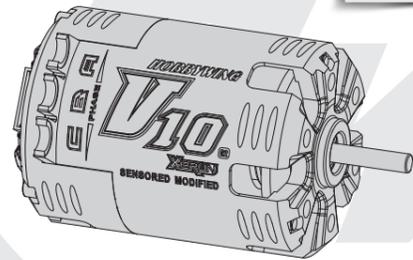


# XERUN V10 G2 USER MANUAL



20170110

## 02 Features

- Designed to withstand extreme levels of use at its highest peak performance.
- Complete new CNC cut motor case with extra front spoke ventilation slots.
- Works as a sensored unit and also sensorless without the sensor cable attached.
- Selectable mechanical timing of 30 to 60 degrees for STOCK motors (\*10.5-25.5T) and 20 to 50 degrees for non-STOCK motors (\*3.5-8.5T).
- Minimal maintenance is required with precise machining technology which ensures a minimum tolerance end play of the rotor shaft. Eliminating the copper shims used in most of today's motors.
- 200 C high temperature tolerance and high purity copper windings maximize conductivity and reliability.
- 200 C high temperature tolerance sintered NdFeb (Neodymium, 35EH-LT) magnets.
- Extreme low resistance multi-layered outlet PCB and high RPM NSK bearings.
- Compliant with ROAR, IFMAR, BRCA and JMRC rules, certified by RoHS, CE, FCC etc.

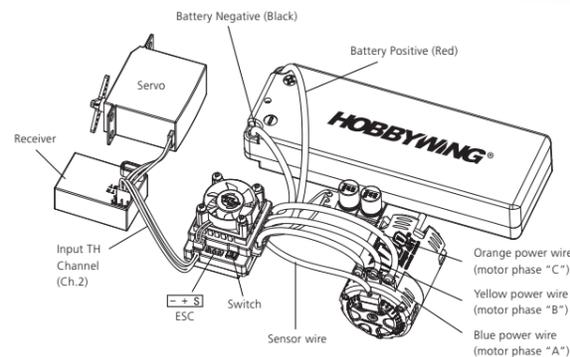
## 03 SPECIFICATIONS

PN	Model	KV Without Load (RPM/V)	Resistance	Current Without Load	Max. Output Power	Current @Max. Output Power	Dia. & Length	Dia. of External Shaft	Stock Rotor	Weight	Application
30401100	3.5T	9550KV	0.002 Ω	8.4A	600W	120A	Ø=36mm (1.417in)  L=52.5mm (2.067in)	Ø=3.17mm (0.125in)  L=15mm (0.575in)	Φ5-12.3	178g (6.279oz)	1/10, 1/12 on-road Modified
30101101	4.5T	7600KV	0.0032 Ω	6.6A	500W	115A				178g (6.279oz)	1/10 on-road Modified; 1/10 4WD off-road Modified
30101102	5.5T	5800KV	0.0045 Ω	6.5A	470W	110A			Φ5-13.0	181g (6.385oz)	1/10 4WD off-road Modified
30101103	6.5T	5000KV	0.0062 Ω	5.5A	430W	105A				181g (6.385oz)	1/10 4WD off-road Modified
30101104	7.5T	4550KV	0.0088 Ω	3.8A	380W	97A			Φ5-12.5	172g (6.067oz)	1/10 Drift; 1/10 2WD off-road Modified
30101105	8.5T	4050KV	0.0106 Ω	3.2A	360W	90A				178g (6.279oz)	1/10 Drift; 1/10 2WD off-road Modified
30101106	10.5T	3800KV	0.0163 Ω	2.1A	260W	74A			Φ7-12.5-U	170g (5.997oz)	1/10 Drift; 1/10 on-road Stock
30101107	13.5T	3000KV	0.0265 Ω	1.8A	220W	59A				172g (6.067oz)	1/10 on-road Stock
30401108	17.5T	2300KV	0.0457 Ω	1.3A	150W	41A			Φ7-12.3-U	173g (6.102oz)	1/10 on-road Stock
30101109	21.5T	1900KV	0.072 Ω	1.1A	120W	32A				170g (5.997oz)	1/10 Stock; 1/10 rock crawler
30401101	25.5T	1500KV	0.0531 Ω	0.8A	85W	24A			166g (5.855oz)	1/10 Stock; 1/10 rock crawler	

