

SV-A5415

Compact brushless motor / Specifications & use



INPUT VOLTAGE

20-50 V DC

RATED VOLTAGE

44.4 V (12S)

MOTOR MASS

340 g

Product selection / Mounting / Test data / Operation

Delivery configuration and acceptance requirements follow mutually confirmed documents.

01 / SPECIFICATIONS

Specifications and scope

For three-phase brushless motor systems with 20-50 V DC input. Current and resistance entries are specific to each winding KV.

No.	Parameter	Specification
01	Input voltage	20-50 V DC
02	Rated voltage	44.4 V (12S)
03	Rated input current	KV170: 18 A / KV260: 30 A
04	No-load current (test voltage)	KV170: >0.9 A / KV260: >1.2 A (10 V)
05	Maximum current (source conditions)	KV170: 35 A / KV260: 65 A
06	Resistance (temperature dependent)	KV170: 125 mΩ / KV260: 62 mΩ
07	Product mass	340 g
08	Rotation (shaft-end view)	CW / CCW
09	Operating temperature	-10 ~ 65 °C
10	Storage temperature	-10 ~ 50 °C
11	Storage relative humidity	≤85%

Inspection conditions and parameter notes

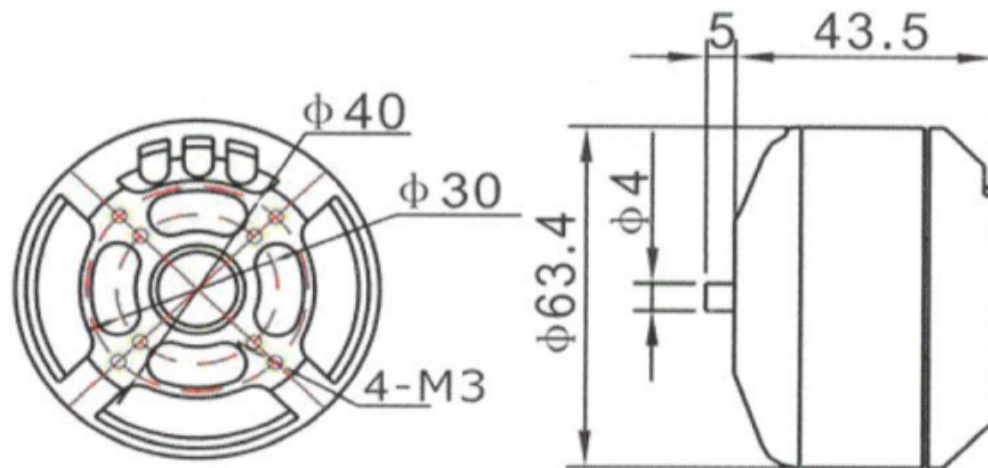
Test ambient: 25 ± 5 °C; specified temperature rise ≤65 °C and no-load vibration ≤1.8 mm/s.

The > signs in rated and no-load current entries are retained from the source. Confirm unspecified tolerances and continuous-duty duration before ordering.

