

平缝步进一拖三说明书



安全指示

- 1) 在安装或使用本产品时，使用者必须彻底并仔细阅读本操作手册。
- 2) 所有标上  符号的指示，必须特别注意或执行，否则可能会导致身体伤害。
- 3) 本产品须由受过正确训练的人员来安装或操作。
- 4) 为安全起见，禁止以延长线作电源座供应二项以上的电器产品使用。
- 5) 当连接电源线到电源座时，必须确定此电压低于 AC 250V，且符合标在马达铭牌上的指定电压。(电压范围 AC175V~270V)符合国家标准
※注意：电控箱电源规格如为 AC220V 时，请勿插接至 AC380V 的电源插座上，否则将出现异常且电机将无法动作。此时请立即关闭电源开关，重新检查电源。持续供应 380V 超过五分钟以上，将可能烧损电控箱上的保险丝、电解电容及电源模块，而危及人身安全。
- 6) 请不要在日光直接照射的场所、室外及室温 45℃ 以上或 5℃ 一下的场所操作。
- 7) 请不要在暖气(电热器)旁有露水的场所及在相对湿度 30% 以下或 95% 以上的场所操作。
- 8) 请不要在灰尘多的场所、具有腐蚀性物质的场所及有挥发性气体的场所操作。
- 9) 请注意电源线不要受压或过度扭曲。
- 10) 电源线的接地线须以适当大小的导线和接头连接到生产工地的系统接地线，此连接必须被永久固定。
- 11) 所有可转动的部分，必须以所提供的零件加以防范露出。
- 12) 第一次通电后，先以低速操作缝纫机并检查转动方向是否正确。
- 13) 在操作以下动作前，请先关闭电源：
 1. 在控制箱与马达上插或拔任何连接插头时。
 2. 穿针线时。
 3. 翻抬车头时。
 4. 修理或作任何机械上的调整时。
 5. 机器休息不用时。
- 14) 修理或高层次的保修工作，仅能由受过适当训练的机电技师来执行。
- 15) 所有维修用的零件，须由本公司提供认可，方可使用。
- 16) 请不要以不适当物体来敲击或碰撞由本产品及各装置。

保修期限

本产品保修期限为购买日期起的一年内或出厂月份起两年内。

保修内容

本产品在正常情况且无人失误的操作下，与保修期间无偿为客户维修使能正常操作。

但以下情况于保修期间将收取维修费用：

1. 不当使用包括误接高压电源、将产品移做其他用途、自行拆卸、维修、更改、或不依规格范围使用进水、进油及插入异物于本产品。
2. 火灾、地震、闪电、风灾、水灾、盐蚀、潮湿、异常电压及其他天灾或不当场所造成的损害。
3. 客户购买后摔落本产品，或客户自行运输(或托付运输公司)造成的损害。

* 本产品在生产及测试上皆尽最大努力和严格控制使其达到高品质及高稳定的标准，但外部的电磁或静电干扰或不稳定的供应电源，仍可能对本产品造成影响或损害，因此操作场所的接地系统一定要确实做好，并建议用户安装故障安全防护装置(如漏电保护器)

Lockstich stepper instruction

Safety instructions

- 1) When installing or operating the product, the user must read up the instruction thoroughly and carefully.
- 2) All of the instructions marked with  should must be cared or executed, or it may lead to physical injury.
- 3) The product should be installed or operated by the operator who with the proper training.
- 4) It is forbidden to lengthen the electric wire to supply power to other electrical appliances.
- 5) Make sure the voltage is lower than AC250V when connect the controller to the power, and the voltage should in the range of the specified voltage marked on the nameplate.(voltage range AC175V-270V suits the national standards)

Attention: Do not connect the controller to the AC380V voltage when it is 220V, or it will be abnormal and the motor will can not run. Turn down the power and check the voltage of the power when connect to the wrong voltage. The fuse, capacitors and the power IC will be broken when continuous connected to the 380V for 5 minutes, and it will be dangerous for the operators.

- (6) Do not operate in the environment with direct sunlight, outside of the room and the temperature is higher than 45 °C or lower than 5°C.
- (7) Do not operate beside the heating, the environment with water and the humidity is higher than 95% or lower than 30%.
- (8) Do not operate in the environment with much dust, corrosive substance and volatile gas.
- (9) Protect the electric wire from over press and excessive contorted.
- (10) The ground wire should be connected with the proper wire to the system grounding of the construction site.
- (11) All the parts can rotate should be protected with the parts provided from exposed.
- (12) Operate the machine with low speed and check the direction of the rotation of motor when the controller is connected to the power first time.
- (13) Turn down the power when operate the following action:
 1. Connecting the ports to the controller or the motor.
 2. Threading the needle.
 3. Flipping over the machine.
 4. Repairing or adjusting any parts of the machine.
 5. Without working.
- (14) It should be operated by mechanical and electrical technician who with proper training to do some maintenance or warranty works.
- (15) The parts for maintenance should be provide or approved by the company.
- (16) Do not knock on the product or any device with Inappropriate objects.

Warranty period

The warranty period of the product is one year after sale or two years after leaving the factory.

Warranty content

The product in warranty period can be repaired for free when it is broken with normal operating without personal error.

The product will be charged for maintenance in the following circumstances:

1. Improper using including connect the product to the much higher power, used as other purpose, dismantle, repair, change the parts privately or used out of specification, take water, oil or other objects into the product.
2. Fire, earthquake, lightning, wind disaster, flood disaster, salt erosion, abnormal voltage or other natural disaster or inappropriate environment lead to the damage of the product.
3. Damage of falling off or transporting by customer after sales.

The product is produced and tested by best effort and tight control to make it in a high quality and stability standard, but it may still be affected or broken by the electromagnetism, static electricity or unsteadiness power, so the system grounding of the operating environment should be well done, and the safety devices such as leakage protector are suggested to install.

