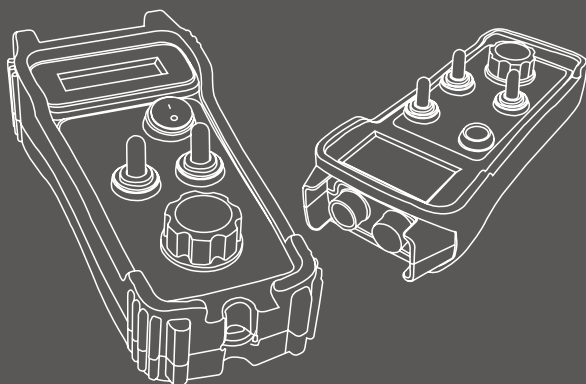


User Manual

A/K/J/F/N/G Series Customized Industrial Wireless Remote Control(Ver.2)



Please read this manual carefully and keep it properly
for future maintenance and repair



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1 Safety regulations

Safety Statement

1. Before using remote control equipment, operators should carefully read the manual and ensure that they fully understand and understand the intention expressed in the manual;
2. Improper disposal of remote control equipment may lead to serious safety accidents;
3. Our company is unable to fully understand local laws and regulations. Buyers should determine whether the product parameters provided by our company comply with local laws and regulations, such as RF signal frequency, explosion-proof requirements, etc; We cannot provide professional advice and answers for all special and professional applications. If remote control equipment is used in very dangerous situations, such as high-voltage lines, high-power walkie talkies, high-frequency generators, etc., customer users must take effective assessment to avoid safety accidents. Our company shall not be liable for any direct or indirect damage or injury caused by this

Installation and usage precautions

1. Before operating the equipment, please confirm that the working environment is safe and there are no potential accidents. Non workers are not allowed to work within the scope of the controlled equipment;
2. Remote control equipment must be operated by personnel who have received professional training, and cannot be handed over to untrained personnel for operation;
3. Unauthorized modification or opening of the remote control device's casing will automatically invalidate the quality assurance; The user equipment controlled by remote control shall be equipped with safety facilities, such as main power relay, emergency stop switch, Limit switch, etc;
4. Remote control equipment must be kept away from frequency converters, motors, high-power walkie talkies, high-frequency generators, and other connecting cables to avoid interference with remote control equipment signals;
5. If the user's controlled equipment has both remote control and local control functions, it must have interlocking measures and cannot be used simultaneously;
6. The receiver of the remote control shall be installed in the electric control box, and the receiver antenna or antenna extension wire must be installed outside the electric control box to ensure Galvanic isolation between the antenna and the electric control box;
7. The remote control device has an automatic frequency hopping function, which has been paired and tested before leaving the factory. In principle, no more than 128 pairs of remote controls can be; installed in the same area (it is recommended not to exceed 64 sets in the same area) to ensure more stable operation of the remote control device;
8. It is forbidden to operate the remote control equipment in rain or corrosive gas environment (although the protection level of the remote control equipment reaches IP65, unless a special model);
9. Before operation, check if the transmitter matches the receiver and observe if the remote control equipment is damaged;
10. Before each work, it is necessary to check whether the emergency stop function of the remote control device can work properly (as shown in Figure 1); Specific operation: After normal startup, activate a switch and immediately press the emergency stop button. The device should immediately enter the emergency stop state, and the LCD screen will display "ESTOP" (as shown in Figure 1). If the emergency stop button is pressed and the device does not enter the emergency stop state, it should be immediately stopped by other means, and the use of the remote control device should be stopped, and our after-sales service department should be contacted in a timely manner.



