



Read this manual before operation

- The content include of electric connections and operating steps
- Read the manual to operate the systems

# BWK201R

## Wireless Operating Panel Operation Manual

<https://www.ruidacontroller.com>



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# CERTIFICATION DECLARATION

## CE

The product has been certified by the CE (Communate European) safety certification. It has passed the corresponding conformity assessment procedure and the manufacturer's declaration of conformity, in accordance with the relevant EU directive.

## ROHS

This product has been certified by EU legislation (Restriction of Hazardous Substances) Safety certification; comply with relevant EU environmental regulations.

## FCC

This product has been certified by the Federal Communications Commission for safety, Comply with us electronic safety regulations.

# SAFETY INFORMATION

When using this system, please make sure the operation is correct and the usage is safe. Some signs or text will be used to remind you to pay attention to the dangerous matters and some important information.

**Dangerous:**

Indicates a serious danger. In the process of use, if the operation is improper or the way of use is wrong, it may cause serious injury or even death to the user. Please do not operate it easily until you have made sure that the operation method is correct and the way of use is correct.

**Warning:**

Danger. In the process of use, if the operation is improper or the use is wrong, which may lead to the injury of the personnel, please do not operate the personnel and related personnel easily, until ensure the correct operation method and use method is correct before use.

**Cautious:**

Represents the potential risk of the product. In the process of use, if the use method is wrong or improper operation, it may cause damage to the product or some parts. Please do not use it until you have made sure that the operation method is correct and the usage is correct.

**Important:**

Represents important information to be paid attention to during the use of the product. Please do not ignore this information, this information will provide effective operational help.



This sign indicates laser radiation, which is usually posted on products with laser output. Please be careful with laser and pay attention to safety when using this kind of equipment.

## Sign in、Devanning、Examine cargo

The product itself with plastic or metal shell, can protect the external electrical components from damage. The products are packed in foam bags and anti-static bags. If there is any external damage to the package, check the equipment and notify the carrier and carrier in writing of the damage.

### **Important:**



After receiving the product, please check whether the outer package is intact, check whether the product is complete after unpacking and whether all parts are intact. If any damage is found, please contact ruida immediately.



Remove all cargo from package and keep packing material and wiring parts. Please take care of the safety of the goods when unpacking them. After taking out the goods, please check whether the parts are complete and intact. If any missing parts or damaged parts are found, please contact ruida technology immediately. Do not install or debug the equipment if any obvious damage is found.

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# Section 1 Overview

## CONTENTS:

-  Overview
-  Wireless Handle

## 1.1 Overview

The Wireless Operating Panel BWK201R consists of two parts: wireless panel and wireless receiver. Wireless panel and wireless adapter communication, wireless receiver connection to RD motion controller, user can control the cutting process reliable within a certain range (10 m) through the wireless panel, easy to operate. The system allows the user can control the system real time in the production process, improving the working efficiency and easy to use and reliable. Parallel working with controller operation panel, there is no interference with each other.

Wireless controller BWK201R only supports communication with RDC644XG motherboard.

## 1.2 Wireless Handle

The Wireless handle is shown in Figure 2-1.

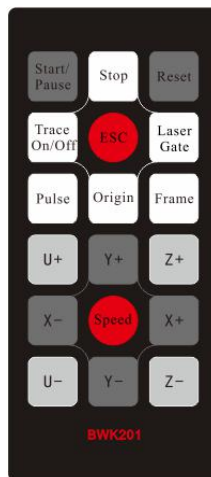




Figure 2-1 Wireless panel

Buttons description:

“Start/Pause” Button  : Start or pause working

“Stop” Button  : Stop working









“Reset” Button  : Reset the control board and HOME

“Trace On/Off” Button  : Power on/off the trace signal to control the LFS module

“ESC” Button  : Cancel

“Laser Gate” Button  : Laser Enable/disable



- “Pulse” Button : Laser emission
- “Origin” Button : Set positioning point
- “Frame” Button : Move along the curves of workpiece
- “Speed” Button : Choose fast cutting speed or slow cutting speed
- “X+/-” Button  : X axis movement
- “Y+/-” Button : Y axis movement
- “Z+/-” Button : Z axis movement
- “U+/-” Button  : U axis movement



LED indicator light of the wireless handle is shown in Table 2-1.

**Table 2-1 LED Indicator Light Description**

LED STATUS	The Wireless Handle Status
Red , Always On	The Wireless Handle is in standby status
Red, Flash	The Wireless Handle is in linking status
Always Off	The Wireless Handle is in connected status or power-off status
Always green or flashing red / green	Low battery, please replace batteries as soon as possible

# Section 2 Wireless Adapter

## CONTENTS:

-  Interface Description
-  FAQ

## 2.1 Interface Description

The Wireless Adapter is shown in Figure 3-1.

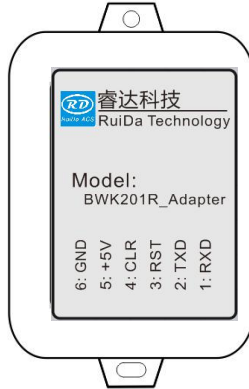


Figure 3-1 Wireless Adapter

LED indicator light of the wireless adapter is shown in Table 3-1.

