



Wireless Operating Panel BWK201 Operation Manual

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Safety



Live Focus System (LFS) is applied in laser processing machine. Laser protection is CLASS3 and CLASS4.

Please reference to GB7247.1-2001 and take some safety protection measures.

The following should be executed:

- Operation persons should wear protection glasses.
- Connected to the ground. A valid connection to ground should be done and the resistance should be less than 1 ohm. CNC machine tools, LFS, sensor shell and support plate should be stable grounding.
- Please do not try to disassemble the parts of LFS. Otherwise, the LFS will be fault.
- Laser beam nozzle and the LFS sensor are integrated design. When the LFS is working, please do not touch the sensor. Otherwise will cause damage to your body.
- When cutting glossy surface metal, please notice the reflect laser beams from the metal surface. Some protection measure should be taken to avoid the body to be damaged. Preventive measures should be taken and operate carefully, to prevent burn out parts by laser beam off center axis.
- Keep the sensor and nozzle clean. Avoid the cooling water, condensed water or other foreign matter flowing into sensor; otherwise the sensor will be fault. The laser power and other controllers should meet the EMC standard and should be connect to the ground reliably.
- Sensors and electrical cabinet parts must be grounding as requirements. Processed metal artifacts should be reliable grounding.



Version Notes

Version	Date	Specification
V1.0	2015/5/10	Original version
V1.1	2015/11/06	New keys function and low battery warning added
V1.2	2016/3/11	FAQ module added

1. Overview

The Wireless Operating Panel BWK201 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 BWK201 only supports communication with RDC63XXG motherboard.

2. Wireless Handle

The Wireless handle is shown in Figure 2-1.

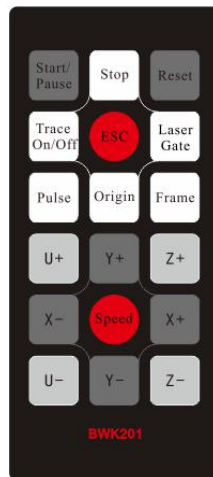





Figure 2-1 Wireless panel









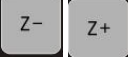
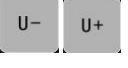
Buttons description:

“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

3. Wireless Adapter

3.1 Interface Description

The Wireless Adapter is shown in Figure 3-1.

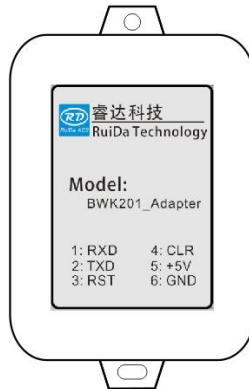


Figure 3-1 Wireless Adapter

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

3.2 FAQ

Question: The wireless adapter cannot connect to wireless handle.

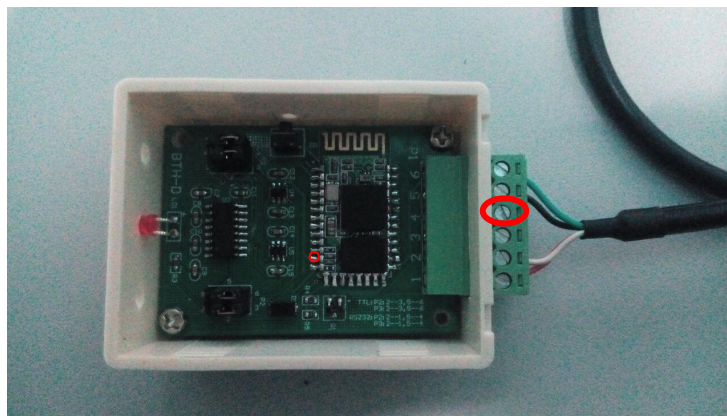
Solution:

