

## **01** Introduction

Thank you for purchasing this HOBBYWING product! Please read this declaration carefullybefon use, once you use the product, we will assume that you have read and agreed with all the content. Brushless power systems can be very dangerous and any improper use may cause personal injury and damage to the product and related devices, so please strictly follow the instruction during installation and use. Because we have no control over the use, installation, or naintenance of this product, no liability may be assumed for any damages or losses resulting from the use of the product. We do not assume responsibility for any losses caused by trom the use of the product. We also not assume responsibility for any losses caused by unauthorized modifications to our product. We have the right to modify our product design, appearance, features and usage requirements without notification. We, HOBBYWING, are only responsible for our product cost and nothing else as result of using our product. Regarding the possible semantic different between two different versions of declaration, for users in mainland China, please take the Chinese version as standard; for users in other regions, please take the English version as standard.

Due to the specialized nature and high-performance requirements of the intended applications, this product has been engineered to operate beyond typical standards.

Consequently, it does not follow standard warranty service options for damage incurred ration. Please review the warranty section of the website for terms, itions and further details.

HW-SMA542DUL00

# 02 Warnings

- To avoid short circuits, ensure that all wires and connections are well insulated before connecting the ESC to related devices
- Ensure all devices in the system are connected correctly to prevent any damage to the system.
  Read the manuals of all the items being used in the build. Ensure gearing, setup, and overall install is correct and reasonable.
  Please use a soldering iron with the power of at least 60W to solder all input / output wires and connectors.
- Do not hold the vehicle in the air and revit up to full throttle, as rubber tires can "expand" to extreme size or even explode and cause serious injury
- Stop usage if the casing of the ESC exceeds 90°C / 194°F as this may cause damage to both the ESC and motor. Hobbywing recommends setting the "ESC Thermal Protection" to 105°C / 221°F (this refers to the
- The battery must be disconnected after use. There is a small draw even when the system is off, and will eventually fully drain the battery. This may cause damage to the ESC, and will NOT BE COVERED UNDER WARRANTY.

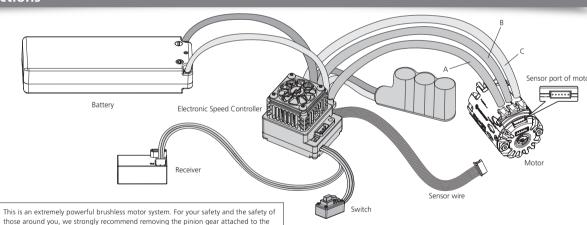
# **03** Features

- Powerful hardware and software, designed for Drag Racing.
- Factory standard 10AWG silicone wires and super large capacitor module, everything is ready.
   RPM limit by throttle, Boost start rpm and end rpm are all finely adjustable, meeting the precise adjustment of the throttle by the driver.
   Multiple protection functions: low-voltage cutoff protection, ESC and motor thermal protection, and fail safe.
- The data recording function utilizes the OTA Bluetooth module to view various running data of the power system in the HW LINK App on mobile phones, making it easier for drivers to analyze the operation of
- Firmware upgrade via Hobbywing LCD Pro program box or OTA Programmer (item sold separately)

# **04** Specifications

Model	XERUN XR10 PRO DR				
Cont./Peak Current	200A / 1200A				
Motor Type	Sensored Brushless Motors				
Applications	1/10th Drag Racing				
Recommended Motor	3652/3662(540/550) size motors KV≤9800				
LiPo Cells	2S Lipo				
BEC Output	5-7.4V Adjustable, Continuous Current of 5A				
Cooling Fan	Powered by the stable BEC voltage				
Size	37.7x37.2x33.2mm(w/Fan&Fan Shroud)				
Weight	137g(w/ wires)				
Programming Port	Independent programming interface				

### 05 Connections





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.

Sensored motor connection MUST connect A from the ESC to A on the motor, B to B, and C to C, with the sensor wire connected any variation of the motor to ESC connections may cause damage. Note: If the motor direction is reversed, change the parameter item "Motor Rotation" to achieve the correct setting.

