RDLC220 Controller Interface Specification V1.1

Shenzhen RuiDa Technology CO., LTD
Tel: 86- 0755-26066687
Fax: 86-0755-26982287
Web: www.rd-acs.com
E-Mail: support@rd-acs.com
Add: 1B-1, Building 5, Tian'an Nanyou Industry Area,
Dengliang Road, Nanshan District, Shenzhen, P.R.C.

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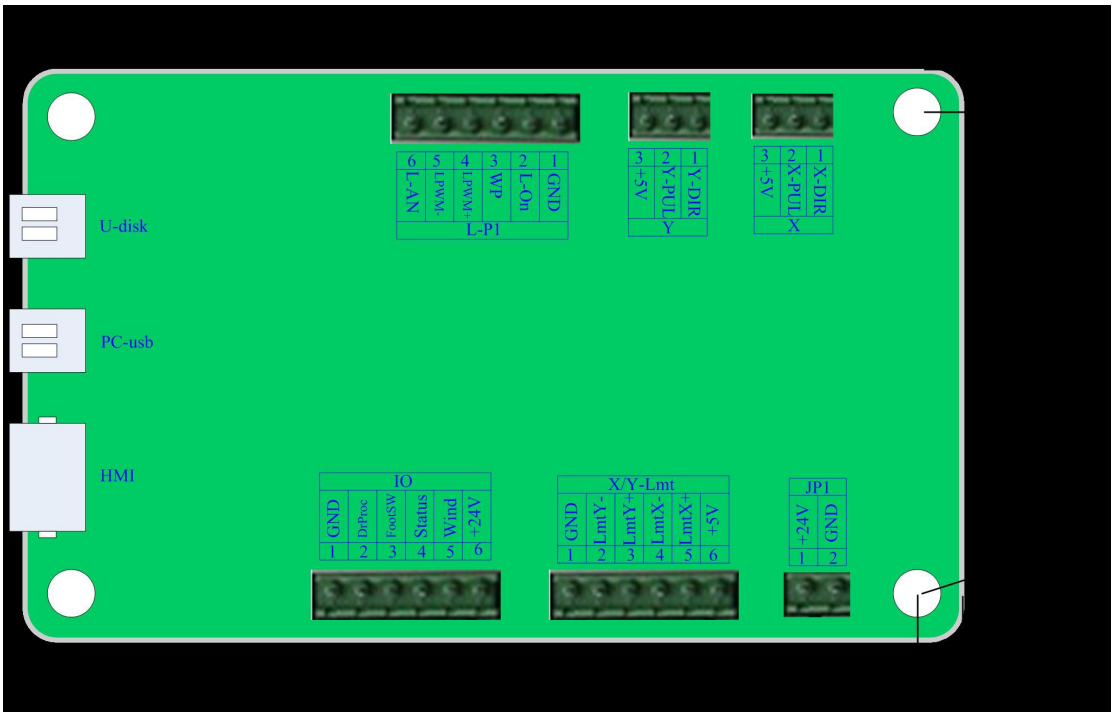
Chapter 1 Installation Dimensions

1.1 Controller Installation Dimension

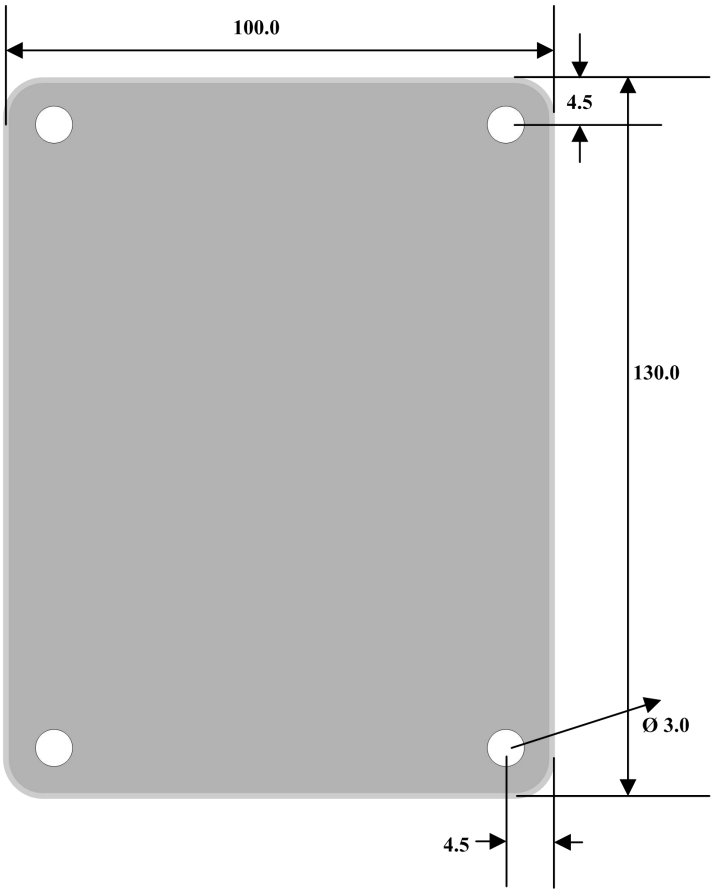
The unit is mm, accurate to 0.1 mm.