Figure 1

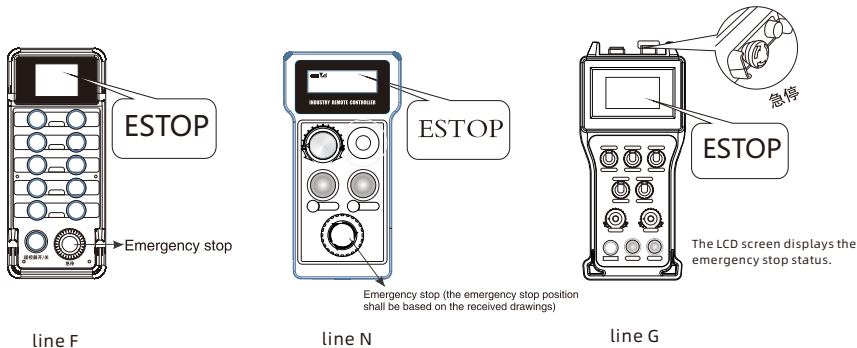


Figure 1

11. If there is an emergency stop or malfunction during the operation process, such as excessive misoperation, the work must be stopped immediately. The emergency stop button must be operated (as shown in Figure 1), and the main power supply of the controlled equipment must be turned off. Remote control equipment must not be used anymore, and we must contact our sales department for the rear door as soon as possible;
12. When suspending work, the operator ensures that the emergency stop button is pressed, regardless of the duration of the suspension;
13. After completing the work, the emergency stop button should be pressed, the transmitter power should be turned off, and the transmitter should be placed in a safe location and kept by a dedicated person;
14. Regularly inspect wireless remote control equipment to ensure safe operation.

2 Product Introduction

Product parameters

1. Please check whether all accessories are complete according to the packing list before installation and use;
2. When used in environments with acidic or alkaline corrosive gases, dust, or strong electromagnetic interference, corresponding measures should be taken or a specially customized remote control should be used;

Table 1

project	Product Name	specifications
power supply	emitter	Normally powered by a regular No. 5 battery, depending on different series of transmitters or user requirements, the actual design drawings shall prevail.
	receiver	Based on the receiver power supply voltage selected in the design drawings (see Table 3)
protection grade	emitter	A/F/N series is IP54, A/F/N series is IP65, (customizable according to requirements)
	receiver	Customizable according to requirements
Remote control distance (m)		Open straight distance greater than 150m (further distance requires special customization)
Radio frequency band (MHz)		420.00~450.00MHz
Relative humidity (%)		Not more than 95%
Atmospheric pressure (kPa)		86~106kPa
Environmental temperature (℃)		General use: -10~+45℃ Special use (extremely hot, extremely cold): -40~+85℃
Heat dissipation method		Natural air cooling

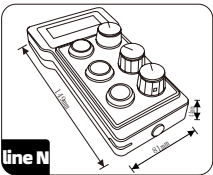
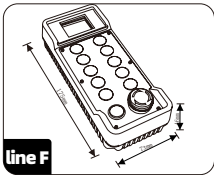
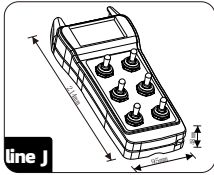
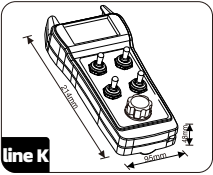
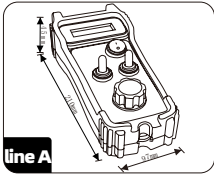
Transmitter LCD display instructions

Table 2

Display Status	Status Description
Transmitter battery level	When the battery is fully charged, it is 4 cells. When the power supply is low, the battery icon will flash. At this time, a new battery needs to be replaced or charged
Signal strength	The full signal is 5 bars, and when there is bidirectional communication, the transmitter and receiver communicate normally and successfully pair up
lock	When in a locked state, the emergency stop and power switch are effective, while other functional operations are ineffective (to prevent misoperation)
Unlock	Release lock function when unlocking
Functional action operation	
No functional action operation	
Lost connection	When the screen displays 'Lost connection ', the transmitter and receiver cannot be connected
ESTOP!	When the screen displays "ESTOP!" as an emergency stop state
Press stop to restore	When the screen displays 'Press stop to restore ', it is necessary to press the emergency stop button to activate the network outage emergency stop

Instructions for using the transmitter

Outline dimensions of A/K/J/F/N/G series transmitters:



line A: 210mmx97mmx45mm, Weight:450g
line J: 214mmx95mmx48mm, Weight:550g
line N: 149mmx81mmx44mm, Weight:220g

line K: 214mmx95mmx48mm, Weight:550g
line F: 175mmx73mmx46mm, Weight: 400g
line G: 296mmx133mmx51mm, Weight:1.2Kg