- The "Max. Output Power" is measured with 7.4V input voltage and ESC at ZERO timing. This parameter is neither the "maximum input power" nor the "rating power", it is calculated by "RPM x Torque / 9550". Because each factory runs a different testing platform, the above data may vary if the motor is tested in different factories running different testing platforms. **Attention: The "Output Power" value shouldn't be compared with the "Input Power" value directly because the motor efficiency is always less than 100%, the value of "Output Power" is always smaller than the "Input Power" .**
- The "Current at Peak Output Power" is a guide used for selecting the suitable power system (ESC, Motor, Gear ratio, etc.) If the actual input current of the power system is bigger than the peak parameter stated in the above table, this means that the power system settings/configuration is over its peak (Or in other words, "overloaded")
- The "KV" is measured without any load on the motor and ESC at ZERO timing. Please don't run the motor without load for long periods of time (1 minute), otherwise the motor may overheat.

## 04 INSTALLATION AND CONNECTIONS

- Install the motor in its mount using M3 screws no longer than 8mm.
- There are 3 power wires coming from the ESC must be soldered to the motor. They are usually color coded as Blue for Wire A, Yellow for Wire B and Orange for Wire C. When connecting the power wires between the ESC and motor, please make sure that you match ESC Wire A to Motor Phase A, ESC Wire B to Motor Phase B and ESC wire C to Motor Phase C (This is VERY important).
- When using sensored ESC, make sure the sensor cable is clean and reliable. Connect the sensor cable to both ESC and motor in the correct direction.
- Double check you have all the connections correct before turning on the ESC (See connection diagram as below).



Thanks for purchasing Hobbywing Xerun V10 Sensored Competition Motor. High power motor can be very dangerous, so please read through this manual carefully. Given that we have no control over the correct use, installation, application, or maintenance of our products, no liability shall be assumed nor accepted for any damages, losses or costs resulting from the use of the product.



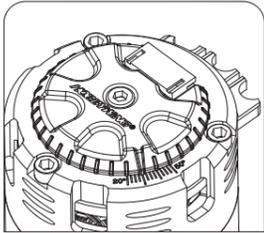
Any claims arising from the operating, failure or malfunctioning etc. will be denied. We assume no liability for personal injury and/or consequential damages resulting from our product or our workmanship. As far as is legally permitted, the obligation to compensation is limited to the invoice amount of the affected product. We, HOBBYWING, are only responsible for our product cost and nothing else as result of using our product.

## 01 CAUTIONS

- Avoid incorrect connections between the electronic speed controller (ESC) and the motor.
- All wires and connections should be well insulated. Short-circuits can possibly damage the products.
- Never allow this product or other electronic components to come in contact with water, oil, fuel or other electro-conductive liquids. If this happens, stop the use of your product immediately and let it dry carefully.
- Avoid overloading the motor due to wrong or too aggressive gear ratios. Different ESCs have different internal timings, follow the ESC instructions.
- Never apply full throttle if the pinion is not installed. Due to the extremely high RPMs without load, the motor can get damaged.
- Always wire up all the parts of the equipment carefully. If any of the connections come loose as a result of vibration, your model RC may lose control.
- Avoid soldering longer than 5 seconds at each soldering joint when replacing the power wires to prevent possible damage to the product due to overheating of the components. Use a high power soldering station with at least 60W for soldering.
- Never allow the motor case to get over 100 degrees Celsius (212 degrees Fahrenheit) because the magnets maybe demagnetized by high temperature.

