User's Guide

June 1, 2020

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1. Home



The main interface is shown in Figure 1-1:

Figure 1-1

1.1. Login

Click the login button, a password input interface pops up, login password: 123 (administrator, you can log in to the system with different permissions)

1.2. System status bar

As shown in Figure 1-2

\oslash	System is ready.	0	Т	45) Victory (c)	START
		F ¹ 4 0				



System status prompt: Prompt that the coding system is ready, marking,

or some error alarm information, etc.

Refresh:During the flight marking process, the information can be updated online. There are two situations for online update. One is to update the marking after performing the system cache twice, that is, after clicking online update, the system will perform another marking and update on the content once. The modified content is marked, a real-time update, that is, after clicking online update, the system's next marking is the modified content (for high-speed production lines, real-time update will cause missed marking)

Focus light:This function can be used when a red light focusing red light tube is connected to the system, that is, two red lights are connected.

Guide light:The red light guides the light and previews the data marking area.

Test: Test the marking time of the currently selected data, the marking time can be seen in the status bar after marking.

Marking info:Click the button, the pop-up interface as shown in Figure 1-3.

View content	Markin	ng info	
File name:	1		
Marking time	(ms): 0		
Total number	; 0		
Current times	: 0		
Number of tri	ggers:0		
Speed (m/mir	n): 90.	.00(Fixed)	
Refresh view Clear cache		Ves. Yes	
Clear ala	rm	Reset serial	number
Clear cou	unt	Edit	

图 1-3

View content:View the current marking content.

File name: Display the file currently being marked.

Marking time(S):Current file marking time.

Current times:Count the number of markings after clicking start coding.

Speed(m/min):The current encoder obtains the real-time speed of the pipeline or the simulated speed set by the system.

Refresh view:During the marking process, the interface content display is refreshed in real time.

Clear cache: When using the online update function, whether to clear the

previous state of the marked content in real time. When it is not checked, the system will update the marking after 2 caches. The system will mark the content twice and update the modified content for marking. When checked, it will be updated in real time, that is, after clicking online update, The next marking of the system is the content after modification (for high-speed production lines, real-time update will cause missed printing)

Clear alarm:Clear alarm information.

Reset serial number: The serial number can be reset without stopping production.

Clear count: Clear current or total times.

Edit:Online editing function, during the marking process, click to return to editing, after the data is modified, click the online update function.

Start/pause marking button

1.3. Edit bar



Precision:Up, down, left or right, or the distance or angle traveled by each point of the rotary button (unit: mm/deg).

Add object

Add materials that need to be marked, including text, points, lines, circles, rectangles, barcodes, QR codes, graphics, delayer.

1.3.1. Add text

Click the text button to enter the content editing interface, as shown in Figure 2-2.

Up:Adjust the data order, the data moves forward.

Down:Adjust the data order, the data moves backward.

Edit:Edit fixed text, serial number, date and time, file reading, shift code,

system variable or random code.

Delete:Delete added content.

New line:Branch add information

Manage: Management variables

Text	modifie	ation						ОК
4				TIGIT TIGIT TIGIT TIGIT TIGIT TIGIT	757 1941 1941			+ - - - - - - - - - - - - -
Text	Text	Text	TEXT		🕈 Up	Font	N_YH	Select
01 23	Serial No.				🗣 Down	Char height	4.00	
dante 11	Date/time				✔ Edit	Width scale	1.00	
6	File read				Y Delate	Spacing	0.00	
ARK	Plan				► Delete	Line space	0.00	
123	Variable				New line	Alignment	Left	+
010 X	Random o				and the second sec	Save to file Time stamp	Yes Ves	
						Save file		Export

Figure 2-1

1.3.1.1. Add text

After entering the content editing interface, the system will

automatically produce a fixed text with empty text. Click Edit to pop up the text box, click the blank area, and pop up the keyboard. To add new fixed text, click the fixed text button to add the default content as TEXT Fixed text.

Edit text

Select the text TEXT, as shown in Figure 2-2, click the edit button to enter the editing interface, click the content box, and the keyboard pops up, as shown in Figure 2-3.

Text	modific	cation					ок
4		_	TEX	T		_	(+) (-) *
Text	Text	Text TEXT	1	Up	Font	N_YH	Select
01 23	Serial No.		4	Down	Char height	4.00	
danta 11	Date/time			Edit	Width scale	1.00	
6	File read		E		Spacing	0.00	
ABX	Plan			Delete	Line space	0.00	
123	Variable			New line	Alignment	Left	*
010	variaties				Save to file	Yes	
24	Random d				Time stamp	Yes	
					Save file		Export

Figure 2-2

Text	modific	ation						ок
			Fixed content	modification				(
4			Content					A BC
Text	Text	Text					-	Select
01 23	Serial No.				1			
stants 11	Date/time			OK	Cancel			
6	File read				Y Delute	Spacing	0.00	
ABX	Plan				A Delete	Line space	0.00	
123	Variable				New line	Alignment	Left	*
810 X	Random «					Save to file Time stamp	Yes Ves	
						Save file		Export

Figure 2-3

Font: Select text font, optional dot matrix font, single line font or double

line font, as shown in Figure 2-4.

Font preview	TEX	$\langle \top$	
Dot	Single line	Doul	ble line
N_GB			*
N_HZTX			
N_Han			
N_OCR_1			
N_PE			
N_ROMANS			
N_TW			
N_YH			
			Y
	ОК	Cancel	

Figure 2-4

Char height: Character height.

Width scale: The default value is 1, change the font width.

Spacing:Distance between characters.

Line space: The distance between each line and each line in the same text.

Alignment: Alignment between multiple lines in the same book.

Save to file, Time stamp, Save file: Record role, record usage.

1.3.1.2. Add serial number

Click the serial number button to add a serial number with a default content of 0000, as shown in Figure 2-5.

lext	modific	ation						ОК
÷				00		_		+ (-) (-) (-) (-) (-) (-) (-) (-) (-) (-)
Text	Text	Serial No.	(0000)		🔶 Up	Font	N_YH	Select
01 23	Serial No.				Uown	Char height	4.00	
11	Date/time				🖉 Edit	Width scale	1.00	
6	File read					Spacing	0.00	
ABK	Plan				A Delete	Line space	0.00	
123	Variable				New line	Alignment	Left	*
010	Random				Manage	Save to file	Yes	
~						Time stamp	Yes	
						Save file		Export

Figure 2-5

Edit serial number

Select the serial number and click the edit button to pop up the serial number modification interface, as shown in Figure 2-6

Modify serial	number Name:Index-2	
Name		Marking times
Start value	0	Current times 1
Final value	9999	Cycle
Current value	0	Reset serial number in production
Step value	ï	End signal output
Number of digits	4	DISOUT ADVOUT DELOUT
Leading symbol	0	0
	(
	OK	Cancel

Figure 2-6

Start value	Starting value	Final value	Final value
	Serial number to be		Accumulated
Current value	marked	Step value	value for each
			marking
Number of		Leading	Character
digite	Number of characters	averabal	expression
uigits		Symbol	symbol
	Number of repotitions		Repeated serial
		Current	number has
Narking times	of a single serial	times	been marked
	number		times

			After ticking, the
	Whether the serial	Reset serial	reset serial
Cycle	number is cyclically	number in	number
	marked	production	function will
			take effect

Control signal output: Serial number signal output.

ADVOUT: Output several serial numbers in advance.

DELOUT: Delay distance output, unit mm, the value can not be set too

much, otherwise it will alarm.

1.3.1.3. Add date and time

Click the date /time button, the added date and time is the system date and time, as shown in Figure 2-7.

Text	modifie	ation					ОК	
4			2020)/06/	15		•	
Text	Text	Date / Time	[2020/06/15]	🔶 Up	Font	N_YH	Select	t.
01 23	Serial No.			+ Down	Char height	4.00		
danta 11	Date/time			🖌 Edit	Spacing	0.00		
6	File read				Line space	0.00		
=	Plan	1		X Delete	Alignment	Left		w.
-	r lati			Switch line	Save to file	Yes		
Vi	ariable			Manage	Time stamp	Yes		
Rand	lom code	1. C			Save file		Export	t

Edit Date/ time

Select the Date/ time and click the edit button to pop up the time/date modification interface, as shown in Figure 2-8.

Year 🔻 / Month 🔻	1	Day	y 🔻 None 👻
Format selection		Time off	ffset
Year/month/day	*	Day	0
Year-month-day XX Year/month/day Hour:minute:second		Hour Minute	r 0 9 0
Hour:minuth Month/day Week X			
OK		Cance	cel

Figure 2-8

Select format: The system has its own time and date format, which can be used directly.

Modify the format: Modify the time/date format, you can modify the delimiter, and the order of year, month, day, etc.



Time offset:You can change days, hours, and minutes, that is, increase or decrease the set value on the basis of the current time, accumulate one day and change the value after the day to 1, and decrease the day and change the value after the day to -1. The same is true for hours and minutes.

Time of	fset
Day	0
Hour	0
Minute	0

1.3.1.4. File read

Click the file read button to add a blank file, as shown in Figure 2-9.

Text n	nodific	ation				c	ж
4						Þ	+, -, BC
Text T	fext	File read []	🕈 Up	Font	N_YH	Se	lect
01 23 S	Serial No.		Down	Char height	4.00		
11 C	Date/time		🖉 Edit	Spacing	0.00		
6	File read		· Orlete	Line space	0.00		
	Plan		A Delete	Alignment	Left		Ψ.
Varia	able		Switch line	Save to file	Yes		
vento	avie -		Manage	Time stamp	Yes		
Random	n code			Save file		Exp	port

Figure 2-9

Edit File read

Select the file to read and click the edit button to pop up the file reading and modification interface, as shown in Figure 2-10.