1 操作面板说明

1 operate display instructions

快捷键介绍 Shortcut key

1.  花样号及针距递增功能键 一般模式下按此键可直接对当前针距加大，花样缝模式下可切换花样号。 Increasing of the pattern number and the Needle gauge. In general mode, press the  button can increase the needle gauge directly, and it can change to other patterns when in the pattern sewing mode.	2.  花样号及针距递减键 一般模式下按此键可直接对当前针距减小，花样缝模式下可切换花样号 Decreasing of the pattern number and the Needle gauge. In general mode, press the button can decrease the needle gauge directly, and it can change to other patterns when in the pattern sewing mode.
3.  花样固缝键 按屏幕图标亮了表示花样固缝开启 Front reinforce and Pattern reinforce sewing mode Press the button to light on the icon, it means the pattern reinforce sewing turn on.	4.  前后密缝 1.点按此键一次前密缝开启。 2.点按此键两次后密缝开启。 3.点按此键三次前后密缝开启。 4.点按此键四次前后密缝关闭。  Front and back tight sewing 1. Press the button once to turn on front tight sewing. 2. Press the button twice to turn on the back tight sewing. 3. Press the button for three times to turn on the front and back tight sewing. Press the button for four times to shut down the front and back tight sewing.
5.  花样缝模式键 1.一般模式下按将直接进入花样缝模式 2.长按进入花样缝编辑  Pattern sewing mode 1.In general mode, press the button to enter the pattern sewing mode directly. 2.Long press the button to enter the interface to edit the pattern sewing.	6.  夹线器功能键 1.点按此键屏幕图标亮了表示夹线功能开启。 2.点按此键屏幕图标消失了表示夹线功能关闭。  Thread clamp button 1.Press the button to light on the icon, it means the thread clamp function turn on. 2.Press the button to light down the icon, it means the thread clamp function shut down.

7.  松线键 1.点按此键屏幕图标亮了表示松线器开启。 2.点按此键屏幕图标消失表示松线器关闭。  Thread loosen button 1.Press the button to light on the icon, it means the function of thread loosen turn on. 2.Press the button to hide the icon, it means the function of thread loosen shut down.	8.  加号键 1.A、B、C、D、 E、F、G、 H 的设定针数增加。 2.参数选择区内当参数递增键。 3.参数内容区内设定数值递增键。 4.直接按加号键将增加缝制速度。  Plus button 1.Increase needle count for A,B,C,D,E,F,G,H. 2.Used as the increment key of the parameter selection. 3.Used as the increment key of the parameter value. 4.Used as the increasing key of the speed.
9.  减号键 1.A、B、C、D、 E、F、G、 H 的设定针数减少。 2.参数选择区内当参数递减键。 3.参数内容区内设定数值递减键。 4.直接按加号键将减小缝制速度。  4.Minus button 1.Reduce the needle count for A,B,C,D,E,F,G,H. 2.Used as the decreasing key of the parameter selection. 3.Used as the decreasing key of the parameter value . 4.Used as the decreasing key of the speed.	10.  系统参数设置键 1.一般模式下按【P】键进入用户参数模式。 2.一般模式下，长按【P】键，输入正确密码，解锁技术员参数模式。  System parameter setting button 1.In general mode, press button “P” to enter the user parameter. 2.In general mode, long press button “P” and enter the correct password to enter the technical mode .
11.  光标右移键 1.进入内部参数时作用于光标右移  Right shift key of the cursor 1.Used as the right shift key when enter into the internal parameters.	12.  光标左移键 1.进入内部参数时作用于光标左移  Left shift key of the cursor 1.Used as the left shift key when enter into the internal parameters.
13.  确定键 1.进入参数项及其内容值如经调整变更后，需按下键予以保存确认。注:参数保存直接按此键即可。  Positive and Lock screen combination button Press the positive button to save the parameter content which is adjusted. Attention: just press the button to save the parameter.	14.  停针键 1.点按此键屏幕   图标亮了，切换上下停针  Stop position button 1.Press the button to light up the  or  icon, means upper needle stop position.

15.  前加固模式 1.点按此键一次执行终止回缝 C 段或执行起始回缝(A、B 段)1 次 2.点按此键两次执行终止回缝(A、B)2 次 3.点按此键两次执行终止回缝(A、B)4 次  front reinforce mode 1. Press the button to execute ending front sewing segment C or starting back sewing segment (A,B) for once. 2.Press the button to execute ending front sewing segment (A,B) for twice. 1. 3.Press the button to execute ending front sewing segment (A,B) for force.	16.  后加固模式 1.点按此键一次执行终止回缝 C 段或执行起始回缝(C、D 段)1 次 2.点按此键两次执行终止回缝(C、D)2 次 3.点按此键两次执行终止回缝(C、D)4 次  Back reinforce mode 2. Press the button to execute ending back sewing segment C or starting back sewing segment (C,D) for once. 2.Press the button to execute ending back sewing segment (C,D) for twice. 3.Press the button to execute ending back sewing segment (C,D) for force.
17.  停车后自动抬压脚功能 1.按此键屏幕图标亮了表示停车后自动抬压脚功能开启。 2.长按此键屏幕图标消失表示停车后自动抬压脚功能关闭。  Automatic presser foot lift function after stop running 1.Press the button to light on the icon, it means automatic presser foot lift function after stop running turn on. 2.Press the button to light down the icon, it means automatic presser foot lift function after stop running shut down.	18.  自由缝 1.点按此键屏幕图标亮了表示自由缝模式开启。一旦踏板往前踏下就正常车缝，当踏板回到中立时，立即停止车缝，当踏板往后踏时，就自动完成切线/扫线动作。  Free sewing button 1. Press the button to light on the icon , it means the function of free seam is opened. The machine will normally work when pushing the pedal, stop when release the pedal, and done the action of thread cutting/thread sweeping.
19.  W 缝 点按此键进入 W 缝编辑界面。  W sewing Press the button to enter the interface to edit the W sewing.	20.  慢速起缝功能键 1.按此键屏幕图标亮了表示慢速起缝功能开启。 2.按此键屏幕图标亮了表示慢速起缝功能关闭。  Low start sewing function button 1.Press the button to light on the icon, it means the low start sewing function turn on. 2.Press the button to light down the icon, it means the low start sewing function shut down.

