

EZRUN
USER MANUAL
Sensored Brushless Motor
EZRUN 4278SD/4268SD G2R

20240611



Thank you for purchasing this HOBBYWING product! This motor is very powerful. Improper usage can be dangerous and may damage to the product and related devices. Please take your time and read through the following instructions before you start using the motor. We have the right to modify the product design, appearance, features and usage requirements without notification. We are only responsible for our product cost and nothing else are result of using our product.

01 Warnings



- Read the manuals of all the items being used in the build. Ensure gearing, setup, and overall install is correct and reasonable.
- All connections, must be made correctly. You may loose control, or run into major issues caused by improper, bad, weak, or poor connections.
- Never apply full throttle if the pinion is not installed. Due to the extremely high RPMs without load, the motor may get damaged.
- Stop usage if the motor exceeds 100°C/212°F. High temperature will damage the motor and cause the rotor to weaken.

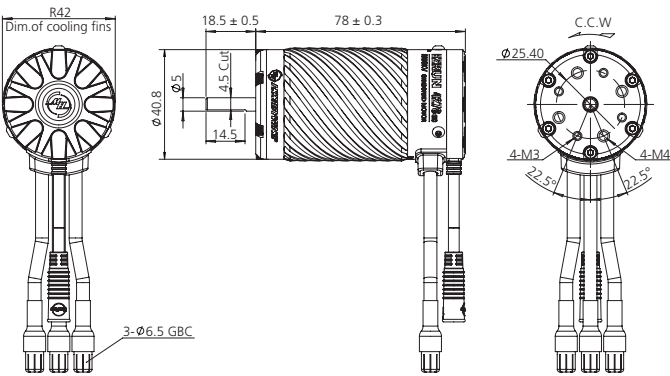
HW-SMB459DUL00

02 Features

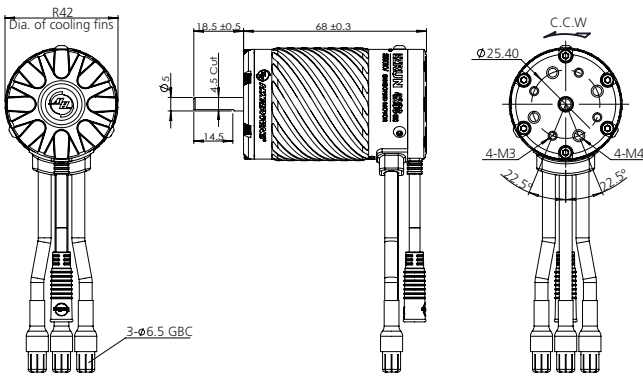
- It has perfect compatibility when it is matched with Hobbywing EZRUN MAX8 G2S esc, the esc can automatically recognize this motor, and build a power system with full sensor mode, providing better control performance and more delicate control feel, and also realizing the motor overheat protection function.
- The rotor adopts four strong magnetic and high temperature resistant sintered Nd-Fe-B magnets, widens the magnetic tile, provides super torque, and makes the motor have strong explosive force and stable output power.
- The independent magnetic ring ensures that the Hall sensor always outputs pure rotor position signal, which effectively avoids the interference of sensor signal and makes the motor work stably in sensor state.
- High output efficiency, effectively reduce the motor temperature and output more power under the same load.
- CNC machined aluminum housing, high purity copper windings, advanced rotor structure, 0.2mm silicon steel laminations, high-quality stainless steel output shaft, high-precision bearing for high durability and smoothness.
- The innovative new sensor interface and rubber cover bearing have better waterproof and dustproof effect than the traditional sensor motor.

03 Specifications

Model	EZRUN 4278SD G2R	EZRUN 4268SD G2R
KV Value	2250KV	2500KV
Lipo Cells	3-6S Lipo	3-4S Lipo
No-load current	5.3A	5.0A
Outer Diameter/Length	42mm(1.654in) / 78mm(3.071in)	42mm(1.654in) / 68mm(2.677in)
Shaft diameter/Exposed shaft length	5mm(0.197in) / 18.5mm(0.728in)	5mm(0.197in) / 18.5mm(0.728in)
Bearing size(mm)	Front: D16*D5*T5 Rear: D11*D5*T5	Front: D16*D5*T5 Rear: D11*D5*T5
Pole	4	4
Weight	465g	360g
Application	1/8 Truck, Monster Truck	1/8 Buggy, 1/10 Heavy-duty Monster Trcuk

