FBT-ESC-60A12S



Parameter	Specification
ESC : Motor Configuration	1:1
Internal BEC	No
Voltage rating	6 - 12S
Current rating	Continuous: 60A Burst: 80A
Signal Frequency	50 Hz - 500 Hz
Product Dimensions with heat sink and electrolytic capacitors, excluding wires	85 x 40 x 22 mm
Board Weight, incl. Wires	53.5 g
Product Weight, incl. Heat Sink & Wires	115 g
Ambient Operating Temperature	-20 - 60 °C
Peak ESC Temperature	180 °C
Programmable Protection	70 - 140 °C
Supported protocols	PWM, Oneshot125, Oneshot42, Multishot, DSHOT150, DSHOT300, DSHOT600
Environmental Robustness	IP63 pending

Parameter	Specification
Compliance	RoHS pending Electrostatic discharge (ESD) sensitive device
Testing & QA	Visual inspection: IPC-A-600 class 2 Electrical test / flying probe test
Reports / documentation available	PCB inspection report Impedance control report
Wiring	Signal wire with female jumper connector Silicon power & motor wires (14 AWG)
Programming Parameters	▶ Startup Power ▶ Temperature Protection ▶ Low RPM Power Protection ▶ Motor Direction ▶ Demag Compensation ▶ Motor Commutation Timing ▶ Throttle Range Setting ▶ Brake on Stop ▶ Beep and Signal Volumes

The 12S is built for Pilots and Integrators who demand uncompromising reliability and performance.

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80A 6-12S ESC

FBT-ESC-80A12S



Parameter	Specification
ESC : Motor Configuration	1:1
Internal BEC	No
Voltage rating	6 - 12S
Current rating	Continuous: 80A Burst: 90A
Signal Frequency	50 Hz - 500 Hz
Product Dimensions with heat sink and electrolytic capacitors, excluding wires	85 x 40 x 22 mm
Board Weight, incl. Wires	53.5 g
Product Weight, incl. Heat Sink & Wires	115 g
Ambient Operating Temperature	-20 - 60 °C
Peak ESC Temperature	180 °C
Programmable Protection	70 - 140 °C
Supported protocols	PWM, Oneshot125, Oneshot42, Multishot, DSHOT150, DSHOT300, DSHOT600
Environmental Robustness	IP63 pending

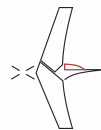
Parameter	Specification
Compliance	RoHS pending Electrostatic discharge (ESD) sensitive device
Testing & QA	Visual inspection: IPC-A-600 class 2 Electrical test / flying probe test
Reports / documentation available	PCB inspection report Impedance control report
Wiring	Signal wire with female jumper connector Silicon power & motor wires (14 AWG)
Programming Parameters	▶ Startup Power ▶ Temperature Protection ▶ Low RPM Power Protection ▶ Motor Direction ▶ Demag Compensation ▶ Motor Commutation Timing ▶ Throttle Range Setting ▶ Brake on Stop ▶ Beep and Signal Volumes

The 12S is built for Pilots and Integrators who demand uncompromising reliability and performance.

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100A 6-14S ESC

FBT-ESC-100A14S



Parameter	Specification
ESC : Motor Configuration	1:1
Internal BEC	No
Voltage rating	6 - 14S
Current rating	Continuous: 100A Burst: 120A
Signal Frequency	50 Hz - 500 Hz
Product Dimensions with heat sink and electrolytic capacitors, excluding wires	85 x 40 x 22 mm
Board Weight, incl. Wires	53.5 g
Product Weight, incl. Heat Sink & Wires	115 g
Ambient Operating Temperature	-20 - 60 °C
Peak ESC Temperature	180 °C
Programmable Protection	70 - 140 °C
Supported protocols	PWM, Oneshot125, Oneshot42, Multishot, DSHOT150, DSHOT300, DSHOT600
Environmental Robustness	IP63 pending

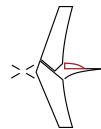
Parameter	Specification
Compliance	RoHS pending Electrostatic discharge (ESD) sensitive device
Testing & QA	Visual inspection: IPC-A-600 class 2 Electrical test / flying probe test
Reports / documentation available	PCB inspection report Impedance control report
Wiring	Signal wire with female jumper connector Silicon power & motor wires (14 AWG)
Programming Parameters	▶ Startup Power ▶ Temperature Protection ▶ Low RPM Power Protection ▶ Motor Direction ▶ Demag Compensation ▶ Motor Commutation Timing ▶ Throttle Range Setting ▶ Brake on Stop ▶ Beep and Signal Volumes

The 14S is built for Heavy Lift Birds requiring extreme reliability in the toughest of conditions.

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55A 3-6S 4-in-1 ESC (coming soon)

FBT-ESC-55A6S-4x1



Parameter	Specification
ESC : Motor Configuration	1:4
Internal BEC	No
Voltage rating	3 - 6S
Current rating	Continuous: 55 A Burst: 65 A
Signal Frequency	50 Hz - 500 Hz
Mounting Pattern	30.5 x 30.5 mm, M3 holes
Weight	17 g, excl. wires
Ambient Operating Temperature	-20 - 60 °C
Peak ESC Temperature	140 °C
Programmable Protection	70 - 140 °C
Supported protocols	PWM, Oneshot125, Oneshot42, Multishot, DSHOT150, DSHOT300, DSHOT600

Parameter	Specification
Compliance	RoHS pending Electrostatic discharge (ESD) sensitive device
Testing & QA	Visual inspection: IPC-A-600 class 2 Electrical test / flying probe test
Reports / documentation available	PCB inspection report Impedance control report
Wiring	Signal wire with female jumper connector Silicone power & motor wires (14 AWG)
Telemetry	Real-time feedback for current and RPM
Environmental Robustness	IP56 pending Resistant to water splashes and dust.

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Flameback's 4-in-1 ESC is a 32-bit platform built exclusively for FPV Drones. Launching soon.



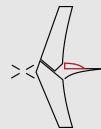
Flameback BLDC Systems: **Field-Proven Drone Motors**



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BLDC Motors: The Full List



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FPV & Racing Systems <i>Ultra-high RPM</i>
1606 KV 3800
1608 KV 3800
1806 KV 3000
2206 KV 1600
2408 KV 2300
2808 KV 950 / KV 1350
3106 KV 500

Micro & Lightweight Systems <i>High Precision</i>
4006 KV 320 / KV 340 / KV 380
5308 KV 380
6206 KV 300
8106 KV 100

Co-Axial Systems <i>Massive Heavy Lift</i>
4220 KV 400 / KV 550
6220 KV 150
8320 KV 100 / KV 120

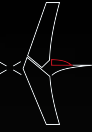
Fixed-Wings & VTOLs <i>Aerodynamic Endurance</i>
2215 KV 850
2415 KV 850
3120 KV 500 / KV 1000
3325 KV 380

Cargo, Agri & Defence Cargo Systems <i>Raw Strength</i>
4220 KV 400 / KV 550
6220 KV 150
8320 KV 100 / KV 120
8325 KV 120
10045 KV 80

Custom KV ratings are arranged for certain Flameback partners.