21.  剪线后自动抬压脚功能键 1.按此键屏幕图标亮了表示剪线后抬压脚功能开启。 2.按此键屏幕图标消失表示剪线后抬压脚功能关闭。  Automatic presser foot lift function after trimmer 1.Press the button to light on the icon, it means automatic presser foot lift function after trimmer turn on. 2.Press the button to light down the icon, it means automatic presser foot lift function after trimmer shut down.	22.  停车后抬压脚 1.按此键屏幕图标亮了表示停车后自动抬压脚功能开启。 2.按此键屏幕图标消失表示停车后自动抬压脚功能关闭。 1.Press the button to light on the icon, it means automatic presser foot lift function after stop running turn on. 2.Press the button to light down the icon, it means automatic presser foot lift function after stop running shut down.
23.  M 缝 长按做为上停针位，送料原点针距同步快捷键 1.点按此键屏幕图标亮了表示多段缝开启。 2.如需调整送料原点或送料  同步时长按可直接进入系统参数 P29 P98 P99 P100 项位置。  M sewing, long press as the upper needle position, material feeding original needle gauge SYNC shortcut key 1.Press the button to light on the icon, it means the multi-segment turn on. 2.Upper needle position, material feeding original needle gauge SYNC shortcut key Press the button to enter the parameters P09, P98, P99 and P100 when adjusting the material feeding original.	24.  自动触发 1.长按此键屏幕  图标亮了表示自动触发开启  Automatic trigger Long press the button to  light on the icon, it means the automatic trigger turn on.
25.  剪线功能键 1.按此键屏幕图标亮了表示剪线功能开启。 2.按此键屏幕图标消失表示剪线功能关闭。  Trimmer function button 1.Press the button to light on the icon , it means the trimmer function turn on. 2.Press the button to light down the icon, it means the trimmer function shut down.	26.  抬压脚功能键 1.按此键屏幕图标亮了表示自动抬压脚功能开启。 2.按此键屏幕图标消失表示自动抬压脚功能关闭。  Presser foot lift function button 1.Press the button to light on the icon, it means the automatic presser foot lift function turn on. 2.Press the button to light on the icon, it means the automatic presser foot lift function shut down.

N 参数模式:

N parameter mode:

正常情况下, 按 “” 进入参数页, 长按 “^”, 进入到 n 参数模式。按+/-键显示相关的监控参数。

Generally, press “P” key to enter the parameter interface, long press “^” key to enter the n mode. Press +/- to display the relevant monitoring parameters.

索引号	内容	数值
N-01	显示屏版本 Display version	V1.0.1
N-02	主控版本 Host version	1001
N-03	主轴电机转速 Principle motor speed	0-5000
N-04	语言选择 Language selection	C/E
N-05	语音音量 Voice volume	0-31
N-06	工作时屏幕背光亮度 Backlight degree of working display	0-99
N-07	休眠时屏幕背光亮度 Backlight degree of dormancy display	0-99
N-08	工作时按键灯背光亮度 Backlight degree of working key	0-99
N-09	休眠时按键灯背光亮度 Backlight degree of dormancy display	0-99
N-10	最大针距 Maximum needle distance	1-60
N-11	花样缝最高限速 Pattern sewing maximum speed	100-2200
N-12	高级参数密码 Advanced parameter password	0000-9999

按 “” 键返回到缝纫模式。

Press “P” key to return to sewing mode.

计件模式:

Piece mode:

正常情况下，长按“触发键”，进入到计件模式。界面显示的值是当前件数，按加减键可以修改件数值，数值改为 0，则计件数清零。

按“OK”键返回到缝纫模式。

Generally, long press trigger key to enter piece mode. The display shows the number of pieces at present, adjust the value with “+” and “-”, clear the number of piece when change the value to 0.

Press “OK” key to return to sewing mode.

技术员模式:

Technical mode:

正常情况下，长按 “” 键进入密码模式，液晶显示 0000，按左右箭头键变更位置，按 +/- 键更改对应位置值，若密码正确，按 “” 键后，可解锁高级参数。

Generally, long press “P” key to enter the password mode, display shows “0000”, press “<” and “>” keys to change the position of the cursor, modify the value with “+” and “-” keys, press “OK” key to unlock the advanced parameter with the correct password.

老化模式:

Aging mode:

参数页面调至 P30 并进入，参数修改为 1，启动运行，改 0 则停机。

Adjust the parameter to P30 to enter, modify the value to 1 to start, stop when modifying the value to 0.

电机光栅安装角度测试模式:

Mode of the motor raster installing angle test:

进入参数页，调至 P42，修改成 1 即可。

Adjust the parameter to P41, modify the value to 1.

恢复出厂设置:

Restore the factory settings:

长按 “” 键进入参数界面，调至 P-00，长按“OK”键 3 秒后会显示“no”，再按“加减键”调到“yes”，再按“OK”键即可。

Long press “P” key to enter the parameter interface, turn to P-00, long press “OK” key until display shows “no”, press “+” or “-” key to modify the value to “yes”, confirm with “OK” key.

保存厂家参数

Save manufacturer' parameters

按 “” 键进入参数界面，对需要保存的参数内容，进行长按“触发键”操作，界面会跳出“SAVE”提示，保存厂家参数完成。保存后，对应参数数值恢复出厂保持该锁存值。

Press “P” key to enter the parameter interface, operate the parameter which needs to save with long pressing trigger key, the manufacturer' s parameter will be saved when it shows “save”. The value of restore the factory settings will be changed to the value which is saved.

花样编辑设置界面

Pattern edit setting interface

正常进入缝纫模式后，长按“X1-Xn”键2秒，液晶屏显示“d1”，按+键切换d1-d9花样，选定要设置的花样号按OK键进入设置，液晶屏显示“1 01 +/-3.0”，此时可以进行第一段的针数和针距值设置，按左右键选择要设置的项闪烁；一段设置完成，按左右键切换到最左侧数字闪烁，按加减键切换到其他的段数设置，若当前段数的针数为零，不能进行下一段的设置；所有段针距和针数设置完成按OK键保存并退回到“d1”界面。若要从该模式退回到正常模式，按P键退出进入正常模式。

Long press “X1-Xn” key when enter the sewing mode, the display shows “d1”, press “+” and “-” keys to switch the patter from d1 to d9, select the pattern needed and press “OK” key to enter the parameter, the display shows “1 01 +/-3.0”, press left or right key to modify the first part needle number and needle distance; move the cursor to the leftmost and press “+” or “-” key to switch to other patterns, it is not allowed to switch to other patterns if the needle number is 0 at present; press “OK” key to save and return back to d1 interface when the needle distance and numbers of all patterns has been set. Press “P” key to return back to the normal mode.

