

Rifa holds the common welding problems

1 Temperature alarm



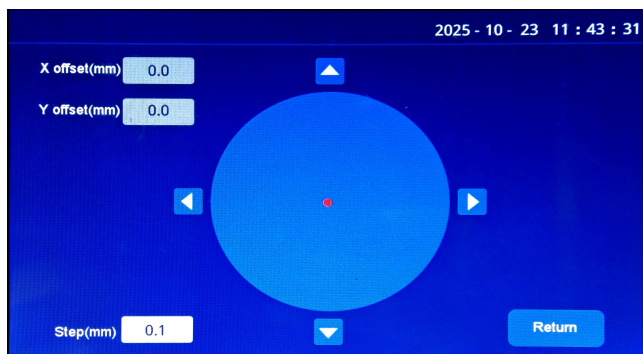
Red flashing
indicates
temperatu
re alarm

1.1 Problem: The double protective lens is damaged.

Solution: Check the lens under the light to see if there is any stain, if so, replace the protective lens.

1.2 Problem: the light transmittance of the protective lens is not enough or the coating is not resistant to high temperature.

Solution: Compressed air needs to be equipped with a dry oil and water separator to ensure that the gas blown out has no water and no oil. Argon and nitrogen do not need to be over-dried oil and water separator. If compressed air is used, it is recommended to use argon and nitrogen, or add a dry oil and water separator.



Adjust the page

1.3 Problem: The red light center point is offset and hits the inner wall of the gun.

Solution: The red light is biased to the left and right. The system parameters have a central offset function for fine adjustment, and the motor needs to be adjusted for the up and down bias.

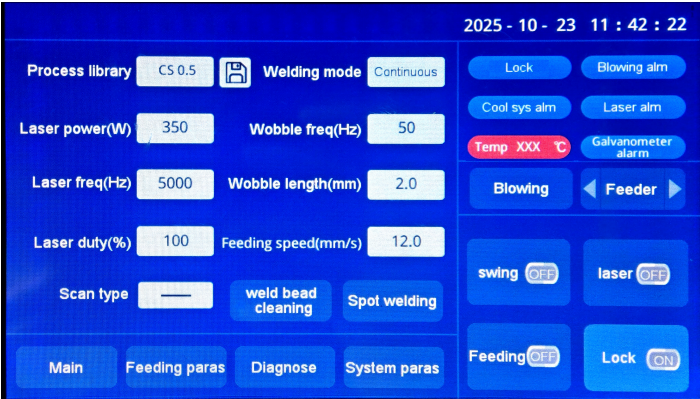
1.4 Problem: The focusing lens is damaged.

Solution: Replace the focusing lens.

4.66 Copy and open TikTok to see the work of [Shenzhen Ruifa Intelligent Technology Co., LTD.] FWH30-D10C Replace the focusing lens <https://v.douyin.com/CeiJys2m8/> OXM: / 10/21 y@G.iP

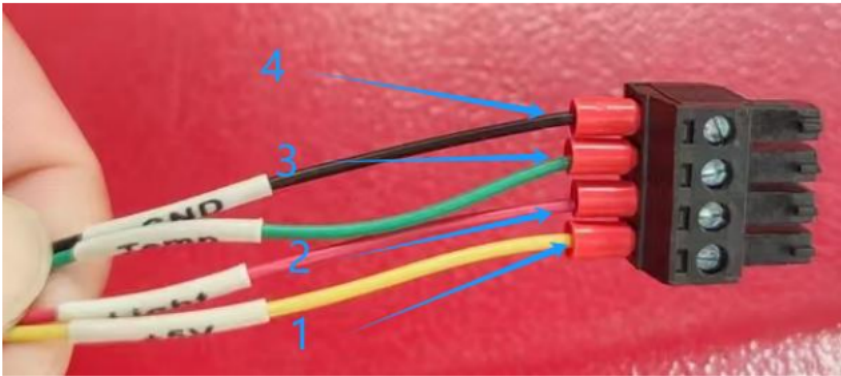
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2 Temperature alarm XXX or the displayed value is very large



Temperature alarm display

- 2.1 Reason: interference from argon arc welding signal.
Solution: Do not use laser welding in the same place as the TIG welding machine. The working distance between laser welding and TIG welding is 5-10 meters away.
- 2.2 Reason: System failure.
Solution: Measure the voltage at terminal CN3. The voltage at pins 1-4 should normally be around 5V; if not, it indicates a burnt motherboard. The voltage at pins 2-4 should normally be between 0 -0.18V; if not, it suggests a broken signal line or a burnt motherboard. The voltage at pins 3-4 should normally be 2.5V; if not, it indicates a broken signal line or a burnt temperature control board.



