

SPECIFICATION

PART NO.	HV40
VER	V1.0
DESCRIPTION	HV40 Flat-Wire Integrated Drone Power System
DATE	2026/01/14
Prepared By	
Checked By	
Approved By	

Version	Date	Version Update Record	Revised By
V1.0	2026/01/13	Basic information of specification	Huang Chen

Customer acknowledged by

1.Scope of application

This specification applies to the HV40 UAV Power System

2.Terms of Use

Project	Specifications	Conditions/Notes
Rated Voltage	18S	
Voltage Range	64V ~ 81V	
KV price	50KV	
Working Pulse Width	1050 ~ 1950	
Service Environment	Temperature : -20 ~ 40°C Humidity: 10-90% RH	
Storage Environment	Temperature : -40 ~ 80°C Humidity: 5-95%RH	

3.Testing Conditions

Project	Specifications
Temperature	25±2°C
Humidity	65±20%
Motor state	Output shaft placed parallel to the ground
All data were tested under the following conditions: Test at 25°C with 65% RH. If any inconsistency occurs, testing may also be performed under the following conditions: temperature 5-35°C; humidity 45-85% RH.	

4. Mechanical Requirements

Project	Specifications	Conditions/Notes
Structure	According to the motor's structural specifications	Subject to the assembly drawing
Weight	6050±50g	With wires and propeller
Appearance	No mechanical damage/No adverse corrosion	Visual inspection (Acceptable range and limits are subject to the sample.)
Shaft Clearance	0.03mm	Dial gauge
Angle of Rotation	360°	
Rotation Direction	CW/CCW	

5. Performance Characteristics

Item	Specifications	Conditions/Notes
Rated Current	65A	Good heat dissipation conditions
Peak Current	250A	≤ 10 seconds under good heat dissipation conditions
PWM Input Signal level	3.3V/5V	
PWM Input Signal Frequency	50Hz-500Hz	
Communication Method	CAN	
No-Load Speed	2355 ~ 2605	20V (14S) Motor Comprehensive Tester. 25V (18S,24S) Motor Comprehensive Tester.
No-Load Current	4.5±0.3A	
Resistance	66.5mΩ±5%	Resistance varies with ambient temperature. If batch resistance exceeds the standard range due to environmental changes, re-sign the standard.
Inductance		
Wire length and Terminals	Exposure: 1950mm – 8# ultra-soft silicone wire	
Rated Thrust	37kg	Good heat dissipation
Maximum Thrust	75kg	Good heat dissipation conditions, short-term operation
Levels of Protection	IPX5 rating for the entire device	

6. Reliability Test

Item	Test Standards Conditions	Determination Characteristic
Life Test	Voltage/DC: 70 Load: 62 inches (well-cooled) Operating condition: Rated condition 200h	Meet the requirements specified in the "Acceptance Criteria."
High Temperature Storage Experiment	Temperature : 80°C Time: 48 hours	
Low Temperature Storage Experiment	Temperature : -20°C Time: 48 hours	
High Temperature Operation Test	Temperature : 70±2°C Time: 24 hours	
Low Temperature Operation Test	Temperature : -20±5°C Time: 24 hours	
High Temperature and High Humidity Storage Experiment	Humidity: 90%RH Time: 48 hours dry condensation	