2 液晶显示字体与实际字体对照表

Comparison table of the numbers showing on liquid crystal display and actual font

英文字体部分:

English Font section

英文字母	A	B	C	D	E	F	G	H	I	J
液晶显示										
英文字母	K	L	M	N	O	P	Q	R	S	T
液晶显示										
英文字母	U	V	W	X	Y	Z				
液晶显示										

3 系统参数表

Parameter comparison table

参数项 parameter	范围 range	初始值 Initial value	设定键 Setting button	说明 instruction
在正常模式下按[P] Press button “P” in normal mode				
P001	100-5000	3700	+ -	自由缝最高转速 Free sewing maximum speed
P002	100-3000	2200	+ -	前加固速度 Front reinforce speed
P003	100-3000	2200	+ -	后加固速度 Back reinforce speed
P004	100-3000	2000	+ -	连续回缝速度 Continuous backward sewing speed
P005	100-4500	3500	+ -	定针缝速度 Fixed sewing speed
P006	100-2000	400	+ -	慢速起缝速度 Low starting speed
P007	0-99	2	+ -	慢速起缝针数 Low starting needle
P008	0-1	1	+ -	停止后是否再次运行慢速起缝 Running low starting again when finishing sewing
P009	0-1	1	+ -	中间缝结束后是否自动连接后回缝 Back sewing automatic when finishing middle sewing
P010	0-3	0	+ -	起始针数锁定 Lock the starting needle count
P011	0-100	73	+ -	步进正倒缝启动补偿 Stepper backward sewing starting compensate
P012	0-100	73	+ -	步进正倒缝释放补偿 Stepper backward sewing releasing compensate
P013	-		+ -	空 empty
P014	-		+ -	空 empty
P015	-		+ -	空 empty
P016	-		+ -	空 empty
P017	1-250	4	+ -	测试运行时间 Test running time
P018	1-250	2	+ -	测试停止时间 Test stopping time
P019	100-500	200	+ -	最慢速度

				Minimum speed
P020	100-900	300	+ -	切线速度 Thread cutting time
P021	0-2	0	+ -	安全开关类型 0: 极性相反 1: 极性相同 2: 功能关闭 Safety switch type 0: opposite polarity 1: same polarity 2: close the function
P022	0-990	0	+ -	切线动作前延时时间 Front delay time of cutting action
P023	0-990	100	+ -	切线动作时间 Cutting action time
P024	0-990	360	+ -	松线动作前延时时间 Front delay time of thread loosening action
P025	0-990	1	+ -	松线动作时间 Thread loosening time
P026	0-990	10	+ -	拨线延时时间 Flick thread delay time
P027	0-990	40	+ -	拨线动作时间 Flick thread action time
P028	0-990	50	+ -	压脚动作前延时时间 Front delay time of presser foot action
P029	0-359	35	+ -	上停针位调整:进入参数后将手轮转动到上针位, 然后按下停针键数值自动变更 Upper needle stop position adjusting: turn around the handwheel until to the up needle position when enter the parameter, press the needle position key and the value will be changed itself
P030	0-1	0	+ -	自动测试(1 开 0 关) Automatic test(1 open 0 close)
P031	0-1	0	+ -	开机是否自动找上针位(1 开 0 关) Find the upper needle stop position automatic when turning on the machine(1 open 0 close)
P032	100-5000	4000	+ -	机头最高速度 Machine maximum speed
P033	-		+ -	参数预留 reservation
P034	-		+ -	参数预留 reservation
P035	1001-1001	1001	+ -	版本号, 每个版本都会修改 Version number, modified every version
P036	0-1	0	+ -	强制慢速起缝 Coerce low starting
P037	0-470	350	+ -	下停针位调整

				Down needle stop position adjusting
P038	30-999	100	+ -	倒缝全功率时间 Backward sewing full power time
P039	99-99	99	+ -	倒缝持续占空比 Backward sewing continuous duty cycle
P040	0-1	1	+ -	轻后踏结束 Finish mild back step
P041	-		+ -	参数预留 reservation
P042	0-1	0	+ -	电机驱动角度自动校准：0：不校准 1：电机自动旋转并且校准 Adjust the motor driving angle automatic: 0: no adjusting; 1: motor running automatic and adjusting the driving angle
P043	0-1	0	+ -	电磁铁错误屏蔽 Electric magnet error shielding
P044	0-1	0	+ -	电压错误屏蔽 Voltage error shielding
P045	0-1	0	+ -	Flash 存储报警屏蔽 Flash storage error shielding
P046	0-2	0	+ -	机头按键的功能 Function of machine button
P047	0-999	150	+ -	剪线全额出力 Trimmer full force
P048	0-100	25	+ -	剪线持续占空比 Trimmer continuous duty cycle
P049	0-999	5	+ -	半后踏压脚信号生效时间：越小越灵敏 Mild back step signal effective time: smaller is mote sensitive
P050	0-999	460	+ -	脚踏板前踏最大 Pedal maximum value
P051	0-999	125	+ -	脚踏板前踏启动值 Pedal starting value
P052	0-999	85	+ -	脚踏半后踏值 Pedal mild back step value
P053	0-999	20	+ -	脚踏全后踏值 Pedal whole back step value
P054	0-1	1	+ -	倒缝补针功能 Backward sewing needle patching function
P055	-		+ -	空 empty
P056	-		+ -	空 empty

P057	0-999	0	+ -	夹线器全额出力时间调整 Adjusting the whole power output time of the thread clamp
P058	0-100	60	+ -	夹线器维持力矩 Thread clamp maintain moment
P059	0-999	200	+ -	夹线器起夹角度 Thread clamp starting angle
P060	0-999	340	+ -	夹线器长度 Thread clamp length
P061	0-1	1	+ -	夹线器开关(1 开; 0 关) Switch of thread clamp(1 open; 0close)
P062	0-1	1	+ -	夹线/扫线切换 Switch of clamping or sweeping thread
P063	0-990	150	+ -	压脚全功率时间 Presser foot full power time
P064	10-90	30	+ -	压脚占空比 Presser foot continuous duty cycle
P065	0-0	0	+ -	压脚续流关闭时间 Presser foot continuous current shutdown time
P066	0-0	0	+ -	压脚结束占空比时间 Presser foot finish continuous duty cycle time
P067	0-100	25	+ -	压脚关闭占空比 Presser foot close continuous duty cycle
P068	0-990	150	+ -	抬压脚下放电机延时时间(ms) Delay time of principle motor running after presser foot releasing
P069	44591	10	+ -	压脚最大运行时间(s) Presser foot maximum running time
P070	0-1	0	+ -	抬压脚动作屏蔽(0: 开启 1: 屏蔽) Presser foot action shielding (0 open; 1 shielding)
P071	0-1	0	+ -	半后踏取消抬压脚(0: 关闭 1: 开启) Cancel presser foot when mild back step the pedal (0 close; 1 open)
P072	0-100	75	+ -	压脚全额占空比 Presser foot full continuous duty cycle
P073	0-100	20	+ -	压脚续流时间 Presser foot continuous current time
P074	0-1	0	+ -	剪线后反转开关(0: 关闭 1: 开启) Reverse after trimmer(thick material reverse and lift needle) (0 close 1 open)
P075	0-5000	200	+ -	停止 N 时间后反转 Interval time between stop running and reserve

