

# HW78(V)电控使用说明书

## 前言

## Preface

欢迎使用本公司产品，制衣行的正确投资选择！

Welcome to use the our products, it is the right investment choices in garment industry!

本说明书为本公司新研发的“HW78V 控制箱”产品参考手册，请认真阅读此手册以更好的运用本公司产品！  
This user manual is for our newly developed “HW78V” products reference manual, Please read this manual carefully, hope it can give you useful help!



### 安全说明：General Safety Instructions

阅读本说明前以下要求说明请注意：

Before reading the manual, please note the following requirements:

1: 用户使用作业前必须可靠接地，保证人身安全。

The user must be grounded before operations to ensure safety.

2: 非专业人士请勿拆卸控制箱。

Non-professionals do not disassemble the control box.

3: 控制箱与电机远离强磁高辐射环境。

The control box and motor away from the magnetic high radiation environment.

4: 不要在过热环境中作业。

Do not work in hot environment .

5: 不要在过于潮湿环境中作业。

Do not work in humid environments.

6: 220V 电控：【220V 接入供电时电压稳定在（AC200V~260/单相）之间】

220V electronic control: [220V access to power supply voltage stability between (200V~260V)]

电源供电电压 Voltage	220V 单相 1phase
频率 Frequency	50~60HZ
电机转速 Speed	200-5000RPM
电机扭矩 Motor torque	≤4. 2N.M

110V 电控：【110V 接入供电时电压稳定在（AC100V~130/单相）之间】

110V electronic control: [110V access to power supply voltage stability between (100V~130V)]

电源供电电压 Voltage	110V 单相 1 phase
频率 Frequency	50~60HZ
电机转速 Speed	200-6500RPM
电机扭矩 Motor torque	≤4. 2N.M

## 安全叮嘱：

### Safety requirement:

1: 电机电控接通电源时（开机状态）请不要把脚放在脚踏板上.

Do not put your feet on the pedals when the control box and motor is switched on (boot status)

2: 本产品请专业人士安装调试.

Let professionals to install and debug this product

3: 严禁在通电时打开控制箱与电机端盖.

Do not open the control box and the motor cover when energized

4: 换针，穿线或更换底线时请关闭电源.

Please turn off the power when changing the needle, threading or replacing the bottom line

5: 安装，拆卸维修时请拔掉电源插头.

During installation and removal service, please turn off the power and pull the plug

6: 翻抬缝纫机时请关闭电源.

Please turn off the power when turn lift sewing machine

7: 使用本产品请远离高频电磁波和电波发射器等，以免所产生的电磁波干扰伺服驱动器而发生错误动作.  
When use this product, please stay away from high-frequency electromagnetic waves and radio wave transmitters, etc., in case the electromagnetic waves generated interfere with the servo drive to occur wrong action .

## 郑重声明：

### Solemnly Declare:

1: 不遵守安全使用说明操作规章，发生意外后果自负.

Do not comply with the manual book operating regulations and the safety requirements, all accidental occurrence should be taken by yourself.

2: 未经本公司授权，请勿擅自改动产品，由此而引起的后果本公司不负任何责任.

Without our authorization, please do not alter our products, our company is not liable for any consequences arising there from.

3. 由于产品的改进，本手册内容可能随时变更，恕不另行通知.

It will not noticed that the manual changed with the development of the products.

## 保修策略：

### Warranty policy:

1: 本产品自购买起免费保修 2 年，终身维护。保修期内除人为损坏外出现的任何质量问题可免费修.

Since from the purchase of this product, the free 2-year warranty, lifetime maintenance. During the warranty period, any quality problems the product will be free repaired, except artificial damage.

2: 未经本公司同意自行拆卸，改装造成损坏将不给予保修.

Without our consent disassemble or modify, the damaged will not give in warranty

3: 但凡出现无法解决的问题可以联系本公司.

