Index

1. Product Introduction

The Wonder Shears Digital System has combined all the cutting-edge technologies and is tailor-made for Chinese customers.

The product, built with solid alloy, is elegant, easy to operate, efficient and stable.

Features:

1、64*128 L CD display;

2、High-end blue monitor;

3、High-definition Chinese display;

4、English/Chinese dual language support;

5、Digitalized display of X axis;

6、Accurate control;

7、Self-diagnosis of exterior switch;

8、Smart alarm system;

9、Optional exterior switches;

10、 Single-way positioning.

2. Specifications

2.1、Display

64*128 LCD blue/white display

2.2、Features and Specifications of axis control

1、The system controls one axis (X), which controls forward/backward movement of back gauge;

2、Power Supply:

Input voltage: DC24V±2%

Maximum current: 5A

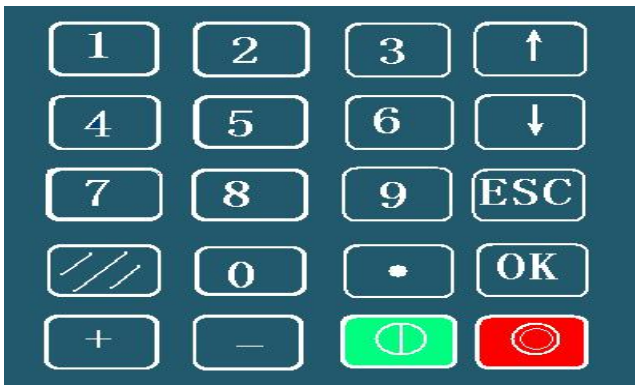
2.3、Environment temperature

Working environment temperature: 0 ～ 45℃

Storage environment temperature: 0 ～ 70℃

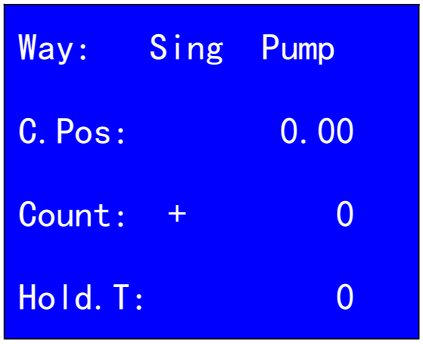
3. Introduction to Control Panel

3.1、Control Panel



3.2、System introduction

1、 Display window:



2、Key introduction:

(1). Function keys:

 ----------clears the current and previous values;

----------confirm and save;

----------quit and back;

 ----------move cursor up;

 ---------move cursor down;

 ---------plus/slow backward;

 ---------minus/slow frontward.

(2). Status switch keys:

 ---------press the key to start system (green);

 ---------press the key to stop;

enter auxiliary functions interface (red)

(3). Digital input keys:

“0～9” ---------Enter 10 digits;

 ---------the point key;

(4). Indicators:

System status indicators:

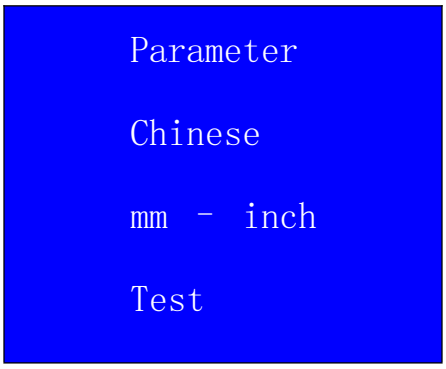
 ---------indicating “operating”;

 ---------indicating “stop”.

