Operation descrip

7 [illegible]wn Time....16
8 Gas on Delay....17
9 Gas off Delay....17
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1

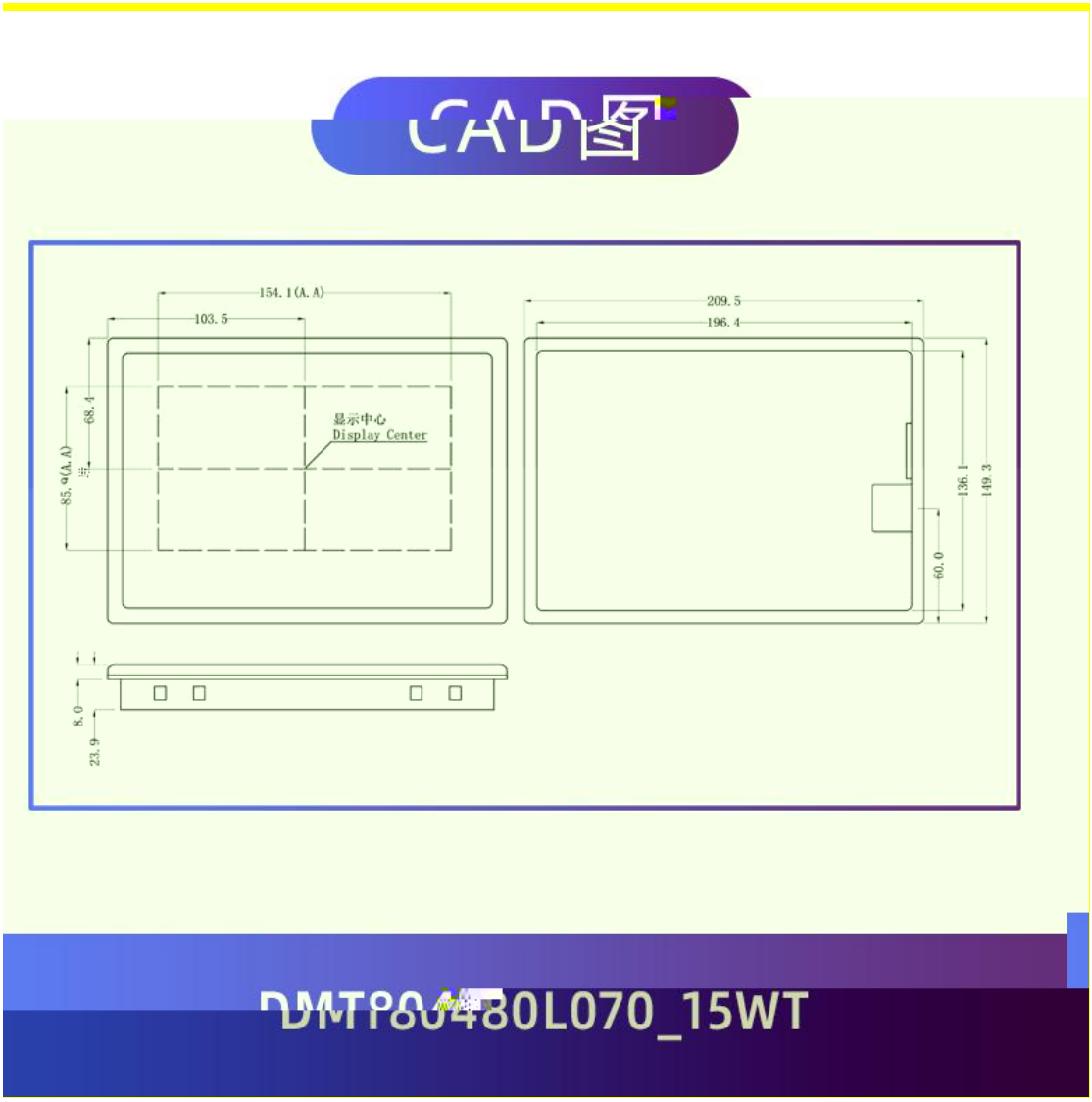
Screen console operation

Screen size

Screen display size W 154.1mm H 85.9mm(7 inch)

