



## M9C12 IPE V3.1 Brushless DC Motor with 40mm Mounting Holes

### Our Product Introduction

for more products please visit us on [uav-vtoldrone.com](http://uav-vtoldrone.com)

#### Basic Information

- Place of Origin: Guangdong, China
- Brand Name: GS
- Model Number: M9C12 IPE V3.1 100KV 110KV
- Price: Negotiable
- Delivery Time: 6-8
- Payment Terms: T/T
- Supply Ability: 100



#### Product Specification

- Motor Model: M9C12 IPE V3.1
- Motor Size: D:98.5 X 33.55 Mm
- Propeller Mounting Holes: D:20 M3x4, D:23 M4x4
- Shaft Diameter: IN: 15 Mm
- Bearing: 6802ZZ\*2
- Cable Length: 50mm 16# Awg Silicone
- Rotor Balance:  $\leq 5$  Mg
- Motor Balance:  $\leq 10$  Mg
- Motor Mounting Holes: D:30 M3x4, D:40 M4x4
- Disruptive Test: 500 V
- Highlight: M9C12 Brushless DC Motor,  
IPE V3.1 Brushless DC Motor,  
M9C12 IPE V3.1 Brushless DC Motor



#### More Images



## Product Description

## M9C12 IPE V3.1 Brushless DC Motor

The motor is designed to be low energy consumption and high efficiency through magnetic flux density and magnetic inclusion simulation.

- 1.Unique motor core design, 36N42P
- 2.7075-T6 aviation aluminium
- 3.Steel shaft

## Performance characteristic

Efficiency: Highly efficient design to maximize power output and minimize energy loss.

Noise level: Low noise level makes it suitable for applications where quiet operation is important.

Thermal management: Includes the ability to effectively handle heat dissipation to ensure consistent performance under load.

# M9C12

ENERGY EFFICIENT 100KV  
INDUSTRY PROFESSIONAL EDITION

4.0~6.0 kgf

RECOMMENDED  
HOVER THRUST

OPTIMIZED  
WEIGHT 486g

13.8 kgf

MAXIMUM  
THRUST

EFFICIENCY >82%

MAXIMUM THRUST MAY DEPEND ON  
BATTERY LEVEL, PROPELLER TYPE,  
AIR PRESSURE AND OTHER CONDITIONS



MAD M9C12 V3.1 IPE 100KV FLUXER PRO 30x10 MATT AMPX 80A (5-14S)

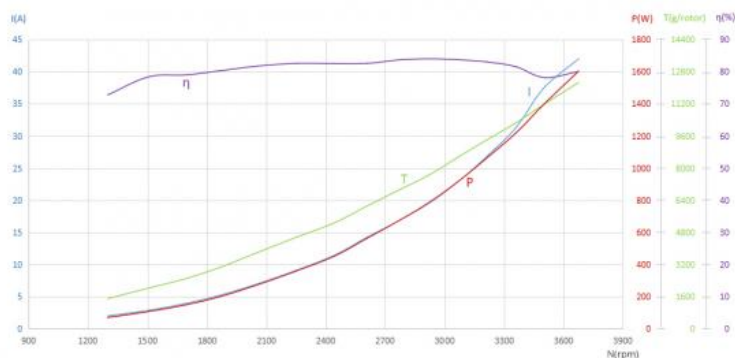
12S

MAX  
72°C

## Analytical Graph of Motor Operation

I – Current, P – Input Power,  $\eta$  – 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.