4. Auxiliary Functions

4.1 Auxiliary functions interface

How to enter: hold the stop key  to enter the auxiliary functions interface, as shown below:



4.1.1 Interface introduction

Press  or  to switch between lines and choose the function you wish to set:

The words "Auxiliary functions" is shown on the left of the LCD screen;

Line 1: Parameter (configuration), press  to enter;

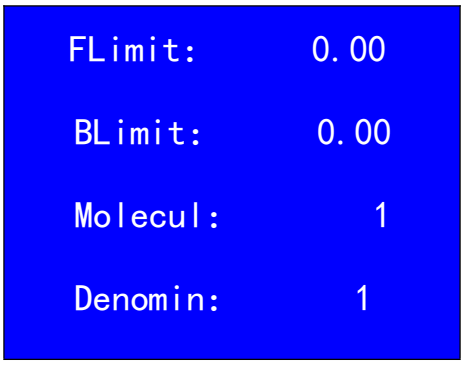
Line 2: displaying Chinese or English, press  to switch between Chinese and English;

Line 3: press  switch between metric and imperial units;

Line 4: press  to enter testing interface;

4.2 Configuration

When the cursor stays on the first line of "auxiliary functions", press  to start parameter setting, as shown below:



4.2.1 Interface introduction

Line 1: front limit, the zero position;

Line 2: back limit, the backward movement limit of gauge motor;

Line 3: molecule, in direct proportion to line 4;

Line 4: denominator, in inverse proportion to line 3;

4.2.2 Terms

"FLimit": the minimum limit between the back gauge and shears blade;

"BLimit": the maximum limit between the back gauge and shears blade;

"Molecul": molecule, in direct proportion to denominator in line 4;

"Denomin":denominator, in inverse proportion to molecule in line3.

4.2.3 Configuration

Press  or  to switch between lines and choose the parameter you wish to change;

How to change: move the cursor to the target parameter, press  to clear the current value and input the new value with the digit keys (0～9).

4.2.4 Molecule/denominator calculation

1). How to calculate:

Molecule/denominator=screw lead*100/encoder line amount

For example, the screw lead is 10mm, while the encoder has 400 lines

Molecule/denominator=10*100/400=5/2

The result is 5/2, 5 being the molecule and 2 the denominator.

Input 5 to “Molecul” and 2 to “Denomin”.

4.2.5 Save setting

After configuration, press OK to confirm and the system will notify: “save changes”, then press OK and the system will require to enter the three-digit password (147), finish saving and return to the parameter setting interface.

Press ESC to ignore changes

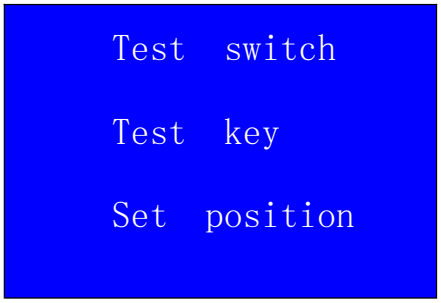
4.3 Metric/imperial system switch

When the cursor is on the third line, press OK to switch between metric units and imperial units.

Note: this function is only available in exported machines.

4.4 Test interface

How to enter testing interface: while at the auxiliary functions interface, move the cursor to “Test” and press OK to enter the test interface, as shown below:



4.4.1 Interface introduction

1、Line one: press OK to enter test switch interface;

2、Line two: press OK to enter test key interface;

3、Line three: press OK to set position.

4.4.2 Test switch

1.Operation:

Move the cursor to "test switch" through ↑ or ↓ , then press OK to enter the "test switch" interface, as shown below:

(2). Terms

FLMT: the front limit of back gauge;

BLMT: the back limit of back gauge;

ULMT: the up limit of back gauge;

DLMT: the down limit of back gauge

SWSF: pedal switch signal;

PUMP: pump control signal;

WAY: switch between jog and single-step;

LIGH: light protection

(3). Test and diagnosis

Turn the stroke switch, "√" and "×" signals shall appear on the screen; if not, please refer to appendix "7.4 Trouble-shooting".