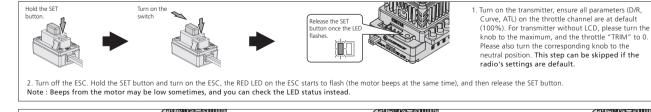
The throttle control cable on the ESC has to be plugged into the throttle (TH) channel on the receiver. The throttle control cable has an output voltage of 5-7.4V to the receiver and steering servo, hence, no parate battery can be connected to the receiver. Otherwise, your ESC may be damaged. If additional power is required, disconnect the red wire on the throttle plug from the ESC 3. Battery Connetion

larity is essential. Please ensure positive (+) connects to positive (+), and negative (-) connects to negative (-) when plugging in the battery! If the connection is reversed, the ESC will be damaged

# 06 ESC Setup

#### Set throttle range

ou must calibrate throttle range when you begin to use a new ESC, the transmitter has been replaced, or the Throttle TRIM have been adjusted, otherwise the ESC cannot work correctly. We strongly nend users to use the "Fail Safe" function on the radio system and set (F/S) to "Output OFF" or "Neutral Position". The throttle calibration steps are belongers



• Leave transmitter at the neutral position, press the SET button, the GREEN LED flashes 1 time and the motor beeps 1 time to accept the neutral position

• Pull the throttle trigger to the full throttle position, press the SET button, the GREEN LED blinks 2 times and the motor beens 2 times to accept the full throttle endpoin • Push the throttle trigger to the full brake position, press the SET button, the GREEN LED blinks 3 times and the motor beeps 3 times to accept the full brake endpoin

The motor can be started after the ESC/Radio calibration is complete.

Section	Item	Programmable Items						Para	meter Valu	es						
	1A	Running Mode	Forward with Brake Forward/ Reverse with Brake Forward and Reverse													
	1B	Max. Reverse Force	25%			50%		7!	5%	100%						
tting	1C	Cutoff Voltage	Disa	abled		Auto (3.5V/Cell)			3.0-7.4V Adjustable (Step: 0.1V)							
al Se	1D	ESC Thermal Protection	Disa	abled		105°C/2	21°F	125°C	/257°F							
General Setting	1E	Motor Thermal Protection	Disa	abled		105°C/2	21°F	125°C	/257°F							
U	1F	BEC Voltage						5.0V-7.4	IV Adjustable	(Step:0.1V)						
	1G	Motor Rotation	C	CW		CW	/									
	2A	Throttle Rate Control						1-30	) Adjustable (	Step: 1)						
	2B	Throttle Curve	Linear			Customized										
	2C	Neutral Range	3%-10% Adjustable (Step: 1%)													
2	2D	Initial Throttle Force	1%-100% Adjustable (Step: 1%)													
Throttle Control	2E	PWM Drive Frequency	1K	2K	4K	8K	12K	16K	24K	32K			Customize	d		
ottle	2F	Softening Value						0-30	Adjustable (	Step: 1°)						
μŢ	2G	Softening Range	0%	10% 2	0%	25%	30% 3	5% 40	% 45%	50%	55%	60%	65%	70%	75%	
	2H	RPM Limit By Throttle	5000RPM-180000RPM (Step: 5000RPM) 300000RPM													
	21	RPM Limit Range	0%-90% (Step: 10%)													
	2J	Max RPM Limit	50000RPM-225000RPM (Step: 5000RPM) 300000RPM													
	3A	Drag Brake Force		0%-100% Adjustable (Step: 1%)												
ntrol	3B	Max. Brake Force	0%-100% Adjustable (Step: 1%)													
Brake Control	3C	Brake Rate Control						1-20 Adjustable (Step: 1)								
Brak	3D	Brake Frequency	0.5K	1K	2K	4K	8K	12K	16K			Cus	stomized			
	3E	Brake Control	Lir	Linear Traditional Hybrid												
	4A	Boost Timing					0-64° Adjustable (Step: 1°)									
	4B	Boost Timing Activation	А	uto		RPM			Timing Rate							
	4C	Boost Start RPM		2000-120000RPM (Step: 1000RPM)												
0	4D	Boost End RPM			10000RPM-200000RPM Step: 1000RPM(10000-100000),2000RPM(100000-200000)											
Timing	4E	Boost Increase Rate			(1°-32°) / 0.1s (Step: 1°) Instant						nt					
-	5A	Turbo Timing						0-64	Adjustable (	Step: 1°)						
	5B	Turbo Delay	Instant 0	.05s 0.1	s 0.1	15s 0.2	s 0.25s	0.3s	0.35s 0.4	4s 0.45s	0.5s	0.6s	0.7s	0.8s	0.9s	1.0s
	5C	Turbo Increase Rate	1deg/0.1s	2deg/0.1	s 3de	g/0.1s	5deg/0.1s	8deg/0.1s	12deg/0.1	16deg/0.1s	20deg	/0.1s	25deg/0.1s	30deg/0.	.1s	Instant
	5D	Turbo Decrease Rate	1deg/0.1s	2deg/0.1	s 3de	g/0.1s	5deg/0.1s	8deg/0.1s	12deg/0.1	16deg/0.1	20deg	/0.1s	25deg/0.1s	30deg/0.	.1s	Instant