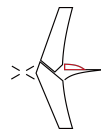
BLDCs for FPV & Racing Systems

Ultra-high RPM



Flameback 1606 KV 3800

FBT-BLDC-1606



Parameter	Specification
KV Options	3800
Configuration	9N12P
Max Power (Tested)	150 W
No-load Current	0.5 A
Max Current	20 A
Recommended ESC	Flameback 25A
Recommended Propellers	Gemfan D63 Ducted 3-Blade
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	3S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	15 g

Flameback 1606 KV 3800 BLDC Motor is designed for high-speed UAV platforms requiring **rapid acceleration and aggressive throttle response**.

Ideal for FPV racing drones, aerobatic systems, and compact UAVs requiring **precise propulsion control and maneuverability**.

Its **high KV configuration enables exceptional rotational speed and efficient power conversion**, ensuring responsive propulsion across aggressive flight conditions and continuous high-RPM operation.

A **precision-balanced rotor assembly reduces vibration and enhances propulsion smoothness**, improving stability and control accuracy.

Constructed using **high-grade magnets, premium ball bearings, and high-temperature copper windings** for durability, thermal resistance, and reliable performance.

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Flameback 1606 KV 3800

FBT-BLDC-1606-3800

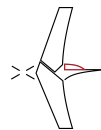
Prop: Gemfan D63 Ducted 3-Blade



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	8122	11.312	0.538	7.8	0.0009	6.086	0.765	12.57	10.196	1.282
20	14781	11.301	1.458	41.5	0.0037	16.477	5.727	34.758	7.246	2.519
30	19310	11.287	2.639	69.1	0.0064	29.786	12.942	43.45	5.339	2.32
40	23175	11.274	3.87	100.2	0.0091	43.63	22.085	50.619	4.537	2.297
50	26260	11.257	5.177	132.7	0.0117	58.277	32.175	55.21	4.124	2.277
60	29000	11.237	6.429	161.4	0.0137	72.243	41.606	57.592	3.879	2.234
70	30988	11.223	7.381	183.6	0.0157	82.837	50.948	61.504	3.604	2.216
80	33407	11.206	8.789	214.4	0.0184	98.49	64.371	65.358	3.331	2.177
90	36730	11.175	11.05	237.9	0.0223	123.484	85.775	69.462	2.774	1.927
100	39374	11.145	13.263	287.5	0.0246	147.816	101.433	68.621	2.834	1.945

Flameback 1608 KV 3800

FBT-BLDC-1608



Parameter	Specification
KV Options	3800
Configuration	9N12P
Max Power (Tested)	180 W
No-load Current	0.5 A
Max Current	20 A
Recommended ESC	Flameback 25A
Recommended Propellers	Gemfan D63 Ducted 3-Blade
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	3S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	18 g

Flameback's 1608 KV 3800 BLDC is built for ultra-compact, high-responsiveness UAV platforms where agility is critical.

Its high-KV configuration delivers rapid throttle response and aggressive acceleration, ideal for lightweight racing drones, micro-UAVs, and fast robotic systems.

Optimized stator geometry ensures high power density within a minimal footprint, enabling strong RPM performance without sacrificing efficiency.

Precision rotor balancing and refined magnetic circuitry support smooth high-speed operation with controlled vibration.

Advanced thermal dissipation maintains stability under sustained high-RPM loads.

Compact, powerful, and sharp in response, the 1608 KV3800 is engineered for applications demanding fast maneuverability and efficient high-speed propulsion.

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Flameback 1608 KV 3800

FBT-BLDC-1608-3800

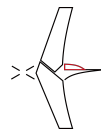
Prop: Gemfan D63 Ducted 3-Blade



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	12778	11.291	1.209	29.2	0.0029	13.651	3.881	28.43	7.524	2.139
20	18980	11.273	2.65	73.2	0.0064	29.873	12.721	42.584	5.754	2.45
30	23656	11.255	4.211	110.3	0.0096	47.395	23.782	50.178	4.638	2.327
40	27158	11.235	5.828	153.2	0.0128	65.478	36.403	55.596	4.208	2.34
50	30090	11.215	7.473	166.8	0.0152	83.81	47.897	57.15	3.482	1.99
60	32303	11.193	9.05	168.5	0.0167	101.297	56.493	55.77	2.983	1.663
70	34866	11.176	10.261	197.8	0.0196	114.677	71.564	62.405	2.764	1.725
80	36411	11.161	11.307	236.7	0.0216	126.197	82.36	65.263	2.874	1.876
90	39479	11.13	13.767	272.6	0.0258	153.227	106.665	69.612	2.556	1.779
100	42207	11.1	16.144	317	0.0289	179.198	127.737	71.283	-2.482	1.769

Flameback 1806 KV 3000

FBT-BLDC-1806



Parameter	Specification
KV Options	3000
Configuration	12N14P
Max Power (Tested)	250 W
No-load Current	0.5 A
Max Current	20 A
Recommended ESC	Flameback 25A
Recommended Propellers	HQ Prop Ethix P4 Candy Cane 5.1 x 4 x 3 5 Inch 3 Blade
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	3S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	26 g

Flameback's 1806 KV 3000 BLDC is engineered for compact UAV platforms demanding sharp acceleration with refined control.

Its high-efficiency stator architecture delivers strong thrust-to-weight performance, making it ideal for lightweight FPV drones, agile mapping systems, and fast-response robotic platforms.

Optimized magnetic flux pathways and precision-balanced rotor assembly ensure smooth high-RPM operation with reduced vibration and consistent torque output.

The fin-optimized housing enhances thermal dissipation, supporting stable performance during extended high-speed flight profiles.

Compact yet assertive, the 1806 KV3000 provides a balanced blend of acceleration, control authority, and electrical efficiency for performance-focused UAV applications.

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Flameback 1806 KV 3000

FBT-BLDC-1806-3000

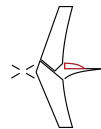
Prop: HQ Prop Ethix P4 Candy Cane 5.1 x 4 x 3.5 Inch 3 Blade



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	3985	12.522	0.244	20.3	0.0025	3.055	1.043	34.141	19.463	6.645
20	6935	12.512	0.885	67.4	0.0076	11.073	5.52	49.851	12.21	6.087
30	9077	12.494	1.757	115.6	0.0129	21.952	12.263	55.863	9.427	5.266
40	10950	12.47	3.004	180.4	0.0193	37.46	22.132	59.082	8.151	4.816
50	12942	12.435	4.76	257.6	0.0267	59.191	36.188	61.138	7.118	4.352
60	14966	12.384	7.288	351.2	0.0358	90.255	56.11	62.168	6.259	3.891
70	16673	12.324	10.202	441.3	0.0442	125.729	77.173	61.38	5.718	3.51
80	18190	12.252	13.598	521.4	0.0514	166.603	97.911	58.769	5.325	3.13
90	19248	12.174	17.108	588.4	0.0575	208.273	115.905	55.651	5.077	2.825
100	19398	12.132	18.297	599.1	0.0582	221.979	118.227	53.26	5.067	2.699

Flameback 2206 KV 1600

FBT-BLDC-2206



Parameter	Specification
KV Options	1600
Configuration	12N14P
Max Power (Tested)	200 W
No-load Current	0.5 A
Max Current	20 A
Recommended ESC	Flameback 25A
Recommended Propellers	HQProp 7X4X3 Inch 3 Blade
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	3S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	18 g

Flameback 2206 KV 1600 is engineered for UAV platforms requiring controlled thrust output, higher torque stability, and efficient mid-range propulsion.

