



01 Introduction



Congratulations and thank you for your trust in Hobbywing product. By purchasing the XERUN XR10 Pro GZS, you have chosen a high performance sensored brushless electronic speed controller! This speed controller is equipped with high-tech features to enhance your experience with Hobbywing brushless power systems. Improper usage and unauthorized modification power systems. Improper usage and unauthorized modification to our product is extremely dangerous and may admage the product and related devices. Please take your time and read the following instructions carefully before you start using your speed control. We have the right to modify our product design, appearance, features and usage requirements without notification.

- A anod other consist, ensure that all wires and connections must be well insulated before connecting the ESC to related devices.

 Insure as if wires are well connected to prevent poor connections and anold damage to poor electronic devices.

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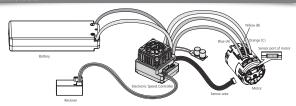
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- 10 select-to-use profiles applicable to all 1/10th RC car racing.
 Internal electronic key switch for long service life, high reliability; and the external switch port for connecting an external switch (Not included in the packaging box, purchase separately) is Internal existence key punish for long perice (Re, high reliability), and the external switch port for connectings are learned witch folic included in the packaging to Supported PMGAMP and a basic power are married from remainise conformation performance or correct a LCD program bere of CAT Programmer (Res. Valuable Response) regulation of PMA basic Response (regulation and PMA basic Response) and solve users to precedy regulate the devine, & basic process or expense of the motion. The second process of the motion of the control of the motion of the control of the motion of the control of the control of the motion of the control of the motion of the control of the control

04 Specifications

Cont./Peak Current	160A/1200A		
Motor Type	Sensored / Sensorless Brushless Motors		
Applications	1/10 th Touring car & Buggy racing, 1/10 th drift car & F1		
Motor Limit	Brushless Motor Limit with 2S LiPo/6S NiMH: (Touring Car) T≥4.5T, (Buggy) T≥5.5T		
LiPo/NiMH Cells	25 LiPo/4-65 NiMH		
BEC Output	5-7.4V Adjustable, Continuous Current of SA (Switch-mode)		
Cooling Fan	Powered by the stable BEC voltage of 5-7.4V		
Connectors	Input End: No Connectors; Output End: No Connectors		
Size	37.5x30.9x32.5mm (w/Fan&Fan Shroud)		
Weight 90g (w/ wires)		88g (w/ wires)	
Programming Port	PRG/FAN Port (*powered by battery voltage)		

05 Connections



This is an extremely powerful brushless motor system. For your safety and the safety of those around you, we strongly recommend removing the pinion gear attached to the motor before performing calibration and programming functions with this system. It is also advisable to keep the wheels in the air when you turn on the ESC.

- Motor Wiring
 The motor wiring is different between the sensored and the sensorless; please only follow the introductions below.

 Sensored Motor Wiring
 There is strict wiring order from the ESC to the motor, the three ARME ESC wires must connect to the three ARME the motor sensor port with the stock from sensor polit Mith the stock from sensor politic Mith sensor p
- oder Window, developed the settlement due to be statisticately, because dury fusions the filmiodizaction solonom.

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- Sensions Motor Winnighturs do not reed to be worside in rigards to the connectivity with the ARCESS and motor) as there is no polarity. You may find it necessary to usup two.
 Zenetive Winnig
 The shortific control cable on the ECF. List to be plugged into the throttle (FII) channel on the secesive. The throttle control cable has no output voltage of 60/7 AV to the receiver and 5 active Vinnighturs.
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 <
- Battery Wirring

 Froper polarity is essential. Please ensure positive (+) connects to positive (+), and negative (-) connects to negative (-) when plugging in the battery! When reverse polarity is applied to the ESC from the battery, the external standard capoack will still be damaged.

06 ESC Setup

1 ESC/Radio Calibration

ing with your transmitter. We strongly recommend Hobbywing users to use the "Fall Safe" function on the radio system and set (F/S) to "Output OFF" or calibrating Noutral range and Endpoint.