File path			Select
Line number	1		
Cycle	Yes		

Figure 2-10

Select a document

Click the selection button behind the file path to pop up the file path (inside the system or USB), select the file to be loaded, as shown in Figure 2-11.

ile				×
torage options:	Internal	USB		Space: 332/512 M
ath: /Data/Upload	file			🔶 Return
Select	File nam	e	Time	N New
				🔞 Delete
				Rename
				Сору
				Paste
				M-select

Figure 2-11

Line number:The line number of the text to be marked currently. **Cycle:**Whether to mark the text file cyclically.

1.3.1.5. Add Plan

Click the Plan button, as shown in Figure 2-12, click the edit button, you can edit the code skip information, as shown in Figure 2-13.

Add:Add the code hopping list, as shown in Figure 2-14.

Delete: Delete skip code list.

Edit: Edit timing code hopping information, for example:

Click the edit button in Figure 2-12 to enter the code skipping content editing interface, as shown in Figure 2-15, modify the code skipping information and start time. Figure 2-14 represents the meaning of 00:00:00-12:00:00 Code shift information A, code jump code information B from 12:00:00-00:00:00.

Text	modifie	ation						ОК	¢
4				A				Þ	+ - BC
Text	Text	Plan	ĮAĮ		🕈 Up	Font	N_YH	Sele	ct
01 23	Serial No.				➡ Down	Char height	4.00		
stants 11	Date/time				🖌 Edit	Spacing	0.00		
6	File read				* D.144	Line space	0.00		
	Plan				× Deiete	Alignment	Left.		Ŧ
Va	niable				Switch line	Save to file	Yes.		
	maure				Manage	Time stamp	Yes		
Rand	om code					Save file		Expo	ort



% 1 name	:% 2		
Task list	e Mar	ring content	
00:00:00	A	Add	ł
		Dele	te
		Edi	t
	ОК	Cancel	

Figure 2-13

ask list		
Starting tim	e Marking content	Add
00:00:00	A	
12:00:00	В	Delete
		Edit

Figure 2-14

Modify		
Starting time	00:00:00	1
Marking content	A	
OK		Cancel

Figure 2-15

1.3.1.6. Add variable

Communication function, please contact the engineer when using.

1.3.1.7. Add random code

The system randomly generates data for marking.

1.3.2. Draw

Drawing functions include straight lines, dashed lines, points, circles,

rectangles, etc.

1.3.2.1. Add Dot

Click the dot button in the drawing function, as shown in Figure 2-16, you can modify the dot pulse number or dot time in the setting---spraying parameters (when \checkmark is selected, it is dot time output, when it is not selected, it is dot pulse output).



Figure 2-16

\oslash	System is ready.		O	T Focus light	T Guide light	Test	(E) Marking info	START
CC Home	Marking parameters	Marking parameters		1	efault par	ameter	1	Set as default
								1
Product line		Marking speed (mm/s)	4000		Marking	t delay (us)	d	
Ø		Jump speed (mm/s)	10000		Corner	delay (us)	10	
Setting		Power (%)	90		Laser or	n delay (us)	-40	
	System settings	Frequency (KHz)	20.00		Laser of	f delay (us)	140	
		Pulse length (us)	10.00		Jump lin	nit (us)	D	
	IO settings	Jump delay (us)	180		Length	limit (mm)	TRENE	
(6) Reboot		Dot times(us)	10	Ye Ye	s Length	control (mm	0.00	
	system info							
2020/06/16		-						

Figure 2-17

1.3.3. Add Line

Click the center line button of the drawing function to add ordinary straight line, tear line--dotted line, tear line--circle, tear line--point. As shown in Figure 2-18.

\oslash	Syste	em is re	ady.					O Remetr	T	Traide April	far Tar	Bilanking Into	START
G tame	New	Open	Save	5ave as-	Undo	Redo		apy Dele	te Tool	File /	ame. sion/mm, de	98 90. 1.0	-
Product line	Draw			Straig	ht line				-	C		R-rotate	AD x-Mirrór
(j)	Graph			Line type	e	Storent	IDS			+ =	Mo	Right	Y-Mirror
arrand.	Text			Length (Diamete	(mm) r (mm)					1	ar Dev	vn R-shear	Center
	Barcode			Spacing	(mm)	0.5					Mise	All-Select	Calculate
(a) Reboot	() Delayer						DK	Cancel		watt (n	rt fi um):	Mari	Arc text
		1	-	G		0			-	Height ()	nni):	_	(*
10:12:49 2020/06/16		Document	L managem	ent Zon	niin (LoomChit	We	ik Selec	ed All	X(mm	n):=	Y(mm):	

Figure 2-18

1.3.3.1. Add normal straight line

The line type is selected as a straight line, and the line length can be

set, as shown in Figure 2-19 and Figure 2-20.

Line type	Straight line			Ŧ
Length (mm)	20			
Diameter (mm)	0.5			
Spacing (mm)	0.5			
	ОК	Cancel	1	

Figure 2-19

\oslash	Syste	em is re	ady.					O Refresh	T acai igni	T come agar	ter -	() Markato rela	START
슶	N	6	6			A Rada) Delute		File name	mtra domin	88	
Product line	Draw Draw Graph Text	Open	Save	Save as	Unito	Kedo	Сору	Delete	1001	L-notate	Up Up Move Dawn	R-notate Right R-shear	K-Mirrar V-Mirrar V-Mirrar
(ii) Reboot	Barcode IIIII QR code O Delayer									Edit Edit Object Width (mm):	M-select	All-Select	Calculate Calculate Ars test
		+	-			0		11211	-	Height (mm):			1 4
10:15:01 2020/06/16		Document	manageri	ient Zoo	min Zo	C.	Work	Selected	All	X(mm):	0.00	V(mm):	13/93

Figure 2- 20

1.3.3.2. Add Tear line

\oslash	Syste	em is rea	aciy.				O.	T	T	÷	(a) Adapting info	START
CC Bonnel	New	Open	Save	Save as Undo	Redo		py Delete	Tital	File name Precision	: min. deg):	1.0	
Product line	Draw .			Straight lin	e				tate.			
{Q} Setting	T Text			Line type Length (mm)	straight i Straight	line.		_	• In Dear	Move Down	Right R-shear	V-Minor
	Barcode			Diameter (mm) Spacing (mm)	Tear line	e-circle e-dot	l Line-		101 - 0	M-select	All-Select	Catculate
۲	QR code					OR	Cancel		Pect.	E Fil	Array	Arc text
Rebool	Delayer							+	Height (mm);		3	a parameters
11:14:09 2020/06/16		Document	managem	ent Zaamin	(C) Zoom(Out	Wist	k Selected	All	X(mm))		V(mm)	

Figure 2-21, and the diameter or spacing of each unit can be set.

The tear line type includes dotted lines, circles, or dots, as shown in

Figure 2- 21

1.3.3.3. Add Circle

Click the circle button in the drawing, as shown in Figure 2-22.

\oslash	Syst	em is re	ady.					O Allesti	T Harmen Higher	T	∰ ™	E Marking Info	START
Home	New	Dpen	Save	Save as.	Unito	Redo	Сору	Doleto	Tool	Eile name Precision	c (mm. deg):	00 7.0	
Product line	Draw -								*	O		O R-rotate	
Ø	Dot Line										Mave	Right	Y-Mirror
setung		e			C)				L-shear	Down	R-shear	Center
		ungn									M-select	All-Select	Calculate
(a) Reboot	QR code									Object Width (mm):	Fill 20.00	Array	Arc text
A		4	-							Height (mm):	-20,50		1 +
11:33:12 2020/06/16		Dozument	managem	ent Zoo	min Zo	C.	Work	Selected	BC All	X(mm):	0.00	V(mm):	0.00

Figure 2- 22

1.3.3.4. Add rectangle

\oslash	Syste	em is re	ady.					O Infrem Tr	T	T -	€ Tes	Hanking Info	START
CC .	New	Cpen	Save	Save-as	Undit	Redo	Сору	Delete	Tool	File name Precision()	mm. degi:	88 1.0	
Product line	Draw Dot Line Circle				_	7				O L-rotate Left L-shear	↓ Up Move Down	Nirotate	X-Mirror Y-Mirror Center
(iii) Reboot	Recta	angle								Object Width (mm):	M-télect Fill 2000	Ali-Select Ali-Select Array Markin	Calculate Calculate Arc test
										Height (mm):	20.00	-	ţ
11:35:35 2020/06/16		Document	(mansågen	ent Zoo	D I	(Q) omOut	Work	A	All	X(mm):	0.00	¥(mm):	0,00

Click the rectangular button in the drawing, as shown in Figure 2-23.

Figure 2-23

1.3.4. Add graph

Click the graph button, and the add interface pops up, as shown in Figure 2-24. Supported formats: dxf, plt, jpg, png, bmp, etc.

File				×
Storage options:	Internal	USB		Space: 332/512 M
Path: /Data/Upload	ffile			🔶 Return
Select	File nam	e	Time	New New
				Delete
				E Rename
				🗐 Сору
				Paste
				M-select
				. 1.
ile name:				
VDE: DXF(*.dx	f) ×			OK

Figure 2-24

1.3.5. Add barcode

Click the barcode button to pop up the content editing interface.

