



FPV POLAR XC5000 Brushless DC Motor First-Person View

Our Product Introduction

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Basic Information

- Place of Origin: Guangdong, China
- Brand Name: GS
- Model Number: XC5000 345KV 380KV
- Price: Negotiable
- Delivery Time: 6-8
- Payment Terms: T/T
- Supply Ability: 100



Product Specification

- Motor Model: Polar Xc3000 V1.0
- Motor Size: D:50 X67.9 Mm
- Propeller Mounting Holes: D:12 M3x4 / M6 Nut
- Shaft Diameter: IN: 6 Mm
- Bearing: 686ZZ*2/696ZZ
- Rotor Balance: $\leq 5\text{mg}$
- Motor Balance: $\leq 10\text{ Mg}$
- Motor Mounting Holes: D:25 M3x4, D:30 M4x4
- Cable Length: 750 Mm 14# Awg(Black) Silicone
- Highlight: **POLAR XC5000 Brushless DC Motor, FPV Brushless DC Motor, First-Person View Brushless DC Motor**



More Images



Product Description

FPV POLAR XC5000 Brushless DC Motor First-Person View

XC5500 and XC5000 motors are designed for the fastest high-end X-class drones, i.e.: 800-1200mm multi-rotor aircraft, VTOL aircraft and agricultural copters (2-3kg load per rotor).

1. Weighs 324g with 3pcs durable bearings.
2. Maximum thrust 6.1kg.

Efficiency: Brushless motors are more efficient than brushed motors, which means they can provide more power with less energy consumption, extending battery life during FPV flight.

Durability: Brushless motors have no brushes that wear out, so they last longer and are ideal for demanding FPV applications.

Power and speed: The XC5000 is likely to provide high power output and rotational speed, which is crucial for maneuvering and maintaining control in freestyle flight.

Precise control: The brushless motor can achieve accurate throttling control, making the adjustment of speed and direction more smooth and accurate, which is crucial for FPV aircraft flight.

Cooling: Some FPV motors, especially high-performance FPV motors, are designed with enhanced cooling features that help maintain performance and prevent overheating during intense use.



Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	39.92	2.02	80.3	47.1	0.126	3574	523	60	6.7
35	39.9	2.96	117.7	76.6	0.174	4216	758	66.7	6.6
40	39.88	3.99	158.8	109.6	0.222	4723	987	70.5	6.4
45	39.86	5.19	206.4	147.4	0.270	5212	1229	73	6.1
50	39.83	6.66	264.7	195.9	0.328	5710	1496	75.6	5.8
55	39.79	8.57	340.5	259.9	0.396	6268	1826	77.9	5.5
60	39.76	10.87	431.6	335.0	0.467	6848	2151	79.1	5.1
65	39.72	13.28	527.3	416.0	0.540	7360	2494	80.4	4.8
70	39.67	16.11	638.7	510.3	0.623	7819	2883	81.2	4.6
75	39.63	18.79	744.0	593.6	0.684	8288	3132	81	4.3
80	39.57	22.09	873.4	700.3	0.768	8714	3520	81.3	4.1
85	39.49	25.86	1020.8	819.3	0.857	9132	3920	81.2	3.9
90	39.44	30	1182.4	945.3	0.945	9558	4332	80.8	3.7
95	39.36	34.6	1361.2	1082.6	1.038	9957	4746	80.2	3.5
100	39.24	40.82	1601.1	1266.9	1.155	10475	5257	79.6	3.3

MAD Polar XC5000 EEE 345KV MAS 12x8x3 Carbon Fiber MAD BLHELI_32 100A (6-12S)