Dimension 209.5mm x 149.3mm x 23.9mm

Screen resolution 800x480

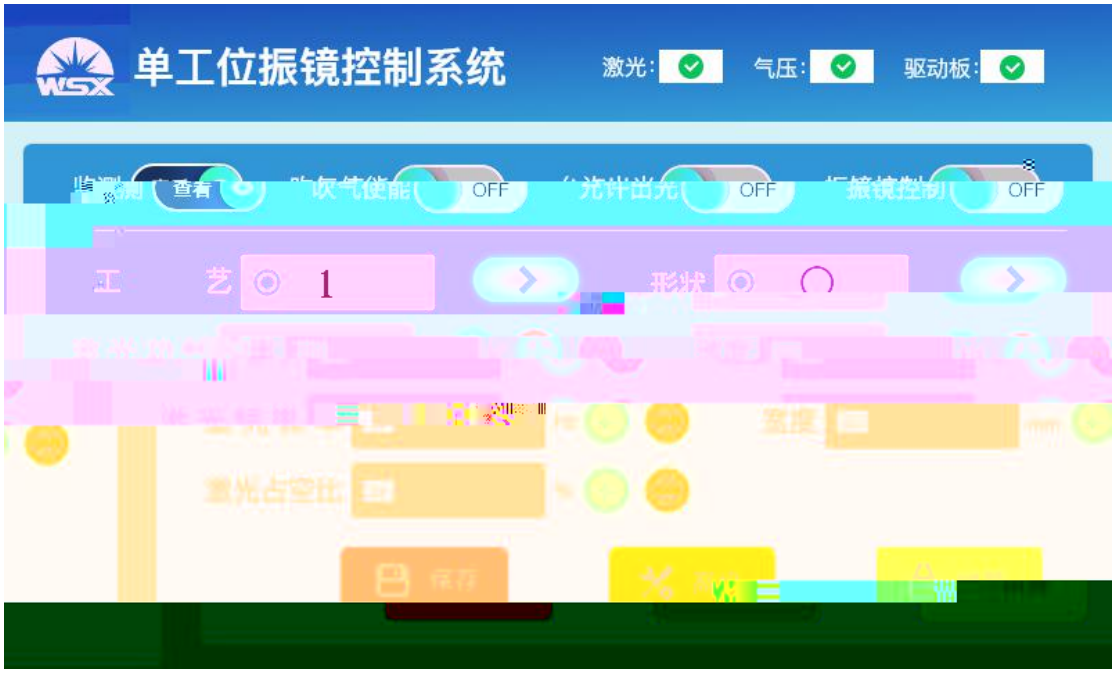


Note

Note

One. <Main menu>

Note Device enters this page by default



1 Galvanometer control

Turn on/off galvanometer output

Note:

connected to AGND).

Galvanometer off: Galvanometer control and external “galvanometer switch” must be off to take effect.

Touch Action: On / Off

2 Laser output

Laser output on / off

Note:

1 This function will take effective in conjunction with the "welding switch" of the control box input port to prevent the screen from being accidentally touched by the operator and sending laser output.

2 It is recommended that the laser output function on the screen remain on, and the laser output is controlled by the control box input port "welding switch" . Use NPN connection to connect control box input port “welding switch” on external console, short connect the port “galvanometer switch” signal to AGND (same signal ground with console), then the laser output is turned on, otherwise the laser output is turned off.

Laser output:

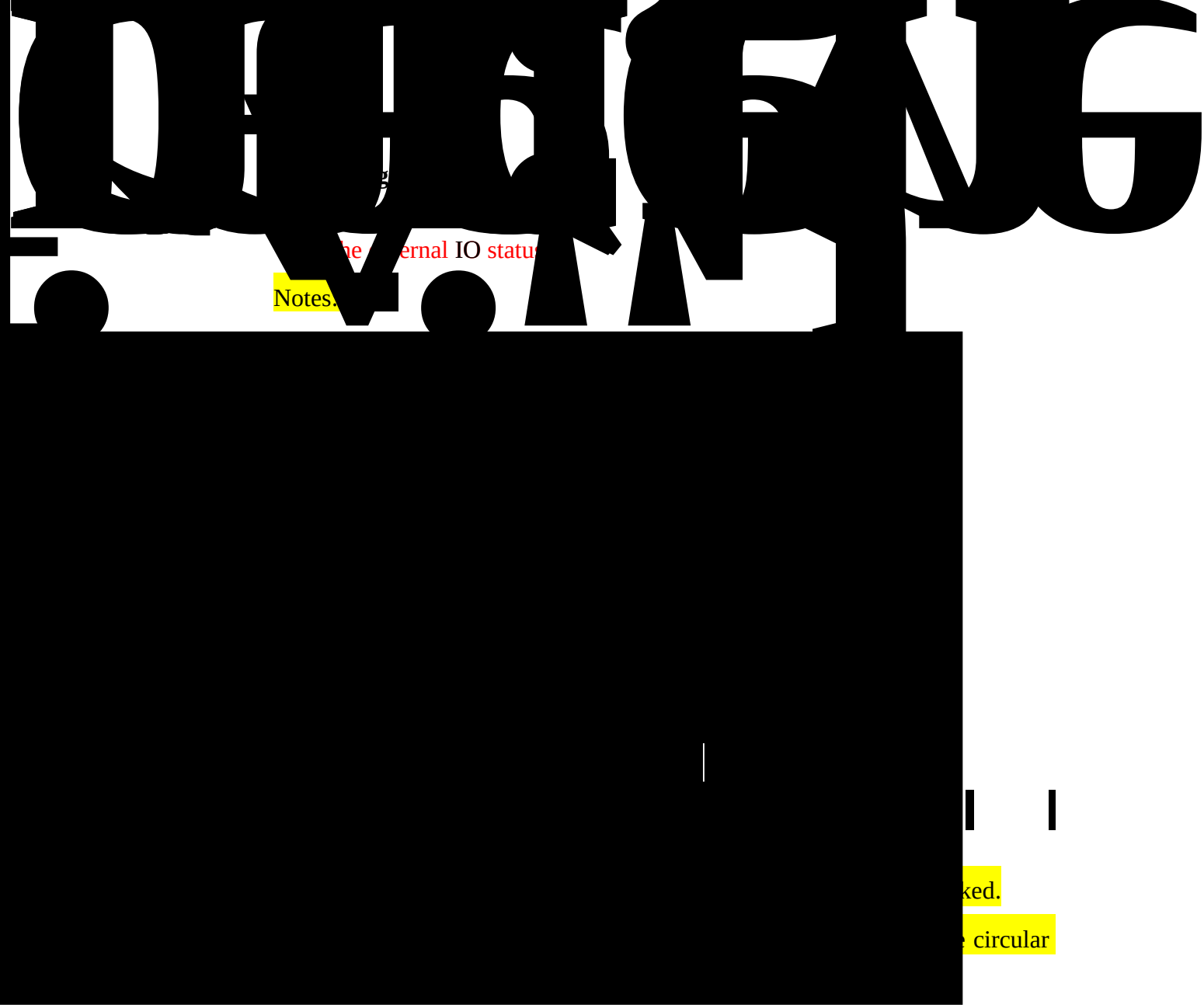
1 Turn on “laser output” on the screen.

2 Use NPN connection to connect control box input port “welding switch” on external console, short connect the port “galvanometer switch” signal to AGND (same signal ground with console).

3 Note the turn on sequence: First 1 after 2; If first 2 after 1, the device has no laser output. Control box input port Welding Switch must be turned off and turned on again for laser output. (This setting is considering laser output safety).

4 Laser off: turn off “laser output” on the screen or control box input port Welding switch disconnected from the AGND.

Touch Action: On / Off



he ernal IO statu

Notes:

ked.

circular

Unlocked status: Allow relevant touch operations on the screen

Locked status: the s5e x

prohibited!

Touching Action: page jump to [Process Selection] page

7 Laser power

Set the output value of the laser power

Note:

1 Minimum of laser power is 0v, maximum is 10v (adapted to laser power maximum in the advanced settings page), unit precision 0.1v

Touching Action: pop up the keyboard, the user performs custom data input

8 Laser frequency

Set the output value of the laser frequency

Note:

1 Laser frequency Minimum 0Hz, Max 10000Hz (10kHz)

Touching Action: pop up the keyboard, the user performs custom data input

9 Laser duty cycle

Set the output value for the laser duty cycle

Note:

1 Laser duty cycle Minimum 0, Max 100

Touching Action: pop up the keyboard, the user performs custom data input

10 Mode switching

Set up the current process mode

Note:

1 There are totally 15 process modes (Factory default is consistent, the user can customize), Number: 0 ~ 14

Touching Action: pop up the keyboard, the user performs custom data input

1 Save successf will hav pop-up prompt. If i p window indicates an abnormal communication between the screen and the control board, maintenance is required!

Touching Action: prompt saved successfully

12 Advanced

Into Advanced Settings page

Note:

1 Default password 666666

2 When galvanometer control or output is on, the password verification successfully does not allow page jumping and pop up prompt: laser / galvanometer is running, page jumping is prohibited!

Touching action: popup the password keyboar pa keyb

[illegible] ...um[illegible]r [illegible] na[illegible] [illegible].0mm [illegible] used [illegible] the sha[illegible]

[illegible] ...cision [illegible] If [illegible] shape is rectangular, [illegible] data becomes lo[illegible] and wide.