1. Turn on the transmitter, ensure all parameters (DM, Curve, ATL) on the throttle channel are at default (100%). For transmitter without LCD, place turn the knob to the maximum, and the throttle "TRM" to D. Rease also turn the corresponding incib to the neutral position. It is better by the transmitter with the ESC turned of this connected to a battery fitting the "ONLOWE" button immediately. But to flash the morte bego at the same time, and then release the ONLOWE button immediately. More therefore them from may be to womentime, and you can note that the DLI state income the Conference of the C







- Note:

 The end position of forward. Pull the trigger to the maxim um throttle position if it is pixtol-style transmitter. Push the throttle to the top if it is board-style transmitter.
 The end position of backward Push the trigger to the maximum brake position if it is pixtol-style transmitter. Pull the throttle to the bottom if it is board-style transmit te.
 The motor can be started 3 seconds after the ESC/Radio callestation is complete.
 The motor can be started 3 seconds after the ESC/Radio callestation is complete.

ture of its Aluminum housing may be very high when there is heavy load. For precaution, we recommend users to have a fan blown towards the ESC. d off), press the ONOFF button to turn on the ESC (the indication LED comes on); and press the ONOFF button again to turn off the ESC (the indication LED dies on the Comes on); and press the ONOFF button again to turn off the ESC (the indication LED dies on the Comes on); and press the ONOFF button again to turn off the ESC (the indication LED dies on the Comes on); and press the ONOFF button again to turn off the ESC (the indication LED dies on the Comes on); and press the ONOFF button again to turn off the ESC (the indication LED dies on the Comes on the Comes of the Comes on the Comes of the Comes of the Comes on the Comes of the

3 Programmable Items

Section	Item	Programmable Items			Parameter Values				
	1A	Running Mode	Forward with Brake	Forward/ Reverse with Brake	Forward and Reverse				
	18	Max. Reverse Force	25%	50%	75% 100	%			
ti g	1C	Cutoff Voltage	Disabled	Auto (3.5V/Cell)		3.0-7.4V Adjustable (Step: 0.1V)			
alSe	1D	ESC Thermal Protection	Disabled	105°C/221°F	125 C/257°F				
General Setting	1E	Motor Thermal Protection	Disabled	105°C/221°F	125 C/257 F				
G	1F	BEC Voltage	5.0V-7.4V Adjustable (Step: 0.1V)						
	1G	Remote Off	Disabled	Enabled					
	1H	Sensor Mode	Full Sensored	Sensored/Sensorless Hybrid					
	-11	Motor Rotation	CCW	CW					
	1,1	Phase-AC Swap	Disabled	Enabled					
	2A	Throttle Rate Control			1-30 Adjustable (Step: 1)				
	28	Throttle Curve	Linear	Customized					
2	2C	Neutral Range			1%-10% Adjustable (Step: 1	%)			
Throttle Confrol	2D	Initial Throttle Force			1-15 Adjustable (Step: 1)				
ttle	2E	Coast			1-15 Adjustable (Step: 1)				
Ě	2F	PWM Drive Frequency	1K 2K	4K 8K 12K	16K 24K	32K Customized			
	2G	Softening Value			0-30" Adjustable (Step: 1")				
	2H	Softening Range	0% 10% 201	% 25% 30% 35	% 40% 45% !	50% 55% 60% 65% 70% 75%			
	за	Drag Brake Force		0	%-100% Adjustable (Step: 1	%)			
75	3B	Drag Brake Rate	Auto		1-20 Adjustable (Step: 1)				
ti d	3C	Max. Brake Force		0	%-150% Adjustable (Step: 1	%)			
Brake Control	3D	Brake Rate Control			1-20 Adjustable (Step: 1)				
ă	3E	Brake Frequency	0.5K 1K	2K 4K 8K	16K	Customized			
	3F	Brake Control	Linear	Traditional	Hybrid				
	4A	Boost Timing			0-64° Adjustable (Step: 1°)				
	48	Boost Timing Activation	RPM	Auto					
	4C	Boost Start RPM			00-35000RPM (Step: 500RP	9.6)			
8	4D	Boost End RPM		3	000-60000RPM (Step: 500R)	PM)			
Timing	5A	Turbo Timing			0-64° Adjustable (Step: 1°)				
	58	Turbo Delay	Instant 0.05s 0.1s	0.15s 0.2s 0.25s	0.3s 0.35s 0.4s 0.4	45s 0.5s 0.6s 0.7s 0.8s 0.9s 1.0s			
	5C	Turbo Increase Rate	Instant 1deg/0.1s	2deg/0.1s 3deg/0.1s 5de	g/0.1s 8deg/0.1s 12deg	0.1s 16deg/0.1s 20deg/0.1s 25deg/0.1s 30deg/0.1s			
	5D	Turbo Decrease Rate	Instant 1deg/0.1s	2deg/0.1s 3deg/0.1s 5de	g/0.1s 8deg/0.1s 12deg	/0.1s 16deg/0.1s 20deg/0.1s 25deg/0.1s 30deg/0.1s			

Note: Item 4C (Boost Start RPM) & item 4D (Boost End RPM) are not programmable if item 4B (Timing Activation) is set to "Auto". The PVM Drive Frequency, Brake Frequency, Brake Control, Boost Timing, Jurbo Timing and relevant items are not programmable (that's item 2F, 3E, 3F and 8 items from 4A to 5D arenot programmable) when Sensor Mode (Item 1H) is set to "

1A. Running Mode Ontion 1: Forward with Brake

Storing mode. If has only forward and brade functions.