12S

MAX
123°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	47.82	2.74	130.5	82.8	0.183	4329	795	64.5	6.2
35	47.8	3.84	183.2	124.6	0.241	4942	1066	69.1	5.9
40	47.78	5.18	247.3	174.5	0.302	5511	1365	71.7	5.6
45	47.74	6.73	320.6	235.5	0.369	6093	1682	74.6	5.3
50	47.69	9.01	429.3	324.8	0.458	6779	2103	76.7	5.0
55	47.66	11.67	555.8	432.3	0.557	7418	2562	78.8	4.7
60	47.6	14.65	696.9	547.5	0.651	8027	2996	79.5	4.4
65	47.56	17.89	850.3	669.2	0.745	8572	3420	79.6	4.1
70	47.5	21.28	1010.5	795.1	0.835	9091	3818	79.5	3.8
75	47.43	25.35	1202.0	947.0	0.946	9558	4324	79.5	3.6
80	47.34	29.75	1408.0	1106.9	1.054	10027	4817	79.1	3.4
85	47.27	34.42	1626.3	1269.9	1.154	10511	5246	78.5	3.2
90	47.16	39.84	1878.3	1453.2	1.266	10960	5748	77.6	3.1
95	47.05	45.43	2136.9	1636.4	1.373	11384	6214	76.6	2.9
100	46.92	53.95	2530.9	1897.0	1.523	11892	6868	76.4	2.8

MAD Polar XC5000 EEE 345KV MAS 13x12x3 Carbon Fiber MAD BLHELI_32 100A (6-12S)

10S

MAX
109°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	40.06	2.91	115.9	79.0	0.219	3444	720	68.2	6.2
35	40.03	4.34	173.2	125.0	0.295	4048	1017	72.2	5.9
40	40	6.05	241.7	181.4	0.381	4550	1361	75.8	5.7
45	39.96	7.92	315.9	240.3	0.458	5008	1663	77.9	5.4
50	39.92	10.17	405.4	312.2	0.545	5473	1970	78.8	5.0
55	39.88	12.84	511.4	397.9	0.640	5935	2317	79.5	4.6
60	39.83	16.1	640.7	499.0	0.743	6413	2692	79.5	4.3
65	39.76	20.16	800.8	626.5	0.870	6876	3124	79.7	4.0
70	39.68	24.2	959.7	747.0	0.980	7281	3486	79.2	3.7
75	39.62	28.51	1129.3	869.7	1.087	7644	3834	78.2	3.4
80	39.52	33.5	1323.7	1007.2	1.204	7988	4201	77.1	3.2
85	39.42	38.74	1526.5	1146.8	1.316	8320	4553	75.9	3.0
90	39.32	44.22	1738.5	1281.5	1.416	8643	4885	74.3	2.8
95	39.19	50.62	1983.3	1432.1	1.536	8905	5263	72.5	2.7
100	39.05	59.19	2310.8	1616.4	1.666	9266	5664	70	2.5

MAD Polar XC5000 EEE 345KV MAS 13x12x3 Carbon Fiber MAD BLHELI_32 100A (6-12S)

12S

MAX
131°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	44.3	3.37	148.8	102.7	0.260	3775	863	69.5	5.8
35	44.28	5.16	227.9	166.5	0.358	4445	1270	73.4	5.6
40	44.24	7.01	309.8	233.9	0.451	4956	1614	75.9	5.2
45	44.2	9.28	409.5	312.1	0.547	5452	1973	76.5	4.8
50	44.16	11.75	518.3	398.9	0.640	5951	2302	77.2	4.5
55	44.1	15.12	666.4	516.4	0.762	6471	2756	77.6	4.1
60	44.05	19.12	841.3	655.2	0.894	6996	3179	77.9	3.8
65	43.97	23.48	1031.8	795.7	1.020	7453	3596	78.8	3.6
70	43.88	28.34	1243.1	949.2	1.154	7858	4033	77.9	3.3
75	43.79	33.46	1464.9	1101.0	1.275	8245	4422	76.5	3.1
80	43.68	38.88	1697.9	1259.0	1.399	8591	4821	75.3	2.9
85	43.57	44.97	1958.7	1420.2	1.523	8904	5196	73.4	2.7
90	43.48	51.24	2227.4	1571.7	1.630	9209	5528	71.3	2.5
95	43.33	58.51	2534.6	1727.8	1.751	9425	5899	68.6	2.3
100	43.16	67.88	2929.1	1904.1	1.864	9756	6204	65.2	2.1

The above data are the theoretical values when the input voltage is 48 V, for reference only, in the case of room temperature of 25°C and no additional cooling device, the current over 68A is non-working zone, 23-68A is short-term (about 10-30s) working zone, and below 23A is sustainable working zone. In actual use, please control the motor running time according to the working environment temperature and heat dissipation conditions.