Its optimized 22×6 stator architecture delivers strong torque characteristics at lower KV, making it ideal for endurance drones, precision mapping systems, and stable imaging platforms.

Refined magnetic flux design and precision-balanced rotor assembly ensure smooth throttle linearity, reduced vibration, and predictable torque response across the operating range.

The thermally enhanced finned housing supports sustained flight performance by improving heat dissipation under continuous load conditions.

Purpose-built for platforms where stability, efficiency, and controlled propulsion matter more than peak RPM, the FBT-BLDC-2206 KV1600 delivers dependable, refined performance in compact UAV configurations.



Flameback 2206 KV 1600

FBT-BLDC-2206-3800

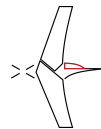
Prop: HQProp 7X4X3 Inch 3 Blade



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	2114.538	12.335	0.176	13.9	0.0027	2.171	0.598	27.545	23.244	6.403
20	3671.728	12.328	0.577	43.7	0.0085	7.113	3.268	45.944	13.372	6.144
30	4863.225	12.32	1.126	86.4	0.015	13.872	7.639	55.068	11.31	6.228
40	6184.162	12.301	2.18	152.3	0.0247	26.816	15.996	59.651	9.521	5.679
50	7587.975	12.273	3.858	244.7	0.0373	47.349	29.639	62.597	8.256	5.168
60	8842.338	12.234	5.949	341.9	0.0506	72.78	46.854	64.378	7.297	4.698
70	9874.802	12.192	8.331	424.9	0.0631	101.572	65.251	64.241	6.512	4.183
80	10817.888	12.141	11.006	453.9	0.0753	133.624	85.303	63.838	5.321	3.397
90	11688.475	12.076	14.456	534.4	0.0888	174.571	108.692	62.262	4.917	3.061
100	11875.125	12.051	15.405	553.9	0.0916	185.646	113.91	61.359	4.863	2.984

Flameback 2408 KV 2300

FBT-BLDC-2408



Parameter	Specification
KV Options	2300
Configuration	12N14P
Max Power (Tested)	550 W
No-load Current	0.5 A
Max Current	35 A
Recommended ESC	Flameback 45A
Recommended Propellers	Tri Blade - 5043
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	4S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	48 g

Flameback 2408 KV 2300 BLDC is engineered for UAV platforms requiring **strong thrust reserves with rapid throttle authority.**

Its 24×8 stator architecture delivers **elevated torque density and responsive mid-to-high RPM performance**, making it ideal for **performance quadcopters, agile surveillance drones, and payload-capable compact UAVs.**

Optimized magnetic flux design and precision-balanced rotor construction ensure smooth acceleration, controlled vibration, and stable torque delivery across dynamic flight conditions.

The **fin-optimized housing enhances thermal dissipation**, enabling sustained high-load operation without performance drop-offs.

Built for pilots and platforms that demand decisive thrust, efficient power utilization, and reliable high-speed response, the 2408 KV2300 offers a confident blend of power, control, and endurance.

www.flamebacktech.com



Flameback 2408 KV 2300

FBT-BLDC-2408-2300

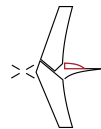
Prop: Tri Blade - 5043



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	9503	16.725	1.147	93.4	0.0106	19.184	10.549	54.989	8.854	4.869
20	13570	16.7	2.655	181.1	0.0212	44.338	30.126	67.946	6.011	4.085
30	16514	16.67	4.411	296.7	0.032	73.531	55.339	75.259	5.361	4.035
40	19157	16.633	6.491	408.1	0.0425	107.965	85.262	78.972	4.786	3.78
50	21335	16.595	8.581	506.6	0.0519	142.402	115.958	81.43	4.369	3.558
60	24012	16.544	11.42	629.3	0.0639	188.932	160.684	85.049	3.916	3.331
70	27563	16.441	15.594	809.3	0.0821	256.381	236.98	92.433	3.415	3.157
80	29888	16.366	20.849	968	0.0973	341.215	304.544	89.253	3.179	2.837
90	32143	16.281	25.523	1116.1	0.1115	415.54	375.31	90.319	2.974	2.686
100	34096	16.184	30.238	1234.2	0.1241	489.372	443.103	90.545	2.785	2.522

Flameback 2808 KV 950 / 1350

FBT-BLDC-2808



Parameter	Specification
KV Options	950 / 1350
Configuration	12N14P
Max Power (Tested)	600 W (950 KV) 1200 W (1350 KV)
No-load Current	0.5 A
Max Current	30 A (950 KV) 50 A (1350 KV)
Recommended ESC	Flameback 45A
Recommended Propellers	Tri Blade - 7035
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	66 g

2808 is built for authority, lift, and composure under load.

Engineered for endurance-focused UAV platforms requiring high torque stability and efficient heavy-lift performance.

Its larger 28×8 stator architecture delivers **strong low-RPM torque, making it ideal for mapping drones, long-duration inspection UAVs, and mid-to-heavy payload imaging systems.**

The low-KV configuration ensures optimized efficiency with larger propellers, providing stable thrust output and extended flight times.

Precision rotor balancing and refined magnetic circuitry ensure smooth operation under sustained load conditions, while the thermally enhanced finned design supports consistent performance during long missions.

Built for endurance, stability, and controlled lift authority.

With the same robust 28×8 stator foundation, the 1350 KV variant offers a balanced blend of lift and responsiveness **ideal for surveillance drones, tactical UAVs, and agile payload-carrying platforms.**

www.flamebacktech.com



Flameback 2808 KV 950

FBT-BLDC-2808-950

Prop: Tri Blade 7035



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	4842	24.957	0.51	94.6	0.0142	12.728	7.201	56.576	13.137	7.432
20	6782	24.942	1.22	199.8	0.0285	30.429	20.243	66.525	9.87	6.566
30	8371	24.921	2.164	305.8	0.0443	53.929	38.836	72.013	7.874	5.67
40	9843	24.894	3.406	445	0.0623	84.789	64.218	75.739	6.93	5.248
50	11498	24.85	5.233	622.3	0.085	130.04	102.354	78.71	6.08	4.785
60	12990	24.798	7.42	834.3	0.1079	184.001	146.787	79.775	5.684	4.534
70	14743	24.721	10.684	1088.3	0.1384	264.119	213.681	80.903	5.093	4.12
80	16370	24.622	14.447	1357.1	0.1723	355.714	295.381	83.039	4.594	3.815
90	17900	24.497	20.03	1647.5	0.2099	490.675	393.456	80.187	4.187	3.358
100	18950	24.379	24.193	1817.8	0.2341	589.801	464.576	78.768	3.913	3.082

Flameback 2808 KV 1350

FBT-BLDC-2808-1350

Prop: Tri Blade 7035



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	5712	23.309	0.941	144	0.0211	21.934	12.622	57.545	11.409	6.565
20	8008	23.281	2.274	298.3	0.0416	52.941	34.888	65.9	8.55	5.635
30	9910	23.234	4.072	433.1	0.0643	94.609	66.732	70.535	6.49	4.578
40	11779	23.164	6.758	680.2	0.0926	156.542	114.23	72.971	5.955	4.345
50	13517	23.082	9.982	934.8	0.1215	230.405	171.993	74.648	5.435	4.057
60	15867	22.921	16.278	1303.2	0.1681	373.108	279.328	74.865	4.665	3.493
70	17994	22.67	25.386	1700.1	0.2194	575.501	413.442	71.84	4.112	2.954
80	19089	22.523	30.361	1890.9	0.2448	683.821	489.369	71.564	3.864	2.765
90	20484	22.26	39.554	2196.1	0.287	880.472	615.652	69.923	3.567	2.494
100	21273	22.019	47.119	2390.7	0.3133	1037.513	697.969	67.273	3.425	2.304

Flameback 3106 KV 500

FBT-BLDC-3106

Parameter	Specification
KV Options	500
Configuration	12N14P
Max Power (Tested)	350 W
No-load Current	0.5 A
Max Current	20A
Recommended ESC	Flameback 45A
Recommended Propellers	Pro-Range 1038
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	78 g

Flameback 3106 KV500 BLDC is engineered for endurance-class UAV platforms requiring high torque stability and optimized large-propeller efficiency.