The default content is a QR code of 123, as shown in Figure 2-25.

Code

Reverse: After checking, the bar code becomes reverse code, and the

bar code border should be set at this time, as shown in the figure below.



(Forward)



(Reverse border)

Type:Select barcode type, Code128, Code39, Code93 are optional **Height:**Barcode height.

Blank:When there is a border, the distance between the barcode and the border.

Text

Display text:After checking, the barcode content will be displayed.

Font:Text content font

Char height: Character height

Char space: Character spacing

Horizontal offset: The horizontal offset of the text content

Vertical offset: The vertical offset of the text content

Save to file, Timestamp, Save the file as a record, usually not used

Modified content:Click the content box behind the text to enter the content addition interface, as shown in Figure 2-26. After setting, click OK to finish adding the barcode. , As shown in Figure 2-27.

AddBarcode				ОК	Cancel
Text: 123		Code	Text		
		Display text	Yes		
		Font	N_SIMPLE		
		Char height(mm)	0.00		
		Char space(mm)	0.00		
	100	Horizontal offset (mm)	0.00		
		Vertical offset (mm)	0.00		
		Save to file	Yes		
		Time stamp	Yes		
	*	Save file			Export
4	»				
(*) (-)	BC				
Zoomin ZoomOut	Object				



Conte	ent chan	ges			ок
Co	intent	[2020/06/	7		
Text	Text	Text Serial No.	123	+	Up
01 23	Serial No.	Date / Time	[2020/06/17]	+	Down
tantı 11	Date/time			1	Edit
6	File read			×	Delete
Ħ	Plan			Suit	ch line
Va	riable				cri mine
Rande	om code			Mana	gement

Figure 2-26



Figure 2-27

Fill type modification:Click Fill to enter the fill type modification interface. Fill types include points, lines, circles, and normal. As shown in Figure 2-28.

	Close
0.100	
0.050	
	0.100

Figure 2-28

Line fill

Fill type selection line, you can modify the line spacing or indent.

Normal fill

Select the normal filling type, as shown in Figure 2-29, click Enable Filling, you can modify the filling angle, fill line spacing, and whether to enable the border.

Filling type:

Optimize line filling: line filling is zigzag

Ordinary line filling: fill the line and move the pen up and down

Other parameters: Modify the filling details, as shown in Figure 2-30.



Figure 2-29

Evenly distributed	Ves Ves					
Margin	0.000					
Straight indent	0.000					
Boundary ring number	0					
Ring spacing	0.000					
Multiple fills	t					
Every offset	0.00					

Figure 2- 30

Margin: Distance between filled line and enabled frame.

Straight indent:Distance between straight line and enabled frame.

Boundary ring number:Number of borders

Ring spacing: Distance between frame and frame

Multiple fills: Filling times

Every offset: The previous and next offset angle

1.3.6. Add QR code

Click the QR code button on the homepage to enter the QR code editing interface. The default content is 123 QR code, as shown in Figure 2-31.

AddQR code				ОК	Cancel
Text: 123		Code	Text		
		Reverse	Yes		
		Туре	QRCODE		
		Version:	Automatic matchin	g	+
		Grade:	L		
		Up/Down(mm)	0		
		Left/Right(mm)	a		
Zoomin ZoomOut	BC Object				

Figure 2-31

Code

Reverse:After ticking, the QR code will be reversed. After the reverse, the surrounding borders are generally added, that is, the upper and lower borders, and the left and right borders are changed to 1. The

comparison is as follows:





(Reverse border)

If the contrast is not enough, you need to reverse the barcode and add a frame. Example: White cover hits black ,The QR code does not need to be reversed, and the brown-yellow cover needs to be reversed and framed, as shown below.



Type: Available types: QRCODE, PDF417, DATAMATRIX

Version:QR code version size

Grade:QR code error correction level

Frame: The width of the filled border. Example: 1 is 1 unit border, 2

is 2 unit borders, as shown below

1 unit border	2 unit border

Text

Display text: Show QR code content

Font:Select QR code content font

Char height: Character height

Char space: Character space

Horizontal offset: The horizontal offset of the text content

Vertical offset: The vertical offset of the text content

Save to file, timestamp, save the file as a record, usually not used

Modified content:Click the content box behind the text to enter the content addition interface, as shown in 2-32. After setting, click OK to complete the addition of QR code, as shown in Figure 2-33

Content										
Text	Text	Text	123	1 Up						
01 23	Serial No.	Date / Time	[2020/06/17]	Down						
11	Date/time			🖉 Edit						
6	File read			1 Delet						
ABX	Plan									
123	Variable			New line						
110	Random c			Managemen						

Figure 2- 32

\oslash	Syste	em is r	eady.				4		(O) Former and		Training of the	ų,	() Mancing inte	START
6 Hane	New	Dpen	Save	Save as	Undo	Redo	Copy	Dele	te To	2	File name: Frecision()	nn. deg).	1	I
Product line	Draw									*	O		O R-fotate	
ر Setting	Graph T			-										Y-Mittor
	Barcode										L-shear Edit	Down Control M-select	R-shear R-shear All-Select	Center Calculate
0	QR code										XObject	Î	Array	Arc text
Reboot	Delayer	4									Width (mm): Height (mm):	10.00	Marke	ng parameters
15:19:13 2020/06/17		D	acument	Zoomin	ZoomOut	Work	A	ted.	All		X(mini):	a.nn	V(nam):	10 100

Figure 2- 33

QR code filling

Click Fill, select the barcode filling method, as shown in Figure 2-34

\oslash	Syste	em is	ready.					O tetresh	Entres lie	Т	(J)	۲	START
	N	E) (1	6	6	3	Ð	Ŵ		Object fill			Close
Home	New	Ope	n Save	Save as	Undo	Redo	Сору	Delet	e To	Barcode fill			
	Draw									Fill type Spot			
Product line	Scool									Line space (mm)	0.100		1
{ي } Setting	T			faur						Indentation (mm)	11,050		
	Text												
	Barcode			Laura									
0	Ø												
Reboot	Delayer								_				
		*	a						FAT				
15:20:25 2020/06/17			Document	Zoomin	ZoomQui	Work	Sele	cted	All				

Figure 2-34

Fill type: Choose the filling method of the barcode, you can choose

points, lines, circles or ordinary.

Point fill:

Add a QR code with the content (ABCDEFG1234567980), and select single point filling in the filling type, as shown in 2-35



Figure 2-35

Line fill:

Add a QR code with the content (ABCDEFG1234567980) (line spacing: 0.2mm, indent: 0.1mm), select line filling in the fill type, as shown in Figure 2-36, change the spacing or margin (line spacing: 1mm, Indent by 0.2mm), as shown in Figure 2-37.

Figure 2-36



Figure 2-37

Circle fill:

Add a QR code with the content (ABCDEFG1234567980) (line spacing: 0.1, indent: 0), select the circle fill in the fill type, as shown in Figure 2-38, change the spacing or margin (line spacing: 0.5mm, Indent: 0.05mm), as shown in Figure 2-39.



Figure 2-38

Bonopon 3°0a Bonopon
000 00000000000000000000000000000000000
තිබ්දු කර කර දේ කර
200000 0 00 00 0000 0
Figure 2-39

Ordinary fill:

Add a QR code with the content (ABCDEFG1234567980) in the fill



type Select normal fill, as shown in Figure 2-40

Figure 2-40

Select Enable filling, as shown in Figure 2-41, you can change the filling angle, line spacing, whether to enable the outer frame, whether to optimize the line filling, QR code effect shown in Figure 2-42.

\bigcirc	Syste	em is re	ady.				4) hesti ka	0	Т	(D	۲	START
	N	e	圕	6	6	3		Ē	E	Object fill			Close
tione	New	Open	Save	Save as	Undo	Redo	Сору	Delete	Te	Barcode fill			
	Draw									Fill type Ordina	Ŋ.		
Product line	20												
\odot	Graph			r.	51-461					Enable fill			
Setting	Text			ķ	공왕	5:				Fill angle (deg)	âçroo		
	Barcoda			Ĺ	ήĿ,	3							
					and 1 million					Line space (mm)	0,150		
	QR code									Fill type	Cirilina		
Reboot	Delayer									Other parameter	s	Setting	-
, L.					1.0								
15:45:47 2020/06/17		(Doc	2 ument	() Zoomin	ZoomOut	Work	A	ed A	c.				

Figure 2-41



Fill other parameters: As shown in Figure 2-43

Evenly distributed	Ves	
Margin	0.000	
Straight indent	0,000	
Boundary ring number	0	
Ring spacing	0.000	
Multiple fills	1	
Every offset	0.00	

Figure 2-43

Margin: Distance between filled line and enabled frame.

Straight indent:Distance between straight line and enabled frame.

Boundary ring number: Number of borders

Ring spacing:Distance between frame and frame

Multiple fills: Filling times

Every offset: The previous and next offset angle

1.3.7. Add delayer

Click the homepage delay button to pop up the editing interface, which can modify the time of the delay. This function is only effective for the static function, and the delay must be added before the marking object, and the position of the delay can be adjusted in the object list , As shown in Figure 2-44.