POLAR XC5000

ENERGY EFFICIENT 380KV ENTHUSIASTS EXTREME EDITION

2.0~3.0 kgf
RECOMMENDED
HOVER THRUST

OPTIMIZED
WEIGHT 324g

7.1 kgf
MAXIMUM
THRUST

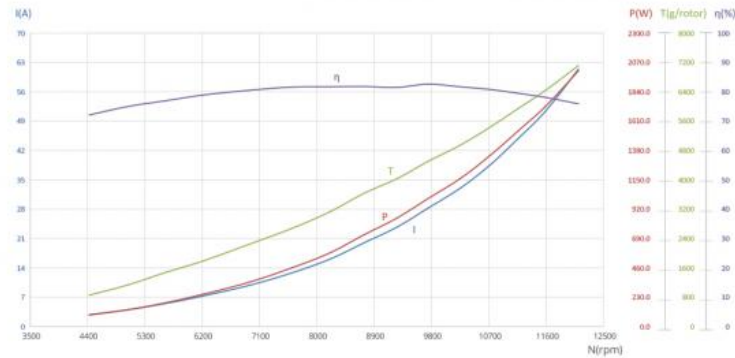
EFFICIENCY >80%



MAD Polar XC5000 EEE 380KV MAS 12x8x3 Carbon Fiber MAD BLHELI_32 100A (6-12S) 12S MAX 133°C

Analytical Graph of Motor Operation

I - Current, P - Input Power, η - Electrical Efficiency, T - Thrust, N - Rotational Speed
The data above was measured with an input voltage of 48 V, at a temperature of 25°C and sea level. The rotational speed was adjusted by the throttle.



Specifications

RPM/V	380 KV	Nominal Voltage	10-12S lipo battery
No Load Current	1.4A/20V	Internal resistance	51mΩ
Motor Weight	324 g	Product Boxed Weight	546g (110 x 110 x 95 mm)
Maximum Current	74.8 A	Maximum Power	2886W
Maximum thrust	7.1 kg	Maximum Torque	1.9 Nm
Recommended ESC	MAD BLHELI_32 100A (6-12S)	Recommended Propellers	MAS 12x8x3, MAS 13x12x3
UAV take-off weight	12S-12V 8kg--Quadcopter 12kg--Hexacopter 16kg--Octocopter	Single rotor take-off weight	2kg ~ 3kg

MAD Polar XC5000 EEE 380KV MAS 12x8x3 Carbon Fiber MAD BLHELI_32 100A (6-12S) 10S MAX 97°C

Throttle (%)	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	39.9	2.56	101.7	65.9	0.157	4005	680	66.2	6.8
35	39.88	3.62	143.6	101.1	0.210	4601	932	72.1	6.6
40	39.86	4.9	194.9	144.3	0.268	5140	1209	75.6	6.3
45	39.83	6.34	252.0	191.6	0.323	5666	1459	77.7	5.9
50	39.79	8.25	327.7	256.4	0.391	6270	1791	79.8	5.6
55	39.75	10.87	431.6	344.0	0.476	6908	2194	81.2	5.2
60	39.7	13.52	536.4	433.8	0.555	7471	2552	82.3	4.8
65	39.64	16.88	668.9	541.9	0.646	8007	2976	82.3	4.5
70	39.59	20.23	800.1	649.4	0.730	8501	3407	82.3	4.3
75	39.51	24.03	949.1	770.7	0.821	8968	3808	82.2	4.1
80	39.44	27.88	1099.0	886.3	0.898	9421	4157	81.5	3.8
85	39.36	32.95	1296.1	1041.0	1.008	9858	4637	81	3.6
90	39.27	38.07	1494.4	1191.2	1.105	10295	5089	80.2	3.4
95	39.16	43.68	1709.7	1345.5	1.198	10727	5467	79	3.2
100	39.02	51.95	2026.5	1569.5	1.334	11234	6079	77.4	3.0

