

XERUN V10 G5 USER MANUAL



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20260512

HW-SMB568DUL01



Thank you for purchasing this HOBBYWING product. 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.

01 CAUTIONS

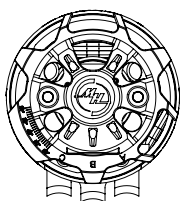
- Please carefully check the wire sequence between the ESC and the motor before connecting them to avoid any incorrect wire sequence.
- Please ensure that all devices are connected properly. If the connection is poor or short circuited, you may not be able to control the car properly, or damage the equipment.
- Read the manuals of all the items being used in the build. Ensure gearing, setup, and overall install is correct and reasonable.
- 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 clean and dry completely before testing.
- Use a minimum of 60W soldering iron, otherwise the motor may be damaged from overheating due to heat transfer from an under powered soldering iron.
- Stop usage if the motor exceeds 100°C/212°F. High temperature will damage the motor and cause the rotor to weaken. Hobbywing recommends activating the "Motor Thermal Protection" (of the ESC).

02 FEATURES

- Exceptional performance designed for top level stock/spec class racing.
- Compared to the previous generation of motor, the weight has been reduced by about 8.5%, and the center of gravity has moved forward, providing improved chassis tuning and handling.
- The coil is exposed for direct heat dissipation, and the heat dissipation hole area has increased by more than 15% compared to the previous generation, resulting in better heat dissipation and lower temperature rise.
- The sensor boards innovative design allows hall sensor adjustability that provides the a new layer of improved tuning.
- With the use of new rotor materials, high quality bearings, heavy copper solder tabs, and meticulously wound stators, the new G5 will provide outstanding performance, consistency, and durability.

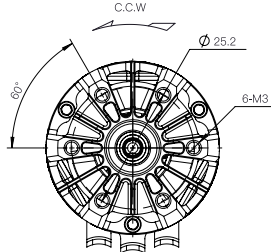
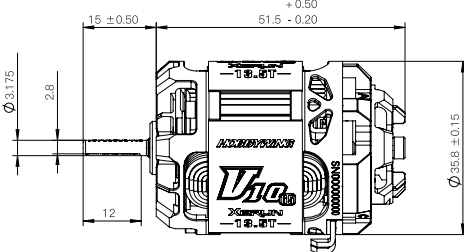
03 SPECIFICATIONS

Model	PN	KV (No-load)	LiPos	Resistance (Ω)	No-load Current (A)	Diameter/Length (mm)	Shaft Diameter/ Length (mm)	Stock Rotor	Bearing size (mm)	Poles	Weight (g)	Applications
XERUN V10 G5 13.5T	30401762	4000KV		0.0208Ω	5.4A			Φ7-12.5*25.2-GUS (PN: 30820461)				
XERUN V10 G5 13.5T-TORQUE	30401763	3900KV		0.0208Ω	6.0A							
XERUN V10 G5 17.5T-TORQUE	30401764	3000KV	1-3S	0.0342Ω	5.0A	Φ=35.8mm(1.41in) L=51.5mm(2.03in)	Φ=3.175mm(0.125in) L=15mm(0.59in)	Φ7-12.5*25.2-JUS (PN:30820462)	Front: D9*D4*14 Rear: D8*D3*14	2	138g	1/10&1/12 STOCK Racing
XERUN V10 G5 21.5T-TORQUE	30401767	2500KV		0.0528Ω	3.5A							
XERUN V10 G5 25.5T-TORQUE	30401768	2100KV		0.0775Ω	3.0A						135g	



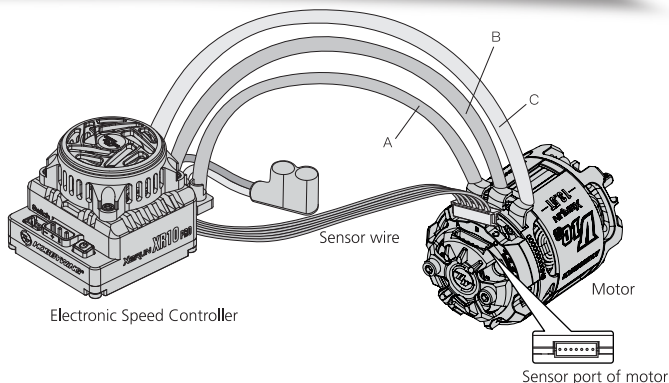
Notes:

- 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 overheat, high temperatures may affect its performance. Please let the motor cool down before using it again.