P076	100-1000	200	+ -	剪线后反转转速 Reserve speed after trimmer
P077	0-180	30	+ -	剪线后反转角度 Reserve angle after trimmer
P078	-		+ -	参数预留 reservation
P079	360-999	400	+ -	放电电压 Discharge voltage
P080	0-300	30	+ -	电机停止时强度 Power of motor stopping
P081	-		+ -	参数预留 reservation
P082	-		+ -	参数预留 reservation
P083	0-9999	600	+ -	电机正常运行强度 Power of motor running
P084	0-100	10	+ -	电机正常运行变化率 Rate of change when motor running normally
P085	0-9999	1000	+ -	低速运行强度 Power of low speed running
P086	0-100	50	+ -	低速运行变化率 Rate of change when low speed running
P087	0-9999	3000	+ -	剪线时电机运行强度 Power of motor running when cutting the thread
P088	0-100	100	+ -	剪线时运行变化率 Rate of change when cutting the thread and running
P089	0-9999	1000	+ -	无剪线时电机运行强度 Power running power without cutting thread
P090	0-100	100	+ -	无剪线时电机运行变化率 Rate of change when motor running without cutting thread
P091	0-9999	3000	+ -	停止时强度 Power of stopping
P092	0-100	200	+ -	停止时变化率 Rate of change when stop
P093	1-100	40	+ -	松线维持占空比 Thread releasing maintain continuous duty cycle
P094	1-100	70	+ -	松线全额占空比 Thread releasing full power continuous duty cycle
P095	1-999	150	+ -	松线全额时间 Thread releasing full power time

P096	1-100	100	+ -	剪线占空比 Thread cutting continuous duty cycle
P097	-		+ -	空 empty
P098	0-1000	500	+ -	步进正倒缝机械零点(默认 500 为 0, 减少是降低, 增大是增加) Mechanical zero point of stepper forward and backward sewing(the default value 500 is the zero point, reduce is lower, add is higher)
P099	1-199	100	+ -	步进正缝整体修正 (100%是正常比例) Stepper forward sewing overall correction(100% is normal)
P100	1-199	100	+ -	步进倒缝整体修正 Stepper backward sewing overall correction
P101	0-80	5	+ -	前密缝针距 (0.1mm) Front tight sewing needle distance
P102	0-30	2	+ -	前密缝针数 Front tight sewing repeat number
P103	0-1	1	+ -	前密缝方向 (0 倒缝; 1 正缝) Front tight sewing direction (0 backward sewing;1 forward sewing)
P104	0-80	5	+ -	后密缝针距 (0.1mm) Front tight sewing
P105	0-30	2	+ -	后密缝针数 Back tight sewing needle count
P106	0-1	1	+ -	后密缝方向 (0 倒缝; 1 正缝) Back tight sewing direction (0 backward sewing;1 forward sewing)
P107	0-999	400	+ -	密缝开启后, 夹线器长度 Thread clamp length setting after turning on the tight sewing
P108	-		+ -	参数预留 reservation
P109	100-4500	4000	+ -	手动倒缝最高限速 Manual backward sewing maximum speed
P110	100-4500	2000	+ -	花样缝速度 Patter sewing speed
P111	100-3000	1800	+ -	前密缝速度 Front tight sewing speed
P112	100-3000	1800	+ -	后密缝速度 Back tight sewing speed
P113	20-500	80	+ -	步进电机运行强度 1 Running power 1 of stepper motor

P114	20-500	80	+ -	步进电机运行强度 2 Running power 2 of stepper motor
P115	20-500	80	+ -	步进电机运行强度 3 Running power 3 of stepper motor
P116	0-10	5	+ -	步进电机高速补偿 High speed compensation of stepper motor
P117	-		+ -	参数预留 reservation
P118	44696	12	+ -	主轴电机工作电流 Working current of principle motor
P119	0-1	1	+ -	步进电机持续大电流报警开关(0: 关闭; 1: 开启) Stepper motor continuous high current alarm switch(0 close ;1 open)
P120	-		+ -	参数预留 reservation
P121	30-100	60	+ -	步进电机高速摆速 High-speed swing speed of stepper motor
P122	0-20	5	+ -	步进后密补偿 Stepper back tight sewing compensation
P123	100-1240	850	+ -	步进电机工作电流 Stepper motor working current
P124	0-1	1	+ -	前后加固大针距限速开关(0: 关闭; 1: 开启) Speed limited switch of front and back reinforce large needle distance(0 close; 1 open)
P125	0-4096	1250	+ -	自检负载报警值设定 Setting of self-test load alarm value
P126	0-4096	0	+ -	步进开机自检负载值查看 Stepper starting self-test load detection
P127	0-120	20	+ -	第一段针距 60=0 The first needle pitch
P128	15-360	15	+ -	第一段开始角度 The first segment start angle
P129	0-360	120	+ -	第二段开始角度 The second segment start angle
P130	0-4096	0	+ -	实时转速查看 Real-time speed detection
P131	0-150	100	+ -	弱磁电流 Weak magnetic current
P132	3500-9000	4200	+ -	弱磁生效转速 Effective speed of weak magnetic field
P133	0-20	0	+ -	脚踏报警值

