

USER MANUAL

4268

1/8 SCALE SENSORED
BRUSHLESS MOTOR



Thank you for purchasing Surpasshobby product, this is a powerful RC hobby product rather than a toy. It must be operated with care and common sense of safety. Any wrong operation may cause personal injury or damage the product. This product does not allow children to use it without the direct supervision of an adult. Before installation and use, please read and follow the operating procedures specified in this manual. We do not assume any liability arising from the use of this product, including but not limited to compensation for incidental or indirect loss; at the same time, we do not assume any liability arising from unauthorized modifications to the product.

WARNINGS

- Before using, Ensure that the power system is reasonable. Unreasonable power matching will cause the motor to be damaged due to overload.
- Do not overtighten the screws when installing the motor. Be sure to use the appropriate mounting screws.
- Before connecting the motor, Ensure that The insulated parts are well treated, Short circuit will destroy the product
- Full throttle operation is prohibited before the gear is installed. High-speed operation without load may damage the motor.
- Be sure to connect the components correctly. Wrongly connected remote control car may not work properly, or the components may be damaged or other unpredictable conditions.
- Avoid the motor operating temperature exceeding 130°C (266°F). High temperature may cause the rotor to demagnetize and damage motor
- Do not touch the motor after use to avoid overheating and scalding. Wait for the motor to cool down completely before using it.

FEATURES

- Optimized design, Efficiency improved & Reduce temperature rise.
- Screwless structural design (except for two screws for adjusting the angle).
- Structure design of 4-pole 12-slot high-torque motor.
- CNC 6061 T6 aluminum heat dissipation shell.
- Adopt 0.2mm ultra-thin silicon steel stator and detachable/replaceable rotor design.
- The front end cover uses 4 M3 and 4 M4 screw holes, suitable for various mounting bases.
- NMB high-speed oversized bearings, smooth and wear-resistant.

INSTALLATION AND CONNECTION

1. Install the motor

The mounting screw holes of the motor are 4 x M3 or 4 x M4 with distance 25.2mm, and the panel screw hole can be locked into the depth of 5mm. Therefore, it is recommended to use screws no longer than 10mm for installation. The specific installation situation can be determined according to the frame.

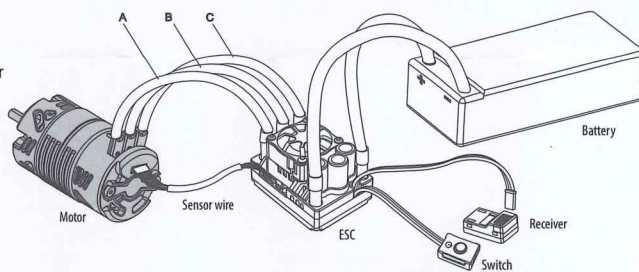
2. Motor connection

Three connecting cables shall be solder to connect the motor. There is no fixed color distinction or no color distinction for the three connecting wires. Please pay attention to the following 2 points during installation and connection:

- When using inductive ESC, first correctly connect / weld the connecting cable between ESC and motor, that is, the #A / #B / #C of ESC and #A / #B / #C of motor are connected correspondingly. Then use a good induction cable and connect it to the induction wiring port of motor and ESC respectively according to the orientation of positive solution.
- When using non sensorless ESC, there is no fixed cable sequence requirement for the connection between the motor and the electric regulator. If the steering direction is opposite, arbitrarily exchange two motor lines.

3. Inspection

Before turning on the power of the remote control car, please Ensure double check the correctness of the motor connection and the reliability of the installation.



ADJUST TIMING

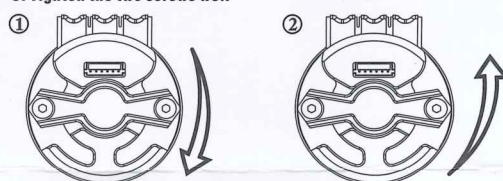
A. First of all loosen the two screws on the back of the motor B. Turn the timing sensor cover and adjust the position

- Increase the timing, motor temperature is getting higher, battery shorten its running time.
- Adjust motor timing consultation with experts necessarily.
- Timing adjustment requires fine-tuning, lease adjust timing carefully .

ATTENTION If your sensor cover screw tighten loosely, due to vibration or some shock, your motor or ESC can get damage. Please sensor cover screw lock tightly.