6. 6 CN3 temperature sensor interface
The temperature sensor interface CN3 is a 4PIN green terminal, as defined in Table 6 .6.1 for the temperature sensor interface. The user can simply insert the matching cable with the terminal directly. ,

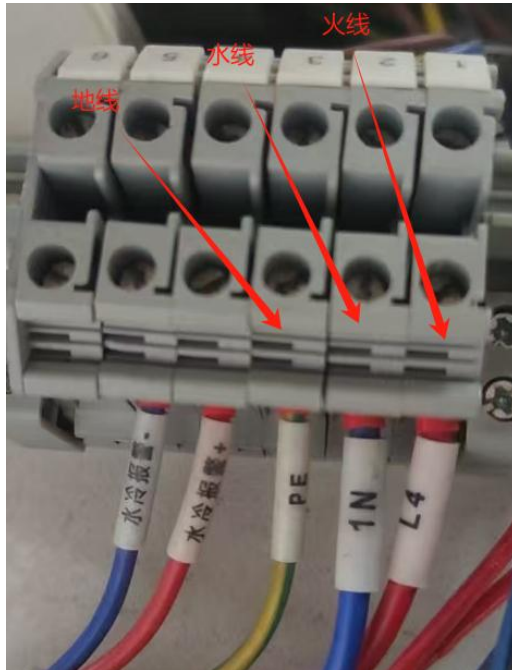
table 6.6.1

pin	Signal	Definition	Description
	+5V_out	Sensor P	+5V power supply, maximum output 500mA
2	Light	sen sor L	
3	Temp	sen sor T	
4	GND	sen sor G	—

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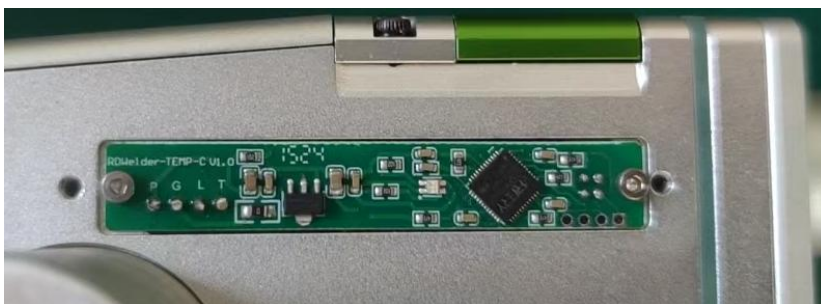
2.3 Reason: The temperature monitoring board burned out.

Solution: standardize the grounding wire to ensure that the measured voltage between the ground and neutral lines inside the machine is 0 V.



Each machine is different inside, so refer to the fire line, water line and ground line on the top of this diagram

2.4 Reason: When connecting the screen signal line and the temperature control signal line, two of them are switched and missed. Solution: Open the gun head temperature monitoring board cover to see if there is any obvious black burning trace.



Normal temperature monitoring board

2.5 Cause: poor contact of the control box or temperature control board signal line. Solution: rewire.

2.6. Cause: No grounding wire. Solution: Re-ground the wire.

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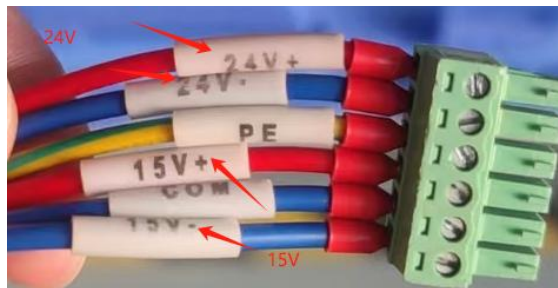
3The mirror alarm is activated