(4 positioning holes position are symmetrical)

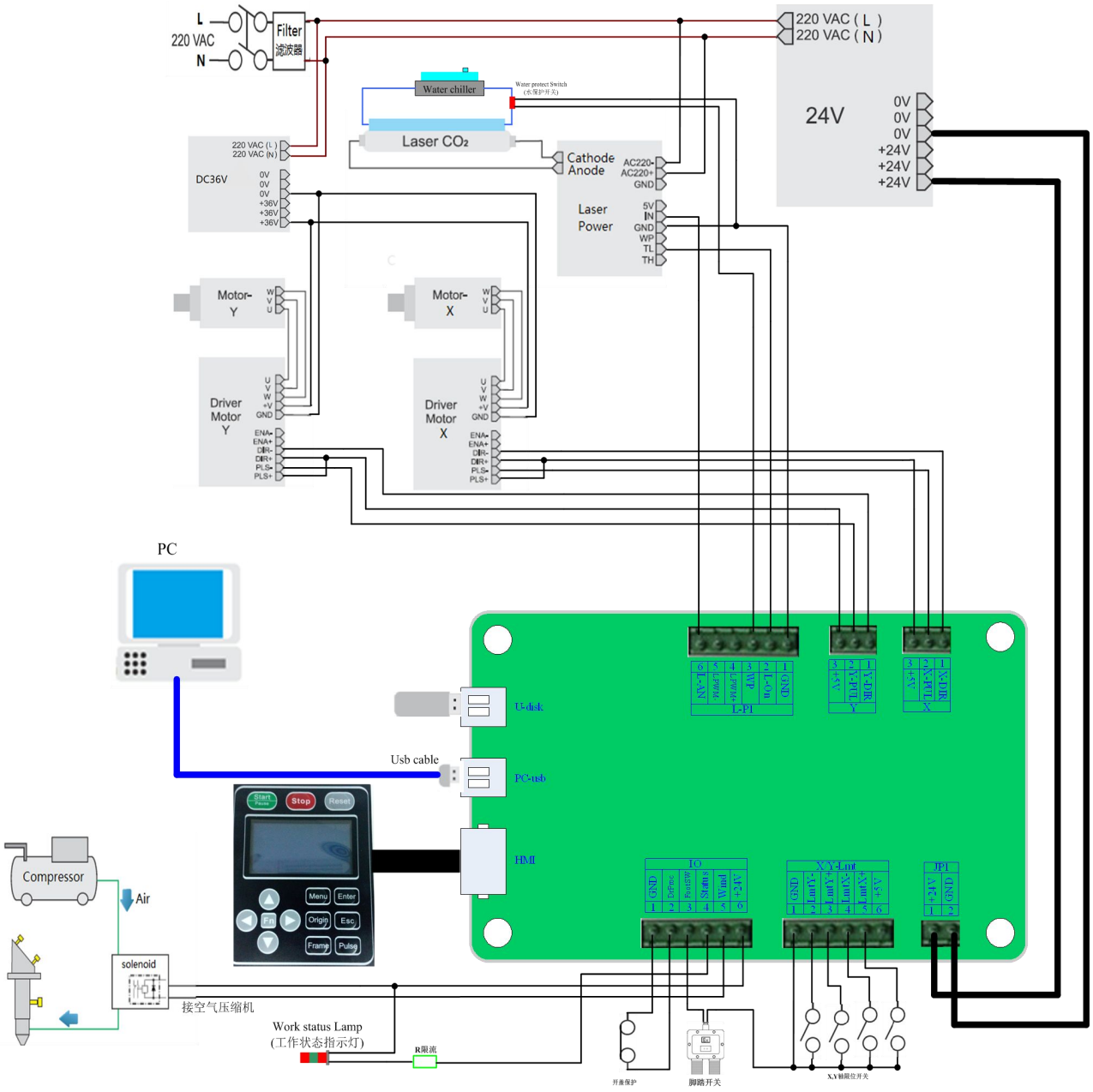


1.2 Panel Installation Dimension

All size unit is mm, accurate to 0.1 mm (four positioning holes position are symmetrical)



Chapter2 Control System Electrical Connection



Picture2-1 Control system Electrical Connection Diagram

Chapter 3 Controller Interface Signals Description

3.1 Main power supply interface-- JP1

S.N.	Symbol	Definition
1	+24V	24V power supply +（input）
2	GND	24V power supply GND（input）

Be Caution

This control system uses a single 24 V power supply, to keep a certain margin, recommended to choose more than 24V/2A power supply.

3.2 Controller and display board connector P1

The connector between the controller and display board is 5-core shielded wire for PIN to PIN.