04 INSTALLATION & CONNECTION

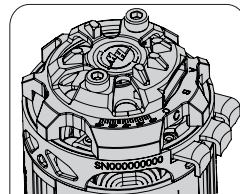
- Installation of the motor**
M3 motor screws are needed. Endbell mounting is 4mm in depth. Be sure to carefully check your motor screws are the correct length. Screws that are Too Long, will cause severe damage to your electronics.
- How to Connect the Motor to an ESC**
When connecting the motor and 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), incorrect connection will result in damage to the ESC and Motor. And then connect the sensor cable to the motor and ESC.
- Inspection**
Before powering on the esc, please check the motor installation and the order of all connections.



05 TIMING ADJUSTMENT

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

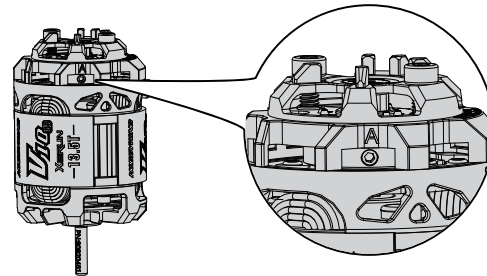
- You can adjust the motor timing after loosening the two screws on the rear end plate. Please adjust the timing as needed according to the mark (/white lines) at the rear end of the motor and tighten both screws after the adjustment. For obtaining the optimal performance, you can change the output range 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. Higher timing settings typically require gearing changes. More timing, means a smaller pinion should be used.
- 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 pack (i.e. LiPo). The motor temperature can be obtained by reading the data recorded by the ESC or by using temperature measurement equipment. 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.).



Sensor Fine-Tuning:

The sensor sub assembly inside the motor has 3 screws that are visible externally, these screws are marked A/B/C, they are used to fine tune the sensors alignment and hall phase symmetry when tested on a Hobbywing Tunalyzer. This adjustment allows precise fine tuning for improved overall performance.

Note: A 1.27mm hex screwdriver is required here.



06 RECOMMENDED FDR

FDR - Final Drive Ratio - is the total ratio of the spur, the pinion and the vehicles drive train/transmission.

Different conditions like track type, grip, tyres, temperature, vehicle weight, transmission type influence the performance of your vehicle and have different requirements on the power system, therefore one FDR can not be applicable for all conditions.

Table values are starting FDR for use with Blink (0 esc timing). These are safe starting points. Please test/tune carefully and adjust as required by your test. Higher FDR numbers are safer (Smaller pinion/Larger Spur).

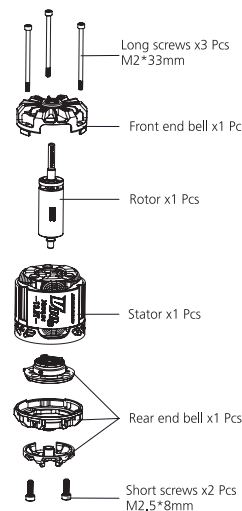
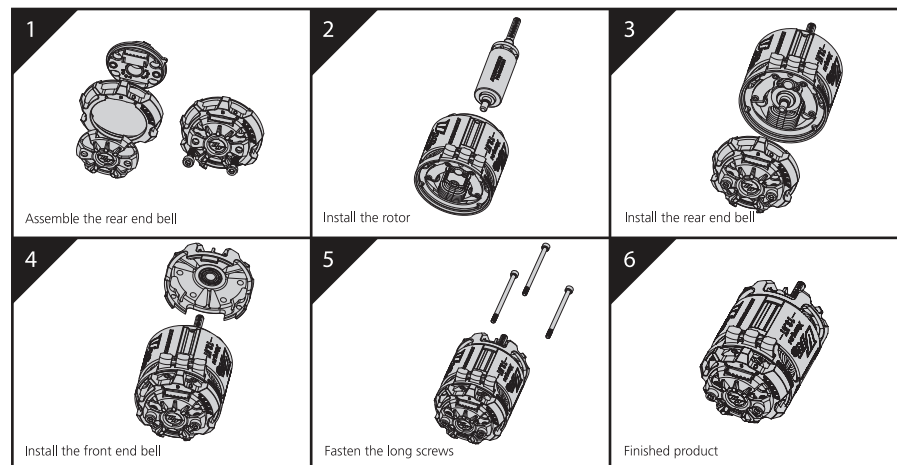
STOCK	TC (Small Track)	TC (Big Track)	2WD Off-road	4WD Off-road
13.5T	4.5	4.0	N/A	6.6
17.5T	4.0	N/A	6.3	N/A
21.5T	3.5	N/A	5.6	N/A



When possible, it is always a great idea to discuss your motor tuning with fellow racers using the same equipment.

07 ASSEMBLY & DIS-ASSEMBLY

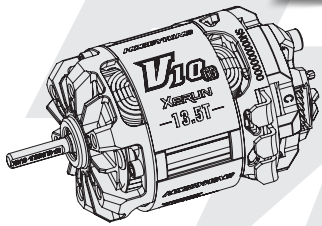
The motor is designed to be easy to disassemble for any needed maintenance or cleaning. We recommend occasional checks of the motor bearings and cleaning of the motor as needed based on the conditions. See the steps below for motor assembly. The steps are reversed for disassembly.



