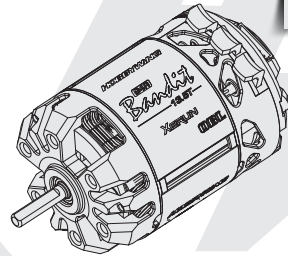


XERUN BANDIT G4R USER MANUAL



20250206

HW-SMB572DUL01



Thanks for purchasing this Hobbywing product. This sensed brushless power system is very powerful, any improper usage can be dangerous and may damage 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, Hobbywing, are only responsible for our product cost and nothing else are result of using our product. **The warranty period is 6 months.**



01 CAUTIONS

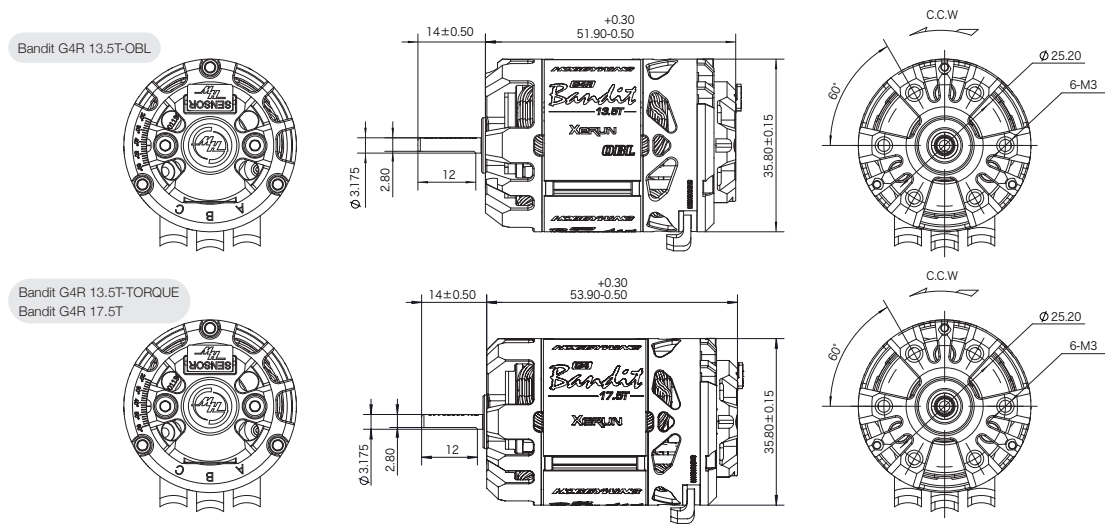
- Before connecting the motor, please carefully check the wire sequence between the esc and the motor to avoid the wrong wire sequence connection.
- Please be sure to carefully connect all components and ensure that the wires and components are well insulated. Poor connections or short circuits may damage the product.
- Never allow this product or other electronic components to come in contact with water, oil, fuel or other electro-conductive liquids. If it happens, stop the use of the product immediately and let it dry carefully.
- Read the manuals of all the items being used in the build. Ensure gearing, setup, and overall install is correct and reasonable.
- Never apply full throttle if the pinion gear is not mounted on, because (under the no-load circumstances) high RPMs may get the motor damaged.
- To avoid possible damage (result from overheat) to the product, please control the soldering time within 5 seconds when soldering the motor wires (a soldering iron with the power of at least 60W is needed).
- Stop usage if the motor exceeds 100°C/212°F. High temperature will cause the rotor to weaken and even damage the motor. Hobbywing recommends activating the "Motor Thermal Protection" (of the ESC).