Option 2 Forward Reverse with Beaker

Option 2 Forward Reverse with Beaker

Forward Reverse with brade in the Storing Reverse with Reverse with Reverse with Reverse Rev

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accidentally revenued and Revenue
This mode of the revenue way evenues arrange to moder otops. This method is for preventing whole from being
This mode of the used by special whicks (rock crawler), it adopts the "SWOLE-CLICK" method. The which will revenue immediately when you push the throate suggest forward Broake
This mode of the used by special whicks (rock crawler), it adopts the "SWOLE-CLICK" method. The which will revenue immediately when you push the throate suggest forward Broake
This Make Revenue Found.

Cutoff Voltage

Set the voltage at which the ESC lowers or removes power to the motor in order to either keep the battery at a safe minimum voltage (for LPo batteries). The ESC monitors the battery voltage all the time, it will immediately reduce the power to 30% (in 3 second) and cut off the output 10 seconds later when the voltage goes below the cutoff threshold. The RED LED will find a short, registed fault that pages (25, 26, 27) to incident with lower/stage cutoff protection is activated these set the "Cutoff Unitorget" to "Disable" to "Disable set the "Cutoff Unitorget" to "Disable set the "Disable s

es the corresponding cutoff voltage for the battery shall be 7.0V.

ESC calculates the correspondence of the second control of the sec

The contenting could financial is a voltage for the whole battery pack (objectable from 3 of to 7 44).

The couple from the CW will be call of which the value you have present in the CREST CONTENT OF THE CREST CONTENT O

BEC voltage can be adjusted between 6.0-7.4V. 6.0V is applicable to common servo. If use high-voltage servo , set to higher voltage according to voltage marking of servo

. Remote On Option 1: Enabled Users can simply push and hold the brake tripper for 6 seconds. This option allows the user to turn off the ESC without pushing the ONOFF button switch.

USkits cell stronger processor.
Option 2: Disabled

Iterace must turn off the ESC by pressing the ON/OFF switch button from the ESC.

ock in the "sensored" mode at all times. The efficiency and drivability of this mode is at the highest. nsorless Hybrid

The EC operation Brown is resourced months during this low-speed start-up process, followed by switching to operating the motor in the "senorders" mode. This dual drive speeds that CS criticals exercise and place motors.

When the CS operation is used a place motors.

When the CS operation is used a place motors are supported by the control of the c node during the low-speed start-up process, followed by switching to operating the motor in the "sensorless" mode. This dual drive mode is

11. Motor Rectation/Direction
With the motor shall take you like max and of the motor is away from youl, increase the throttle input, the motor (shalf) will notate in the CCWCVW direction if the "Motor Relation /
Direction" at the "CCWCCVW" Generally, the vehicle runs forward when the motor (shalf) relates in the CCW direction. However, some wholes only run forward when the motor relates
to the control of the state of

Warning Vinder SAVERY. We of SL. Connect to Assesser, we can online correspondingly, on not set to state. Universe at will assign the SL. and motor. 2.4 Throttle Radic Control the throttle response. It can be adjustable from 1 to 30 (step. 1), the lower the throttle radic, the more the limit will be not the throttle response. A suitable in the set of the control the whole properly during the statenguage process. Generally, you can set it to a highly value to have a quick throttle response if you are proficent at throttle corp.

El Throttle Curve.

consistence of the construction of the constru

itters have the same stability at "neutral position", please adjust this parameter as per your preference. You can adjust to a bigger value when this happens

As not all transmissions have the same stability at "neutral propriets", please adjust the parameter aper your preference. You can adjust to a bigger value when this happens.

As local called a manufactural treated (see "you can et al accessing to whether and stratum" in the ground in signey, please are a small throtted precision. Some motion have been designed effect with lower ETM number Willer and you can et al accessing on the ground in signey, please are a small throtted precision. When we have the gazantees are small throtted precision of the stable in the stable

point. Normally the number will be not one 5%.