Note: The default firmware for ESC is Blinky Mode(zero timing), so there is no timing options (4A-5D). If you need to use the timing, you can update the firmware with the timing options through the mobile app or compute

#### 1A. Running Mode

Option 1: Forward with Brake

Racing mode. It has only forward and brake functions.

Option 2: Forward/ Reverse with Brake

This option is known to be the "training" mode with "Forward/ Reverse with Brake" functions. The vehicle only brakes on the first time you push the throttle trigger to the reverse/brake position. If the motor stops when the throttle trigger return to the neutral position and then re-push the trigger to reverse position, the vehicle will reverse, if the motor does not completely stop, then your vehicle won't reverse but still brake, you need to return the throttle trigger to the neutral position and push it to reverse again. This method is for preventing vehicle from being accidentally reversed. Option 3: Forward and Reverse

nediately when the throttle trigger is pushed to reverse position. This mode is generally used in special vehicles

1B. Max. Reverse Force

The reverse force of the value will determine its speed. For the safety of your vehicle, we recommend using a low amount 1C. Cutoff Voltage

Sets 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 LiPo batteries). The ESC monitors the battery voltage all the time, it will reduce the power to 50% (in 2 seconds) and cut off the output 40 seconds later when the voltage goes below the cutoff threshold. The RED LED will flash a short, single flash that repeats (\$\psi\_{\text{r}}, \psi\_{\text{r}}\$) to indicate the low-voltage cutoff protection is activated. Please set the "Cutoff Voltage" to "Disabled" or customize this item if you are using NiMH batteries. Option 1: Disabled

The ESC does not cut the power off due to low voltage. We do not recommend using this option when you use any LiPo battery as you will irreversibly damage the product. You need to select this option when you are using a NiMH pack. Option 2: Auto

The ESC calculates the corresponding cutoff voltage for the battery shall be 7.0V. Option 3: Customized

The customized cutoff threshold is a voltage for the whole battery pack (adjustable from 3.0V to 7.4V). 1D. ESC Thermal Protection

The output from the ESC will be cut off with the value you have prese

The GREEN LED flashes  $(\dot{x}, \dot{x}, \dot{x})$  when the ESC temperature reaches to the preset value. The output will not resume until the ESC temperature gets down Warning! Please do not disable this function unless you're in a competition. Otherwise the high temperature may damage your ESC and even your motor.

1E. Motor Thermal Protection r☆, ☆☆) when the motor temperature reaches to the preset value. The output will not resume until the motor temperature gets dow

Warning! Please do not disable this function unless you're in a competition. Otherwise the high temperature may damage your motor and even your ESC. For non-Hobbywing motor, the ESC may activate the motor thermal protection too early or late due to the differences in the temperature sensors. In this case, please disable this function and monitor the motor temperature manually. 1F. BEC Voltage

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 sen 1G. Motor Rotation/Direction

With the motor shaft faces you (the rear end of the motor is away from you), increase the throttle input, the motor (shaft) will rotate in the CCW/CW direction if the "Motor Rotation / Direction" set to "CCW/CW". Generally, the vehicle runs forward when the motor (shaft) rotates in the CCW direction. However, some vehicles only run forward when the motor rotates in the CW direction due to the different chassis design. In that case, you only need to set the "Motor Rotation/Direction" to "CW). 2A. Throttle Rate Control