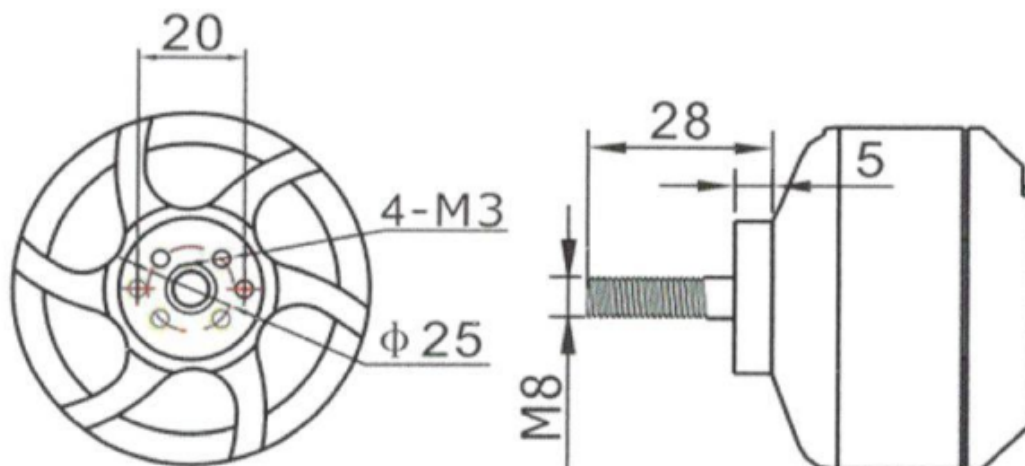
02 / MECHANICAL

Dimensions and mounting

Motor outline and mounting holes



Propeller mount and accessory reference

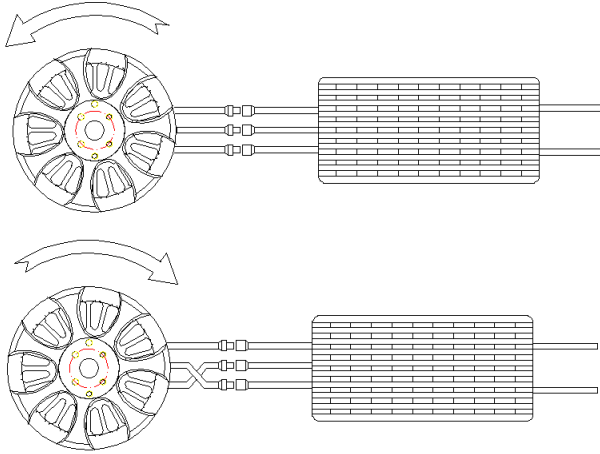


Drawing notes

Dimensions, holes, threads and angles retain the supplied drawing. Values have not been inferred from image scale. Before installation, check the actual model, screw length, shaft extension and approved drawing. Supply of optional accessories depends on the confirmed configuration.

03 / WIRING

Wiring and rotation



1. Confirm the rotation required by the propeller.
2. Remove the propeller and connect motor phase leads to the ESC outputs.
3. Check rotation safely. To reverse, isolate power, confirm safe discharge, then swap any two phase leads.
4. Install the propeller after confirming rotation.

System matching and commissioning

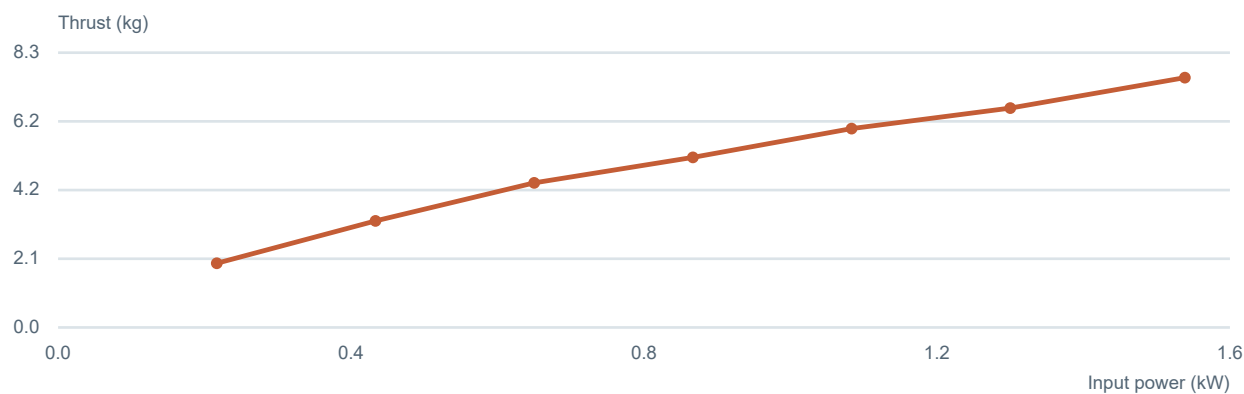
- 01** Match supply, ESC and propeller to the voltage range, winding KV, rated current and maximum current. Keep data for each KV separate; peak test points do not establish continuous output.
- 02** Check the outline, mounting holes and screw length. Check rotation safely with the propeller removed. To reverse rotation, isolate power, confirm safe discharge and swap any two phase leads.
- 03** Increase load gradually and monitor current, temperature rise, vibration and fasteners. Stop for abnormal noise, heat or binding. Store at -10 to 50 °C and no more than 85% relative humidity.

