

SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

■ 550W/750W V-Blet Type Motor



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一、安全說明：General Safety Instruction

1.電機接通電源時請不要把腳放在腳踏板上

Do not place your foot onto the pedal when connecting to the power source

2.本產品需專業人員安裝，調試

Installation and trial-run must be done by skilled person

3.嚴禁在通電時打開控制箱與電機端蓋

Open control box or motor cover under electrical power is not permitted

4.必須保證系統接地可靠

Make sure the earthing system is working well

5.以下操作請務必斷電

When doing the following the machine has to be disconnected from the power supply

A.換針、穿線或更換底線時

When threading machine, replacing needle, bottom thread

B.安裝、拆卸或修理時

When install, dismantle and repair

C.翻抬縫紉機時

When turn over the sewing machine

二、作業環境要求：Environmental Requirements

1.請不要在過潮濕的環境中作業

Please do not work at damp place

2.用戶供電應保持穩定 210V~240V

The voltage requires being stable (210V~240V)

3.用戶使用前必須接地，確保人身安全

Must be adequately grounded for safety

4.不要在過熱地方作業

Do not work at high temperature

5.控制系統與電機不要在強磁高輻射環境中作業，以免干擾而使系統錯誤

Do not run motor and control system near to ferromagnetic or high-radiance area

三、產品介紹：Product instruction

本產品由本公司自主研發，產品個性鮮明，真正體現出了機電一體化的概念，更是節能、高效、環保、優美集結於一身。可廣泛適用於多種縫紉設備。

This product by the company independent research and development, distinct personality, truly reflects the concept of mechanical and electrical integration, more energy saving, high efficiency, environmental protection, beautiful assembled in one. It can be widely applied to a variety of sewing equipment.

1.組成部分： component



控制器系統由控制器和電機兩部分：

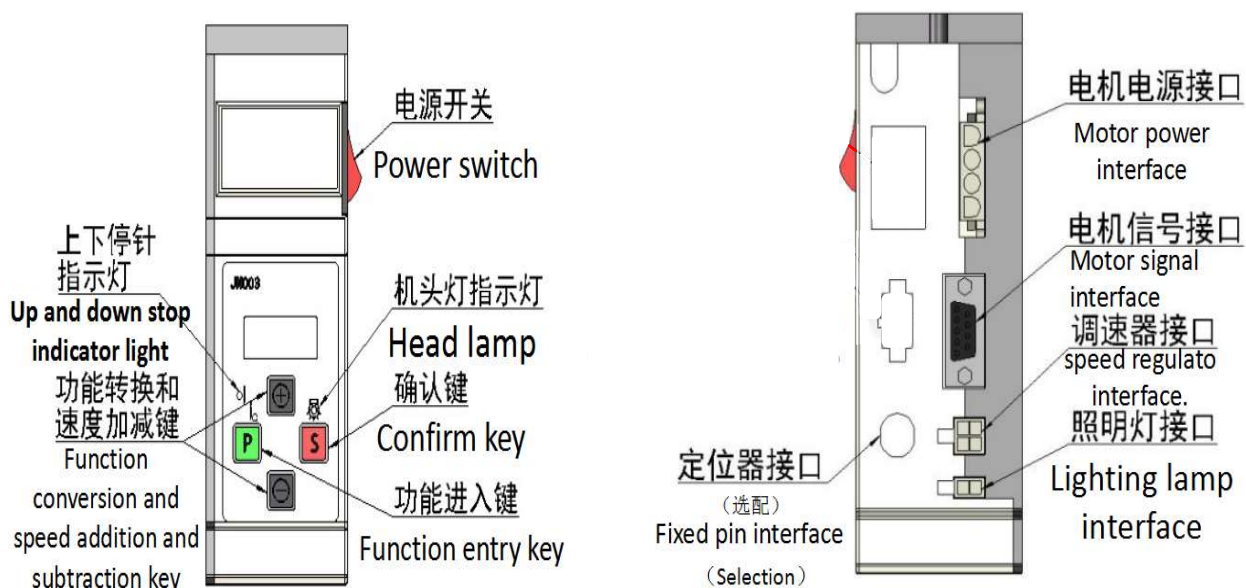
The servomotor is composed of control system and motor

