

TCT-B16BT/TCT-B16S

Operating Manual

OHM (Chongqing) Electronics Technology CO., LTD.

Note: Please read the operating manual carefully before installing and using this product.

Quality Assurance

OHM (Chongqing) Electronics Technology CO., LTD. (hereinafter referred to as OHM) warrants that the product completely conforms to various technical parameters listed in the instructions at delivery and that it can be able to normally function as long as it is correctly installed and operated as required.

Warranty Commitment

This product has a one -year warranty period from the date of delivery. The company promises to make repairs when any damage or fault that is not caused by human factors occurs during the warranty period. The product needing repair must be sent to a maintenance station designated by the company.

The foregoing warranty scope does not include consumable parts like relays, fuses, batteries, and so on, or system damages caused by installation error, as well as faults that are caused by improper use or unauthorized changes by the customer.

Remark

This manual describes the basic principle, operation and application, installation and system maintenance of TCT-B16BT/TCT-B16S series. Before installation and operation, carefully read this manual and properly keep it for future reference. This manual may be updated at any time as needed. If needed, contact the dealer or manufacturer to obtain the latest version.

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Pictographs



Danger due to electrical voltage. Touching live parts inside the unit can be fatal or cause serious injuries.



Instructions for occupational health and safety. Not following these instructions can cause accidents, which can cause damage, serious injuries or even death.



Important information about the operation of the radio system.

1、 Safety instructions

- Read through these operating instructions carefully before working with the radio control system.
- As an integral part of the radio control system, the operating instructions shall be always kept by specially-assigned personnel.
- The term “machine” used in the operating instructions refers to various equipment controlled by the radio control system in general;

1.1 Purpose

- The radio control system is used to control machines and for data transfer. Observe the job safety and accident prevention regulations applicable to each application.
- The use also includes reading the operating instructions and adhering to all safety information contained therein.
- The radio control system must not be used in areas where there is a risk of explosion, nor for the control of machines used to convey persons, unless it is explicitly approved by the manufacturer for these uses.
- Modifications to the radio control system must only be carried out by specialist personnel who have been trained and authorized by OHM. All modifications must be documented at the factory in the form of documents.
- The safety devices of radio control system must not be modified, removed or bypassed. It is absolutely forbidden to make modifications to any part of complete emergency stop link of the radio control system.

1.2 Safety instructions for installation and operation

- Power connection for the receiver can only be made by professional electricians. The Power line shall be connected as per bundled output wire diagram.
- The receiver can only be opened by trained personnel. Some parts inside the system may have life-threatening voltage. Make sure to cut off the power supply to the machine before opening it.
- Note the presence of persons in the danger zone. In particular, beneath the load of cranes is prohibited in every instance.
- Select a safe operation location for the radio control system, from which you have a good and

complete view of the working movements of the machine, the load movements, and..... the surrounding working conditions.

- Do not leave the radio remote control transmitter system switched on unattended. Always switch the radio transmitter off when it is not required. This applies in particular if you change location, when working without radio control, during breaks and at the end of work. Always safeguard the radio transmitter against use by unauthorized persons, for example by locking it away.
- In the event of an emergency or a fault of the crane or machine, make sure to immediately press the emergency stop switch on the transmitter.
- Only operate the radio system when it is in perfect working order. Faults and defects that could influence safety must be rectified before the system is put back into operation, by specialists who have been trained and authorized by OHM company.
- Note that the operational directions of the machine may appear inverted depending on operating location and viewing angle to the machine. This will apply in particular to rotary cranes, if your location changes from inside to outside the radius of the crane. The operator must make himself familiar with directional markings on the machine before the start of work.
- Repairs to the radio control system may only be carried out by specialist personnel who have been trained and authorized by OHM. Use OEM replacement parts and accessories; otherwise, the safety of the radio control system can no longer be guaranteed and our extended warranty will be avoided.
- Remain vigilant when working with the radio system and familiarize yourself with its functions. This applies in particular if you are working with it for the first time or if you work with it only occasionally.
- Check the function of the Emergency Stop switch before starting work each time. If you start the transmitter with the emergency stop switch pressed, the status indicator lamp will go out. If the status indicator lamp does not go out, you have to disable the radio control system immediately by removing the battery from the transmitter and contact the radio control system service engineer.

