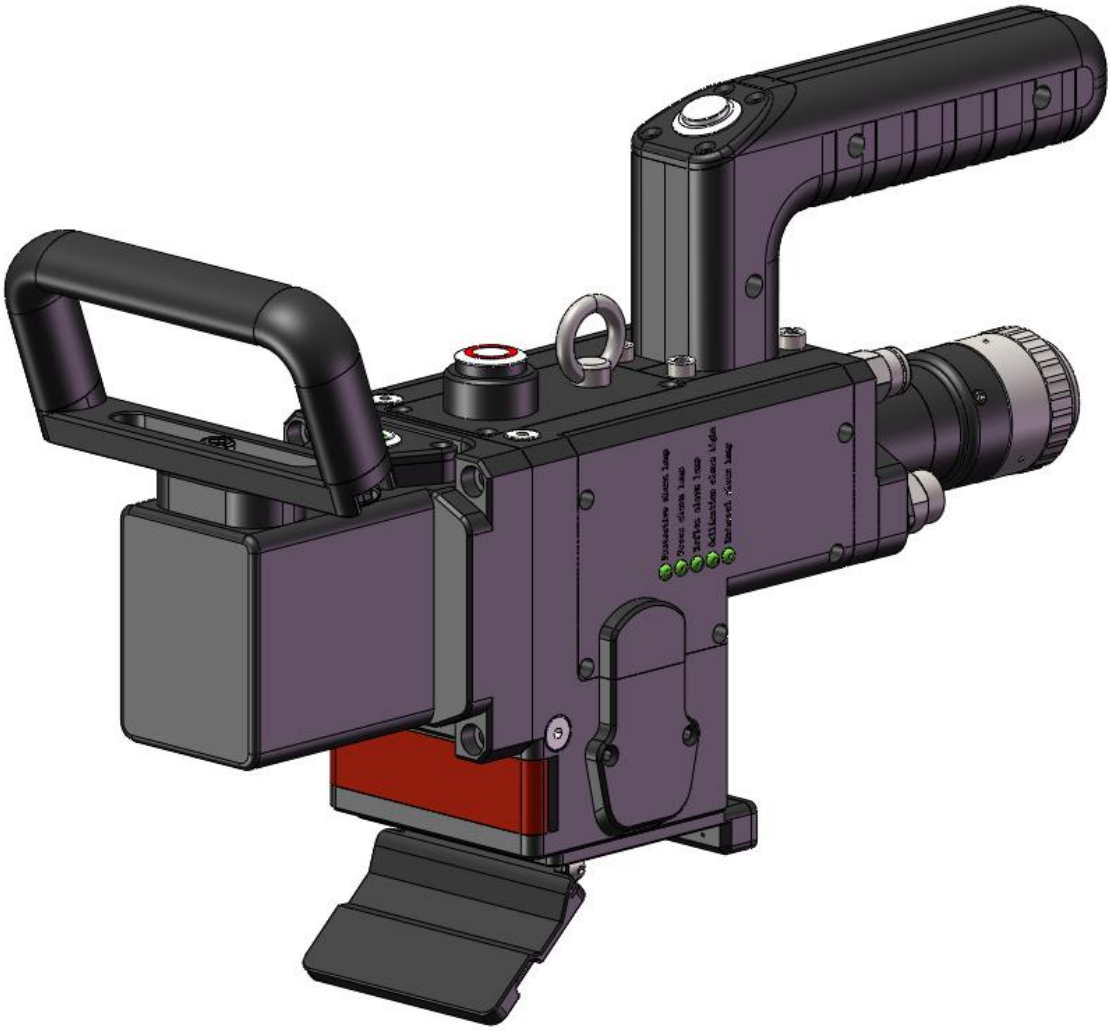
Shenzhen RelFar Intelligent Technology Co., Ltd.

FWH60-C30A Intelligent Handheld Cleaning Head



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Foreword

Thank you for choosing our products!

To enable you to have an overall understanding of our company, there is a detailed introduction regarding features, structural features, technical parameters, instructions for use and maintenance of the product in the Manual. Carefully read the Manual to help you better us it before the product is used.

Due to constant update of product functions, the product you received may differ from the description in the manual. We hereby express our deep sorry for this matter! In case of any question in the use process, timely call us for consultation, and we will offer dedicated service to you wholeheartedly.

Contents

Chapter I Overview

1.1 Product parameters

Name	Intelligent Handheld Cleaning Head
Model	FWH60-C30A
Fiber interface	QBH
Wavelength scope	1070±20nm
Rated power	≤6KW
Collimation focal length	75mm
Focus focal length	1500mm
Scanning width	10～500mm
Scanning speed	40000mm/s
Auxiliary pressure	≥0.5～0.8Mpa
Effective clear aperture	Ø20
Weight	2.2Kg

1.2 Precautions

※ Before the laser prsents, the front end flip cover plate is required to be opened.

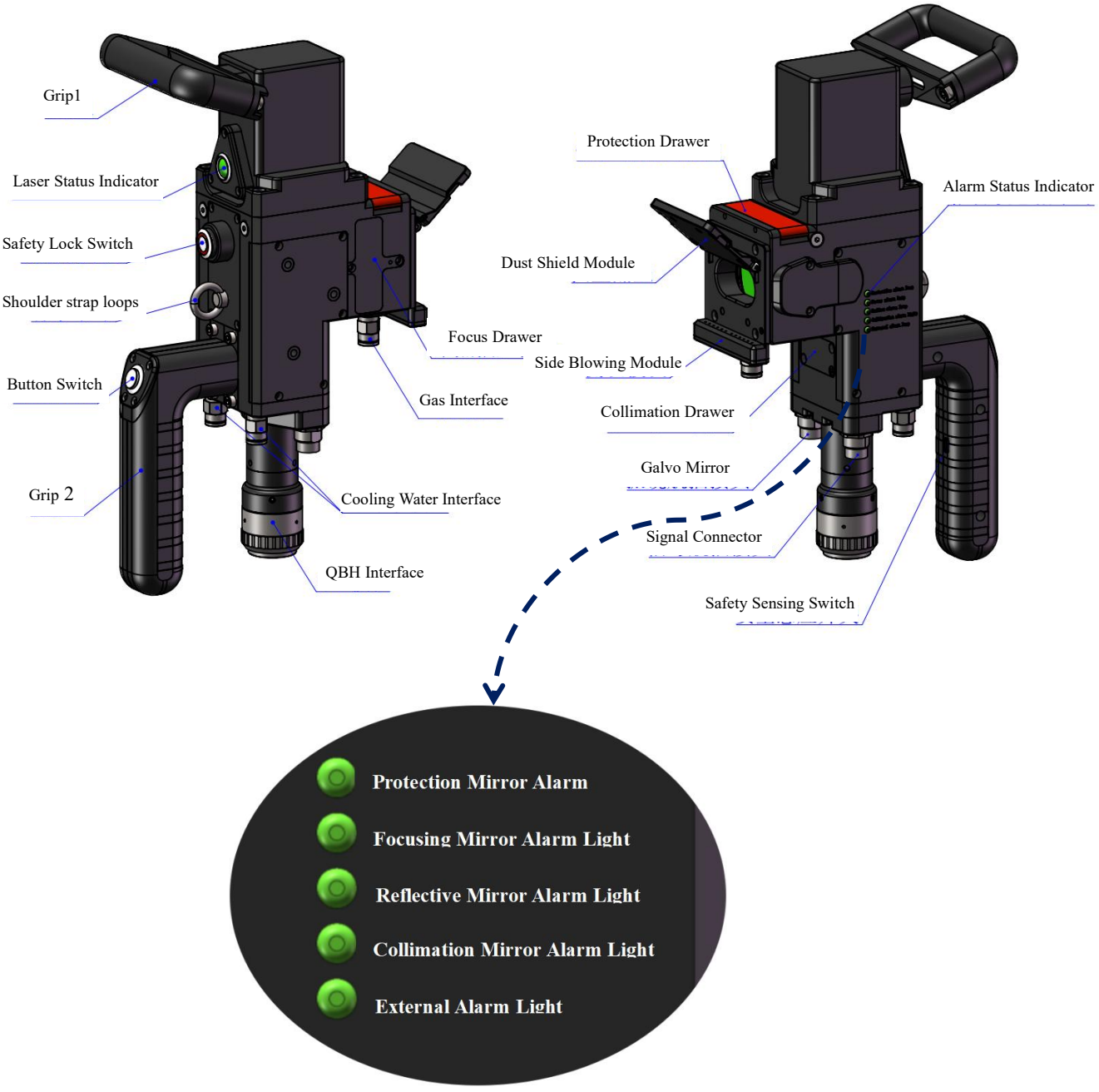
※ To ensure personal safety, please wear the special fiber laser protective glasses before operation.

※ It's necessary to keep the product clean and prevent the cooling liquid, condensate water or other foreign matter from

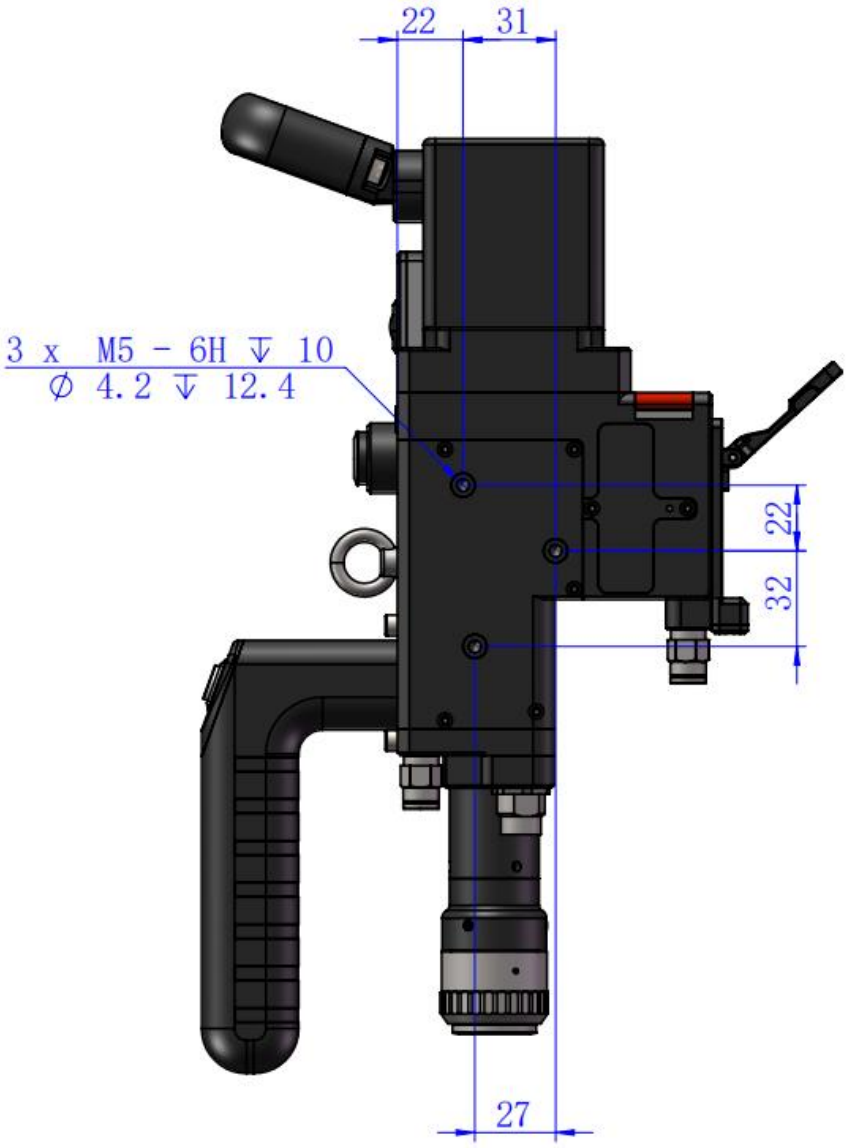
intruding into the cavity, or the functional contamination and functional impact of related parts will be incurred.