MAD Polar XC5000 EEE 380KV MAS 12x8x3 Carbon Fiber MAD BLHELI_32 100A (6-12S) 12S MAX 133°C

Throttle (%)	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	44.38	2.86	126.3	90.3	0.195	4427	857	72.1	6.8
35	44.36	4.02	177.9	132.4	0.251	5036	1137	75	6.4
40	44.33	5.49	242.8	185.3	0.315	5613	1469	76.9	6.1
45	44.3	7.33	324.3	254.2	0.390	6221	1793	78.9	5.6
50	44.24	9.83	434.5	347.7	0.479	6936	2244	80.5	5.2
55	44.2	12.8	565.3	459.7	0.577	7603	2673	81.6	4.7
60	44.15	16.11	710.7	578.7	0.673	8209	3134	81.7	4.4
65	44.08	20	881.2	720.2	0.787	8743	3635	81.8	4.1
70	44.01	23.76	1045.2	851.6	0.878	9261	4035	81.5	3.9
75	43.94	28.28	1242.0	1003.8	0.983	9748	4505	82.6	3.7

	43.86	32.99	1446.2	1159.3	1.080	10249	4943	81.7	3.5
85	43.75	38.52	1684.6	1339.5	1.194	10717	5432	80.8	3.3
90	43.63	44.81	1954.6	1532.0	1.311	11157	5940	79.5	3.1
95	43.51	51.28	2230.8	1722.7	1.420	11584	6431	78.1	2.9
100	43.32	61.42	2659.8	2004.9	1.581	12108	7118	75.9	2.7

MAD Polar XC5000 EEE 380KV

MAS 13x12x3 Carbon Fiber

MAD BLHELI_32 100A (6-12S)

10S

MAX 109°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	39.91	3.44	136.9	101.5	0.258	3755	869	75.9	6.5
35	39.87	5.37	213.6	165.5	0.357	4432	1265	79.1	6.0
40	39.83	7.37	293.0	231.6	0.449	4928	1593	80.7	5.6
45	39.79	9.67	384.3	305.0	0.537	5425	1917	81	5.1
50	39.75	12.44	494.1	394.5	0.636	5923	2278	81.4	4.7
55	39.68	16.11	638.8	510.4	0.756	6447	2714	81.3	4.3
60	39.6	20.59	814.9	649.2	0.890	6968	3190	80.8	4.0
65	39.52	25.23	996.4	787.3	1.012	7427	3580	80	3.6
70	39.43	30.45	1200.2	936.1	1.141	7832	4010	78.8	3.4
75	39.32	36.06	1417.5	1090.4	1.268	8212	4425	77.5	3.1
80	39.21	42.11	1650.6	1247.3	1.391	8565	4802	75.9	2.9
85	39.1	49.09	1919.1	1415.4	1.520	8890	5206	73.9	2.7
90	38.96	55.99	2180.7	1572.6	1.632	9203	5558	73.9	2.6
95	38.81	63.75	2473.5	1730.3	1.744	9476	5910	71.4	2.4
100	38.61	74.75	2885.6	1930.7	1.877	9823	6262	67.9	2.2

MAD Polar XC5000 EEE 380KV

APC 13x6.5

MAD BLHELI_32 100A (6-12S)