Explanation: Please refer to the attachment for a customized panel diagram of the transmitter;

Transmitter General Operation (Taking A/K/J/F Series as Examples; N Series requires 3 AAA batteries, G Series requires 4 AA batteries)

1. Insert 3 fully charged AA batteries into the transmitter battery compartment with correct polarity in sequence, then fit the rear cover and tighten the lock nut (See Figure 3).
2. Turn on the power switch of the transmitter (See Figure 2).
3. The LCD screen of the transmitter will display battery level, wireless signal strength, status of each function, etc. (See Table 2).
4. If the LCD screen shows ESTOP, turn the emergency stop knob on the transmitter to resume normal operation (See Table 2).
5. After operation, if continued use is required, press the LOCK/UNLOCK button (skip this step if the button is not equipped) to prevent misoperation. Under LOCK mode, the emergency stop switch and power switch remain functional, while all other function keys are locked (the running status will be maintained, but all operation changes will be invalid). A lock icon will appear on the LCD screen when locked. To resume operation, verify all switches are set to the correct positions, then press the LOCK/ UNLOCK button again; the unlock icon will display on the LCD, and all functions will be restored.
6. Remove the batteries from the compartment if the transmitter will not be used for an extended period.

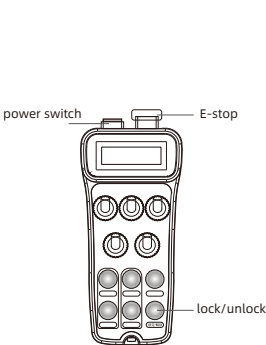


Figure 2 (General function operation keys)

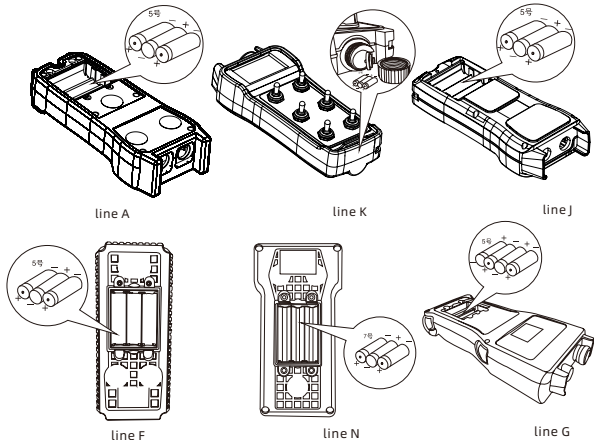


Figure 3 (Normal Battery Installation Diagram)

Transmitter Power Supply

- A series: Uses 3 AA (size 5) batteries
- J series: Uses 3 AA (size 5) batteries
- N series: Uses 3 AAA (size 7) batteries

- K series: Uses 3 AA (size 5) batteries
- F series: Uses 3 AA (size 5) batteries
- G series: Uses 4 AA (size 5) batteries

Notes

- (1) The nominal voltage of each standard battery is 1.5V. When the batteries are fully charged and the transmitter is powered on, the battery icon on the LCD screen indicates full capacity. Conversely, when the battery power is insufficient, the battery indicator on the LCD will flash to prompt you. In this case, you need to immediately replace or recharge the batteries to ensure the normal operation of the transmitter.
- (2) Do not use chargers of other models. Alternate battery use can ensure sufficient and consistent charging, which can slow down battery performance degradation. If the device fails to charge normally or its service life is too short, there may be defects in the battery itself or improper operation. Please consult our customer service for support.

