

# SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

700N/LFM



CE

## 700N 系列控制系統 V1.0.03

### ⚠安全指示

- 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。
- 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。
- 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。
- 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。
- 5) 在連接電源線時，必須確定工作電壓低於 AC 250V，且符合本產品標識中規定的額定電壓值。  
※注意：電控箱電源規格如為 AC220V 時，請勿插接至 AC380V 的電源插座上，否則將出現異常且電機無法動作。此時請立即關閉電源開關，重新檢查電源。持續供應 380V 超過五分鐘以上，將可能燒損電控箱內器件，而危及人身安全。
- 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。
- 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
- 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。
- 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。
- 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。
- 11) 所有可轉動的部分，必須以所提供的零件加以防範露出。
- 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。
- 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。
- 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。
- 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。
- 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 ) 。

## 700N SERIES–CONTROL SYSTEM V1.0.03

### SAFETY DIRECTIVE

- 1 ) Before installation or operation, users must carefully read this operation manual in full.
- 2 ) Installation and operation must be performed by properly trained personnel. During installation, all power sources must be shut off. Do not perform any operation while the machine is powered.
- 3 ) All instructions marked with the symbol  must be given special attention and followed as described in the manual to avoid unnecessary damage.
- 4 ) For safety reasons, do not use extension cords to supply power to more than one electrical device.
- 5 ) When connecting the power cord, ensure that the working voltage is below AC 250V and complies with the rated voltage specified on the product label.  
※Note: If the power specification of the control box is AC 220V, do not connect it to an AC 380V socket. Otherwise, abnormal operation will occur and the motor will not function. In such cases, immediately switch off the power and recheck the power source. Supplying 380V continuously for more than five minutes may damage components inside the control box and pose a risk to personal safety.
- 6 ) Do not operate in places exposed to direct sunlight, outdoors, or in environments above 45°C or below 0°C
- 7 ) Do not operate near heaters (electric heaters), in places with condensation, or where the relative humidity is below 10% or above 90%.
- 8 ) Do not operate in dusty environments, areas with corrosive substances, or places with volatile gases.
- 9 ) Ensure that all power cords, signal cables, grounding wires, etc., are not pressed or excessively twisted during wiring to ensure safe usage.
- 10 ) The grounding terminal of the power cord must be permanently connected to the system ground of the production facility using properly sized wires and connectors.
- 11 ) All rotating parts must be covered using the provided protective components.
- 12 ) After the first power-on following installation, disable the thread trimming function and operate the sewing machine at low speed to check whether the rotation direction is correct and whether the operation is stable.
- 13 ) Always turn off all power before performing the following operations:
  - 1.Plugging or unplugging any connectors on the control box or motor.
  - 2.Threading the needle.
  - 3.Tilting the sewing machine head.
  - 4.Repairing or making any mechanical adjustments.
  - 5.When the machine is idle or not in use.
- 14 ) Repairs or advanced maintenance may only be performed by trained electromechanical technicians.  
All spare parts used for maintenance must be approved and supplied by the company.
- 15 ) Keep this product away from high-frequency electromagnetic waves and radio transmitters to avoid malfunction caused by interference with the servo drive system.

16 ) Do not strike or impact this product or its components with inappropriate objects.

**Warranty Period**

The warranty period for this product is one year from the date of purchase or two years from the date of manufacture.

**Warranty Coverage**







Under normal use and without human error, this product will be repaired free of charge during the warranty period to ensure proper operation.





However, the following situations will incur repair charges even during the warranty period:

- 1.Improper use, including incorrect connection to high-voltage power, repurposing the product, self-disassembly, repair, modification, use beyond the specified range, water or oil ingress, or insertion of foreign objects.
- 2.Damage caused by fire, earthquake, lightning, typhoon, flood, salt corrosion, humidity, abnormal voltage, other natural disasters, or improper environments.
- 3.Damage caused by dropping the product after purchase or by customer transport (including by delivery services).

\* This product has been manufactured and tested with the utmost effort and strict control to achieve high quality and stability. However, external electromagnetic or static interference or unstable power supply may still affect or damage the product. Therefore, a reliable grounding system must be properly installed at the operation site, and it is recommended that users install fault protection devices (e.g., leakage breakers).