4.4.3 Test key

1.Operation

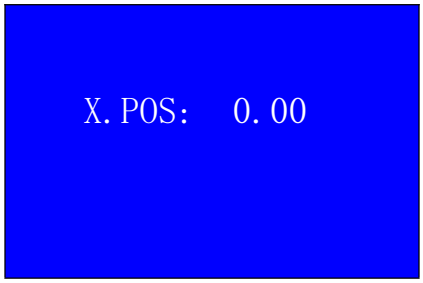
Move the cursor to "test key" through ↑ or ↓, and press OK to enter the "test key" interface. Each key corresponds to a value, as shown below:

Key	Value	Key	Value	Key	Value
0	00	7	07	OK	18
1	01	8	08	⇧	16
2	02	9	09	+	11
3	03	//	1D	—	12
4	04	◎	1E	⇩	17
5	05	⏀	1F	ESC	19
6	06	•	15		

2. After testing, press ESC twice to quit "test key" interface.

4.4.4 Set position

(1). display



(2).operation

Move the cursor to "set position" through ↑ or ↓,

press  to enter the "set position" interface. Enter a three-digit password (258) as required, and the above screen appears:

(3). Set parameters

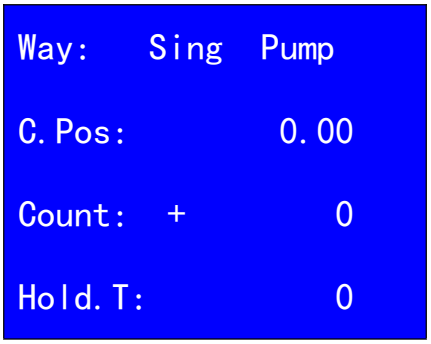
Press  to delete the "X.POS" value and enter the new value with digit keys; press  or  to move the cursor to "Y.POS", press  to delete the "X.POS" value and enter the new value with digit keys. Press  to save, press  again to confirm. Press  to quit the current interface if finished saving or no saving is required.

(4). Terms

XPOS: the current position of back gauge-current value;

5 Processing Interface

5.1 Interface Display



5.2 Terms

C.POS: the current position of back gauge;

Count: set the number of strokes;

5.3 Operation

1. Adjust blade gap;
2. Input number of strokes “count”;
3. Press  to clear C.POS value;
4. Input target position value with digit keys;
5. Press  to confirm input;
6. Press  and the system starts automatic-positioning; will stop at the target position.
7. Press the pedal to start shearing.

Notes: alarm messages are shown at the top-right corner of the monitor, for example: the word “pump” will appear if the pump fails to start.

5.4 Sample

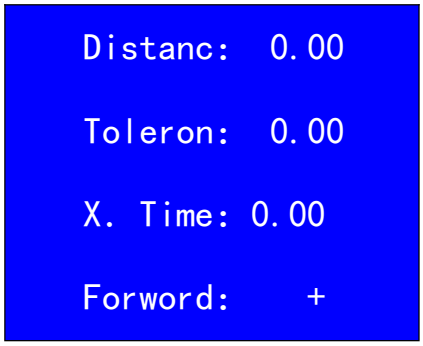
To cut a blank which is 100mm wide, 2.0 thick in 20 strokes, please follow the procedures below:

1. Adjust blade gap;
2. Input the number of strokes (20) in "counts";
3. Press  to clear the "C.POS" value;
4. Input the width value 100;
5. Press  to confirm;
6. Press  , the system starts automatic-positioning, and stops at the target position 100;
7. Press foot pedal to start shearing.

6 Machine parameters

6.1 Machine parameters interface

(1). Interface display



(2). Operation

Hold the delete key to switch power on, until the above screen appears. Press or to move the cursor; press to erase parameters and input new numbers with the digit key; press OK to save settings.

6.2 Terms

Distance: travel distance of axis X.

Tolerance: tolerance of axis X; the smaller the value, the more precision required;

X time: intervals between standard and reverse rotation

forward: direction of axis X count.

6.3 Configuration

(1). Operation

Press or to move the cursor to the target; press to clear and input new numbers with the digit key;

Always press  or  to change the “axis count” direction.

(2). Save settings

Press  to save settings, and input a three-digit password （147） as required; the system will return to “machine parameters”.

Press  to quit the current interface to finish saving or ignore changes.

