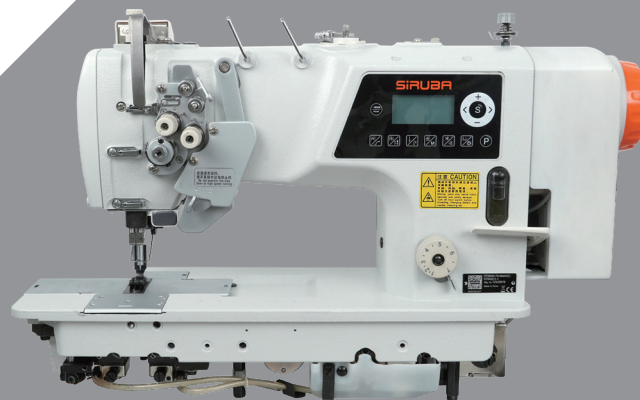


SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

DT8600



DT8600 系列控制系統說明書

▲安全指示

Safety Instruction

- 1) 在安裝或使用本產品前，使用者必須詳細閱讀本操作手冊。
Users are required to read the operation manual completely and carefully before installation or operation.
- 2) 本產品須由受過正確訓練的人員來安裝或操作。安裝作業時必須關閉所有電源，切記不可帶電操作。
The product should be installed and pre-operated by well-trained persons.
- 3) 所有標有▲符號的指示，必須特別注意並按照說明書上的執行，以免造成不必要的損害。
All the instruction marked with sign ▲ must be observed or executed; otherwise, bodily injuries might occur.
- 4) 為安全起見，禁止以延長線作電源座供應二項以上的電器產品使用。
For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection.
- 5) 在連接電源線時，必須確定工作電壓符合本產品標識中規定的額定電壓值。
When connecting power supply cords to power sources, it is necessary to make sure that the power voltage matches the rated voltage indicated on the motor's name plate.
- 6) 請不要在日光直接照射的場所、室外及室溫 45°C 以上或 0°C 以下的場所操作。
Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 0°C.
- 7) 請不要在暖氣（電熱器）旁、有露水的場所及在相對濕度 10%以下或 90%以上的場所操作。
Please avoid operating near the heater at dew area or at the humidity below 10% or above 90%.
- 8) 請不要在灰塵多的場所、具有腐蝕性物質的場所及有揮發性氣體的場所操作。
Don't operate in area with heavy dust, corrosive substance or volatile gas.
- 9) 請注意所有電源線、信號線、接地線等接線時不要受壓或過度扭曲，以確保使用安全。
Avoid power cord being applied by heavy objects or excessive force, or over bend.
- 10) 電源線的接地端須以適當大小的導線和接頭連接到生產工廠的系統地線，此連接必須被永久固定。
The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.
- 11) 所有可轉動的部分，必須以所提供的零件加以防範露出。
All the moving portions must be prevented to be exposed by the parts provided.
- 12) 在安裝完成第一次開電後，先關閉切線功能以低速操作縫紉機並檢查轉動方向是否正確、運轉是否穩定。
Turning on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
- 13) 在進行以下操作前，請先關閉所有電源：
 1. 在控制箱與馬達上插拔任何連接插頭時。
 2. 穿針線時。
 3. 翻抬縫紉機機頭時。
 4. 修理或做任何機械上的調整時。
 5. 機器閒置不用時。Turn off the power before the following operation :
 - a) Connecting or disconnecting any connectors on the control box or motor.
 - b) Threading needle.
 - c) Raising the machine head.
 - d) Repairing or doing any mechanical adjustment.

e) Machines idling.

- 14) 修理或高層次的保養工作，僅能由受過訓練的機電技師來執行。
所有維修用的零件，須由本公司提供認可，方可使用。
Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
- 15) 使用本產品請遠離高頻電磁波和電波發射器等，以免所產生的電磁波干擾伺服驅動裝置而發生誤動作。
All the spare parts for repair must be provided or approved by the manufacturer.
- 16) 請不要以不適當物體來敲擊或撞擊本產品及各裝置。

保修期限

本產品保修期限為購買日期起一年內或出廠月份起兩年內。

保修內容

本產品在正常情況使用且無人為操作失誤的前提下，於保修期間無償為客戶維修使能正常操作。

但以下情況於保修期間將收取維修費用：

1. 不當使用包括誤接高壓電源、將產品移做其它用途、自行拆卸、維修、更改、或不依規格範圍使用、進水進油及插入異物於本產品。
2. 火災、地震、閃電、風災、水災、鹽蝕、潮濕、異常電壓及其它天災或不當場所造成的損害。
3. 客戶購買後摔落本產品，或客戶自行運輸（或託付運輸公司）造成的損害。

* 本產品在生產及測試上皆盡最大努力和嚴格控制使其達到高品質及高穩定的標準，但外部的電磁或靜電干擾或不穩定的供應電源，仍可能對本產品造成影響或損害，因此操作場所的接地系統一定要確實做好，並建議使用者安裝故障安全防護裝置（如漏電保護器）

Don't use any objects or force to hit or ram the product.