Receiver Instructions

The power supply voltage of different receiver models may vary, as shown in the table below:

Receiver model	Supply Voltage
20 / 21 Series	Using 5VDC/12~24VAC/DC power supply, with a power greater than 5W, the relay has a load capacity of AC220V/1A
30 Series	Using 12~24VAC/DC power supply, with a power greater than 5W, the relay has a load capacity of AC220V/1A
31 Series	Using 12~24VAC/DC power supply, with a power greater than 10W, the relay has a load capacity of AC220V/1A
60 Series 6010、6013、6020、6031 6049、6049DP、6049PN 6049TCP、6049EC、6049IP 6066、6066A、6066B	Using 12~24VAC/DC power supply, with a power greater than 20W, the relay has a load capacity of AC220V/1A
60 Series—6067	Using 12~24VAC/12~36VDC power supply, with a power greater than 20W, the relay has a load capacity of AC220V/5A
60 Series—6068	Using 12~24VAC/12~36VDC power supply, with a power greater than 20W, the relay has a load capacity of AC220V/5A
60 Series—6070	Using 18~24VAC/DC power supply, with a power greater than 20W
60 Series—6080	Using 24VDC(±5V) power supply, with a power greater than 40W
80 Series—8001	Using 12~24VAC/DC power supply, with a power greater than 15W, the relay has a load capacity of AC220V/1A
★ 10 Series 1017 1028 1040	Using 12~24VAC/DC power supply, with a power greater than 10W, the relay has a load capacity of AC220V/1A

Table 3

Explanation: The receiver with "★" is only for after-sales use

Receiver installation precautions

- 1、The receiver should be wired strictly according to the design drawings (see attachment for design drawings), and should be installed in a safe location as much as possible to avoid adverse environmental effectsFor example, in humid environments (although with a protection level of IP65), corrosive media, and mechanical vibrations or impacts, with reliable installation and fixation:
- 2、To ensure the normal use of the receiver, interference with the received signal should be avoided. The installation position of the receiver must be far away from other high–power equipment such as heat sources, high–power walkie talkies, high–frequency generators, frequency converters, motors, motors, power cables, etc. Appropriate shielding measures can improve or eliminate the impact of this interference on the receiver: the minimum distance between the receiver and the equipment cable should not be less than 10cm (see Figure 4).

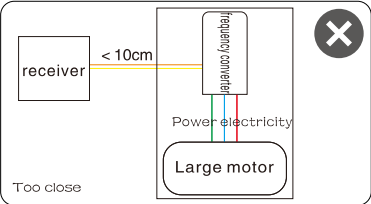
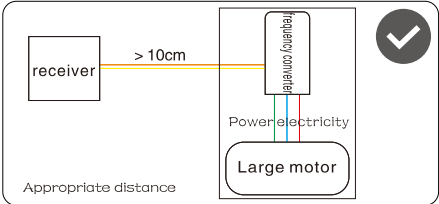


Figure 4



Precautions for using receiver antennas

- 1、In order to better receive signals and use the equipment normally, the antenna should be placed at a height of 1.8 meters above the ground. There should be no obstructions within the space of 2 meters above the antenna, and there should be no obstacles around. If it is a Control engineering vehicle, it is recommended to install it on the roof of the cab, and do not move the antenna frequently (see Figure 5);

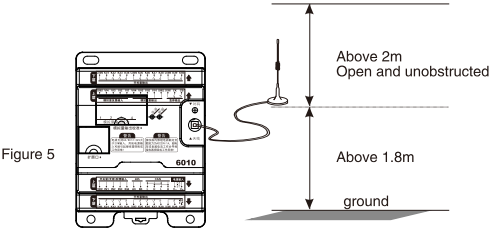
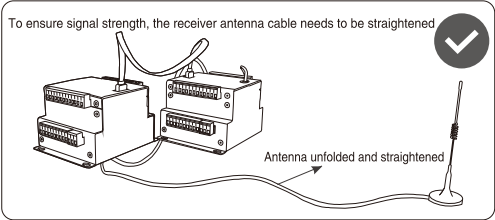
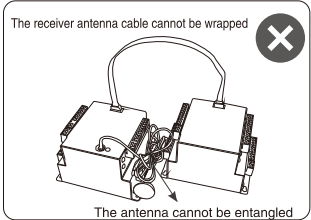
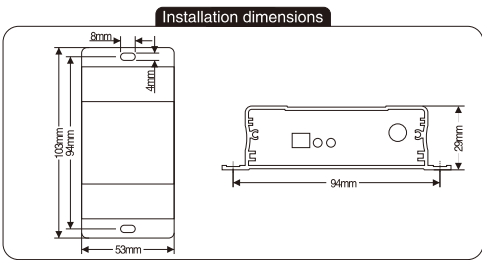
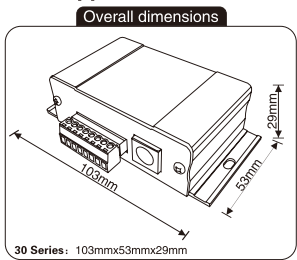