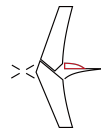
Its 31×6 stator architecture delivers strong low-RPM torque, making it ideal for long-range mapping drones, inspection UAVs, agricultural platforms, and payload-oriented multi-rotors.

The low-KV configuration supports larger propeller setups for improved lift efficiency, stable hover characteristics, and extended flight duration.

Refined magnetic circuitry and precision rotor balancing ensure smooth, vibration-controlled operation under sustained load conditions.

The thermally optimized finned housing enhances heat dissipation during continuous missions, ensuring consistent propulsion reliability.

Built for platforms where endurance, lift authority, and efficient power utilization define mission success.



www.flamebacktech.com



Flameback 3106 KV 500

FBT-BLDC-3108-500

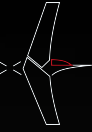
Prop: 1038



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1928	24.872	0.118	38.8	0.0058	2.935	1.172	39.932	33.106	13.22
20	3042	24.87	0.3	105	0.0159	8.381	5.065	60.434	20.731	12.528
30	4137	24.86	0.7	205.7	0.0322	19.565	13.952	71.311	14.743	10.514
40	5006	24.844	1.4	333.5	0.0499	35.452	26.162	73.796	12.747	9.407
50	6114	24.815	2.6	515.9	0.0808	66.231	51.734	78.111	9.972	7.789
60	6988	24.778	4.2	724.1	0.1119	105.158	81.889	77.872	8.842	6.886
70	7806	24.724	6.3	967.6	0.1457	157.616	119.115	75.573	8.123	6.139
80	8465	24.66	8.9	1161	0.1801	219.474	159.661	72.747	7.272	5.29
90	9024	24.573	12.1	1393.4	0.2151	298.537	203.27	68.089	6.855	4.667
100	9144	24.545	12.6	1400.2	0.218	311.034	208.758	67.117	6.673	4.479

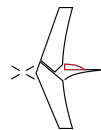
BLDCs for Micro & Lightweight Systems

High Precision



Flameback 4006 KV 320 / 380

FBT-BLDC-4006



Parameter	Specification
KV Options	320 / 380
Configuration	24N28P
Max Power (Tested)	350 W
No-load Current	0.5 A
Max Current	25 A
Recommended ESC	Flameback 45A
Recommended Propellers	T-Motor - 1758 (320 KV) T-Motor - 1550 (380 KV)
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	73 g

The 4006 platform is built for **efficiency-first missions**.

Engineered for ultra-efficient, long-endurance UAV platforms requiring stable lift with large propeller configurations.

Its 40×6 stator architecture delivers strong low-RPM torque, optimized for **heavy-lift mapping drones, agricultural UAVs, and extended-duration surveillance systems**.

The ultra-low KV configuration **maximizes propeller efficiency, ensuring smooth hover stability, reduced current draw, and superior flight times**.

Precision-balanced rotor assembly and optimized magnetic flux pathways ensure vibration-controlled operation under continuous load.

Built for missions where endurance, efficiency, and stable propulsion performance are paramount.

The 380 KV variant delivers improved mid-range throttle authority while retaining excellent lift efficiency with larger propellers.

www.flamebacktech.com



Flameback 4006 KV 320

FBT-BLDC-4006-320

Prop: 1758



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1424.433	25.112	0.25	109	0.031	6.278	4.624	73.654	23.573	17.362
20	2016.667	25.105	0.604	234	0.058	15.163	12.249	80.782	19.104	15.432
30	2489.767	25.094	1.127	386	0.088	28.281	22.944	81.129	16.824	13.649
40	2951.633	25.077	1.936	582	0.127	48.549	39.255	80.856	14.826	11.988
50	3422.767	25.051	2.988	794	0.169	74.852	60.575	80.926	13.108	10.608
60	3887.933	25.019	4.425	1027	0.216	110.709	87.943	79.436	11.678	9.277
70	4268.3	24.981	5.861	1248	0.256	146.414	114.426	78.152	10.907	8.524
80	4609.065	24.936	7.776	1515	0.307	193.902	148.175	76.417	10.224	7.813
90	4956.29	24.887	9.727	1733	0.344	242.076	178.543	73.755	9.706	7.159
100	5329.129	24.818	12.469	2021	0.405	309.456	226.016	73.037	8.942	6.531

Flameback 4006 KV 380

FBT-BLDC-4006-380

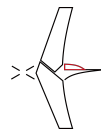
Prop: 1550



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1690.8	25.068	0.319	99	0.024	7.997	4.249	53.132	23.3	12.38
20	2369.533	25.06	0.697	215	0.047	17.467	11.662	66.766	18.436	12.309
30	2968.968	25.046	1.265	378	0.074	31.683	23.007	72.616	16.43	11.931
40	3681.1	25.023	2.286	596	0.114	57.203	43.945	76.823	13.562	10.419
50	4189.8	25.00	3.461	800	0.151	86.525	66.252	76.57	12.075	9.246
60	4709.933	24.97	4.81	1000	0.187	120.106	92.233	76.793	10.842	8.326
70	5155.5	24.931	6.387	1248	0.228	159.234	123.093	77.303	10.139	7.838
80	5597.033	24.885	8.488	1510	0.278	211.224	162.941	77.141	9.267	7.149
90	6045.4	24.833	10.692	1747	0.318	265.514	201.317	75.822	8.678	6.58
100	6550.067	24.763	13.819	2061	0.371	342.2	254.477	74.365	8.099	6.023

Flameback 5308 KV 380

FBT-BLDC-5308



Parameter	Specification
KV Options	380
Configuration	12N14P
Max Power (Tested)	500 W
No-load Current	0.5 A
Max Current	20 A
Recommended ESC	Flameback 45A
Recommended Propellers	T-Motor - 1550
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	180 g

Flameback 5308 KV380 BLDC is engineered for heavy-lift UAV platforms demanding high torque authority and sustained propulsion stability.

Its expansive 53×8 stator architecture delivers exceptional low-RPM torque, optimized for large propeller configurations and high-payload multi-rotor systems.

The 380 KV configuration provides efficient lift generation with controlled throttle behavior, enabling stable hover performance and predictable power delivery under substantial load.

Advanced magnetic circuit optimization and precision-balanced rotor construction ensure smooth operation with minimized vibration, even during continuous high-thrust missions.