## 1. 操作面板按鍵功能說明 CONTROL PANEL KEY FUNCTION DESCRIPTIONS

序號 No.	圖示 Icon	名稱 Name	功能說明 Function Descriptions
1		功能參數編輯按鍵 Function Parameter Edit Key	1. 一般模式介面下，長按 P 鍵進入“使用者參數設置”介面。In general mode, long press the P button to enter “User Parameter Settings” interface. 2. 按住 P 鍵開機進入“高級參數設置”介面。Press and hold the P key to boot up and enter the “Advanced Parameter Settings” interface. 3. 參數設置介面下，點擊 P 鍵返回主介面。In the parameter setting interface, press the P key to return to the main interface.
2		參數查看保存鍵 Parameter View/Save Key	1. 參數設置介面下，按 S 鍵保存設置。In parameter setting mode, press S to save. 2. 一般模式介面下，按 S 鍵切換語言。In general mode, press S to switch languages.
3		加鍵/快速鍵 Increase/Speed-up Key	增大參數/提高運行速度 Increase parameter value / increase operation speed
4		減鍵/減速鍵 Decrease/ Slow-down Key	減小參數/降低運行速度 Decrease parameter value / decrease operation speed
5		左鍵/LED+ Left key/LED+	查看上一項參數/增加 LED 燈亮度 View previous parameter / Increase LED brightness
6		右鍵/LED- Right key/LED-	查看下一項參數/降低 LED 燈亮度 View next parameter / Decrease LED brightness
7		感應鍵 Sensor Button	1. 若點擊：查看感應器的即時感應值與當前閾值。Press: View the sensor's real-time detection value and current threshold. 2. 若長按：進入感應器靈敏度調整介面。 Press and hold: Enter the sensor sensitivity adjustment interface.
8		吸氣鍵 Suction Button	1. 若點擊：實現「吸氣關閉 → 前吸氣開 → 後吸氣開 → 前後吸氣開」的循環切換。Press: Cycle through “Suction Off → Front Suction On → Rear Suction On → Front & Rear Suction On.” 2. 若長按：進入吸氣相關參數設定介面。Press and hold: Enter the suction parameter setting interface.
9		抬壓腳鍵 Presser Foot Lift Button	1. 若點擊：實現「自動抬壓腳關閉 → 前抬 → 後抬 → 前後抬」的循環切換。Press: Cycle through “Auto Presser Foot Off → Front Lift → Rear Lift → Front & Rear Lift.” 2. 若長按：進入壓腳相關參數設定介面。 Press and hold: Enter the presser foot parameter setting interface.
10		模式選擇鍵 Mode Selection Button	全自動：啟動依靠全感應訊號完成。Full Automatic: Operation is completed entirely by sensor signals. 1. 全自動：啟動依靠全感應訊號完成。Full Automatic: Operation is completed entirely by sensor signals. 2. 自由縫 Free Sewing Mode. 3. 半自動：啟動依靠前感應訊號 + 腳踏板完成（與 P-05 項同步）。Semi-Automatic: Operation starts with front sensor signal + foot pedal (synchronized with P-05 parameter).

			4. 全人工：啟動依靠腳踏板完成 Manual Mode: Operation is controlled entirely by the foot pedal. 若長按：進入模式相關參數設定介面。 Press and hold: Enter the mode parameter setting interface.
11		剪線鍵 Thread Trimming Button	若點擊：實現「剪線關閉 → 前剪線開 → 後剪線開 → 前後剪線開」的循環切換。Press: Cycle through “Trimming Off → Front Trimming On → Rear Trimming On → Front & Rear Trimming On.” 若長按：進入剪線相關參數設定介面。 Press and hold: Enter the trimming parameter setting interface.
12		布料識別鍵 Fabric Detection Button	主介面下長按進入布料識別模式。 Press and hold on the main screen to enter Fabric Detection Mode.
13		檔位選擇鍵 Gear Selection Button	若點擊：實現第一檔、第二檔、第三檔、第四檔、第五檔、第六檔的循環切換。 Press: Cycle through Gear 1, Gear 2, Gear 3, Gear 4, Gear 5, and Gear 6.
14		一鍵恢復鍵 One-Key Reset Button	長按 3 秒，恢復出廠設定。 Press and hold for 3 seconds to restore factory settings.