Whenever find the problem can not be solved, you can contact with our company

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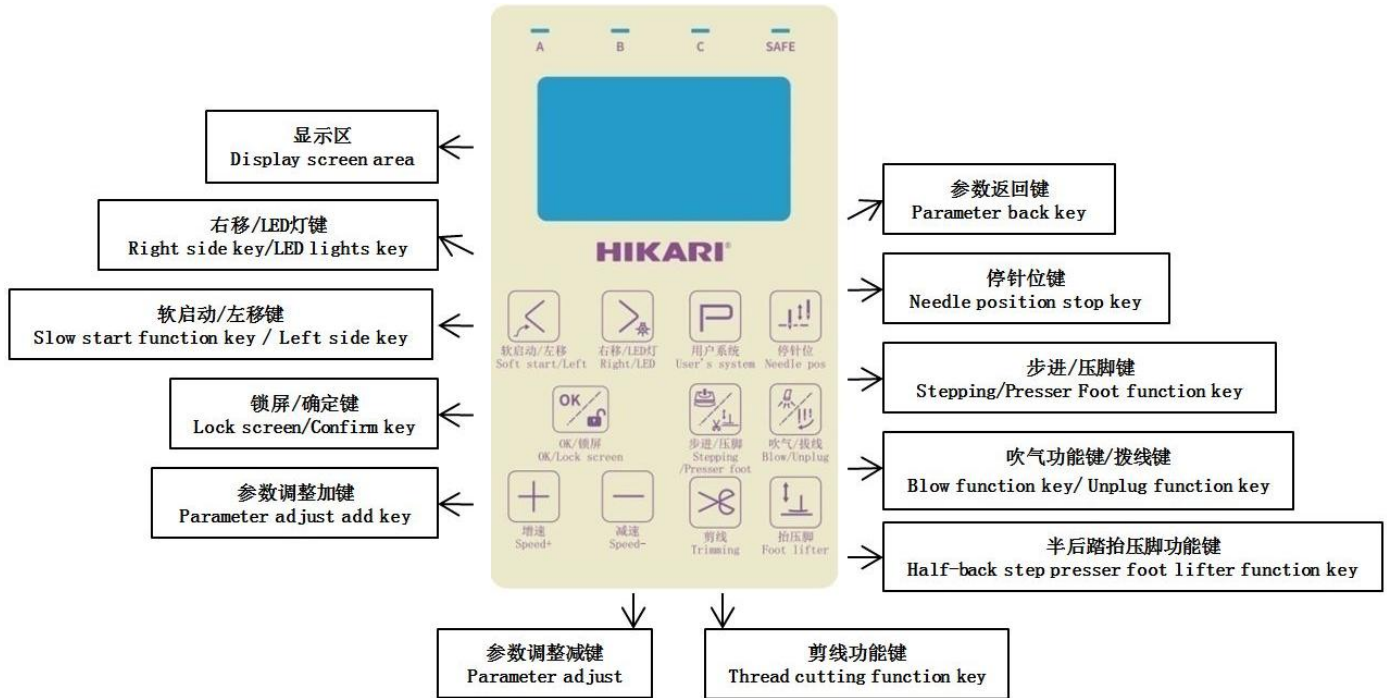
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# 一、显示屏常用操作介绍:

Introduction of display screen common operation:






















## 1. 显示屏介绍如下:


















## 2. 功能介绍:



序号 No.1	按钮图标 Button Icons	功能说明 Function Description	快捷说明 Quick Description
1	 (参数返回键) Parameter back key	进入参数修改时按  键可以返回上一级参数 when enter into the parameter modify, press  button can back to the previous parameter	按住  不放再按  进入用户参数模式 (不需要输入密码, 详表 1); 按住  不放再按  进入系统参数模式 (需要输入密码, 详表 2); press  button do not release then press  enter into user parameter mode(no need code, stable 1);

			<p>press  button do not release</p> <p>then press  enter into system parameter mode(need code, stable 2);</p>
2	 (锁屏/确定键) Lock screen/Confirm key	<p>1. 锁屏:开机长按 3S 进入, 待机 20S 锁屏</p> <p>2. 确定键:参数进入确定和保存参数</p> <p>1. Lock screen: Lock the screen</p> <p>2. Confirm key: Parameter determines the Save button</p>	
3	 (参数调整加键) Parameter adjust add key	<p> 键 (修改参数时向上加参数值)</p> <p> button (modify the parameters plus )</p>	<p>在主界面时按  键实现加速度</p> <p>On the main interface, press  to achieve speed add</p>
4	 (参数调整减键) Parameter adjust	<p> 键 (修改参数时向下减参数值)</p> <p> button (modify the parameters minus )</p>	<p>在主界面时按  键实现减速度</p> <p>On the main interface, press  to achieve speed reduce</p>
5	 (软启动/左移键) Slow start function key / Left side key	<p>1. 软启动键: 点按  键, 功能开启</p> <p>2. 左移键:在参数列表中用来返回上一页面和向左移动光标用</p> <p>1.Slow start function key :Click  button, when function open, the upper led light is on, when function close, the upper led light is off</p> <p>2. Left side key :in the parameter list to return to the previous page and left side move</p>	<p>2. 长按 2S 进入锁定速度调整, 调整好速度</p> <p>按  键保存退出</p> <p>2. Long press to enter into the speed locked adjustment, when finish</p> <p>press  button to save and exit</p>
6	 (右移键/LED 灯键) Right side key/LED lights key	<p>1. 右移键:在参数列表中进入参数调整用</p> <p>2. LED 灯键:LED 灯键</p> <p>1. Right side key :in the parameter list to enter into the parameter adjustment</p> <p>2. LED lights key:LED lights key</p>	<p>1. 点按可以调整机头灯亮度 (L1-L5 挡), 调整好亮度按  键保存退出 (L5)</p> <p>1. Click this button can adjust the led light (step L1 TO L5), when finish</p> <p>press  button to save and exit (L5)</p>