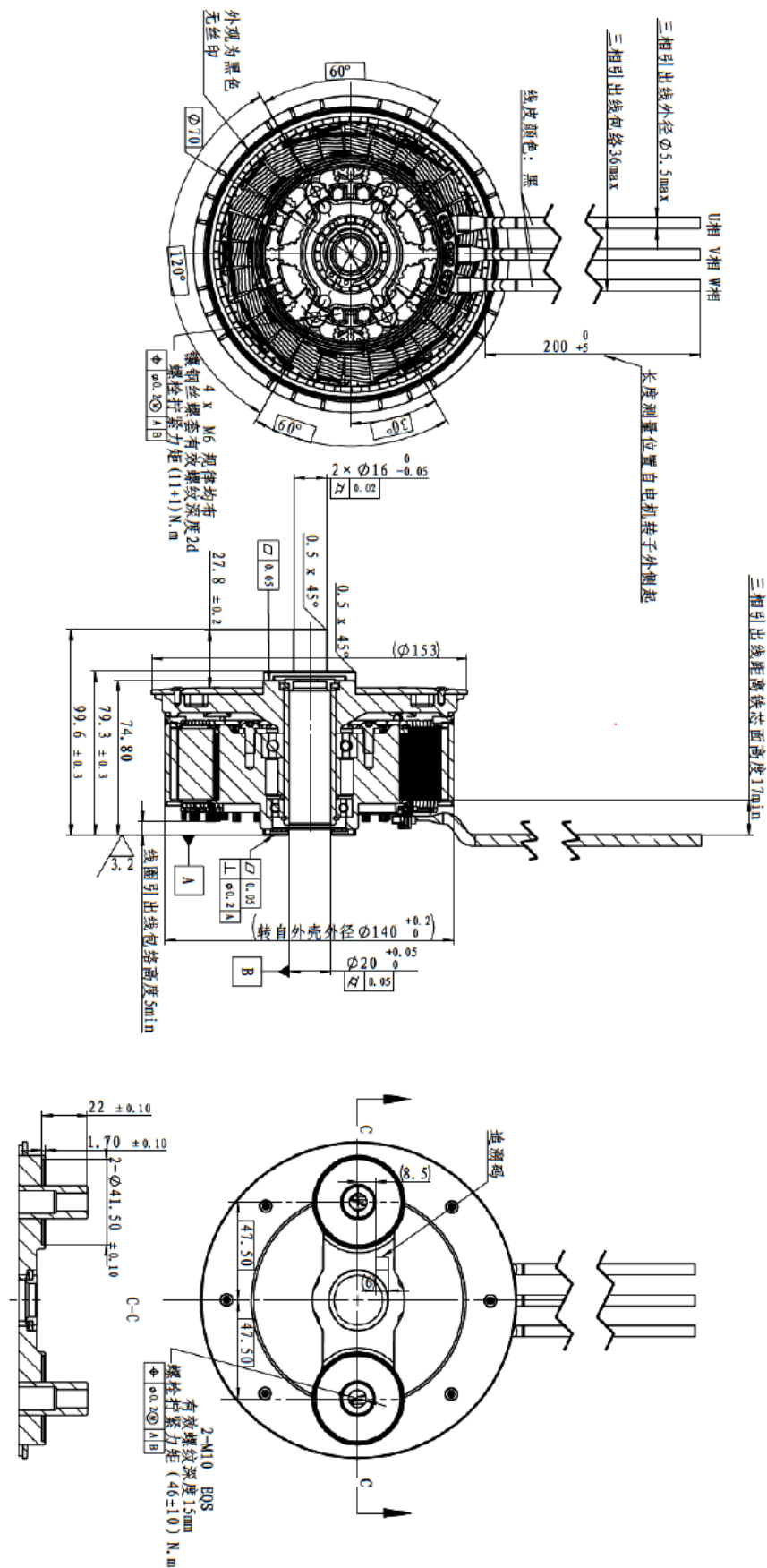
7. Determination characteristics

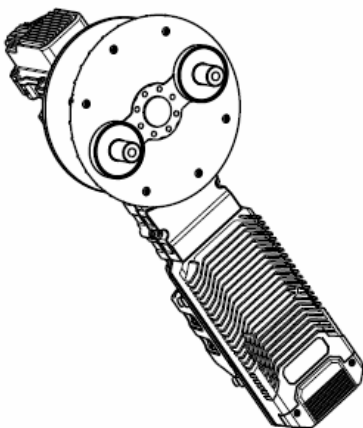
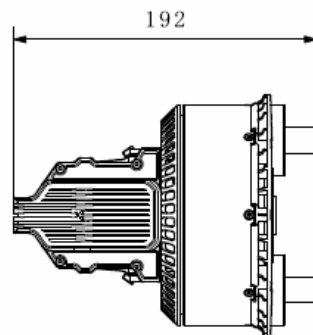
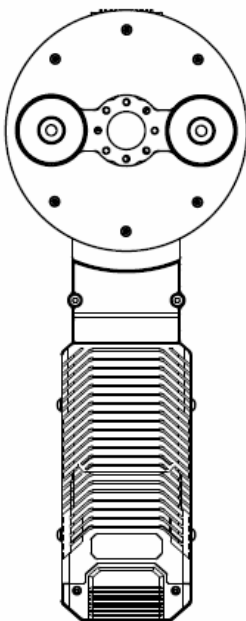
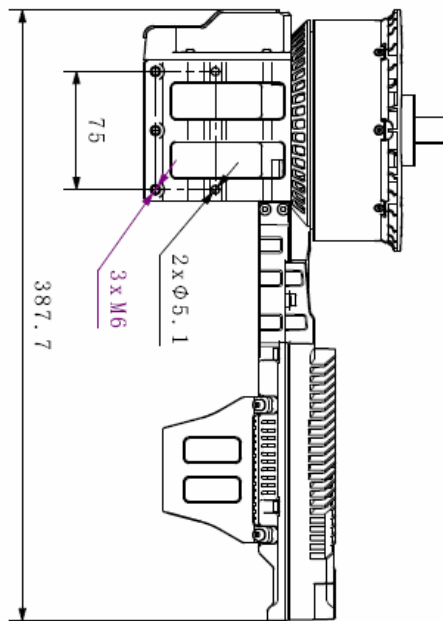
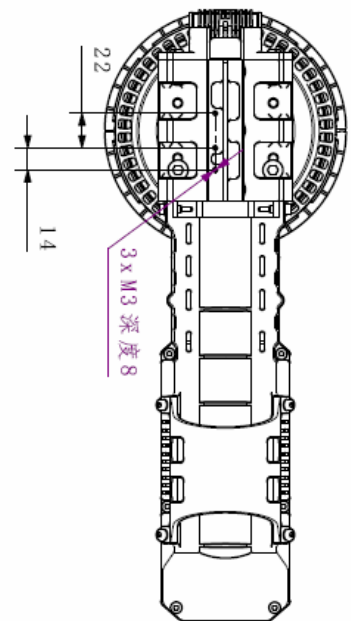
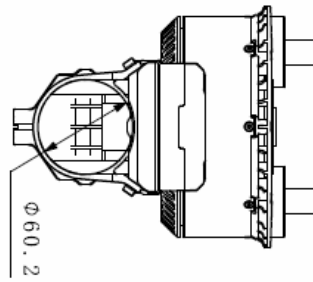
Item	Determination Characteristic
Table A	1. The load speed variation shall be within ±30% of the initial value.
	2. The load current variation shall be within ±30% of the initial value.
	3. The resistance variation between terminals shall be within ±30% of the initial value.
	4. Standard Test Conditions