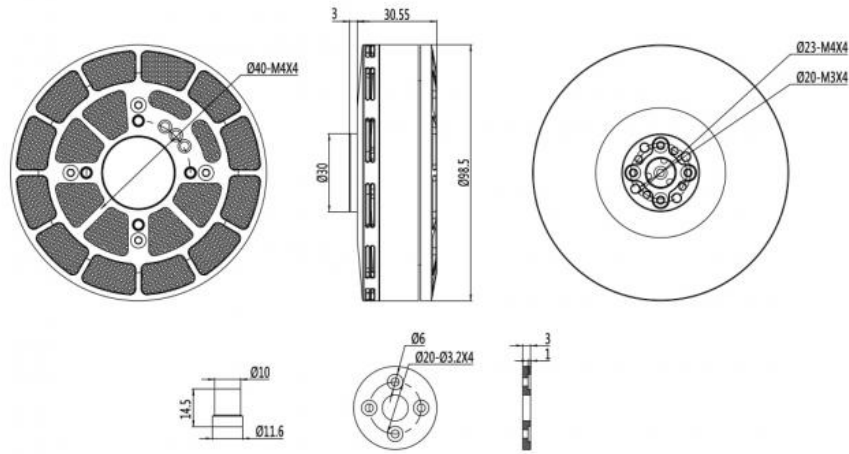


## Motor Data

Motor Model	MAD M9C12 IPE V3.1	Number of pole pairs	21
Stator	TAIWAN / Anticorrosive	Varnished wire Degree	180°C
Motor Size	D:98.5 × 33.55 mm	Magnet Degree	150°C
Degree of Protection	IP45	Cable Length	50mm 16# Awg(Black Yellow Red) silicone
Centrifugal Heat Dissipation	YES	Rotor Balance	≤5 mg
Propeller Mounting Holes	D:20 M3×4, D:23 M4×4	Motor Balance	≤10 mg
Shaft Diameter	IN: 15 mm	Motor Mounting Holes	D:30 M3×4, D:40 M4×4
Bearing	EZO 6802ZZ*2	Disruptive test	500 V
Additional Accessories	Propeller Plate *1, Locating Pin *1, M4*10mm *4 (Motor Screws), M3*10mm *4 (Motor Screws), M3*16mm *4 (Propeller Screws), 3.5mm Bullet Connector *3, Heat Shrinkable Tube *3, Sticker*2.		

## Specifications

RPM/V	100 KV	Nominal Voltage	12S lipo battery
No Load Current	1.3A/30V	Internal resistance	57 mΩ
Motor Weight	486 g	Product Boxed Weight	925g (200 x 200 x 70 mm)
Maximum Current	51 A	Maximum Power	2438W
Maximum thrust	13.8 kg	Maximum Torque	5.0 Nm
Recommended ESC	MAD AMPX 80A (5-14S)	Recommended Propellers	28x8.5, 29x8.7, 30x10.5, 32x9.6
UAV take-off weight	12S-30V 18kg--Quadcopter 27kg--Hexacopter 36kg--Octocopter	Single rotor take-off weight	4kg ~ 6kg



MAD M9C12 V3.1 IPE 100KV FLUXER PRO 28x8.4 MATT AMPX 80A (5-14S)

12S MAX  
62°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [g/f/W]
30	47.99	1.4	66.7	48.8	0.345	1352	1067	73.25	16.0
35	47.99	2.08	99.0	74.3	0.455	1560	1440	75.08	14.6
40	47.99	2.83	135.5	105.2	0.575	1748	1843	77.66	13.6
45	47.99	3.74	179.2	140.0	0.692	1932	2239	78.12	12.5
50	47.98	4.95	236.9	190.7	0.848	2149	2750	80.5	11.6
55	47.98	6.54	313.3	259.1	1.045	2368	3439	82.66	11.0
60	47.93	8.33	398.5	332.7	1.237	2569	4069	83.46	10.2
65	47.91	10.42	498.8	421.1	1.465	2746	4784	84.39	9.6
70	47.92	12.33	590.3	497.3	1.623	2926	5340	84.21	9.0
75	47.91	14.39	688.8	586.5	1.811	3093	5926	85.1	8.6
80	47.85	17.11	818.1	691.8	2.028	3257	6641	84.53	8.1
85	47.85	20.13	962.8	811.3	2.261	3427	7383	84.24	7.7
90	47.84	23.02	1100.5	928.1	2.464	3598	8118	84.29	7.4
95	47.78	26.98	1288.7	1057.9	2.683	3766	8799	82.05	6.8
100	47.76	31.47	1502.6	1247.4	3.009	3959	9876	82.98	6.6

MAD M9C12 V3.1 IPE 100KV FLUXER PRO 29x8.7 MATT AMPX 80A (5-14S)

12S MAX  
68°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [g/f/W]
30	48	1.67	79.6	56.7	0.408	1328	1234	71.29	15.5
35	48	2.43	115.9	87.6	0.545	1537	1662	75.58	14.3
40	48	3.27	156.5	121.2	0.670	1727	2081	77.41	13.3
45	48	4.25	203.7	161.2	0.809	1903	2541	79.15	12.5
50	47.98	5.68	272.2	223.8	1.013	2110	3151	82.17	11.6
55	47.94	7.61	364.4	300.6	1.238	2320	3910	82.44	10.7
60	47.91	9.65	461.7	384.1	1.460	2513	4571	83.15	9.9
65	47.92	11.69	559.6	470.2	1.665	2697	5228	83.98	9.3
70	47.91	13.93	666.7	562.2	1.875	2863	5948	84.28	8.9
75	47.9	16.76	802.3	668.7	2.116	3018	6730	83.3	8.4
80	47.84	19.46	930.5	770.7	2.311	3184	7314	82.79	7.9
85	47.81	22.16	1058.7	901.5	2.573	3345	8139	85.11	7.7
90	47.79	26.27	1255.0	1061.9	2.902	3494	9095	84.57	7.2
95	47.75	30.31	1446.9	1197.7	3.128	3656	9867	82.73	6.8
100	47.68	34.83	1660.2	1410.0	3.506	3841	10956	84.9	6.6