## 2 · 特殊功能操作說明 SPECIAL FUNCTION OPERATION INSTRUCTIONS

序號 No.	功能名稱 Function Name	功能說明 Function Description
1	恢復出廠設定 Factory Reset	在主介面下，長按 “  ” 3 秒，顯示「恢復出廠設定」。 On the main screen, press and hold “ ” for 3 seconds. The display will show “Factory Reset.”
2	上定位快捷調整 Upper Position Quick Adjustment	第一步：長按 “ <b>P</b> ”，進入「高級參數設定」介面。 Step 1: Press and hold “ ” to enter the “Advanced Parameter Settings” interface. 第二步：將參數調至 P-72 項。 Step 2: Adjust the parameter to P-72. 第三步：依手輪方向，順時針轉動手輪至上定位，按 “ <b>S</b> ” 保存當前數值。 Step 3: Turn the handwheel clockwise to the upper position, then press “ ” to save the current value.
3	下定位快捷調整 Lower Position Quick Adjustment	第一步：長按 “ <b>P</b> ”，進入「高級參數設定」介面。 Step 1: Press and hold “ ” to enter the “Advanced Parameter Settings” interface. 第二步：將參數調至 P-73 項。 Step 2: Adjust the parameter to P-73. 第三步：依手輪方向，順時針轉動手輪至下定位，按 “ <b>S</b> ” 保存當前數值。 Step 3: Turn the handwheel clockwise to the lower position, then press “ ” to save the current value.
4	布料識別模式 Fabric Detection Mode	第一步：在主介面下長按布料識別鍵，進入布料識別模式介面。 Step 1: On the main screen, press and hold the Fabric Detection button to enter Fabric Detection Mode. 第二步：請將布料移開感應器後，按 “ <b>S</b> ”； Step 2: Remove the fabric from the sensor area, then press.

		<p>第三步：選擇布料識別模式後，按“S”設定完成（介面會有提示）</p> <p>Step 3: Select the desired fabric detection mode, then press “ ” to complete the setting (on-screen instructions will be provided).</p>
5	快捷操作設定 Quick Operation Settings	<p>在主介面下，長按「」鍵進入快捷設定介面：</p> <p>On the main screen, press and hold “ ” to enter the Quick Settings interface:</p> <ol style="list-style-type: none"> <li>1. 主軸零點角度設定 Main Shaft Zero Angle Setting</li> <li>2. 上定位調整 Upper Position Adjustment</li> <li>3. 步進馬達開關 Stepper Motor On/Off</li> <li>4. 開機尋找上定位 Find Upper Position at Startup</li> <li>5. 步進馬達原點調整 Stepper Motor Home Position Adjustment</li> <li>6. 壓腳保護 Presser Foot Protection</li> </ol>
6	計件功能 Piece Counting Function	<p>在主界面下，同時按“”和“”進入計件介面。On the main screen, press “ ” and “ ” simultaneously to enter the Piece Counting interface.</p>

### 3 · 系統參數設置說明 SYSTEM PARAMETER SETTINGS DESCRIPTION

#### 3.1 橫刀機型參數設置 Horizontal Knife Model Parameter Settings

注：參數預設值僅供參考，實際參數值以實物為準。

Note: Default parameter values are for reference only. Actual values may vary depending on the machine.

使用者參數（在一般模式下按[P]鍵進入） User Parameters (enter by pressing [P] in general mode)				
序號 No.	項目名稱 Parameter Name	範圍 Range	預設值 Default Value	參數說明 Description
P-01	最高轉速（轉/分） Maximum speed (RPM)	200-6000	5500	車縫時的最高轉速 Maximum sewing speed when sewing
P-02	停針定位選擇 Needle stop position	0-1	0	0：上停針 1：下停針 0: Upper stop 1: Lower stop
P-03	起縫速度（轉/分） Starting speed (RPM)	200-7000	5200	有剪線功能時：前感測器觸發啟動和後感測器信號結束時（剪線前）的速度設置 When the thread trimming function is enabled: Speed setting when the front sensor triggers the start and the rear sensor signal ends (before thread trimming).
P-04	啟動模式 Start mode	0-1	0	（全自動模式下有效）(Valid in full-auto mode) 0：自動模式 0: Auto mode; 1：腳控模式（前感應+腳踏板前踏啟動）1: Foot control (front sensor + pedal press)
P-05	自動半自動模式 Auto/semi-auto mode	0-1	0	（P-06 開啟時）(When P-06 is On) 0：自動（配合 P-04 使用） 1：半自動（腳控模式） 0: Auto (with P-04) 1: Semi-auto (foot control)
P-06	自動感應開關 Automatic sensor switch	0-1	1	0：關閉（全人工模式開啟）；Off (Full-manual mode) 1：開啟（實現自動/半自動模式，與 P-05 項匹配使用）On (Run