Chapter II Structural Characteristics

2.1 Product structure



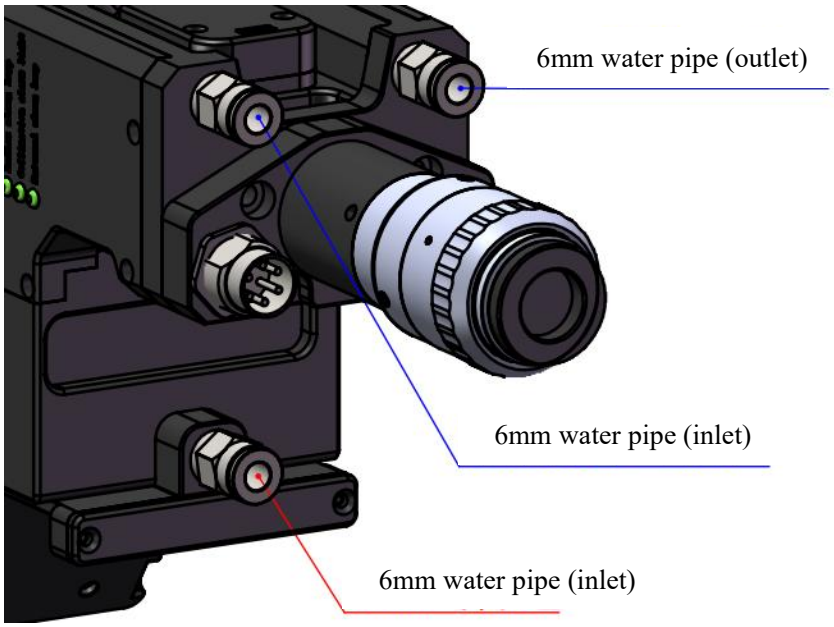
2.2 Mounting dimension



Chapter III Product Installation

3.1 Pipe connection

Cooling water circuit and auxiliary protective gas connection



Connection of cooling water and protective gas and usage requirements:

Notes: Gas for regular use: Compressed air (oil-water filtration required)

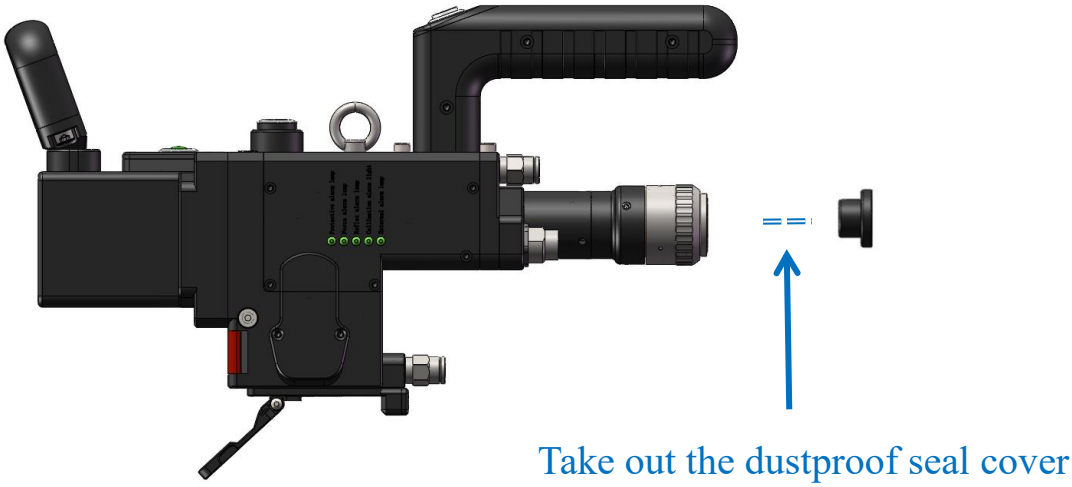
Gas for regular use: Argon, nitrogen and compressed air (oil-water filtration required).

3.1.1 Cooling water: The 6mm air tube is connected. The main function is that the excess heat is taken away by cooling through the internal structural member water route when the heat is produced by the light path in the cavity to ensure the cleaning performance. The series connection of cooling water pipeline is required, with one-in and one-out water circulation connected.

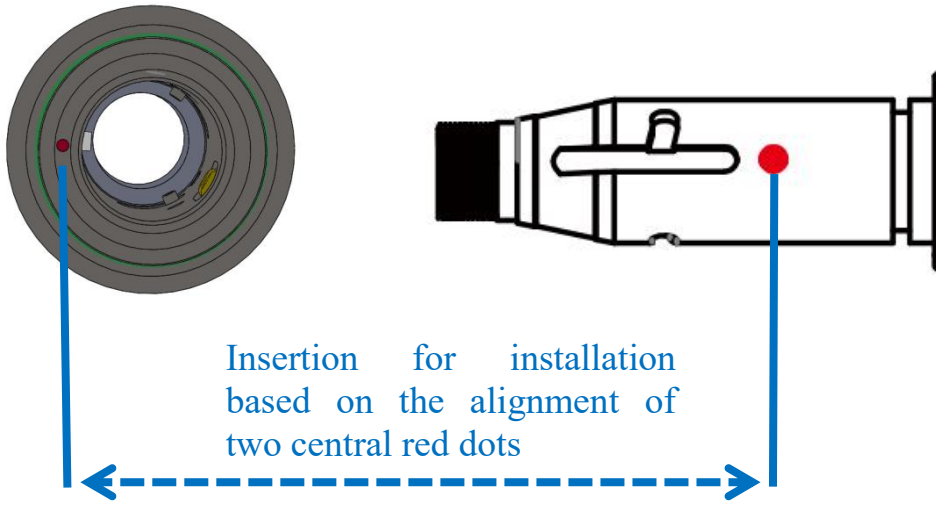
3.1.2 Maintained gas: The 6mm air tube is connected for butt welding gas protection, with input pressure＜0.5～0.8MPa.

3.2 Optical fiber input installation

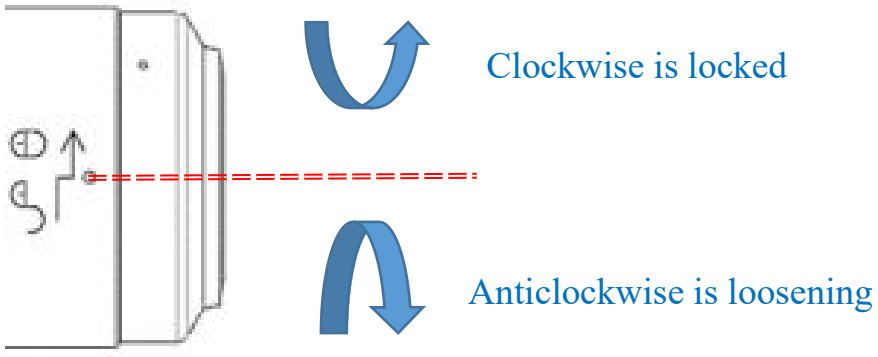
※ The QBH is a horizontal arrangement to take out the dustproof seal cover.



※ Align the red dot on the fiber optic head with the QBH red dot, and slowly insert the fiber optic head into the QBH.



※ The QHB is screwed to the locking state: Rotate it to the limiting position clockwise (hearing the "click"), lift up the rotating mantle, and clockwise rotate the mantle until the head of optical fiber is compressed.



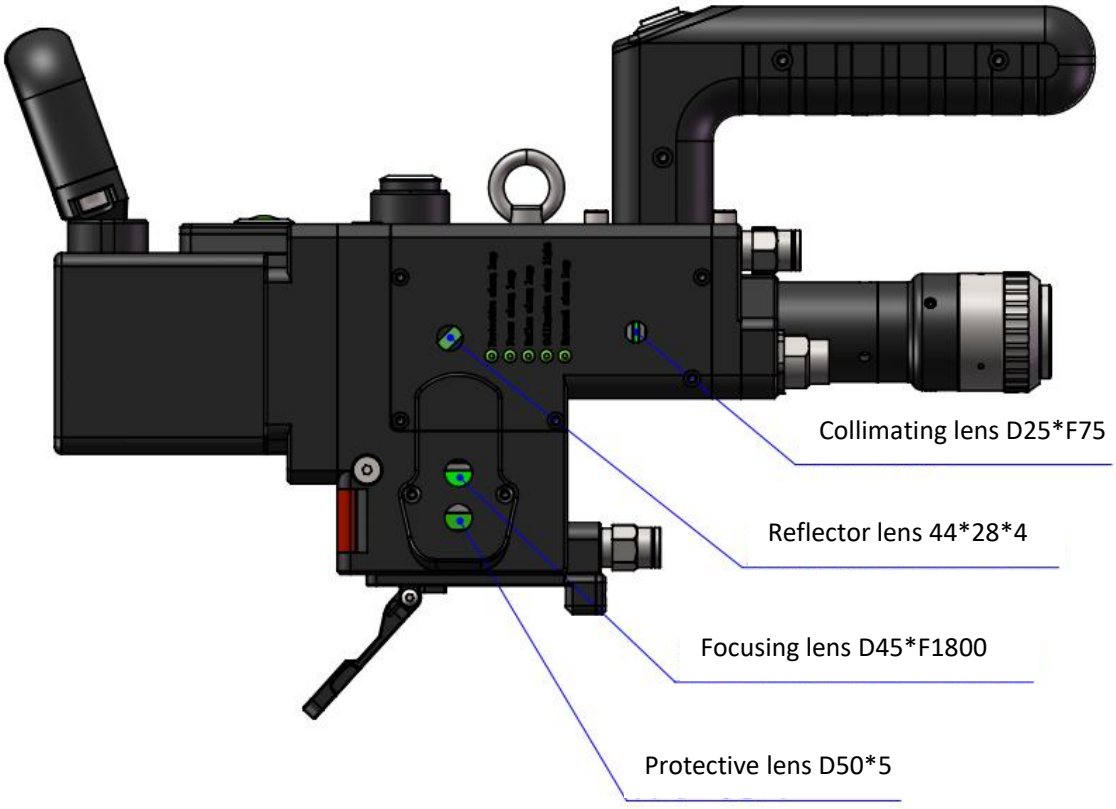
※ Before the laser presents, open the front end clamshell dust blocking plate! !

Flip opened

Chapter IV Maintenance

4.1 Structure of optics lens

※ The assembly is completed in the dust-free plant at the time of replacement of parts. In principle, except for the front-end first protective glass can be disassembled and assembled, other modules are forbidden to be dismounted. If it is necessary to check the collimation lens, focus lens and galvanometer lens, the product shall be put into a clean environment for disassembly.

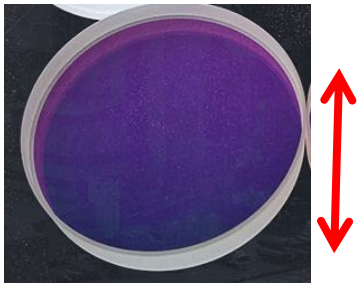


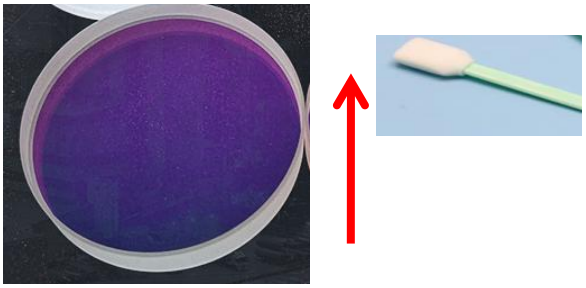
4.2 Cleaning of optics lens

※ When the optics lens are cleaned, the operation method and attention points are as follows:

※ Tools: dust-free gloves or dust-free fingerstall, dust-free wiping cotton swab, isopropyl alcohol, and caned dry and pure compressed air.

