

EZRUN USER MANUAL

Sensorless Brushless Motor
EZRUN 5690SL/56118SL G2

20250210



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 cause the rotor to weaken and even damage the motor.

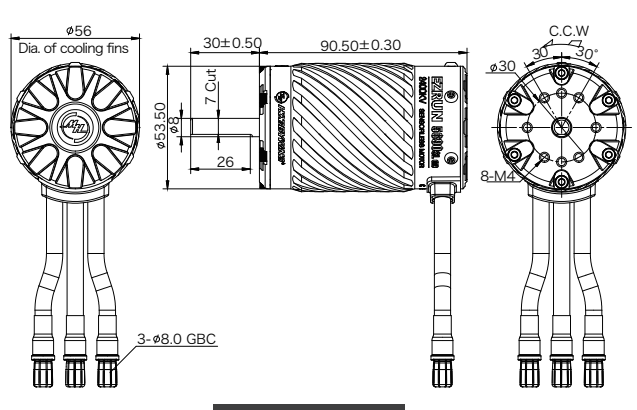
HW-SMB468DUL00

02 Features

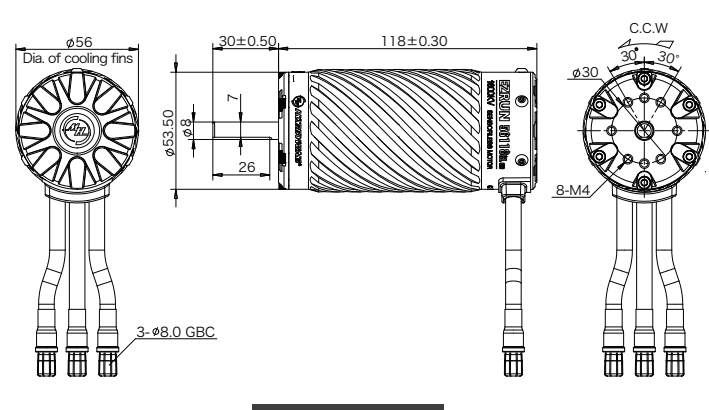
- **Exceptional Power and Speed:** The motor delivers high output power and supports high rpm, making it an ideal choice for high-speed applications.
- **Optimized ESC Compatibility:** Designed for seamless integration with the EzRun MAX5 HV Plus G2 ESC, enabling higher speeds and increased power output when paired.
- **Effective Heat Dissipation:** The motor features heat dissipation with groove structure, reducing temperature rise and prolonging high-power, high-torque output.
- **Durable Construction:** Built with premium materials, including: CNC-machined aluminium housing, Top-tier bearings, Ultra-thin silicon steel laminations, High-temperature-resistant oxygen-free copper wires, Carbon fibre-wrapped explosion-resistant rotor, High-strength alloy output shaft. These features ensure sustained, high-performance operation over time.

03 Specifications

Model	EZRUN 5690SL G2	EZRUN 56118SL G2
KV Value	2400KV	1600KV
LiPo Cells	6-8S	6-12S
No-load current	16A	16A
Outer Diameter/Length	56mm(2.2in)/90.5mm(3.56in)	56mm(2.2in)/118mm(4.65in)
Shaft diameter/Exposed shaft length	8mm(0.315in)/30mm(1.18in)	8mm(0.315in)/30mm(1.18in)
Bearing size(mm)	Front:D22*D8*T7 Rear:D19*D8*T6	Front:D22*D8*T7 Rear:D19*D8*T6
Pole	4	4
Weight	885g	1270g
Application	1/7 and 1/8 vehicles for Extreme Speed	1/7 and 1/8 vehicles for Extreme Speed

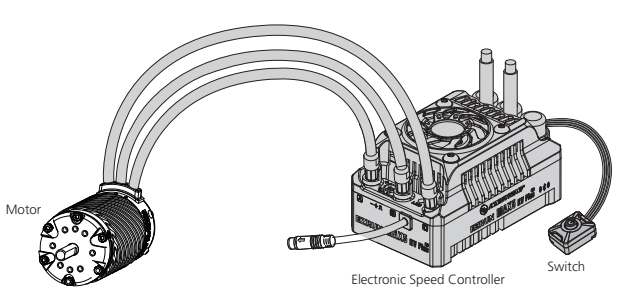


EZRUN 5690SL G2



EZRUN 56118SL G2

04 Installation & Connection



- 1. Installation of the motor**
The specifications of mounting hole screws are four sets of M4, and the mounting holes are 7mm 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**
There are no wire sequencing requirements for the connection between the esc and the motor. If the motor rotates in the opposite direction, you can exchange two of the motor wires, or set the "Motor Rotation" parameter to change the motor direction.
- 3. Inspection**
Before powering on the esc, please check the motor installation and the order of all connections.

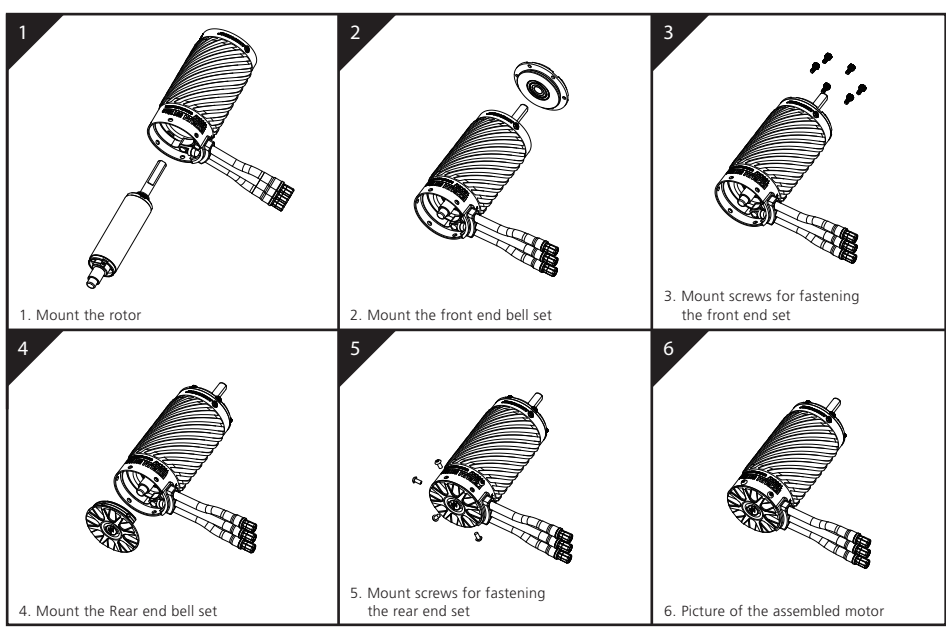
05 Gearing

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