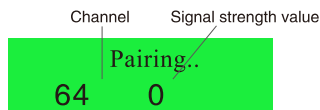
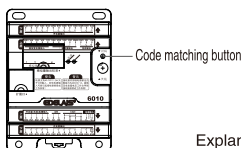
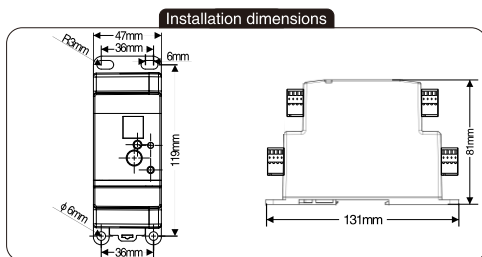
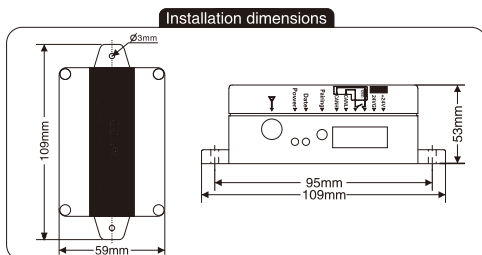
Figure 5

- 2、To ensure smooth signal during use, the antenna cable or antenna extension cable must be straightened and cannot be coiled or wrapped; The following are some common incorrect operations that may occur during use. Please use them correctly according to the following simulation demonstration diagram;

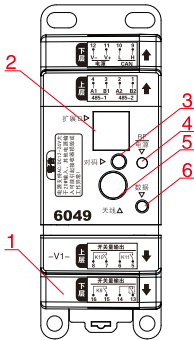


Receiver appearance/installation dimensions:

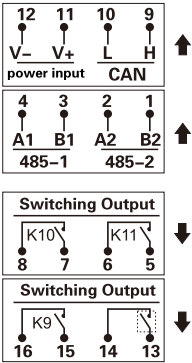




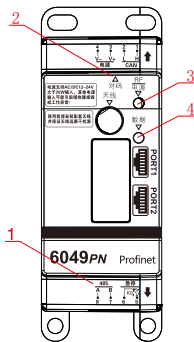
60 Series——6049 Receiver Construction:



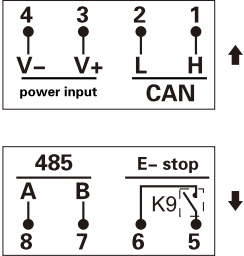
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1	Plug-in terminal block
2	Expansion port
3	Code matching button
4	Power/RF indicator light
5	antenna interface
6	Data indicator light



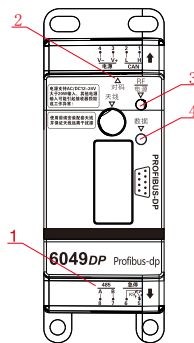
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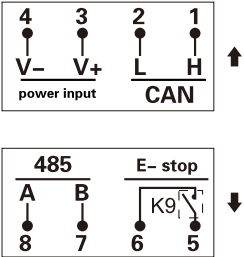
Number	illustrate
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2	Code matching button
3	Power/RF indicator light
4	Data indicator light



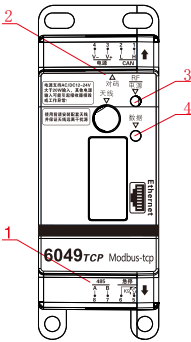
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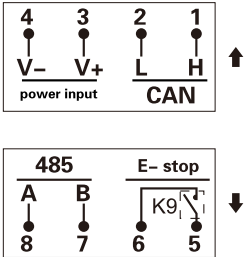
Number	illustrate
1	Plug-in terminal block
2	Code matching button
3	Power/RF indicator light
4	Data indicator light