The alarm of the X and Y axis galvanometer will appear red

3.1 Reason: The 15V switch power supply is not powered at the same time as the 24V switch power supply.

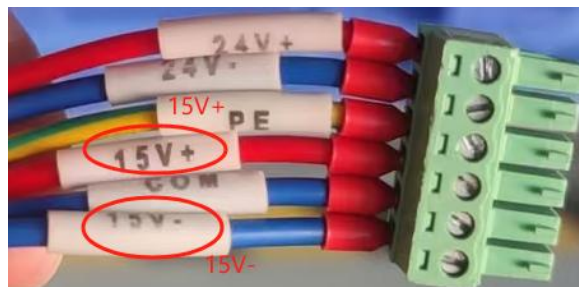
Solution: The CN5 port on the control box must receive both 24V and $\pm$ 15V power.



Connect 24V to 15V

3.2 Reason: The $\pm$ 15V power supply on the control box is reversed.

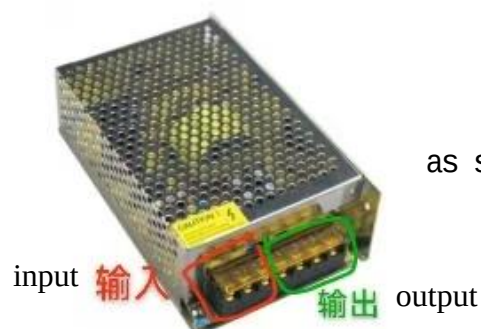
Solution: $\pm$ 15V needs to be connected to the control box with a total of 3 wires, which are +15V, COM and -15V respectively, and these 3 wires should not be connected incorrectly.



as shown in the figure

3.3 Reason: 15V, the switch power supply is burnt out.

Solution: Measure whether there is voltage in the input and output ports of the switch power supply. If there is input but no output, it indicates that the power supply is burnt out and needs to be replaced.



as shown in the figure

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3.4 Reason: The 9-pin plug on the gun head is not properly connected or the signal line is broken in the middle. Solution: Correct wiring is the key to ensure the normal operation of the system.

3.5 Reason: the motor or control box is burnt out.

Solution: If there is no problem in the above investigation, you can replace the control box or replace the gun head.

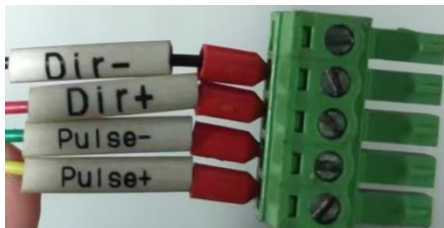
4The wire wheel does not turn

4.1 Reason: The power switch of the wire feeder is not turned on.

Solution: Ensure that the power switch of the wire feeder is open.

4.2 Reason: the signal line is connected incorrectly or the signal line is broken.

Solution: Use a multimeter to measure continuity. One probe should be connected to PUL+, PUL-, DIR+, and DIR-on the control box CN1, while the other probe measures PUL+, PUL-, DIR+, and DIR-on the driver. Corresponding wire numbers should be used for measurement. If they are connected, it indicates normal operation; if not, it suggests a broken signal line or incorrect connection.



The four wires correspond to the corresponding holes

4.3 Reason: the wire feeding speed is too fast.

Scheme: The effective wire feeding speed is 2-80 mm/s.

4.4 Reason: 24V, switch power supply damaged.

Solution: Measure whether there is voltage in the input and output ports of the switch power supply. If there is input but no output, it indicates that the power supply is burnt out and needs to be replaced.



1-2, 3-4 Measure whether there is voltage between the feet and watch whether the indicator light next to it is glowing

4.5 Cause: The driver alarm lights up red.

Solution: The power supply is disturbed by the current signal. Restart the power supply to see if it can be restored to normal. Do not work with TIG welding.

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4.6. Cause: Motor burn out.

Solution: Use the continuity gauge to measure the motor wire, and measure it in pairs. If two sets are connected, it is normal; if all are connected, it is a short circuit and burnt out, and it needs to be replaced.