12S

MAX 111°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	44.33	2.11	92.8	58.0	0.121	4570	664	62.9	7.2
35	44.31	2.88	127.4	86.0	0.157	5222	907	67.9	7.2
40	44.29	3.89	171.7	122.6	0.201	5827	1119	71.8	6.6
45	44.27	5.16	228.0	171.1	0.253	6464	1421	75.4	6.3
50	44.23	7.02	309.9	242.8	0.321	7214	1813	78.8	5.9
55	44.19	9.19	405.9	326.4	0.394	7916	2220	80.8	5.5
60	44.15	11.75	518.3	424.4	0.474	8557	2625	82.1	5.1
65	44.11	14.48	638.2	524.2	0.548	9141	3001	82.3	4.7
70	44.05	17.62	775.8	641.7	0.633	9685	3430	82.7	4.4
75	43.99	21.18	931.3	771.2	0.721	10212	3867	84.2	4.2
80	43.92	25.63	1125.3	929.0	0.827	10731	4264	84.3	3.9
85	43.83	30.8	1349.2	1108.5	0.944	11214	4596	83.7	3.5
90	43.71	36.08	1576.5	1291.3	1.055	11692	4957	83.2	3.2
95	43.62	42.53	1854.7	1498.1	1.179	12136	5328	81.9	2.9
100	43.46	51.73	2247.7	1776.5	1.337	12687	5803	79.8	2.6

MAD Polar XC5000 EEE 380KV

APC 16x8

MAD BLHELI_32 100A (6-12S)

8S

MAX 126°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [gf/W]
30	31.84	2.35	74.2	53.7	0.166	3099	741	74.4	10.3
35	31.83	3.4	107.6	81.0	0.218	3554	982	77.1	9.4
40	31.8	5.12	162.0	127.6	0.297	4098	1356	80.7	8.6
45	31.75	6.86	217.3	173.8	0.368	4509	1671	81.9	7.9
50	31.73	8.83	279.7	226.0	0.439	4913	1999	82.7	7.3
55	31.69	11.36	359.6	292.2	0.525	5311	2379	83	6.8
60	31.64	14.5	458.2	373.5	0.623	5726	2798	83.2	6.2
65	31.57	18.06	569.8	462.2	0.720	6134	3215	82.6	5.7
70	31.5	22.16	697.3	562.8	0.825	6511	3652	82	5.3
75	31.41	26.91	844.9	675.0	0.937	6877	4084	80.9	4.9
80	31.32	31.95	1000.0	790.2	1.054	7159	4551	79.8	4.6
85	31.22	37.35	1165.7	908.0	1.163	7455	4994	78.4	4.3
90	31.13	42.99	1337.8	1026.6	1.269	7726	5380	77	4.0
95	31.01	49.55	1535.7	1155.4	1.385	7969	5798	75.5	3.8
100	30.84	58.71	1809.9	1325.4	1.529	8279	6241	75.2	3.5

The above data are the theoretical values when the input voltage is 32 V. for reference only. in the case of room temperature of 25°C and no additional cooling device, the current over 59A is non-working zone,18-59A is short-term (about 10-30s) working zone, and below 18A is sustainable working zone. in actual use, please control the motor running time according to the working environment temperature and heat dissipation conditions.

Our Services

1. We provide 1 Year Warranty. Buy with confidence.
2. If you are not satisfied when you receive your item, please return it within 14 days for a replacement or money back. Please contact me before you return it.
3. If item is defective in 3 months, We will send you a replacement without extra charger, or offer refund after we receive the defective item.
4. If item is defective after 3 months, you can still send it back to us. We will send you a new one after receiving the defective item. But you have to pay the extra shipping fee.



FAQ

Q1: Do you support OEM/ODM?

A1: Yes. We can print your logo on the product.

Q2: About samples.

A2: Under normal circumstances, samples will be ready within 7 days, and 10-20 days for OEM/ODM orders. Sample fee and shipping will be charged.

Q3: What is the delivery time?

A3: For regular orders, we can ship within 15 days, for OEM/ODM, we can ship within 25-45 days (depending on the quantity). In the event of delays, we will notify you in advance of the status and resolution.

Q4: What is the minimum order quantity?

A4: There is no MOQ for wholesale (1 piece accepted), including OEM/ODM.

Q5: What are your payment terms?

A5: L/C.TT100%.

Q6: Can you reduce the shipping cost?

A6: When calculating the shipping cost for you, we always choose the cheapest and safest express. Although we have partnerships with shipping companies, we can't keep costs down because it's not us who get paid. If you think it's expensive for you. You can always make your own choice.

Q7: Return policy.

A7: If you want to replace the received item, you must contact us within 7 days after receiving the item. Returned items should be in their original condition and you should pay for additional shipping.



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