7 Appendix

7.1 Encoder Interface Connection Table

(J2) Interface	Axis X encoder interface	Color
1	A	Red
2	B	Green
3	Z	Yellow
4	0V	Black
5	+5V	White
6	/A	Pink
7	/B	Blue
8	/Z	Orange
9	Shield	Shield
Note： 1. encoder output mode: long-line driver L (AM26LS31); 2. The color of lines may change.		

7.2 J4、J3、J7 Interface input and output chart

1. J4 Input Signal Table

	Signal Interface
1	0V
2	
3	Front limit
4	Back limit
5	Up limit
6	Down limit
7	Pedal
8	Pump
9	Way
10	Light protection

2. J3 Output signal table

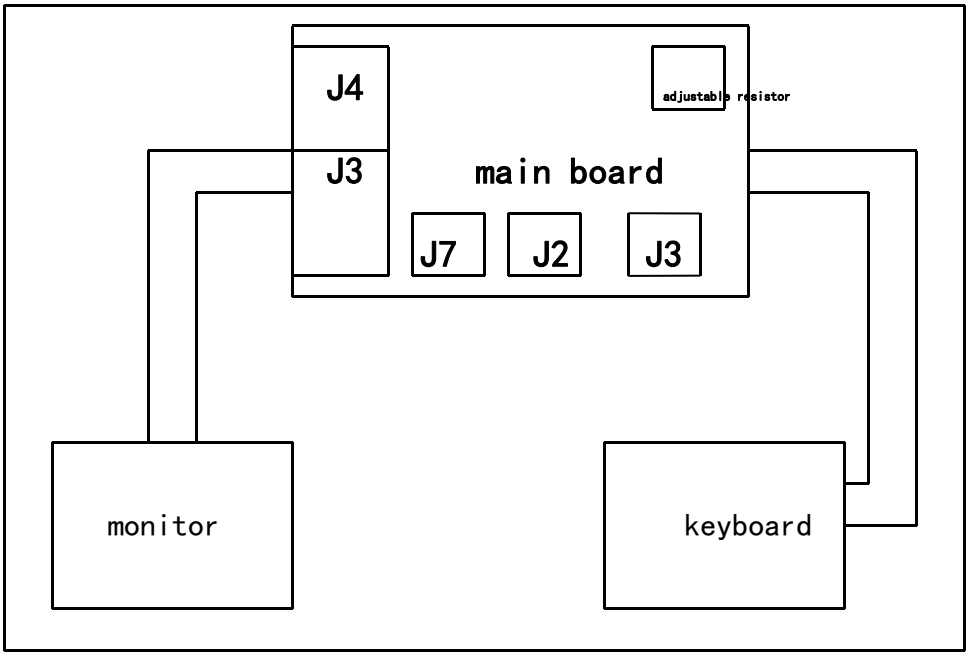
No.	Signal
10	
9	

8	Backup
7	
6	
5	Forward
4	Backward
3	0V
2	
1	

3. J7 Input signal table

Interface no.	Signal
1	24V
2	0V
3	0V
4	24V

7.3 System Interface Chart



7.4 Trouble-shooting

Back gauge at front limit	Check whether the limit switch is at the “on” (NO) position, or the front limit value is too large (current value >front limit value), or the limit switch is damaged.
Back gauge at up limit	Check whether the limit switch is at the “on” (NO) position, or the blade is not at the up limit, or the limit switch is damaged.
Flickering screen	Check whether the line is loose, power supply is normal, or there’s any electric interference.
Back gauge at down limit	Check whether the limit switch is at the “on” (NO) position, or the limit switch is damaged.
SWSF	Check pedal switch connection; whether system input is normal.
Pump	Check pump control circuits, AC contractor and system output.

Shall other problems occur, please contact the local dealer or Wuxi Wonder Control Technology Co., Ltd.

Shenzhen Wonder Control Technology Co., Ltd.
Wuxi Wonder Control Technology Co., Ltd.
Service Hotline:0510-85898600/83729992