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1 .Warning, Caution and other identification

This manual is for reference only as a DK remote control.

This manual must be read before installing and using remote control.

The staff who is responsible for installation, use and maintenance must fully understand all the contents of this manual.

Symbols	Description and explanation
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Reference manual

When the product has this label, you must refer operating manual for more information.



High voltage

Indicating that there are dangerous voltage on the site, unsafe action will lead to serious harm to the staff.



Caution

Indicating that it is dangerous, accompanying text ,there will be appropriate safe operating procedures;If not follow , there will be serious injury or financial damage.



Note

Indicating that it is dangerous, accompanying text ,there will be appropriate safe operating procedures;If not follow , there will be serious injury or financial damage.

2. Warranty

2.1 Quality assurance

This product has been strictly tested before shipment, in full compliance with the specifications of the declaration. It can be used normally after correct installation, but our company does not guarantee that the operation of this product is zero error.

2.2 Warranty period

This product enjoy a one-year warranty service from the date of shipment. Ensure that within one year there will be not any problems.During warranty period, the product appears any non-human factors' damage, company will provide maintenance services. Any product that needs to be repaired shall be sent to the designated after-sales service.

2.3 Not included

The above warranty does not include easily damaged parts such as buttons, relays, fuses, batteries, or damage caused by wrong installation etc., and does not include improper use of the customer, irresistible factors, natural factors, inadequate maintenance, ingore operating environment specifications , unauthorized changes, incorrect use, or malfunction caused by customer- self setup.

Remarks

**** For above warranty, there is no other stated or implied warranty.**

**** The service by the warranty is the sole indemnity of the customer and the company is not responsible for any direct, indirect, special, accidental or consequential damages.**

3 .Precautions

3.1 Installation Precautions

3.1.1 Before installing the receiver, make sure that the voltage label on the receiver matches the actual supply voltage.

3.1.2 crane should have a total power relay, limit switches and other safety equipment.

3.1.3 Receiver can not be installed in the metal control box, should be installed outside the electric control box and fixed firmly.If installed in the metal box, please replace the receiver antenna with wire antenna, and place the antenna outside the control box.

3.1.4 Receiver installation should be away from the inverter, motor and other equipment which may cause high-frequency interference to avoid receiver signal.

3.1.5 Receiver needs to keep a certain distance from running track , to avoid damage of receiver by squeezing during running process of track .

3.1.6 The same channel equipment can not be used within 500 meters to avoid radio interference .

3.2 Operation Precautions

3.2.1 Operators should be professionally trained before using the remote control.

3.2.2 Press emergency button when suspended to avoid wrong operation .

3.2.3 Please turn all Rotary switches back to 0 before starting.

3.2.4 Please charge timely when it indicates shortage of electricity .

3.2.5 Please use the transmitter within the operating distance indicated by the remote control.

3.2.6 Before operation, check the emergency button and other safety measures.

3.2.7 Do not operate the transmitter when the ambient vision is poor.

3.2.8 In case of emergency, you must immediately press the emergency button, and then turn off the total power to stop all operations, contact the Sellers to find out reason .