Measure A + and A-, B + and B-

5The silk was not delivered smoothly

5.1 Reason: The wire tube is too bent.

Solution: Before welding, the wire feeding tube should be straightened, and the wire feeding tube should not be bent. If there is any need, it should be cut and reinstalled or replaced.

5.2 Reason: the welding wire is bent and deformed inside the wire feeding tube.

Solution: The welding wire should not be bent. If necessary, cut it to ensure that the welding wire in the wire feeding tube is straight.

5.3 Reason: the welding wire does not match the type of wire feeding wheel.

Solution: Use as much wire as you need. If the wire is stainless steel or carbon steel, use a V-shaped wire wheel and a conventional wire tube. If it is aluminum wire, use a U-shaped wheel and a graphene wire tube.

5.4 Reason: the machine screw of the wire tube lock is loose.

Solution: The normal machine screw should be pressed to the spring tube. If it is not pressed, it indicates that the screw is loose and the spring is retracted. The wire feeding tube needs to be installed again.



There is a machine screw on both sides

6Safety lock alarm

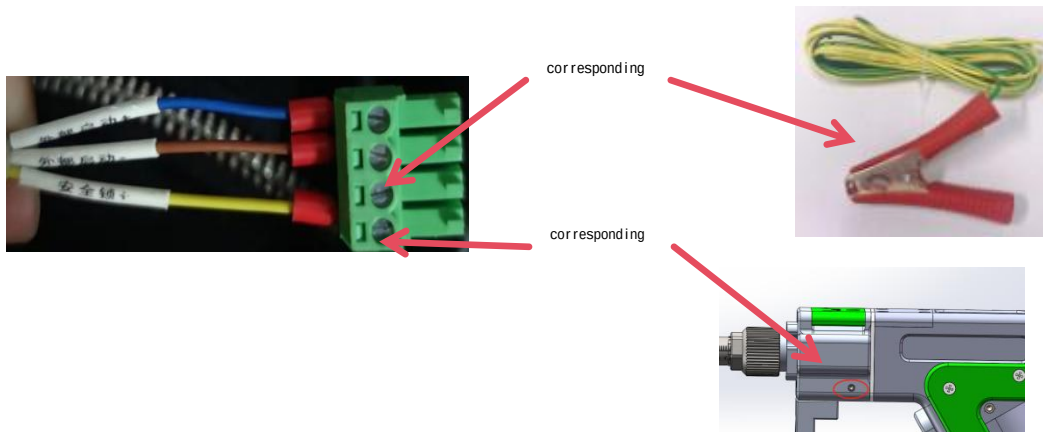
6.1 Reason: the gun head does not form a circuit with the ground clamp.

Solution: The safety lock alarm is automatically eliminated after the gun head and the ground clamp form a circuit. This is a safety auxiliary function to prevent customers from misoperating the setting.

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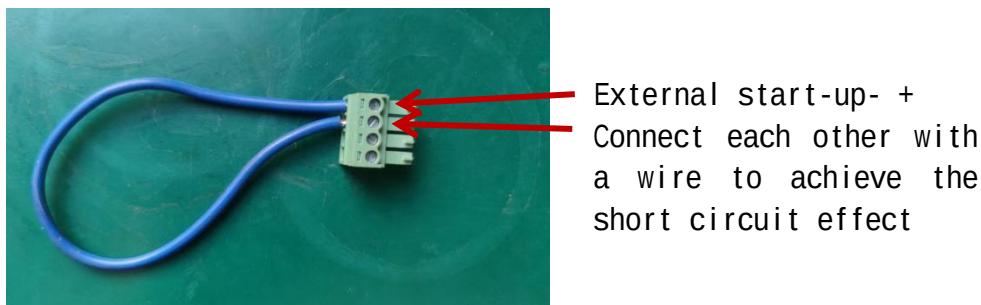
6.2 Reason: the ground clamp is broken, the safety lock on the gun head is broken or the wire is broken or the wire contact is poor.