## 05 TIMING ADJUSTMENT

- To adjust the timing, simply loosen the 1 short screws on the back of the motor and rotate the Sensor Module Cover, noting the white-color lines on the motor and the mark (pointer) on the cover. After the adjustment, please lock the 2 short screws.
- You can alter the timing on the motor to change the power-band and characteristics of the motor for best and the most efficient performance. The factory timing for STOCK motors (\*10.5-25.5T) is 40 degrees, for non-STOCK motors (\*3.5-8.5T) is 30 degrees. You can reduce the timing by turning the end cap clockwise, increase the timing by turning the end cap counter clockwise.
- Increasing the timing will increase the RPM of the motor whilst at the same time increasing temperatures and losing efficiency. Higher timing will require a softer gear ratio. We recommend you start with this setting and adjust based on your needs from that position.
- When setting your motor timing it is important to make sure your ESC is also set correctly. Please follow your ESC instructions on how to do this. To check the motor temperatures during testing, simply drive for 3 laps of the track, stop and use an infrared temperature measuring instrument to make sure the motor is not too hot. If the motor is too hot then allow the motor to cool before trying it again.



## 06 GEARING

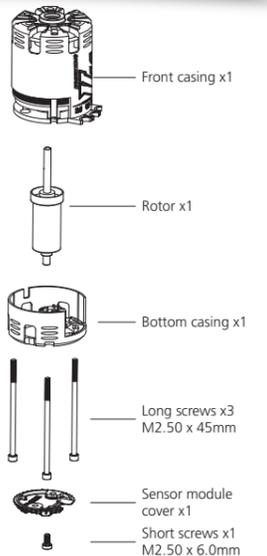
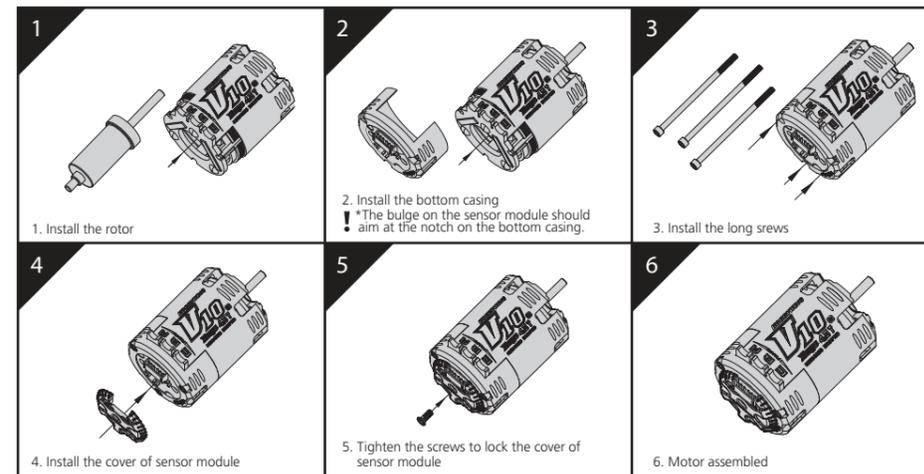
Below is a very rough idea of starting gear ratios for the motors. Please be aware that these are guide ratios for ESC with ZERO timing. Please always check with other drivers using the same ESC/Motor combination at your track for a good starting point. If you have no idea about what gear ratio is most suitable for your car, please begin with "softer" gearing and then adjust as needed.