7	 <p>(停针位键) needle position stop key</p>	<p>在主界面切换上下停针位 in the main interface to transfer the up and down needle position stop</p>	<p>点按  键屏幕显示“up”：表示上停 针功能开启； 再按一下屏幕显示“dn”：表示下停针功能 开启；</p> <p>Click , the screen shows “up” means upper position stop function open; then click , the screen shows “dn” means down position function open;</p>
8	 <p>(步进/压脚键) Stepping/Presser Foot function key</p>	<p>在主界面切换步进/压脚键 in the main interface to transfer Stepping/Presser Foot function key</p>	<p>长按步进键 , 进入步进功能参数调 整；</p> <p>点按压脚键 , 进入压脚参数调整；</p> <p>Click  stepping to enter function parameter adjustment ;</p> <p>Click  Presser Foot function key to enter the foot parameter adjustment ;</p>
9	 <p>(剪线功能键) thread cutting function key</p>	<p>点按  键剪线功能开启和关闭键</p> <p>Click  button thread cutting function open and close button</p>	<p>长按进入快捷参数修改： 036—剪线延启动时间（默认 025） 037—剪线保持时间（默认 200） 038—剪线全功率时间（默认 065） 040—剪线维持功率（默认 050） 041—剪刀释放时间（默认 035） 043—剪刀复位开关使能（默认 001） 044—剪刀刀动作模式（默认 001） 045—预留 090—在主界面上显示指定的数据（1） Long press to enter into the quick parameter modify: 036--thread cutting delay start time (default 025) 037--thread cutting maintain time(default 110) 038--thread cutting full power time(default 065)</p>













			<p>040--thread cutting maintain power(default 050)</p> <p>041--knife release time (default 035)</p> <p>043--knife reset switch enabled(default 001)</p> <p>044--knife action mode(default 001)</p> <p>045--reserve</p> <p>090--Display the speaciald data on the main interface ( 1 )</p>
10	 <p>(半后踏抬压脚功能键)</p> <p>Half-back step presser foot lifter function key</p>	 <p>长按 键屏幕显示 01: 表示半后踏抬压脚功能开启, 屏幕显示 00: 表示半后踏抬压脚功能关闭</p>  <p>Click button, screen shows 01: means half-back step foot presser lifter function is open(button upper LED light will be on), screen shows 00: means half-back step presser foot lifter function is close(button upper LED light will be off)</p>	<p>长按进入快捷参数修改:</p> <p>056—压脚动作延时启动时间 (默认 110)</p> <p>057—压脚动作维持时间 (默认 260)</p> <p>058—压脚全功率时间 (默认 160)</p> <p>060—压脚维持功率 (默认 020)</p> <p>061—压脚释放时间 (默认 065)</p> <p>062—压脚保护时间 (默认 010)</p> <p>065—半后踏抬压脚延时启动时间 (默认 045)</p> <p>Long press to enter into quick parameter modify:</p> <p>056--foot presser action delay start time(default 110)</p> <p>057--foot presser action maintain time(default 260)</p> <p>058--foot presser full power time(default 160)</p> <p>060--foot presser maintain power(default 020)</p> <p>061--foot presser release time(default 065)</p> <p>062--foot presser protect time(default 010)</p> <p>065--half-back foot presser lifter delay start time(default 045)</p>
11	 <p>(吹气/拨线功能键)</p> <p>Blow function key/Unplug function key</p>	<p>点按功能开启时按键</p> <p>When function open , button upper LED light will be on</p>	<p>长按进入快捷参数修改:</p> <p>076—吹气动作延时启动时间 (默认 140)</p> <p>077—吹气动作维持时间 (默认 020)</p> <p>078—吹气全功率时间 (默认 160)</p> <p>079—吹气全功率时间功率 (默认 100)</p> <p>080—吹气维持功率 (默认 080)</p> <p>081—吹气释放时间 (默认 045)</p> <p>082—吹气保护时间 (默认 000)</p> <p>083—吹气保护开关使能 (默认 000)</p> <p>084—吹气动作模式 (默认 000, 0: 关闭 1: 长吹 2: 断吹/先吹后断吹 3: 断吹与 2 相反 4: 抬压脚吹)</p> <p>085—吹气 0: 抬压脚吹气每次都吹 1: 吹一次 2: 吹二次 3: 吹三次 4: 吹四次</p> <p>Long press to enter into quick parameter modify:</p>

			<p>076--blow action delay start time(default 140)</p> <p>077--blow action maintain time(default 020)</p> <p>078--blow full power time(default 160)</p> <p>079--blow full power time power(default 100)</p> <p>080--blow maintain power(default 080)</p> <p>081--blow release time(default 045)</p> <p>082--blow protect time(default 000)</p> <p>083--blow protect switch enabled(default 000)</p> <p>084--blow action mode(default 000, 0:close 1:long blow, 2:stop blow/first blow then stop, 3:stop blow opposed to 2, 4:when foot presser lift blow)</p> <p>085--blow 0: every time blow when foot presser lift, 1: blow one time, 2: blow two times, 3:blow three times,4:blow four times;</p>
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## 二、如何进入参数与如何修改参数:

How to enter parameters and how to modify the parameters:




### 系统参数进入解析（长按锁屏键解锁）：

1. 按住  键加上  键将进入“系统参数”列表（需要密码进入）。
2. 按住  键加上  键将进入“用户参数”列表（无须密码） 进入后可看见系统参数编号，此时可以用   键，切换参数编号，在需要修改的编号前按  键，将进入当前参数进行调整，可按   键对当前参数进行加减操作。
3. 修改完毕参数后需要按  键保存参数并退出系统参数调节。或按  键退回上一个页面进行其他参数修改。操作方法和上面一样。 操作完毕后必须按  键进行保存，否则修改的参数将会是无效。

### 恢复出厂设置：Restore factory settings



先按“”键不放，再按“”号键，此时显示区会显示“000”，再长按“”键约 3 秒即可。













Restore factory settings: Press the “” key, no leave, and press the “” key, the screen will display the “000”, then press “” key 3 seconds.