8. Precautions

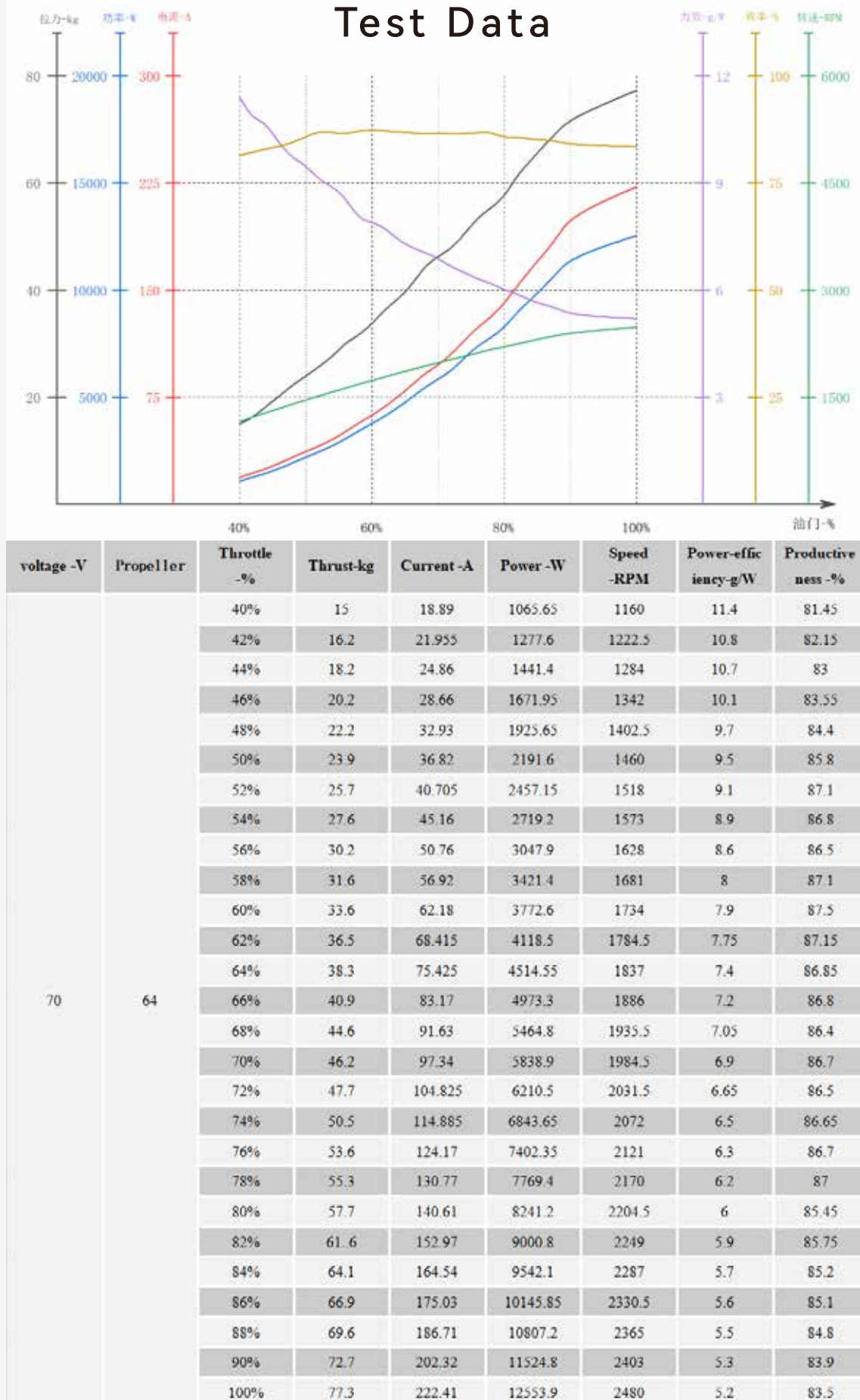
1. Handle the motor with care during transportation to prevent damage to its casing and performance from impacts or collisions.
2. The motor should be stored away from high temperatures, moisture, and chemical corrosion, with a storage period not exceeding 6 months.
3. Avoid frequently blocking the motor shaft after power connection.
4. The welding must be completed within 5 seconds to prevent damage to the terminals or wires.

Mechanical dimensions





Test Data



Precautions and Quality Assurance Agreement



Storage environment

The motor should be stored in a dry and well-ventilated warehouse at temperatures between -20°C and 60°C with standard humidity of 15% to 70%RH (non-condensing), for a minimum of 6 months without compromising its quality. The operating environment for the motor is 0°C to 40°C and 15% to 90%RH (non-condensing). The storage and usage altitude must not exceed 1500m (or 86-106Pa atmospheric pressure). The motor must be kept away from severe corrosive gases and media that may affect electrical insulation performance.



quality standard

The buyer shall retain the sample motor for reference when quality issues need to be confirmed, in accordance with the supplier's sample specifications and the delivered prototype.



Sampling inspection criteria

Perform a standard MIL-STD-105E inspection for sampling judgment: 1. Insulation withstand voltage: IL=S-I AQL=0 2. Motor electrical performance (noise, vibration): IL=II AQL=0.65 (standard according to sample) 3. Appearance: IL=II AQL=1.5

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- 1、 The motor complies with EMC certification standards.
 - 2、 The motor's performance and testing standards shall comply with the 'Sample Specification Document' and prototype motor approved by both parties. If the purchaser fails to sign and return the confirmation document on time or does not sign the prototype, it shall be deemed as acceptance of all requirements from the supplier.
 - 3、 Minor variations in motor test performance due to differences in power supply and testing equipment are normal.
 - 4、 If the motor is used beyond its rated specifications, or if abnormal conditions such as motor jamming or short circuits are caused by human error, the motor's service life will be terminated. The supplier shall not be held liable.
 - 5、 The motor is covered by a 2-month free warranty for non-human factors, with paid repairs after 12 months. The supplier shall not be liable for quality issues caused by factors beyond the manufacturer's control.
 - 6、 Other: Keep the motor away from iron filings and similar materials to ensure smooth operation. The motor's magnet is fragile and prone to jamming. During installation, avoid using excessively long screws, as they may damage internal components and cause short circuits that could burn out the motor.