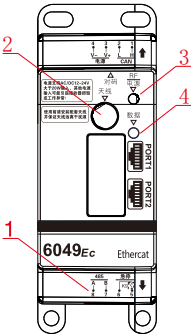
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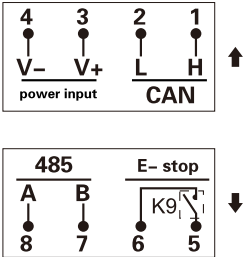
Number	illustrate
1	Plug-in terminal block
2	Code matching button
3	Power/RF indicator light
4	Data indicator light



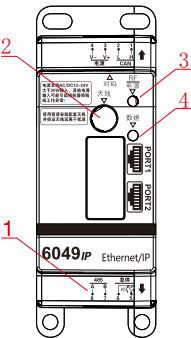
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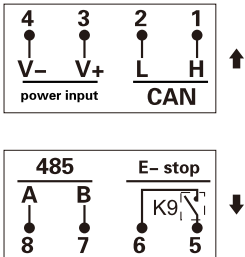
Number	illustrate
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2	Code matching button
3	Power/RF indicator light
4	Data indicator light



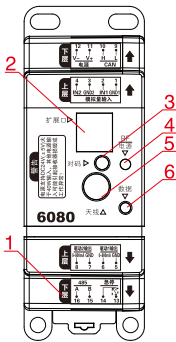
60 Series——6049IP Receiver Construction:



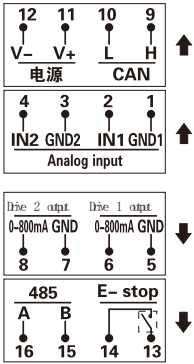
Number	illustrate
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2	Code matching button
3	Power/RF indicator light
4	Data indicator light



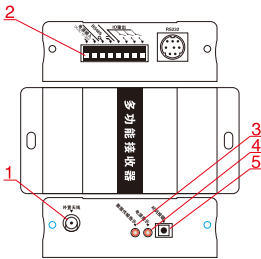
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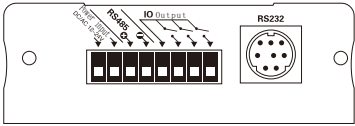
Number	illustrate
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2	Expansion port
3	Code matching button
4	Power/RF indicator light
5	antenna interface
6	Data indicator light



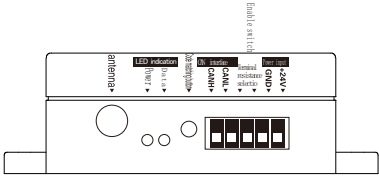
30 Series Receiver Construction:



Number	illustrate	Number	illustrate	Number	illustrate
1	antenna interface	2	Plug-in terminal block	5	Code matching button
3	Data indicator light	4	Power indicator light		