Guarantee Time

Warranty period of this product is 1 year dated from purchasing, or within 2 years from ex-factory date.

Warranty Detail:

Any trouble found within warranty period under normal operation, it will be repaired free of charge. However, maintenance cost will be charged in the following cases even if within warranty period:

1. Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product.
2. Damage by fire, Earth quake, lightning, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.
3. Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency

Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefore the grounding system of operate area must guarantee the good earth and it's also recommended to install a failsafe device. (Such as residual current breaker)

1 按鍵顯示及操作說明

Button Displays and Operating Instructions

1.1 按鍵說明

Key Description

名稱 Name	按鍵 Key	注明 Indicate
功能參數編輯 按鍵 Function Parameter Edit		進入或退出功能參數的編輯。 Press this key to enter or exit function parameter edit mode.
參數查看保存 鍵 Setting Parameter Check And Save		對所選參數號內容進行查看和保存: 選擇好參數號後按此鍵可以進行查看和修改操作, 修改參數值後按此鍵則退出並保存參數。 For the content of the selected parameters check and save: after select parameter press this key to check and modify operation, after modified parameter value press this key to exit and save the parameter.
參數遞增鍵 Parameter Increase		增大參數。 Parameter increase
參數遞減鍵 Parameter Decrease		減小參數。 Parameter decrease
起始回縫鍵 Start Back-Tacking Selection		若點擊, 切換執行起始回縫 B 段、執行起始回縫 (A、B 段) 1 次或執行起始回縫 (A、B 段) 2 次; 若長按, 增加螢幕背光亮度。 Execution starting back seam B segment or execution starting back seam (A, B segment) 1 Execution starting back seam (A, B segment) 2 times. If long press, can increase screen backlighting brightness.
終止回縫鍵 End Back-Tacking Selection		若點擊, 切換執行終止回縫 C 段、執行終止回縫 (C、D 段) 1 次、執行終止回縫 (C、D 段) 2 次; 若長按, 降低螢幕背光亮度。 Execution terminates back seam C segment or execution terminates back seam (C, D segment) 1 Execution terminates back seam (C, D segment) 2 time. If long press, can decrease screen backlighting brightness.
模式切換鍵 Mode Shift Key		若點擊, 切換自由縫模式、一段定針縫模式、連續回縫模式和多段定針縫模式。 If click, shift to free sewing, constant stitch sewing, continuous back seam shortcuts and multi-section set needle shortcuts.

<p>自動觸發鍵 Auto Function</p>		<p>1. 在自由縫的式樣中：按下此鍵無功能。 2. 在定針縫的式樣中按下此鍵：當踏板一經往前踏下觸發，則自動執行 E, F 段或 G, H 段中所設定的針數，直到段內針數完成後自動停止。再逐一觸發踏板，則自動執行下一段所設定的針數直到自動完成切線、掃線等動作為止。相應圖示不亮時，表示關閉相應功能。 3. 若長按，可恢復出廠設置。</p> <p>1. under the free sewing mode: press this key no function. 2. Under the Constant-Stitch Sewing mode press this key: As the treadle is toed down, it will automatic performs E,F or G,H section by section, after finished section stitches, it will stop automatically. When the treadle is toed down again, it will automatically execute next section stitches of setting till finished trimming, wiper and so on action. The LED OFF indicate the corresponding function is turn off. 3. If long press, can restore factory setting.</p>
<p>抬壓腳鍵 Automatic Presser Foot Lifting Setting</p>		<p>1. ✂️ 圖示亮時，切完線後壓腳自動抬起。 2. 🚦 圖示亮時，車縫中馬達停止時壓腳自動抬起。 3. 當 2 個圖示都亮時，切完線後和車縫中馬達停止時壓腳都自動抬起。 4. 當 2 個圖示都不亮時，無自動抬壓腳功能。</p> <p>1. Automatic presser foot lifting after trimming function when ✂️ icon is lighting. 2. Automatic presser foot lifting after pause function when 🚦 icon is lighting. 3. Automatic presser foot lifting after pause function or trimming function when ✂️ icon and 🚦 icon are lighting. 4. Presser Foot is inactive when ✂️ icon and 🚦 icon are not lighting.</p>
<p>夾線鍵 Clamp Function Setting</p>		<p>若點擊，設定使用或取消夾線功能。 Set used or cancelled clamp function.</p>
<p>切線鍵 Thread Trimming</p>		<p>若點擊，設定使用或取消切線功能。 If click, set used or cancelled thread trimming function.</p>
<p>慢速起縫鍵 Slow Launch Setting</p>		<p>若點擊，設定使用或取消慢速起縫功能。 If click, set used or cancelled slow launch function.</p>
<p>停針位鍵 Needle Stop Position Selection</p>		<p>若點擊，切換縫製後機針的停止位置（上停針位/下停針位）。 If click, the needle stop position after shift the sewing mode (Up position / Down position)</p>
<p>補針鍵 Fill Up Needle</p>		<p>若點擊，可進行補針動作。 If click, set used or cancel fill up needle function.</p>