				Auto/semi-automatic mode, matching with P-05)
P-07	自動剪線開關 Automatic trimming switch	0-3	3	0：關閉 Off 1：前剪（中間感測器接收到信號時剪線）Front trimming (when the middle sensor receives a signal) 2：後剪（後感測器接收信號結束後剪線）Rear trimming (after the rear sensor finishes receiving a signal) 3：前後剪 Front and rear trimming
P-08	自動吸氣 Automatic suction	0-3	3	0：關閉 Off 1：前剪吸氣 Front trim suction 2：後剪吸氣 Rear trim suction 3：前後剪吸氣 Front and rear trim suction 4：長吸氣 Long suction
P-09	自動拉布 Automatic cloth pulling	0-2	0	0：關閉 1：縫中拉布 2：縫後拉布 0: Off 1: During sewing 2: After sewing
P-10	自動抬壓腳 Automatic presser foot lift	0-3	0	0：關閉 Off 1：前抬（前感測器接收到信號時）Front lift (when the front sensor receives signal) 2：後抬（後感測器信號結束時）Rear lift (when the rear sensor receives signal) 3：前後抬 Front and rear lift
P-11	縫中抬壓腳 Presser foot lifts during sewing	0-1	0	（全人工/半自動模式下有效）(Valid in full-manual/semi-auto mode) 0：關閉 1：開啟（停車時自動抬壓腳） 0: Off 1: On (Auto lifting when the machine stops)
P-12	剪線後抬壓腳 Presser foot lifts after thread trimming	0-1	0	0：關閉 1：開啟 0: Off 1: On
P-13	半反踏抬壓腳 Half Reverse Pedal Foot Lift	0-2	0	（全人工/半自動模式下有效）(Valid in manual/semi-auto mode) 0：半反踏&反踏抬 1：不抬 2：反踏抬 0: Half & Full Reverse Lift 1: No Lift 2: Full Reverse Lift
P-14	手動吸氣 Manual Suction	0-2	1	0：不吸 1：後吸 2：前後吸 0: None 1: Rear suction 2: Front & rear suction
P-15	機頭燈亮度 Machine Head Light Brightness	0-3	3	0：熄滅 1→4 亮度等級，數位越大越亮 0: OFF 1→4 Brightness level (higher = brighter)
P-16	低氣壓模式 Low Air Pressure Mode	0-1	0	0：正常模式 1：低氣壓模式 0: Normal 1: Low Pressure Mode
P-17	半自動連續縫製 Semi-Auto Continuous Sewing	0-1	1	0：關閉 1：前踏連續縫 0: Off 1: Forward pedal for continuous sewing