Touch[illegible]g Action: p[illegible]p the keyboard a[illegible] the user makes custom data input

15 Swing speed

Set the swing speed of galvanometer

Note:

1 Speed minimum 0Hz, Max default 250Hz(it is adapted to the galvanometer maximum speed in the advanced settings page), unit precision 1Hz

Touching Action: pop up the keyboard and the user makes custom data input

16 Process shape

Set the shape, rotation angle, and direction of the process

Note:

1 When galvanometer control is on or laser output is on, page jump is not allowed and pop up prompt: laser / galvanometer is running, jump is prohibited!

Touching Action: page jump to the [Process shape] page

17 Shape switch

Set the process shape

1 Switch sequence:

18 Alarm status

Display the device status in real time

Note:

1 There is no touching effect for alarm status. The equipment will not work with an alarm. For example, when turn on the laser or galvanometer and other operations, there will be a pop-up window prompt: equipment failure, please repair!

2 Trigger alarm: if any alarm input port on the control box is short to AGND, there is considered alarm input, the system will stop all output, and the alarm caused by the corresponding alarm port will be displayed on the screen.

19 Red dot mark

Prompt the data change is not been saved

Note:

1 When the data is modified, a red dot appears in the upper right corner of the data input box, indicating that the data has been changed and is not saved.

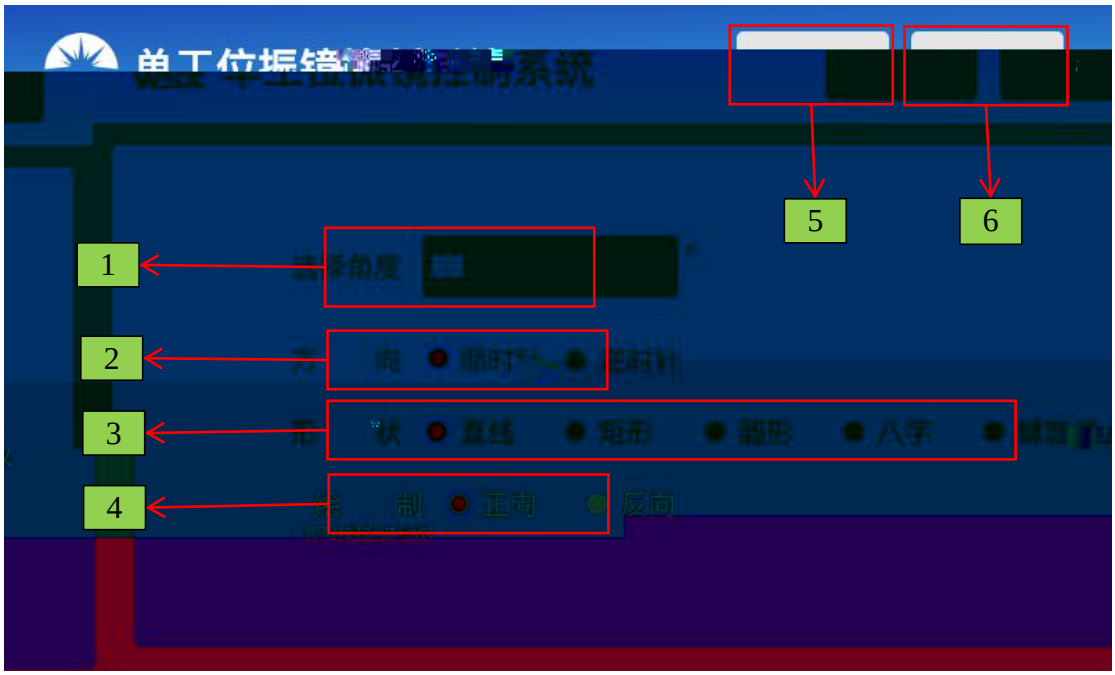
2 Click the Save button, the red dot will disappear and prompt the save success.

3 If user don't want to save the modified data and then want to clear the red dot, jump to any page, and restart the device

Touching Action: None

Two. <Process shape>

Description: At this page user can set the rotation angle, direction, and shape.