04 / PERFORMANCE 01

Performance test record

KV170 / 44.4 V / Carbon CF22-inch

No.	Voltage / V	Current / A	Input / W	Thrust / g	Torque / N·m	Speed / rpm	Motor eff. / %	Thrust eff. / g/W
1	44.4	5	222	1940	0.51	3297	79.31	8.74
2	44.4	10	444	3220	0.81	4170	79.66	7.25
3	44.4	15	666	4370	1.11	4772	83.28	6.56
4	44.4	20	888	5140	1.3	5193	79.61	5.79
5	44.4	25	1110	6010	1.51	5632	80.23	5.41
6	44.4	30	1332	6630	1.71	5876	78.99	4.98
7	44.4	35.5	1576.2	7550	1.98	6295	82.80	4.79



The curve plots the listed input power and thrust. Test ambient: 25 ± 5 °C. Points describe only the listed propeller, voltage and KV test conditions; they do not establish continuous-duty ratings.

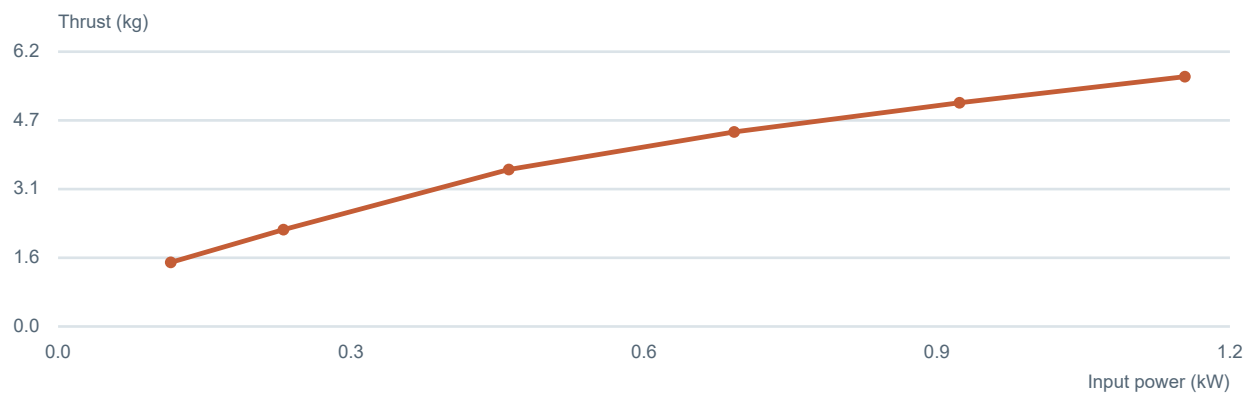
Specifications list KV170 / KV260. Test set 2 is explicitly labelled KV250, a 28-inch carbon propeller and 22.2 V; it is not KV260 test data. The 35.5 A point for KV170 exceeds its listed 35 A maximum and is not a continuous-duty rating.

04 / PERFORMANCE 02

Performance test record

KV250 / 22.2 V / Carbon CF28-inch

No.	Voltage / V	Current / A	Input / W	Thrust / g	Torque / N·m	Speed / rpm	Motor eff. / %	Thrust eff. / g/W
1	22.2	5	111	1450	0.51	1295	62.30	13.06
2	22.2	10	222	2190	0.82	2014	77.90	9.86
3	22.2	20	444	3550	1.26	2508	74.53	8.00
4	22.2	30	666	4400	1.65	2761	71.63	6.61
5	22.2	40	888	5060	1.78	2966	62.26	5.70
6	22.2	50	1110	5650	1.92	3114	56.40	5.09



The curve plots the listed input power and thrust. Test ambient: 25 ± 5 °C. Points describe only the listed propeller, voltage and KV test conditions; they do not establish continuous-duty ratings.