A.控制器：控制箱和速控器。

A.Control system includes control box and speedcontroller

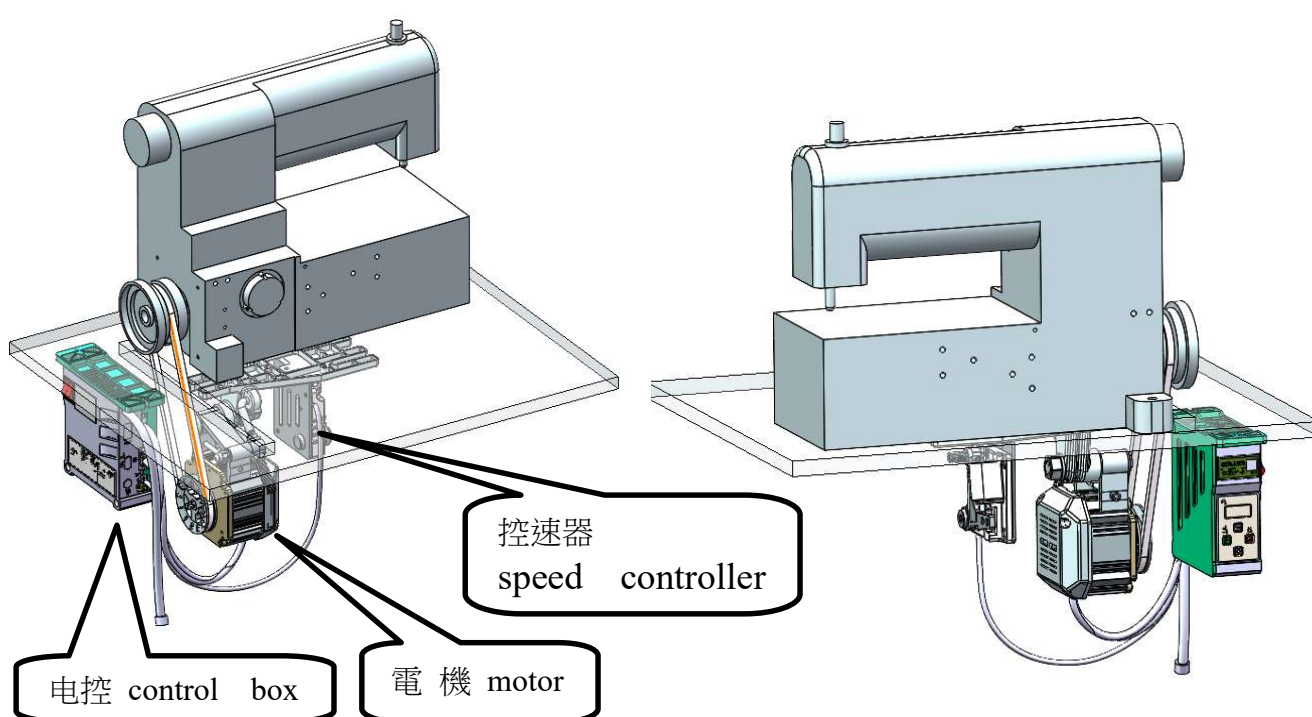
系統介面連接和操作面板示意圖如下：

Introducefor control panel



本控制系统體現出了超前的設計理念，系統操作簡單易上手，整個控制系統性能優越。具有起步快，停車快、准等優點。而且電路模組保護功能完善：有欠壓、過流、等一系列保護功能。速控器可實現無級調速。

This control system features is easy to use and features in excellent performance, including quick start, quick stop (sewing machine), accurate needle position. Furthermore, the modular circuit has Self-Protection System when against lower voltage, over current, over heat etc. speedcontroller is realized by the pedal speeder.