1 Angle of rotation

Set the rotation angle of the shape

Note:

1 Minimum rotation angle 0, maximum 180

Touching action: pop up the keyboard and the user makes custom data input

2 Direction

Set the drawing order for the shape

Note: None

Touching Action: direction switch

3 Shape

Set the shape

Note: None

Touching Action: shape switch

4 Drawing direction

Set the drawing direction of the spiral

Note: None

Touching Action: Forward-Draw from inside to outside

Reverse-Draw from outside to inside

5 Save

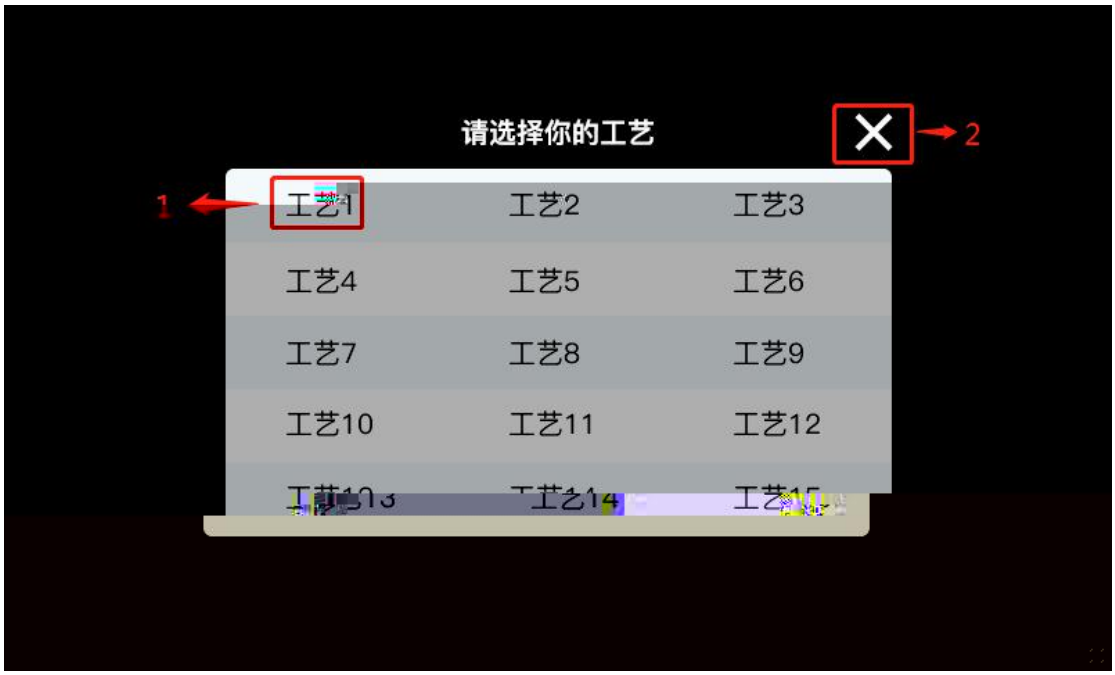
Save the currently modified data

Note:

1 Save successfully will have a pop-up prompt. If no pop-up window

Three. <Process mode>

Description: At this page user can select the process mode



1 Process mode

Switch over the process mode 0 1 2 3.... 14

Note:None

Touching Action: Select the current process mode and jump to the homepage

2 Close

Return to the previous menu

1 Note:None

Touching action: page jump to the [Main Menu] page

Four. <Advanced Setting>

Description - Functions

1 Maximum galvanometer speed (default 250hz, Only downward settings are allowed)

2 Maximum shape diameter (default 5mm, Only downward settings are allowed)

3 Maximum laser output power (default 10v, Only downward settings are allowed)

4 Target & actual marking

5 Rise & down time

6 Laser delay & gas delay

7 Spirical spacing

8 Reset

9 Correction of the settings

10 Language selection



1 Maximum Speed

Set the speed threshold for the galvanometer

Note:

1 When setting the speed, only downward setting is allowed, not allowing up setting. That is, the value set will not be greater than 250Hz

Touching action: pop up the keyboard and the user makes custom data input

2 Maximum Diameter

Set the size threshold for the shape

Note:

1 When setting the diameter, only downward setting is allowed, not allowing up setting. That is, the value set will not be greater than 5mm

Touching action: pop up the keyboard and makes custom data input

The actual marking accuracy is 0.001mm, [illegible] the user [illegible] not have [illegible] measuring tools, can also input after [illegible] measurements [illegible] current drawing

2 This function fits for both high accuracy requirements and ordinary accuracy requirements

Touching action: pop up the keyboard and the user makes custom data input

6 Rise Time

Set the laser power output rise time.