1.2 協助工具

Auxiliary function

1.2.1 恢復出廠設置

Restore Factory Setting

在主介面下，長按自動觸發鍵可恢復出廠設置。

On the main interface long-press one-shot sewing key, restore factory setting.

1.2.2 停針位快捷設置

Needle Stop Position Function Setting

在主介面下，點擊 P 鍵進入參數，將參數調至 P72 項，手動轉動手輪至所需的上停針位元，顯示的數值會隨手輪位置變化而變化，按 S 鍵可保存當前位置（數值）為上停針位，同時自動計算下停針位。

In the main interface, click the P key to enter the parameters, and set the parameters to P72. Manually rotate the handwheel to up position. The value displayed will change with the change of the wheel position. Press S key to save the current position (value) as the upper pin stop and calculate down position automatically.

1.2.3 鎖屏功能

Lock Screen Function

在主介面下，當無操作時間達到 P27-N01 項設置的時間（s）時會自動鎖屏，或長按 S 鍵可進行手動鎖屏。鎖屏“LOCK”狀態下，點擊 S 鍵解鎖。

In the main interface, when no operation time reaches the time (s) set by item p27-n01, the lock screen will be automatically locked, or long-press "S" key to lock screen. In the lock screen "LOCK" state, click the "S" key to unlock.

2 參數表

User Parameter

參數項 No.	中文說明 Items	範圍 Range	初始值 Default	內容值名稱說明與備註 Description
P01	最高轉速 (rpm) Maximum sewing speed	100-2200	2200	車縫時的最高轉速設定 Maximum speed of machine sewing
P02	加速曲線調整 (%) Set accelerated curve	10-100	80	控速器爬升斜率設定 斜率值愈大，速度愈陡；斜率值愈小，速度愈慢 Set the acceleration slope
P03	針停定位選擇 Needle UP/ DOWN	UP/DN	DN	UP：上停針；DN：下停針 UP: Needle Stops at Up Position DN: Needle Stops at Down Position
P04	起始回縫速度 (rpm) Start back-tacking speed	200-3200	1200	前段回縫（起始回縫）時的速度設定 Set Start Back-Tacking Speed
P05	終止回縫速度 (rpm) End back-tacking speed	200-3200	1200	後段回縫（終止回縫）時的速度設定 Set End Back-Tacking Speed
P06	連續回縫速度 (rpm) Bar-tacking speed	200-3200	1200	連續回縫時的速度設定 Set Repeat Bar-Tacking Speed
P07	慢速起縫速度 (rpm) Soft start speed	200-1500	400	慢速起縫時的速度設定 Set Soft Start Speed
P08	慢速起縫針數 Stitch numbers for soft start	0-99	2	慢速起縫時的針數設定 Soft Start Stitches Setting
P09	自動定針縫速度 (rpm) Automatic constant-stitch sewing speed	200-2200	2200	觸發自動功能鍵按下時的速度設定 Speed adjustment for automatic constant-stitch sewing
P10	定針縫後自動執行終止回縫功能 Automatic end back-tacking sewing	ON/OFF	ON	ON：在執行完最後一段定針縫後，將自動執行終止回縫動作。即在何縫製模式下，終止回縫前不能作補針功能。 OFF：在執行完最後一段定針縫後，將無法自動執行終止回縫功能，必須重新再作前或全後踏動作時始可。 ON: After last seam of constant stitch sewing, it will automatic execute the End Back-Tacking sewing function. When turn on, the Stitch-Correction is invalid. OFF: Automatic End Back-Tacking will not execute after last seam, but can be done by pedal manually.