Purpose-built for agricultural drones, logistics platforms, and industrial UAVs where lift capacity, endurance, and propulsion reliability are mission-critical.

www.flamebacktech.com



Flameback 5308 KV 380

FBT-BLDC-5308-380

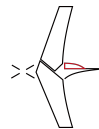
Prop: 1550



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1610.55	25.039	0.292	103	0.023	7.311	3.879	53.057	26.553	14.088
20	2400.33	25.029	0.762	238	0.05	19.072	12.568	65.898	18.937	12.479
30	3084.95	25.01	1.473	417	0.084	36.84	27.137	73.662	15.366	11.319
40	3856.65	24.976	2.714	683	0.133	67.785	53.714	79.242	12.715	10.076
50	4472.4	24.933	4.047	950	0.183	100.904	85.708	84.94	11.084	9.415
60	5119.94	24.879	6.231	1274	0.239	155.021	128.142	82.661	9.942	8.218
70	5774.6	24.802	9.064	1659	0.305	224.805	184.438	82.044	8.995	7.38
80	6375.25	24.707	12.204	2054	0.378	301.524	252.358	83.694	8.139	6.812
90	6921.33	24.598	16.04	2451	0.45	394.552	326.16	82.666	7.515	6.212
100	7320.05	24.495	19.235	2753	0.501	471.161	384.043	81.51	7.168	5.843

Flameback 6206 KV 300

FBT-BLDC-6206



Parameter	Specification
KV Options	300
Configuration	24N28P
Max Power (Tested)	600 W
No-load Current	0.5 A
Max Current	25 A
Recommended ESC	Flameback 45A
Recommended Propellers	Hobbywing 2480
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	180 g

6206 KV300 is all about massive prop efficiency and calm, controlled power delivery.

Engineered for large-format UAV platforms requiring exceptional torque authority and ultra-efficient propulsion.

Its 62×6 stator architecture delivers powerful low-RPM torque, optimized for oversized propeller configurations and high-payload multi-rotor systems.

The 300 KV configuration ensures maximum lift efficiency with reduced current draw, enabling extended flight durations and stable hover characteristics under heavy load.

Refined magnetic flux pathways and precision-balanced rotor assembly provide smooth, vibration-controlled operation during sustained high-thrust missions.

The thermally optimized finned design enhances heat dissipation, supporting reliable performance across long-duration industrial and agricultural deployments.

Built for platforms where lift capacity, endurance, and propulsion stability define operational success.



Flameback 6206 KV 300

FBT-BLDC-6206-300

Prop: 2480



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1350.8	24.959	0.406	146	0.039	10.133	5.517	54.446	26.464	14.408
20	1852.5	24.947	0.874	312	0.076	21.804	14.743	67.616	21.163	14.309
30	2387.905	24.92	1.702	554	0.13	42.414	32.508	76.645	17.042	13.062
40	2928.952	24.889	3.049	872	0.196	75.887	60.117	79.219	14.505	11.491
50	3536.25	24.829	5.129	1280	0.283	127.348	104.799	82.293	12.214	10.051
60	4066.45	24.754	7.785	1727	0.376	192.71	160.115	83.086	10.786	8.962
70	4533.81	24.668	10.945	2148	0.465	269.991	220.772	81.77	9.729	7.956
80	4990.95	24.56	14.381	2597	0.562	353.197	293.73	83.163	8.841	7.353
90	5419.65	24.43	18.773	3087	0.665	458.624	377.417	82.293	8.179	6.731
100	5715.95	24.313	22.283	3434	0.743	541.767	444.74	82.091	7.721	6.339

Flameback 8106 KV 100

FBT-BLDC-8106

Parameter	Specification
KV Options	100
Configuration	36N42P
Max Power (Tested)	850 W
No-load Current	0.5 A
Max Current	20 A
Recommended ESC	Flameback 45A
Recommended Propellers	Hobbywing 2388 / 2480
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	12S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	255 g

The 8106 delivers **slow, massive, unstoppable torque**.

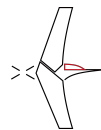
Engineered for ultra-heavy-lift UAV platforms requiring extreme torque authority and maximum propulsion efficiency.

Its commanding 81×6 stator architecture delivers exceptional low-RPM torque, **purpose-built for very large propeller systems and high-payload industrial multi-rotors**.

The **ultra-low 100 KV configuration** enables highly efficient lift generation with minimal current draw, ensuring stable hover performance and extended flight endurance under substantial loads.

Optimized magnetic circuitry and precision-balanced rotor construction provide smooth, vibration-controlled operation during sustained high-thrust missions.

Built for platforms where maximum lift, endurance, and propulsion stability are mission-critical.



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Flameback 8106 KV 100

FBT-BLDC-8106-100

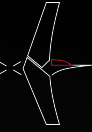
Prop: 2388



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1035	50.141	0.332	257	0.085	16.647	9.221	55.391	27.871	15.438
20	1428	50.12	0.713	537	0.164	35.736	24.531	68.645	21.891	15.027
30	1826	50.09	1.329	920	0.266	66.57	50.873	76.42	18.084	13.82
40	2234	50.035	2.258	1397	0.39	112.979	91.24	80.758	15.311	12.365
50	2692	49.95	3.892	2040	0.566	194.405	159.598	82.096	12.782	10.494
60	3098	49.845	5.779	2694	0.742	288.054	240.735	83.573	11.191	9.352
70	3459	49.712	8.046	3390	0.936	399.983	339.062	84.769	9.998	8.475
80	3810	49.56	10.898	4091	1.13	540.105	450.946	83.492	9.072	7.574
90	4166	49.365	14.442	4984	1.358	712.929	592.465	83.103	8.412	6.991
100	4396	49.203	17.15	5564	1.52	843.831	699.881	82.941	7.95	6.594

BLDCs for Fixed-Wings & VTOLs

Aerodynamic Endurance



Flameback 2215 KV 850

FBT-BLDC-2215

Parameter	Specification
KV Options	850
Configuration	12N14P
Max Power (Tested)	300 W
No-load Current	0.5 A
Max Current	18 A
Recommended ESC	Flameback 25A
Recommended Propellers	11 x 4.5
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	4S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	67 g

Flameback's 2215 BLDC is the perfect mid-to-heavy lift workhorse. Strong torque, composed throttle, very usable efficiency band.

Built for UAV platforms requiring stable lift authority with optimized efficiency for medium-payload operations.

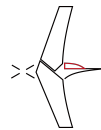
Its 22×15 stator architecture delivers high torque density, making it **ideal for mapping drones, inspection UAVs, and imaging systems operating with larger propeller configurations.**

It **prioritizes lift efficiency and controlled throttle linearity, ensuring smooth hover stability and reduced current draw during sustained missions.**

Refined magnetic flux pathways and precision rotor balancing provide vibration-controlled propulsion across extended flight durations.

Built for platforms where endurance, stability, and consistent torque delivery are essential.

Well suited for VTOL applications as well.

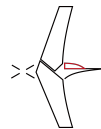


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Flameback 2415 KV 850

FBT-BLDC-2415



Parameter	Specification
KV Options	850
Configuration	12N14P
Max Power (Tested)	450 W
No-load Current	0.5 A
Max Current	30 A
Recommended ESC	Flameback 45A
Recommended Propellers	11 x 4.5
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	4S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	80 g

Clean, torque-forward platform. 2415 KV850 sits squarely in efficient lift + confident control territory

Its 24×15 stator architecture delivers strong low-to-mid RPM torque, making it ideal for mapping drones, inspection platforms, and payload-carrying multi-rotor UAVs operating with larger propellers.

