

KYHT-12 Three Channels 2.4GHz 2in1 RC Set

User Manual V1.0

Introduction

KYHT-12 is a multi-functional 2-in-1 2.4GHz electronic control set for vehicle models. Its receiver has built-in functions of brushed motor speed control and receiver. It is small in size and has a high degree of integration.

Specification

- Transmitter : KYHT-12
- Voltage : 4.4V-8.4V
- Frequency : 2.404-2.480GHz
- Electricity supply : 4s AA battery
- Adjust : knob
- Weight : 205g (not includes battery)
- Receiver : HYHR-2380B
- Forward : Persistent current/Peak current 80A/330A
- Reverse : Persistent current/Peak current 40A/330A
- Working voltage : 2-3S Li-po battery
- Fitted model : 1/10 scale touring cars、 buggies、 short-course trucks、 monster trucks、 scale rock crawlers、 tanks
- Internal resistance (wheatstone bridge) : forward : 0.0009 Ω , reverse : 0.0018 Ω
- Received frequency : 2.4G (FHSS)
- Inlaid BEC : 3A/5.4V (switching regulator)

Size/Weight : 36*45*21mm / 40g

Functions

- 2 channels transmitter , tunable TRIM, DR and RE for TH and ST
- Receiver and ESC integrated, high integration, easy installation
- Integrated design, completely water proof and dust proof, adaptable to all kinds of weather or environment

- Average 3A current of BEC output
- With low voltage protection, throttle signal loss protection and other solution

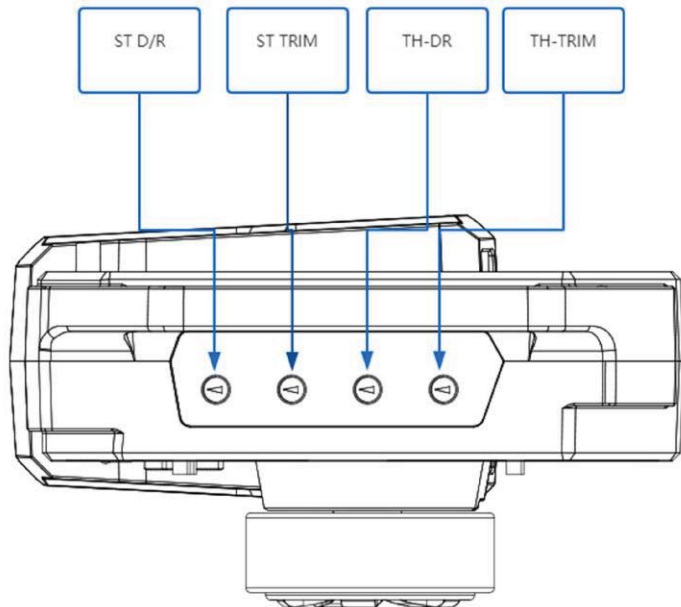
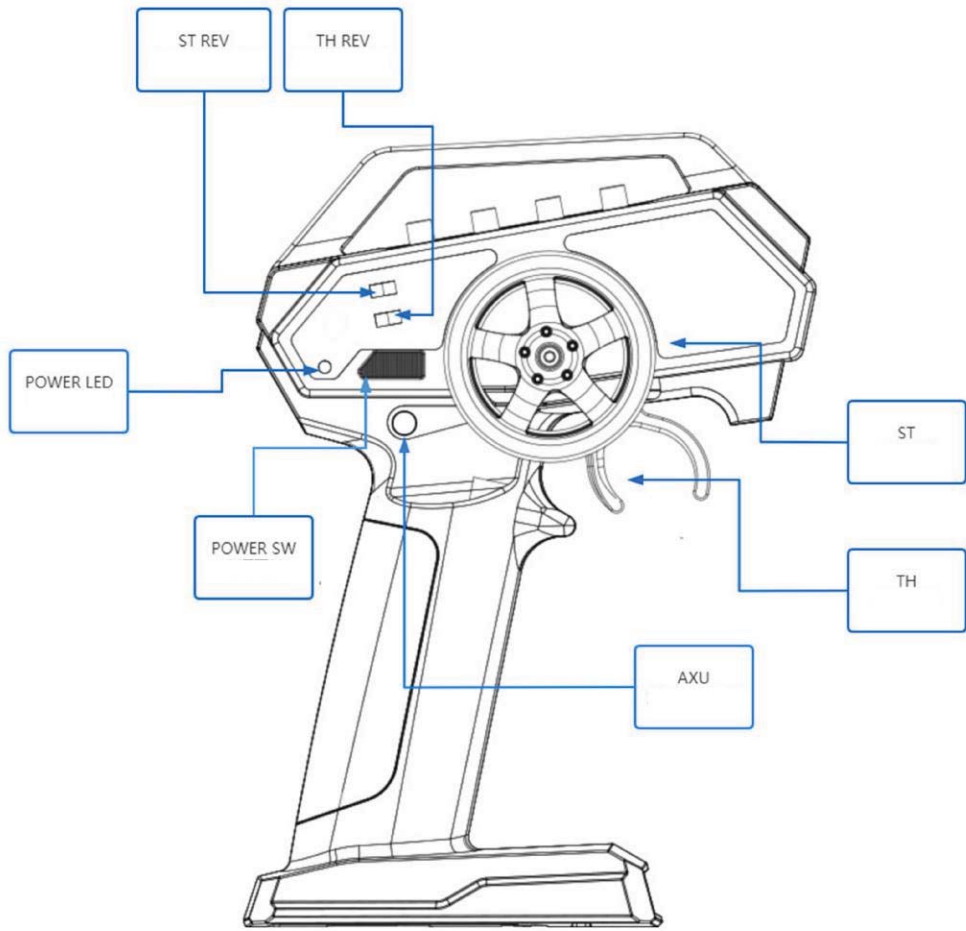
Declaration and Warning