3.3 Notes on the use of the transmitter

3.3.1 Do not immerse the battery in water or seawater, and keep the battery in a cool dry surrounding if it stands by.

3.3.2 Prohibit using or keeping the transmitter around the high temperature source, such as fire, heaters and so on .

3.3.3 Please use the dedicated charging cable if charging .

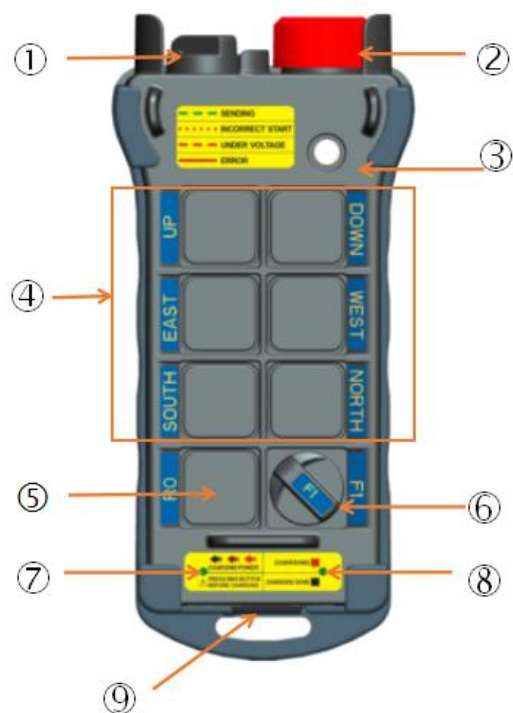
3.3.4 Press the button of transmitter , if indicator light is always red ,it indicates undervoltage (not fired). In order to prevent the battery over discharge, please charge in time.

3.3.5 Long-term no use of the transmitter should press the emergency button and charge at least 1-2 hours within 3 months .

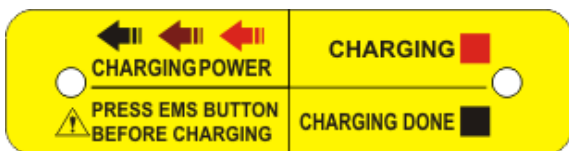
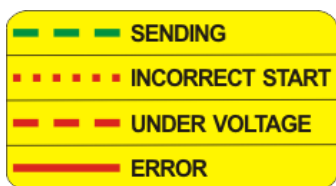
4 CONFIGURATION AND DESCRIPTION:

4.1 Transmitter

- ① Knob—Power button
- ② Emergency Stop button
- ③ Transmitter status indicator
- ④ Function button
- ⑤ Alternate button
- ⑥ Knob— Selector switch
- ⑦ External power indicator
- ⑧ Charging indicator
- ⑨ USB(Charging)



4.1.1 Sticker description



SPECIAL CHARGING CABLE

4.1.2 Button description

Knob—Power button: EMS button is released, Knob- Put the Selector switch to “0”, Knob-Power button can open the transmitter, when you put the selector from “0” to “1”. At the same time the total stop relays of the receiver is closed.(Must be 0 to use).

EMS button: Press the Emergency stop button, the total stop relays of the receiver is disconnected.

Function button: Press the function button, Corresponding relay is closed, Release the function button, Corresponding relay is disconnected. (Factory default)

Alternate button: Press the function button, Corresponding relay is closed, Release the function button, Corresponding relay is disconnected. (Factory default)

Knob—Selector switch: Put the “0” to “1”, Corresponding relay is closed, conversely, Corresponding relay is disconnected. (Must be 0 to use)

4.1.3 Indicator Description

Transmitter status indicator: Green light slow flash-Emission state.
Red light quick flash-Abnormal boot.
Red light slow flash-Not enough power.
Red light is always on- SPI fault.

External power indicator: When the charging power is on, the Red light is always on, when disconnected, the Red light is off.

Charging indicator: Charging, the red light is always bright; Charging done, the red light is off.