Note:

Parameter va[illegible]ange 0 ~ 10000m

2 When the pa[illegible]eter is 0, the cu[illegible] laser va[illegible]f po[illegible] outpu[illegible] immediately

3 Å When the pa[illegible]eter is greater tha[illegible] the [illegible]er value [illegible]tpu[illegible] laser is gradually increa[illegible]according to the rise[illegible]

Touching action: p[illegible]

8 Gas on Delay

Set the gas blowing time before laser output

Note:

1 Parameter value range 0 ~ 10000ms

2 The parameter value is not re

11 Corr[illegible]on of [illegible]gs

Co[illegible] the abnor[illegible] gr[illegible]cs, such [illegible]sitive ellipse, [illegible]e ellipse, [illegible] graphi[illegible]sition is n[illegible]nter, etc

Note: None

Touching Action: Page jump to [Rectification setting] page

12 Reset

Data reset to factory setting

Note: None

Touching Action: Page jump to [factory setting] page

13 Language

Five <Correction of the settings>

Description: This page can adjust to graphics, such as graphic compression, oblique elliptic correction (phase offset), galvanometer center point correction (center point offset)

Adjustment 1: Central point adjustment



Adjustment 2 Graphics adjustment



1 The XY-axis center

Adjust galvanometer output center (central offset)

Note:

1 Debug this feature must use the center point debugging switch

2 XY-axis center data value range -10°~ +10°

3 In order to facilitate the user debugging, this function specially made special processing to the fine-tuning button, that is, open the center point debugging switch (the purple switch button under the page), and then use the corresponding fine-tuning button for add and decrease operation, user can observe the movement of the central point directly with the naked eye

4 X value increases, the central point shifts to the right; X value reduces, the central point shifts to the left; Y value increases, the central point shifts up; Y value reduces, the central point shifts down.

5 It is recommended to use the fine-tuning buttons for debugging

Touching Action: pop up the keyboard and the user makes custom data input

2 XY-Axis compression

Adjust the vertical and lateral diameter of the drawing (For example: a positive ellipse)

Note:

1 Both parameter values for XY axis compression can be negative, value range -5 ~ +5mm (Adapt with drawing maximum diameter)

2 Positive value: Forward compression, For example a circle, if the X axis enters + 1mm, the lateral diameter of the circle reduces 1mm, from the original shape to an upright ellipse. For Y axis, the operation will change the vertical diameter.

3 Negative value Contrary to compression, For example a circle, if t

operation will change the vertic

5 Debug 2-Switch

Switch to debug 1

Note: None

Touching Action: switch to the [Debug 1] page

6 Fine tuning

Fine tuning of the values of the relevant data

Note:

1 Single click on the value plus unit 1. Long press is supported

Touching Action: value increases or decreases

7 Save

Save the currently modified data

Note:

1 Save successfully will have a pop-up prompt. If no pop-up window indicates an abnormal communication between the screen and the control board, maintenance is required!