※ Spray the isopropyl alcohol onto the dust-free cotton swab, align the lens to eyes, gently pinch the side edge of the lens with left thumb and index finger and hold the dust-free cotton swab with right hand to gently wipe the front and back of the lens in a single direction from bottom to top or from left to right (avoid wiping back and forth to avert the secondary contamination of lens), blow the surface of the lens with filling dry and pure compressed air and confirm the surface of lens is free from foreign matters after cleaning.





4.3 Disassembly and assembly of optics lens

4.3.1 Disassembly and assembly of collimation lens

Tool: 2mm inner-hexagon wrench, dust-free cotton swab, alcohol.

※ The disassembly and assembly shall be completed in a clean place. When the lens are dismounted, the dust-free gloves or dust-free fingerstall.

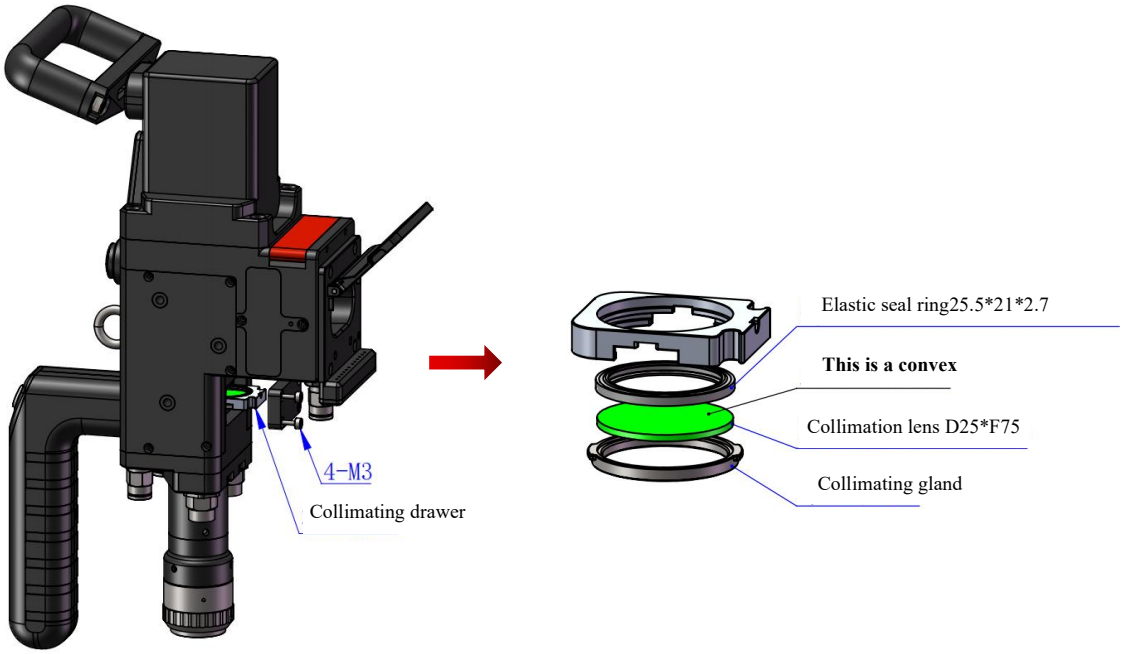
※ Disassembly and assembly steps:

Step 1: Clean up all the dust on the surface of the laser head firstly.

Step 2: Loosen the 4-M2.5*6 screw in the figure with 2mm inner-hexagon wrench.

Step 3: Take out the collimating drawer module and seal the port with textured paper to prevent the dust from entering the cavity.

Step 4: When the two bosses are aligned with the opening slot after the gland is rotated anticlockwise, remove them upward and replace the lens. (Note that the orientation of lens installation can be divided into plane and convex surface. After disassembly, record it; otherwise, the optical path will be affected.)



4.3.2 Disassembly and assembly of focus lens

Tool: 2mm inner-hexagon wrench, dust-free cotton swab, alcohol

※ The disassembly and assembly shall be completed in a clean place. When the lens are dismounted, the dust-free gloves or dust-free fingerstall.

※ Disassembly and assembly steps:

Step 1: (figure 1) Loosen the lateral 2-M2.5 screws.

Step 2 : Remove the focus drawer assembly horizontally and seal the exposed sealing surface of the cavity with textured paper to prevent dust from entering.

Step 3: (figure 2) When the two bosses are aligned with the opening slot after the gland is rotated anticlockwise, remove them upward and replace the lens. (Note that the orientation of lens installation can be divided into plane and convex surface. After disassembly, record it; otherwise, the optical path will be affected.)

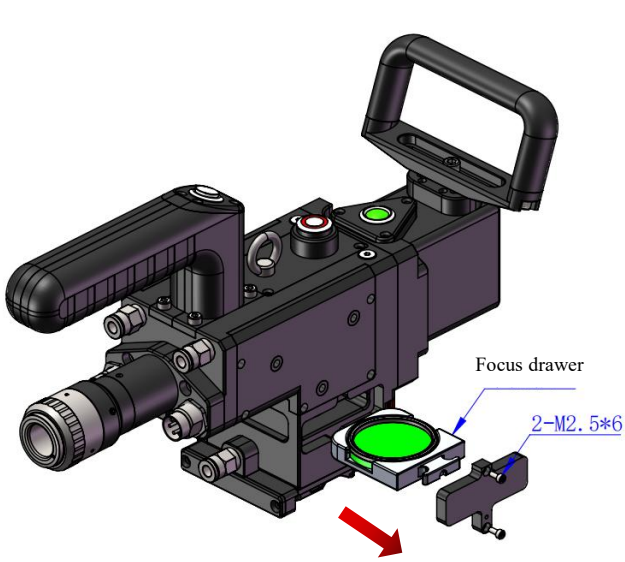


Diagram 1

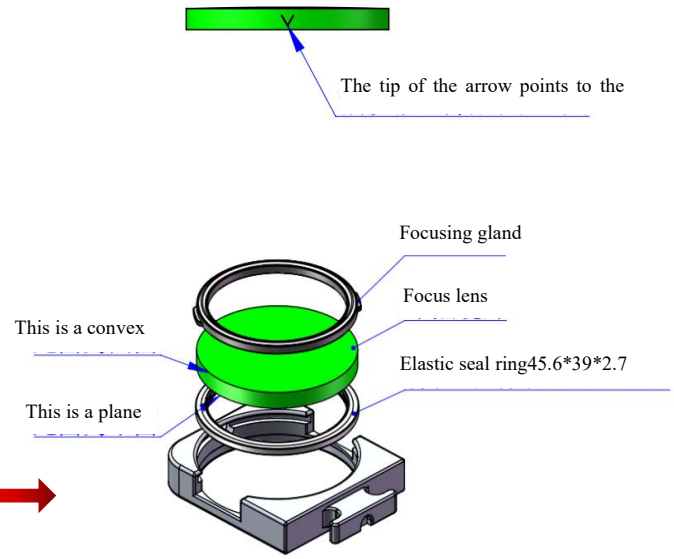


Diagram 2

4.3.3 Disassembly and assembly of protective glass

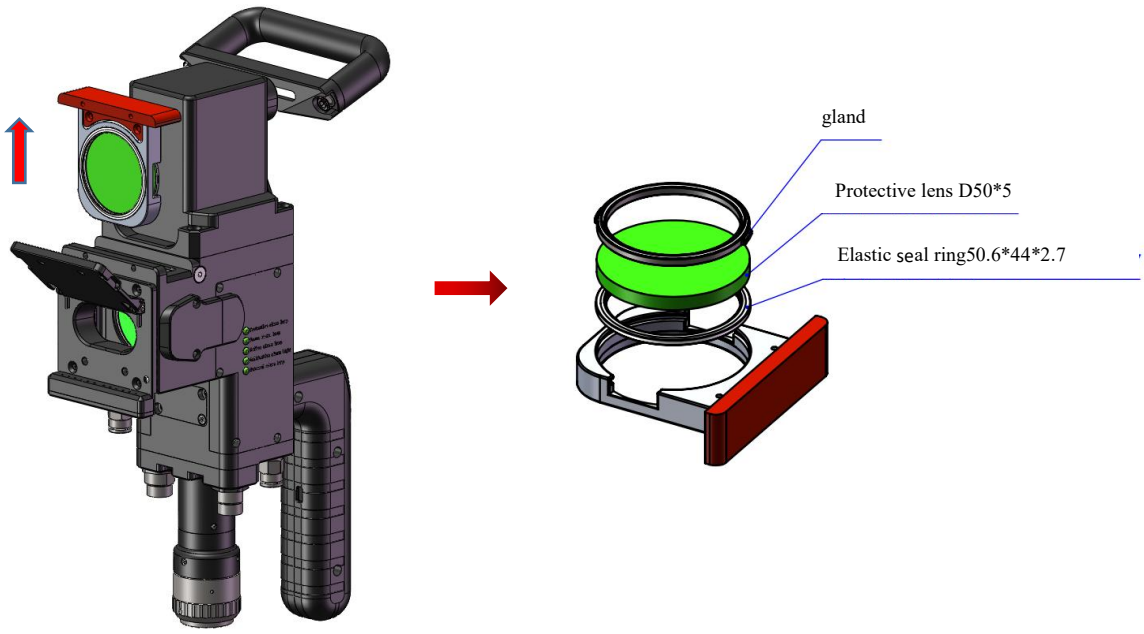
※ The disassembly and assembly shall be completed in a clean place. When the lens are dismounted, the dust-free gloves or dust-free fingerstall.

Change the protective lens

The first step is to take both sides of the drawer in hand and pull out the protective drawer seat upward. After taking it out, seal the window exposed on the cavity with textured paper to prevent dust from entering.

Step 2,

When the two bosses are aligned with the opening slot after the gland is rotated anticlockwise, remove them upward and replace the lens.