The 850 KV configuration provides a balanced thrust profile with smooth throttle linearity, ensuring stable hover characteristics and predictable power delivery under load.

Built for platforms where lift stability, efficiency, and controlled responsiveness are mission-critical.

Well suited for VTOL applications as well.

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Flameback 2415 KV 850

FBT-BLDC-2415-850

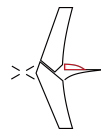
Prop: 1145



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	2272	16.798	0.417	71	0.014	7.005	3.332	47.566	21.309	10.136
20	3373	16.786	1.026	175	0.03	17.222	10.598	61.538	16.513	10.161
30	4372	16.769	1.898	306	0.049	31.828	22.438	70.498	13.638	9.614
40	5391	16.741	3.571	507	0.078	59.782	44.037	73.663	11.513	8.481
50	6515	16.697	6.205	754	0.115	103.605	78.467	75.737	9.609	7.278
60	7469	16.64	9.371	1001	0.152	155.933	118.89	76.244	8.42	6.419
70	8259	16.577	12.872	1233	0.186	213.379	160.881	75.397	7.664	5.778
80	9017	16.493	17.496	1496	0.229	288.562	216.244	74.938	6.918	5.184
90	9689	16.397	22.851	1752	0.269	374.688	272.949	72.847	6.419	4.676
100	9991	16.336	25.48	1855	0.284	416.241	297.143	71.387	6.243	4.457

Flameback 3120 KV 500 / 1000

FBT-BLDC-3120



Parameter	Specification
KV Options	500 / 1000
Configuration	12N14P
Max Power (Tested)	2000 W (1000 KV)
No-load Current	0.5 A
Max Current	90 A (1000 KV)
Recommended ESC	120A ESC
Recommended Propellers	1145 (500 KV) 1861 / Tri blade 1050 (1000 KV)
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	180 g

Flameback 3120 KV500 BLDC is engineered for endurance-focused UAV platforms requiring high torque density and efficient large-propeller operation.

Its 31×20 stator architecture delivers **substantial low-RPM torque, making it ideal for VTOL lift systems, mapping UAVs, agricultural drones, and medium-to-heavy payload multi-rotors.**

The 500 KV configuration prioritizes lift efficiency and controlled current draw, ensuring stable hover characteristics and extended flight durations.

The KV 1000 configuration delivers stronger throttle response while retaining the torque foundation of the 31×20 stator platform.

The higher KV configuration provides increased RPM capability and improved thrust responsiveness, making it **suitable for performance VTOLs, high-speed surveillance UAVs, and dynamic payload platforms.**

www.flamebacktech.com



Flameback 3120 KV 1000

FBT-BLDC-3120-1000

Prop: 1861



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	760.2	25.119	0.467	198	0.05	11.731	3.981	33.936	49.736	16.878
20	1138.9	25.098	1.442	486	0.114	36.191	13.597	37.57	35.743	13.429
30	1463.5	25.06	3.008	843	0.189	75.38	28.967	38.428	29.102	11.183
40	1851.3	24.991	6.042	1390	0.304	150.996	58.936	39.031	23.585	9.206
50	2133.8	24.91	8.981	1845	0.399	223.717	89.159	39.853	20.693	8.247
60	2424.8	24.795	13.763	2452	0.527	341.254	133.818	39.214	18.323	7.185
70	2710.6	24.645	19.924	3101	0.657	491.027	186.495	37.981	16.628	6.315
80	2961	24.47	26.437	3706	0.783	646.913	242.789	37.53	15.264	5.729
90	3181.3	24.276	33.749	4228	0.906	819.291	301.832	36.841	14.008	5.161
100	3313.7	24.098	39.823	4637	0.993	959.655	344.586	35.907	13.457	4.832

Flameback 3120 KV 1000

FBT-BLDC-3120-1000

Prop: 1050



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	4645	23.825	2.116	313	0.058	50.414	28.215	55.967	11.093	6.209
20	6093	23.771	4.272	590	0.1	101.55	63.812	62.838	9.246	5.81
30	7713	23.685	7.88	956	0.156	186.638	126.008	67.515	7.587	5.122
40	9257	23.538	13.945	1481	0.238	328.237	230.719	70.29	6.419	4.512
50	10670	23.33	21.99	2064	0.334	513.027	373.202	72.745	5.531	4.023
60	12045	23.06	32.189	2636	0.424	742.278	534.812	72.05	4.929	3.551
70	13116	22.709	45.623	3239	0.523	1036.053	718.345	69.335	4.509	3.126
80	14097	22.335	59.391	3746	0.61	1326.498	900.513	67.886	4.16	2.824
90	14919	21.923	73.976	4273	0.701	1621.776	1095.182	67.53	3.902	2.635
100	15401	21.575	84.902	4546	0.748	1831.761	1206.421	65.861	3.768	2.482

Flameback 3325 KV 380

FBT-BLDC-3325

Parameter	Specification
KV Options	380
Configuration	12N14P
Max Power (Tested)	550 W
No-load Current	0.5 A
Max Current	25 A
Recommended ESC	Flameback 45A
Recommended Propellers	1550
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	220 g

Flameback 3325 KV 380 BLDC Motor is designed for UAV platforms requiring **high torque output and efficient propulsion stability**.

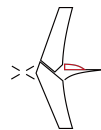
Ideal for **heavy payload UAVs, mapping platforms, and long-range surveillance systems** requiring reliable lift capability.

Its low KV configuration enables strong torque delivery and efficient propulsion performance, ensuring dependable operation across demanding flight conditions.

A **precision-balanced rotor assembly** reduces vibration and enhances propulsion smoothness, improving flight stability and reliability.

Built using **high-grade magnets, premium ball bearings, and high-temperature copper windings** to ensure durability, thermal resistance, and operational longevity.

Well suited for VTOL applications as well.



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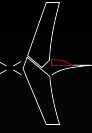
Flameback 3325 KV 380

FBT-BLDC-3325-380

Prop: 1550



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1759	24.558	0.475	133	0.029	11.665	5.343	45.804	24.892	11.402
20	2487	24.545	0.891	271	0.054	21.87	14.066	64.316	19.266	12.391
30	3133	24.528	1.636	452	0.089	40.128	29.209	72.79	15.475	11.264
40	3919	24.495	2.94	719	0.139	72.015	57.049	79.218	12.603	9.984
50	4572	24.456	4.412	988	0.188	107.9	90.02	83.429	10.975	9.157
60	5334	24.396	6.874	1340	0.248	167.698	138.532	82.608	9.673	7.991
70	6041	24.32	10.016	1766	0.319	243.589	201.835	82.859	8.75	7.25
80	6667	24.221	13.743	2214	0.398	332.869	277.908	83.489	7.967	6.651
90	7317	24.103	18.122	2650	0.477	436.795	365.521	83.683	7.25	6.067
100	7734	23.998	21.724	2992	0.539	521.333	436.571	83.741	6.853	5.739



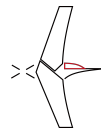
BLDCs for Cargo, Agri & Defence Cargo Systems

Raw Strength



Flameback 4220 KV 400 / 550

FBT-BLDC-4220



Parameter	Specification
KV Options	400 / 550
Configuration	12N14P
Max Power (Tested)	1500 W
No-load Current	0.5 A
Max Current	60 A
Recommended ESC	Flameback 60A
Recommended Propellers	Tarrot 1655 foldable
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	285 g

Flameback 4220 KV 400 BLDC Motor is designed for UAV platforms requiring strong thrust output and efficient propulsion stability across demanding mission profiles. The 4220 KV 400 is built for platforms that carry serious payloads and **don't compromise on stability**.