Plan: Use a multimeter to test the continuity between the two ends of the ground clamp. Set the multimeter to the continuity mode, one probe to the clamp, and the other probe to the wire connected from the ground clamp to the control box's CN6 terminal. If it is connected, there is no problem with the wire; otherwise, it indicates an open circuit, and this wire needs to be checked. Use a multimeter to measure the machine screw on the side of the protective lens at the gun head. One probe to the machine screw, and the other probe to the safety lock> this wire on the control box's CN6 terminal. If it is connected, there is no problem; otherwise, it indicates an open circuit, and this wire needs to be checked.



6.3 Cause: The terminal is damaged or the safety lock port on the control box is damaged.

Solution: Short the 3-4 feet of control box CN6 with a wire. The alarm elimination indicates that there is no problem with the port and terminal. If it does not work, replace the terminal and short the 3-4 feet. If it still does not work, the port of the control box is damaged and the control box needs to be replaced.



7The motor does not swing or the swing stops

7.1 Reason: The swing width is too small.

Solution: set the swing width slightly larger, single wire swing width about 5, double wire swing width about 8.

7.2 Reason: the ground clamp does not form a circuit with the gun head.

Solution: If the local clamp and the gun head do not form a circuit, the screen will continuously display a safety lock alarm. At this point, the oscillation function will automatically turn off

within one minute. For the next welding session, there is no need to manually activate the oscillation; as long as the gun head and the ground clamp form a circuit, the oscillation function will automatically turn on.

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7.3 Reason: There is a vibration mirror alarm on the screen.

Solution: When the motor cannot swing when there is a vibration mirror alarm on the screen, the vibration mirror alarm problem needs to be solved at this time.

7.4 Reason: The mirror of the vibration mirror is broken.

Solution: If there is no problem in the above three steps, the galvanometer mirror lens needs to be replaced.

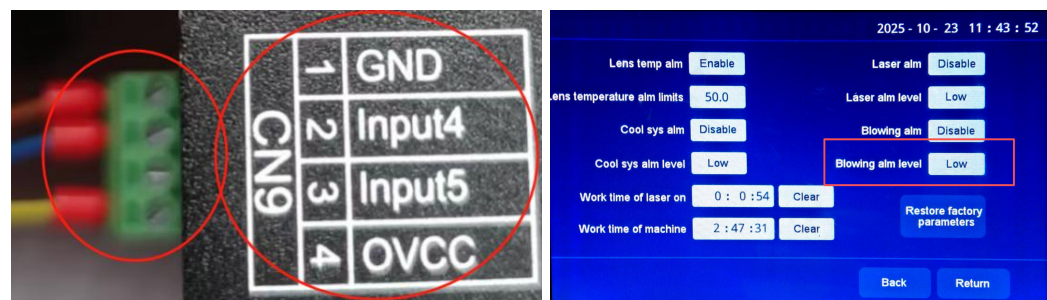
8Under-voltage alarm

8.1 Reason: 'low air pressure.

Solution: check whether the air pressure in the tank is sufficient, if the air pressure is too low, replace the air source.

8.2 Reason: The function is enabled but not wired.

Solution: First determine whether the pressure detection switch is installed, if installed check whether the setting is correct, and set the high level inside the system normally.



8.3 Reason: wrong wiring.

Solution: The pressure switch is connected to the normal starting port, and the under-voltage alarm receives-24V alarm. Correct wiring can ensure the normal use of this function.

6.12 CN9Universal input interface2

The CN9 interface is a 4PIN green terminal, as defined in Table 6.12.1 for the CN9 interface.

table 6.12.1			
pin	signal	DefinitioN	description
1	GND	earth	
2	Input4	Low voltage alarm input	
3	Input5	Reserve	—
4	OVCC	+24V power output	Power supply, maximum output of 500mA

9Traffic alarm

9.1 Reason: the water level of the water cooler is too low or the water cooler itself alarms.

Solution: Check the alarm code of the water cooling machine, and check the fault point according to the alarm code.

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9.2 Reason: The function is enabled but not wired.

Solution: First check whether the water cooler alarm signal is connected. If the wire is connected, check whether the water cooler and system setting functions are in line.

9.3 Reason: wrong wiring.

Solution: The water cooling machine is connected to the normal starting port, and the flow alarm port receives-24V alarm. Correct wiring can ensure the normal use of this function.