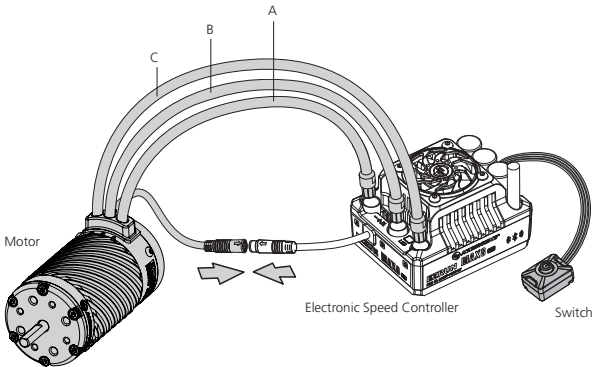


EZRUN 4278SD G2R



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04 Installation & Connection



1. Installation of the motor

The specifications of mounting hole screws are two sets of M4 and two sets of M3, and the mounting holes are 5.5mm in depth, before installing the motor on the vehicle, please carefully confirm whether the specification of the screws is appropriate according to the thickness of the motor mounting plate to avoid damage to the motor due to too long screws.

2. How to Connect the Motor to an ESC

- When connecting the motor and esc, please pay attention to the marked three-phase position of A, B and C to ensure that the three wires of the motor and esc are connected correspondingly. Otherwise, it cannot run normally and even damage the esc and motor.
That is: Wire A of the esc matches wire A of the motor, wire B of the esc matches wire B of the motor, wire C of the esc matches wire C of the motor.
- When the sensor wire of the motor is connected with the sensor wire of the esc, it shall be connected correspondingly according to the arrow mark on the sensor interface.

3. Inspection

Before powering on the esc, please check the motor installation and the order of all connections.

05 Gearing

Reasonable selection of gear ratio is very important. Improper gear ratio may cause damage. You can select the gear ratio according to the following points!

1. The operating temperature of the motor

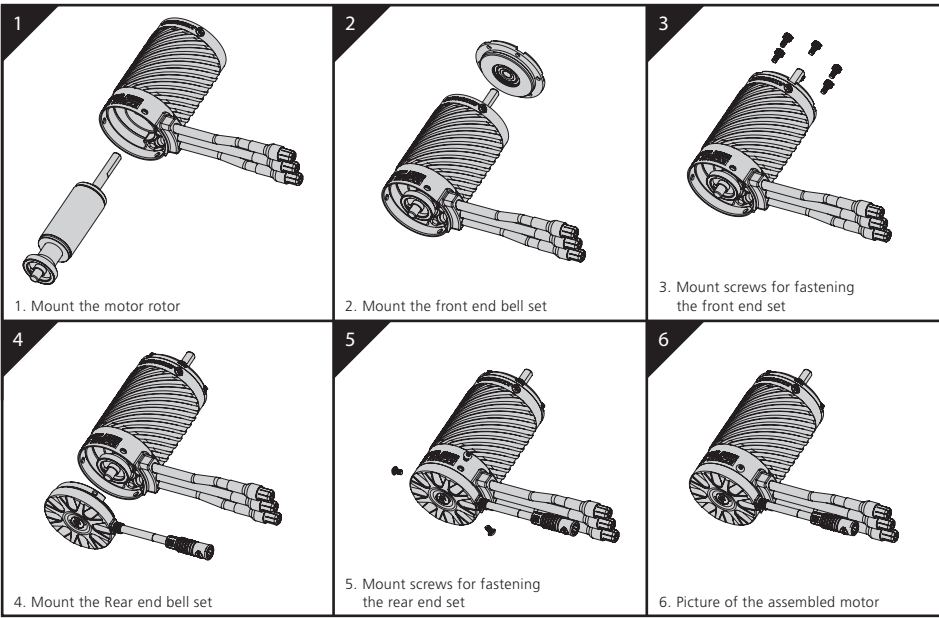
The motor temperature should be lower than 100 degrees Celsius (212 degrees Fahrenheit) in operation. High temperature may cause the magnets to get demagnetized, the coil to melt and short circuit, and the ESC to get damaged. A suitable gearing ratio can effectively prevent the motor from overheating.

2. The principle of selecting gear ratio

To avoid the possible damage to ESC and motor caused by the overheating, please start with a small pinion/a big FDR and check the motor temperature regularly. If the motor and ESC temperature always stays at a low level during the running, you can change a larger pinion/a lower FDR and also check the motor temperature regularly to ensure that the new gearing 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.)

06 Assembly and Disassembly

In order to make the motor have longer service life and higher efficiency, we suggest to regularly check the bearing and clean the dirt in the motor. The specific time depends on the frequency of using the motor and the site conditions. When installing, please follow the steps in the following assembly drawing; when disassembling, follow the reverse steps.



Parts List