\oslash	Syste	em is	ready.				4 20	O efrestr	O Focus light	Guide	F t	Test 1	Marking into	START
	N	6	E	6	5	3			Object	ist				Quit
Home	New	Oper) Save	Save as	Undo	Redo	Сору	Dele	Up	Down	Topping	Bottom	On/off mar	king Name
	Draw +								D	elay				
Product line	Graph								() T	at TEXT				
 Setting 	T													
accounty	Text				TEXT	2								
	Barcode													
6	QR code													
Reboot	Delayer													
£.,					10								_	
			B	÷.	Q		A	1	Layer: Cisei		Amme	7	N	lanage
16:02:53 2020/06/17		1	Inemused	Zoomin	ZoomOut	Work	Select	ted	All		- Constant		- strange	

图 2- 44

1.3.8. New

Click the New button, it will pop up whether to save the last edited data. If you want to save, click OK, then the name of the new data file will pop up, enter the name to save the file (for example: 123), as shown in Figure 2-45.



Figure 2-45

1.3.9. Open

Click the Open button to open the file saved in the system internal

file or USB. If the internal file 123 is selected, click OK, as shown in Figure 2-46.

File				×
Storage op	tions: Internal	USB		Space: 332/512 M
Path: /Dat	a/DB			🔶 Return
Select	File	name	Time	New New
	1.ncfm		2020-06-17 16:05:37	
	123.ncfm		2020-06-17 16:06:06	Delete
	N1.ncfm		2019-09-26 15:32:41	■ Rename
				🗐 Сору
				Paste
				M-select
	1 ncfm			
File name:	Tatening			
Type:	Mark Files (*.ncfm)	Y		OK

Figure 2-46

Return: Return to the previous directory

New:Create a new file

Delete:Delete Files

Rename:Rename file

Copy:Copy files (you can copy the files in the USB to the system or copy

the internal files to the USB)

Paste:Paste the copied file

1.3.10. Save

Save files

1.3.11. Save as

Save file

1.3.12. Undo

Cancel last operation

1.3.13. Redo

Perform the last undo action

1.3.14. Copy

Copy the selected data, and then click the blank area to automatically paste

1.3.15. Delete

Delete data

1.3.16. Tool

The tool functions include: alignment, distribution, group, combination and conversion to curves and other functions

When there are multiple data, you can align the data up, down, left, right or center.

When there are more than three data, the horizontal and vertical alignment of the data can be achieved, as shown in Figure 2-47.

\oslash	Syste	em is n	eady.				R	O afrest	(O) Fotus igne	T		Liartene mila	START
fiame	New	Ce Open	E Save	Save as	Undo	Redo	Copy	Delet	a Taol	File name Precision	s (mm, deg);	123 1.0	
Product line	Draw							18 Left) Vertical	Right Top	88 Level	<u>Do</u> ^D o Bottom Vertic	al Level
⊚	Graph			H				Group		(E) Combination	년 Uncombine) e Curve	
Setting	Text			12	123				1	L-shear	Down	R-shear	Center
	Barcode DD DS:				-	123					M-select	All-Select	Calculate
0	QR code									Cibjed Width (mm):	ÉUI 30.71	Array	Arc text
Reboot	Delayer	4								Height (mm)	20.62	8	1 4
16:40:15 2020/06/17		De	Z	Zeomin	ZoomOut	Work	Selec	ted	AII	X(mm):	0,00	Y(mm):	0,00

Figure 2-47

Group:Two or more objects can be combined into one object

Ungroup:Re-separate the assembled objects

Combination:Combine multiple vectors

Uncombine:Separate vector or text content into a single vector

Curve:Convert text to vector

1.3.17. Object

The files existing in the current edit box are shown in Figure 2-48.

\oslash	Syste	em is re	ady.				Retto) 880	O Focus ilg	M Guide	F +	test A	(arking into	START
슶	N	6	E	G	6	3		Ē	Object	t list				Quit
Home	New	Open	Save	Save as	Undo	Redo	Сору	Dele	Up	Down	Topping	Bottom	On/off mark	ing Name
Product line	Draw +								0	Text 123				
63	Graph								0	Text 123				
Setting	т			12	3				0	Text 123				
	Text				123									
	Barcode					123								
	QR code													
0	0													
Reboot	Delayer		-											
		ſ	Ð	(+)	\bigcirc	-	A		Layer:				M	mage
16:55:31 2020/06/17	-	Doc	ument	Zoomin	ZoomOut	Work	Selecter	1	All		XIIIIII.	0.00	ATHING:	0.00

Figure 2-48

Up:Move the selected object upwards, adjust the marking order of the objects, and the marking order is from top to bottom

Down:Move the selected object down, adjust the marking order of the objects, marking order from top to bottom

Topping: Move the selected object to the top

Bottom: Move the selected object to the bottom

On/off marking:The selected object can be turned on or off coding **Layer:**If there are three pieces of data at the same time, the next piece of data can be marked after the previous one is marked, you need to add a layer, set each piece of text as a single marking layer, change the marking order, and click Manage, as shown in Figure 2-49 As shown. Example: There are three pieces of data in the current edit box, you need to mark the previous one and then mark the next one. At this time, you need to add three layers, each layer has a serial number, and the start delay of each layer must be set to a value , Can be set to 1. Click OK to return to the home page, as shown in Figure 2-50, each data needs to select a different layer number at the layer.

Layer managen	nent				өк
ayer list					
Serial number	Name	Turn on mariting	Start delay	Distay	Add
	Cls-1		0.00	0.00	
2	Cls-2	Yes	1.00	0.00	Delete
3	CIs-3	Yes	1.00	0.00	Edit

Figure 2-49

\odot	Syste	em is re	ady.					O	(O)	n õide	F 🗧	÷.	arking into	START
	N	6	A	ſ	6	2	8	Ē	Object	list				Quit
Home	New	Open	Save	Save as	Undo	Redio	Сору	Dele	Up	Down	Topping	Bottom	On/off marking	Name
Product line	Draw Graph									Text TEXTT	EXT0000000	02		
Setting	T Text Barcode			ULLAL	(TD00000) (TD00000) (TD00000)	02020/08 02020/08 02020/08	V17 V17 V17		8	Text TEXT	EXTEDODE	0002		
Reboot	Delayer													
17:18:27 2020/06/17		Doc	2 ument	Zoomin	ZoomQui	Work	sele	A	All	3	MILLING	6000 F1	Mana rummy:	ge -scon

Figure 2- 50

Marking order of the same layer on the left, marking order of different

layers on the right



1.3.18. Arc text

Click the arc text button to modify the current data into arc text, as shown in Figure 2-51. Click Yes, the data will become arc text.

rc text	Yes		
everse text order	Yes		
ext style	ABCO	÷	
rc radius x(mm)	10.00		
rc radius y(mm)	10.00		
tarting angle	0.00		
mit angle	360		

Figure 2- 51

Reverse text order: Text sorting direction

Text style: Choose according to picture

Radius X:Radius of arc text on X axis

Radius Y:Radius of arc text on Y axis

Starting angle: The starting angle of the first character

Limit angle:The angle range of the arc circle (for example, 360-degree arc-shaped text is arc-shaped text, 180-degree arc-shaped text is semi-circular arc-shaped text, as shown in Figure 2-52)



Figure 2- 52

1.3.19. Fill

When the font is double-lined, or when the picture is a vector diagram end to end, you can fill it, as shown in Figure 2-53.

\oslash	Syste	em is re	ady.					O Refrestr	[O] Feelu ligh	T Guide light	(). Test	Manking Into	START
Home Froduct line	New Draw	Open	Save	Save as	Undo	Redo	Сору	Delete	те	Object fill The fill Fill angle (deg)	0.00		Close
Setting	Text Barcode									Line space (mm Contour Fill type Other paramete	Drdin	ary Setting	
Reboot	Delayer	T Doc	2 ument	(+) Zaamin	C, ZoamOut	Work	Sele	ded	A All	-		_	

Figure 2- 53

Enable fill: After selected, it can realize graphics or font filling

Fill angle: The angle between the line filling and the X axis, you can

choose the graphics to quickly fill

Line space: Distance between filled lines

Contour:Whether to enable the frame

Fill type:Optimize line filling (to reduce the marking time), normal line filling static marking according to the direction of the arrow to mark, as shown in Figure 2-54



Figure 2-54

Other parameters: As shown in Figure 2-55

Evenly distributed	Ves Ves
Margin	0.000
Straight indent	0.000
Boundary ring number	0
Ring spacing	0.000
Multiple fills	1
Every offset	0.00

Figure 2-55

Margin: Distance between filled line and enabled frame.

Straight indent:Distance between straight line and enabled frame.

Boundary ring number: Number of borders

Ring spacing: Distance between frame and frame

Multiple fills: Filling times

Every offset: The previous and next offset angle

1.3.20. Array

Arrange the objects in an array, as shown in Figure 2-56, you can set the number of X/Y directions and the distance between them. After setting, click OK to confirm as shown in Figure 2-57

		increment (mm)
-direction	T	10.0000
-direction	1	10.0000
X-order	() Y-	order



\oslash	Syste	em is re	ady.				4 Re	0 firen	0		T	(L) Tet	(dancenn inne	START
Ca tionse	New	Open	E Save	Save as	Lindo	Redo	Сору	Delet	e To		File name Precision(i mm; deg].	123 1.0	
Product line	Draw									*	O L-rotate		O R-rotate	
٨	Graph			TEXT	TEXT	TEXT						Mave	Right	Y-Minor
Setting	Text			TEXT	TEXT	TEXT					L-shear	Down	R-shear	Center
	Barcode BE BHI			TEXT	TEXT	TEXT					Edit	M-select	All-Select	Calculate ABC
(O) Reboot	QR code										Dbject Width (mm):	Fill	Array Markin	arc text
12	e suglet								×	*	Haight (mm);	41.96		1 +
13:48:59 2020/06/18		Do	2 :ument	Zoomin	ZoomOut	Watk	A	ted	A BC All		X(mm):	0.00	V(mm):	מומ

Figure 2-57

1.3.21. Marking parameters

Select the color block corresponding to the marking parameters. The marking parameters can be modified in the setting function-----spraying parameters. Different text can choose different color blocks, and the same color block can also be selected.