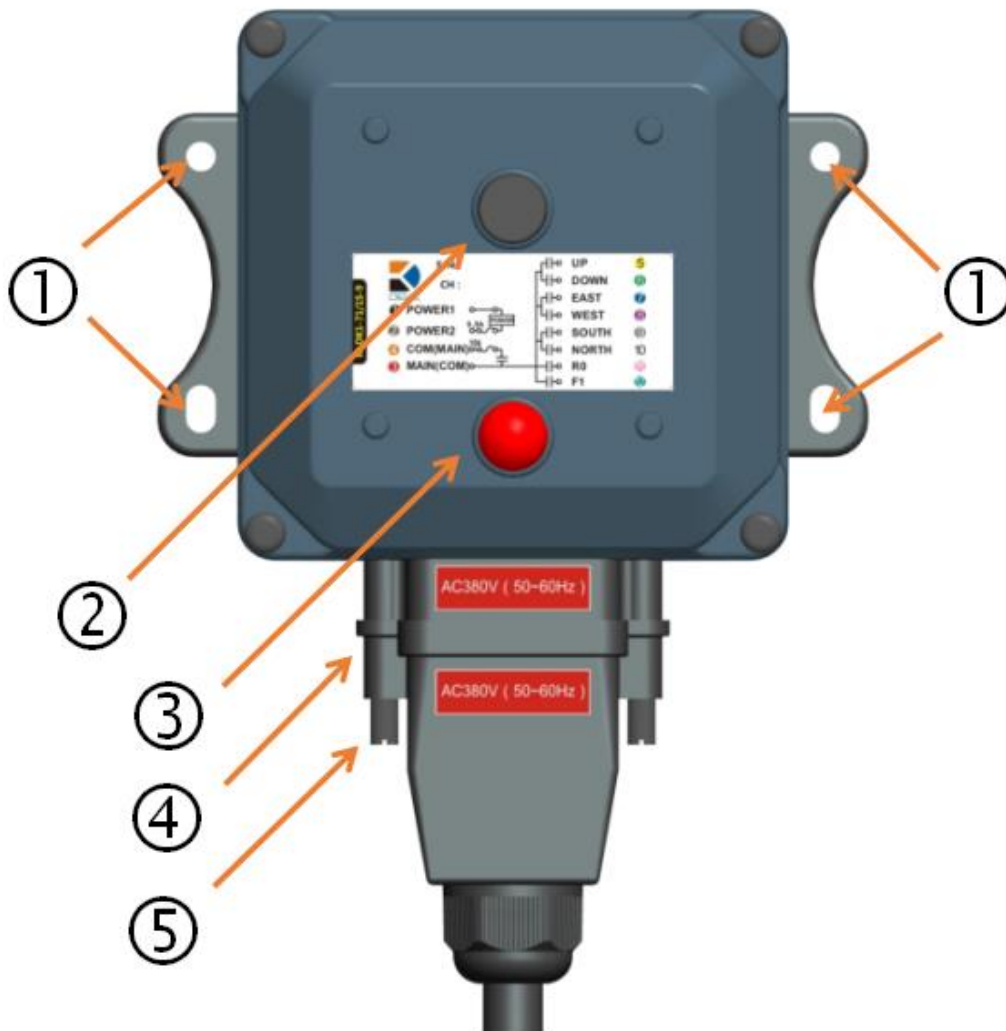
4.1.4 USB interface(charging)description

▲USB interface can realize program burn、 function setting、 Copier pairing, but must use the data line from our company.

▲USB (charging)as the charging interface, it must use the charging cable provided by our company.

▲Charging with a conventional USB data cable or connecting the PC , it can cause damage to the transmitter.

4.2 Receiver



- ① Receiver fixing screw hole(4pcs)
- ② Receive antenna
- ③ Total stop status indicator
- ④ Aviation plug
- ⑤ Screw

5 . SPECIFICATION

5.1 General Characteristic

Frequency range	-----	433.0825-434.6875 MHz
Channel	-----	6 CH
Channel spacing	-----	0.2675MHz
Modulation Mode	-----	FSK
Frequency control	-----	PLL
ID CODE	-----	32 位 (4.3 billion)
Operating temperature	-----	-20°C~+50°C (Ignore batteries)
Control distance	-----	Up to 100-500 m in clear view