Ideal for agricultural drones, industrial UAV systems, and inspection platforms requiring consistent lift capability and reliable propulsion performance.

Its optimized KV configuration ensures efficient torque generation and stable power delivery, enabling dependable propulsion across varying operational loads.

A precision-balanced rotor assembly reduces vibration and enhances propulsion efficiency, improving flight stability and mechanical integrity.

Built with high-grade magnets, premium ball bearings, and high-temperature copper windings to ensure durability, thermal resistance, and long-term operational reliability.



Flameback 4220 KV 400

FBT-BLDC-4220-400

Prop: 1655



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1725.9	24.73	0.929	250	0.067	22.974	12.109	52.707	20.646	10.882
20	2537.1	24.692	2.397	570	0.145	59.187	38.524	65.089	14.796	9.63
30	3319.762	24.63	4.968	992	0.248	122.362	86.216	70.46	11.506	8.107
40	4047.81	24.532	8.605	1518	0.377	211.098	159.805	75.702	9.499	7.191
50	4625.35	24.419	12.92	2004	0.494	315.493	239.277	75.842	8.375	6.352
60	5314.9	24.238	20.129	2696	0.665	487.887	370.122	75.862	7.284	5.526
70	5884.4	24.018	28.082	3375	0.841	674.473	518.235	76.836	6.512	5.004
80	6388.7	23.772	36.971	3949	1.01	878.875	675.713	76.884	5.844	4.493
90	6826.8	23.483	47.326	4581	1.173	1111.356	838.579	75.455	5.463	4.122
100	7124.476	23.229	55.617	4996	1.296	1291.927	966.911	74.843	5.167	3.867

Flameback 6220 KV 150

FBT-BLDC-6220

Parameter	Specification
KV Options	150
Configuration	24N28P
Max Power (Tested)	3000 W
No-load Current	0.5 A
Max Current	60 A
Recommended ESC	Flameback 60A
Recommended Propellers	Hobbywing 2480
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	12S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	460 g

Engineered for **endurance and power**. Supports heavy-lift drones for logistics, disaster response, and advanced industrial operations.

Built for heavy-lift UAV systems requiring maximum torque and sustained propulsion. Provides reliable performance under high payload conditions.

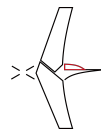
Optimized cooling ensures efficient operation during extended missions.

With its **impact resistant structure and optimal cooling**, Flameback's 6220 is ideal for demanding applications requiring power, torque & efficiency.

Has been crafted with advanced materials such as **N45UH magnets, German ball bearings, and multi-stranded high-temperature wire**.

Superior longevity, and thermal resistance due to its **unique airflow vortex designed for active cooling**.

The 6220 is the perfect replacement for the Hobbywing X6+ Platform.



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Flameback 6220 KV 150

FBT-BLDC-6220-150

Prop: 2480



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1417.484	50.292	0.934	596	0.21	46.973	31.172	66.362	19.12	12.688
20	1979.967	50.259	2.17	1299	0.41	109.062	85.01	77.946	15.281	11.911
30	2528.133	50.193	4.362	2210	0.67	218.942	177.379	81.016	12.459	10.094
40	3184.833	50.073	8.493	3538	1.057	425.27	352.525	82.894	10.036	8.319
50	3657.833	49.939	12.947	4750	1.405	646.56	538.182	83.238	8.826	7.347
60	4152.933	49.748	19.362	6216	1.834	963.221	797.596	82.805	7.793	6.453
70	4559.367	49.541	25.82	7505	2.22	1279.149	1059.952	82.864	7.081	5.867
80	4978.333	49.277	34.283	8984	2.647	1689.363	1379.96	81.685	6.51	5.318
90	5375.9	48.976	43.681	10428	3.068	2139.321	1727.17	80.734	6.038	4.874
100	5827.6	48.564	57.102	12258	3.601	2773.102	2197.564	79.246	5.578	4.42

Flameback 8320 KV 100 / 120

FBT-BLDC-8320

Parameter	Specification
KV Options	100 / 120
Configuration	36N42P
Max Power (Tested)	3000 W
No-load Current	0.5 A
Max Current	80 A
Recommended ESC	Flameback 80A
Recommended Propellers	Hobbywing 3011
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	12S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	660 g

Flameback's 8320 is the big brother of 6220. It sets new benchmarks for heavy-lift drones, ideal for applications such as **agriculture, cargo delivery, large-scale surveillance, and military operations.**

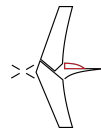
It's **incredible thrust-to-efficiency ratio** ensures reliable performance even in the most challenging conditions.

Designed for heavy-duty UAV platforms requiring exceptional thrust and endurance. Supports high-capacity payload and extended flight missions.

A precision-balanced rotor assembly minimizes vibration and enhances propulsion smoothness, improving flight stability and structural durability.

Constructed using high-grade magnets, premium ball bearings, and high-temperature copper windings for thermal resistance, durability, and long service life.

The 8320 is the perfect replacement for the Hobbywing X8+ Platform.



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Flameback 8320 KV 120

FBT-BLDC-8320-120

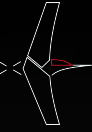
Prop: 3011



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1009.613	49.211	0.648	315	0.128	31.889	13.533	42.438	23.276	9.878
20	1786.367	49.174	1.805	1118	0.422	88.759	78.943	88.941	14.162	12.596
30	2405.3	49.098	3.779	2120	0.758	185.541	190.927	102.903	11.104	11.426
40	3046.5	48.964	7.016	3464	1.213	343.531	386.982	112.648	8.951	10.084
50	3785.2	48.72	13.029	5432	1.902	634.773	753.925	118.771	7.205	8.557
60	4412.806	48.411	20.6	7399	2.594	997.267	1198.708	120.199	6.172	7.419
70	4900.467	48.061	28.691	9404	3.276	1378.918	1681.164	121.919	5.594	6.82
80	5429.8	47.606	39.724	11655	4.067	1891.101	2312.526	122.285	5.04	6.163
90	5973.233	47.057	53.578	14076	4.921	2521.22	3078.162	122.09	4.573	5.583
100	6435.533	46.478	68.704	16377	5.71	3193.225	3848.126	120.509	4.256	5.129

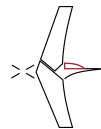
BLDCs for Co-Axial Systems

Massive Heavy Lift



Flameback 4220 KV 400 (Co-Axial)

FBT-BLDC-4220-CA



Parameter	Specification
KV Options	400
Configuration	12N14P
Max Power (Tested)	3000 W
No-load Current	0.5 A
Max Current	120 A
Recommended ESC	Flameback 120A
Recommended Propellers	2 x Tarrot 1655 foldable
Rotor Balance Standard	≤ 5 mg
Max Temp	80 °C
Rated Voltage	6S
Copper Wire Rating	220 °C
Testing Conditions	37.8 °C, 46.36% RH, 98.43 kPa
Weight incl. cables	700 g

Designed for **stacked thrust columns, airflow interaction, and thermal discipline**. The 4220 Co-Axial BLDC System is specifically engineered for stacked motor configurations in high-payload UAV platforms requiring compact lift architecture with maximum thrust density.