1.3 Precautions

- Always check the housing and push-buttons of the transmitter. In case of damage is found, immediately replace it.
- Always pay attention to and check voltage of the transmitter; in case of no power or insufficient the voltage, immediately replace the battery.
- In case of any abnormal condition, immediately press the emergency stop switch.
- In case of temporary disuse or end of the operation, press the emergency stop switch.
- Do not use 2 (or more) transmitters to operate the same equipment at the same time.
- Do not use the same frequency within the same factory area (or 300m scope) to avoid mutual interference.
- Do not use this transmitter in a strong magnetic field environment, away from equipment that may generate magnetic fields.

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Description of Symbols



Warning of electric shock. Touching components inside the remote control device may result in injury or death.



Safety instructions for professionals. Failure to follow these safety instructions may result in equipment damage or personal injury accidents.

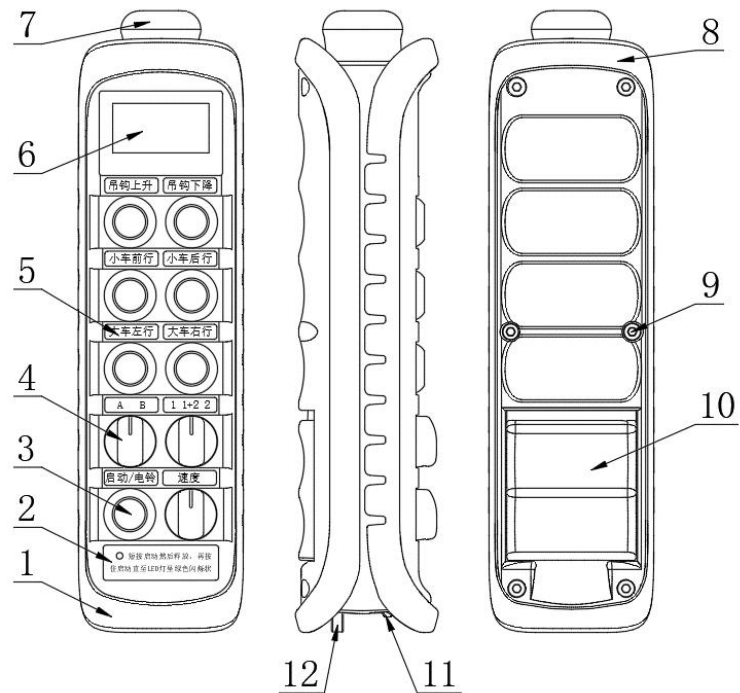


Important notes for operating the remote control system.

2. Introduction

TCT-B16BT/TCT-B16S is a handheld push-button remote control transmitter developed by OHM Electronics. This product is powered by dedicated batteries, and includes 7 button switches, 1 emergency stop switch, and 3 optional switches (button switches or rotary switches). It is compatible with various models of Ohm receivers.

1. Upper shell
2. Indicator light label
3. Button
4. Rotary switch
5. Function label
6. Display
7. Emergency stop switch
8. Lower shell
9. Shell fixing screws
10. Battery
11. Smart key
12. Lanyard hole



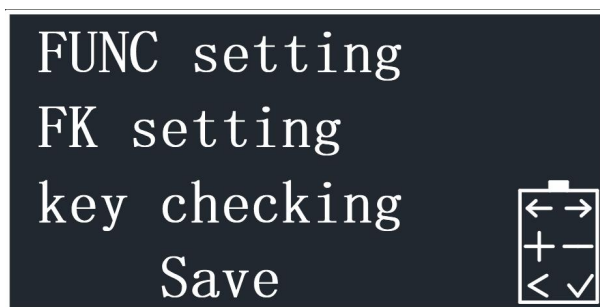
3. System Settings

3.1 Setting Interface

3.1.1 Method to Enter the Setting Interface

- Pull out the emergency stop switch.
- Simultaneously press and hold the buttons in the first and second rows on the right to step 2 and power on the device to enter the basic parameter setting interface.