5.2 Specifiction of Transmitter

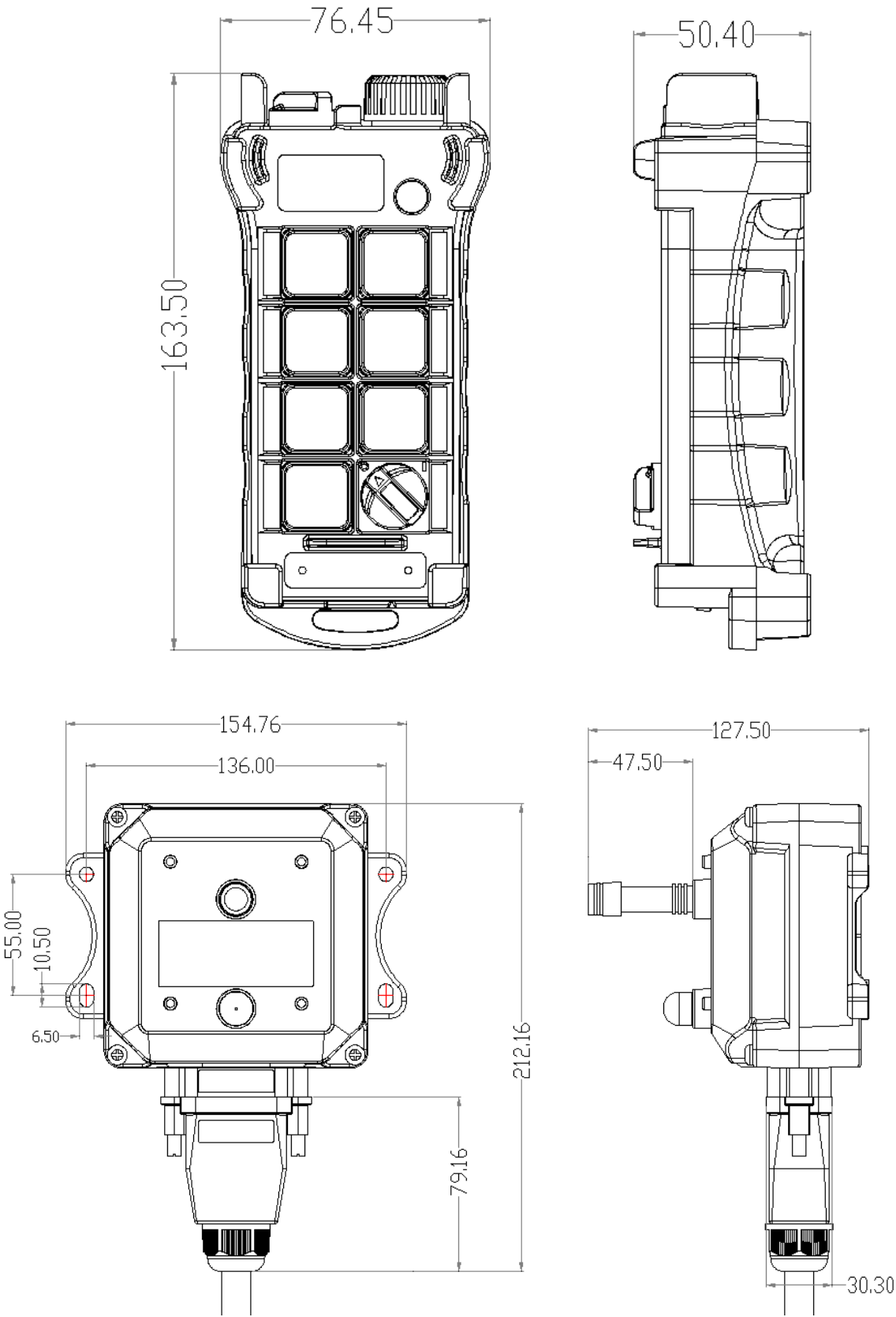
Structure	-----	ABS+PC+TPU (Flame retardant)
TX Power	-----	<0dBm(1mW)
TX current	-----	≤26mA
Power supply	-----	3.7V(1 piece of 16850 lithium battery)
Standby current	-----	≤650uA
“Sleep ”current	-----	≤26uA
Size	-----	About 164mm*77mm*50mm
Weight	-----	About240g

5.3 Specification of Receiver

Structure	-----	Nylon+Glass-fiber (Flame retardant)
Shutdown and standby current	-----	≤25mA
Sensitivity	-----	≥-105dBm
Interference time	-----	1.6 seconds
Control points	-----	Up to 8 motions+ 1 Emergency
Contact capacity	-----	5Amp Omniseal Relays (AC250V/10A Relays ,10Amp fuse)
Power	-----	220\110\48\36\24VAC(±20%) 24VDC/12VDC
Size	-----	About155mm*133mm*128mm (aviation cable)
Weight	-----	About 645g

5. 4 Aviation cable

Size	-----	About 79*30* (Not include the extension)
Weight	-----	About 300g
Length of cable	-----	About 125cm



6 基本操作

6. Basic Operation

6.1 Release the Emergency Stop

6.2 Turn the Rotary-Start key or other Rotary to O

6.3 Turn the Rotary-Start key to 1 position, the red and green flash at the same time, open the remote.

PS: The led will be flash red if you don't operate in right way!!!