MAD M9C12 V3.1 IPE 100KV FLUXER PRO 30x10 MATT AMPX 80A (5-14S)

12S MAX  
72°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [g/f/W]
30	48.01	1.99	95.1	69.2	0.509	1299	1499	72.77	15.8
35	48	2.9	138.6	108.8	0.687	1514	2041	78.5	14.7
40	48	3.95	189.0	149.4	0.841	1696	2504	78.99	13.2
45	48	5.2	249.1	199.9	1.023	1866	3053	80.28	12.3
50	48	6.97	334.0	273.2	1.270	2054	3790	81.74	11.3
55	47.95	9.1	435.5	359.8	1.526	2252	4555	82.57	10.5
60	47.93	11.46	548.8	453.1	1.769	2445	5283	82.49	9.6
65	47.92	14.26	682.9	564.3	2.065	2610	6118	82.59	9.0
70	47.85	16.83	804.7	673.5	2.321	2771	6911	83.66	8.6
75	47.82	19.57	935.5	786.3	2.570	2923	7659	84	8.2
80	47.82	22.87	1093.0	915.5	2.850	3067	8542	83.72	7.8
85	47.73	26.83	1280.1	1063.5	3.161	3213	9408	83.03	7.3
90	47.74	31.23	1490.6	1216.7	3.460	3358	10243	81.57	6.9
95	47.71	37.55	1790.7	1400.5	3.817	3504	11190	78.17	6.2
100	47.64	42.03	2002.2	1603.9	4.165	3677	12267	80.07	6.1

MAD M9C12 V3.1 IPE 100KV FLUXER PRO 32x9.6 MATT AMPX 80A (5-14S)

12S MAX  
83°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [g/f/W]
--------------	-------------	-------------	-----------------	------------------	--------------	-----	-------------	----------------	--------------------

30	48.01	2.24	107.2	83.0	0.623	1273	1694	77.41	15.8
35	48	3.5	167.5	135.2	0.868	1488	2395	80.69	14.3
40	48	4.78	229.0	183.6	1.057	1659	2926	80.14	12.8
45	47.98	6.34	303.4	248.2	1.297	1828	3610	81.78	11.9
50	47.94	8.37	400.5	329.1	1.574	1997	4424	82.13	11.0
55	47.92	11.02	527.5	432.6	1.899	2176	5317	81.96	10.1
60	47.93	13.72	656.8	540.6	2.190	2357	6151	82.26	9.4
65	47.87	17.1	818.3	668.0	2.541	2511	7150	81.58	8.7
70	47.87	20.58	984.7	794.7	2.849	2664	7930	80.66	8.1
75	47.81	24.15	1154.0	934.1	3.183	2802	8830	80.88	7.7
80	47.76	27.97	1335.1	1077.0	3.498	2940	9699	80.62	7.3
85	47.69	33.05	1575.6	1251.2	3.906	3059	10920	79.37	6.9
90	47.67	39.17	1867.0	1416.5	4.233	3195	11708	75.83	6.3
95	47.59	43.42	2066.1	1586.9	4.557	3326	12575	76.76	6.1
100	47.55	51.27	2437.6	1807.6	4.983	3464	13798	74.12	5.7

The above data are the theoretical values when the input voltage is 48V, for reference only, in the case of room temperature of 25°C and no additional cooling device, the current over 51A is non-working zone, 17-51A is short-term (about 10-30s), working zone, and below 17A is sustainable working zone. In actual use, please control the motor running time according to the working environment temperature and heat dissipation conditions.