31 Series Receiver Construction:



4 Fault and resolution

Number	Fault phenomenon	Possible causes	solution
1	The speed adjustment is abnormal after the user replaces the transmitter	① The transmitter and receiver are not of the same model; ② A10 series and A20 series cannot be used interchangeably;	Check if the transmitter and receiver are of the same model
2	Emitter display "Press estop to restore"	Poor wireless signal between receiver and transmitter	① Install the receiver antenna strictly and correctly according to specifications; ② Stay away from interference sources such as high-power frequency converters, high-power walkie talkies, and high-power motors, and replace the short antenna at this time; ③ The transmitter or receiver antenna module is damaged; ④ Check if the receiver antenna is loose.
3	Emitter display "Lost connection" perhaps "Tx"	① The transmitter and receiver cannot be connected; ② The signal is subject to strong interference or the remote control is obstructed by obstacles; ③ The receiver antenna interface is loose or the antenna extension cable is not straightened;	① The transmitter is damaged; ② Receiver power failure or damage; ③ The receiver ID code is lost and can be restored; ④ Stay away from high-power equipment (common interference sources include high-power frequency converters, high-power walkie talkies, high-frequency generators, motors, motors, etc.); ⑤ Raise the receiver antenna to shorten the operating distance between the transmitter and receiver, and avoid obstacles during operation; ⑥ Check if the receiver antenna interface is loose or if the antenna extension cable is straightened.
4	The communication between the transmitter and receiver is normal, but some functions are not output	① The transmitter switch is damaged or the main control board is faulty; ② The receiver relay is damaged or the external wiring has poor contact or other faults;	① If the transmitter is operated and the receiver signal indicator is not changed, the transmitter is faulty. Check whether the function switch and the welding wire on the switch are normal; ② If there is a change in the receiver signal indicator light when operating the transmitter, check whether the external output line of the corresponding function receiver is reliably connected; The above troubleshooting issues cannot be resolved, Please contact the supplier.
5	Rocker switch does not reset	① Mechanical wear due to prolonged use; ② The return spring is damaged;	Return to the factory for maintenance and replacement of the rocker switch
6	Unexpected water ingress from remote control		Immediately stop working, cut off the power supply, dry with a hair dryer, and try it out. Contact the supplier.
7	During normal operation, when the transmitter operates a function, the transmitter is powered off and the restart interface appears	Short circuit at the output end of the transmitter function	① Check if the output line of the modified function is connected to the negative electrode; ② The main control board of the transmitter is short circuited, please return to the factory for repair.

5 Packaging and transportation and storage

package

1. The product usually comes in both outer and inner packaging, which can meet the transportation requirements of transportation such as sea, land, and air. The product packaging is made of paper to avoid moisture and water environments;
2. Packaged products should be stored in a warehouse with ventilation at $-10\sim+40^{\circ}\text{C}$, relative humidity not exceeding 80%, no strong electromagnetic field effects around, and no other corrosive gases in the air;
3. When stacking, the packaging box should face upwards according to the direction indicated by the label, and there should not be more than 5 layers of the same goods above;
4. During transportation, avoid direct rain and snow, as well as strong vibration and impact. Avoid rough loading and unloading, stepping on, squeezing, falling, and other situations to avoid product damage.

maintenance

1. The remote control should be regularly maintained, including checking the emergency stop function before each use;
2. The remote control should be regularly checked for damage or malfunction of switches and other accessories;
3. The rubber sleeve and other waterproof and dustproof accessories on the remote control should be regularly inspected, and damaged ones should be replaced in a timely manner;
4. The fixed belt of the remote control transmitter is damaged and loses its original function, and should be repaired or replaced in a timely manner;
5. The remote control should be regularly kept clean, protect the nameplate from damage, and maintain clear and distinguishable handwriting markings;
6. It is recommended to check every 2 weeks.

6 Quality assurance and after-sales service

Quality Assurance

Our company guarantees that when this product leaves the factory, it fully complies with its published specifications and indicators; Users can install according to regulations and use them normally; There is no guarantee that the operation of this product is zero interruption or zero error.

Warranty matters

1. This product enjoys a one-year warranty period from the date of delivery, ensuring that customers will not have any problems with the product within one year. If during the warranty period, as long as it is proven that the product has defects or other problems, our company is willing to repair;
2. Any product that needs to be repaired must be sent to our company or our designated service office. The customer must bear the cost of shipping the product to the repair office, and our company is responsible for the return cost during the warranty period and returning the product.

Non warranty matters

The warranty scope mentioned above does not include any consumable parts such as remote control buttons, switches, relays, fuses (tubes), batteries, or substrate damage caused by user installed errors, and does not include any faults caused by improper use, uncontrollable reasons, insufficient maintenance, neglect of operating environment specifications, unauthorized changes, incorrect use, or self setting by customers.

Explanation:

1. The aforementioned warranty matters have no other express or implied warranty matters;
2. The compensation provided by the warranty is the only compensation to the customer, and our company is not responsible for any direct, indirect, special, accidental or causal damages;
3. Before purchasing this product, please read it carefully. After purchasing this product, it is considered as recognition and acceptance of the warranty regulations.

Integrity

Focus

Innovation

Services