10Laser alarm

10.1 Reason: The laser itself has a fault alarm.

Solution: Connect the laser monitoring software to view the alarm information, and deal with the corresponding problems related to the alarm information.

10.2 Reason: The function is enabled but not wired.

Solution: First check whether the laser alarm signal is connected. If the line is connected, check whether the laser and system setting functions are in line with each other.

11The motor is whining

11.1 Reason: the contact of the nine-pin plug of the motor signal line is bad, the contact of the motor plug is bad, the motor signal line has a burnt circuit, and the motor signal line is false soldering.

Solution: check the motor signal line in order. If there is any abnormality, see whether it can be solved on site. If not, either send the parts to the customer for replacement or send them back to the manufacturer for maintenance.

11.2 Reason: the vibration mirror motor is burnt out, the vibration mirror lens is burnt out.

Solution: Take out the galvanometer motor for inspection to see if there is any abnormality. If there is any abnormality, see whether it can be solved on site. If not, either send the parts to the customer for replacement or send them back to the manufacturer for maintenance.

11.3 Cause: Control box fault.

Solution: It is difficult to troubleshoot the control box fault, so we can only use the replacement method to eliminate it. Check whether there is any spare control box to replace at the customer's site. If it is normal after replacement, it indicates that the problem is the control box.

12There is red light, no laser

12.1 Reason: Confirm that the "Allow light out" is on and that the laser power is set correctly.

Solution: After the welding system is turned on, "allowing light" is in the closed state. It needs to be manually opened before the laser can be emitted. The minimum laser power is 10% of the rated laser power.

12.2 Reason: Check if there is an alarm prompt on the screen.

Solution: Any alarm status on the welding system screen will cause the laser to fail. If there is an alarm, troubleshoot the problem according to the alarm information.

12.3 Reason: Check whether the laser has an alarm.

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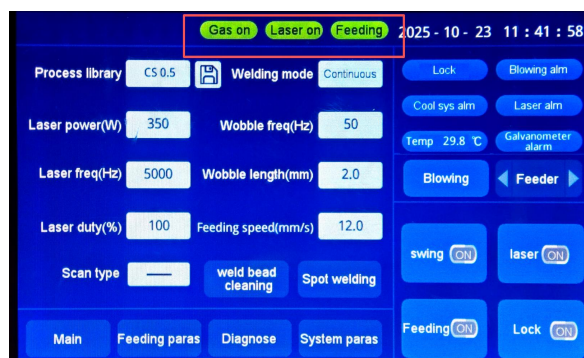
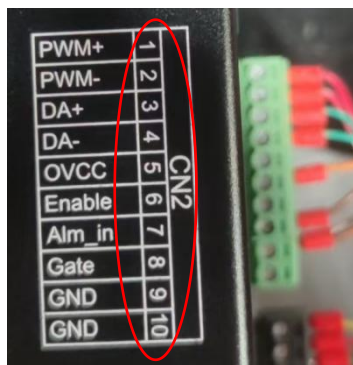
Solution: Connect the laser to view the alarm information, and deal with the alarm problem according to the alarm prompt.

12.4 Reason: confirm whether the laser signal line has poor contact and whether the laser signal line is connected correctly.

Solution: First check whether the laser signal line is connected correctly, then check whether the laser signal line has poor contact, and finally check whether the terminal connected to the laser is in good contact.

12.5 Reason: Use a multimeter to measure the signal output of port CN 2.

Plan: Before measuring the voltage at port CN2, ensure that the machine is in the laser output state. The screen should display "Output Light, Blow Air, Feed Wire" before proceeding with the measurement. Pin 1-2 is the modulated voltage, which is typically around 24 volts; the cleaning voltage will be slightly lower, approximately 15 volts. Pin 3-4 is the analog voltage, which varies according to the set laser power. For example, the full power voltage is 10 volts, and half of the rated laser power is 5 volts. Pin 6-9 is the enable voltage, which is normally around 24 volts. Pin 8-10 is the red optocoupler voltage, which has no voltage when the laser is not outputting light and is around 24 volts when the laser is outputting light.