KYHT - 12 is a highly integrated multi-functional vehicle ESC, the receiver with functions of inlaid non-inductive brushless motor speed control, BEC, and 3 channels receiver, need to be used with fitted motor, if you use other types of motor, please be sure to strictly comply with the specifications mentioned in the power supply voltage, maximum current and power, not suitable motor will lead to loss of the receiver; KYHT-12 is integrated with BEC who has 3A current at maximum, its voltage is 5.4V. BEC will damage when it' s connected to servo or any other devices with an overflow total current.

It is strictly forbidden to use the motor whose maximum current exceeds the maximum current limit of the inlaid ESC of hyhr-2380b. It is forbidden to run the motor in lock-rotor for a long time, which may cause damage to the motor speed control.

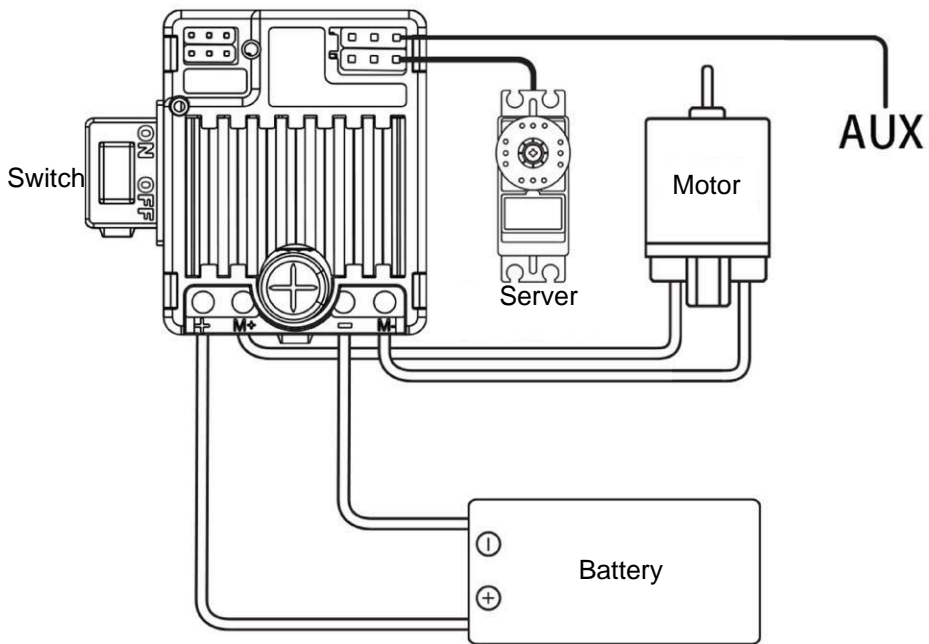
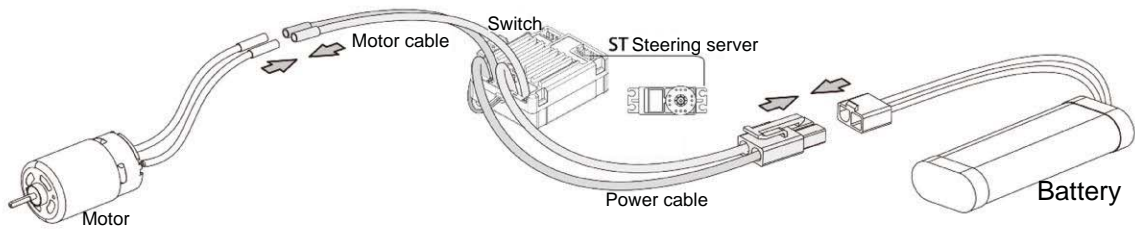
Transmitter