25 Costs of the number will be not one 5%.

25 Costs of the number will be invested exclusion, when the next in reduced. The vehicle will not reduce goed abruptly when the throntie is neduced to return to the next many position.

The bigger the value, the more the "COAST" will be felt. Example, COAST of 0 deachsates, and a COAST of 20% would be the maximum amount of COAST.

The bigger the value, the more the "COAST" will be felt. Example, COAST of 0 deachsates, and a COAST of 20% would be the maximum amount of COAST.

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test results of jour wholes.

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increase the mechanical liming by over 5 degrees.

24. Softening Range
It's the range to which "Softening Value" starts and ends. For example, 0% to 30% will be generated when the user pre-programs the "Softening Range" at a value of 30%.

A Drag Brask

. Urag Brake. It is the braking power produced when releasing from full speed to neutral position. This is to simulate the slight braking effect of a neutral brushed motor while coasting. It's not

recommended for buggy and monster truck.

(Attention) Dray brake will consume more power and heat will be increased, apply it cautiously.)

38. Dray Brake Rate

This parameter is used to open a date. used to control the speed of the drag-brake response. Setting a suitable value can improve the drag braking effect of the vehicle, thus, improving drivability to suit alue can be adjusted up to 20 levels. Increasing the value will result in a greater drag brake effect. The other "Auto" option is available as well to choose from eigenly adjust the drag brake avoil cention according to the current speed. The faster the current speed, the greater the dag brake will cented no effect, vice versa.

26. Max. Bask Force

The State Force operation behavior function; the behavior peters is decided by the position of the streetle trigger, it sets the percentage of available braking power when full brake is applied Large annual will between the schange lines but any update person person and our supplied Large annual will be the behavior person the supplied Large annual will be the school of the supplied Large annual to the supplied Large annual to

set it to a right value to have a square state reporter.

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mended using this mode under all circumstances. The braking effect is a bit weaker in this mode than in Traditional brake mode, but it's easy to control and

The proper recommensures using this mode under all circumstances. The braking efficiency great control feel.

Option 2: Traditional
This brake mode is the same as to the XERUN series of ESCs, the brake force is stronger

Option 3: 1-Mprint = 1% series at 10 the XERUN series of ESC4, the brake force is stronger.

Option 3: 1-Mprint = 1% series at 10 the XERUN series of ESC4, the brake force is stronger.

Option 1: 1-Mprint = 1% series of ESC4, the brake force is stronger.

Option 1: 1-Mprint = 1% series of ESC4, the brake force is series of ESC4, Updot in . In PRM mode, the ESC adjusts the Boost Timing dynamically as per the motor speed (RPM). The actual Boost Timing is 0 when the RPM is lower than the Boost Start RPM. The Boost Timing changes as per the RPM when the RPM change is between the Boost Start RPM and the Boost End RPM. For example, if the Boost Timing is set to 5 depress and the Boost Start RPM is 1000. The Boost Intelligent is 1500. The Boost Intelligent is 15

RPM (Motor Speed)	<10000	10001-11000	11001-12000	12001-13000	13001-14000	14001-15000	>15000
Actual Boost Timing	0 Degree	1 Degree	2 Degrees	3 Degrees	4 Degrees	5 Degrees	5 Degrees

Option 2. Auto
in Auto make, the SC adjusts the Boot Timing dynamically as pur the throttle amount. Only at full throttle, the actual boot Timing is the value you had previously set.
46. Boot Start PML
46. Boot Start PML
47. Boot Start PML
48. Boot Start PML
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4 Preset Modes

Preset Modes	for Different Racing:	
Mode #		
1	Zero Timing	All Stock racing requiring users to use Zero timing (/blinky) program on their ESCs.
2	TC-Modify	Modify class of 1/10th touring car racing
3	Buggy-2WD-Modify	Modify class of 1/10th 2WD buggy racing
4	Bubby-4WD-Modify	Modify class of 1/10th 4WD buggy racing
5	Practice	(With Reverse function activated,) practice and sport
6	Stock-13.5T	13.5T Open Stock class of 1/10th touring car racing
7	Stock-17.5T	17.5T Open Stock class of 1/10th touring car racing
8	SCT-4 Pole	1/10 th 4WD SCT using 4 pole motor
9	Drift 2WD Carpet	1/10 th drift 2WD car on Carpet

5 ESC Programming

1) Program your ESC with a multifunction LCD grogam box.