3.3 Udisk Interface

Udisk is USB-AM interface for the controller access to the USB interface.

3.4 PC-USB Interface

PC-USB is USB-AM interface for controller and PC access interface through USB2.0

3.5 Dedicated IO Port

IO port defined as follows:

S N	Symbol	Definition
1	GND	GND Power supply（output）
2	DrProc	Dedicated input, protective signal input, if the machine needs to be protected in a particular state (such as open end protection), protect the input signal from the pin. The pin can be enabled and banned, when the pin is banned, the signal is not queried by the controller; if the pin is enabled, then when the input is high level or the input port is hung up, the machine to be protected, the ongoing work will be suspended, and laser shut down.
3	FootSW	Dedicated input, pedal switch input port. Connection mode is: when the foot pedal treading down to input the low level signal; the pedals to loosen, disconnect the port or to input high level signal, both are available; Pedal treading down time not less than 100 ms, if the machine is idle, it will start to work, if the machine is working, the work will be suspended, if the current machine is in a suspended state, and the suspension of the work will be restart, namely the pedal switch and the "start/pause" key on the keyboard function is similar. When the second treading down action time less than the first time 100 ms, so the second foot action is considered by the controller is invalid.
4	Status	Dedicated output, working status signal port (or the second pen signal). When it is the working state signal, if the port connects to relay, the relay coil is conducting when working, no effect when work stopped, and the relay coil closed when ended or artificially cancelled.

5	Wind	Dedicated output, when the enabled fan controlling, fan control signal output, otherwise which is the first pen control signals. When connects to the fan and fan control enabled, so we can make the fan switch be installed at each layer separately, if an external relay, the relay coil will be conducted when the fan opened, and will close when the fan wind stopped.
6	+24V	Power supply + 24V（output）

3.6 Limit input interface X/Y-Limit

X/Y Axial limit interface CN4.

SN	Symbol	Definition
1	GND	Power supply（output）
2	LmtY-	Y-, Y Axis moves to the limit of 0 coordinates
3	LmtY+	Y+, Y Axis moves to the limit of the maximum coordinates.
4	LmtX-	X-, X Axis moves to the limit of 0 coordinates
5	LmtX+	X+, X Axis moves to the limit of the maximum coordinates.
6	+5V	+5V（output）

Limit polarity is optional. That is, if the motion axis reaches the limit position, triggering a low level signal, make the corresponding limit of LED turned on; when the motion axis leaves the limit position, triggering high level signals or disconnected limit connections, make the limit indicator lights off, so at this moment the limit of polarity is negative; On the other hand, if the motion axes close to the limit and the light off, while leaving the limit making the corresponding indicator turned on, the limit of polarity is positive. Wrong setting of limit polarity will cause the system cannot check the limit when system reset, and leading to axis collision.

Notice: Limit input ports are compatible with 5 V / 12V / 24V logic level input.

3.7 X/Y axis drive interface X Y

XY motion-axis interface is the same; here take the X axis interface as example.

PIN	Symbol	Definition
1	DIR	Direction signal end
2	PUL	Pulse signal end
3	+5V	5V + power supply

The direction of signal polarity of driver can be set up. If one axis moves to the opposite direction of original point, that means the direction & signal polarity of the axis is wrong, so at this time you can disconnect the axis and the drive motor. (Otherwise controller undetected the limit, which may cause the axis collision), and then waiting the axis reset, and revise the direction of signal polarity, to press the reset button to reset the controller when modified.

Pulse signal of driver can be set up rising edge effective or falling edge effective, The controller defaults the falling edge effective when leave factory.

3.8 Laser power control interface L-P1

PIN	Symbol	Definition
1	**GND**	Laser power supply(output) ）
2	**L-On**	Laser enable control interface 1. There is no pin when the laser is RF laser. 2. When the laser is glass tube, and laser power supply for low level emitted light, then the pin connects the enable terminal of power supply, to control the laser switch on/off. It cannot support high level laser power supply.
3	**WP**	Laser power supply water protection status input port. When enable water protection, controller will detect water protection input port, if the port is low level, which means normal; If the port is high level, the controller will force to shut the laser, and the ongoing work will be suspended, the system will alarm at the same time. If disable the water protection, controller

		won't test the water protection input port, the user can not connect water conservation at the same time. Water conservation input port must use 24V logic level input.
4	**LPWM+**	Laser/tube power control interface 1. There is no pin when the laser is RF laser. 2. When the laser is glass tube and laser PWM power supply for high level effective, the pin connects to PWM power supply to control the laser power.
5	**LPWM-**	Laser/tube power control interface 1. When the laser is RF laser, the pin connects to RF-PWM 2. When the laser is glass tube, and PWM power supply for the low level effective, the pin connects to PWM to control the laser power.
6	**L-AN**	Analog voltage, and connects to the power control end of the laser

	Please choose the correct laser type in manufacturer parameters setting.

Thank you very much for using the product from Shenzhen RuiDa Technology!

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

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