Class	Battery	3.5T	4.5T	5.5T	6.5T	7.5T	8.5T	10.5T	13.5T	17.5T	21.5T	25.5T
1/10 on-road (Small track)	7.4V LiPo	11.0:1	9.5:1	8.5:1	8.0:1	7.6:1	7.0:1	5.5:1	4.7:1	4.0:1	3.5:1	3.2:1
1/10 on-road (Big track)	7.4V LiPo	10.5:1	8.5:1	7.5:1	7.0:1	6.6:1	6.3:1	5.0:1	4.0:1	3.5:1	3.0:1	2.7:1
1/12 on-road	3.7V LiPo	25mm	29mm	32mm	35mm	36mm	38mm	42mm	51mm	66mm	66mm	66mm
2WD off-road	7.4V LiPo	Not Available		11.1:1	10.3:1	9.4:1	8.5:1	8.0:1	7.0:1	6.0:1	5.5:1	5.2:1
4WD off-road	7.4V LiPo	Not Available		12.0:1	10.8:1	9.8:1	8.9:1	8.0:1	7.0:1	6.0:1	5.5:1	5.2:1
Truggy	7.4V LiPo	Not Available		13.5:1	12.6:1	11.5:1	10.4:1	9.0:1	8.0:1	7.0:1	6.5:1	6.2:1

## 07 ASSEMBLY AND DISASSEMBLY

The XERUN V10 G2 Motor is very strong in construction but also easy to disassemble for maintenance. We recommend periodical checking of the bearings and to clean the motor of dirt.

Please follow the steps in below to assemble the motor. When disassembling the motor, the sequences are reversed.



## 08 PARTS LIST

The XERUN V10 G2 Motor has the parts as below (Please also check picture 5 for reference).

- |   |                                   |                               |
|---|-----------------------------------|-------------------------------|
| 1) Ball bearing x 1 (3.175x9.525x3.967mm)   | 2) Rotor x 1                      | 3) Front casing x 1           |
| 4) Metal Bottom Case (w/ Sensor Module) x 1 | 5) Long screws x 3 (M2.50x45mm)   | 6) Cover of sensor module x 1 |
| 7) Short screws 1 (M2.50x6.0mm)             | 8) Sensor wires x 2 (80mm, 200mm) |                               |

## 09 OPTIONS

Spare Part	PN	Description	Specification
Ball bearing	30820001	540 MOTOR BEARING-3.175	R2ZZ Ball Bearing, 3.175x9.525x3.967mm
Rotor	30820002	XERUN-V10-Rotor-Φ5-12.3	Thick magnet, w/o cooling fan, magnet hole Ø5, O.D. of the magnet:12.3mm
	30820005	XERUN-V10-Rotor-Φ5-12.5F	Thick magnet, with cooling fan, magnet hole Ø5, O.D. of the magnet:12.5mm
	30820006	XERUN-V10-Rotor-Φ5-12.5	Thick magnet, w/o cooling fan, magnet hole Ø5, O.D. of the magnet:12.5mm
	30820007	XERUN-V10-Rotor-Φ7-12.5	Thin magnet, w/o cooling fan, magnet hole Ø7, O.D. of the magnet:12.5mm
	30820008	XERUN-V10-Rotor-Φ5-13.0	Thick magnet, w/o cooling fan, magnet hole Ø5, O.D. of the magnet:13.0mm
	30820009	XERUN-V10-Rotor-Φ5-13.5	Thick magnet, w/o cooling fan, magnet hole Ø5, O.D. of the magnet:13.5mm
	30820012	XERUN-V10/Bandit-Rotor-Φ5-12.1	Thick magnet, w/o cooling fan, magnet hole Ø5, O.D. of the magnet:12.1mm
	30820013	XERUN-V10-Rotor-Φ5-12.5-U-T	Thick magnet / titanium-alloy shaft, w/o cooling fan, magnet hole Ø5, O.D. of the magnet:12.5mm
	30820014	XERUN-V10-Rotor-Φ7-12.3-U	Thin magnet / strong magnet, w/o cooling fan, magnet hole Ø7, O.D. of the magnet:12.3mm
	30820015	XERUN-V10-Rotor-Φ7-12.5-U	Thin magnet / strong magnet, w/o cooling fan, magnet hole Ø7, O.D. of the magnet:12.5mm