12.6 Reasons: Connect the laser to check whether the laser has received the signal from the welding system.

Solution: Connect the laser monitoring software to check whether the laser has received the light signal. If the laser has received the light signal but does not emit light, it may be a problem with the laser. If the laser has not received the signal, it may be a circuit break of the signal line or abnormal output of the welding system.

13 Not blowing, blowing all the time, or having air but very little

13.1 Reason: The cylinder is not opened or there is no gas in the cylinder.

Solution: Check whether the cylinder switch is open, and then check whether the cylinder has gas.

13.2 Reason: The blow-off port is burnt out.

Solution: Click the diagnosis interface, click manual blow on the

screen and see whether the blow on the diagnosis interface is lit. If it is lit, measure CN8 with a multimeter at this state, port 1-2 feet, normally 24V, if not, indicate that the port is burnt out.

13.3 Reason: The solenoid valve is burnt out.

Solution: Use a multimeter to measure the terminal port of the solenoid valve. If there is 24V voltage but the solenoid valve does not work, it indicates that the solenoid valve is burnt out.

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13.4 Reason: I can't hold my breath.

Solution: Measure the CN8's 1-2 feet to see if there is 24V without manually blowing on the screen. If not, it is normal; if yes, it indicates that the control box port is burnt out. If the control box has no voltage output but continues to blow, it is caused by the electromagnetic valve cannot close the gas.

13.5 Reason: air line blockage.

Solution: First check the size of the gas flow in the cylinder, then check the size of the gas flow after the electromagnetic valve, then check the size of the gas flow from the electromagnetic valve to the nozzle air pipe joint, and finally check the nozzle air line.

14. System connection in progress

14.1 Reason: wrong wiring and poor contact of signal lines.

Solution: First, check if the signal lines from the screen to the control box's HMI port are correctly connected and if they make good contact. Then, verify that the screen signal lines are wired correctly. The correct wiring is OVCC to OVCC, GND to GND, TXD to RXD, and RXD to TXD. Use a multimeter to measure the voltage at the HMI port, which should be 2-4V or 3-4V. Measure two sets in total. The normal voltage range is 5V-7V. If there is no voltage, it indicates an issue with the control box or the screen.

6.7 HMI Touch screen interface

The HMI interface is a 4PIN green end, through which the motherboard powers and communicates to the HMI, as defined in Table 6.7.1 for the HMI interface.

table 6.7.1

pins	signal	Definitionn	description
1	OVCC	+24Vpower output, 500mA	Panel power supply
2	TXD_HMI	HMI transmitter	Serial port communication TXD signal
3	RXD_HMI	HMI Receiver End	Serial port communication RXD signal
4	GND	earth	—

14.2 Cause: the 24V-15V wiring on the control box is wrong or the power supply is burnt out.

Plan: Use a multimeter to measure the CN5 port on the control box. Connect the red probe to 24V+, and the black probe to 24V-. The normal voltage is 24V. If there is no voltage, it indicates that the power supply is burnt out or the wiring is incorrect. Connect the red probe to 15V+, and the black probe to COM. The normal voltage is 15 V+. If there is no voltage, it indicates that the power supply is burnt out or the wiring is incorrect. Connect the red probe to 15V-, and the black probe to COM. The normal voltage is 15V-. If there is no voltage, it indicates that the power supply is burnt out or the wiring is incorrect.

14.3 Reason: There is a problem with the control box or screen.

Solution: The control box and screen can only be checked by replacement.

15.1 Reason: The QBH is not locked.

Solution: Check whether the optical fiber is locked. One hand holds the gun head, the other hand holds the optical fiber head, and turn it left and right to see if there is any loosening. As long as there is a little loosening, it is not locked and needs to be disassembled and reinstalled.

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15.2 Reason: Lens burned out.

Solution: First check whether the double protective lens is burnt out, then check the focusing lens, and finally check the collimation lens. When checking, the lens needs to be looked at in front of the light to accurately see that the opening lens is all intact.

15.3 Reason: wrong lens.

Solution: Focusing and collimating lenses are used incorrectly, which will lead to a change in focal length, and reverse installation will also lead to a change in focal length. In normal installation, the convex surface of focusing and collimating lenses is facing the reflective lens.