1.3.22. Dimensions and coordinates

Modify the text size and text coordinate position, as shown in Figure 2-58, click the associated button to modify the width or height individually





1.3.23. Document management

Document management:Manage spray files and fonts, as shown below

File					×
File type:	Marking file Font				
Storage op	otions: Internal	USB			Space: 332/512 M
Path: /Dat	ta/DB				Return
Select	Eile name			Time	N New
	1.ncfm	20	020-06-17	16:05:37	in neu
	123.ncfm	20	20-06-18	10:15:59	Delete
	N1.ncfm	20	19-09-26	15:32:41	Rename
					🗐 Сору
					Paste
					M-select
File name:	1.ncfm				_
Type:	Marking file (*.ncfm)				ОК

Marking file management

You can copy the files saved in the system to the U disk, and you can also copy the files in the U disk to the system.

How to use: 1. Click inside, select the file, and click Copy

2、Click USB, click Paste, the system internal files are

successfully copied to the U disk

Font management

Users can upload fonts to the inside of the system, support upload format: ttf font format,

How to use: 1. Insert the U disk with TTF font format into the USB

socket

2 Click the font, then USB, click the font on the upper right, Select the double-line font, click USB again, then select the TTF font and click the import button

3、After the system prompts that the font is successful, restart the system

1.4. System toolbar



Document: Manage spray files and fonts

ZoomIn:Zoom tool

ZoomOut:Zoom out tool

Work: Show the entire marking area

Selected: Maximize display of selected objects

ALL:Maximize all objects

2. Keyboard introduction

The keyboard interface is shown in Figure 2-59

-6.4																				+ 9
q	w		е		r		t		у		u		ĭ	0	0	р	1	2	3	×
a		s		d		f		g		h		j	1	5	1		4	5	6	ABC
z	×		c		v		b		n		m	٢	En	er		+	7	8	9	Chinese
-	1	Ē	-	-	-		-	_	-	1		-	1			-	-	-	-	Symbol
Caps		L				_					*		•	1		•	7	0	•	Arab
1					1	-										Î				1
A					в								с			D				E
												冬	2- 59)						

- A: Capitalization switch
- B: Space bar
- C: Newline key
- D: Cursor up, down, left and right
- E: Delete, input method switch, close (Note: Chinese is Pinyin input)

3. Production line settings

3.1.1. Static coding settings

1、 Pipeline settings

The direction of the pipeline is selected to be stationary, as shown

in Figure 3-1

\oslash	System is ready.			O Refresh	Eccus lig	int Guide light	(Fest	Marking Info	START
G Home	Product line	Pipeline direction					T	0	
	Marking mode	Left to rig	▶ aht	1	Right to 1	eft		Stop	
COS Setting									
		Encoder Wheel diameter (mm) Puises per cycle	100.00 5000			Simulated line spee 90.00 Flight parameters	1	π	n/min
Reboot		Move direction Flight coefficient	0.0000	mm/p	ulse	Pipeline angle Other parameters	0.00		
09:39:14									

Figure 3-1

2、 Marking mode settings

Marking mode can choose jog mode or signal trigger mode.

3.1.1.1. Jog mode

Marking mode is changed to jog mode, as shown in Figure 3-2.

Pedal Mode:When the mode is jog mode, the pedal mode can be selected as the trigger signal, and the foot filter can be set. After clicking to start marking, wait for the foot signal before marking.

Cont. Mode:When checked, click once to start marking and continuous marking according to the time interval. When not checked, click once to start marking once.

Red light mode: After marking, the red light guide runs automatically.

\oslash	System is ready.		O Refresh	[O] Focus light	T Guide light	Test.	Marking info	START
☆ Home	Product line	Sensor			Dealestille	-	1000	
	Marking mode	fl.			Long long	r (ns) Į	5	
Product line		FootSwitch Pedal Mode Close *			Peda	lFilter (us)	d	
		Marking Mode Mode log mode =						
Reboot		Mark times 1 TSBOT(ms) 0 Red light mode Yes	Cont. r	node	Yes 10	00		(ms)

Figure 3-2

3.1.1.2. Trigger marking mode

Marking mode selects the sensor mode, as shown in Figure 3-3. In this mode, the sensor must be turned on, otherwise no trigger signal will be received. In this mode, the foot switch will not take effect.

Open detector:Must be checked, otherwise the trigger signal cannot be received without marking, and the sensor filter can be set.

Level setting: Select the level trigger polarity (high level or low level trigger)

Mark times:After clicking to start marking, the sensor triggers a signal and the system performs several markings.

TSBOT:Within the set time, the system will automatically shield the trigger signal received by the sensor.

\bigotimes	System is ready.		O Refresh	[O] focus light	T Guide light	\bigoplus_{Test}	Aarking Info	START
Home	Product fine-	Sensor			ProbeFilter	(ns)	1000	
	Marking mode	High level fl) Low level	Į	ſ	
Setting		FootSwitch Pedal Mode Close =			Pedal	Filter (us)	đ	
Reboot		Mode Sensor mode = Mark times 1 TSBOT(ms) 0 Red light mode	Cont. mo	de	100	0		(ms)

Figure 3-3

3.1.2. Flight marking settings

The direction of the pipeline is selected from left to right or from right to left, according to the situation of on-site coding, as shown in Figure 3-4.



\oslash	System is ready.			Q Refrestr	[O] Focus light	T Guide light	test.	Marking into	START
↓ Home	Product line	Pipeline direction						0	
	Marking mode	Left to ris	ght	R	ight to left			Stop	
Setting		Coptimize märking	g order		Sir	mulated line spee	d		
0		Wheel diameter (mm) Pulses per cycle Move direction Flight coefficient	100.00 5000 Reverse	mm/pu	Fli F	90.00 ight parameters Pipeline angle Other parameters	0.00	Setting	n/min-
Reboot			Calcul	late					
10:34:30 2020/06/28			Tachom	neter					

Figure 3-4

Optimize marking order:The comparison between optimized coding order (left) and non-optimized (right) is as follows.



Enable encoder:When checked, the encoder is used to mark the pipeline speed simultaneously; when unchecked, it is marked with the analog pipeline speed.

Encoder settings:

Wheel diameter: The diameter of the wheel mounted on the encoder.

Pulses per cycle: The number of encoder pulses can be obtained on

the encoder label.

Move direction:Click to calculate the coefficient and speed to automatically identify whether to run in reverse

Flight coefficient:Click the calculation coefficient to automatically obtain the flight marking coefficient (this value is the calculated value, fine-tuned according to the marking effect on site).



When the situation in Figure 1 or Figure 2 occurs, increase or decrease the coefficient according to the on-site laser placement direction and the pipeline direction until the figure marked is shown in Figure 3.

Pipeline angle:The angle between the laser and the pipeline, when the laser machine and the pipeline have a small angle, and the physical adjustment is not accurate enough, the angle can be corrected by software modification. The pipeline angle is shown in Figure 3-5.



Figure 3-5

If the angle is incorrect, the following two situations will appear, as shown in Figure 3-6





When the situation of Figure 1 or Figure 2 occurs, increase or decrease the angle of the pipeline (can be changed to a negative number) according to the direction of the laser placement on the site and the direction of the pipeline, until the marked figure is shown in Figure 3.

Other parameter:The interface is shown in Figure 3-7.

Other paramete	rs	
Mandatory update:	Ye	s
Enable location restrict	tions: Ye	s
Position offset (mm):	0.00	
Close warning:	V Ye	5
Range:	100	
	ОК	Cancel

Figure 3-7

Mandatory update:If the current information is fixed content (excluding changes), if you want to realize the online update function, you must select "Yes" to force the update.

Enable location restrictions:When unchecked, the laser emits light from the edge of the galvanometer to increase the pipeline speed of the data; when checked, the laser emits light according to the position of the galvanometer where the data is located. For example: add the code content: 2020/06/28, the data is centered by default, click the calculation function, when checked, the current position of the data is allowed. The fastest pipeline speed: 133.94m/min. When not checked, the fastest line speed is obtained: 233.44m/min, as shown in the comparison below.



Position offset: This value will only take effect when Enable Location

Limitation is not checked. Example: The value is 10mm, that is, the laser light exits from the edge 10mm.

Close warning:Close all alarms, that is, no alarm prompt appears at the top of the interface.

Range:This feature is temporarily unavailable.

Simulated line speed setting

Setting method:Use the encoder unchecked, as shown in Figure 3-8. Measure the line speed first, then fill the line speed into the fixed speed. When the following conditions occur during marking, the fixed speed can be modified until normal.



When the situation in Figure 1 or Figure 2 occurs, increase or decrease the simulation speed value according to the on-site laser placement direction and the pipeline direction until the marked figure is shown in Figure 3.