- ① Reduced the timing, motor RPM and torque reduce. Power consumption and temperature gets reduce.
- ② Increase the timing, motor RPM and torque increase. Power consumption and temperature increases.

C. Tighten the two screws well



TEMPERATURE & GEAR RATIO

The reasonable choice of gear ratio is very important, and an inappropriate gear may cause you heavy losses. Please observe the following points to choose the correct gear ratio!

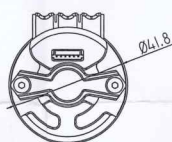
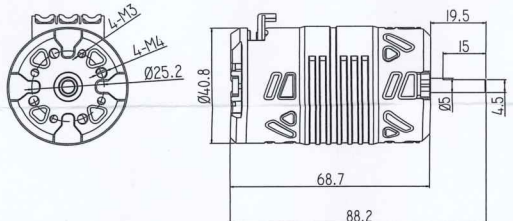
1. The working temperature of the motor

When the motor is working, the temperature should be lower than 130°C (266°F); when the temperature is higher than 130°C, the rotor of the motor will be weakened, and the coils may be locally burned and short-circuited, which may cause large current to damage the ESC. Choosing a suitable gear ratio can effectively prevent the motor from overheating.

2. The principle of Gearing

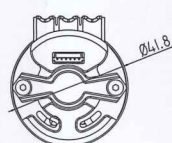
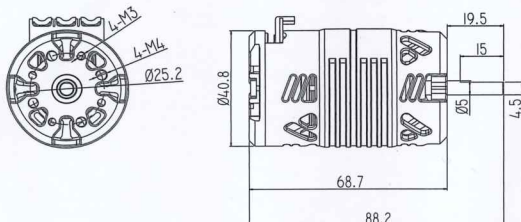
The principle of selecting gear ratio, To avoid the possible damage to ESC and motor caused by the overheat, please start with a small pinion/a big FDR and check the motor temperature regularly. If the motor and ESC temperature always stay at a low, level during the operation, change a big pinion/a low FDR and also check the motor temperature regularly to ensure that the new FDR is suitable for your vehicle, local weather and track condition. (Note: For the safety of electric devices, please check the ESC and motor temperature regularly.)

	2800KV	2000KV	2200KV	1900KV
Max RPM	50000	50000	50000	50000
Motor Pole	4	4	4	4
Resistance	0.0056 odm	0.0099 odm	0.0085 odm	0.0114 odm
IO	5.5A	3.8A	4.0A	3.5A
Voltage	4S LiPo	4S LiPo	2-4S LiPo	2-6S LiPo
Max Amps	130A	97A	112A	90A
Shaft Dia	5mm	5mm	5mm	5mm
Weight	320g	320g	320g	320g
Shaft Length	19.5mm	19.5mm	19.5mm	19.5mm



Off-Road

In order to make the motor more efficient and longer life, we recommend that you regularly check the bearings and clean up the dirt in the motor after use.

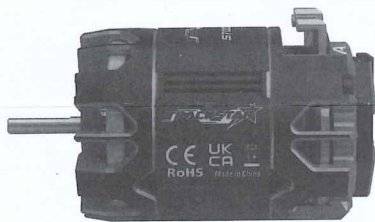


On-Road

USER MANUAL

540

1/10 SCALE
1/10 SCALE 540 SENSORED
BRUSHLESS RACING MOTOR



FEATURES

- All-new and Unique Stator Design to Provide Strong Torque and High RPM.
- CNC Machined 7075 Aluminum Heat Sink Housing.
- American Standard High Purity Copper Windings for Maximum Conductivity.
- Stator Electroplated to Prevent Ageing and Rusting.
- Adjustable Timing & Dual Sensor Port.
- Detachable/Replaceable High Speed Rotor.
- Patented design of front and rear splicing structure.

INSTALLATION AND CONNECTION

1. Install the motor

The mounting screw holes of the motor are 6 x M3 with distance 25mm, and the panel screw hole can be locked into the depth of 5mm. Therefore, it is recommended to use M3 screws no longer than 8mm for installation. The specific installation situation can be determined according to the frame.