This item is used to control the throttle response. The higher the throttle rate, the more aggressive the throttle will be applied. A suitable rate can help driver to control the vehicle properly during the starting-up process 2B. Throttle Curve

The throttle curve parameter reconciles the position of the throttle trigger and the actual ESC throttle output. It is linear by default and we can change it to non-linear via adjusting the throttle curve. For example, if adjust it to +EXP, the throttle output at the early stage will be higher (than the output when the curve is linear); if it is adjusted to -EXP, the throttle output at the early stage will be lower (than the output when the 2C. Neutral Range

This parameter adjusts the range of the throttle neutral area to suit different transmitters and driver habits. If the neutral position of the transmitter is unstable, causing the car to move slowly forward or backward, or ve difficulties calibrating the neutral range, the setting can be raised to correct the issue.

2D. Initial Throttle Force It also called as minimum throttle force. You can set it according to wheel tire and traction. If the ground is slippery, please set a small throttle force. Some motors have strong cogging effect with lower FDR , if there is any cogging with very light throttle input, you can try to increase the initial throttle force.

The acceleration will be more aggressive at the initial stage when the drive frequency is low; a higher drive frequency is smoother but this will create more heat to the ESC. If set this item to "Customized", then the PWM frequency can be adjusted to a variable value at any 0-100% throttle input, Please choose the frequencies as per the actual test results of your vehicles

2F. Softening Value It allows users to fine-tune the bottom end, change the driving feel, and maximize the driving efficiency at different track conditions. The higher the "Softening Value", the milder the bottom end. In Modified class, drivers often feel the power of the bottom end is too aggressive. Little throttle input usually brings too much power to the car and make it hard to control at the corners, this is HOBBYWING's solution to help

Note: You can increase the motor mechanical timing accordingly after you set the softening value. Every time you increase the softening value by 5 degrees, you can increase the mechanical timing by 1 degree. For example, if you set the softening value to 20 degrees, then you can increase the mechanical timing by 4 degrees. Please note that you will never increase the mechanical timing by over 5 degree

2G. 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%

2H. RPM Limit By Throttle This parameter refers to the maximum motor rpm allowed within the throttle range, associated with item 2I (RPM Limit Range).

2I. RPM Limit Range

Refers to the throttle range corresponding to the limited motor rpm. For example, if the item 2H (RPM Limit By Throttle) is set to 20000, and this item is set to 30%, it means that the maximum motor rpm limited within 2J. Max RPM Limit

num motor rpm limit with the whole throttle range 3A. Drag Brake

It is the braking power produced when releasing from the throttle 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 (Attention! Drag brake will consume more power and heat will be increased, apply it cautiously.)

3B. Max. Brake Force

This ESC provides proportional braking function; the braking effect is decided by the position of the throttle trigger. It sets the percentage of available braking power when full brake is applied. Large amount will shorten the braking time but it may damage your pinion and spur. 3C. Brake Rate Control

It's adjustable from 1 to 20 (step: 1). The larger the setting value, the greater the brake rate, that is, the faster the braking. A suitable rate can aid the driver to brake his vehicle correctly. Generally, you can set it to a high value to have a guick brake response The brake force will be larger if the frequency is low; you will get a smoother brake force when the value is higher. If set this item to "Customized", then the brake frequency can be adjusted to a variable value at any

0-100% throttle input. Please choose the frequencies as per the actual test results of your vehicles. 3E. Brake Control

Option 1: Linear . Hobbywing has recommended 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 brings great control feel Option 2: Traditional

This brake mode is the same as to other standard ESCs, the brake force is stronger.

Option 3: Hybrid The ESC switches the brake mode between Linear and Traditional as per the vehicle speed to prevent the slide (between tires and track) from affecting the braking effect.

Note: Please select the right mode for your vehicle as per the track condition, motor performance, and etc.

It is effective within the whole throttle range; it directly affects the car speed on straightaway and turns. The actual boost timing during the operation is adjusted based on the parameter item 4B. The Boost

iming is not constant but variable.