**Table 3-1 LED Indicator Light Description**

DEVICE	STATUS	The Wireless Adapter Status
LED	Always On	The communication is in connected status
LED	Flash	The wireless adapter is in connecting status
LED	Always Off	The wireless adapter is power off

There is a hole in the side of wireless adapter, with a built-in reset button, the wireless adapter will be reset;

The P1 interface definition of wireless is shown in Table 3-2.

**Table 3-2 P1 Interface Connection Definition**

PIN	SIGNAL	DEFINITION	DESCRIPTION
PIN1	RXD	Receiving end	
PIN2	TXD	Sending end	
PIN3	RST	Reset	Low level effective
PIN4	CLR	Clear end	Low level effective
PIN5	+5V	+5V power source input	
PIN6	GND	Referenced Ground	GND

## 2.2 FAQ

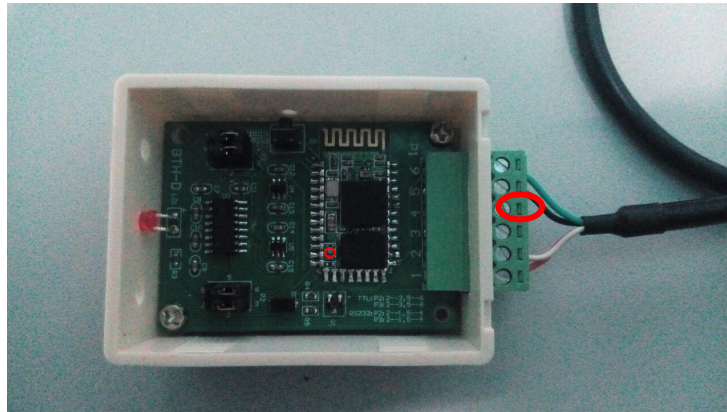
Question: The wireless adapter cannot connect to wireless handle.

Solution:

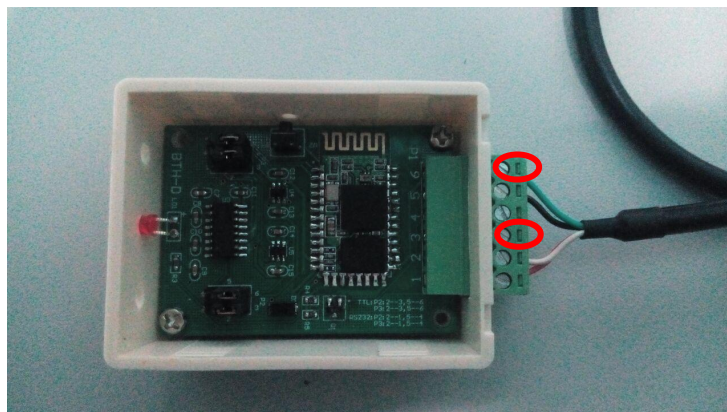
(1) The wireless adapter is original version (the adapter side without reset button)

The adapter side without reset button, if wireless adapter cannot connect to wireless handle, you can clear the wireless adapter address and reset, and then power-on wireless adapter and wireless handle. The steps as follow:

Step1: Clear wireless adapter address, that is, after powering on, short connecting Pin4 of P1 terminal with Pin12 of U2 module for 3 seconds and then off; as below showed, the big red circle on the right is Pin4 of P1 terminal, and the small red circle on the left is Pin12 of U2(U2 left side penultimate pin)



Step2: Reset the adapter, that is, after powering on, short connecting Pin3 of P1 terminal with Pin6 for 3 seconds and then off;

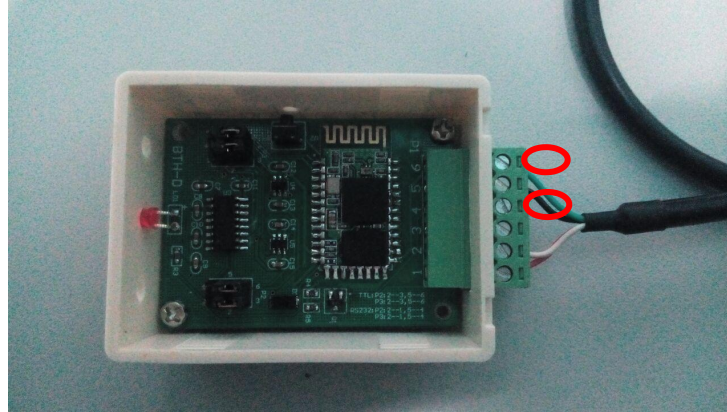


Step3: After powering on, waiting the wireless adapter and wireless handle connection again, pay attention that only one wireless adapter and one wireless handle power on, if there are more than one wireless adapter and wireless handle, please do above process repeatedly.