2、性能參數指標 Specifications

電源供電電壓 Voltage	220V 單相 1 phase
頻率 Frequency	50~60HZ
電機轉速 Speed	200-5000RPM
電機扭矩 Motor torque	400≤2N.M 500≤3N.M

四、安裝調試：（直驅式電機安裝方法）

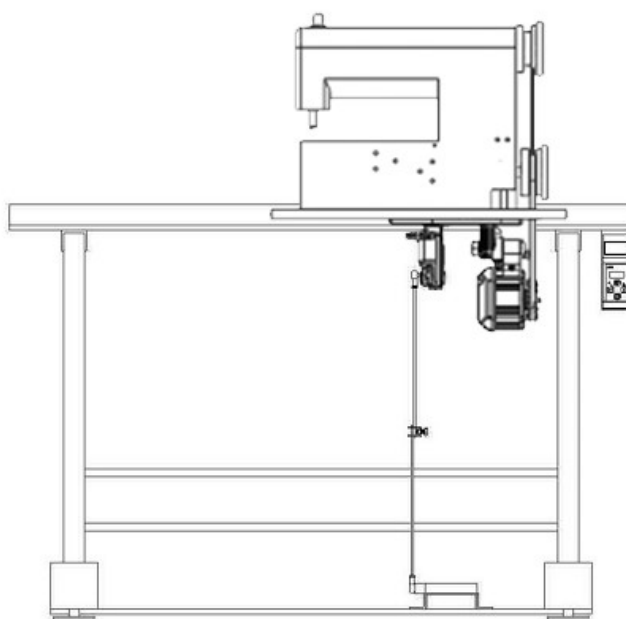
Installation and trial-run (Direct Drive type)