Specifications list KV170 / KV260. Test set 2 is explicitly labelled KV250, a 28-inch carbon propeller and 22.2 V; it is not KV260 test data. The 35.5 A point for KV170 exceeds its listed 35 A maximum and is not a continuous-duty rating.

04 / OPERATION & CARE

Safety, operation and care

Installation, wiring and commissioning require competent personnel. Isolate power and confirm safe discharge before changing connections.

- 01** Supply voltage, service life and environmental conditions may cause short circuits, fire or smoke. Provide appropriate protection in the complete machine. If safety is in doubt, stop use and contact technical support for inspection.
- 02** Do not damage windings, leads, edges or insulation during installation and wiring; damage may cause electric shock, burnout or fire. Never touch rotating parts with hands or fingers while energized; injury may result.
- 03** The motor is intended for installation in other equipment and does not carry machine-level warning labels. Contact technical support if labels are needed and provide guarding appropriate to the complete machine.
- 04** Temperature strongly affects service life. Keep the worst-case bearing temperature below the allowable upper limit of 100 °C. If measurement is not possible, verify life in the complete machine. Do not sustain a locked rotor or high bearing temperature: bearing deterioration causes noise, vibration and reduced life.
- 05** For custom speed control, check supply-voltage range, load variation and other changing conditions for abnormal noise, overheating or stalling.
- 06** Use the correct mounting method. Incorrect mounting causes noise and vibration and can shorten bearing life.
- 07** Never carry the motor by its leads or shaft. After a drop or equivalent impact, do not continue using it: insulation or bearings may be damaged.
- 08** Do not disassemble the motor. Safety and other performance are not assured after unauthorized disassembly.
- 09** Avoid the corrosive or harmful substances listed in the source: H₂O, SO₂, NO₂, Cl₂, and silicone-, cyano- and phenol-based substances. Check for these substances inside the complete machine before installation to prevent rust and reduced life.
- 10** Store away from those gases and harmful environments at -10 to 50 °C and no more than 85% relative humidity. Take particular care during extended storage. Sealed storage is required, for no more than six months under normal temperature and humidity conditions.

06 / SPECIFICATION AGREEMENT

Specification agreement and notes

- 01** The integrator must confirm compatibility with the complete machine in structure, dimensions, service life, noise, vibration and performance.
- 02** Operation outside the specified limits is outside the original specification guarantee.
- 03** Contact technical support before changing the machine specification or using the motor in another product.
- 04** Specification changes affecting performance or characteristics require samples and verification against mutually confirmed documents before implementation.
- 05** Within the agreed specification limits, components may be changed to improve performance without separate notice. Record critical delivery requirements in the mutually confirmed documents.
- 06** Agree in advance on any necessary requirements not addressed in this manual.
- 07** Resolve compatibility issues by mutual agreement using the confirmed specification documents as the basis.

Data and configuration notes

Specifications list KV170 / KV260. Test set 2 is explicitly labelled KV250, a 28-inch carbon propeller and 22.2 V; it is not KV260 test data. The 35.5 A point for KV170 exceeds its listed 35 A maximum and is not a continuous-duty rating.

Use these data for preliminary selection. Delivery configuration, propeller and acceptance requirements are subject to mutually confirmed documents.

This edition is based on the manuals, photographs and separate drawings received on 22 October 2026. Unspecified parameters are not inferred. Contact technical support for operating points requiring further verification.

Business enquiries

Product selection · Project enquiries · Technical support

SV-A5415



Zhuhai SV Tech Co. Ltd.

ADDRESS

35 Jinzhou Road, Jinding, Xiangzhou District, Zhuhai, Guangdong, China

CONTACT

Mr. Liu

PHONE

+86 18688194199

EMAIL

lhc1983@gmail.com