P11	手按回縫時功能模式選擇 Back-tacking mode selection	J/B	J	J: JUKI 方式 (在車縫中和中途停止時均執行倒縫) B: BROTHER 方式 (即在車縫中執行倒縫動作, 在停止時執行補針動作) J: JUKI Mode (Press TB switch will activate reverse solenoid when either machine is stopped or running). B: BROTHER Mode (Press TB switch will activate reverse solenoid only when machine is running).
P12	起始回縫運動模式選擇 Start back-tacking running mode selection	0-3	1	0: 受踏板控制, 可任意停止與啟動; 1: 輕觸踏板, 自動執行回縫動作; 0: Could be arbitrarily stop and start 1: Automatically perform actions 2: Pause mode
P13	起始回縫結束模式選擇 Ending mode of start back-tacking	CON/STP	CON	CON: 起始回縫段完成後, 自動連續下一段功能 STP: 起始回縫段針數完成後自動停止 CON: Start Back-Tacking is completed automatically continued for next action. STP: After the number of stitches is completed, stop automatically.
P14	慢速起縫功能設定 Slow start function selection	ON/OFF	OFF	
P15	補針方式 Mending stitch mode	0-4	2	0: 半針; 1: 一針; 2: 連續補半針; 3: 連續補一針; 4: 連續補針, 快速停車 0: half stitch; 1: one stitch; 2: continuous half stitch; 3: continuous one stitch; 4: continuous one stitch, quick stop.
P16	手動倒縫限速 Back-tacking speed limit	0-3200	0	數值為 0 時功能關閉 When the parameter is 0, the speed limit function is OFF.
P17	自動計件選擇 Auto count selection	0-50	1	0: P41 項計數器遞增自動計數 1: P41 項計數器不自動計數 0: P41 item counter not count automatically. 1-50: P41 item counter increment count automatically.
P18	起始回縫補償 1 Start back-tacking compensation 1	0-200	148	起始回縫 A 段針跡補償, 0~200 動作逐步滯後; 數值越大, A 短最後一針越長, B 段第一針越短 Stitch Balance for end back-tacking A section, 0~200 action gradually delay; the large value, the longer of the A section last stitch, and the shorter of the B section first stitch.
P19	起始回縫補償 2 Start back-tacking compensation 2	0-200	153	起始回縫 B 段針跡補償, 0~200 動作逐步滯後; 數值越大, B 段最後一針越長 Stitch Balance for end back-tacking B section, 0~200 action gradually delay; the large value, the longer of the B section first stitch.
P20	終止回縫運動模式選擇 End back-tacking running mode selection	1-3	1	1: 輕觸踏板, 自動執行回縫動作; 1: Automatically perform actions 2: Pause mode
P21	踏板前踩運行位置 The position of the pedal for running	30-1000	520	
P22	踏板回中位置 The position of the pedal for the stop	30-1000	418	
P23	踏板抬壓腳位置 The position of the pedal for lifting presser foot	30-1000	248	
P24	踏板剪線位置 The position of the pedal	30-1000	130	