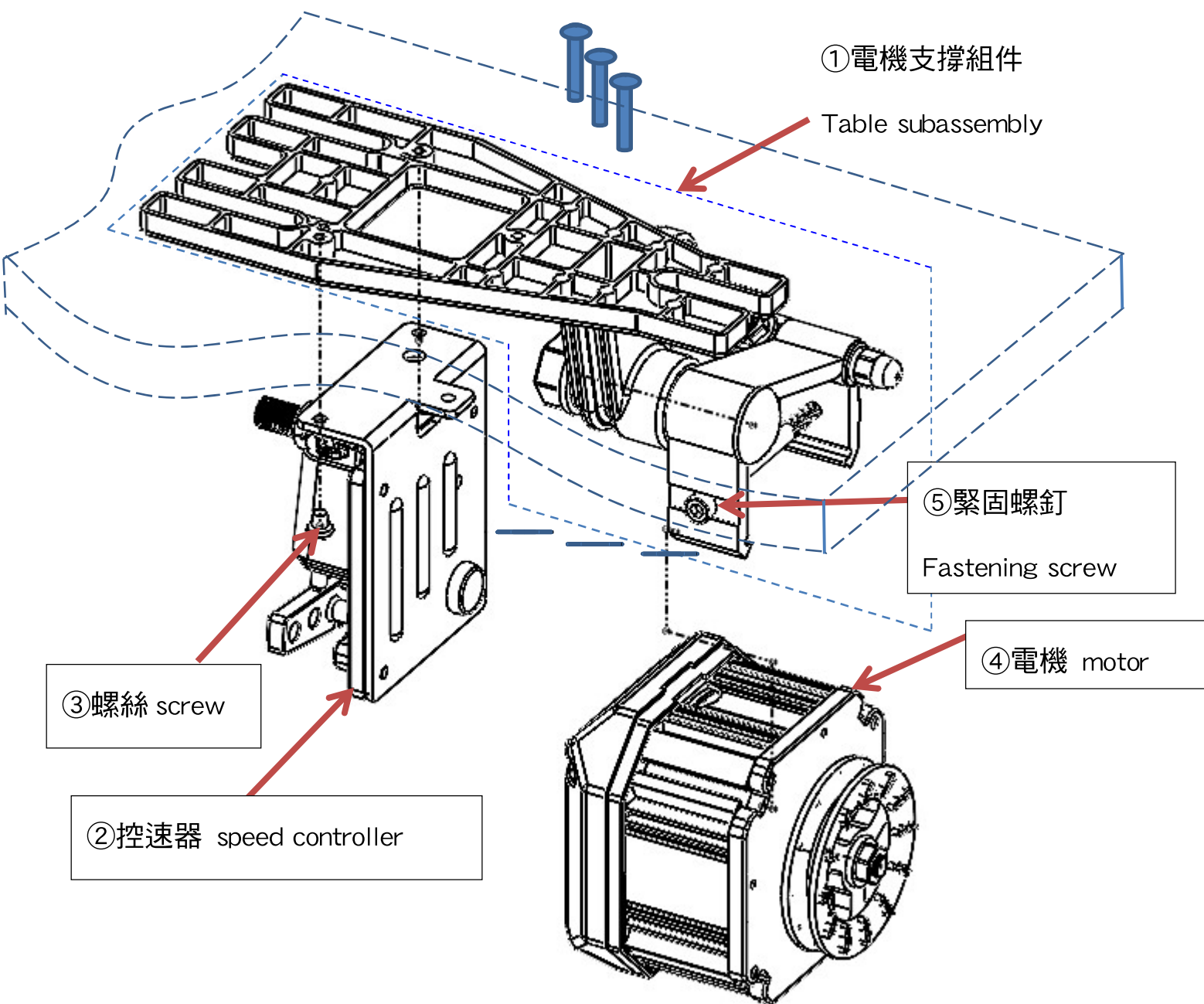
1.控制箱速控器安裝如下圖

Install control box and speedcontroller as below figure

將控制箱和速控器用螺釘依次安裝在縫紉機台板上。

Using screws, mount the Control Box and speedcontroller onto sewing table properly.





2. 下掛電機安裝流程如上圖：

The process of installing the hanging motor as above:

A. 圖①台板組件安裝完成。

Complete the stalling of the table subassembly as picture ①

B. 按照黑色指引線的指引將圖②控速器與圖①台板組件的螺絲孔對齊，用圖③螺絲固定。

Justify the speed controller (picture ①) with the screw holes as the

black guidelines, fix it with the screws.

C. 圖④電機則是利用卡槽連接定位，再用圖⑤緊固螺釘鎖緊固定。

Fix the motor (picture ④) to the table by the bayonet slot and tighten it with the screws (picture⑤).

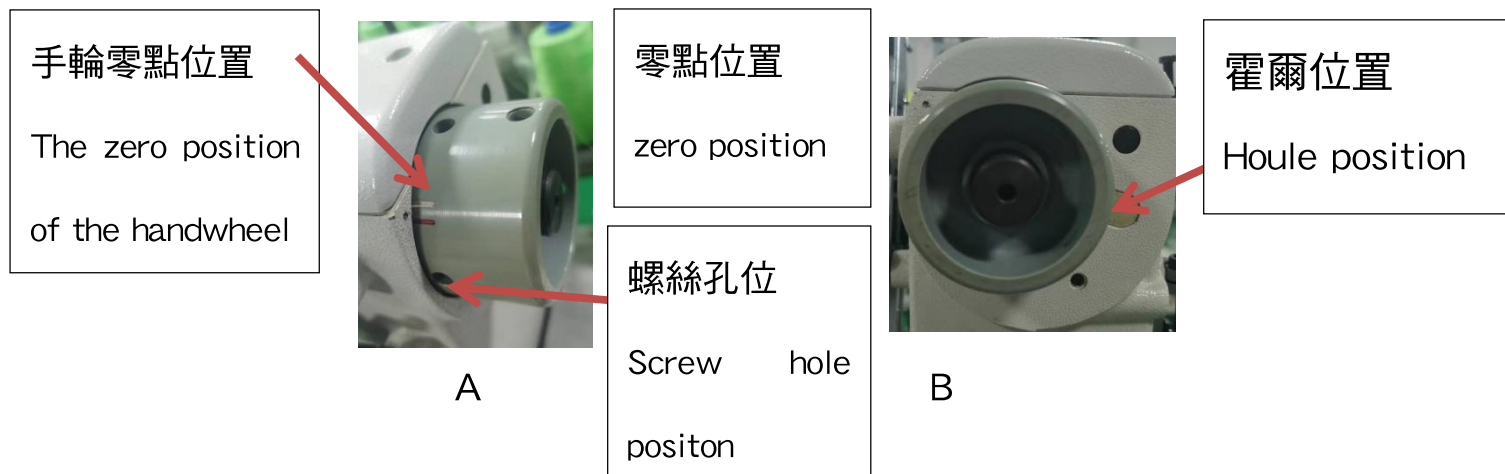
D. 圖 4 電機電機轉子屬於稀土永磁材料，具備功率大，節能環保等各大優點。

The material of the motor rotor in picture ④ is rare earth permanent magnet, the advantage is large power, energy saving and so on.