6.4 Press each button to test whether the transmitter is good

6.5 After the operation is complete, follow these steps:

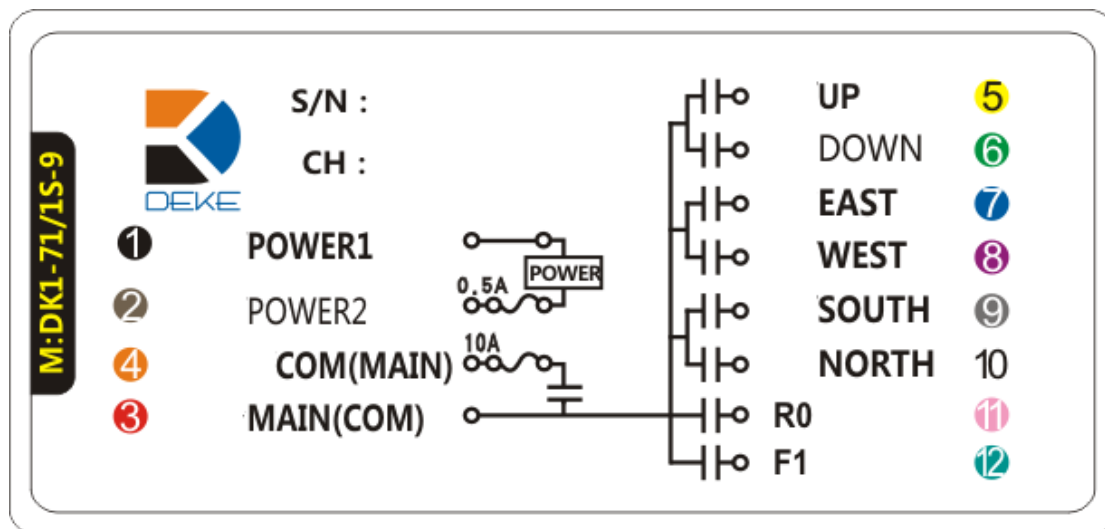
1. Turn the Rotary- Start key to 0 .
2. Press the emergency stop button.
3. Place the transmitter in a safe place.

7. Change the receiver power

Remove the transformer of receiver by the professional, replace the corresponding voltage of the qualified transformer or module.

Power	Module
AC220V(50-60Hz)、 AC110V(50-60Hz)、 AC48V(50-60Hz)、 AC36V(50-60Hz)	AC/DC24V

8. Connection Drawing



9. Inspection & Fault Detection

A. LED red light flash quickly, Maybe the following Fault:

1. Button stuck
2. The emergency stop button does not rotate up
3. whether the rotary F1 switch turn on the 0
4. Do not start the remote in the correct way

DK Operation Manual (20170607)

B. The LED red light of transmitter flash slowly, you can control the receiver, if the battery power is insufficient, please charge.

C. The transmitter presses the operation button, and the led light red all the time, LED is extinguished when you released, the battery is seriously insufficient, can not transmit the signal to control the receiver, please charge immediately, otherwise the lithium battery will be damaged.

D. Release emergency stop button of transmitter when the Led light red all the time , it is SPI problem, please contact the dealer.