	for thread trimming			
P25	終止回縫補償 3 End back-tacking compensation 3	0-200	148	終止回縫 C 段針跡補償，0~200 動作逐步滯後；數值越大，C 段第一針越短 Stitch Balance for end back-tacking C section, 0~200 action gradually delay; the large value, the shorter of the C section first stitch.
P26	終止回縫補償 4 End back-tacking compensation 4	0-200	153	終止回縫 D 段針跡補償，0~200 動作逐步滯後；數值越大，C 段最後一針越長，D 段第一針越短 Stitch Balance for end back-tacking D section, 0~200 action gradually delay; the large value, the longer of the C section last stitch, and the shorter of the D section first stitch.
P28	連續回縫運動模式選擇 Bar-tacking running mode selection	0-3	1	0：受踏板控制，可任意停止與啟動； 1：輕觸踏板，自動執行回縫動作； 0: Could be arbitrarily stop and start 1: Automatically perform actions
P29	切線停車力度 The rate of thread trimming stop	1-45	23	
P30	過厚力度 The strength of the motor torque when sewing	0-100	10	數值越大力度越大，調整過大可能會引起電機異常。 The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities.
P31	剪線力度 The strength of the motor torque when thread trimming	0-100	60	數值越大力度越大，調整過大可能會引起電機異常。 The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities.
P32	連續回縫補償 5 Bar-Tacking compensation 5	0-200	148	起始回縫 A (C) 段針跡補償，0~200 動作逐步滯後；數值越大，A (C) 段最後一針越長；B (D) 段第一針越短 Stitch Balance for start back-tacking A (C) section, 0~200 action gradually delay; the large value, the longer of the A (C) section last stitch; the shorter of the B (D) section first stitch.
P33	連續回縫補償 6 Bar-Tacking compensation 6	0-200	153	起始回縫 B (D) 段針跡補償，0~200 動作逐步滯後；數值越大，B (D) 段最後一針越長，C 段第一針越短 Stitch Balance for start back-tacking B (D) section, 0~200 action gradually delay; the large value, the longer of the B (D) section last stitch; the shorter of the C section first stitch.
P34	定針縫運動模式選擇 Constant-Stitch Sewing running mode selection	A/M	A	A：輕觸腳踏板，即自動執行定針縫動作 M：受腳踏板控制，可任意停止與啟動 A：Automatically perform actions M：Could be arbitrarily stop and start
P36	松線功能設定 Thread slacking function selection	0-11	0	0：關閉 1~11：松線力度逐步變大 0: OFF 1-11: The strength of thread slacking
P37	自動撥線/夾線功能設定 Automatic thread wiping function / Automatic thread clamping function selection	0-11	8	0：關閉 1：拔線功能 2~11：夾線功能，數值越大動作力度越大 0: OFF 1: Automatic thread wiping Function 2-11: Automatic thread clamping Function and the strength of automatic thread clamping.
P38	自動切線功能設定 Automatic thread trimming function selection	ON/OFF	ON	ON：打開 OFF：關閉 ON: ON OFF: OFF
P39	中途停車自動抬壓腳設定 Automatic presser foot lifting when pause function	UP/DN	DN	UP：開啟 DN：關閉 UP: ON

	selection			DN: OFF
P40	切線自動抬壓腳設定 Automatic presser foot lifting after trimming function selection	UP/DN	DN	UP: 開啟 DN: 關閉 UP: ON DN: OFF
P41	計數器顯示 Counter display	0-9999		車縫完成件數顯示；長按減號鍵可計數清零； Display the quantity of finished sewing piece.
P42	資訊顯示 Information Display			N01 電控版本號 N02 選針盒版本號 N03 轉速 N04 腳踏板 AD 值 N05 機械角度（上定位） N06 機械角度（下定位） N07 母線電壓 AD 值 N12 膝靠位置感應器 AD 值 N01 The control system version number N02 The panel version number N03 Speed N04 The pedal AD N05 The mechanical angle(up position) N06 The mechanical angle(down position) N07 Busbar voltage AD N12 Kneeling device position sensor AD
P43	馬達轉動方向設定 Direction of Motor Rotation	CCW/CW	CCW	CW: 順時針方向 CCW: 逆時針方向 CW: Clockwise CCW: Counter Clockwise
P44	正常停車力度 The rate of normal stop	1-45	20	
P45	回縫出力的週期信號 (%) Back-tacking operation duty cycle	1-50	30	回縫動作時，以週期性省電輸出，避免電磁鐵發燙 Back-tacking operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P46	切線後，反轉提針功能選 擇 Motor stop with a reverse angle after trimming function	ON/OFF	OFF	ON: 開啟 OFF: 關閉 ON: ON OFF: OFF
P47	切線後，反轉提針角度的 調整 Adjust the reverse angle when motor stop after trimming	50-200	160	切完線後，由上針位算起，以反向運轉作提針的角度調 整。 Adjusting at reverse direction after trimming.
P48	最低速度（定位速度） （rpm） The minimum speed Limit	100-500	210	最低速度限制調整 Adjust the minimum speed
P49	切線速度（rpm） Thread trimming speed	100-500	250	調整切線週期時的電機速度 Adjust thread trimming speed
P50	抬壓腳全額出力的工作時 間（ms） Toot lifter operation time to full output	10-990	200	
P51	壓腳出力的週期信號 (%) Presser foot lifter operation duty cycle	1-50	25	壓腳動作時，以週期性省電輸出，避免電磁鐵發燙 Presser foot lifter operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P52	延遲馬達啟動，保護壓腳 下放時間（ms） Motor starting delay time	10-990	300	踩下時延遲啟動時間，以配合自動抬壓腳放下的確認 Delay the start time, with automatic presser foot down.