**注：** 以上是进入方法，具体参数号代表的参数意思详情如下“操作参数说明表”

System parameters entering analysis:

Together touch  and  enter into “System parameters”list ( need password to enter the adjustment).

Together touch  and  enter into “User parameters”list ( No need password).

After entering the system parameters number can be seen, then you can use (  ) (  ) key to switch the parameter number, when you find the need modify number, then touch (  ) key to enter the current parameters, touch (  ) (  ) to adjust it. After finish modification then touch (  ) to save the save the modification and exit. Or you can touch (  ) to return back up page system parameters number to modify. Method of operation is the same with up. After change finish, should be touch (  ) to save the modification, Otherwise modify the parameters will be invalid.

Note: the up entry method, specific parameters No. on behalf of the parameters meaning as follows:

### 三、操作参数说明表：

Operating Parameter Description Table:

菜单号 System parameter list	功能说明 Function Description	功能参数默认值 Function parameter default values	功能参数范围 Function parameter ranges	单位 unit	参数说明 Parameter Description
P1	最大缝纫速度 Max sewing speed	4500	200 ~4500	转 / 分钟 Round / Minute	锁定速度，从外部按加键，速度上不去（这里速度只能锁定到出厂要求的速度） Locked speed, press add key, the speed can not add(here, the speed only can add to the factory set)

P2	起缝速度 Start sewing speed	250	150 ~ 800	转 / 分钟 Round / Minute	调节启动时前面二针速度 Adjust the previous two needles speed when start
P3	踏板加速曲线 Pedal acceleration curve	85	10 —100 %	%	数值越大，加速越快；数值越小，加速越慢 The value is bigger, the acceleration is more fast; the value is smaller, the acceleration is more lower
P11	软启动选择 Slow Start Selection	0	0 — 1		0: 禁用 1: 启用 0: Disable 1: Enabled
P12	软启动针数 Slow start Stitch number	2	1 — 30	针数 Stitch number	数值越大，慢缝针数越多；数值越小，慢缝针数越少（需要 P11 开启有效） The value is more bigger, slow sewing stitches is more ; the value is more smaller, slow sewing stitches is little.(need P11 is open)
P13	软启动速度 Slow start speed	400	200 — 800	转 / 分钟 Round / Minute	数值越大，前踏踏板速度越快；数值越大，前踏踏板速度越快（需要 P11 开启有效） The value is more bigger, front-step pedal, the speed is more faster.(Need P11 is open)
P20	加速灵敏度 acceleration sensitivity	004	1-6		数值越大，低速区域越大，速度变化越大；数值越小，低速区域越小，速度变化越小 The value is more bigger, low speed area is more bigger, speed change is more bigger; the value is more smaller, low speed area is more smaller, speed is more smaller
P21	恢复出厂设置 restore factory setting	0	0-3		0: 1: 2: 3:
P22	电机驱动方向 Motor drive orientation	1	0- 1		0: 逆时针 0:Counterclockwise 1: 顺时针 1: Clockwise
P23	显示当前速度 Displays the current speed	0	0-1		0: 关闭 1: 开启 ※（开启参数后，显示区会显示电机运行速度值） 0: Close 1: Open ※ (After opening parameter, display area will shows motor running speed value )
P24	显示调速器电压 Display governor voltage	0	0-1		0: 关闭 1: 开启参数后，显示区会显示调速器输出数值 ※(调试器数值：中立位置 200±15%、

					全后踏 0-28、半后踏 29-124、全前踏 315-1023) 0: Close 1: After opening parameter, display area will shows foot controller output value ※ (Foot controller value: middle position 200±15%, full back step 0-28, half-back step 29-124, full front step 315-1023)
P25	自动跑合运行 Automatic run-run	0	0 -1		0: 关闭 1: 开启 0: OFF 1: ON ※开启后需要前踏调速器才能跑和, 后踏停止跑和 0: OFF 1: ON ※When open , need to front step pedal, it can running, and back step is stop running
P28	开机自动找上针位 Find the upper needle position automatically when machine open	1	0-1		0: 关闭 1: 开启 0: OFF 1: ON
P34	上停针角度 The angle of up needle position	0	0-30°	度 degree	微调上停车位 Slightly adjust upper needle position
P35	下停针角度 The angle of down needle position	150	100-300°	度 degree	微调下停车位 Slightly adjust upper needle position
P36	剪刀动作延时启动时间 Delay time for Scissors action	20	0 — 2000	毫秒 Millisecond	机器停稳, 下剪刀电磁铁出刀时间, 数值越大出刀越慢, 数值越小出刀越快 When machine is stop steady, trimmer magnet give knife time, the value is more bigger the knife is more slower, the value is more smaller the knife is more faster
P37※	剪刀动作时间 (全功率+维持功率) Scissors action time (full power + maintain power)	30	10 — 2000	毫秒 Millisecond	下剪刀电磁铁动作时输出最大功率和维持功率时间 Trimmer magnet action output biggest power and maintain power time
P38	剪刀动作全功率时间 Full power scissors action time	35	10 — 990	毫秒 Millisecond	下剪刀电磁铁动作时输出功率时间, 数值越大, 剪线力度越大; 数值越小, 剪线力度越小 Trimmer magnet action output power time, the value is more bigger, the thread cutting power is more bigger; the value is more smaller, the thread cutting power is more smaller

