

A36

Brushless Propulsion Motor

English technical reference prepared from the Chinese product document. Legacy contact details have been removed. Numeric values marked [verify] require confirmation before ordering or operation.

A36 Brushless Propulsion Motor – Product Manual

1. Product Model

A36

2. Appearance and Installation Structure

- Model: A36
- KV Rating: 120Kv
- Series: High Power Series
- High Dynamic Efficiency, High Load Capacity

3. Scope of Application

- DC motor, suitable for input voltage: 45–70V
- Supports lithium batteries: 12S–14S

4. Performance Specifications

No.	Parameter	Value
1	Rated input current	210A ± 5A
2	No-load current (at 30V)	5.30 ± 0.10 A
3	Maximum current (KV120)	[verify]
4	Internal resistance (varies with temperature)	[verify]
5	Total weight	2750G ± 10G
6	Rotation direction (viewed from shaft end)	CW / CCW
7	Operating ambient temperature	–10°C to 65°C

| 8 | Storage temperature | –10°C to 50°C |

| 9 | Storage humidity | 85% |

5. Propeller Mounting Hole Diagram

Paddle mount

6. Motor Outline Drawing

Motor figure

7. Factory Inspection Items

- Factory sampling inspection: dynamometer test
- Factory inspection: ammeter
- Factory inspection: tachometer
- Factory inspection: DC low-resistance sorting instrument
- Factory sampling inspection: electronic counting scale (sampling)

8. Fixed Motor Hole Diagram

Fixed motor hole diagram

9. Optional Accessories

- Optional base
- Optional propeller hub

10. Rotation Direction Switching

The rotation direction of the motor can be freely selected. The motor rotation direction must match the propeller blade rotation direction. First determine the propeller blade rotation direction. Do not install the propeller blades immediately. Connect the three motor phase wires to the corresponding output wires of the electronic speed controller (ESC). If the motor rotation direction does not match the propeller blade rotation direction, swap any two of the three motor phase wires, as shown in the diagram.

11. Test Data and Test Conditions

11.1 Data Table

- Motor model: A36
- A36-120 motor test data

- Propeller: Timber, 34×10
- Ambient temperature: 25 ± 5°C

| Test Voltage (V) | Test Current (A) | Power (W) | [verify] |

|-----|-----|-----|-----|

| 24 | 65 | 1080 | |

| 30 | 39 | 1440 | |

| 39 | 56 | 2520 | |

| 65 | 133 | 7980 | |

| 110 | 11820 | 120 | |

| 120 | 6660 | 7020 | |

| 12080 | 14%0 | 16620 | |

| 23640 | 29780 | 33580 | |

| 35240 | 36%0 | 1750 | |

| 2790 | 3114 | 38 | |

| 4048 | 4250 | 5094 | |

| 5561 | 5780 | <1.8 mm/s | |

11.2 Mechanical Vibration

When the motor is tested for vibration as required, the vibration velocity measured during no-load operation shall not exceed 1.8 mm/s at 65°C.

11.3 Insulation Dielectric Strength

Electrical strength: After insulation treatment, apply 10[verify] V/5 mA between the rotor winding and the housing. No flashover shall occur.

12. Motor Usage Precautions

Design and Usage Notes

(If any doubt arises regarding the safety of this product, please notify our company for technical inspection.)

1. Due to various conditions such as operating voltage, service life, and operating environment, short circuit, fire, or smoke may occur. Please take appropriate protective measures in your product.
2. During motor installation and wiring, be careful not to damage the motor coils, wires, or edges. Otherwise, electric shock, burning, or fire may result.
3. Do not touch rotating parts with hands or fingers while the motor is running. This may cause injury. Installers must exercise caution.

4. This product is intended for installation in other equipment. Therefore, no warning labels are affixed to this product. If such labels are necessary, please contact us.
5. Temperature significantly affects service life. When installing in your product, set the worst-case condition to within the bearing's allowable temperature (upper limit 100°C). If measurement is not possible, confirm the service life when installed in your product.
6. Similar to shaft locking, do not allow the bearing to remain at high temperature continuously. If high temperature (upper limit 100°C) persists, bearing degradation will cause noise, vibration, and reduced service life.
7. If your company performs speed control in a unique manner, confirm factors such as operating voltage range and load fluctuations, and check for abnormal noise, abnormal motor heating, or stall.
8. Always install the motor using the correct installation method. Improper installation is a fundamental cause of noise and vibration and adversely affects bearing life.

9. Never move the motor by holding the wires or shaft.

10. If the motor is dropped or subjected to equivalent impact, insulation or bearing damage may occur. Do not use such a motor.
11. Never disassemble this product. If disassembled, safety and other performance will not be guaranteed.
12. Do not use this product in environments with corrosive gases (H₂O, SO₂, [verify], [verify]) or in the presence of harmful substances (especially organic silicon, cyano-based, or phenol-based compounds). Also, confirm in advance whether such substances exist in your product. If present, they may cause rust and affect service life.
13. For storage, avoid the above corrosive gases and harmful environments, as well as temperatures outside -10°C to 50°C and humidity above 85%. Pay special attention during long-term storage. Permissible storage conditions: moderate temperature and humidity, within 6 months. Additionally, store in a sealed container.
14. Please verify the compatibility of the motor with your equipment's structure, dimensions, service life, noise, vibration, and characteristics.

15. Use beyond the specifications described in this document is not covered by warranty.

16. If specifications of your product change or if this product is used in other equipment, please contact us in advance.
17. If specifications of this product change, changes will be made according to our specification sheet or documents provided by your company. If product performance or characteristics are affected, samples will be re-tested and verified before specification changes are implemented.
18. Within the scope of conditions described in this specification, components may be changed without notice to improve product performance.
19. For matters not described in this specification that require agreement, please contact us in advance.
20. If any mismatch occurs, it shall be resolved and implemented through mutual consultation based on the matters described in this specification.

21. Do not disclose this specification to third parties.

Business enquiries

Product selection · Project enquiries · Technical support

A36



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Quality engineering. Service life up to 5000 hours.

Actual life depends on load, temperature, installation and maintenance.