You can program that XXI O'Ps DEC or a multifunction LCD grogam box or via a multifunction LCD program box is a PC pROBETYWING USE LINK software needs to be in PC. State programing, you need to convey per ESC and the LCD program box via a cable with two IR make connection and turn on the ESC. this bod scenes with the conversion of turn on the ESC, this bod scenes with the convey per ESC and the LCD program box via a cable with two IR make connections and turn on the ESC. this bod scenes will the convey the CSC and the CSC and turn of the ESC. The LCD program box via a cable with two IR make connections and turn on the ESC. this bod scenes will the convey the CSC and the C

Program your ESC with a OUA Programmer:

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Restore the default values with a multifunction LTD program box
After connecting the program box to the Sci, continue to press the TERB's buttor on the program box until you see the "RESTORE DEFAULT" item, and press "OK" to factory reset your ESV
** Restore the default values with a OTA Programmer (6 HW LInk App)
**After connecting the OTA Programmer to EST, cogn the MRESWING HW Link App on your smart phone, select "Parameters" followed by "Factory Reset" to reset the ESC.

**The Company of the OTA Programmer to the ST, cogn the MRESWING HW Link App on your smart phone, select "Parameters" followed by "Factory Reset" to reset the ESC.

**The Company of the OTA Programmer to the ST, cogn the MRESWING HW Link App on your smart phone, select "Parameters" followed by "Factory Reset" to reset the ESC.

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07 Explanation for LED Status

. During the Start-up Process

• The RED LED turns on solid indicating the ESC doesn't detect any throttle signal or the throttle trigger is at the neutral position.

• The GEEEN LED flasher anjobly indicating the neutral throttle value stored on your ESC may be different from the current value stored on the transmitter. Wi

• The GERIAL ID states rapply recovering the control of the Con

"maximum balas four" to 100%.

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08 Trouble Shooting

Trouble(s)	Possible Causes	Solution(s)
The ESC was unable to start the status LED, the motor, and the cooling fan after it was powered on.	No power was supplied to the ESC. The ESC switch was damaged.	Check if all ESC & battery connectors have been well soldered or firmly connected.
The ESC was unable to start the motor, but the RED LED on the ESC turned on solid.	The throttle cable was reversely plugged into the TH channel or plugged into wrong channel on the receiver.	Plug the throttle cable into the throttle channel (CH2) by referring to relevant mark shown on your receiver.
The vehicle ran backward when you pulled the throttle trigger towards you.	The (ESC-to-motor) wiring order was incorrect. Your chassis is different from popular chassis.	Swap any two (ESC-to-motor) wires if you are using a sensoriess moto There is nothing you can do if you are using a sensored motor and you chassis is different from popular chassis.
The motor suddenly stopped or significantly reduced the output in operation.	The receiver was influenced by some foreign interference. The ESC entered the LVC protection. The ESC entered the thermal shutdown protection.	Check all devices and try to find out all possible causes, and check the transmitter battery voltage. The RED LED keeps flashing indicating the LVC protection is activated, please replace your pack. The GREEN LED keeps flashing indicating the thermal protection is activated, please let your ESC cool down before using it again.
The motor stuttered but couldn't start.	Some soldering between the motor and the ESC was not good. The ESC was damaged (some MOSFETS were burnt).	Check all soldering points, please re-solder if necessary. Contact the distributor for repair or other customer service.
The vehicle could run forward (and brake), but could not reverse.	The throttle neutral position on your transmitter was actually in the braking zone. Set the "Running Mode" improperly. The ESC was damaged.	Recalibrate the throttle neutral position. No LED on the ESC will come on when the throttle trigger is at the neutral position. Set the "Running Mode" to "FwdRev with Brk ". Contact the distributor for repair or other customer service.
The motor got stuck or stopped when increasing the throttle during the starting-up process.	Poor discharging capability of the pack. The RPM of the motor was too high, or the FDR was too low. Set the "Punch/Start Mode" to a high level.	Change another pack with great discharging capability. Change a low-speed motor, or increase the FDR. Set the punch/start mode to a low level.
The RED & GREEN LEDS on the ESC flashed rapidly at the same time when the throttle trigger was at the neutral position.	(When pairing with a sensored motor) the ESC automatically switched to sensorless mode when it detected incorrect signal from Hall sensor.	Check if the sensor cable is loose or poor contact issue exists. Hall sensor inside the motor is damaged.
The motor stuttered but couldn't start.	The (ESC-to-motor) wiring order was incorrect. The ESC was damaged.	Check if the wiring order is A-A, B-B, and C-C. Contact the distributor for repair or other customer service.