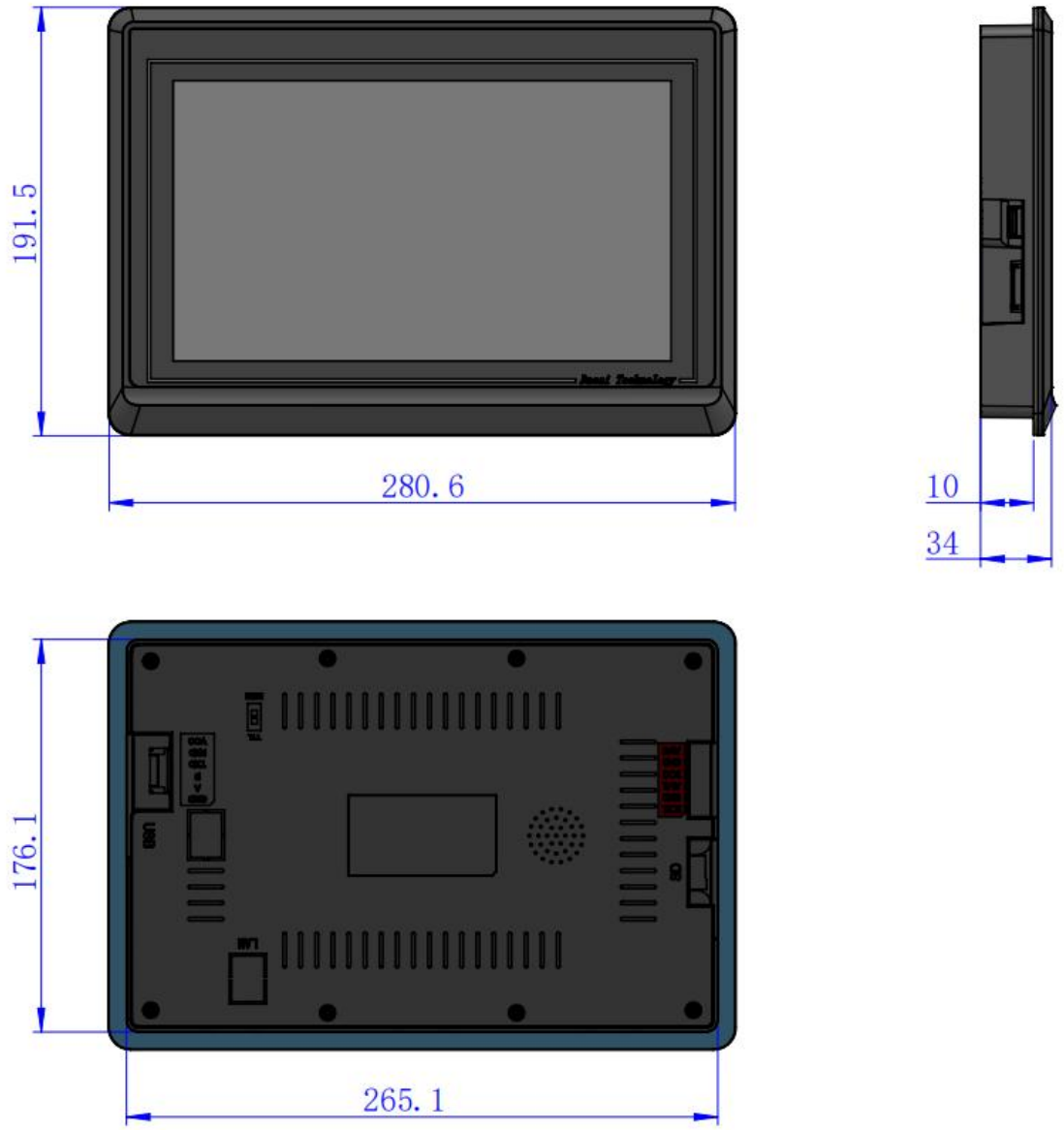
Chapter V Laser Cleaning System

5.1 Installation Dimension Drawing for Product

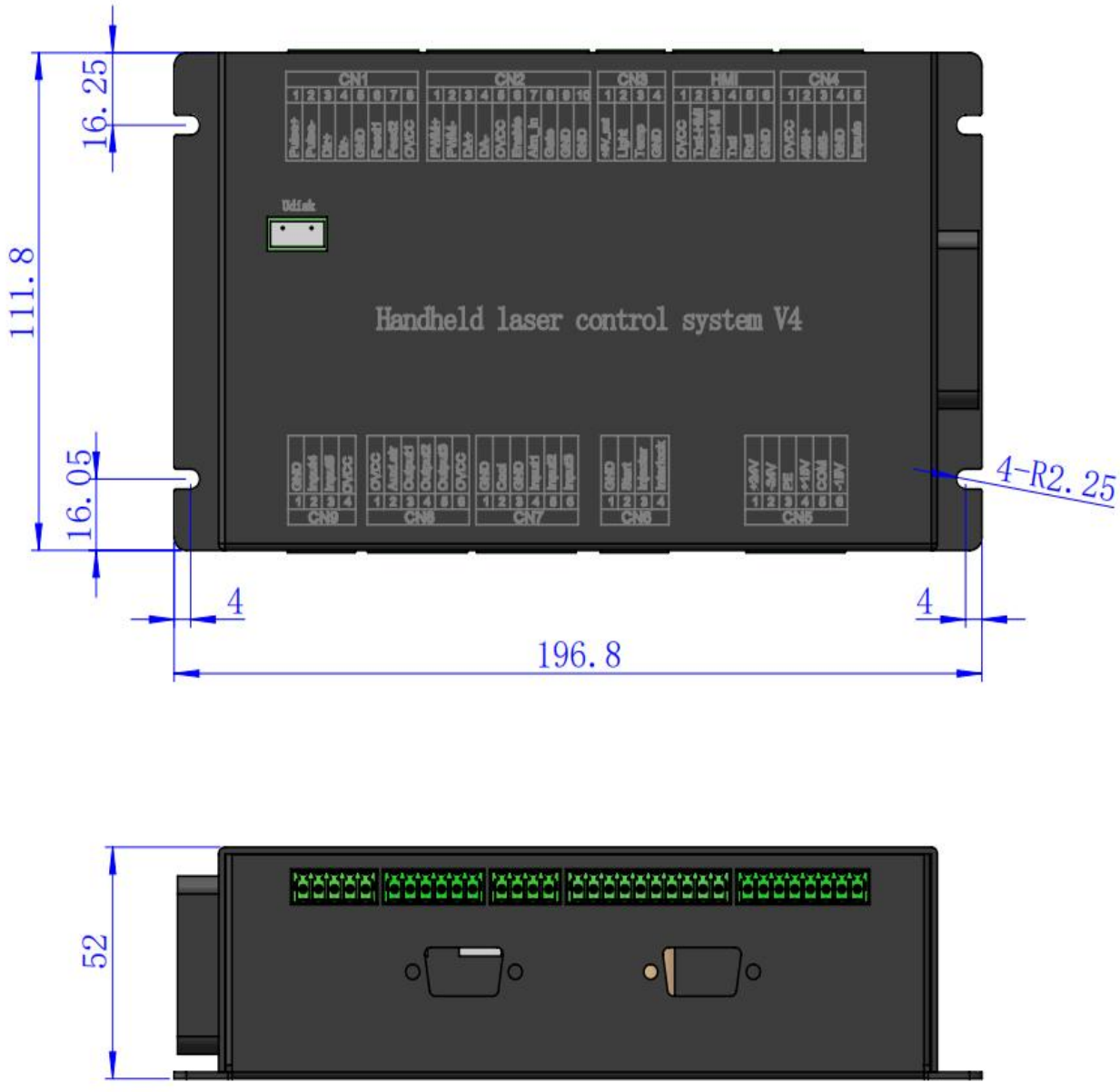
5.1.1 Installation dimension of touch screen

External dimension (280. 6*191. 5*34)mm

The installation dimension of the touch screen is shown in the following figure:

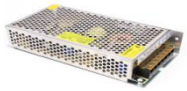


5.1.2 Installation dimension of mainboard



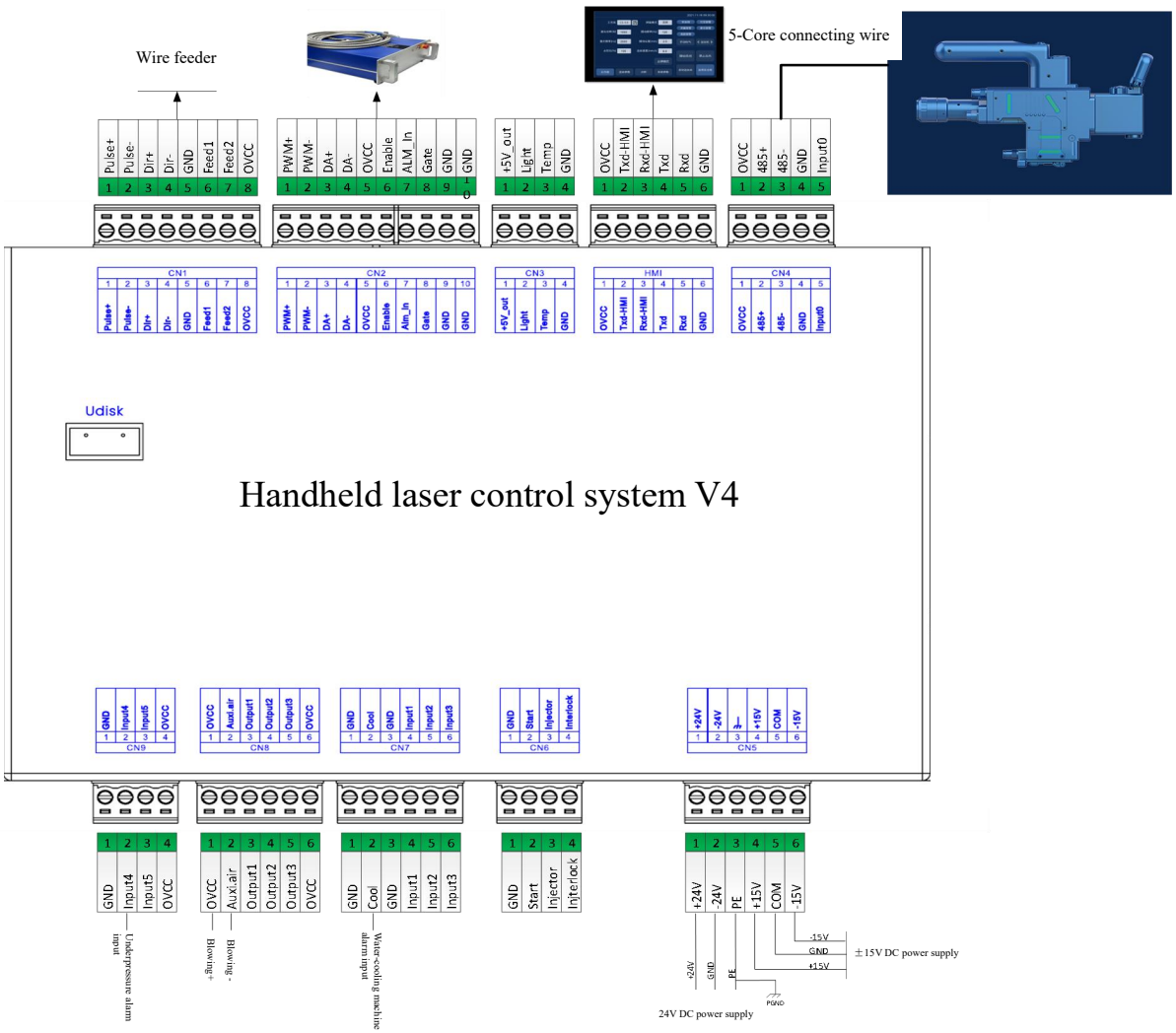
Chapter VI Electrical

6.1 Table for Electrical Materials

List				
S/N	Name	Graphical representation	Quantity	Remarks
1	Intelligent Handheld Cleaning Head		1PCS	
2	24V power pack		1PCS	
3	15V power pack		1PCS	
4	Motor wire		1PCS	
5	The signal line		1PCS	
6	Display screen 10.1 inches		1PCS	
7	Touch screen 6-core connecting line-1.5m-black		1PCS	
8	Handheld laser welding system V4		1PCS	

6.2 System wiring

The following figure is a schematic diagram for wiring of the whole system. Refer to the schematic diagram for system wiring. Refer to relevant chapters for detailed interface definition.



Note:

Don't connect the reserved pin in the mainboard.

6.3 CN5 power supply interface

The power supply interface falls into 6PIN green terminal, providing a power interface for mainboard and galvanometer externally, with voltage: DC 24V (DC 24V) and DC ±15V (DC ±15).

Table 6.3.1 shows the definition of power supply interface.

Table 6.3.1

Pin	Signal	Definition	Description
1	24V+	Power input	+24V external power input and power supply output current: above 3A
2	24V-	Power reference ground	—
3	PGND	External shielding ground	Generally connecting to ground or enclosure
4	+15V	Power input	+15V external power input, power output current 5A
5	GND	Power reference ground	—
6	-15V	Power input	-15V external power input, power output current 5A

6.4 CN1 wire feeder interface

The wire feeder interface CN1 is a 8PIN green terminal, supporting motor wire feed and IO wire feed. Table 6.4.1 shows the definition of wire feeder interface.

Table 6.4.1

Pin	Signal	Definition	Description
1	Pulse+	Motor wire feed pulse + interface	Used for motor wire feed and connection with driver PUL+
2	Pulse-	Motor wire feed pulse - interface	Used for motor wire feed and connection with driver PUL-
3	DIR+	Motor wire feed direction + interface	Used for motor wire feed and connection with driver Dir+

4	DIR-	Motor wire feed direction-interface	Used for motor wire feed and connection with driver Dir-
5	GND	Reference ground	—
6	Feed	Wire feed control interface	Used for automatic wire feed of IO control wire feeder
7	Backoff	Spinning control interface	Used for automatic wire feed of IO control wire feeder
8	OVCC	+24V power output	Power supply, maximum output: 500mA

6.5 CN2 laser interface

The laser interface is a 8PIN green terminal. Table 6.5.1 shows the definition of laser interface.

