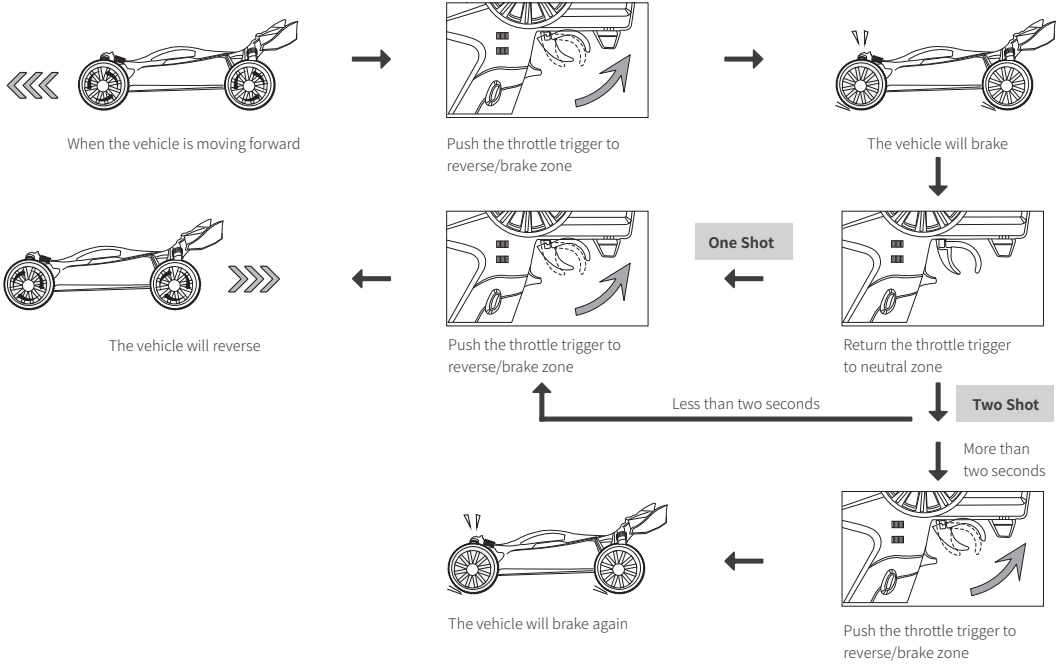


1. If the ESC firmware upgrade failed during the upgrading process, please restart the ESC again, and must upgrade the ESC firmware via the APP again (all the other functions are not available), the ESC will get right after the firmware upgraded successfully.
2. The Red Led will blink a faint light when the ESC in the firmware upgrade mode, and the Blue Led will blink a faint light when the ESC has data transmission.
3. Please do not turn off the ESC during the time of the ESC firmware upgrading process. (And the ESC only can be switched off after pressing the power button around 5 seconds)

Programmable Items Description		
SECTION	PROGRAMMABLE ITEMS	PROGRAMMABLE ITEMS DESCRIPTION
THROTTLE	Throttle Response	The shorter the time, the quicker the acceleration.
	Coast	With this function activated, the car won’ t slow down immediately but coast for a while when reducing the throttle input.
	Neutral Range	The wider the neutral range, the further the throttle trigger/stick must be moved away from the neutral point. Otherwise, the car won’ t move.
	Min. Throttle	The bigger the value, the more aggressive the start-up when moving the throttle trigger/stick away from the neutral range.
	Minus	The bigger the throttle minus value, the lower the car speed.
	Minus Range	It determines the throttle range within which the (Throttle) Minus function works. The bigger the value, the wider the effective range.
	Max. Forward force	The lower the value, the slower the maximum speed in the Forward direction.
BRAKE	Max. Reverse force	The lower the value, the slower the maximum speed in the Reverse direction.
	Brake Response	The shorter the time, the quicker the braking.
	Min. Brake Force	After entering the braking mode, the higher the value, the stronger the brake force when moving the throttle trigger/stick away from the neutral range.
	Max. Brake Force	The lower the value, the weaker the maximum brake force.
	Fwd. Drag Brake Force	The brake force when the throttle trigger/stick is at the neutral position. The lower the value, the further the coast.
	Fwd. Drag Brake Response	The shorter the time, the faster the braking in the forward direction.
	Rev. Drag Brake Force	The brake force when the throttle trigger/stick is at the neutral position. The lower the value, the further the coast.
BOOST	Rev. Drag Brake Response	The shorter the time, the faster the braking in the Reverse direction.
	PWM Freq.	The PWM frequency for braking.
	Boost Timing	With this function activated, the motor will be able to get a higher RPM.
	Trigger	It’ s the way how Boost Timing is triggered, it can be triggered by throttle input or RMP.
	Throttle Threshold	The throttle threshold at which the Boost Timing will be triggered. The Boost Timing will be activated when the Boost Triggering is set to “By Throttle” and the throttle input exceeds the threshold.
	RPM Threshold	The RPM threshold at which the Boost Timing will be triggered. The Boost Timing will be activated when the Boost Triggering is set to “By RMP” and the motor RPM exceeds the RPM threshold.
	Initial Angle	It’ s the timing value when the Boost Timing is initially activated. The higher the value, the more aggressive the power, and the more difficult to control it.
TURBO	Angle Inc. Rate	The higher the value, the more aggressive the power, and the more difficult to control it.
	Angle Dec. Rate	The higher the value, the quicker the speed decrease. The effect, similar to braking, will be generated when the speed is really high.
	Turbo Timing	It’ s the timing activated when the throttle input reaches 100%.
	Angle Inc. Rate	The higher the value, the more aggressive the power, and the more difficult to control it.
	Angle Dec. Rate	The higher the value, the faster the speed decrease. The effect, similar to braking, will be generated when the speed is really high.
	Turbo Delay	With this function activated, the Turbo Timing won’ t be activated immediately after the throttle trigger/stick is moved to the 100% position.
	Delay Reload	It determines whether or not to delay and reload when the throttle trigger/stick is moved away and quickly returned to the 100% point with the Turbo Timing is activated. There are two options: Wait (reload after the turbo timing is decreased to 0), Instant (reload immediately when the throttle trigger/stick is moved away from the 100% position).
GENERAL	Motor Rotation	It’ s the direction in which motor spins. With the factory default setting, it may run in the opposite direction in some scenarios. This function allows users to switch the rotational direction if necessary.
	Motor Poles	It allows users to manually set the pole count of the motor, so to get the correct RPM threshold at which the Boost Timing will be triggered. And users are able to check the actual motor RMP in the real-time data part of the mobile phone App.
	Running Mode	There are three running modes: Forward/Brake, Forward/Brake/Reverse, and Forward/Reverse.
	Reverse Mode	It’ s only available when the running mode is set to Forward/Brake/Reverse. There are two options: One Shot (pull the throttle trigger/stick once) & Two Shots (quickly pull the throttle trigger/stick twice).
	Drive PWM Freq.	It’ s the PWM frequency ESC used for driving motor. The lower the PWM driving frequency, the faster the acceleration, and the worse the throttle linearity; the higher the PWM driving frequency, the smoother the throttle linearity, and it will result in fast temperature increase.
	CutOFF Voltage	With it set to “Auto”, the ESC will automatically identify the number of LiPo cells you’ ve plugged in the moment it’ s powered on.
	CutOFF Thermal	The ESC will automatically cease operation when the internal temperature rises above user-selectable values.
	BEC Output	Select the output of the Battery Eliminator Circuit depending on the operating voltage requirements of the servos.
	A/C Swap	It’ s for switching the motor wires: A & C. When setting to “No”, the output wires at the ESC side will be connected to the motor in the following sequence: A-A, B-B, and C-C; when setting to “Yes”, the wiring sequence will be: A-C, B-B, C-A.