P53	半後踏抬壓腳功能取消 Half back pedaling lifting presser foot function to cancel	ON/OFF	OFF	ON：半後踏時，無抬壓腳 OFF：半後踏時，有抬壓腳 ON: Function to cancel OFF: Half back pedaling lifting presser foot
P54	切線動作時間 (ms) Thread trimming action time	10-990	200	切線時序所需的動作時間 Completion of the thread trimming action required time.
P55	撥 / 掃線動作時間 / (ms) Thread wiping action time	10-990	30	撥 / 掃時序的動作時間 Completion of the thread wiping action required time.
P56	開電後自動找上定位 Power on and positioning	0-2	1	0：始終不找上定位 1：始終找上定位 2：若電機已經處於上定位時不再找上定位 0: always not to find the up needle position 1: always to find the up needle position 2: If the motor is not into the up needle position, it will find the up needle position
P57	抬壓腳保護時間 (s) Hold time of presser foot lifter	1-120	10	抬壓腳保持時間後強制關閉 Forced shut-down after hold time.
P58	上定位調整 Up needle position adjustment	0-1439	40	上定位調整，數值減少時會提前停針，數值增加時會延遲停針 Up position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P59	下定位調整 Down needle position adjustment	0-1439	650	下定位調整，數值減少時會提前停針，數值增加時會延遲停針 Down position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P60	測試速度 (rpm) Testing Speed	100-2200	2200	設置測試速度 Setting testing speed.
P61	A 項測試 Testing A	ON/OFF	OFF	持續運行測試模式 Continuous running testing.
P62	B 項測試 Testing B	ON/OFF	OFF	全功能啟停測試模式 Start and stop testing with all functions.
P63	C 項測試 Testing C	ON/OFF	OFF	無定位、無功能啟停測試模式 Start and stop testing without all function.
P64	測試時測試執行時間 Running Time of Testing B and C	1-250	20	
P65	測試時測試停止時間 Stop Time of Testing B and C	1-250	20	
P66	機頭保護開關 Machine protection switch selection	0-2	1	0：不檢測 1：檢測零信號 2：檢測正信號 0：Disable 1：Testing zero signal 2：Testing positive signal
P70	出廠機型選擇 The factory type selection			
P71	壓腳釋放緩衝占空比 (%) Presser foot release operation duty cycle	0-50	0	壓腳下放時的力度調整 The buffer force of presser foot release operation.

P72	上定位快捷調整 Up needle position adjustment	0-1439		調整上停針位元，顯示的數值會隨手輪位置變化而變化，按“S”鍵可保存當前位置（數值）為上停針位 Hand rotation manual to the appropriate position, press S key to save.
P73	下定位快捷調整 Down needle position adjustment	0-1439		調整下停針位元，顯示的數值會隨手輪位置變化而變化，按“S”鍵可保存當前位置（數值）為下停針位 Hand rotation manual to the appropriate position, press S key to save.
P76	倒縫全額出力時間(ms) Back-tacking operation time to full output	10-990	200	倒縫開始動作時，全額出力的動作時間 Back tacking start action, full output action times.
P78	夾線器起夾角度 The start angle of thread clamping	5-359	100	
P79	夾線器結束角度 The stop angle of thread clamping	5-359	350	
P80	剪線進刀角度 The start angle of thread trimming	5-359	18	剪線進刀角度設置（下定位為0°計算） Shear line infeed id angle setting(under defined as 0°)
P81	剪線開始加力角度 The angle of the motor start to increase torque when thread trimming	5-359	150	剪線加力角度設置（下定位為0°計算，需大於P80項參數值） Torque angle of thread trimming setting(Down position as 0°, the value need greater than the P80 parameter item)
P82	剪線退刀角度 The stop angle of thread trimming	5-359	185	剪線退刀角度設置（下定位為0°計算，需大於P81項參數值） Feeder back angle of thread trimming setting Down position as 0°, the value need greater than the P80 parameter item)
P92	電機電角度校正 Correct the electrical angle of motor		160	查看說明書 1.5 章節 讀取編碼器起始角度，出廠已設置，請勿隨意更改（參數值不可手動更改，隨意更改會導致控制箱、電機出現異常或損壞） Review the user manual 1.5 Reading the initial Angle of encoder, the factory default was set, please do not change the values (parameter value cannot be changed manually, random change it will result the control box and motor abnormal or damaged).
P93	半反踏功能延遲時間 The delay time of the half back pedaling function	10-900	200	
P101	松線開始角度 The start angle of thread slacking	1-359	30	松線開始角度（下定位為0°計算） Song line start angle (defined as 0°under calculation)
P102	松線結束角度 The stop angle of thread slacking	1-359	180	松線結束角度(下定位為0°計算,需大於P101項參數值) Loose wire end angle (defined as 0°under calculation)
P117	壓腳釋放緩衝延遲時間 (ms) The delay time of the	0-990	0	

	presser foot release damping force			
P119	電磁鐵過流保護選擇 Electromagnet overcurrent protection selection	0-1	1	0：不檢測 1：檢測 0: OFF 1: ON
P120	油位元報警開關檢測 The oil level alarm switch selection	0-1	0	0：不檢測 1：檢測 0: OFF 1: ON