Resources & Specifications

Visit www.hobbywing.com/en/products/xerun-v10-g5 for more details about Xerun V10 G5 Brushless Motor for RC Cars

XERUN V10 G5 使用说明书



20260512

HW-SMB568DUL01



感谢您购买好盈科技竞赛级有感无刷电机！错误的使用可能造成人身伤害和设备损坏。我们强烈建议您在使用设备前仔细阅读本说明书，并严格遵守规定的操作程序。我们不承担因使用本产品而引起的任何责任，包括但不限于对附带损失或间接损失的赔偿责任；同时，我们不承担因擅自对产品进行修改所引起的任何责任。我们有权在不经通知的情况下变更产品设计、外观、性能及使用要求。

01 注意事项

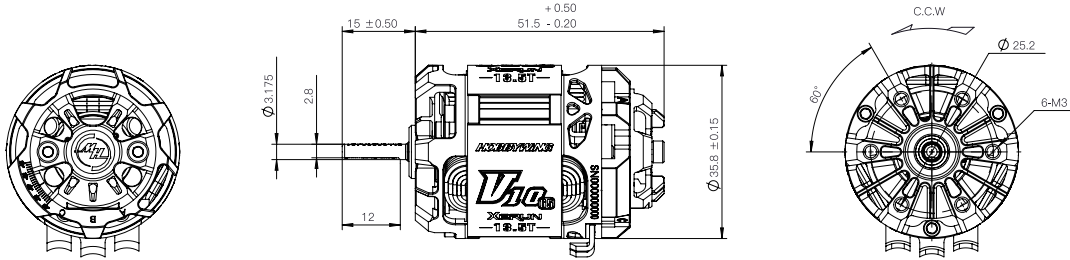
- 连接电机前，请认真核对电调与电机的线序，避免线序错误的情况发生。
- 请务必仔细连接好各部件，若连接不良或短路，您可能不能正常控制赛车，或损坏设备等其他不可预知的情况。
- 使用此电机前，请认真查看动力设备以及车架说明书，确保动力搭配合理，避免因错误的动力搭配导致电机超载，最终损坏电机。
- 请勿让本产品或其他电子元件与水、油、燃料或其他导电液体接触，因为这些可能含有对电子电路有害的物质。如果发生以上情况，请立即停用您的产品，并小心进行干燥处理。
- 当更换电机连接线时，焊接时间控制在5秒以内，防止由于部件过热可能对产品造成的损害。请使用至少60W功率的焊接设备进行焊接。
- 勿使电机外壳温度长时间超过100摄氏度（212华氏度），持续高温将会毁坏电机并且会导致转子消磁。建议开启电调的电机过温保护功能以防止电机过热。

02 产品特点

- 性能卓越，专为1/10 STOCK顶级竞赛而设计。
- 相比上一代电机，重量减轻约8.5%，且重心前移，更利于车架调校。
- 线圈裸露直接散热，散热孔面积相比旧款增加15%以上，散热更好，温升更低。
- 创新的霍尔进角精度可调设计，提供了三相一致性的极致调节。
- 采用高性能铁芯、耐高温防爆转子、一线品牌高精度高强度轴承、超强耐流输出铜排，为电机出色的性能、超高的耐用性提供可靠的保障。

03 产品规格

型号	PN码	KV值 (空载)	适用 锂电	内阻 (Ω)	空载 电流 (A)	外径和长度	轴径和外露轴长	标配转子	轴承规格 (mm)	马达 极数	重量 (g)	主要用途
XERUN V10 G5 13.5T	30401762	4000KV	1-3S	0.0208Ω	5.4A	Ø=35.8mm(1.41in) L=51.5mm(2.03in)	Ø=3.175mm(0.125in) L=15mm(0.59in)	Φ7-12.5*25.2-GUS (PN: 30820461)	前: D9*D4*14 后: D8*D3*14	2	138g	1/10&1/12 STOCK竞赛
XERUN V10 G5 13.5T-TORQUE	30401763	3900KV		0.0208Ω	6.0A			Φ7-12.5*25.2-JUS (PN:30820462)				
XERUN V10 G5 17.5T-TORQUE	30401764	3000KV		0.0342Ω	5.0A							
XERUN V10 G5 21.5T-TORQUE	30401767	2500KV		0.0528Ω	3.5A							
XERUN V10 G5 25.5T-TORQUE	30401768	2100KV		0.0775Ω	3.0A						135g	