3.1.2 Setting Interface

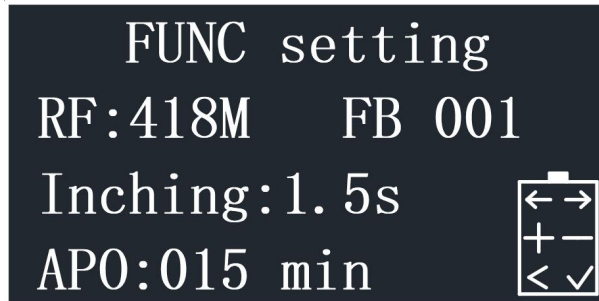


- FUNC setting: Basic function settings;
- FK setting: Feedback settings;
- Key checking: Key self-check;
- Save: Save settings;

In the lower right corner of the setting interface, there are icons corresponding to the first three rows of buttons on the transmitter, as shown in the left image.

- The first row: "←" and "→" represent up and down movement, respectively.
 - The second row: "+" and "-" represent data addition and subtraction, respectively.
 - The third row: "<" means "to return", and "√" means "to confirm".
1. Use the arrow keys to navigate throughout functions that need to be set. The selected function will have a white background with black text. Press OK to enter the setting page for the selected function.
 2. After completing all the function settings, be sure to return to this page, select save, and press OK to save all settings. Once successful saved, the buzzer will beep once.

3.2 Basic Function Settings

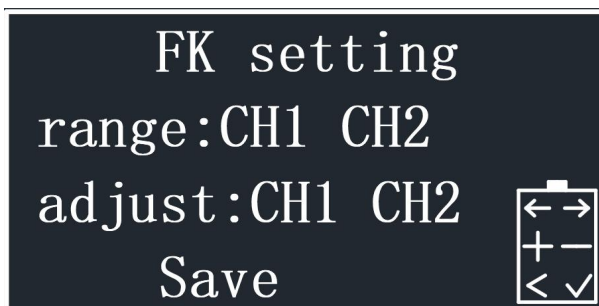


- RF: Frequency band;
- FB: Frequency point;
- Inching: Inch time;
- APO: Automatic power-off time;

Note:

1. The frequency band and frequency point settings do not apply to the Bluetooth system;
2. When performing frequency band settings, the transmitter needs to be connected to the receiver;
3. The maximum inch time can be set to 9.9 seconds;
4. The maximum automatic power-off time can be set to 199 minutes.

3.3 Feedback Function Settings



- range: Display range settings, e.g. 0-20T, 10-9999KG;
- adjust: Adaptive settings;
- CH1: Analog channel 1;
- CH2: Analog channel 2;

Select the channel you need to set and configure it according to your requirements.

3.4 Key Checking

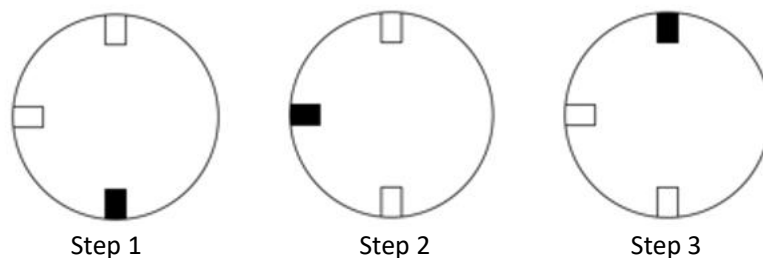


1. The key checking page can be used to test if each button is functioning properly.
2. To return to the main page from the key checking page, you need to simultaneously press the Return button and the Start button.

Key checking is illustrated as follows:



Rotary switch checking is illustrated as follows:



4. Operating Procedure

4.1 Transmitter Installation

- Transmitter Battery Installation: Before installation, check the battery's charge to ensure proper functionality. Pay attention to the battery's orientation during installation and ensure it is securely placed. After installation, **if the transmitter is not used for an extended period, remove the batteries.** **If any battery leakage occurs and causes equipment corrosion, clean the affected area thoroughly.**
- Transmitter Placement: Place the transmitter in a safe and visible location to avoid damage from accidental falls.