02 FEATURES

- Excellent performance, specially designed for 1/10 outlaw stock racing.
- Compared to the previous generation, the KV value of the 13.5T-OBL version has been increased by 11.7%, the motor length has been shortened by 2mm, and the weight has been reduced by 15g.
- The innovative outer diameter structure of fully exposed stator core maximizes the heat dissipation area and the end of the motor is a big opening structure to further improve the heat dissipation effect.
- Dual sensor interface design to meet various wiring/layout requirements.
- The special copper bar is customized and the spacing of copper bar is widened, which greatly facilitates the operation of soldering wire.
- The built-in high precision Hall sensor combined with the high precision and balanced rotor guarantee outstanding linearity of the motor.
- The use of high-performance stator core, 220°C high-temperature-resistant enameled wire high precision and high strength bearings, and copper solder tabs with super current endurance guarantees outstanding performance and super durability.

03 SPECIFICATIONS

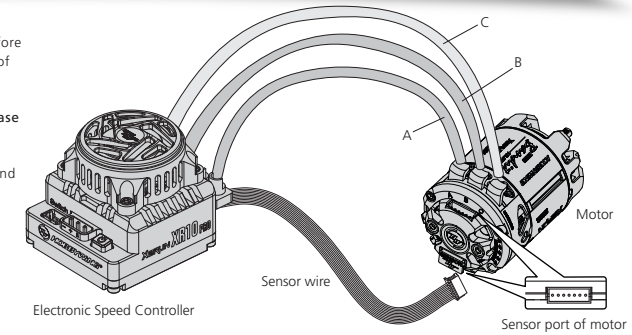
Model (Turns)	KV (No-load)	LiPos	Resistance (Ω)	No-load Current (A)	Max. Output Power (W)	Current @Max. Output Power(A)	Diameter/Length (mm)	Shaft Diameter/Length (mm)	Stock Rotor	Bearing size (mm)	Poles	Weight (g)	Applications
Bandit G4R 13.5T-OBL	3800KV		0.018Ω	4.4A	370W	86A	Ø=35.8mm(1.41in) L=51.9mm(2.04in)	Ø=3.175mm(0.125in) L=14.0mm(0.55in)	Φ5-12.5*24.1-BUS		2	172g	
Bandit G4R 13.5T-TORQUE	3200KV	1-3S	0.018Ω	5.3A	391W	89A	Ø=35.8mm(1.41in) L=53.9mm(2.12in)	Ø=3.175mm(0.125in) L=14.0mm(0.55in)	Front: D9*D4*14 Rear: D8*D3*14		2	190g	1/10 Outlaw STOCK Racing
Bandit G4R 17.5T	2500KV		0.032Ω	4.5A	270W	61A	Ø=35.8mm(1.41in) L=53.9mm(2.12in)	Ø=3.175mm(0.125in) L=14.0mm(0.55in)	Φ5-13.9*24.1-AUS		2	185g	



- Notes:**
- The KV value is measured when no load is applied to the motor, the motor timing is set to the value by default and the ESC timing is set to Zero.
 - Never allow the motor to get overheat, because high temperatures may affect its performance. Please let the motor cool down before using it again in case that it gets too hot.

04 INSTALLATION & CONNECTION

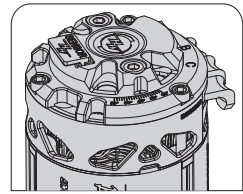
- 1. Installation of the motor**
M3 mounting screws are needed there, and the mounting holes are 4mm in depth, before installing the motor on the vehicle, please carefully confirm whether the specification of the screws is appropriate, so as not to damage the motor due to excessive length.
- 2. How to 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 (A-A, B-B, C-C), otherwise, it cannot run normally and even damage the esc and motor. And then connect the sensor cable to the motor and ESC.
- 3. Inspection**
Before powering on the esc, please check the motor installation and the order of all connections.



05 TIMING ADJUSTMENT

The BANDIT G4R motors provide a wide end-bell timing adjustable range of 20-60 degrees, the following are the methods & principles you can follow when adjusting the timing.