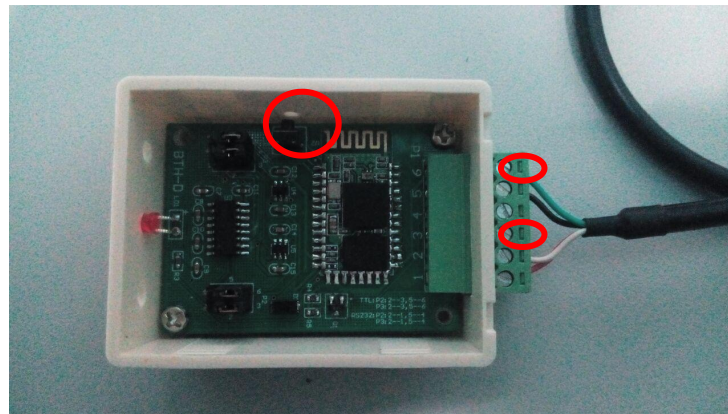
(2) The wireless adapter is latest version (the adapter side has reset button)

The latest version wireless adapter side has reset button, if wireless adapter cannot connect to wireless handle, you can clear the wireless adapter address and reset, and then power-on wireless adapter and wireless handle. The steps as follow:

Step1: Clear wireless adapter address, that is, short connecting Pin4 of wireless adapter P1 terminal with Pin6 for 3 seconds and then off;



Step2: Reset the wireless adapter, that is, press button on side as below red circle on the left showed. Or use the old reset method: short connecting Pin3 of P1 terminal with Pin6 for 3 seconds and then off, as below two small red circles on the right showed; both methods for optional.



Step3: Power-on wireless adapter and wireless handle again, waiting the wireless adapter and wireless handle connection again, pay attention that only one wireless adapter and one wireless handle power on, if there are more than one wireless adapter and wireless handle, please do above process repeatedly.

# Section3                      Wireless Adapter and Controller Connection Description

## CONTENTS:

-  Connect to RDC644XG

### 3.1 Connect to RDC644XG

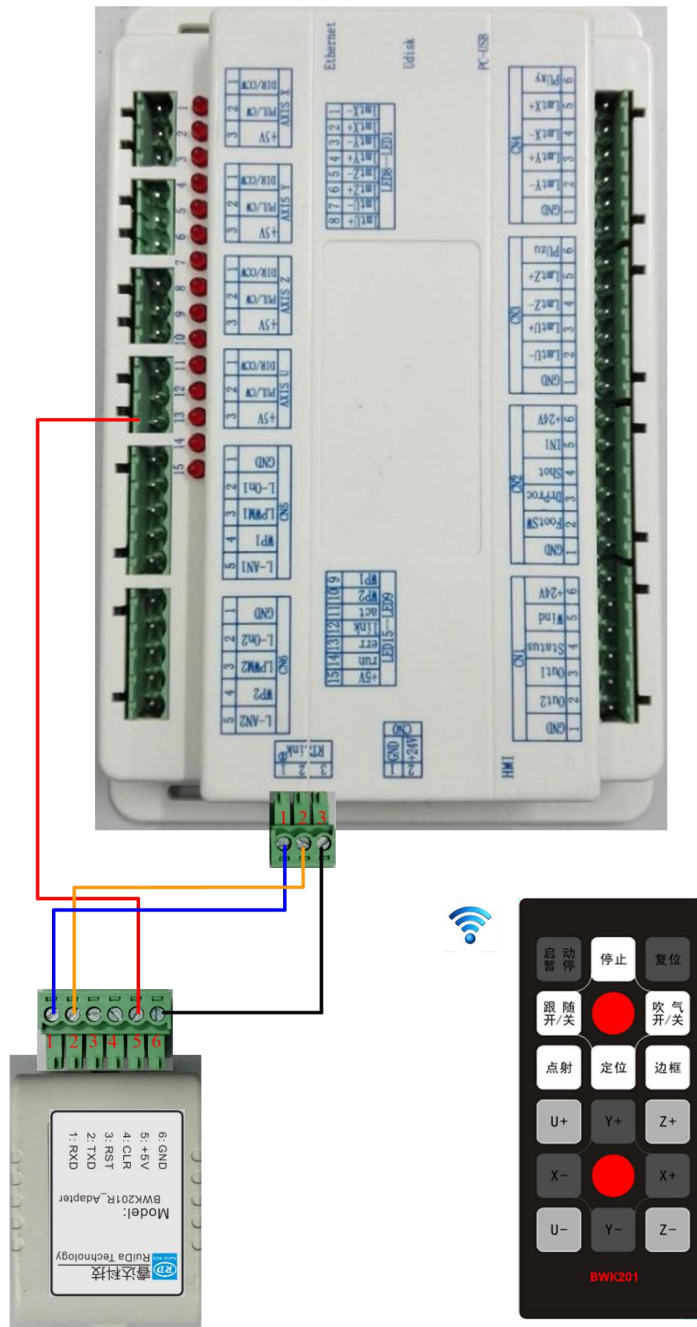


Figure 4-1 Wireless adapter and RDC644XG Controller Connection



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Tel: (086)0755-26066687

Fax: (086)0755-26982287

Adress : 2th floor,Technology Building,NO.,1057 Nanhai Avenue,Nanshan district,  
Shenzhen, Guangdong , China.

Website: [www.rd-ac.com](http://www.rd-ac.com)