\oslash	System is ready.			O Refresh	Forus light	T Guide light	() Test	(B) Marking Info	START
G Home	Product line	Pipeline direction						0	
Product lines	Marking mode	Left to rig	abil		Right to lef	t.		Stop	
Setting		Enable encoder	1 örder						
		Encoder Wheel diameter (mm)	100.00		s	imulated line spee	d		m/min
		Pulses per cycle	5000		F	light parameters Pipeline angle	0.00		
O Reboot		Flight coefficient	0.0000	mm/;	nulse	Other parameters		Setting	
A e e									
14:05:10 2020/06/28									

Figure 3-8

Marking mode settings

Three marking modes: normal mode, pipeline mode, continuous marking mode

3.1.2.1. Normal mode

Select normal mode for the coding mode, and the sensor is turned on, as shown in Figure 3-9.

Sensor distance:Probe distance, that is, the distance between the probe installation position and the marking position.

TSBOT:Within the set distance, the system will automatically shield the trigger signal received by the sensor.

\bigotimes	System is ready.			O Refresh	(O) Focus light	T Guide light	Test	Marking Info	START
↓ Home	Product line	Sensor				ProbeFilte	r (ns)	1000	
	Marking mode	High level	£		0	Low level	Ţ	ſ	
Setting		FootSwitch Pedal Mode Close	Ŧ			Peda	lFilter (us)	d.	
		Marking Mode	Ŧ						
Reboot		Sensor Distance (mm) TSBOT(mm)	100.00						
14:08:37 2020/06/28									

Figure 3-9

3.1.2.2. Pipeline mode

The marking mode selects the pipeline mode, as shown in Figure 3-10

Starting distance:From the moment you click to start marking, the code starts to be coded after this distance.

Mark distance: The distance between the last marking and the next marking.

\bigotimes	System is ready.			O Refresh	O Focus light	T Guide light	Test	Marking info	START
↓ Home	Product line	Sensor				ProheFilte	r (ne)	1000	
	Marking mode		ſl			Laviere	l	5	
Setting		FootSwitch Pedal Mode Close	•			Peda	lFilter (us)	q	
		Marking Mode Mode Pipeline mode	*						
Reboot		Starting position(mm) Mark Distance (mm)	50.00						

Figure 3-10

3.1.2.3. Continuous mode

Select continuous coding for the coding mode, as shown in Figure 3-11. At this time, the sensor must be turned on and the code will be printed only when the sensor is always at a high level.

Sensor distance:Probe distance, that is, the distance between the probe installation position and the marking position.

Mark times:Set the number of continuous coding, when there is no limit, when the sensor is at high level, the system will always code according to the set distance.

TSBOT:Within the set distance, the system will automatically shield the trigger signal received by the sensor.

Mark space: The distance between the last marking and the next

marking.

\oslash	System is ready.			O Refresh	Eccus light	T Guide light	() Test	(B) Marking Info	START
↓ Home	Product line	Sensor				ProhoEilta	r (nr)	5007	
	Marking mode	High level	£			Low level	Ţ	ſ	
Product line COS Setting		PootSwitch Pedal Mode Close	×.			Peda	lFilter (us)	đ	
Reboot		Marking Mode Mode Continuous mo Sensor Distance (mm) TSBOT(mm)	de * 100.00 20.00	Mark	t times t Space(mm)	1		Unlimited	

Figure 3-11

4. Setting

4.1. Marking parameters

Select the marking file on the homepage, click Settings-spraying parameters to change the parameters of the marking data, you can modify the default value.

\oslash	System is ready.			O Refresh	[O] Focus lin	thi Suide light	(i) Test	Marking Info	START	
G Home	Marking parameters	Marking parameters	7		-	Restore to default		Default valu	e modification	
***	Area								-	
Product line	Laser	Marking speed (mm/s)	10000			Marking delay () 10			
Setting	User rights	Power (%)	90			Laser on delay (us)		-40		
	System settings 10 settings	Frequency (KHz)	20.00			Laser off delay (us) 140			
		Pulse length (us)	10.00			Jump limit (us)	Ū			
		Jump delay (us)	190			Length limit (mr	n) 0.0	1		
Reboot	Comm settings	Dot times(us)	10		/ Yes	Length control (mm) 0.0	1.		
8	Busilian Info									
60	system min									
14:25:02 2020/06/28										

Figure 4-1

Marking speed (mm/s)

Marking speed describes the "writing" speed of the focus of the laser beam on the surface of the marking object

Jump speed(mm/s)

Jump speed describes the speed at which a vector graphic is drawn after jumping to the next vector graphic. The typical value is twice the marking speed.

Power (%)

The relative power of the laser (unit: %). The larger the value, the higher the power. It is recommended not to exceed 90% during use.

Frequency (KHz)

The laser frequency describes the number of pulses per unit time, that is, the number of points per second (unit: KHz)

Pulse width (us)

Laser pulse width

Delay parameter

The delay parameters mainly include jump delay, light-on delay, laser-off delay, marking delay and corner delay. The delay must be adapted to the defined jump speed and marking speed. If the delay is not optimized, the quality of the marking result will decrease and the marking time will be extended.

In general, the length of the open laser delay and the off laser delay have no effect on the total scan time. The on-laser delay and off-laser delay should be optimized first, followed by the delay of the mark control, ie the jump delay, the end-of-mark delay and the turning point delay. It is very useful to set the jump delay and the end of the marking delay to a large value during the optimized laser delay.

Below we will illustrate the effect of various marking delays on marking quality by way of example:

Jump delay is too short

If the jump delay is too short, after the jump, the scan head is not positioned yet. The first marking vector has started and will show an in-motion oscillation effect, as shown in Figure 4-2.



Figure 4- 2

Jump delay is too long

If the hop delay is too long, there is no significant impact. However, the marking time will be extended.

Laser-on delay is too short

If the Laser-on delay is too short, the laser is turned on at the beginning of the marking vector. Even if the galvanometer has not reached the required angular velocity, the starting point of each vector has a coking phenomenon, as shown in Figure 4-3.



Figure 4-3

Laser-on delay is too long

If the laser-on delay is too long, the laser turns on too late at the beginning of the marking vector. The starting point of the vector is not marked, as shown in Figure 4-4.



Figure 4-4

Laser-off delay is too short

If the laser-off delay is too short, although the galvanometer has not yet reached the final position of the vector, the laser is turned off after the last marking command of a straight line or polyline, resulting in the respective vectors not being fully marked. As shown in Figure 4-5.



Figure 4-5

Laser-ff delay is too long

If the laser-off delay is too long, the laser is turned off too late after the last marking command of the line or polyline, the laser is still on, even if the galvanometer has stopped or moved very slowly, the result is that the end of each vector is coking phenomenon, As shown in Figure 4-6.

 $-\Lambda\Lambda$

Figure 4-6

Marking delay

No significant change, but the larger the value, the longer the marking time.

Corner delay is too short

If the corner delay is too short, the marking command on the subsequent polyline is already being executed, but the galvanometer has not reached the end point of the previous marking vector, which will cause the corner to appear arc-shaped. As shown in Figure 4-7.



Figure 4-7

Corner delay is too long

If the corner delay is too long, the galvanometer moves too slowly at this time or even stops when the subsequent marking command is executed. Since the laser is not turned off between these vectors, coking will occur, as shown in Figure 4-8.



Figure 4-8

Dot times(us)

Single-point energy, this function is effective when the font is dot matrix font or dot and dot matrix QR code is added, when \checkmark , it is dot time output, when it is not \checkmark , it is dot pulse output.

Jump limit, length limit, length control: Being not

4.2. Area

The area includes galvanometer calibration and red light guidance calibration, as shown in Figure 4-9.

\oslash	System is ready.				Q Refrestr	[O] Eccus light	T Guide light	test.	Marking into	START
Home	Marking parameters	Graphics area		() lost v			Debugging			
***	Area	Area size (mm)			Len2-X			Manual trigger Parameters		
Product line	Listr	Correction					Create Parameters			
	User rights		ı T	en1 Reverse	1	len2 Reverse		Laser test		
	System settings	Pincushion	Φ	0.2000		-0.2000.		F Guide light	Forced light	
	ID settings	Miscut	Ф	0.0000		0.0000			Guide Ligh	de Light
Reboot	Comm settings	Trapezoidal Proportional	Д П	0.0000		0.0000				
8	System Info			0.9000		0.9000				
15:17:35 2020/06/28										

Figure 4-9

4.2.1. Galvanometer calibration

Area size: Marking range of current field lens.

Len 1=X, Len 2=X:Select Len 1=X and click manual trigger. When the marked ABC is horizontal, it is correct. When the marked ABC is vertical, it means that the selection is wrong, then choose Len 2=X.
Correction:Observe whether the marked ABC is reversed according to the on-site situation, rotate it, and select the corresponding galvanometer to reverse until the marked content is what you need.

The coefficient correction method is shown in the following table

First, select the automatic creation of debugging parameters, and then click the test parameters to set the size of the rectangle. Example: If the area size is 110, the rectangle size is set to 109, and then click to trigger manually.

Pincu	shion
Doduce V or V svis corresponding	Increase the X or Y axis
galvanometer coefficient	corresponding to the
	galvanometer coefficient
C D A X B.	C Y A X B
	Increase the X or Y axis
Reduce X or Y axis corresponding	corresponding to the
gaivanometer coemcient	galvanometer coefficient







4.2.2. Red light guide calibration

Click the red light guide setting to enter the red light guide calibration interface, as shown in Figure 4-10.

uide Light Frame	Yes		Sav	/e	Quit
Guide speed: 500	0.00 X	Y	Step size	1	
Offset:	0.00	0.00	Foo	us adjust	ment
Zoom:	1.00	1.00		T	
Rotate:	0.00		+	Move	+
Focus off:	0.00	3.00		ŧ	
Focus off:	0.00	3.00		ŧ	

Figure 4- 10

Frame:When "Yes" is selected, it is guided by a rectangle; when it is not selected, it is guided by the full path of the glyph.