Table 6.5.1

Pin	Signal	Definition	Description
1	PWM+	Modulating signal+	Duty ratio: 1%-99% (adjustable), 24V level
2	PWM-	Modulating signal-	Duty ratio: 1%-99% (adjustable), 24V level
3	DA	Analog voltage output	0-10V analog voltage, used for laser peak power adjustment
4	GND	Power reference ground	Generally connecting to DA- and Enable-end
5	OVCC	+24V power output	Power supply, maximum output: 500mA
6	Enable	Laser enabling signal	24V level and high level: effective
7	Alarm	Laser failure alarm input	—
8	GATE	Red light index signal	The signal is needed by part of lasers. The function is reserved for use when leaving the factory

6.6 CN3 temperature sensor interface

The temperature sensor interface CN3 is a 4PIN green terminal. Table 6.6.1 shows the definition of temperature sensor. The user directly inserts the supporting connection line with terminal.

Table 6.6.1

Pin	Signal	Definition	Description
1	+5V_out	Sensor P port	+5V Power supply, maximum output: 5mA
2	Light	Sensor L port	—
3	Temp	Sensor T port	—
4	GND	Sensor G port	—

6.7 HMI touch screen interface

The HMI interface is a 4PIN green terminal and power supply to and communication with HMI by the mainboard are performed via the port. Table 6.7.1 shows the definition of HMI interface.

Table 6.7.1

Pin	Signal	Definition	Description
1	OVCC	+24V Power Output, 500mA	Panel Power Supply
2	TXD_HMI	Connect to HMI's Receiving End	RS232 Serial Communication TXD Signal
3	RXD_HMI	Connect to HMI's Sending End	RS232 Serial Communication RXD Signal
4	TXD	Reserved Communication Interface	RS232 Reserved Communication Interface
5	RXD	Reserved Communication Interface	RS232 Reserved Communication Interface
6	GND	Power Reference Ground	—

6.8 CN4 reserved serial interface

The reserved serial port CN4 interface falls into 4PIN green terminal, with no connection reserved. Table 6.8.1 shows the definition of CN4 interface.

Table 6.8.1

Pin	Signal	Definition	Description
1	OVCC	+24V Power Output, 500mA	Power Supply Port
2	485+	485 Communication Signal Positive Terminal	—
3	485-	485 Communication Signal Negative Terminal	—
4	GND	Power Reference Ground	—
5	Input0	Start Switch Input	—

6.9 CN6 external start and safety lock interface

The CN6 interface is a 4PIN green terminal. Table 6.9.1 shows the definition of CN6 interface.

Table 6.9.1

Pin	Signal	Definition	Description
1	GND	Reference Ground	Signal Reference Ground for Pin 2 of CN6 Port
2	Start	Reserved Input Interface	—
3	Injector	Input Signal Reference Ground	Signal Reference Ground for Pin 4 of CN6 Port
4	Interlock	Reserved Input Interface	—

6.10 CN7 common input interface 1

The CN7 interface is a 6PIN green terminal and of NPN type. Table 6.10.1 shows the definition of CN7 interface.

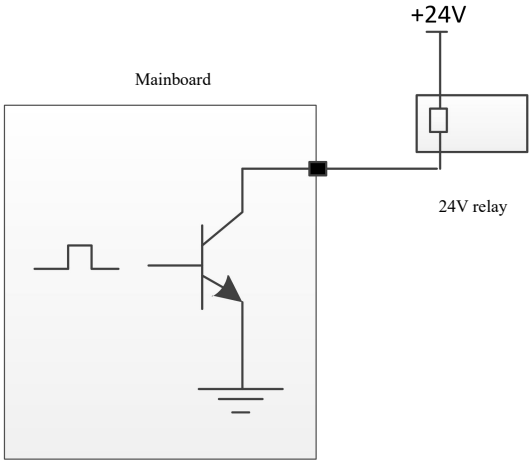
Table 6.10.1

Pin	Signal	Definition	Description
1	GND	Reference Ground	—
2	Cool	Water Chiller Alarm Input	NPN Type Input
3	GND	Reference Ground	—
4	Input1	Reserved	NPN Type Input
5	Input2	Reserved	NPN Type Input
6	Input3	Reserved	NPN Type Input

6.11 CN8 common output interface

The CN8 interface is a 6PIN green terminal. The OC output can be used to directly drive the relay and the maximum current can reach to 500mA.

Table 6.11.1-Schematic Diagram for Wiring is as follows:



Schematic Diagram for Output Port Relay Wiring

Table 6.11.1

Pin	Signal	Definition	Description
1	OVCC	+24V Power Output	Power Supply, Maximum Output 500mA
2	Auxi.air	Protective Gas	For controlling protective gas blowing, can directly drive solenoid valves
3	Output1	Reserved	OC Output, can drive relay
4	Output2	Reserved	OC Output, can drive relay
5	Output3	Reserved	OC Output, can drive relay
6	OVCC	+24V Power Output	Power Supply, Maximum Output 500mA

6.12 CN9 common input interface 2

The CN9 interface is a 4PIN green terminal. Table 6.12.1 shows the definition of CN9 interface.

Table 6.12.1

Pin	Signal	Definition	Description
1	GND	Reference ground	—
2	Input4	Underpressure alarm input	
3	Input5	Reservation	—
4	OVCC	+24V power output	Power supply, maximum output: 500mA

6.13 Galvanometer interface

The system provides two DB9 galvanometer interfaces, one DB9 male and one DB9 female.

Chapter VII Introduction to Nozzle Alarm Light

7.1 Introduction to Nozzle Alarm Light Function

When the alarm signal is enabled, it provides real-time display of lens temperature alarm, protective gas under-voltage alarm, cold water flow alarm, laser alarm, and galvo status.

Protection Mirror Alarm Light:

When the lens temperature exceeds the alarm trigger value, the alarm light turns red; when the alarm signal is not triggered, the corresponding alarm status is green.

Focusing Mirror Alarm Light:

When the lens temperature exceeds the alarm trigger value, the alarm light turns red; when the alarm signal is not triggered, the corresponding alarm status is green.

Reflective Mirror Alarm Light:

When the lens temperature exceeds the alarm trigger value, the alarm light turns red; when the alarm signal is not triggered, the corresponding alarm status is green.

Collimation Mirror Alarm Light:

When the lens temperature exceeds the alarm trigger value, the alarm light turns red; when the alarm signal is not triggered, the corresponding alarm status is green.

External Alarm Light:

When external devices, such as the laser water chiller, experience under-voltage faults and stop working, the alarm light turns red; when the alarm signal is not triggered, the corresponding alarm status is green.

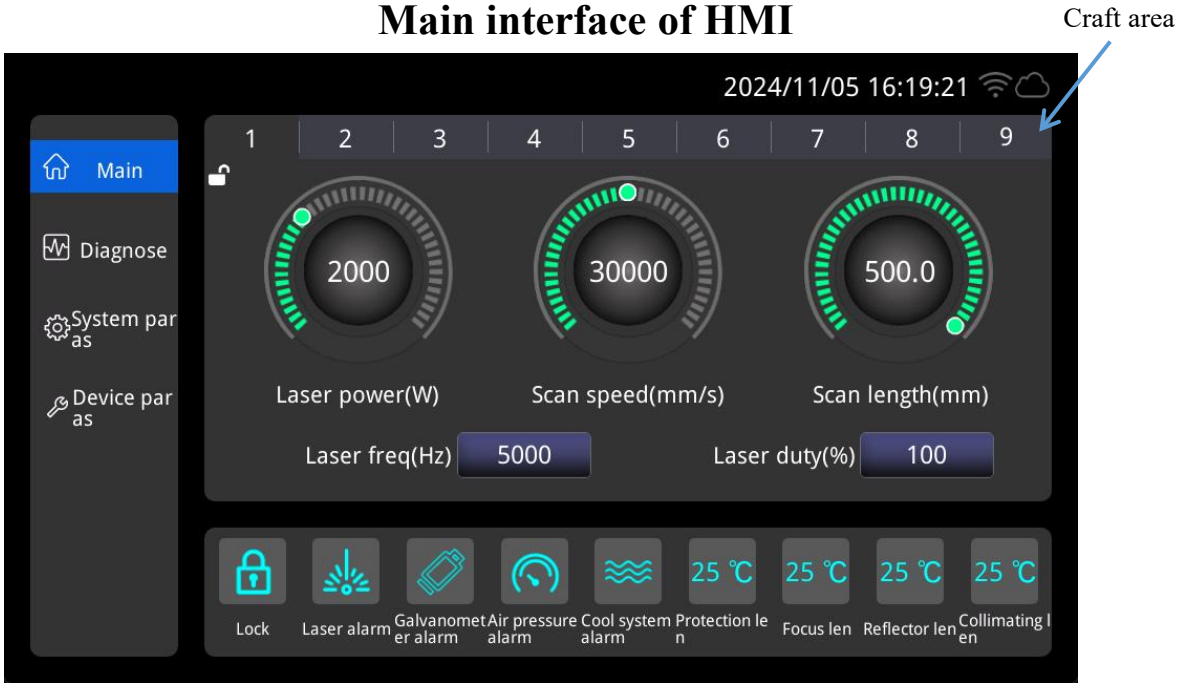
Chapter VIII Introduction To HMI Operation

8.1 Introduction to HMI function

As for the handheld laser welding system operation panel (hereinafter referred to as "HMI"), the 10cun configuration TFT touch screen is used, with beautiful interface and convenient operation. The laser-related parameters can be set, respectively and the real-time display of input/output IO state, alarm information and running state can be realized on the main interface.

Refer to the following figure for the HMI main interface.

Main interface of HMI



Main Interface: Entry to the system main interface.

Diagnosis: Entry to view equipment status.

System Settings: Entry to system parameter settings.

Advanced Parameters: Entry to advanced parameters, requires password for access.

Craft area: Entry to the equipment process library, used to save and call commonly used process parameters.

[Process Parameter Area]:

Laser Power: Set the peak power of the laser during cleaning.

Swing Speed: Set the frequency of the motor swing.

Swing Width: Set the width of the motor swing.

Laser Frequency: Set the frequency of the laser PWM modulation signal.

Duty Cycle: Set the duty cycle of the laser PWM modulation signal, range from 1% to 100%.

Manual Blowing: Used for blowing test.

[Status Area]:

Safety Lock: Displays the status of the safety lock.

Laser: Displays the alarm status of the laser.

Galvo: Displays the alarm status of the galvo.

Air Pressure: Displays the air pressure detection alarm status.

Water Chiller: Displays the alarm status of the water chiller.

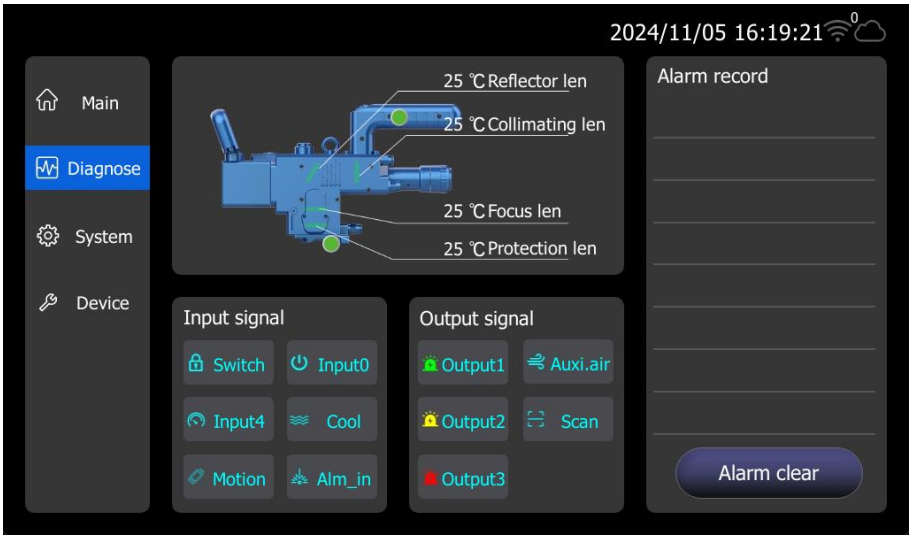
Protection Mirror: Displays the temperature and alarm status of the nozzle protection mirror.