3.上手輪和霍爾定針安裝示意圖:

Installing of the upper handwheel and houle needle stop:

裝手輪含霍爾定針位置：Install hand wheel



A) 用手轉動縫紉機，使機針停在最高位(參照 A 圖)

Turn the sewing by hand, make the needle stop at the highest level (as picture A)

B) 將手輪刻線與機殼刻點對齊（看圖 A）。擰緊安裝示意圖上的 2 處螺釘，並且保證手輪機殼留有 1.5mm--2.5mm 的間隙。)

Justify the mark line of the handwheel to the mark point of the motor cover as picture A. Tighten two screws of sketch map, and keep the clearance of

hand wheel and motor 1.5mm~2.5mm.

(5) 檢查：手轉動手輪無卡擦現象，縫紉機也無加重。

Check: Hand wheel hand wheel without card wiping phenomenon, Sewing machine weight does not increase

五、控制台使用說明 Installation for Control Panel

各按鍵的用途：Each key purpose: (1) “P” 鍵的用途：

Function of “P” key:

第一：“P” 鍵為上、下停針鍵，按下“P” 鍵，上燈孔亮，為上停針；下燈孔亮，為下停針；兩個燈孔都不亮，為自由停針；

First: “P” key for upper and lower stop needle position. Press “P”, if up pinhole lamp lights means it's up stop needle, if down pinhole lamp lights means that it is down stop needle, if two lamps off means needle position is freedom.

第二：功能進入鍵（見進入參數的操作方法）

Second: Function Enter button (below to enter the parameter method of operation)

(2) “S” 鍵的用途：

Function of “S” key:

第一：“S” 鍵為機頭燈開關鍵，按下“S” 鍵，當“S” 鍵上的小燈亮為打開機頭燈，滅為關掉機頭燈。

First: “S” button for off or on the head lamp. Press “S” key the lamp lights, if don't do it is turn off.

第二：功能參數（確認）鍵（見進入參數的操作方法）

Second: Function Enter button (below to enter the parameter method of operation)

(3) “+” “-” 鍵的用途：

Function of “+” 、 “-” key

此兩個鍵用於轉速調整和參數調整。

These two keys are used to adjust speed and parameter modulation.

2.進入參數的操作方法

例：怎樣把電機的順時針轉調到逆時針轉：

第一步：打開電源；

第二步：先按“P”鍵不放，同時按“+”號鍵，此時畫面會顯示 P-00。

第三步：按“+”號鍵，把 P-00 調至 P-02，（P-02）就是電機正反轉參數（常用參數表上有標明）；

第四步：按下“P”鍵畫面會顯示“1”；

第五步：按下“-”號鍵把“1”調到“0”（“1”為順時針轉，“0”為逆時針轉，常用參數表上有標明）；

第六步：按下“S”鍵確定參數調整完成。

2. To enter the parameter method of operation:

Example: How to change the motor from clockwise to counterclockwise:

Step one: Open the power;

Step two: Press the "P" key, no leave, and press "+" key, the screen will display the P-00;

Step third: Press "+" key, change the P-00 to P-02, (P-02) is a motor clockwise or counterclockwise parameters (common parameter list has record);

Step four: Now press "P" key (enter into parameters) screen will display "1" ;

Step fifth: Press "-" key, change "1" to "0" ;("1" for clockwise, "0" for the counter clockwise rotation, commonly used in the parameter table is indicated);

Step six: Press the "S" key to determine the parameters, save and exit the parameter.

3. 恢復出廠設置

恢復出廠設置方法：先按“P”鍵不放，同時按“+”號鍵，此時畫面會顯示 P-00，再長按“S”鍵約 3 秒即可。

3. Restore factory settings

Restore factory settings: Press the "P" key, no leave, and press the "+" key, the screen will display the P-00, then press "S" key 3 seconds.