Guide speed: Guide red light line drawing speed.

The red light guide calibration method is as follows:

- 1、 Add a rectangular marking.
- 2、Click the red light guide, adjust the offset, zoom, etc. so that the red light guide light completely coincides with the marked figure.

The red light focusing method is as follows:

1、Red light focusing must have two red lights, one for fixed red light and one for adjustable red light.

2、 Check the red light focus adjustment, adjust the four buttons up,

down, left and right to make the two red lights completely coincide.

4.3. Laser

Select the laser type and modify the laser parameters, the interface is shown in Figure 4-11.

\oslash	System is ready.			O Refresh	O Focus light	Gutde light.	Test.	Marking info	START
Home	Marking parameters	Laser type CO2		Parameter	range				
	Area	Preionization							
Product line	Laser	Pulse length (us) Pulse frequency (KHz)	10 5						
Setting	User rights	First pulse suppress	ion 0						
	System settings	Power increment (%)	0						
	IO settings								
Reboot	Comm settings								
14:57:02 2020/06/29	System info								



Laser type:Select the type of laser, if the laser is CO2, it should be correspondingly selected as CO2, restart the system.

Parameter range: Modify the range of laser power and frequency.

Fiber laser properties: The interface is shown in Figure 4-12

MO signal: Can choose normally open or not normally open, usually

MO needs to be opened.

MOPA: If the laser is a MOPA structure laser, MOPA needs to be turned on.

\oslash	System is ready.				O Refresh	O Focus Fight	T Guide light	Test	Marking info	START
G Home	Marking parameters	Laser type	Fiber	÷	Parameter	range				
	Area	MO signa	r			_				
Product line	Laser	MOPA	matly open Delay (ms	7						
Setting	User rights	Ena	ble							
	System settings									
	IO settings									
Reboot	Comm settings									
	System info									

Figure 4- 12

CO2 laser properties: The interface is shown in Figure 4-13

Pre-ionization: Generally do not need to be modified, if the laser is

found to have weak light leakage, reduce the pulse frequency.

First pulse suppression: If the starting point is too deep, you need to

turn on the first pulse suppression and set the starting power.

\oslash	System is ready.			O Refresh	[O] Focus light	T Guide light	Test	Marking info	START
Home	Marking parameters	Laser type CO2	Ŧ	Parameter	range				
	Area	Preionization							
Product line	Laser	Pulse length (us) Pulse frequency (KHz)	10 5						
Setting	User rights	First pulse suppress	ion						
	System settings	Starting power (%) Power increment (%)	0						
	IO settings								
Reboot	Comm settings								
15:11:13	System info								

Figure 4-13

UV laser properties

The minimum and maximum frequency of PWM can be set. For some brands of UV lasers, when the light output reverses, that is, 1% power output power is maximum and 100% output power is minimum. In this case, select "Yes" for the PWM signal reverse, such as light output If the phenomenon is normal, you do not need to choose, as shown in Figure 4-14.

\oslash	System is ready.		O Refresh	[⊕] Focus light	T Guide light	(Fest	Marking Info	START
Home	Marking parameters	Laser type UV T	Parameter	range				
	Area	PWM signal reversal						
Product line	Laser	Idemitsu signal reversal						
Setting	User rights							
	System settings							
~	10 settings							
Reboot	Comm settings							
<u>ک</u> 9	System info							
15:12:52 2020/06/29								

Figure 4- 14

Inno/lightwave laser properties: The interface is shown in Figure 4-15.

All configurations on this page can be selected by default, because the UV laser needs to be preheated. After a few minutes after booting, the laser will automatically start.

\triangle	System warning:	UV Co	O Heterory	O Focue nom	T Gsuide light	$\bigoplus_{i=1}^{n-1}$	() Mexing into	START
G Home	Marking parameters	Laser type UV_INNO *	Paramet	er range				
***	Area	PWM signal reversal	itsu signa	l reversal				
<pre>product line</pre>	Laser	Work mode Internal -	Laser ter	at	Open la	iser		
Setting	User rights	Frequency 0 ()	(Hz)					
		EXT	PWF	0(96)		TIS	.Q(**C)	
		SHT	IDI TDI	0(A) 0(*C)		TK1 T25	N(*C)	
Reboot		QSW	TD2	0(CC)		тк2	a(*C)	
8	Sustant Info	MOD	TLA	B(°C)		TEV	מרכן	
15:13:40 2020/06/29				Advanced set	ling			

Figure 4-15

4.4. User rights

Set user permissions and passwords hierarchically, as shown in Figure 4-16. Log in to the administrator user (password: 123), and set the permissions and password for each user. Example: Change the password of Level1 user to 888, as shown in tu, set the user's use rights, and cancel the three functions of adding objects, editing objects, and file operations using Figure 4-17, as shown in Figure 4-18. Log out of the administrator user and log in to the Level1 user. The user's shielding function has become gray and cannot be used, as shown in Figure 4-19.

\odot	System is ready.			O Refress	(O) Focus light	T Ysulde light	Test) Marking Info	START
슶	Marking parameters	User list		Use	r rights				
Home		Empty user			Permis	alormame		Enable	- 14-
	Area	Administrator		Ad	d object.		V	Enable	
Product line		Levelt		Edi	it object		Y	Ersabile	
m	Laser	Level2		Fik	e operations		~	Enable	
Satting		tti		Ma	arking param	ieters	~	Ethable	
Serving	User rights			Pro	duction line		~	Enable	
				Sta	rt marking		~	Enable	
	System settings			Tes	t marking		V	Enable	
	IO settions			Re	d light contr	ol	~	Enable	
6	in a standa			Re	set serial nur	nber	~	Enable	
Reboot	Comm settings			Cle	ar count		~	Enable	
8				Cle	ar alarm		Y	Enable	7
Administrator				-	_				
15:16:10		24 Add user	2 Delete users	Char	ngë Password				

Figure 4-16

ange Pass	word		
Username:	Adm	in	
Password:	1		
Confirm pass	word:		
	ОК	Cancel	



\oslash	System is ready.		Q Referr	(O) Focus light	T Guide light	(Fest) Marking Info	START		
슯	Marking parameters	User list	User rights							
Home	Area	Empty user Administrator	Ad	Permis id object	alorr fialme		Enable	÷		
Product line	Later	Level2	Ed	it object e operations			Enable Enable			
Setting	User rights	111	Ma	arking param aduction line	eters	V	Ethable			
			Sta Te	irt marking st marking			Enable Enable			
6			Re	d light contr set serial nur	nber	~ ~	Enable			
Reboot			Cle	sar count ear alarm		VV	Enable	×		
Administrator	System Info	2. Add user 2. Delete users	🔂 Cha	ngë Password						

Figure 4- 18

\oslash	Syste	em is re	ady.					O .	O Focus (igt)		T Guide light	(L) Test	() Marking Info	START
	Z	G	E	ß	6	2	€			3	File name	E.	123	1
Home	6		Simta	Annie ge	Loon.	1.51	1000	THE			Predsian	(mm, deg):	1.0	ЛП
Product line	Draw -										0	100	~	C-VILO
Ô	Graph										4	3	P	et follo rem
Setting	Text				00	22					17	\diamond	0	+
	Barcode									1	1	M-select	All-Select	Calculate
	QR code											T		MEC
Reboot	Ö										Width (mm):		Marki	ng parameters
8		4								•	Height (mm)		-	• •
15:21:53 2020/06/29		THE	3	Zoomin	ZoomOur	Work	Sele	A	All		X(mm):		Y(mm):	

Figure 4- 19

4.5. System settings

As shown in Figure 4-20.

\oslash	System is ready.				O Refresh	[O] Focus light	Guide light	Test	Marking into	START
G Home	Marking parameters	System	S	Screensave	er	Othe				
		Date:	Year	06	Month	29	Day			
Product line		Time:	Time 15	23	Minute	33	Second			_
Setting		Internet Info:					Setting			
	System settings	Language:	English			*				
	10 settings									
Reboot	Comm settings									
	System infa									
15:23:35 2020/06/29										

Figure 4- 20

System settings:

Date:Set system date.

Time:Set system time.

Internet Information:Set the DHCP information of the motherboard, click Settings, and the interface pops up, as shown in Figure 4-21. Click Enable to set the network information, and then click Save.

Network settings	Save	Quit
DHCP Enable		
Host name:		
IP address:		
Subnet mask:		
Gateway:		
DNS:		

Figure 4- 21

Host name:Set the motherboard name.

IP address:Set the motherboard IP address.

No need to set subnet code, gateway, DNS

Language:Set the system language type, support Chinese and English,

you need to restart the system after switching languages.

Language:	English	-
	English	
	简体中文	
	繁體中文	_

BC settings: Developer options.

Screensaver settings

\oslash	System is ready.		i.	O lefrest	[⊙] Focus light	T Guide light	(inclusion) Test	Marking info	START
Home	Marking parameters	System	Screensaver		Othe				-
	Area	Enable screen saver:	Yes						
Product line	Laser	Screensaver time (s):	*						
Setting	User rights	Font size:	30						
	System settings	Display text: Backlight brightness:	AAAXXX	1		Preview 50			
	IO settings	Screensaver backlight:	_	i		50			
Reboot	Comm settings								
2 e 0	System Info								
15:38:19 2020/06/29									

screen saver content, backlight, etc., as shown in Figure 4-22.