注：參數初始值僅供參考，實際參數值以實物為準。

Note: the initial value of parameters is for reference only, and the actual value of parameters is subject to the real object.

3 錯誤代碼表

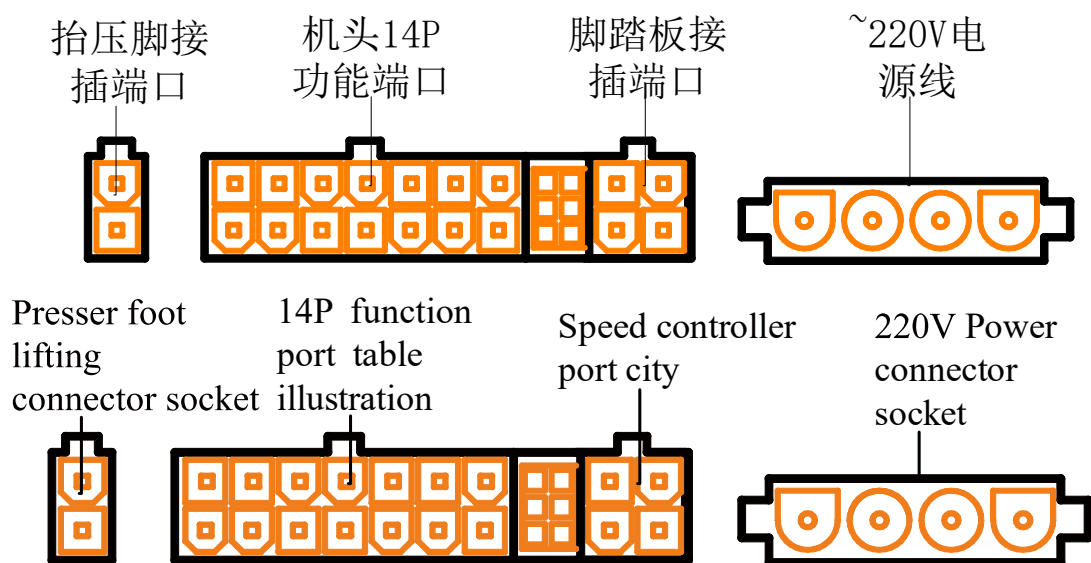
Error Code List

錯誤碼 Error Code	問題描述 Problem description	解決措施 Measure
E01	超電壓 Over-voltage	關閉系統電源，檢測供應電源電壓是否正確。(或是否超過使用規定的額定電壓)。 若正確，請更換控制箱並通知售後服務。 Turn off the machine, check the power supply voltage. (Or whether exceed the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E02	低電壓 Low-voltage	關閉系統電源，檢測供應電源電壓是否正確。(或是否低於使用規定的額定電壓)。 若正確，請更換控制箱並通知售後服務。 Turn off the machine, check the power supply voltage. (Or whether under the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E03	CPU 通信異常 CPU communication error	關閉系統電源，檢查控制台的連線是否鬆動或脫落，將其恢復正常後重啟系統。若仍不能正常工作，請更換控制箱並通知售後服務。 Turn off the machine, please check if the operation panel in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E05	控速器接觸異常 Pedal connection error	關閉系統電源，檢查控速器接頭是否鬆動或脫落，將其恢復正常後重啟系統。若仍不能正常工作，請更換控速器並通知售後服務。 Turn off the machine, please check if the pedal in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E07	電機堵轉 Motor locked-rotor error	轉動機頭手輪觀察是否卡住。如卡住則先排除機械故障。 如轉動正常，檢查電機編碼器接頭和電機電源線接頭是否鬆動。如有鬆動請修正。