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

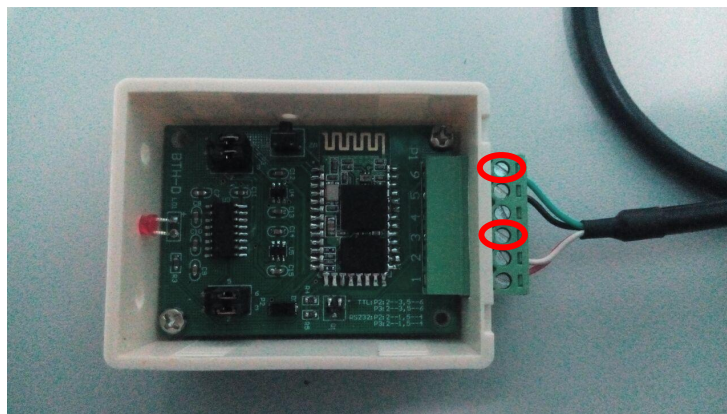
The adapter side without reset button, if wireless adapter cannot connect to wireless handle, you can clear the wireless adapter address and reset, and then power-on wireless adapter and wireless handle.

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;



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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.

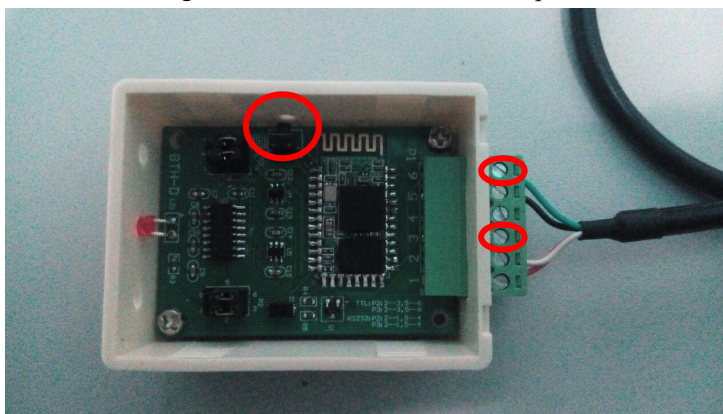
(2) The wireless adapter is latest version (the adapter side has reset button)

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.

4. Wireless Adapter and Controller Connection Description

4.1 Connect to RDC63XXG

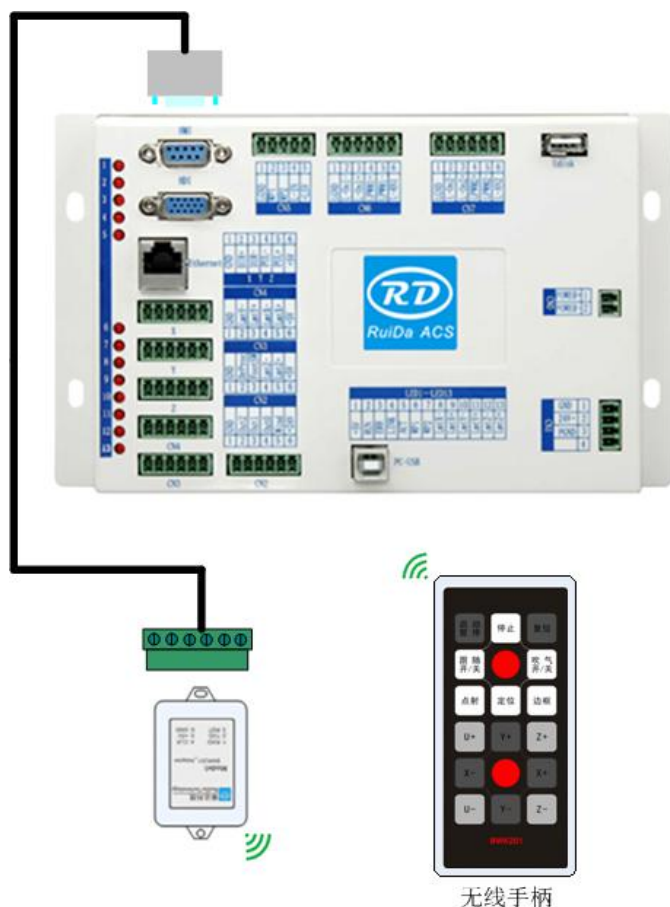


Figure 4-1 Wireless adapter and RDC63XXG Controller Connection



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If any comments and suggestions please feel free to contact us.

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