Focusing Mirror: Displays the temperature and alarm status of the nozzle focusing mirror.

Reflective Mirror: Displays the temperature and alarm status of the nozzle reflective mirror.

Collimation Mirror: Displays the temperature and alarm status of the nozzle collimation mirror.

8. 2 Diagnostic interface



Gun head status display: Displays the temperature of the protection mirror, focusing mirror, reflective mirror, and collimation mirror.

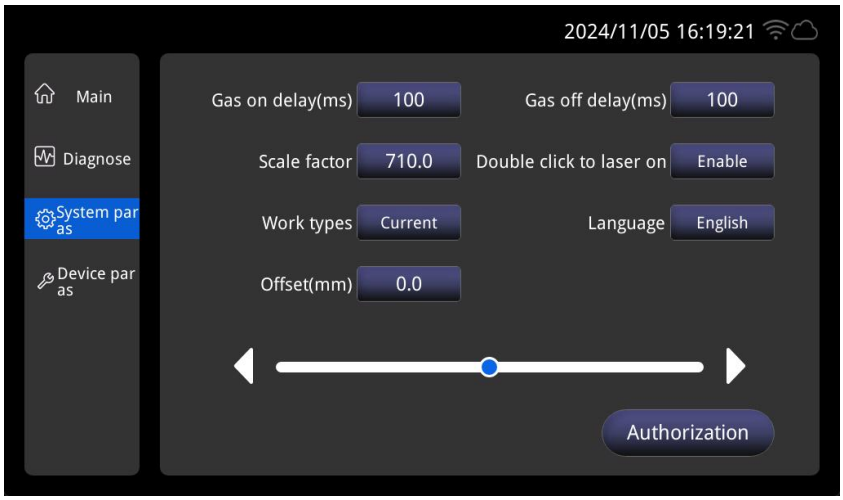
Input Signal: Displays the status of input ports.

Output Signal: Displays the status of output ports.

Alarm Records: Displays historical alarms generated..

Clear Alarm: Clears the current alarm status and clears alarm records.

8. 3 System parameter



Advance Air Opening Time: When starting processing, a delay for air opening can be set. When the external start button is pressed, air is blown for a delay period before starting the laser output.

Delay Air Closing Time: When stopping processing, a delay for air closing can be set. When processing stops, the laser output is stopped first, then air blowing is stopped after a delay.

Proportional Coefficient: Used to set the maximum range of the galvo, this parameter needs to match the actual range of the galvo; otherwise, the actual scanning length may be inaccurate.

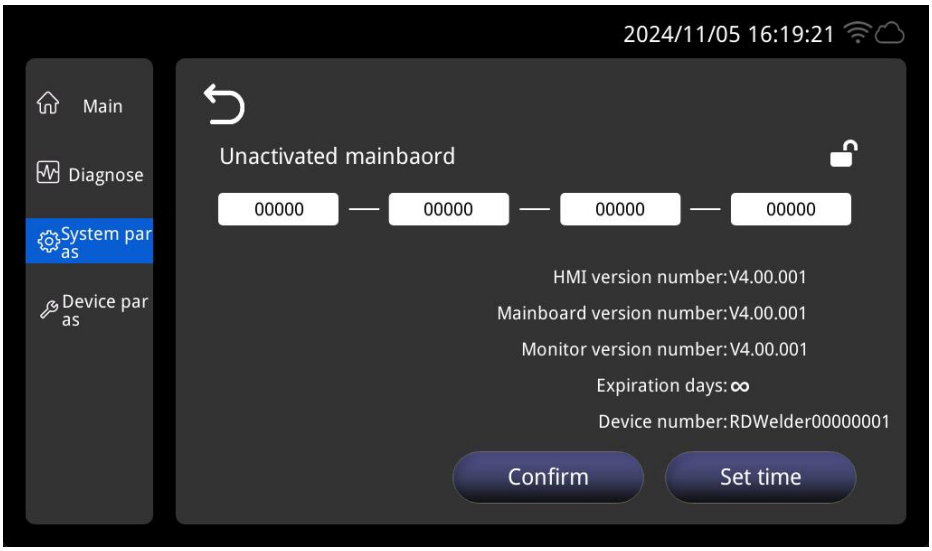
Working Type: Set the method for calling process parameters. Supports current mode and linkage mode.

Double-click Light Emission Enable: Set to allow light emission processing only after double-clicking the start switch.

Language: Select the language for the touch screen.

Axis Offset: Used for correcting the swing center offset.

8.4 Authorization interface



Serial Number: Used for phased encryption management.

Panel Version Number: Displays the program version of the HMI.

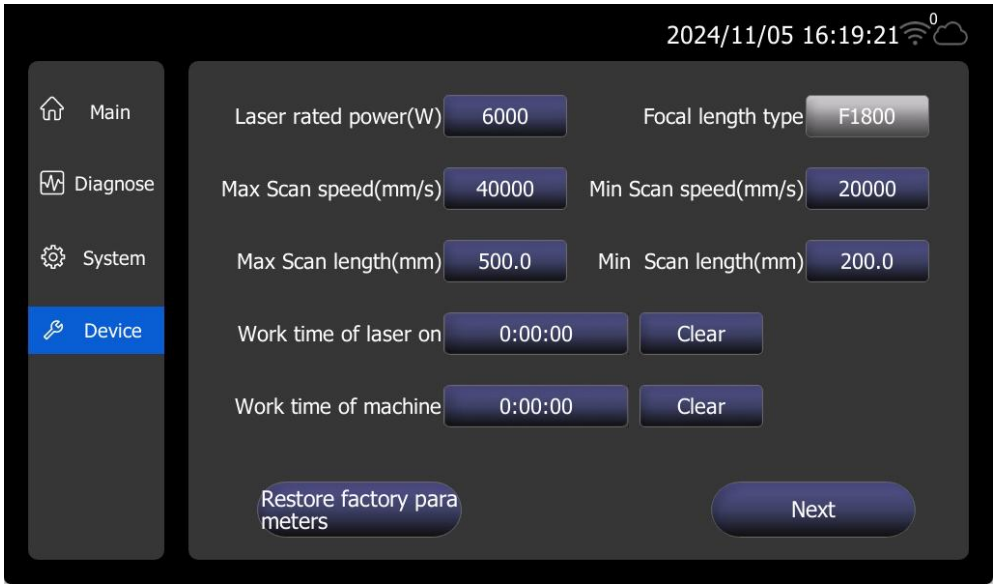
Mainboard Version Number: Displays the version number of the control board's mainboard..

Monitoring Version Number: Version number of the monitoring board on the cleaning nozzle.

Expiration Days: Remaining phased time.

Set time: Set the current version date and time.

8.5 Equipment parameter



Rated power of laser: Used for setting the rated power of the laser.

Focal length type: Used to switch between different focusing lens configurations.

Maximum Scanning Speed: Maximum speed of the galvo swing.

Minimum Scanning Speed: Minimum speed of the galvo swing.

Maximum Scanning Length: Maximum length of the galvo swing.

Minimum Scanning Length: Minimum length of the galvo swing.

Restore Factory Parameters: Restore factory parameters.

next page

Protection Mirror Alarm Enable: Whether to perform protection mirror temperature alarm detection.

Protection Mirror Temperature Alarm Value: Set the protection mirror temperature alarm trigger value, recommended to set at 50; when the lens temperature exceeds the set value, the protection mirror alarm light on the nozzle front turns red, and the diagnostic interface displays alarm information.

Focusing Mirror Alarm Enable: Whether to perform focusing mirror temperature alarm detection.

Focusing Mirror Temperature Alarm Value: Set the focusing mirror temperature alarm trigger value, recommended to set at 50; when the lens temperature exceeds the set value, the focusing mirror alarm light on the nozzle front turns red, and the diagnostic interface displays alarm information.

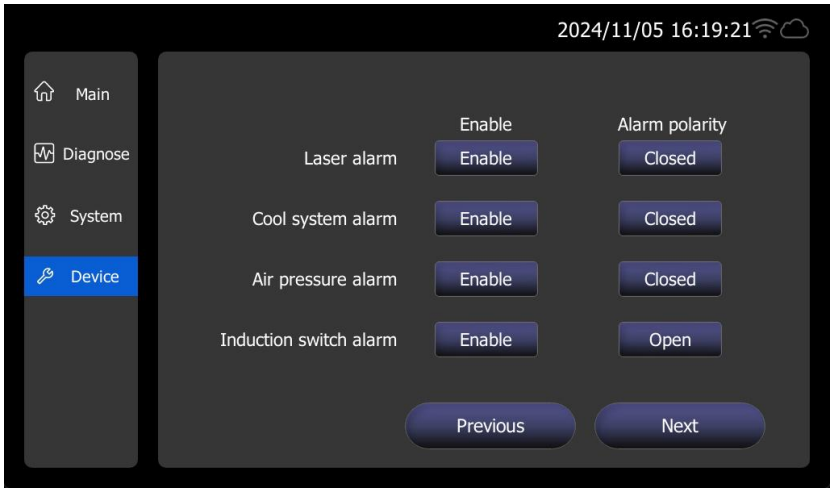
Reflective Mirror Alarm Enable: Whether to perform reflective mirror temperature alarm detection.

Reflective Mirror Temperature Alarm Value: Set the reflective mirror temperature alarm trigger value, recommended to set at 60; when the lens temperature exceeds the set value, the reflective mirror alarm light on the nozzle front turns red, and the diagnostic interface displays alarm information.

Collimation Mirror Alarm Enable: Whether to perform collimation mirror temperature alarm detection.

Collimation Mirror Temperature Alarm Value: Set the collimation mirror temperature alarm trigger value, recommended to set at 50; when the lens temperature exceeds the set value, the collimation mirror alarm light on the nozzle front turns red, and the diagnostic interface displays alarm information.

next page



Laser Alarm Enable: Whether to perform laser alarm detection.

Laser Alarm Polarity: Set the laser alarm normally open/closed logic.

Water Chiller Alarm Enable: Whether to perform water chiller alarm detection.

Water Chiller Alarm Polarity: Set the water chiller alarm normally open/closed logic.

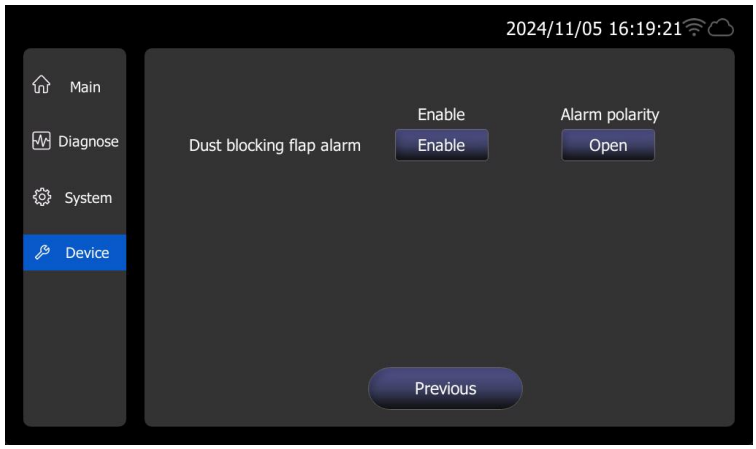
Under-voltage Alarm Enable: Whether to perform blowing air pressure alarm detection.