Warning: 4 alkaline batteries are applicable to the battery. Make sure that the positive and negative poles of the battery are installed correctly. Incorrect polarity of the battery will cause damage to the transmitter! The transmitter is equipped with low voltage alarm. When the voltage is lower than 4.6v, the LED light flashes. Please replace the battery in time!

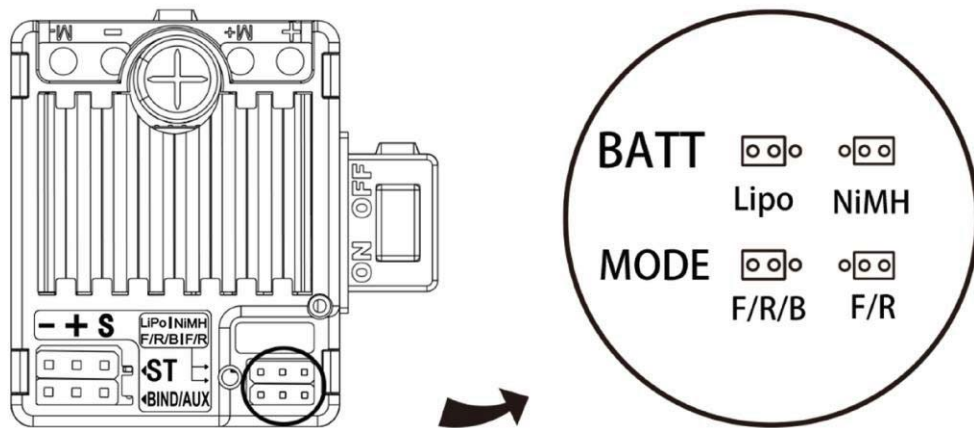


Receiver

Receiver, electronic control combo



Warning: Make sure that the positive and negative poles of the battery interface,SI-2REE, are installed correctly,if wrong, the SI-2REE will be burnout.



Definition of Receiver interface

ON/OFF: the power switch interface is used to control the opening and closing of the receiver

+/-: Battery interface, used for electric connection of power supply battery, power supply voltage range 5-12.6v;

M+/M-: The receiver has a built-in brushless electronic governor output interface, which is used to drive a brushless motor with a maximum current of 80A.

ST: Signal of steering servo output, provide servo power and PWM signal

AUX: used for the third channel signal output

Parameter Setting

We adopt the way of jump cap and set running mode and battery type.

Battery type: Lipo

Running mode : (F/R)

Remark :F=Forward R=Reverse

Remove control matching

In general, transmitter are matched with receiver and could use it directly; when user replace new receiver, they need do some job, the method as below:

Turn on the transmitter power, make a short connection between S and TH output channel on the receiver, and turn on the receiver power. At this time, the LED light on the receiver starts flashing rapidly, and the LED of the receiver will turn into a constant light within 5 seconds.

LED light status of receiver determination

When transmitter is powered on, the LED light, indicating that the transmitter and receiver are connected normally and can work normally.

When receiver turn on, the LED light will turn off after 1 second, indicating that the receiver does not receive the transmitter signal: 1. The transmitter do not trun on, 2. The transmitter does not match with receiver;

When receiver turn on, the LED light flashes once per second, indicating the battery voltage is low and entering the power limit protection state.