# M9C12

ENERGY EFFICIENT 110KV  
INDUSTRY PROFESSIONAL EDITION

4.5~6.0 kgf

RECOMMENDED  
HOVER THRUST

13.7 kgf



MAXIMUM  
THRUST

MAXIMUM THRUST MAY DEPEND ON  
BATTERY LEVEL, PROPELLER TYPE,  
AIR PRESSURE AND OTHER CONDITIONS

OPTIMIZED  
WEIGHT 496g

EFFICIENCY >82%



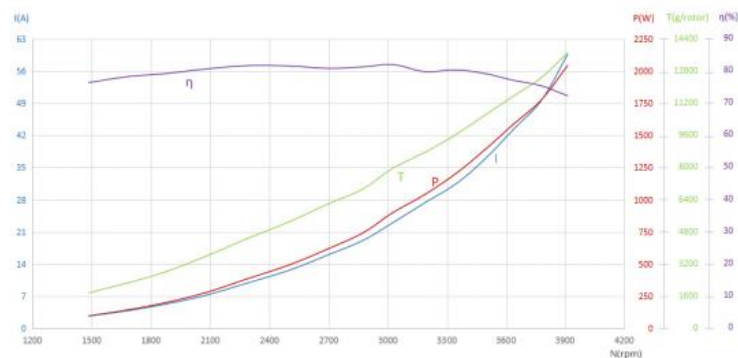
MAD M9C12 V3.1 IPE 110KV FLUXER PRO 30x10 MATT AMPX 80A (5-14S)

12S MAX  
89°C

Analytical Graph of Motor Operation

I – Current, P – Input Power,  $\eta$  – 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	110 KV	Nominal Voltage	12S lipo battery
No Load Current	1.37A/30V	Internal resistance	50 mΩ
Motor Weight	496 g	Product Boxed Weight	902g (200 x 200 x 70 mm)
Maximum Current	60 A	Maximum Power	2823W
Maximum thrust	13.7 kg	Maximum Torque	5.0 Nm
Recommended ESC	MAD AMPX 80A (5-14S)	Recommended Propellers	28x8.4, 29x8.7, 29x10, 30x10
UAV take-off weight	12S-30V/ 21kg--Quadcopter 31.5kg--Hexacopter 42kg--Octocopter	Single rotor take-off weight	4.5kg ~ 6kg

MAD M9C12 V3.1 IPE 110KV FLUXER PRO 28x8.4 MATT AMPX 80A (5-14S)

12S MAX  
70°C

Throttle (%)	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [gf]	Efficiency [%]	Efficiency [g/W]
30	48.09	2.14	102.4	71.4	0.448	1523	1350	69.76	13.2
35	48.09	3	143.6	105.7	0.581	1738	1764	73.58	12.3
40	48.08	3.96	190.2	144.5	0.711	1941	2215	75.93	11.6
45	48.1	5.32	255.5	202.0	0.891	2166	2732	79.05	10.7
50	48.07	7.12	341.5	280.4	1.104	2424	3392	82.06	9.9
55	48.02	9.36	448.8	371.1	1.337	2651	4152	82.65	9.3
60	48.02	11.71	561.8	469.1	1.565	2862	4902	83.46	8.7
65	48.01	14.07	674.9	566.2	1.770	3054	5512	83.86	8.2



70	47.99	17.11	820.6	684.0	2.020	3233	6339	83.33	7.7
75	47.93	19.97	956.7	796.3	2.221	3425	6980	83.2	7.3
80	47.96	23.03	1104.3	933.6	2.468	3612	7717	84.5	7.0
85	47.89	27.46	1314.7	1096.0	2.775	3772	8598	83.33	6.5
90	47.86	31.23	1494.4	1252.9	3.023	3958	9463	83.79	6.3
95	47.81	35.36	1689.9	1415.7	3.266	4140	10234	83.73	6.1
100	47.77	43.07	2057.5	1658.8	3.650	4340	11434	80.57	5.6

**MAD M9C12 V3.1 IPE 110KV    FLUXER PRO 29x8.7MATT    AMPX 80A (5-14S)**

**12S**

MAX  
75°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [g]	Efficiency [%]	Efficiency [g/W]
30	47.9	2.3	109.5	81.0	0.513	1507	1537	73.93	14.0
35	47.9	3.23	154.0	119.0	0.662	1717	1943	77.22	12.6
40	47.9	4.35	207.7	162.1	0.808	1916	2406	78.01	11.6
45	47.9	5.83	278.5	222.9	0.997	2135	2977	80	10.7
50	47.84	7.93	378.6	311.1	1.249	2379	3751	82.12	9.9
55	47.82	10.16	485.1	403.9	1.481	2604	4539	83.2	9.4
60	47.81	12.71	607.2	508.9	1.728	2812	5230	83.76	8.6
65	47.81	15.08	720.5	607.5	1.932	3003	5794	84.27	8.0
70	47.76	18.52	884.4	722.4	2.168	3182	6592	81.64	7.5
75	47.76	22.14	1056.5	858.5	2.447	3351	7456	81.22	7.1
80	47.72	25.02	1193.7	997.7	2.695	3535	8095	83.54	6.8
85	47.66	29.16	1389.3	1155.2	2.976	3707	9012	83.14	6.5
90	47.62	34.7	1651.9	1346.1	3.333	3857	10199	81.47	6.2
95	47.58	40.08	1906.6	1510.4	3.575	4035	10917	79.19	5.7
100	47.51	45.53	2162.5	1765.5	3.984	4231	12034	81.63	5.6