4. 電機常用參數設置 Commonly used parameter setting

序號 The serial number	參數編號 Parameters name	參數名稱 The parameters name	參數範圍 Adjusting rang	出廠設置 The factory reset settings	備註
1	P-01	最大速度鎖定 Maximum Speed lock	550W: 200-4500RPM 750W: 200-4000RPM	4500 轉	550W: 4500RPM 750W: 4000RPM
2	P-02	電機方向 Direction of rotation	0 是逆時針;1 是順時針 0 is reverse turn needle;1is clockwise turn	1	老款平縫電機調到 2 或 3 Old flat seam motor change to 2 or 3
3	P-03	下停角度 The needle angle	6-18°	12°	
4	P-04	起縫速度 Start sewing speed	200-800 轉	250 轉	
5	P-05	加速快慢 Speed up And slow	2000-4000 轉	3000 轉	
6	P-06	定針縫 Set the seam	0-999 針	0	
7	P-07				
8	P-08				
9	P-09				
10	P-10	自動間隙運行 (跑合) Automatic Clearance run(run)	把 0 改成 1 再按 S 鍵 Press the S key when change 0 to 1	0	
11	P-11	抬壓腳起動時間 Presser foot ascend starting time	0-2000ms	0	
12	P-12	抬壓腳保護時間 Ascension presser foot protection time	1-120s	0s	

13	P-13	老款平車電機選擇 Old section flat sewing machine selection	1 是老款平縫機電機 Motor option 1 is old section flat sewing machine	0	0 是普通機 0 is ordinary sewing machine
14	P-14	最大電流限制 Maximum current limiting	50-1000	270	
15	P-15	是否檢測上針位 Whether to detect the up needle position	0:檢測針位，1:不檢測 0:detecting needle 1:no detection	0	
16	P-17	重定出廠密碼 factory reset code	1-3	1	P-09 參數開啟後才能出現 P-17 參數、設為 3 長按 OK 鍵 恢復出廠密碼 when open the parameter “P09” ,then it can occur “P17” ,set “3” , then long press “OK” button to recover the factory code
17	P-18	出廠密碼 factory code	0000-9999	2013	
18	P-19	軟起動針數 soft start stitches	0-15	0	0 針關閉該功能，1-15 針時啟 用軟啟動，並設定針數（上 停針時有效） 0 stitch is close this function, 1-15stitches is open the soft start , and set the stitches(upper needle position is effective)
19	P-20	軟起動速度 soft start speed	200-3500	800	
20	P-21	吸氣功能 suction function	0:關閉 1:開啟 0: close 1:start	1	電機運轉時開啟/關閉吸氣功 能 motor running open/close suction function
21	P-22	吸氣開啟針數 suction start stitches	1-200	30	吸氣打開針數（P23 針數打 開時有效） suction open stitches(P23 stitches open have effective)
22	P-23	吸氣關閉針數 suction close stitches	0-200	0	
23	P-24	吸氣動作維持時 間 suction action maintain time	50-2000ms	120ms	此參數暫時不用 this parameter do not use now

24	P-25	吸氣全功率時間 suction full power time	35-1000ms	120ms	
25	P-26	吸氣全功率時功率 the power of suction full power	5-100%	80%	
26	P-27	吸氣維持功率 suction maintain power	1-100%	70%	
27	P-28	吸氣釋放時間 suction release time	0-500ms	20ms	
28	P-29	吸氣保護時間 suction protection time	1-120s	30s	吸氣單次動作最長時間 the longest time of suction single action
29	P-30	壓腳觸發模式 foot presser trigger mode	0:關閉 1:開啟 0: close 1:start	0	1.設為 0 時，後踏速控器壓腳不抬。設為 1 時後踏速控器壓腳抬起， 2.維持抬起，直到前踏或保護時間到才會釋放壓腳，並且每次電機停止時自動抬壓腳 1, set “0”, back step the pedal,the foot presser is not up, set “1”, back step the pedal, the foot presser is up. 2, the foot presser is maintain up, until front step the pedal or the protection time is finish then release, and motor stop, the foot presser is up automatic.
30	P-31	後抬腳啟動時間 back foot presser lifter start time	0-2000ms	0	後踏延遲啟動壓腳的時間 the time of back step delay start foot presser
31	P-32	抬壓腳動作維持時間 foot presser lifter action maintain time	50-1000ms	160ms	此參數暫時不用 this parameter do not use now
32	P-33	抬壓腳全力功率時間 foot presser lifter full power time	35-1000ms	160ms	