4B. Boost Timing Activation

In RPM 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 degrees and the Boost Start RPM is 10000, the Boost End RPM is 15000. The

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

In Auto mode, the ESC adjusts the Boost Timing dynamically as per the throttle amount. Only at full throttle, the actual Boost Timing is the value you had previously set Option 3: Timing Rate

Boost Timing corresponds to different RPM is shown below. When the RPM is higher than the Boost End RPM, the actual Boost Timing is the value you had previously set.

, the boost timing is turned on according to the value set by the parameter item 4E(Boost Increase Rate) 4C. Boost Start RPM

This item defines the RPM at which Boost Timing is activated. For example, when the Boost Start RPM is set to 5000, the ESC will activate the corresponding Boost Timing when the RPM goes above 5000. pecific value is determined by the Boost Timing and the Boost End RPM you had previously set 4D. Boost End RPM

This item defines the RPM at which Boost Timing (you specifically set) is applied. For example, when Boost Timing is set to 10 degrees and the Boost End RPM to 15000, the ESC will activate the Boost Timing of 10 degrees when the RPM goes above 15000. The ESC will adjust the Boost Timing accordingly as per the actual RPM when the RPM goes below 15000.

4E. Boost Increase Rate

Used to set the speed of the Boost response.Release a certain degree every 0.1 seconds until fully released. For example, if the parameter is set to 4 %0.1s and the Boost timing is set to 40 degrees, the Boost timing will be released at a speed of 4 degrees/0.1s, and after 1 second, all 40 degrees will be released.

5A. Turbo Timing This item is adjustable from 0 degree to 64 degrees, the corresponding turbo timing (you set) will initiate at full throttle. It's usually activated on long straightaway and makes the motor unleash its maximum potential.

5B. Turbo Delay When "TURBO DELAY" is set to "INSTANT", the Turbo Timing will be activated right after the throttle trigger is moved to the full throttle position. When other value(s) is applied, you will need to hold the

throttle trigger at the full throttle position (as you set) till the Turbo Timing initiates.

5C. Turbo Increase Rate

This item is used to define the "speed" at which Turbo Timing is released when the trigger condition is met. For example, "3 degs/0.1sec" refers to the Turbo Timing of 6 degrees that will be released in 0.1 second. Both the acceleration and heat is higher when the "Turbo increase rate" is of a larger value.

5D. Turbo Decrease Rate After the Turbo Timing is activated and the trigger condition turns to not be met (i.e. vehicle slows down at the end of the straightaway and gets into a corner, full throttle turns to partial throttle, the trigger condition for Turbo Timing turns to be not met), if you disable all the Turbo Timing in a moment, an obvious slow-down like braking will be felt and cause the control of vehicle to become bad. If the ESC can disable the Turbo Timing at some "speed", the slow-down will be linear and the control will be improved.

Warning! Boost Timing & Turbo Timing can effectively improve the motor efficiency; they are usually used in competitions. Please take some time to read this manual and then set these two items carefully, monitor the ESC & motor temperatures when you have a trial run and then adjust the Timing and FDR accordingly as aggressive Timings and FDR may cause your ESC or motor to be burnt.



In order to make one firmware applicable to all different racing conditions, there are ten "easy-to-select" preset modes. Users are able to change the settings of the modes provided (and rename those modes) as per the control feel, track, and etc. For example, the profile name can be changed to "TITI2024\_MOD\_4.5" to indicate the race was ran with a 4.5T motor at 2024 TITC. This can be saved for future reference as



. Program your ESC with a multifunction LCD program box pro

Connect the interface marked with "-+a" on the esc to the interface marked with "section the program box using a separate programming cable(a cable with JR plugs at both ends included in the program box packaging), then connect the esc to the battery and turn it on. Click on [Parameter Settings] to set the esc

Using the OTA Programmer for parameter settings Insert the programming cable of the OTA Programmer into the programming interface of the esc, and use your phone to install the HW Link APP to set the esc

3. Read the running data of esc

1) Click on the [Data record] on the homepage of the LCD box pro to read the four extreme values of the highest temperature of the esc, the highest temperature of the motor, the lowest voltage of the battery, and the highest rpm of the motor during the operation of the esc.