When transmitter is matching with receiver, LED light will keep flashing frequently. The LED will keep light after matching sucessfully

Confirmation of Li-po series number

When the battery type is set as Li-po, the serial number of battery will be automatically identified when the battery is charged, and it will be prompted by "dee" sound. The number of "dee" sound represents the serial number of battery.

Protection of Losing control

The receiver have the function of protection of losing control. When the receiver and transmitter are disconnected, the ESC will stop the output and the channel output remains in the final state.

Protection of low voltage

The receiver have the function of protection of low voltage. When the battery voltage is detected below the protection threshold, it enters the low-voltage protection state. When the voltage is lower than the single section 3.3v (lipo mode), the output power of the electromodulation is reduced to a maximum of 50%. When the voltage is lower than 3V (lipo mode), the second level protection will turn off the ESC output.

Key points for installation and use

This is a transmitter with 2.4G wireless. So appropriate installation and use have a great impact on product performance.

Due to the weak penetration of 2.4G signal, in order to ensure reliable communication, the transmitter and receiver must be used under a situation of no shielding.

The receiver is an inlaid 2.4G signal receiving module. Therefore, it should be far away from other electronic products and motors when installed so as to reduce mutual interference between devices.

The transmitter is equipped with an inlaid antenna. The antenna is installed vertically. During use, the transmitter is held in a vertical position.

The receiver has an antenna. During the installation of the receiver, try to ensure that the antenna is perpendicular to the ground. At the same time, there should be no metal and other objects around the antenna.

The performance of products varies greatly due to the influence of the external environment. The above installation and use points are to ensure the effective and reliable signals of the transmitter. Good installation and use are necessary to ensure the performance of the product.

Summary: this electronic control set is of high performance, multi-function. With its inlaid receiver and functions of ESC, it is a high level of integration, functional complex products. Please check carefully the instructions while using it, avoiding wiring errors result in product damage

Quick Handle of Transmitter Malfunction

Problem	Possible Cause	Solution
Light off when power on	Incorrect installation of battery, low battery	Install the battery again or replace the battery

Quick Handle of ESC Malfunction

Problem	Possible Cause	Solution
Light off when power on	No power ; breakdown of ESC switch	Check the power ; Check the power line whether is connected correctly ; Replace the switch
Light on for 1 second then off when power on	Transmitter power off; Transmitter is not binded	Put on the transmitter ; Binding the transmitter
Light flashes once in 1 second then off when power on	Low voltage of battery	Replace the battery
The vehicle runs automatically	Problems of TRIM of TH on transmitter	Tune the TRIM of TH, making the TH to median point when

when power on		the vehicle stays still.
The vehicle reverses when press the throttle to forward	Problems of N/R on the transmitter TH	Switch N/R of transmitter TH, making the moving direction of vehicle same as throttle.
The vehicle can't reach to maximum speed	Problems of D/R on the transmitter ; Low battery, activate protection of low voltage	Tune the D/R of transmitter TH clockwise, increase numbers of D/R; replace the battery
The vehicle can't forward of reverse, the light keeps on	Low battery, activate protection of low voltage ; Disconnect of ESC and motor ; Motor damaged	Replace the battery ; Check the connect of motor and ESC ; Replace the motor
Motor accelerates rapidly when power on, with situation of stop or stuck	Low battery discharge capacity ; Too high motor KV , gear ratio is radical ; Problems of vehicle drive system	Change battery to strong discharge capacity one ; Change motor or increase the reduction gear ratio ; Check the drive system if is smooth.

FCC Statement

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.

Note: 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 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

This device complies with FCC 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.

ISED Statement

-English: This device complies with Part 15 of the FCC Rules [and contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS standard(s)]. 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.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

-French: L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

-(1) l'appareil ne doit pas produire de brouillage, et

-(2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

L'appareil numérique du CIEM conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du CNR - 102 et conformité avec RSS 102 de l'exposition aux RF, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs RF et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

RF Exposure Statement

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

L'appareil a été évalué pour répondre aux exigences générales d'exposition aux radiofréquences. L'appareil peut être utilisé en condition d'exposition portable sans restriction.