Under-voltage Alarm Polarity: Set the blowing air pressure alarm normally open/closed logic.

Sensing Switch Alarm Enable: Whether to perform sensing distance alarm detection.

Sensing Switch Alarm Polarity: Set the sensing switch alarm normally open/closed logic.

next page



Clamshell alarm enable: Whether to detect clamshell not open alarm.

Clamshell alarm polarity: Set clamshell alarm normally open/normally closed logic.

Chapter IX Introduction to APP

9.1 Function Introduction

The RDWelder mobile APP is an application suitable for remote control of handheld welding products, supporting various types of applications such as single swing welding, double swing welding, single swing cleaning, and double swing cleaning. Users can connect to the control card through this APP to achieve wireless connection control, effectively solving the problem of frequent back and forth due to the distance between the processing station and the equipment. It allows for remote viewing of equipment status and parameter adjustments, facilitating equipment management and maintenance. The APP also contains a wealth of resources in the technical center for customers to refer to for equipment installation and maintenance, process documentation, fault troubleshooting, and application case references.

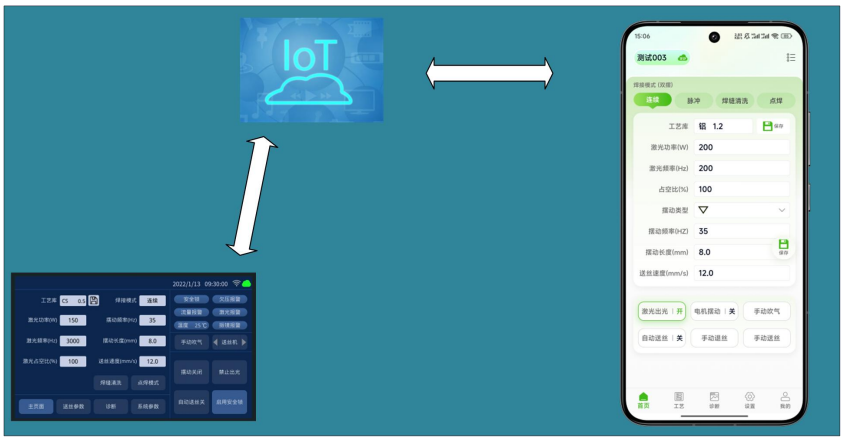
9.2 Device Connection

9.2.1 Connection Mode

The handheld APP and control card support two connection modes: AP mode and STA mode.

- **AP Mode:** The APP connects directly to the control card. The control card emits a WIFI hotspot signal, and customers can connect to the WIFI hotspot signal emitted by the control card using mobile devices such as smartphones. Once connected, the APP can be used to control the control card. Both the touch screen and the APP use a WIFI icon for status display.

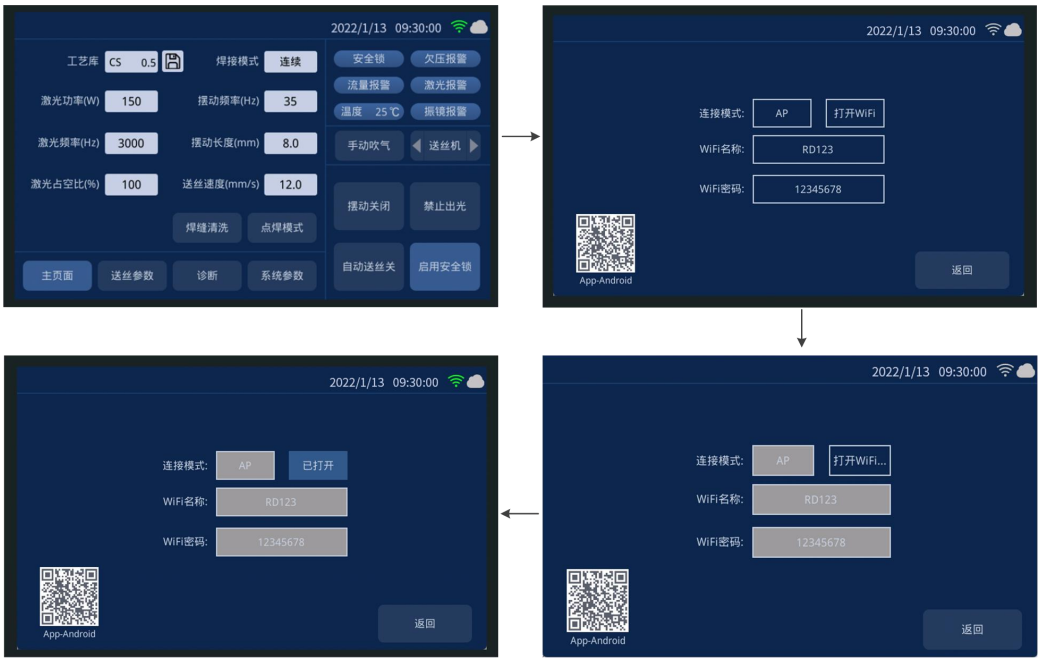
STA Mode: The APP connects to the control card via the Internet cloud. After setting the control card to STA mode, it needs to connect to the WIFI network. It accesses the server to obtain device status and perform operational control through data traffic. Both the touch screen and the APP use an IoT cloud icon for status display.



9. 2. 2 AP Mode Connection

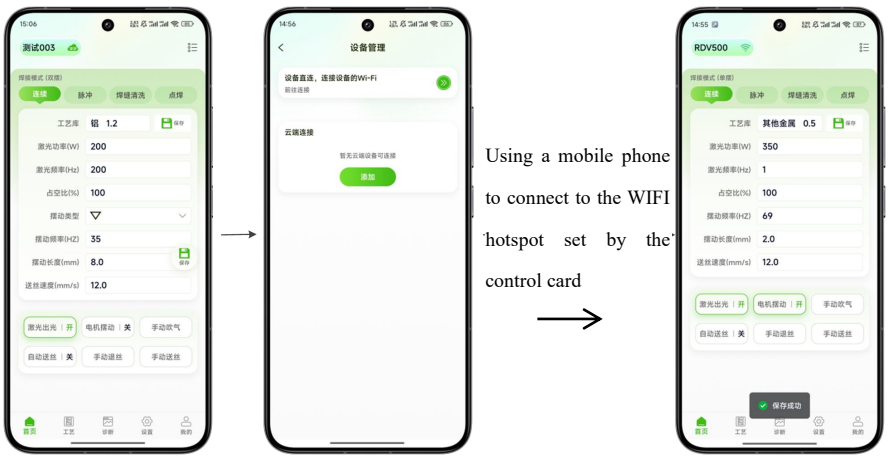
Board setting:

- Click the upper right corner of the touch screen to enter the WIFI configuration page for WIFI hotspot configuration.
- Set the connection mode to AP, and configure the WIFI hotspot name and password. If the WIFI is already on, click the <On> button to turn off the WIFI first; the WIFI icon will turn off, entering the WIFI configurable state.
- After configuration, click the <Turn On WIFI> button, and the system will reopen the WIFI.
- Once the WIFI hotspot configuration is complete, the WIFI configuration mode will close, and the WIFI icon will light up, allowing the mobile APP to connect to the control card's WIFI.



APP Settings:

- Click the icon on the mobile phone to launch the APP.
- The device connection status in the upper left corner of the motor enters the <Device Management> page.
- Select device direct connection, enter the mobile settings page to configure WIFI connection, and connect to the WIFI hotspot of the control card.
- After completing the connection, enter the APP to view that the mobile APP has successfully connected to the device.



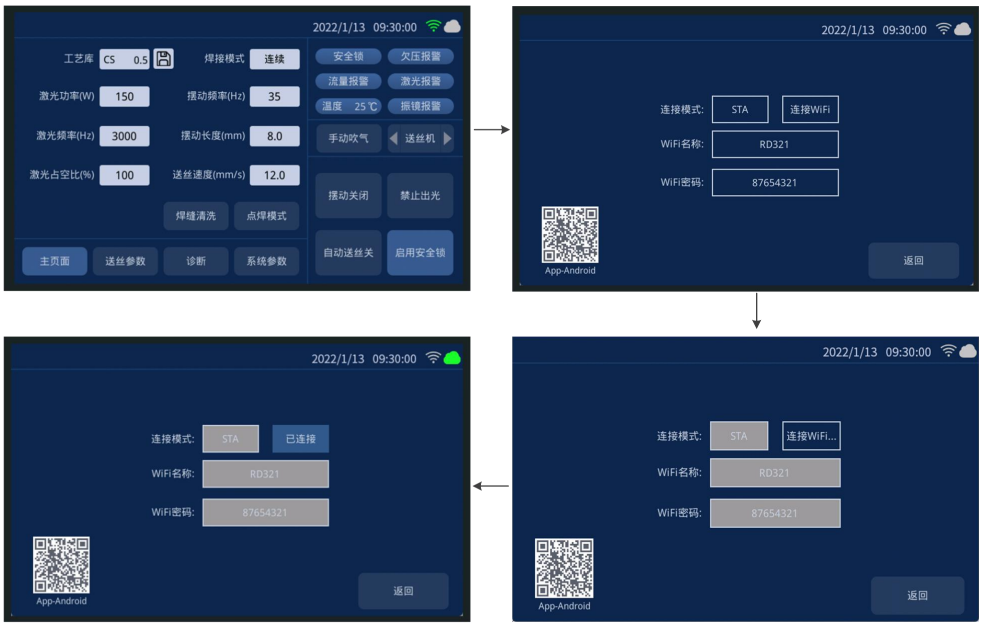
9. 2. 3 STA mode connection

Control Card Settings:

- Click the upper right corner of the touchscreen to configure the WIFI hotspot and enter the WIFI configuration page.

- Set the connection mode to STA and connect to the external WIFI. If the WIFI is already on, click the <On> button to turn off the WIFI first; the WIFI icon will turn off, entering the WIFI configurable state.
- After configuration is complete, click the <Open WIFI> button, and the system will connect to the external WIFI.

Once the WIFI connection is established, the WIFI configuration mode will close, the remote icon will light up, and the device will be in an online state.



APP Settings:

- Click the icon on the mobile phone to launch the APP.
- The device connection status in the upper left corner of the motor enters the <Device Management> page.
- In the device management page, you can view the added cloud devices. A highlighted cloud icon indicates that the device is online, while a gray-white state indicates offline.

After selecting an online device, click connect to complete the device connection.

Note: STA mode requires users to register an account and then add the device serial number to their personal account for remote management.

9.3 APP download method

https://mantisolo.com/versionQrCode.html?qrform=6a7a13d4f48d72e6e02b0b9af8e3bc13&company_code=003&platform=APP

9.4 APP Functions

Welding mode

Cleaning mode

The RDWelder mobile APP supports single swing welding, single swing cleaning, double swing welding, and double swing cleaning. After connecting to the control board, the APP will automatically adapt to the current processing mode of the control card.

Welding Mode:

[Home]: Supports process parameters, processing status, gas blowing debugging, and wire feeding control management. The upper right corner is the <Technical Center> entrance.

[Process]: Welding process library, users can manage process parameters.

[Diagnosis]: Manage device status, support alarm record inquiries, and perform central correction.

[Settings]: Parameter settings page for managing general settings parameters. You can enter authorization management and perform advanced parameter management after entering the password.

[My]: Personal user page for managing personal information.

Cleaning Mode:

[Home]: Supports process parameters, processing status, and gas blowing debugging management. The upper right corner is the <Technical Center> entrance.

[Diagnosis]: Manage device status, support alarm record inquiries, and perform central correction.

[Settings]: Parameter settings page for managing general settings parameters. You can enter authorization management and perform advanced parameter management after entering the password.

[My]: Personal user page for managing personal information.