**MAD M9C12 V3.1 IPE 110KV    HAVOC 29x10 folding propeller    AMPX 80A (5-14S)**

**12S**

MAX  
80°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [g]	Efficiency [%]	Efficiency [g/W]
30	47.89	2.56	122.3	89.6	0.574	1490	1659	73.27	13.6
35	47.9	3.61	172.2	129.2	0.727	1697	2083	74.99	12.1
40	47.89	4.83	230.8	179.5	0.907	1889	2565	77.74	11.1
45	47.9	6.59	315.0	248.3	1.129	2101	3255	78.77	10.3
50	47.82	8.81	420.8	339.7	1.389	2336	4058	80.67	9.6
55	47.83	11.32	541.1	444.2	1.660	2555	4852	82.04	9.0
60	47.81	14.21	678.9	563.5	1.955	2752	5707	82.96	8.4
65	47.74	17.22	821.5	675.9	2.195	2940	6343	82.21	7.7
70	47.72	20.96	999.7	810.8	2.494	3104	7179	81.06	7.2
75	47.7	23.89	1139.2	918.7	2.670	3286	7664	80.6	6.7
80	47.64	27.94	1330.5	1093.0	3.031	3444	8628	82.1	6.5
85	47.65	33.25	1583.8	1264.1	3.346	3608	9745	79.75	6.2
90	47.56	36.51	1736.1	1421.3	3.593	3778	10298	81.84	5.9
95	47.53	42.02	1996.6	1613.2	3.922	3928	11247	80.76	5.6
100	47.43	49.76	2359.8	1872.7	4.340	4121	12178	79.32	5.2

**MAD M9C12 V3.1 IPE 110KV    FLUXER PRO 30x10 MATT    AMPX 80A (5-14S)**

**12S**

MAX  
89°C

Throttle [%]	Voltage [V]	Current [A]	Input Power [W]	Output Power [W]	Torque [N·m]	RPM	Thrust [g]	Efficiency [%]	Efficiency [g/W]
30	47.9	2.7	128.5	98.2	0.632	1485	1773	76.4	13.8
35	47.88	3.89	185.7	145.4	0.824	1685	2271	78.27	12.2
40	47.89	5.29	253.0	200.5	1.023	1873	2812	79.19	11.1
45	47.88	7.19	343.7	277.1	1.276	2074	3575	80.6	10.4
50	47.83	9.91	473.5	386.9	1.613	2291	4479	81.68	9.5
55	47.81	12.72	607.7	495.9	1.891	2504	5321	81.58	8.8
60	47.82	16.03	765.9	619.5	2.192	2699	6194	80.83	8.1
65	47.72	19.19	915.3	744.7	2.472	2876	6945	81.3	7.6
70	47.7	23	1096.5	899.4	2.839	3026	7964	81.98	7.3
75	47.67	27.38	1305.0	1042.1	3.120	3190	8762	79.82	6.7
80	47.64	31.5	1500.2	1205.6	3.440	3347	9649	80.33	6.4
85	47.56	36.86	1752.8	1388.8	3.797	3493	10602	79.21	6.1
90	47.51	43.25	2054.4	1585.0	4.163	3636	11543	77.12	5.6
95	47.46	49.36	2342.1	1768.3	4.474	3774	12437	75.47	5.3
100	47.37	59.61	2823.2	2042.4	4.986	3912	13703	72.3	4.9

The above data are the theoretical values when the input voltage is 48V, for reference only. In the case of room temperature of 25°C and no additional cooling device, the current over 60A is non-working zone, 19-60A is short-term (about 10-30s) working zone, and below 19A 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.



**Guangzhou Gesai Intelligent Electronic Technology Co., Ltd.**



Kellyyangjing2021@outlook.com



uav-vtoldrone.com

Fuli Yingtong Building, the Pearl River New Town, Tianhe District, Guangzhou, Guangdong, China