4.2 Transmitter Power On

- Place the dedicated batteries correctly into the battery compartment.
- Pull out the emergency stop switch on the transmitter.
- Briefly press the "Start" button to turn on the light in red, then immediately release it. Next, press and hold the "Start" button until the light flashes in green once per second. This indicates that the transmitter has powered on successfully.

4.3 Transmitter Power Off

- Press the emergency stop switch on the transmitter, and the power indicator light will turn off, indicating that the transmitter has been powered off.
- If the battery voltage drops below 3.2V, the transmitter will automatically shut down.

5. Basic Troubleshooting

Fault	Analysis	Action
Transmitter shows no response after startup.	Transmitter power failure.	- Carefully inspect the batteries for damage or any dirt that may cause poor contact. - Insert fully charged batteries and restart the transmitter. - Contact our service department for assistance as necessary.
The transmitter's status indicator light blinks in red once every second, accompanied by a buzzer beep and motor vibration, and the screen displays  for the battery level. When powered on, the screen shows "LOW_BATTERY."	Low battery -	- Please replace with fully charged batteries promptly. - Contact our service department for assistance as necessary.
The transmitter power indicator light flashes in red and green alternatively, and the screen displays "READING ILOG".	Smart key not recognized.	- Check if the smart key is installed. - Verify if the smart key number matches the transmitter number. - Contact our service department for assistance as necessary.
The screen displays "RF_ERR".	RF module malfunction.	Contact our service department for assistance.
The screen displays "E_STOP".	Emergency stop switch not pulled out.	- Check if the emergency stop switch is pulled out. - Contact our service department for assistance as necessary.
The screen displays "SI2_ERR".	Secondary protection	- When starting up, do not press any buttons other than the Start button. - Enter the settings interface to check the

		buttons. 3. Contact our service department for assistance as necessary.
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6. Maintenance

- Regularly check the function of the emergency stop switch to ensure that the emergency stop switch is kept in normal working status.
- Keep the battery contacts clean.
- When a rechargeable battery is used, ensure the battery is fully charged for the first use; the battery not used for a long time shall be stored under normal temperature and shall be charged regularly, to prevent battery damages caused by self-discharge (it is recommended that the battery is charged once per 6 months)
- If the radio control system is not used for a long time, take its battery out.
- Do not clean the transmitter with a high-pressure air gun and the like.
- Wipe the system with a fine wool brush or soft dry cloth; do not wash it with water.
- Periodically check the integrity and airtightness of system covers and rubber protective cover.
- Whenever welding the machine or the system fails:
 - ✧ Switch off the radio system.
 - ✧ Switch off the controlled machine.
 - ✧ Disconnect all electrical connection to the receiver.
- Under harsh environments, exposed elements can be damaged; make sure to duly repair them.

7. Accessories

Packing List:	1 set
Factory Certificate of Conformity:	1 set
Output Diagram:	1 set
Transmitter lanyard:	1 set
Charger:	1 unit
Batteries:	2 pcs

8. Technical Data

Model	TCT-B16BT	TCT-B16S
Operating Temperature	-25°C ~ 70°C	
Storage Temperature	-40°C ~ 75°C	
Operating Humidity	≤ 97%RH	
Communication Range	≥ 100 meters	
Dimensions	223 mm x 62 mm x 54 mm	
Product Weight	360 g (excluding batteries)	
Shell Material	High-strength engineering plastic	
IP Rating	IP66	
Communication Method	Real-time Communication	
Communication Frequency	2.4GHz	400 - 470MHz
Transmitting Power	≤ 100 mW	≤ 10 mW
Antenna	Built-in	
Operation Method	Push-button Type	
Number of Buttons	≤ 10	
Power Supply	3.7V DC	
Operating Current	≤ 65mA	≤ 50mA
Operating Time	≥ 30h	≥ 40h
Status Display	OLED	
Display Size:	1.54 Inches	
Display Resolution:	128 x 64	
Display Color:	Blue text on black background	