Touching Action: prompt saved successfully

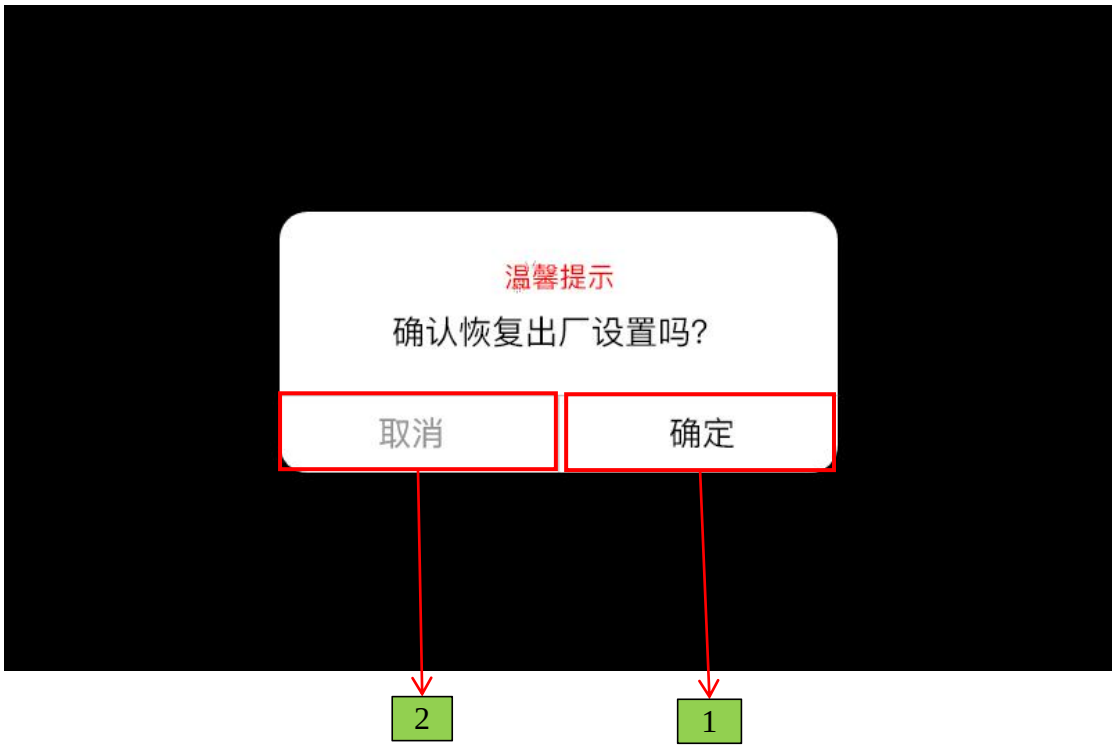
8 Back

Return to the Advanced Settings page

Note: None

Touching Action: page jump to [Advanced Settings Page]

Six <Reset>



1 Enter

Reset to the factory setting

Note:

1 Do not power off the device when the factory setting is restored

Touching Action: page jump to Resfactory page

2 Cancel

Cancel the reset

Note: None

Touching Action: page jump to the [Advanced] page

Seven <Restovering factory settings>

Description: No other operation, waiting for the factory reset to complete, after the factory reset is completed, will automatically jump to [main menu page]



Eight <Input / output status>

Description: Displays the input and output status of the current external IO



1 Input / Output status display area

Displays the input / output status of the external IO

Note:

1 The gray logo means the external IO does not work

2 The green logo means the external IO works normally

3 The red logo means the external IO works abnormally

Touching Action: None

2 Back

Return to the main menu page

Note: None

Touching Action: page jump to [main menu page]

Nine <Contact us>

Description: Contact information of the company



1 Back

Return to the main menu page

Note: None

Touching Action: page jump to [main menu page]

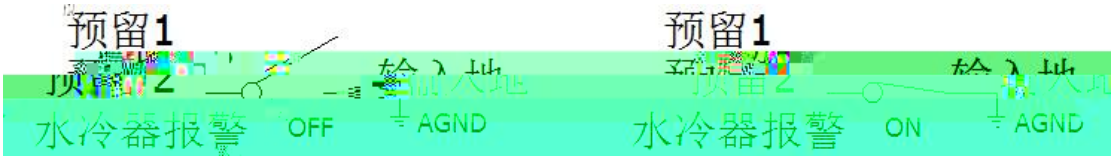
Control box IO signal terminal operation

One <Process switching>

Process switching, input combination signal operation

Reserve 1 Reserve 2 Water cooler alarm Air pressure alarm both are in the external switch control mode as below