2) By using the OTA Bluetooth module, you can view the extreme values recorded above, real-time data, and historical data (curve chart) under the 【Data Log】 menu

in the HW LINK App on your phone. 4. Upgrade of firmware for esc

1) Using the LCD box pro or OTA programmer, download and install the HW LINK App on your phone, click on the **[**Firmware Update] button on the APP homepage to upgrade the firmware of the esc. 2) Connect to the computer through the LCD box pro, download and install Hobbywing USB LINK software on the computer, and use this software to upgrade the firmware for esc. Attention: After the firmware update is completed, it is necessary to reset the parameters in the [Parameters] interface in order to display the corresponding parameters of the firmware

#### **5** Factory Reset

• Restore the default values with a multifunction LCD program box pro

After connecting the program box to the FSC. Click on [Parameter Settings] and select the [Reset Parameters] to restore the factory settings

• Restore the default values with a OTA Programmer (& HW Link App)

After connecting the OTA Programmer to the ESC, open the HOBBYWING HW Link App on your smart phone, select "Parameters" followed by "Factory Reset" to reset the ESC.

#### **07** Explanation for LED Status

• 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 RED LED turns on solid indicating the ESC doesn't detect any throttle signal or the throttle trigger is at the neutral position.
• The GREEN LED flashes rapidly indicating the neutral throttle value stored on your ESC may be different from the current value stored on the transmitter. When this happens, re-calibrate the throttle range.

• The RED LED will blink when the throttle trigger is in the neutral zone, it is Blinky Mode, which means the timing value is zero. If the timing value is not zero, the RED LED will turn on solic • The GREEN LED blinks when your vehicle runs forward. The GREEN LED turns solid when pulling the throttle trigger to the full (100%) throttle endpoint. • The GREEN LED blinks when you brake your vehicle. The GREEN LED turns solid when pushing the throttle trigger to the full brake endpoint and setting the "maximum brake force" to 100%.

• The GREEN LED blinks when you reverse your vehicle. The GREEN LED turns solid when pushing the throttle trigger to the full reverse endpoint and setting the "reverse force" to 100% 3. When Some Protection is Activated

• The RED LED flashes a short, single flash and repeats " $\dot{x}$ ,  $\dot{x}$ ,  $\dot{x}$ " indicating the low voltage cutoff protection is activated

The GREEN LED flashes a short, single flash and repeats "允, 允" indicating the ESC thermal protection is activated.
 The GREEN LED flashes a short, double flash and repeats "允, 允" indicating the ESC thermal protection is activated.

• The RED & GREEN LEDS flash a short, single flash and repeats "\$\phi\$, \$\phi\$, \$\phi\$ at the same time indicating the drive mode has been automatically switched to sensorless mode from senored mode because of abnormal sensor signal when pairing the ESC with a sensored motor.

# 08 Trouble Shooting

	Fossible Causes	
The LED isn't on and the motor cannot start.	The battery voltage was not output to the ESC.     The ESC switch was damaged.	1.Check whether there is poor welding of power input gate and reweld in 2. Replace the switch.
The motor cannot start and emit Bi-Bi-, Bi-Bi-, with the green LED flashing (the interval between the Bi-Bi- and Bi-Bi- is 1 seconds)	The battery voltage is not within the normal range.	Check the battery voltage.
Power on and Red LED flashes rapidly. The motor does not rotate.	The ESC does not detect the throttle signal.     The neutral point of the ESC does not match with the transmitter.	Check whether the throttle wire and the channel is plugged correctly, and whether the transmitter is turned on.     Move the throttle trigger to the neutral point and recalibrate the throttle ra
The vehicle is going in the reversed direction when the forward throttle is applied.	The default/popular motor rotation direction does not match your car frame.	Adjust the parameter "Motor Rotation".
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's 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.	The (ESC-to-motor) wiring order was incorrect     Some soldering between the motor and the ESC was not good;     The ESC was damaged (some MOSFETS were burnt).	Check the wiring order;     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;     Set the "Running Mode" to "Fwd/Rev 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;     The Throttle Rate Control is set too high.	Change another pack with great discharging capability;     Change a low-speed motor, or increase the FDR;     Set the Throttle Rate Control 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 or the ESC is damaged.



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