Built on the proven 42×20 stator foundation, this co-axial-optimized variant delivers strong low-to-mid RPM torque while maintaining controlled throttle linearity in dual-motor vertical assemblies.

The 400 KV configuration supports efficient large-propeller operation, ensuring stable hover characteristics and predictable power delivery even within complex airflow interactions typical of co-axial setups.

Enhanced magnetic circuit optimization and precision-balanced rotor construction minimize vibration coupling between upper and lower motor pairs, supporting smooth synchronized thrust output.

Purpose-built for heavy-lift, compact-frame industrial and logistics UAV platforms where thrust density, stability, and propulsion reliability are critical.

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Flameback 4220 KV 400 (Co-Axial)

FBT-BLDC-4220-CA

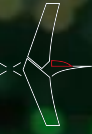
Prop: 2 x 1655



Throttle	Optical Speed	Voltage	Current	Thrust	Torque	Electrical	Shaft	Electric Drive	Propeller Thrust	System Force EFF
%	RPM	V	A	g	N•m	P-W	P-W	EFF - %	Eff - gf/W	gf/W
10	1725.9	24.73	1.86	500	0.134	45.95	24.22	52.71	20.65	10.88
20	2537.1	24.69	4.79	1140	0.29	118.37	77.05	65.09	14.8	9.63
30	3319.8	24.63	9.94	1984	0.496	244.72	172.43	70.46	11.51	8.11
40	4047.8	24.53	17.21	3036	0.754	422.2	319.61	75.7	9.5	7.19
50	4625.4	24.42	25.84	4008	0.988	630.99	478.55	75.84	8.38	6.35
60	5314.9	24.24	40.26	5392	1.33	975.77	740.24	75.86	7.28	5.53
70	5884.4	24.02	56.16	6750	1.682	1348.95	1036.47	76.84	6.51	5
80	6388.7	23.77	73.94	7898	2.02	1757.75	1351.43	76.88	5.84	4.49
90	6826.8	23.48	94.65	9162	2.346	2222.71	1677.16	75.46	5.46	4.12
100	7124.5	23.23	111.23	9992	2.592	2583.85	1933.82	74.84	5.17	3.87

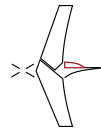


The Smartest Power Distribution Systems for Unmanned Systems.



PDB Octa 120A 14S

FBT-PDB-120A14S-OCTA



The Flameback PDB cleanly distributes battery power across **eight ESC / motor outputs** from a single **6-14S** pack, while delivering **precise pack voltage and current telemetry** to the autopilot and providing **dual onboard buck-converter** rails for the flight stack.

Built on a heavy-copper modular design, the board is rated for **120 A continuous bus current** and is fully designed, manufactured, assembled and tested in-house by Flameback Tech.

Every core parameter is clearly marked on the silkscreen for fast assembly and quality control.

Where most power modules force a fixed configuration, the Flameback PDB gives the integrator **a choice**: run both bucks redundant for fault-tolerant autopilot power, or trade that redundancy for a selectable variable output to feed external peripherals, and add a separate high-power compute BEC when running a companion computer

Dense. Redundant. Telemetry-ready!

120 A continuous distribution

From a single 6-14S battery,

8 ESC / motor outputs

In one compact board. Clean, symmetrical, low impedance routing.

Built-in V & I telemetry

Kelvin-sensed measurement for accurate pack monitoring on your autopilot.

Modular add-on compute BEC

High-power 5 V / 5 A rail for companion computers: Raspberry Pi 5, Jetson and similar. Available separately!

Heavy-copper, multilayer build

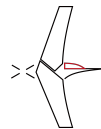
2-4 layer high-current modular design for thermal headroom and reliability.

Dual independent bucks

User-configurable: redundant fault-tolerant power, or one rail traded for a selectable variable output.

PDB Octa 120A 14S

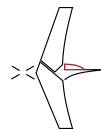
FBT-PDB-120A14S-OCTA



Parameter	Specification
Battery input voltage	6S - 14S LiPo
Continuous bus current	120 A continuous (total)
Peak / burst current	150 A (total)
ESC-Motor Power O/P	8 (Octa)
On-board regulators	2 × independent synch. buck converters
BEC Redundant mode BEC Variable mode	5.0 V / 5 A per rail (prelim), both rails active, fault-tolerant One rail reconfigured as selectable variable output, e.g. 5 V / 6 V / 12 V (preliminary)
Operating Temp	-20 - 60 °C (Ambient) and 140 °C (Peak)
Telemetry (voltage)	Pack voltage sense (analog output to autopilot)
Telemetry (current)	Kelvin-sensed current measurement (analog output to autopilot)

Parameter	Specification
Add-on compute BEC (optional, sold separately)	5 V / 5 A for high-power compute (Raspberry Pi 5, Jetson, etc.); FBT-PDB-BEC-5V5A
PCB construction	2-4 layer, heavy-copper, high-current modular design
Copper weight	TBD
Board dimensions	TBD mm
Mounting	TBD
Weight	TBD g
Battery / ESC connection	Solder pads / connector
Compliance	RoHS pending
Testing & QA	Visual: IPC-A-600 Class 2; Electrical / flying-probe test
Reports available	PCB inspection, RoHS, impedance control report

More Coming soon!



ESCs
25A 2-4S ESC
120A 14S ESC
25A 2-4S 4-in-1 ESC

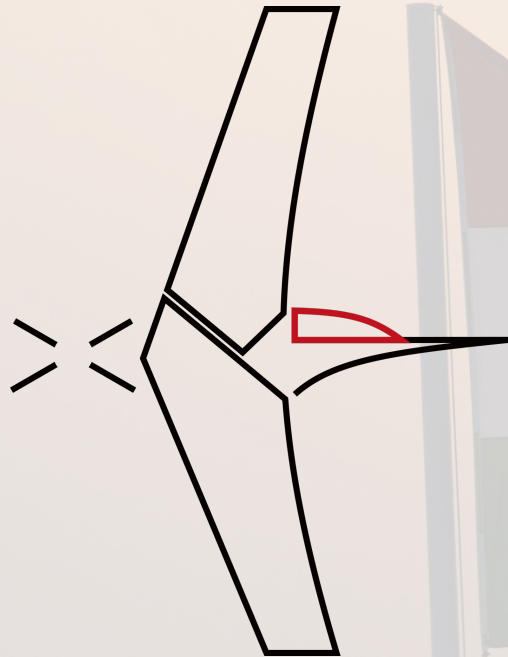
BLDCs
6220 KV 150 (Co-Axial)
8320 KV 100 (Co-Axial)
10045 KV 80
<i>and more</i>

Propellers
2480 (foldable)
3011 (foldable)
Tri-blade 5152
Tri-blade 5149
Tri-blade 6042
Tri-blade 5045
Tri-blade 6045
Tri-blade 5055
Tri-blade 4052
Tri-blade 5131
Tri-blade 7035
<i>and more</i>

Need Help?

For data sheets and implementation support, please reach out to us at hello@flamebacktech.com





Flameback

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STARTUP
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INNOVATION
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