		<p>如接觸良好，檢查供應電源電壓是否異常或轉速設置過高。如有請調整。</p> <p>若仍不能正常工作，請更換控制箱並通知售後服務。</p> <p>Turn the machine handwheel, check if it is stuck. If it is stuck, you have to rule out the mechanical failure.</p> <p>If turn normal, check if the encoder and motor in bad connection or is too loose. If yes, please correct.</p> <p>If connection well, check if the power supply voltage is abnormal or sewing speed is too high. If yes, please adjust.</p> <p>If there are still errors, please replace the control box and call for customer service.</p>
E08	<p>手動倒縫動作時間超過 15 秒</p> <p>Manual reverse feeding operation more than 15 seconds</p>	<p>倒縫電磁鐵吸合時間過長，重啟產品即可。</p> <p>若重啟產品後還是報 E-08，請檢查手動倒縫開關是否損壞。</p> <p>Back-Tacking electromagnet response time is too long, you have only to restart the machine.</p> <p>If there are still errors E-08 after restart the machine, check if the manual reverse feeding switch is damaged.</p>
E10	<p>電磁鐵過流保護</p> <p>Solenoid over-current</p>	<p>關閉系統電源，檢查電磁鐵（電磁閥）是否損壞或短路。</p> <p>Turn off the machine, please check the related circuit is shorted or damaged.</p>
E09 E11	<p>定位信號異常</p> <p>Positioning signal error</p>	<p>關閉系統電源，檢查電機編碼器介面是否鬆動或脫落，將其恢復正常後重啟系統。若仍不能正常工作，請更換電機並通知售後服務。</p> <p>Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.</p>
E14	<p>編碼器信號異常</p> <p>Encoder error</p>	<p>關閉系統電源，檢查電機編碼器介面是否鬆動或脫落，將其恢復正常後重啟系統。若仍不能正常工作，請更換電機並通知售後服務。</p> <p>Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.</p>
E15	<p>電力模組不正常過流保護</p> <p>Power supply module abnormal over-current</p>	<p>關閉系統電源，再重新開啟。若仍不能正常工作，請更換控制箱並通知售後服務。</p> <p>Turn off the machine, then turn on again. If there are still errors, please replace the control box and call for customer service.</p>
E17	<p>機頭保護開關沒到正確位置</p> <p>Machine protection switch is not in the correct position</p>	<p>關閉系統電源，檢查機頭是否掀開，控制箱內滾珠開關是否移位元或損壞。</p> <p>Turn off the machine, check if the machine is turn over, or the Mercury Switch is shifted or damaged.</p>
E20	<p>電機啟動失敗（電角度錯誤）</p> <p>Motor failed to start (Electrical angle error)</p>	<p>關閉系統電源，檢查電機編碼器介面和電機電源介面是否鬆動或脫落，將其恢復正常後重啟系統。若仍不能正常工作，請更換控制箱並通知售後服務。</p> <p>Turn off the machine, please check if the encoder and motor in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.</p>
oil	<p>油量過低</p> <p>Low oil</p>	<p>關閉電源，檢查縫紉機油量是否過低，將油量加滿後重啟系統。若仍不能正常工作，請更換油位感應器並通知售後服務。</p> <p>Turn off the machine, check if the oil is too little. To fill it up and turn on. If there are still errors, please replace the control box and call for customer service.</p>

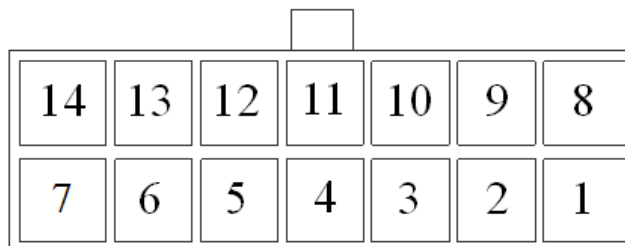
4. 埠示意圖 Port Diagram

4.1 埠說明 Port Description



4.2 14P 功能埠說明

14P function port description



1. 剪線電磁鐵：1、8 (+32V)
 2. 夾線（掃線）電磁鐵：2、9 (+32V)
 3. 松線電磁鐵：3、10 (+32V)
 4. LED 燈：4 (DGND)、11 (+5V)
 5. 倒縫按鍵：5 (信號)、12 (DGND)
 6. 倒縫電磁鐵：6、13 (+32V)
 7. 補針按鍵：7 (信號)、14 (DGND)
1. Thread trimming electromagnet：1、8 (+32V)
 2. Thread wiping/ thread clamping electromagnet：2、9 (+32V)
 3. Thread slacking electromagnet：3、10 (+32V)
 4. LED Light：4 (DGND)、11 (+5V)
 5. Reverse stitch key：5 (signal)、12 (DGND)
 6. Back-tacking electromagnet：6、13 (+32V)
 7. Mending stitch key：7 (signal)、14 (GDND)



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