Enable the screen saver function, you can set the screen saver time,



Other settings

Automatically load files: Automatically load files opened before shutdown after booting.

The menu displays:Whether the check function is displayed in the status bar, for example: red light focus is not checked, as shown in Figure 4-23.





Keyboard characters:To add symbols that are not in the existing keyboard, click Settings to enter the keyboard character management interface, as shown in Figure 4-24, click Add Character, Jinfu Unicode encoding interface, each character has its specific Unicode encoding, available online Find or find in Word. Example: Add the symbol [®], the corresponding Unicode code is 00AE, click 00AE on the interface, as shown in Figure 4-25, click Add, the symbol will be added to the keyboard character management interface, as shown in Figure 4-26, After the addition is complete, you can see the changed characters on the keyboard of the edited content, click the More button on the keyboard, as shown in Figure 4-27.



Figure 4- 24

	0	1	2	3
®	4	5	6	7
OOAE	8	9	A	В
	с	D	E	F
	De	lete		

Figure 4- 25

Keyboard character management	Quit
0-00ae	Add symbol
	Delete symbol

图 4- 26

100 〇和市機校 【	LC1000000000000000000000000000000000000	Libia • 🖪 27281	+ +		12	[3] 例相至141_		
= ★# > 日2日日、	RE NEMark				E 7	· 2011 名 · 10月	西分享	: ^
) · · · · · · · · · · · · · · · · · · ·	Text modification				OK	ALAT I	Q memo	1848 (1948 (
		Fixed content modification			•		8.2	-
		(matt)		1	Q			4
	2	Content			* 12	1998-12		R
	Test Test Test			4	Salaci	09H8HET,		100
	91 Senal No.			_		3	+1	
	-	OK	Cancel		_		•)	
	14.		a second a s	82	Close		*	
	®			Return	×			
				Previous	ABC		+1	
				Theman	Chinese	1		
4				Next page	Symbol			
					Arab	1	-	
				-	non admin			-
	如图 4-28 所示				1			35
页明 88 页重 88/08 刊 1/1 设	[]]值.248周末 [F.5 死3]	学校 7759 131开中国新闻 131文和4539	29 H	2000	B 100%	0	-	+ 22
				R. V		P Mai 2020/6	/29 🍈	1

Figure 4- 27

Input method settings:Set the input method in the keyboard. The keyboard supports up to 4 input methods at the same time, as shown in Figure 4-28.

Input method settings			Save	Quit
Don't show input method items		Display input	method items	
Traditional		ABC		
Korean		Chinese		
Russian		Symbol		
Greece		Arab		_
Latin	•			•

Figure 4-28

4.6. IO settings

Detection settings:(For developers)

IO output settings:As shown in Figure 4-29, there are three IO signal outputs. Can be set: marking ready output, marking output, fault output, meter output, serial number end output.

Example: When the marking is required to end the output, the setting method is as follows:

1, OUT-1 is set to mark the end of output.

 2_{\sim} (Note: IO output is low level), if the wiring object is a solid state relay, the positive pole of the relay is connected to the 5V (PL19) output port of the interface board, and the negative pole is connected to the O_1 port.

3、Set the output signal width at the end of marking.

4、 Click Save and restart the system.

(Specific wiring and use method: please contact after-sales staff)

IO out	put settings		Save	Quit
OUT-1:	No			Ŧ
OUT-2:	No			v
OUT-3:	No			-
Marking	end signal width (ms):	10		
Serial nu	mber output signal width (ms):	20		

Figure 4-29

Example: When the meter output is required, the operation steps are as follows:

1, OUT-1 is set to meter output.

 2_{\sim} (Note: IO output is low level), if the wiring object is a solid state relay, the positive pole of the relay is connected to the 5V (PL19) output port of the interface board, and the negative pole is connected to the O_1 port.

3、 Marking mode is set to flying marking, trigger setting select pipeline mode.

4、 Click the coding information button at the top right of the screen, as shown in the meter counting information in Figure 4-30, enter the meter

counting function setting interface, as shown in Figure 4-31.

5、 Set metering parameters:

Length:Set the metering length. The metering starts when the pipeline is turned on, and a signal is output every time this value is reached (high level or low level, settable)

Output:Set the output signal to high or low.

Signal time:Set signal output time, unit ms.

Output delay:Set whether to delay the signal output, unit mm.

Cumulative length:The meter starts counting when the pipeline is turned on, and outputs a signal (high level or low level) whenever the accumulated length reaches the set length value.

Signal status: Current signal status

6、Restart the system.

T Guide light	Test	Ma	irking info	START
View conter	nt M	arkir	ig info	
File name		123		
Marking	time (ms)	:0		
Total nur	nber:	0		
Current t	imes:	0		
Speed (n	n/min):	90.0	0(Fixed)	
Refresh v	riew		🖌 Yés	
Clear cac	he		Yes	
Pipeline	mode		Meter Ir	nformation
		in the		nananananana
Cle	ar alarm		Reset set	rial number
Cle	ar count		I	Edit

Figure 4- 30

Meter Informatio	on	OK	Quit
Enable meter:	Yes		
Length (m):	0.00		
Output:	High level		
Signal time (ms):	10		
Output delay (mm):	0.00		
Cumulative length (m):	0		
Signal status:	Low		

Figure 4- 31

4.7. Communication settings

If you need to use this function, please contact our staff.

4.8. System info

Display system related information and software update and registration, as shown in Figure 4-32.

\oslash	System is ready.		O Refresh	T Guide light	(Fest	(a) Marking infe	START
G Home	Marking parameters	System info Device model: 000 CY01D (N-N)					
	Area	System info: 1.0.2 May 26 2020 13:22:46					
Product line	Loser	Device No: 0000-00 Operation hours:D0 0:56:54					
Setting	User rights	Update: System update					
	System settings	Registration message Machine code:				Export	
	IO settings	Use permissions: Job 0 Hour Remaining time: 0 Hour					
Reboot	Comm settings	Registration code:					
8	System info						
16:12:34 2020/06/29		al a					

Figure 4- 32

4.8.1. System update

System updates include software upgrades and changes to the boot interface.

The software upgrade steps are as follows:

 $\mathbf{1}_{\mathbf{v}}$ Save the update file to the USB flash drive and insert the USB flash drive.

2、 Click Software Update, the pop-up interface is shown in Figure 4-33.

oftware up	date		
Update file:			Select
	Start Update	Cancel	

Figure 4- 33

3、 Click to select, the pop-up interface as shown in Figure 4-34.

File				×
Storage options:	Internal	USB		Space: 332/512 M
Path: /Data/Upload	Ifile			← Return
Select	File nan	ie.	Time	New New
				Delete
				🛋 Rename
				Сору
				= Paste
				M-select
File name:				
Type: Img (* .i	mg) 🔹			ОК

Figure 4-34

4、 Click USB, select the update file, click OK, click start update.

The steps to change the boot interface are as follows:

 1_{\sim} Boot picture production (format: bmp, resolution: 1280*800, bit depth: 32,)

 2_{∞} Name the created picture as a logo, then save the picture and update tool (please ask the staff for the update tool) to the U disk, and then insert it into the USB at the bottom of the screen.

3、 Click System Update, the interface pops up, as shown in Figure 4-35.

oftware up	date		
Update file:			Select
	Start Update	Cancel	

Figure 4-35

4、 Click to select, click USB, select the update tool, click OK, click to start the update.

4.8.2. Registered

Limit software usage time or days.

Proceed as follows:

Step 1: Export the machine code to the U disk, the operation steps are as follows:

1. Turn on the machine and log in to the system (password:
 123)

2、Click Settings --- System Information --- Export Machine Code (According to the system prompt to complete the operation)

Step 2: Open the registered software register.exe, as shown in Figure 4-36 (the registered software is sent to the laser manufacturer separately)

) negister		- 🗆 X
Machine code:		Import
Limits © Limited hours O Time:	Limited days ONo limit	
	Generate	



Step 3: Import the machine code (Note: The machine code can be directly exported from the operation screen to the U disk, and the specific operation is completed according to the prompts on the screen) Step 4: Set the secret key (the secret key is the secret key of the machine, you must keep in mind that the next time the machine is registered, you must use the secret key to register)

Step 5: Set the time limit or days of use, and also lift the limit

Step 6: Production registration code, save to U disk, as shown in Figure 4-37

Machine code:	nOTb74xF0Cg+2D4v6XtmRYbNzSHITHha3Qv+gI=	Import
Secret key:	123	
Limits		
Limited here	ours Olimited days ONo limit	
Time:		
	Generate	
	HxML9mEoPW2rIp7oIuWR4EvKbox0z+jZigIK1	Save
Register code:		

Figure 4- 37

Step 7: Register on the machine

- 1、 Login user, password 123 (administrator)
- 2、 Click Settings ---- System Information, import the registration

code (TXT file saved in the U disk before)

3、Click to register

5. Alarm information

System error:Click to open the settings --- detection settings --- enable detection (this function is used by developers, no need to tick during normal use).

Data initialization failed:When the data marking time is very long, click the test code and then click to start the code, there will be data initialization failure. (Re-switch the marking mode to remove the fault).

System warning 3000:The system failed to communicate with the lightwave laser.

System warning 3001:Warming up.