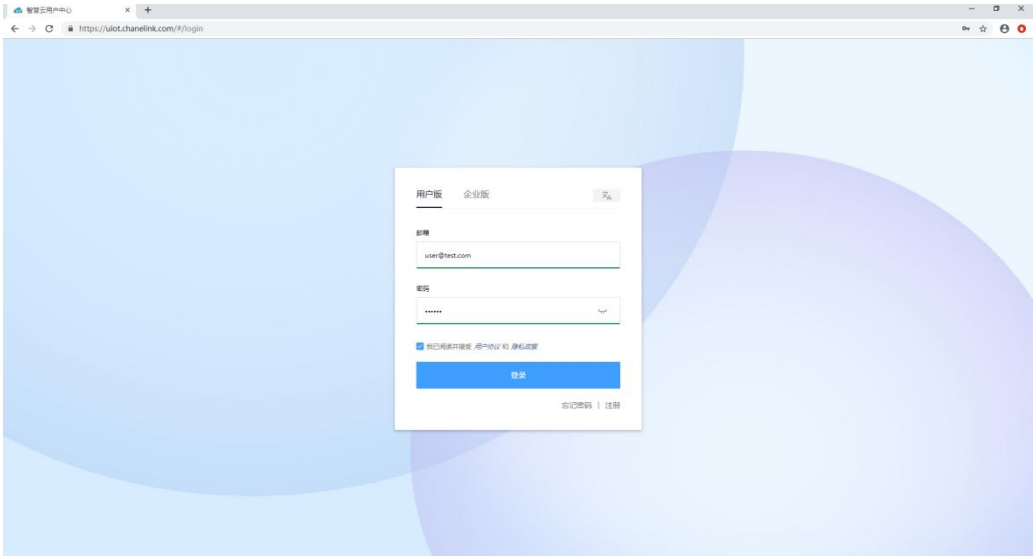
Chapter X Introduction to the Wisdom Cloud

10. 1 Function Introduction

The smart cloud system enables device internet access. Users can view the device status and perform remote management on the web page.

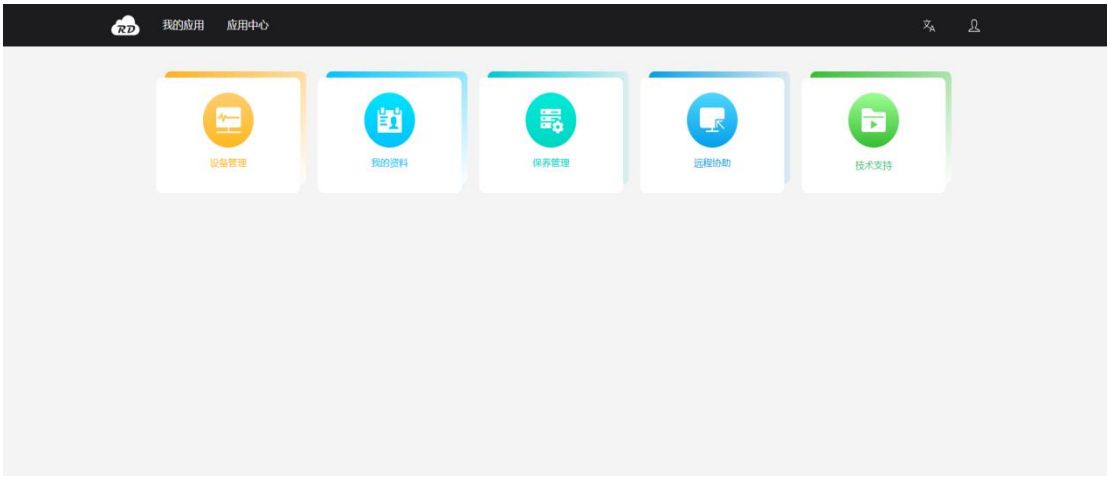
10.2 Smart Cloud Login

After accessing the address：https://fiot.chanelink.com/, the page client will be displayed.



10. 3 User Center

After successful login, the user will be redirected to the user center homepage. As shown in the figure below, users can view the added application functions, such as device management, my information, remote assistance, and technical support.

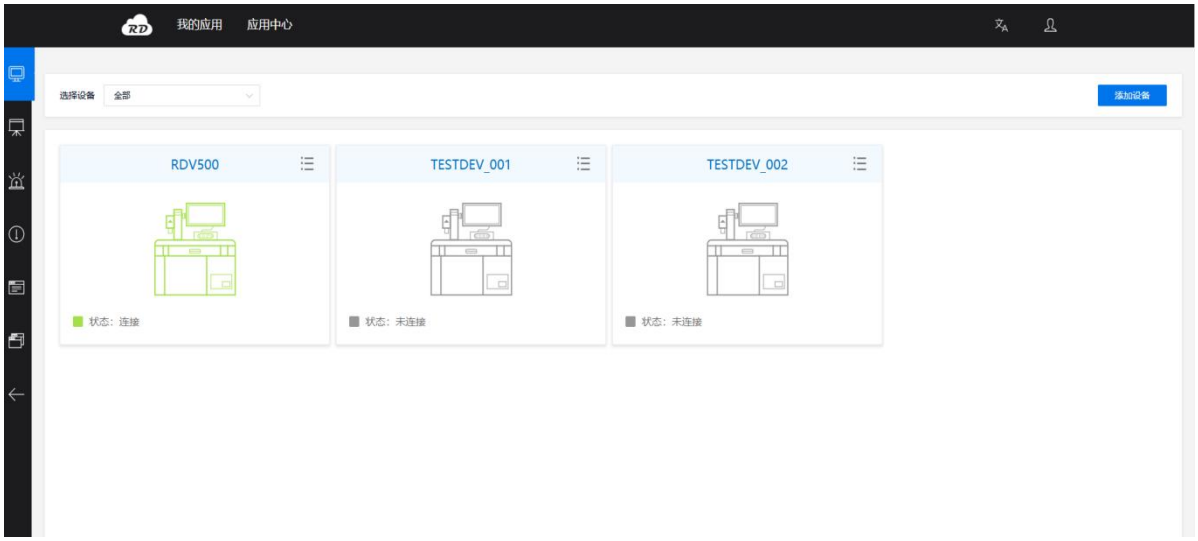


- My Applications: As shown in the figure above, the user can manage the added applications.
- Application Center: Allows the addition of applications.
- Personal Information: Clicking this button redirects to My Information, where personal information can be modified.

Log Out: Clicking this button logs out to the login page.

10. 4 Device Management

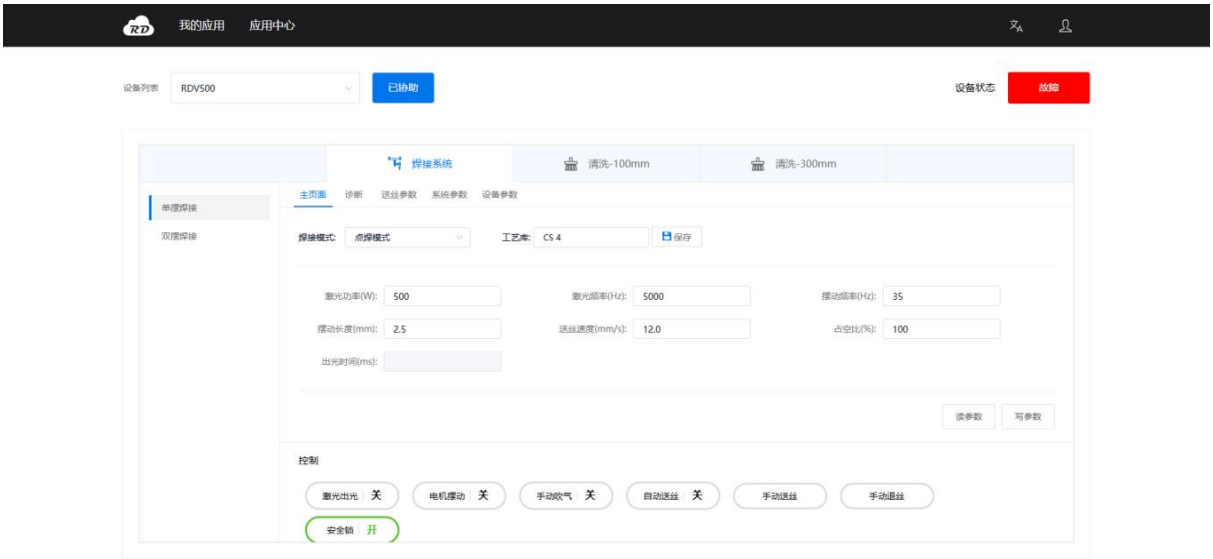
Clicking <Device Management> in <My Applications> redirects to the <Device Management> page, as shown in the figure below.



- The left side is the menu bar, with the device monitoring page open by default.
- The device nickname entered when adding the device.
- The connection status of the device, showing whether the device is online.
- Device operation list (expands when the mouse hovers over it).
- The device operation list has edit, detail, and unbind functions; the device can be edited, unbound, and its details viewed.
- Add Device button: Allows adding devices to the personal account.

10. 5 Remote Assistance

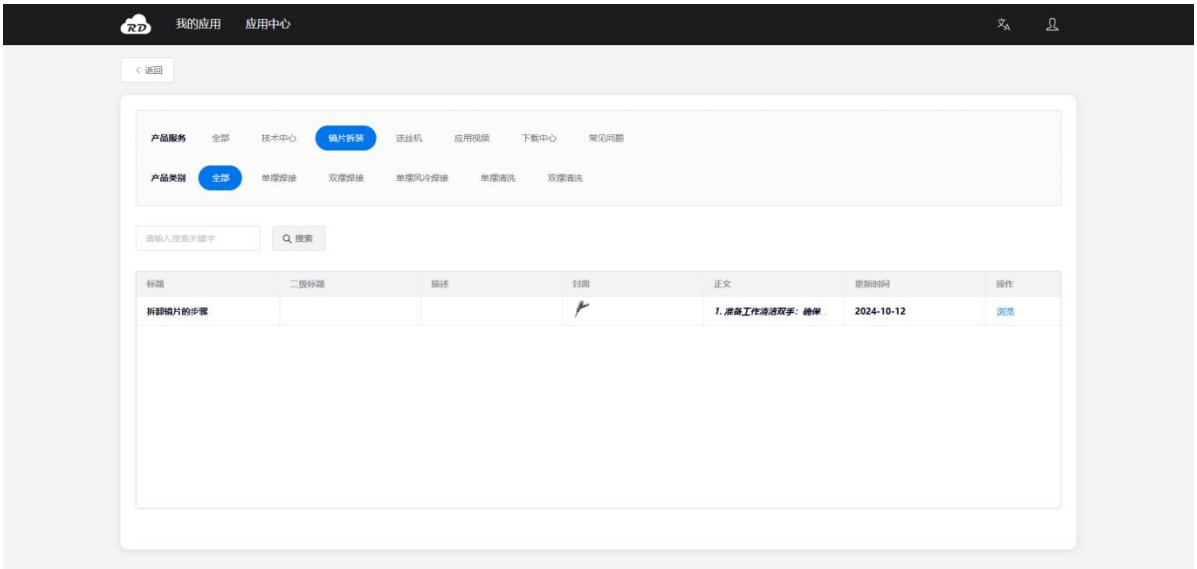
Clicking <Remote Assistance> in <My Applications> redirects to the remote assistance page, as shown in the figure below.



The device list shows the devices added to the personal account. After confirming the device requiring remote assistance, a remote connection can be established to view the device status and manage parameters.

10. 6 Tech Center

Clicking <Technical Support> in <My Applications> redirects to the technical support page, as shown in the figure below.



On the technical center page, various product materials can be queried, including downloading manuals from the download center and viewing application videos.

Shenzhen RelFar Intelligent Technology Co., Ltd.

Thank you for using the intelligent technology product of Shenzhen RelFar!

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