P-18	半自動恆速剪線 Semi-Auto Fixed Speed Trim	0-1	0	0：關閉（完成後剪線前不執行 P-03 項的速度） 1：恆剪線速度（前後剪線的速度固定為 P-03 項的速度） 0: Off (before rear trim finishes, P-03's speed won't be applied) 1: Constant thread trimming speed (Front & rear trimming speed uses P-03's speed as default)
P-20	剪線後停針位選擇 Needle Stop Position After Trimming	0-1	1	0：下停針 1：上停針 0: Upper stop 1: Lower stop
P-22	前接收器 E#開關 Front Sensor E# Switch	0-1	0	0：開啟（打開前感測器，感測器信號+腳踏板啟動） 1：關閉（關閉前感測器，腳踏板直接啟動） 0: On (starting sensor, sensor signal + pedal) 1: OFF (pedal starts directly)
P-23	間歇吸氣吸時間（×100 毫秒） Intermittent Suction Time (×100ms)	1-600	20	數位越大時間越長 Higher value makes longer time
P-24	間歇吸氣停時間（×100 毫秒） Intermittent Suction Stop Time (×100ms)	0-600	0	0：為無間歇吸氣前吸氣關閉時間（P-46 項設置為“1”時配合使用有效） Pre-suction closed time for non-intermittent suction (valid when P-46 is set to "1")
P-25	吸風同步（P16=1） （毫秒） Suction Sync Time (P16=1) (ms)	0-2000	200	布邊吸風同步時間（P-16 設置為“1”時配合使用有效） Synchronous time of cloth edge suction (effective when P-16 is set to "1")
P-26	兩感測器間針數（針） Stitch Count Between Sensors (stitch)	1-600	100	迴圈週期參數：在一個週期內後感測器接收到信號後才能連續運行，否則一個週期停止 Loop parameter: Machine only continues if rear sensor is triggered within one cycle after receiving a signal
P-27	前剪線延遲針數（針） Front Thread Trimming Delay (sti)	0-50	3	數值越小越提前，線頭預留越長（中感測器觸發） Small value causes earlier trim & longer thread tails (middle sensor trigger)
P-28	後剪線延遲針數（針） Rear Thread Trimming Delay (sti)	0-50	3	數值越小越提前，結尾線頭越短（後感測器觸發） Small value causes earlier trim & shorter thread tails (rear sensor trigger)
P-30	前吸氣關閉延時 （毫秒） Front Suction OFF Delay (ms)	0-2000	100	數值越小，關閉越快 Smaller value causes faster shut-off
P-31	後吸氣關閉延時 （毫秒） Rear Suction OFF Delay (ms)	100-5000	200	數值越小，關閉越快 Smaller value causes faster shut-off
P-35	停車延遲針數（針） Stop Delay (sti)	1-99	1	布過完感測器後幾針自動停車（後剪線關閉狀態有效） Automatic stop after [x] stitches post-fabric sensor detection (requires rear cutter OFF)

P-36	前感測器回應時間 (毫秒) Front Sensor Response Time (ms)	0-990	50	前感測器觸發時間。 (數值越小反應越快，數值越大反應越慢) Front sensor trigger time (Smaller value causes faster response)
P-37	前感測器靈敏度 Front Sensor Sensitivity	0-900	350	為適應不同布料設定前感測器的透布強度 Adjusts fabric detection strength for different materials.
P-38	中間感測器靈敏度 Middle Sensor Sensitivity:	0-900	3500	為適應不同布料設定中感測器的透布強度 Adjusts fabric detection strength for different materials.
P-39	前抬壓腳保持時間 (毫秒) Front Presser Foot Lift Hold Time (ms)	50-2000	200	(全自動/半自動模式下) (Full auto/semi-auto mode) 前觸發自動抬壓腳後保持時間，數值越大保持時間越長 The holding time after the front trigger automatically lifts the presser foot, longer value makes extended hold
P-40	後抬壓腳啟動時間 (毫秒) Rear Presser Foot Lift Activation Time (ms)	0-2000	120	後自動抬壓腳啟動時間，數值越小反應越快 Automatic presser foot lift start time, smaller value makes faster response.
P-41	壓腳全始出力時間 (毫秒) Presser Foot Full Lift Time (ms):	10-990	100	數值越大壓腳抬的越高(注：不能太高) Larger value causes higher lift (note: avoid excessive height).
P-42	壓腳出力週期信號(%) Presser Foot Power Cycle (%)	10-90	30	壓腳動作時，以週期性省電輸出，避免電磁鐵發燙 Energy-saving pulse output to prevent solenoid overheating.
P-43	壓腳下放時間(毫秒) Presser Foot Lowering Time (ms)	10-990	100	壓腳下放時序的動作時間 Duration for foot descent.
P-44	壓腳保護時間(秒) Presser Foot Protection Time (s)	1-120	5	中途停車抬壓腳、剪線後停車自動抬壓腳、反踏抬壓腳後保 持時間到後強制關閉 Auto-lift duration after stop/trimming/back-treadle.
P-45	剪線時間(毫秒) Thread Cutting Time (ms):	10-990	30	時間越長，剪線力度越大 Longer duration causes stronger cut.
P-46	連續送布吸氣 Continuous Fabric Feeding Suction:	0-2	0	0：不吸氣 1：長吸氣 2：同步吸氣 0: Off 1: Long suction 2: sync suction
P-47	計件數 Number of pieces		0	
P-48	開機找上定位 Power-On Needle Positioning:		1	0：關閉 1：開啟 0: Disable 1: Enable