备注：

- KV值为电机空载，设为默认进角并将电调设为零进角时测得的数值。
- 请注意不要让电机过热，如果电机太热会对性能造成一定影响，需等其冷却后方可再次测试。

04 安装和连接

1. 安装电机

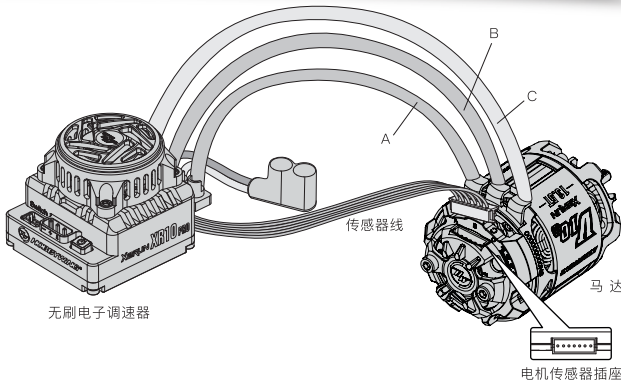
该电机安装螺丝规格为M3，螺丝孔可锁入深度为4mm，安装电机到车上前，请仔细确认所配螺丝规格是否合适，以免过长而损坏电机。

2. 电机连接

电机与电调相接时，**请注意所标识的 A B C 三相位置，确保电调和电机三相线A-A, B-B, C-C——对应相连，否则无法正常运行，甚至损坏电调电机。**然后将感应线与电调电机相接。

3. 检查

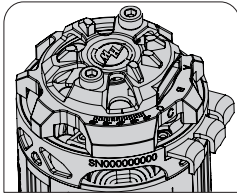
开启电调电源前，请再次仔细检查电机安装可靠性及所有连线的正确性。



05 进角调整

该电机提供了20-60度超宽的机械进角调节范围，以下为进角调节方法和原则：

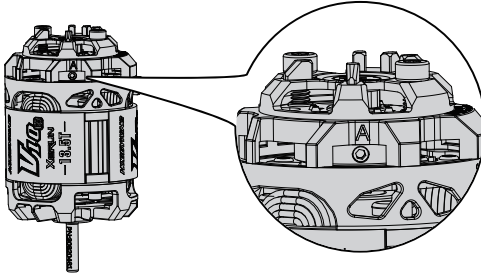
- 通过松动电机后盖的两颗螺丝来调节电机的进角，根据后盖上的刻度调节您所需要的进角角度，调节完成，需扭紧后盖螺丝。可以通过调整电机的进角改变动力输出区间和特性，达到最佳的性能。电机出厂设置进角是43度。如右图所示，顺时针可调低进角值，逆时针可调高进角值。
- 调大进角将增加电机的转速，同时电机的温度上升和效率降低。大进角需要配合较高（较大）的齿比。
- 当设置您的电机进角时，请确保您的电子调速器（ESC）设置正确。请按照ESC说明书进行操作。
- 调整进角后，请确保一组电池用完后电机不会过热。电机温度可通过电调记录的数据来读取，也可使用测温设备测得。如果电机太热，需等电机冷却后方可再次测试；若还是过热，请把进角调小，或把齿比调大（即：换用更少齿数的小齿或更多齿数的大齿）



三相霍尔进角公差调节：

电机尾盖内部的霍尔组件设计有三颗机米螺丝（从电机侧面往尾盖内部看），机米螺丝对应的尾盖处分别标识了A/B/C，通过拧紧或拧松机米螺丝即可精细调节三相霍尔角度，从而减小三相霍尔角度公差。在调节的过程中可以借助马达测试仪查看三相霍尔角度数据。

备注：此处使用1.27mm内六角螺丝刀。



06 推荐齿比（FDR）

这里的齿比是指的最终减速比（FDR），即始端电机输出轴到终端车辆驱动轮的总减速比，简单的可认为轮胎旋转一圈时电机转了多少圈。赛道类型、场地抓地情况、轮胎、气温、车重、传动方式等均会影响车辆行走性能及对动力系统的要求，所以某一个齿比并不能适用于所有条件。下表为电调使用零进角（Blinky）时的起始推荐齿比，可以作为参考测试，然后根据实测结果进行调整。若您的应用不包含在下列表，请先从一个较大的齿比开始设定，然后根据需要进行调整。

STOCK	房车（小场地）	房车（大场地）	2WD越野	4WD越野
13.5T	4.5	4.0	N/A	6.6
17.5T	4.0	N/A	6.3	N/A
21.5T	3.5	N/A	5.6	N/A



请经常与场地上使用相同动力组的车手交流，以获得适合该场地的基础数据。

07 装配说明

该电机结构设计牢固、拆卸简单，易于维护。为了使电机寿命更长，效率更高。我们建议根据使用情况不定期检查轴承并清理电机上的污垢。安装时请遵循以下步骤，如图所示。拆卸时则顺序相反。