				OPedal alarm value
P134	0-1	1	+ -	步进低速测速方式 Stepper low speed detection way
P135	0-1	1	+ -	静止时，倒缝按键响应模式(0: 任意位置均可倒缝 1: 只能下半区可倒缝) Backward sewing key response mode without working(0 backward sewing at any position; 1 backward sewing only when in bottom half
P136	0-600	40	+ -	1.0 正缝针距 1.0 forward sewing needle distance
P137	0-300	32	+ -	1.0 倒缝针距 1.0 backward sewing needle distance
P138	0-300	70	+ -	2.0 正缝针距 2.0 forward sewing needle distance
P139	0-300	70	+ -	2.0 倒缝针距 2.0 backward sewing needle distance
P140	0-300	105	+ -	3.0 正缝针距 3.0 forward sewing needle distance
P141	0-300	105	+ -	3.0 倒缝针距 3.0 backward sewing needle distance
P142	0-300	145	+ -	4.0 正缝针距 4.0 forward sewing needle distance
P143	0-300	145	+ -	4.0 倒缝针距 4.0 backward sewing needle distance
P144	0-300	200	+ -	5.0 正缝针距 5.0 forward sewing needle distance
P145	0-300	200	+ -	5.0 倒缝针距 5.0 backward sewing needle distance
P146	0-300	260	+ -	6.0 正缝针距 6.0 forward sewing needle distance
P147	0-300	260	+ -	6.0 倒缝针距 6.0 backward sewing needle distance
P148	0-300	270	+ -	7.0 正缝针距 7.0 forward sewing needle distance
P149	0-300	287	+ -	7.0 倒缝针距 7.0 backward sewing needle distance
P150	0-300	300	+ -	8.0 正缝针距 8.0 forward sewing needle distance
P151	0-300	300	+ -	8.0 倒缝针距 8.0 backward sewing needle distance
P152	0-1	0	+ -	防鸟巢开关

				Bird nest prevention switch
P153	0-1000	30	+ -	剪线信号延时等待时间 Trimmer signal delay waiting time
P154	0-1000	10	+ -	勾线全功率时间 Hook thread full power time
P155	0-100	85	+ -	勾线全功率占空比 Hook thread full power continuous duty cycle
P156	0-1000	25	+ -	勾线维持时间 Hook thread maintain time
P157	0-100	75	+ -	勾线维持占空比 Hook thread maintain continuous duty cycle
P158	0-1000	30	+ -	勾线结束，挑线&吸风延时等待时间 Picking thread & suction delay waiting time after thread hooking
P159	0-1000	100	+ -	挑线全功率时间 Picking thread full power time
P160	0-100	85	+ -	挑线全功率占空比 Picking thread full power continuous duty cycle
P161	0-1000	100	+ -	挑线维持时间 Picking thread maintain time
P162	0-100	75	+ -	挑线维持占空比 Picking thread maintain continuous duty cycle
P163	0-4999	200	+ -	吸风全功率时间 Air-suction full power time
P164	0-100	85	+ -	吸风全功率占空比 Air-suction full power continuous duty cycle
P165	0-4999	200	+ -	吸风维持时间 Air-suction maintain time
P166	0-100	75	+ -	吸风维持占空比 Air-suction maintain continuous duty cycle
P167	0-4999	200	+ -	抬压脚吸风全功率时间 Air-suction when lifting presser foot full power time
P168	0-4999	50	+ -	抬压脚吸风维持时间 Air-suction when lifting presser foot maintain time
P169	0-3	2	+ -	抬压脚是否吸风模式(0 全关; 1 全开; 2 抬开放关; 3 放开抬关) Air-suction mode when lifting presser foot(0 always close;1 always open;2 open when lifting, close when releasing; 3 open when releasing, close when lifting)
P170	0-1000	250	+ -	步进抬压脚原点 Stepper presser foot origin

P171	0-900	880	+ -	步进抬压脚高度 Stepper presser foot height
P172	0-900	880	+ -	中途抬压脚高度 Halfway lifting presser foot height
P173	0-620	600	+ -	膝靠抬压脚最大高度 Knee presser foot maximum height
P174	250-350	300	+ -	步进剪线原点 Stepper trimmer origin
P175	250-630	560	+ -	步进分线结束位置 End position of step line split
P176	250-800	750	+ -	步进剪线结束位置 End position of stepper trimmer
P177	360-550	500	+ -	步进电机回剪线原点时主轴电机数值 The value of principle motor to lead the stepper motor turn back to the trimming origin
P178	150-360	245	+ -	分线启动电机角度 Line splitting starting motor angle
P179	5-160	30	+ -	剪线启动电机角度 Trimming starting motor angle
P180	0-60	0	+ -	退刀启动电机角度 Knife retract motor angle
P181	50-300	120	+ -	步进抬压脚速度 Stepper lifting presser foot speed
P182	50-400	160	+ -	步进退刀速度 Stepper knife retract speed
P183	10-500	150	+ -	分线最高速度 Line split maximum speed
P184	10-500	250	+ -	剪线最高速度 Trimming maximum speed
P185	10-500	150	+ -	抬压脚最高速度 Lifting presser foot maximum speed
P186	10-500	220	+ -	放压脚最高速度 Releasing presser foot maximum speed
P187	10-500	200	+ -	退刀最高速度 Knife retracting maximum speed
P188	10-800	600	+ -	工作时正倒缝最高速度 Forward and backward sewing maximum speed when working
P189	10-600	200	+ -	静止时正倒缝最高速度 Forward and backward sewing maximum speed without working

P190	10-4096	2120	+ -	膝靠原点值 Knee switch origin value
P191	10-4096	1800	+ -	膝靠行程 Knee switch distance
P192	10-4096	4000	+ -	膝靠未插报警值 Alarm value without connect the knee switch
P193	10-4096	1100	+ -	膝靠触发松线值 The value of the knee switch which leads to release the thread
P194	0-1	0	+ -	退刀等待标志 Waiting sign of knife retracting
P195	0-1	1	+ -	抬压脚预定位等待标志 Presser Foot pre-positioning waiting sign
P196	0-1	1	+ -	抬压脚下放是否回到预定位 Releasing presser foot to pre-positioning or not
P197	0-4096	0	+ -	步进抬压脚电流查看 Stepper presser foot current detection
P198	0-720	0	+ -	主轴分线结束时，步进位置 Stepper position when ending line split
P199	0-720	0	+ -	主轴剪线结束时，步进位置 Stepper position when ending trimming
P200	0-4800	0	+ -	步进实时位置查看 Stepper real-time position detection
P201	0-1	0	+ -	维修模式(0 关闭; 1 开启) Maintenance mode(0 close;1 open)
P202	0-1	0	+ -	步进针距零点 Stepper needle position zero point
P203	0-1	0	+ -	步进抬压脚零点 Stepper presser foot zero point
P204	0-1	0	+ -	步进剪线零点 Stepper trimmer zero point
P205	0-1	0	+ -	刀口模拟(步进电机进入调试模式，转手轮会模拟剪线动作，禁止脚踏工作) Knife-edge simulation(stepper motor enter adjusting mode, turn around the handwheel will)
P206	0-1	1	+ -	电子膝靠松线开关 Electronic thread loosening knee switch
P207	0-9999	1000	+ -	松线保护时间 (ms) Thread loosening protection time
P208	0-1000	100	+ -	剪线后电机启动延时时间 (ms) Delay time of motor starting after trimming