P39	剪线全功率时功率 Thread cutting full power power	100	20-100	毫秒 Millisecond	下剪刀电磁铁输出的功率（不可调） Trimmer magnet output power(can not adjust)
P40	剪刀动作维持功率调整 Knife action to maintain power adjustment	90	1 — 100	百分比 Percentage	下剪刀电磁铁打出后维持力度，数值越大，剪刀回位越慢；数值越小，剪线力度越快，（数值小了会剪不到线） The maintain force after the down thread cutting line magnet hitting, the value is more bigger, knife reback is more slower; the value is more smaller, thread line cutting force is more quickly,(if the value is too small, can not cutting the thread line)
P41	剪刀动作释放保护时间 The protect time of knife action release	50	20 — 800	毫秒 Millisecond	下剪线电磁铁动作完后保护时间，数值越大，保护时间越长，（数值越大会影响抬压脚速度） The protect time when down thread line cutting magnet action finish, the value is more bigger, the protect time is more longer(the value is more bigger will influence the foot pressure lifting time)
P42	剪刀保护时间 Knife protect time	001	0-5		不能调 Can not adjust
P43	下剪刀安全开关 Knife safe switch	1	0 — 1		0: 禁用 1: 启用 0: Disable 1: Enabled
P44	剪刀工作模式 knife work mode	1	0-1		0:禁用（用手转动机器手轮，全后踏后剪线） 1:启用（用手转动机器手轮，前后踏后不会剪线） 0: Disable(use hand to round the hand wheel, full back step pedal can thread cutting ) 1: Enabled(use hand to round the hand wheel, full back step pedal can not thread cutting)
P46	拨线动作延时启动时间 Wiper action delayed start time	100	0-2000	毫秒 Millisecond	机器停稳，拨线刀出刀时间，数值越大出刀越慢，数值越小出刀越快 The machine stops steadily, and the drawing knife takes longer time, the larger the value is, the slower the knife takes, and the smaller the value is, the faster the knife takes

P47※	拨线时间（全功率+维持功率） Wiper action time (full power + maintain power)	100	10-2000	毫秒 Millisecond	拨线电磁铁动作输出最大功率和维持功率时间 Dial-in electromagnet action output maximum power and power maintenance time
P48	拨线动作全功率时间 Wiper action time at full power time	80	10-990	毫秒 Millisecond	拨线电磁铁输最大功率时间，数值越大，拨线力度越大；数值越小，剪拨力度越小 The time of the maximum power of the dial-in electromagnet, the greater the value, the greater the dial-in strength; The smaller the value, the smaller the shear strength
P49	拨线全功率时功率 Full power power of cable unplugging	100			拨线电磁铁输出的功率 Power output of dial-in electromagnet
P50	拨线动作维持功率调整 Wiper action time at maintain power	75	1-100	百分比 Percentage	拨线电磁铁打出后维持力度，数值越大，剪刀回位越慢；数值越小，剪线力度越快，（数值小了会拨不到线） Dial electromagnet after the maintenance strength, the larger the value, the slower the scissors return; The smaller the value, the faster the cutting force, (the smaller the value will not be able to dial the line)
P51	拨线动作释放保护时间 Wiper action to release the protect time	25	20-800	毫秒 Millisecond	拨线电磁铁动作完后保护时间，数值越大，保护时间越长，（数值越大会影响抬压脚速度） The higher the value is, the longer the protection time will be. (The greater the value will affect the speed of presser foot)
P52	拨线保护时间 Unplug protection time	5	1-5		不可调 Can not adjust
P56	压脚动作延时启动时间 Foot pressure action delayed start time	110	0-2000	毫秒 Millisecond	剪完线电机停转后，多长时间开始抬压脚 After thread line cutting and motor stop running , how long time to start foot pressure lift