P-50	上定位調整 Upper Needle Position Adjustment	0-24	1	與 P-72 項設置同步 Synchronized with P-72 setting.
P-51	下定位調整 Lower Needle Position Adjustment	0-24	13	與 P-73 項設置同步 Synchronized with P-73 setting.
P-52	測試速度(轉/分) Test Speed (RPM)	200-7000	2000	使用上下鍵調整 Adjust with up/down keys.
P-53	測試工作時間 (×100 毫秒) Test Runtime (×100ms)	1-250	20	使用上下鍵調整 Adjust with up/down keys.
P-54	測試停止時間 (×100 毫秒) Test Stop Time (×100ms)	1-250	20	使用上下鍵調整 Adjust with up/down keys.
P-55	測試 A：持續運行 Test A: Continuous Run	0-1	0	0：停止 1：運行 0: Stop 1: Run
P-56	測試 B：含功能運行 Test B: Function Run:	0-1	0	0：停止 1：運行 0: Stop 1: Run
P-57	測試 C：啟停運行 Test C: Start/Stop Run:	0-1	0	0：停止 1：運行 0: Stop 1: Run
P-58	縫台保護開關 Bed Protection Switch	0-1	1	0：停用 1：啟用 0: Disable 1: Enable
P-59	壓腳保護開關 Presser Foot Protection Switch	0-1	1	0：停用 1：啟用 0: Disable 1: Enable
P-60	電動/氣動 Motor/Pneumatic Mode	0-1	0	0：電動 1：氣動 0: Solenoid 1: Pneumatic
P-61	後踏剪線開關 Backward Pedal Thread Cutting Switch	0-7	1	0：全關 Off 1：全人工開 Manual 2：半自動開 Semi-auto 3：全自動開 Auto 4：全人工和半自動開 Manual & semi-auto 5：半自動和全自動開 Semi-auto & auto 6：全人工和全自動開 Manual & auto 7：全人工和半自動和全自動開 Manual & semi-auto & auto
P-63	語言 Language	0-2	1	0：英文 1：中文 2：土耳其語 0: English 1: Chinese 2: Turkish
P-64	前發射管強度 Front Emitter Intensity	0%-100%	80%	調節前發射管強度 Adjusts IR/LED strength for front sensor.

P-65	中發射管強度 Middle Emitter Intensity	0%-100%	80%	調節中發射管強度 Adjusts IR/LED strength for middle sensor.
P-66	後發射管強度 Rear Emitter Intensity	0%-100%	80%	調節後發射管強度 Adjusts IR/LED strength for rear sensor.
P-67	後感測器靈敏 Rear Sensor Sensitivity	0-900	350	為適應不同布料設定後感測器的透布強度 Adjusts fabric detection strength.
P-69	後感應緩回應時間 (毫秒) Rear Sensor Delay (ms)	0-3000	0	在縫製網格布的情況下可以調節此項， 以達到想要的效果。 Adjust for mesh fabrics to reach desired result
P-70	機型選擇 Machine Type	0-2	1	1：橫刀機型 2：側刀機型 3：倒回縫 1: Horizontal cutter 2: Side cutter 3: Backtack
P-71	最高限速 Maximum Speed Limit (RPM)	200-7000	5500	
P-72	手動上定位調整 Manual Upper Position Adjustment	0-24		從手輪方向看，順時針轉動手輪轉到上定位， 點擊 S 鍵保存當前數值為下定位，只可微調。 From the hand wheel direction, turn the hand wheel clockwise to the upper position, press S to save.
P-73	手動下定位調整 Manual Lower Position Adjustment	0-24		從手輪方向看，順時針轉動手輪轉到下定位， 點擊 S 鍵保存當前數值為下定位，只可微調。 From the hand wheel direction, turn the hand wheel clockwise to the lower position, press S to save.
P-74	參數查看 Parameter Search	N1-N13		N1：電控版本 Control ver. N2：面板版本 Panel ver. N3：轉速 RPM N4：腳踏板 AD Pedal AD N5：驅動版本 Drive ver.
P-76	密碼設置 Password Setup	0000-9999	0000	
P-77	零點角度設置 Zero Angle Calibration		160	
P-78	吸風桶類型 Suction Fan Type	0-2	0	0：有刷 Brushed 1：無刷 Brushless 2：氣閥 Pneumatic valve
P-80	針杆護罩保護開關 Needle Guard Switch	0-1	0	0：停用 1：啟用 0 : Disable 1 : Enable
P-81	電磁鐵保護 Solenoid Protection	0-1	1	0：關閉 Off 1：開啟 On
P-82	報警件數 Alarm Count Threshold	0-9999	0	
P-83	待機顯示件數 Standby Counter	0-1	0	0：關閉 Close 1：開啟 Open