P209	0-9999	0	+ -	开机后的计件数 Number of pieces counted after power on
P210	1-10	1	+ -	多少次剪线算一件衣服 The number of thread cutting as one cloth
P211	0-720	0	+ -	主轴实时位置显示 Display real-time position of principle motor
P212	0-2400	0	+ -	步进驱动角度监控 Stepper angle monitoring
P213	0-70	30	+ -	补针按键的第二针距(单位: 0.1mm) Second needle distance of needle attaching key(unit:0.1 mm)
P214	0-70	30	+ -	倒缝按键的第二针距(单位: 0.1mm) Second needle distance of backward sewing key(unit:0.1 mm)
P215	0-3	1	+ -	补针按键功能选择(0: 倒缝 1: 补针 2: 第二针距) Function selection of needle attaching key(0 backward sewing;1 needle attaching; 2 second needle distance)
P216	0-3	0	+ -	倒缝按键功能选择(0: 倒缝 1: 补针 2: 第二针距) Function selection of backward sewing key(0 backward sewing;1 needle attaching; 2 second needle distance)
P217	0-1	0	+ -	花样倒缝开关(0: 关闭 1: 开启) Pattern backward sewing switch(0 close; 1 open)
P218	0-1	0	+ -	轻重载自动修正开关(0: 关闭 1: 开启, 内部测试功能) Light and heavy load auto-correct switch(0 close; 1 open internal test function)
P219	0-360	0	+ -	步进工作电角度(功能预留) Stepper angle(function reservation)
P220	30-600	600	+ -	剪线原点回当前针距速度 Speed of trimming origin back to current needle distance
P221	30-300	270	+ -	抬压脚原点回当前针距速度 Speed of presser foot back to current needle distance
P222	200-3000	1500	+ -	大针距前后加固限速(>5.0 针距) Speed limited of large needle distance fore-aft reinforcement(greater than 5.0 needle distance)
P223	0-4096	0	+ -	膝靠值实时查看 Knee switch value real time check
P224	0-1	0	+ -	膝靠报警开关 Knee error switch
P225	0-1	1	+ -	速度和针位实时生效开关 Speed and needle position real time active switch

P226	100-3000	1800	+ -	前花样加固速度 Front pattern reinforcement speed
P227	100-3000	1800	+ -	后花样加固速度 Rear pattern reinforcement speed
P228	5-100	15	+ -	倒缝按键响应灵敏度 Backward sewing key response sensitivity
P229	0-1	1	+ -	半针/一针 Half needle/one needle
P230	0-600	100	+ -	膝靠压脚最低高度 Keen presser foot minimum height
P231	0-9999	2000	+ -	多段缝正常转速的 p P of normal speed of multisegmental sewing
P232	0-9999	50	+ -	多段缝正常转速的 i I of normal speed of multisegmental sewing
P233	1-1	1	+ -	独立剪线开关 Independent trimming switch
P234	150-300	220	+ -	步进入刀速度 Step forward knife speed
P235	100-235	200	+ -	步进入刀速度恢复角度 Step forward knife speed recover angle
P236	0-50	10	+ -	膝靠误差 Knee presser foot error
P237	0-300	280	+ -	9.0 正缝针距值 9.0 forward sewing needle distance value
P238	0-300	240	+ -	9.0 倒缝针距值 9.0 backward sewing needle distance value
P239	0-300	300	+ -	10.0 正缝针距值 10.0 forward sewing needle distance value
P240	0-300	280	+ -	10.0 倒缝针距值 10.0 backward sewing needle distance value

错误代码表

Error code table

错误码 Error code	内容 content	对策 countermeasures
ER01	定位器信号异常 Locator abnormal	关闭系统电源，检查电机编码器接口是否松动或脱落，将其回复正常后重启系统。若仍不能正常工作，请更换电机并通知厂方。 Turn off the power, check if the motor encoder ports loosened or unconnected, make it back to normal and restart the system. Change the motor and contact with factory if it still can not work normally.
ER02	控速器接触异常 Abnormal connection of pedal	将模块驱动出力与机头出力全部关闭请检查控速器是否有松动，接触不良或控速器有故障 Turn off module driver output and nose power to check if the pedal is poor contact or broken.
ER04	a) 马达插头配线接触不良导致不转 b) 车头机构死锁或马达皮带异物卷入卡死。 c) 加工物过厚，马达扭力不足无法贯穿。 d) 模块驱动出力异常。 A) motor port poor contact leads the motor no working B) machine or motor belt stuck C) the material is too thick to be run through by the motor power	将模块驱动出力与车头出力全部关闭。等待电源重新开启/复位。 (请检查车头是否卡住或定位器。马达。模块驱动等信号是否异常) Turn off module driver output and nose power to restart the power. (check if the machine is stuck, or the locator, motor or module-driver signal abnormal).
ER05	1) 主轴电机电力模块错误代码 2) 主轴电机不正常过电流或过电压 1) Spindle motor power module error code 2) spindle motor abnormally overcurrent or overvoltage	将模块驱动出力与机头出力全部关闭等待电源重新开启/复位(请仔细检查电源板各项机能) Turn off module driver output and nose power to restart the power (check the function of the controller).
ER07	前面操作盒与 CPU 传输通信异常 The operate box and cpu transmission abnormal	将模块驱动出力与机头出力全部关闭请检查操作盒信号配线是否异常或故障。 Turn off module driver output and nose power to check if the controller box signal wire broken or not.