33	P-34	抬壓腳全力功率 時功率 the power when the foot presser lifter full power	5-100%	82%	
34	P-35	抬壓腳維持功率 foot presser lifter maintain power	1-500%	80%	
35	P-36	抬壓腳釋放時間 foot presser lifter release time	0-120ms	30ms	壓腳釋放時間 the foot presser lifter release time
36	P-37	抬壓腳保護時間 foot presser lifter protection time	1-100s	10s	壓腳單次抬起最大維持時間 the biggest maintain time of the foot presser lifter single time
37	P-38	顯示速度 display time	200-6500RPM		顯示當前電機實際速度 display the current motor real speed
38	P-39	顯示速控器電壓 display the volt of speed controller	14-1010	中點電 壓 195 Neutral point volt	顯示當前速控器電壓 0— 1024，相當於 0-5V Display the current speed controller volt 0-1024, it is equal 0-5V
39	P-40	顯示直流母線電 壓 display DC buses voltage	60-500V	310v	當電壓高於 395 會報警，(直 流母線電壓/1.414=交流母線 電壓)when the volt is higher than 395V will alarm,(DC buses volt/1.414 = AC buses volt)
40	P-41	過壓保護開關 overload protection switch	0:關閉 1:開啟 0: close 1:start	1	設為 0 關閉過壓報警，設為 1 打開報警，當直流母線電壓超 過 395V 時，報警 Er16，電機 自動停止運行，報警後當電壓 低於 385v 電機可再次運行 set “0” is close the overload alarm, set “1” is open the alarm, when DC buses voltage is over 395 V , will display Er16, the motor will stop automatic, when volt is lower 385V, the motor can run.

六、一般故障處理：Common faults and treatments

序號 The serial number	錯誤碼 Error code	錯誤內容 Error content	錯誤問題的多種可能 Several possible error problem
1	Er01	找不到停針位 Can' t find the needle position	1.手輪靠的不夠近間隙在 2.5mm 內 2.九針插頭接觸不良 3.電機霍爾壞，要更換電機 4.手輪上的磁鐵掉落 1. The hand wheel is not close, clearance within 2.5 mm 2. Nine plug contact undesirable 3. Motor holzer bad, to replace the motor 4. The hand wheel magnet in the loss
2	Er02	開機沒有檢測到調 速器 Not detected boot speed regulator	1.調速器插頭沒有插 2.調速器線斷了或接觸不良 1. Speed control device without plug 2. Speed wire is broken or contact undesirable
3	Er03	電機霍爾或相位線 錯誤 Motor holzer or phase error	1.九針插頭接觸不良 2.電機沒有安裝好，參照圖 A 3.霍爾壞 1. Nine hole plug contact undesirable 2. The motor doesn' t pack good 3. Holzer is bad
4	Er04	堵轉保護 Locked-rotor protection	1.電機超載 2.電機與電控相連接的四心線接觸不好 3.電機斷線或壞了 1. The motor overload 2. The motor and the controller connected four hole line contact is not good 3. Motor is bad
5	Er05	硬體過流保護 Hardware over-current protection	1.電機超載 2.信號線接觸不好或斷了 3.主機板壞了 1. The motor overload 2. Line contact is bad or broken 3. Main board is bad

6	Er07	串口通信逾時錯誤 Serial port communication timeout error	顯示幕至主機板信號線不良或主機板壞 Display to the system board signal is bad or board is bad
7		顯示幕無電 開關有電 Screen without electricity Switch with electricity	1.主機板壞 Main board is broken 2.顯示幕與主機板連接線接觸不良 The display screen and the main board connection line contact is bad

七、保修服務： Warranty Service

1.本產品自購買起免費保修 2 年，終身維護。保修期內除人為損壞以外出現任何品質問題可免費維修

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.在保修期內，以下情況出現損壞本公司不給於保修服務:

In the warranty period, the following circumstances appear to damage the company does not give the warranty service

A. 未經本公司同意自行拆卸、修理、改裝造成的故障或損壞。

Dismantle the motor unit without permission and cause damage.

3.但凡出現無法解決的問題可以聯繫本公司。

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

八、裝箱單： Packing List

電機支撐組件 Motor support assembly	1
電機 Electric machinery	1
腳踏板連接杆 Pipe Link	1
內六角螺絲 Hexagon Screw	6
定位護套 Locator Bush	1
風葉 Fan Blade	1
速控器 Speed controller	1
自攻螺絲 Self Tapping Screw	6
說明書 Manual	1
合格證 Quality Certificate	1
電控箱 Electric control box	1



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The specification and/or the equipment described in the instruction book and parts list
are subject to change because of modification with out previous notice
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