2. Motor connection

Three connecting cables shall be solder to connect the motor. There is no fixed color distinction or no color distinction for the three connecting wires. Please pay attention to the following 2 points during installation and connection:

A. When using inductive ESC, first correctly connect / weld the connecting cable between ESC and motor, that is, the #A / #B / #C of ESC and #A / #B / #C of motor are connected correspondingly. Then use a good induction cable and connect it to the induction wiring port of motor and ESC respectively according to the orientation of positive solution.

B. When using non sensorless ESC, there is no fixed cable sequence requirement for the connection between the motor and the electric regulator. If the steering direction is opposite, arbitrarily exchange two motor lines.

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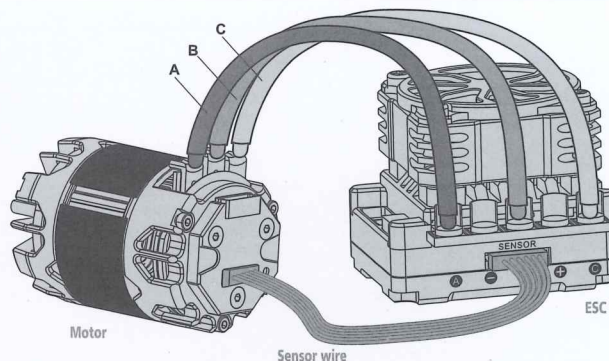
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- 36mm Full Size Outside Diameter Increase Output Power by 15%.
- Internal Titanium-Magnesium Alloy Heat Sink to Reduce Heat Loss.
- NSK R2ZZ Bearing Original Imported From Japan, Ensuring Smooth Operation.
- Thicker Gilding Gold Plated Copper for Maximum Non-resistant Input.
- The explosion-proof rotor made of NdFeB, TURBO speeds up to 80,000 RPM.
- BRCA & EFRA approved, Meets ROAR & IFMA specifications.



ADJUST TIMING

A. First of all loosen the three screws on the back of the motor

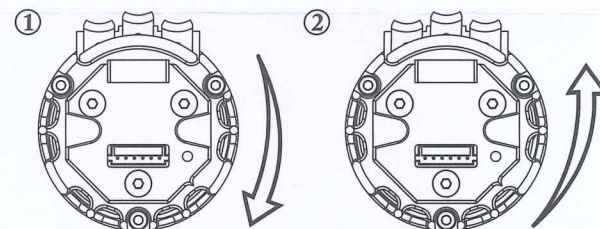
B. Turn the timing sensor cover and adjust the position

C. Tighten the three screws well

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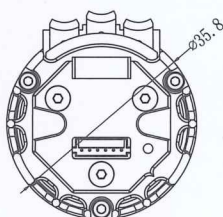
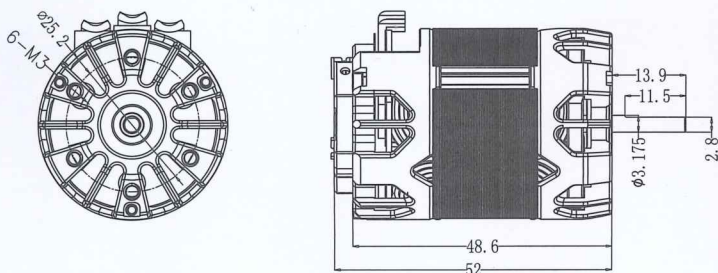
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	4.5T	5.5T	8.5T	10.5T	13.5T	17.5T	21.5T
KV	7800	6300	4350	4300	3600	2850	2350
MAX Watts	490W	430W	340W	250W	190W	130W	100W
Motor Pole	2	2	2	2	2	2	2
Resistance	0.0029 odm	0.0041 odm	0.0098 odm	0.0151 odm	0.0219 odm	0.0368 odm	0.0558 odm
IO	7.4A	5.8A	3.5A	4.1A	2.5A	2.1A	1.3A
Voltage	1-2S LiPo	1-2S LiPo	1-3S LiPo	2-3S LiPo	2-3S LiPo	2-3S LiPo	2-3S LiPo
Max Amps	108A	100A	80A	63A	49A	34A	28A
Shaft Dia	3.175mm	3.175mm	3.175mm	3.175mm	3.175mm	3.175mm	3.175mm
Weight	165g	165g	165g	160g	158g	157g	156g
TYPE	MODIFIED	MODIFIED	MODIFIED	STOCK SPEC	STOCK SPEC	STOCK SPEC	STOCK SPEC



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