ER15	主轴电机编码器错误 Spindle motor encoder error	关闭系统电源，检查主轴电机编码器接口是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换主轴电机并通知厂方。 Turn off the power to check if the spindle motor encoder port poor contact, make it back to normal and restart the system. Change the spindle motor and contact with factory if it still can not work normally.
ER16	系统不运行时过压 Overvoltage when the system do not work	检查输入电压是否正常（AC175V~270V），排除故障后重启即可恢复 Check the input voltage if it is normal (AC175V~270V), restart after trouble shooting.
ER20	系统欠压 System under voltage	检查输入电压是否正常（AC175V~270V），排除故障后重启即可恢复 Check the input voltage if it is normal (AC175V~270V), restart after trouble shooting.
ER31	主轴电机原点检测错误 Spindle motor origin detection error	检查编码器有无异常（如油污等），接插件有无可靠连接；无异常后进入 P42 项参数，将参数数值修改成 1 Check the encoder for any abnormalities (such as oil pollution, etc.), check the connection of the plugs if good connected. Enter P42 parameter, change the value to 1
ER32	机头翻倒保护 Protection of machine turning over	检查机头是否倾倒，机头回位即可恢复 Check the machine if it is overturned, it will recover when the machine reset
ER33	倒缝超时保护 Backward sewing overtime protection	倒缝电磁铁吸合时间过长，重启即可。若重启产品后还是报 ER33，请检查手动倒缝开关是否损坏。 The suction closure time of backward sewing electromagnet is too long, just restart the product. Check if the manual backward sewing switch broken when it still show Error 33 after restart the product.
ER34	剪线堵转 Cutting thread locked rotor	转动手轮一圈使动刀回位，清理异物检查剪刀组件无异常时可继续工作

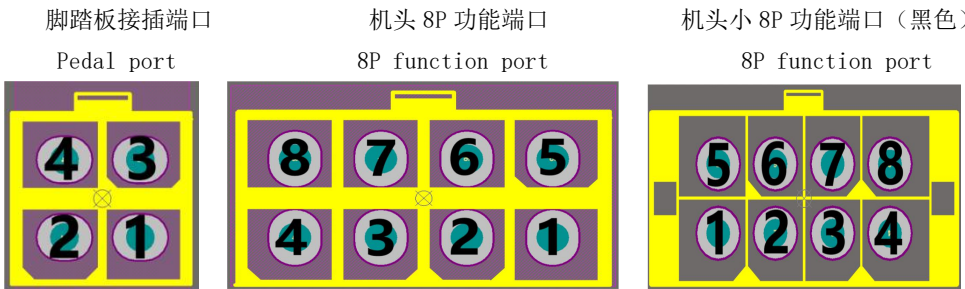
		Turn the hand wheel around to make the moving knife return back, clean the foreign matter and check the trimmer assemblies nothing out of ordinary, then continue the work
ER36	系统运行时过压 Overvoltage when the system is working	
ER38	驱动角未找 No found of the driving angle	进入 P42 项参数，将参数数值修改成 1 Enter P42 parameter, change the value to 1
ER41	驱动角未找 No found of the driving angle	进入 P42 项参数，将参数数值修改成 1 Enter P42 parameter, change the value to 1
ER81	步进电机原点检测错误 Stepmotor origin detection error	检查步进有无安装错误，松掉固定螺丝后，重启电源是否继续报警 Check if the stepmotor installing mistake or not, if it still shows error when releasing the fixed screw.
ER84	步进电机堵转 Stepmotor locked rotor	关闭系统电源，检查步进电机编码器接口是否松动或脱落，检查送料机械结构有无卡死或过载情况，将其恢复正常后重启系统。若仍不能正常工作，请更换步进电机并通知厂方 Turn off the power, check if the stepmotor encoder ports loosened or unconnected, check if the feeding mechanism stuck or overload, make it back to normal and restart the system. Change the stepmotor and contact with factory if it still can not work normally.
ER85	1. 步进电机电力模块错误代码 2. 步进电机不正常过电流或过电压 1. Stepmotor power module error code 2. Stepmotor abnormally overcurrent or overvoltage	检查步进电机插座有无松动，检查送料机械结构有无咬死，排除故障后电源重新开启/复位(请仔细检在电源板各项机能) Check if the stepmotor port loosened, if the feeding mechanism stuck, restart the power after trouble shooting(check the function of the controller).
ER87	步进电机与主轴电机端子插错 Wrong connect between the stepmotor and spindle motor	互调两个编码器插头，重新拔插，断电重启电控，若仍不能正常工作，请通知厂方 Change the ports of the two encoders and reconnect, restart the controller.

		Contact with factory if it still can not work normally.
ER88	步进电机到不了目标位置 Stepmotor can not reach the target position	检查送料机械结构有无卡死或过载情况，并检查连杆摆幅值有无超过限位，排除故障后电源重新开启/复位(请仔细检在电源板各项机能) Check if the feeding mechanism stuck or overload, check if the swing oscillation of connecting rod exceeding limit, restart the power after trouble shooting(check the function of the controller).

5 端口示意图

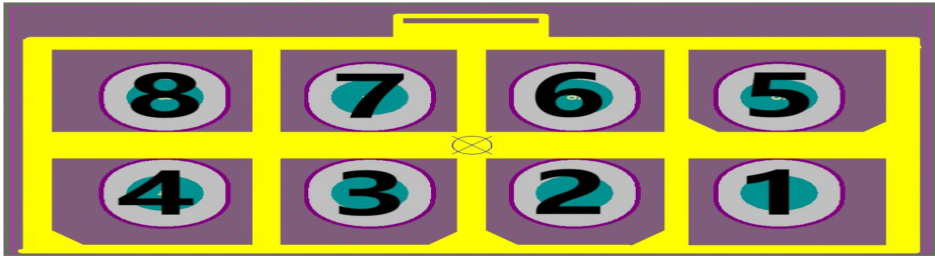
Ports sketch map

5.1 各个端口名称 each port name

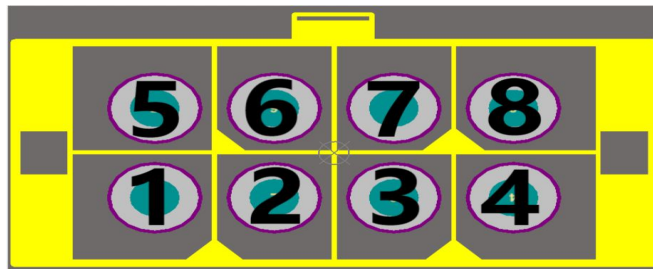


5.2 8P 功能端口对应表

5.2 8P function port correspondence table



- ① 剪线电磁铁：3、7
 Trimmer electromagnet:3,7
- ② 夹线、拨线电磁铁：4、8
 Clamp thread and flick thread electromagnet:4,8
- ③ 电子松线器：2、6
 Electrical thread looser:2、6



① 机头灯： 1(5V 电源)、 2(地线)

Head light:1(5V voltage)、 2(GND)

② 补针： 5(感应线)、 2(地线)

Needle attaching:5(induction wire)、 2(GND)

③ 倒缝： 6(感应线)、 2(地线)

Backward sewing:6(induction wire)、 2(GND)