P57※	压脚动作时间（全功率+维持功率） Foot pressure action time (full power + maintain power)	260	100 — 2000	毫秒 Millisecond	抬压脚电磁铁的初始力度和维持的时间 Foot pressure magnet's start force and maintain time
P58	压脚动作全功率时间 Foot pressure action time at full power time	160	10 — 990	毫秒 Millisecond	抬压脚电磁铁的打出力度保持时间 The maintain time of the foot pressure magnet hit force
P59	压脚全功率时功率 Foot pressure full power power	100	60 — 150	毫秒 Millisecond	抬压脚电磁铁的初始力功率 The start power of foot pressure magnet
P60	压脚动作维持功率调整 Foot presser action maintain power adjustment	20	1 — 90	百分比 Percentage	抬压脚电磁铁的力保持时的时间 The time when the foot pressure magnet power maintain
P61	压脚动作释放保护时间 Foot presser lifter action releasing protect time	65	20 — 800	毫秒 Millisecond	抬压脚电磁铁抬起放下后机器启动保护时间，数值越大时间越长 After the foot pressure lifter magnet lift and down, the machine head start protect time, the value is more bigger, the time is more longer
P62	压脚抬起后自动放下时间 Automatic presser foot lift down time	10	1 — 120	秒 Second	抬压脚多长时间后自动放下的时间 How long after the pressure foot automatically down time
P65	半后踏抬压脚延时启动时间 Half-back step pedal foot presser lifter delay start time	45	0 — 2000	毫秒 Millisecond	脚踏调速器半后踏后，多长时间开始抬压脚 Half-back step pedal, how long time to start foot presser lift
P70	电机最大电流限制 Motor max electric current limit	350	50 — 600		限制电机功率（影响穿透力和温升） Limit motor power(Affects Penetration and temperature rise)
P71	最高速度锁定 Maximum speed lock	5000	200—5000	转 / 分钟 Round / Minute	锁定速度 Lock speed
P72	系统密码 System Password	2014			进入调整系统参数密码 The code to enter into adjust system parameter
P90	在主界面上显示指定的数据 Displays the specified	0	0-4		0:关闭 1:计数 2:速度

	data on the main screen				3:脚控电压 4:电压 0:Close 1:Counting 2:Speed 3:Foot controller voltage 4:Voltage
P91	老化跑和时间 Aging running time	5		S/秒	数值越大跑合时间越长, 数值越小跑合时间越小 The value is more bigger, running time is more longer, the value is more smaller, the running time is more shorter
P92	老化跑合停止时间 Aging running stop time	2		S/秒	数值越大跑合停止时间越长, 数值越小跑合停止时间越小 The value is more bigger, the running stop time is more longer, the value is more smaller, the running stop time is more shorter
P93	老化跑合速度 Aging running speed		200-4500	转 / 分钟 Round / Minute	老化跑合速度调整和锁定 Aging running speed adjust and lock
P95	虚拟速度调整 Virtual speed adjust	100	100-500	转 / 分钟 Round / Minute	在主界面速度上加的速度 Add speed in the main interface
P99	显示屏版本号 Panel version No.	3.07			
P100	电控版本号 Control box version No.	1.34			
P101	步进电机方向 Step motor direction	0	0-1		0: 逆时针 0:Counterclockwise 1: 顺时针 1: Clockwise
P102	步进电机原点偏移量 Origin offset of stepper motor	32	<b>0-400</b>	度 degree	
P103	步进电机原点偏功率 Step motor origin bias power	10	0-50	毫秒 Millisecond	开机时步进电机寻找原点位置的运行功率 When starting up, the stepper motor looks for the running power of the origin position
P104	步进电机剪线功率 Step motor wire cutting power	85	0-95	毫秒 Millisecond	步进电机剪线时电机输出的功率 The output power of the stepper motor when cutting the line
P105	步进电机剪线角度 Cutting angle of stepper motor	300	0-2800	度 degree	步进电机剪线方向电机运动的角度, 数值越大, 出刀量越大。数值越小, 出刀量越小 Step motor shearing direction The motor movement Angle, the greater the value, the greater the knife output. The smaller the value, the smaller the knife output