OFF signal ON signal

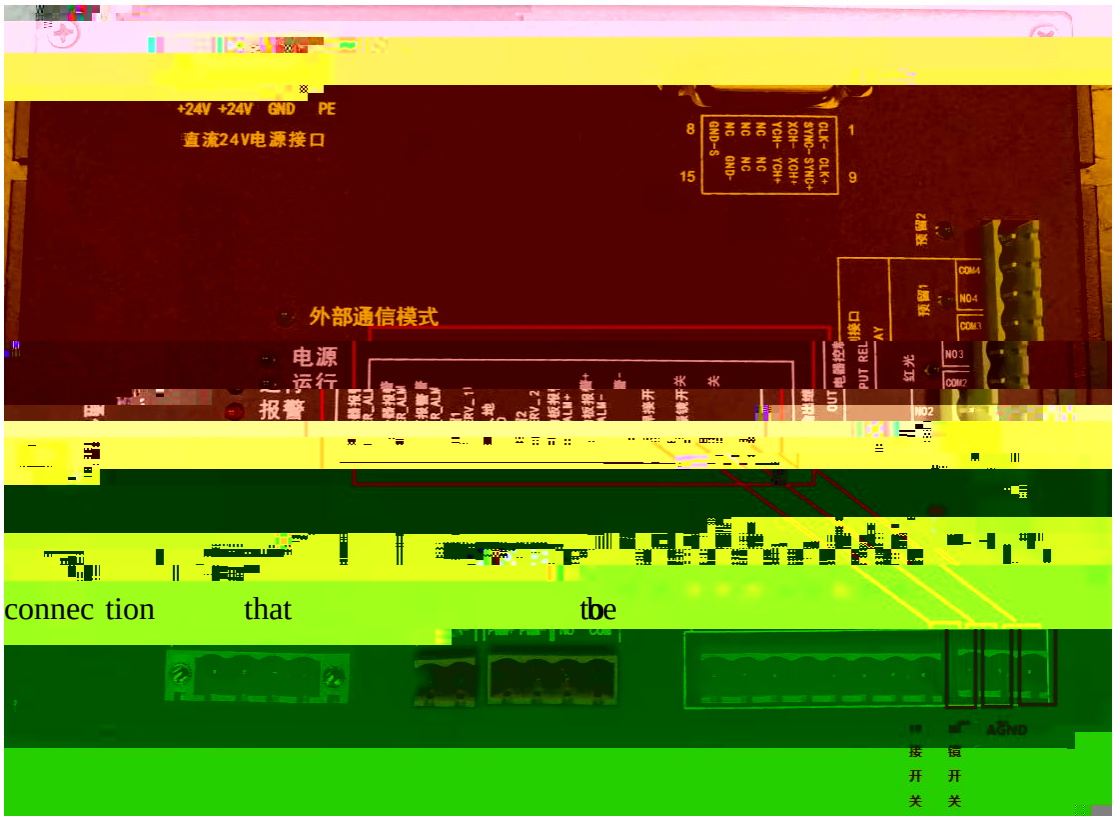


0 = OFF, 1 = ON;

Process parameter switching operation				
Single-position controller 310(SSGS310) input				Process number
Water-cooling alarm K1	**Air pressure alarm (K2)**	**Reserve 1(K3)**	**Reserve 2(K4)**	
1	0	0	0	Process 1
0	1	0	0	Process 2
1	1	0	0	Process 3
0	0	1	0	Process 4
1	0	1	0	Process 5
0	1	1	0	Process 6
1	1	1	0	Process 7
0	0	0	1	Process 8
1	0	0	1	Process 9
0	1	0	1	Process 10
1	0	1	1	Process 11
0	0	1	1	Process 12
1	0	1	1	Process 13
1	1	1	1	Process 14

welding only can be valid by the welding switch signal of the control box Avoid screen triggers .
Operating principle: The wiring operation principle is the same as "Two <galvanometer switch>"

Housing terminal position (Look at the signal line connecting the signal line, the signal of the middle box is the corresponding input
interface)



Four <All relay output ports, and alarm output ports>

1 All of the relay output ports
otherwise interface the
Signal type: Ports are contact output. Each two terminals is for a set of relay contacts NO and COM that should be one function NO is the normally open contact of the relay, COM is the common contact for the relay .
Electrical load-bearing characteristics: Safety-bearing limit 1A 30V.

2 Alarm output port
Signal type: NPN output. External external shOnOe s kbe fore tO

actiÕatet . After actiÕatet ,

nt to e e that positiv nd
ative pol f th es l sorbin otective e, s as
4007 to en e st the he pole the diode ec to the

Host computer console operation



If the control card resumes, the host PC must disconnect and reconnect

If user want to use the host PC to program or use our software to operate the control box, operate as below

Step 1

Must cut off the power first

Step 2

Remove the screen terminal from the RS232 LCD screen interface

Step 3

Use short lines to short connect both ends of the Communication Mode Selection interface

Step 4

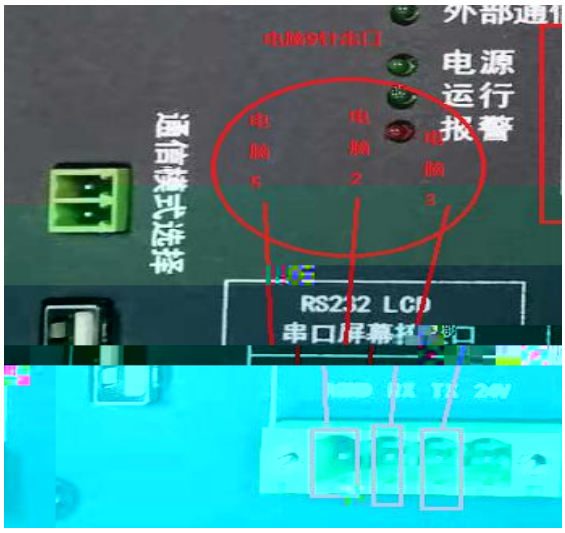
From the standard 9-pin serial port interface on the back of the computer, introduce the 2 (RX), 3 (TX), 5 (SG) signal lines to the corresponding RX, TX, AGND corresponding to the RS232 LCD interface of our control box. No TX and RX crossover is required because the control box is already converted (this step is key point), Just 3 lines, don't connect more.

Step 5

Power on again and open the software system corresponding to the control box on the computer for related operation

The above steps can complete the connection operation of the upper computer, for the specific upper software operation details, see the description of the upper software operation part

If user simply uses the laptop as an industrial control computer, but there is no


电源
运行
报警
RS232 LCD