10. Appendix

10.1 How to named the model?

DK -	7	1 /	1S	-	9	1 series means 7 single speed and 1 Rotary switch of transmitter, 8 control points and 1 Emergency Stop of Receiver
DK -	6	1 /	2S	-	9	1 series means 6 single speed and 2 Rotary switch of transmitter , 8 control Points and 1 Emergency Stop of Receiver
DK -	8	1		-	9	1 series means 8 single speed button of transmitter, 8 control points and 1 Emergency stop of receiver
Brand Series:DK0,DK1,DK2,DK3						
Button Number						
Button Type: 1-Single speed 2-Double independent 3-Double Speed Common						
The number and type of Switch and Joystick :						
S-switch J-joystick						
Control Points of Receiver						

10.2 Function button

10.2.1 Normal

When the button is pressed, the relevant relay is turned on and the relevant relay is not conducting when the key is released.

10.2.2 Toggle

When the button press one time, then release, then the relevant relay device conduction, and then press again and then release, then the relay does not turn on, this conduction is not conduction of the cycle action is Na Na jump. Such as controlling the lights.

10.2.3 Interlock

The control functions of a related two keys aren't allowed to exist at the same time. For example, "up / down" is not allowed to exist at the same time.

10.2.4 Non-interlocking

The control functions of a related two keys are allowed to exist at the same time. Such as individual control without edge.

10.2.5 Rotary Switch

the corresponding relay contact is held on or off when the rotary switch is turned to the first position. A is turned on. When the switch is reached, the corresponding relay contact is open or the corresponding mode.

10.3 Remote Radio Paring and Frequency changing

When remote radio paring or frequency changing, try to keep the transmitter near the receiver to ensure signal strength. The receiver must re-power up, enter the setup mode within 5 seconds to perform remote radio paring

or frequency changing

10.3.1 Remote Radio Paring

Remote radio pairing means that the transmitter and receiver enter the setup mode at the same time. The receiver sets the function settings, ID and channel data to the transmitter and downloads it to the transmitter to perform the matching work. This way avoid climb crane and

Increase safety and convenience.

The operation:

1. Entering setting mode must be operated within 5S after the receiver powers on again
2. Release emergency stop, turn on the open button to 0 file, press the "up" "down" key to enter the set up mode.
3. After entering the set up mode, the Led indicate light flashes red and green quickly, then release “up” and “down” keys
4. Hold down the "down" button, until the red light alight turns green light flash slowly, the download is successful.

Note: The receiver ID information is unique, in order to prevent wireless pairing abuse, remote radio pairing can not change the receiver ID, just copy the data of the receiver ID to the transmitter; if you need to change the receiver ID, only use the host computer or copier.

10.3.2 Frequency Changing

Frequency Changing means that the transmitter update the receiver channel by radio, the transmitter channel are changing from 401-480 cycle in turn, Meantime, send the operating frequency to the receiver and update the receiver operating channel.

The operation is as follows:

1. Entering setting mode must be operated within 5S after the receiver powers on again
2. Release emergency stop, turn on the open button to 0 file, press the "up" "down" key to wait for entering the set up mode.
3. After entering the set up mode, the Led indicate light flashes red and green quickly, then release “up” and “down” keys
4. Hold down the "down" button, until the red light alight turns green light flash slowly, the frequency changing is successful.
5. If there is still interference with the same frequency, please repeat the above operation.

Note:CH3 are disabled channels (not for normal operation), if use for manual wireless frequency changing, it will automatically skip the next channel;CH3(433.6175MHz) is public channel, used for manual wireless frequency changing.

10.4 Other function

10.4.2 Channel

The user can set the operating frequency of the remote control between the 80 channels of CH401-CH480, and the transmitter and receiver must be set to match.

UHF Band Channel vs. Frequency

CH No.	Frequency
1	433.0825
2	433.3500
3	433.6175
4	433.8850
5	434.1525
6	434.4200
7	434.6875

Note: CH3 are disabled channels (not for normal operation), if use for manual wireless frequency changing, it will automatically skip the next channel; CH 3(433.6175MHz) is public channel, used for manual wireless frequency changing.

<http://www.teledirk.com>

DESIGN: Henan Dirk Electronic Co.,Ltd

ADDRESS: NO.11 CHANG CHUN ROAD NEW&HIGH-TECH DEVELOPMENT DISTRICT, ZHENGZHOU

FCC Statement

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:

- 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.

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.

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