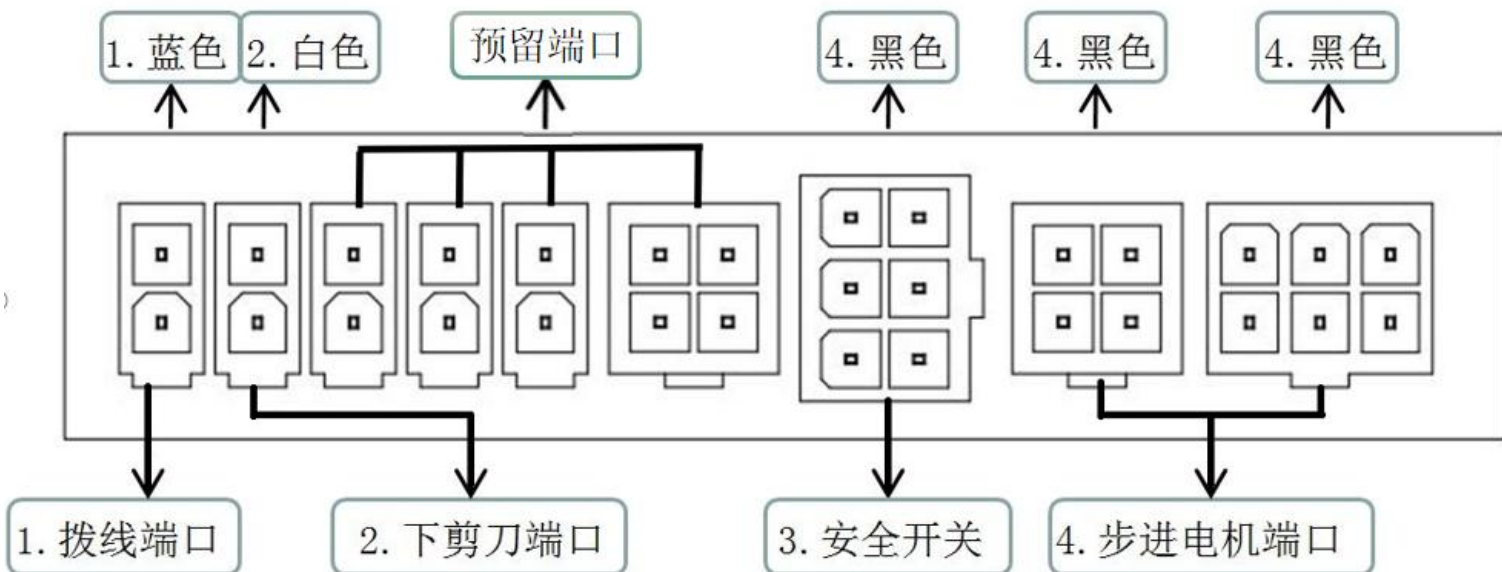
P106	步进电机进刀速度 Step motor feed speed	80	0-950	毫秒 Millisecond	步进电机剪线方向电机运动的速度数值越大，出刀速度越快，：数值越小，出刀速度越慢。 The larger the value of the motor speed in the direction of the stepping motor's cutting line, the faster the cutter speed. The smaller the value, the slower the cutter speed
P107	步进电机退刀速度 Step motor retracting speed	100	0-950	毫秒 Millisecond	步进电机剪线结束时电机运动的速度，数值越大，退刀速度越快：数值越小，退刀速度越慢。 At the end of the line cutting of the stepping motor, the higher the motor speed is, the faster the cutting speed will be: the smaller the value is, the slower the cutting speed will be
P108	步进电机进刀力度 Step motor feeding strength		0-5	度 degree	步进电机剪线时电机运动的力度，数值越大，进刀力度越大：数值越小，进刀力度越小。 When the stepping motor cuts the line, the greater the value, the greater the feeding force: the smaller the value, the smaller the feeding force
P109	步进电机退刀力度 Retracting force of stepping motor	2	0-5		步进电机剪线方向电机运动的角度，数值越大，退刀力度越大。数值越小，退刀力度越小。 Step motor shearing direction The motor movement Angle, the greater the value, the greater the knife back. The smaller the value is, the smaller the retracting force is
P110	步进电机抬压脚角度 Step motor lift foot pressure angle	500	0-2800	度 degree	步进电机抬压脚时电机运动的角度，数值越大，压脚抬起的越高。数值越小，压脚抬起的越低。 When the stepping motor lifts the press foot, the greater the motor movement Angle, the higher the press foot will be lifted. The smaller the value, the lower the foot lift
P111	步进电机抬压脚速度 Step motor lift foot pressure speed	550	0-950	毫秒 Millisecond	步进电机抬压脚时电机运动的速度，数值越大，压脚抬起的越快。数值越小，压脚抬起的越慢。 When the stepping motor lifts the press foot, the higher the motor movement speed, the faster the



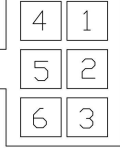
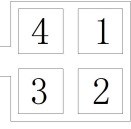
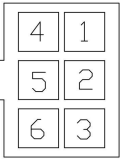


					press foot will lift. The smaller the value, the slower the foot lift
P112	步进电机放压脚速度 Step motor pressure foot speed	550	0-950	毫秒 Millisecond	步进电机抬压脚时电机运动的速度，数值越大，压脚放下的越快。数值越小，压脚放下的越慢。 When the stepping motor lifts the press foot, the motor movement speed, the greater the value, the faster the press foot down. The lower the value, the slower the foot drops
P113	步进电机抬压脚力度 Step motor lift foot pressure strength	5	0-5		步进电机抬压脚时电机运动的力度，数值越大，抬压脚力度越大。数值越小，抬压脚力度越小。 When stepping motor lift press foot, motor movement strength, the greater the value, the greater the lift press foot strength. The smaller the value, the smaller the strength of the lifting foot
P114	步进电机放压脚力度 Step motor pressure foot strength	2	0-5		步进电机放压脚时电机运动的力度数值越大，抬压脚力度越大；数值越小，抬压脚力度越小。 The greater the motor movement strength value, the greater the lifting foot strength: the smaller the value, the smaller the lifting foot strength

#### 四：控制箱端口说明：

The control box Port Description:



端口序号 The port number	端口连接的器件名称 Port device name for the connection	端口说明 Port instruction		
1	下剪刀端口 Blow air port		2:1	2:霍尔输入信号 hall input Signal 1:5V
2	拨线端口 Upper and lower scissors		2:1	2:吹气输出 blow output (800-2) 1:34V
3	安全开关 Presser foot output port		3:2:1	3:GND 2:霍尔输入信号 hall input Signal 1:5V
4	步进电机端口 Safety switch		2:1	2:霍尔输入信号 hall input Signal 1:5V
			3:2:1	3:GND 2:霍尔输入信号 hall input Signal 1:5V