- You can adjust the motor timing after unfastening the screw on the rear end plate. Please adjust the timing as needed according to the mark (white lines) at the rear end of the motor and fasten the screw after the adjustment. For obtaining the optimal performance, you can change the output range and characteristic of your power system through adjusting the motor timing. And the timing is 43 degrees by default.
- As shown in the picture, turn the rear end plate clockwise can reduce the timing and turn it counter-clockwise can increase the timing.
- Increasing the timing can increase the motor speed (RPM), while that also increases the motor temperature and reduces the efficiency. A high(er) timing usually requires a high(er) ratio.
- Please ensure your ESC is properly programmed before setting the motor timing. For detailed information about ESC programming, please refer to the user manual of the ESC.
- After the timing adjustment, please ensure that your motor will not get overheat after running a whole battery pack. You can get the information about the motor temperature via a infra-red temperature gun or the LCD Program Box or the OTA programmer & smart phone (with the Hobbywing HW Link App installed). If the temperature is too high, please let the motor cool down first and then test again. If the temperature is still too high, then please reduce the timing or increase the FDR (that is to replace the pinion gear with fewer teeth or spur gear with more teeth.).



06 RECOMMENDED FDR

The FDR (Final Drive Ratio) is the ratio between the angular velocities of the pinion gear and the tyres. In simple terms, the number of laps the motor will rotate when the tyres spin one lap. Different conditions like track type, traction, tyres, temperature, vehicle weight, gearing mode, driving mode influence the performance of your vehicle and have different requirements on the power system, therefore one FDR can not be applicable for all conditions. All the values in the table are initial FDRs recommended for the motors in Blinky mode. You can start testing with the recommended values, and determine the final value as per the test results. If no recommended FDR is applicable to your vehicle, please start with a big FDR and then adjust gradually as per the demand.

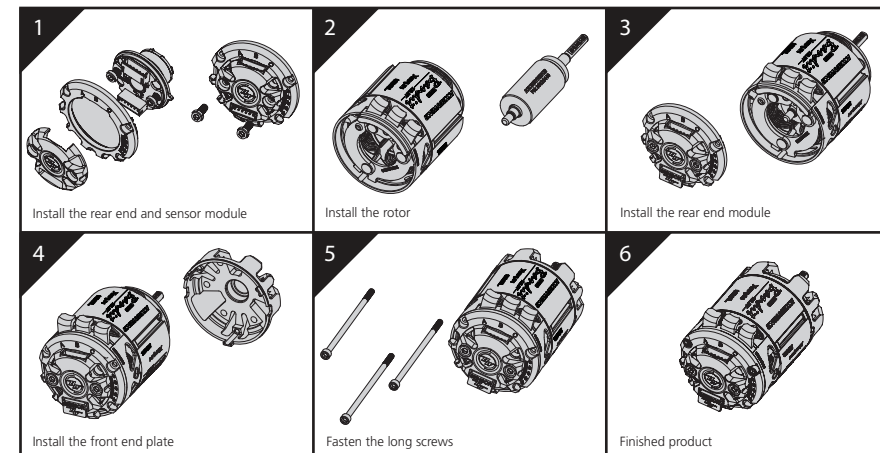
STOCK	TC (Small Track)	TC (Big Track)	2WD Off-road	4WD Off-road
13.5T	3.6	3.3	7.0	7.5
17.5T	3.4	3.0	6.0	7.0



If possible, please exchange ideas with the drivers using the same power system in your community or club for getting the fundamental data applicable to the track you usually run.

07 ASSEMBLY & DIS-ASSEMBLY

The XERUN BANDIT G4R Motor is very strong in construction but also easy to disassemble for maintenance. We recommend checking the bearings and cleaning the motor periodically. Please follow the steps (as shown below) to assemble the motor. When disassembling the motor, the sequences are reversed.



- Front end plate x1 Pcs
- Rotor x1 Pcs
- Stator x1 Pcs
- Sensor module x1 Pcs
- Rear end plate x1 Pcs
- End cap x1 Pcs
- Short screws x2 Pcs
M2.5 x 6.0mm
- Long screws x3 Pcs
M2x41.3mm (13.5T-OBL)
M2x44mm (13.5T-TORQUE&17.5T)