Reverse Mode: One shot & Two shot (In the Forward/Brake/Reverse Mode)



Trouble Shooting

Trouble Shooting	Possible causes	Solutions
The ESC was unable to start the status LED, the motor, and the cooling fan after it was powered on.	1. No power was supplied to the ESC. 2. The ESC switch was damaged.	1. Check if all ESC & battery connectors have been well soldered or firmly connected. 2. Replace the broken switch.
The motor suddenly stopped or significantly reduced the output in operation.	1. The receiver was influenced by some foreign interference. 2. The ESC entered the battery LVC (Low Voltage Cut off) protection. 3. The ESC entered the thermal (over-heat) protection.	1. Check all devices and try to find out all possible causes, and check the transmitter’ s battery voltage. 2. The RED LED blinks, single flash between every one second. 3. The RED LED blinks, double flash between every one second.
The motor stuttered but couldn’ t start.	1. Some soldering between the motor and the ESC was not good. 2. The ESC was damaged (some MOSFETs were burnt).	1. Check all soldering points, please re-solder if necessary. 2. Contact the distributor for repair or other customer services.
The car ran forward/backward slowly when the throttle trigger was at the neutral position.	1. The neutral position on the transmitter was not stable, so signals were not stable either. 2. The ESC calibration was not proper.	1. Replace your transmitter 2. Re-calibrate the throttle range or fine tune the neutral position on the transmitter.

Warning Statement

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment . This transmitter must not be co - located or operating in conjunction with any other antenna or transmitter. **This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

(1) Reorient or relocate the receiving antenna.

(2) Increase the separation between the equipment and receiver.

(3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

(4) Consult the dealer or an experienced radio/TV technician for help.

ISED Radiation Exposure Statement:

This equipment complies with ISED RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. **This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.**

Cet appareil est conforme aux limitesd’ exposition de rayonnement RF ISED établiespour un environnement non contrôlé.Cetémetteur ne doit pas être co-implanté oufonctionner en onjunction avec toute autreatenne ou transmetteur.

1.This device complies with Innovation, Science and Economic Development Canada licence-exempt RSS standard (s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le onjunc areil est conforme aux CNR d’ l’ innovation, la science et le développement économique Canada licables aux areils radio exempts de licence. L’ exploitation est autorisée aux deux conditions suivantes:

(1) l’ areil ne doit pas produire de brouillage, et

(2) l’ utilisateur de l’ appareil doit accepter tout brouillage radioélectrique subi, onj si le brouillage est susceptible d’ en compromettre le fonctionnement.

2. Any changes or modifications not expressly approved by the party responsible for compliance could void the user’ s authority to operate the equipment.

Tous les changements ou modifications non expressément approuvée par le responsable de la conformité pourrait vider l’ utilisateur est habilité à exploiter l’ équipemen.

Shenzhen ZTW Model Science & Technology Co.,Ltd

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