## 五、错误代码解析:

### Error code analysis:

显示的错误码 Display error code	错误码意思 Error code meaning	错误的原因 Various possible for the error	解决错误 Solution
ER-01	找不到停针位 No find needle position	1:手轮和电机靠的不够近 2:手轮上磁钢脱落 3:手轮磁铁极性装反 4:九针端子头接触不良 5:电机霍尔损坏, 更换电机 1: Hand wheel and motor 2: Hand wheel magnet off 3: Hand wheel magnet polarity reversal 4: Nine-pin terminal head Poor contact 5: Motor hall damaged, with the change motor	1:检查电机信号线有无松动 2:更换手轮 3:更换电机 1:check whether the motor signal line is loose 2:replace the wheel 3:replace the motor
ER-02	脚踏板信号错误 Pedals velometer signal wrong	1:开机时没插调速器 2:调速器插反 3:调速器线断开 4:调速器损坏 1: Not plugged velometer into box 2: velometerInserted upside 3: velometer line broken 4: velometer damage	1:检查调速器信号线 2:更换调速器 3:更换控制器 1:check the foot controller signal line 2:change the foot controller 3: replace the foot controller
ER-03	电机相位信号错误 Motor phase error signal	1:九针插头接触不良 2:电机安装时霍尔和转子存在大偏差 3:电机霍尔损坏 1:Nine-pin terminal head Poor contact 2:Hall and rotor has large deviations when	1:打开电机上的橡皮盖通过孔看电机转子与定子是否在同一平面保障误差不得超过 1mm 2:更换电机 3:更换控制器

		the motor is mounted 3:Motor hall damage	1:open the rubber cover on the motor through the hole to see whether the motor rotor and stator in the same surface to ensure the error is not more than 1mm 2:replace the motor 3:replace the controll box
ER-04	电机堵转保护 Motor stall protection	1:缝纫机过重或堵死 2:电机过载 3:电机 4 线驱动线没连接好或插反 1:Sewing overweight or blocked 2:Motor overload 3:4-wire motor drive cable is not connected or inserted upside	1:检查电机 4P 线 2:检查缝纫机是否过重 3:更换控制器
ER-05	硬件过流保护 Hardware over current	1:缝纫机过重或堵死 2:电机过载 3:电机相位信号线没连接好 4:功率管损坏 1:Sewing overweight or blocked 2:Motor overload 3:Motor phase signal line is not connected 4:Power tube damage	1:check motor 4P line 2:check whether the sewing machine is too heavy 3:replace the controller
ER-06	串口通讯超时 Serial communication timeout	1:显示屏连接主板线连接不良 2:主板芯片损坏 1:Display bad cable connection Motherboard 2:Motherboard chip damage	1:检查显示屏与控制器连接线 2:检查控制器是否还可运行，如不能运行就是控制器损坏 3:检查机器旁是否有高频机器干扰 4:更换显示屏 1:Check the connection line between the display screen and the control box. 2:check whether the controller run well, if not, controller damage 3:check whether there is a high frequency machine near the machine interference 4:change the display panel
ER-07	存储器不良 Poor memory	1:主板存储器损坏或不良 1: Motherboard memory corruption or bad	1:控制器损坏 1:control box damage
ER-8	剪刀没有复位报警 Scissors not reset the alarm	1:复位检测器坏了 2:剪刀卡住没复位 1: Reset the detector is broken 2: Scissors stuck not reset	1:检查霍尔是否损坏 2:检查感应磁铁是否没有感应到 3:检查感应磁铁磁极是否装反 4:改换电控 1:check whether the hall is damage or not; 2: check the induction magnet to see if there is no induction 3: check if the magnetic pole

			of the induction magnet is installed in reverse or not 4. change control box
ER-9	过压 Over load	<p>电机驱动电源电压过高，220V 电源电压超过限定值（AC310V），或负载惯性过大导致再生电压超过限定值(DC440V),或电压检测回路故障。</p> <p>注：（110V 控制系统电源电压超过限定值（AC155V），或负载惯性过大导致再生电压超过限定值(DC220V)。</p> <p>1. The motor drive power supply voltage is too high, the 220V power supply voltage exceeds the limit value(AC310V), or the load inertia is too large to the regenerative voltage exceeds the limit value (DC440V), or the voltage detection circuit fails.</p> <p>Note: (110V control system power supply voltage exceeds limit value (AC155V), or load inertia is too large to regeneration voltage exceeds limit value (DC220V).</p>	
ER-10	欠压故障 Less volt error	<p>1. 电机驱动电源电压过低，220V 电源电压低于限定值（AC91V），或电机驱动电源电压低于限定值（DC130V），或电压检测回路故障。</p> <p>注：（110V 电源电压低于限定值（AC45.5V），或电机驱动电源电压低于限定值（DC65V））</p> <p>1. The motor drive power supply voltage is too low, the 220V power supply voltage is lower than the limit value (AC91V), or the motor drive power supply voltage is lower than the limit value (DC130V), or the voltage detection circuit fails.</p> <p>Note: (110 V power supply voltage is below the limit (AC45.5 V), or motor drive power supply voltage is below the limit (DC 65V))</p>	