	Display			
P-84	計件模式選擇 Counter Mode	0-1	0	0：增序 Increment 1：減序 Decrement
P-85	計件剪線次數 Counter-Based Thread Cuts	0-50	1	
P-86	語音音量 Voice Volume	0-5	4	
P-87	語音播報選擇 Voice Prompts	0-3	3	0：關閉 Off 1：僅開機語 Power-on only 2：僅按鍵音 Key beeps 3：開啟 On
P-88	用戶機型 User Custom Model	3-12	0	
P-90	語音晶片選擇 Voice Chip Selection	0-4	4	
P-91	後感應開關 Rear Sensor Switch	0-1	0	0：關閉 Off 1：開啟 On
P-92	開機語選擇 Startup Voice Message	0-11	0	
P-94	薄料透光度 Thin Fabric Transparency	1-800	20	
P-95	普通料透光度 Standard Fabric Transparency	1-800	200	
P-96	網格料透光度 Mesh Fabric Transparency	1-800	50	
P-97	特殊料檢測針數 Special Fabric Detection Stitches	0-50	0	
P-98	剪線速度開關 Thread Trim Speed Switch	0-3	0	0：關閉 Off 1：前開 Front Only 2：後開 Rear Only 3：前後開 Both
P-99	前剪線保護 Front Cutter Protection	0-1	1	0：開啟 On 1：關閉 Off
P-100	縫製布料類型 Fabric Type	0-2	0	0：普通料 Standard 1：薄料 Thin 2：網格料 Mesh
P-101	前感應識別信號差	0-50	10	

	Front Sensor Signal Variance			
P-102	中感應識別信號差 Middle Sensor Signal Variance	0-50	10	
P-103	後感應識別信號差 Rear Sensor Signal Variance	0-50	10	
P-104	踏板加速斜率 Pedal Acceleration Curve	1-100	32	
P-106	後踏剪線次數 Rear Treadle Cut Count	0-1	0	
P-108	電機類型 Motor Type	0-5	0	
P110	感應開機快速校準 Induction Startup Quick Calibration	0-1	1	
P128	流水燈樣式 Running Light Mode	0-5	1	
P129	步進馬達開關 Stepper Motor Enable	0-1	1	0：關閉 Off 1：開啟 On
P130	步進原點 Stepper Home Position	-2400~ 2400	0000	需將 P131 步進馬達鎖定關閉 P131 must be set to Unlock before operation
P131	步進馬達解鎖 Stepper Motor Lock	0-1	0	0: 鎖定 → Locked 1: 鬆開 → Unlocked
P132	步進最大電流 Stepper Maximum Current	20-60	50	(*100mA) 步進馬達運行時的最大電流(×100mA) Maximum running current
P133	步進保持電流 Stepper Holding Current	5-20	20	(*100mA) 壓膠抬起時的保持電流大小(×100mA) Holding current when idle
P134	滾輪比例 Roller Ratio	1-100	20	
P135	滾輪最大速度 Roller Maximum Speed	50-1000	1000	
P136	高速脈衝補償 High-Speed Pulse Compensation	0-300	150	
P137	長吸及延遲時間 Long Suction & Delay Time	0-20	2	
P138	轉速比檔位 Speed Ratio Level	1-6	1	

P139	轉速比第一檔 Speed Ratio Gear 1	1-100	20	
P140	轉速比第二檔 Speed Ratio Gear 2	1-100	24	
P141	轉速比第三檔 Speed Ratio Gear 3	1-100	28	
P142	轉速比第四檔 Speed Ratio Gear 4	1-100	32	
P143	轉速比第五檔 Speed Ratio Gear 5	1-100	36	
P144	轉速比第六檔 Speed Ratio Gear 6	1-100	40	
P153	步進 Z 訊號校正 Stepper Z Signal Calibration	0-1	1	

#### 4. 錯誤代碼表 ERROR CODE TABLE

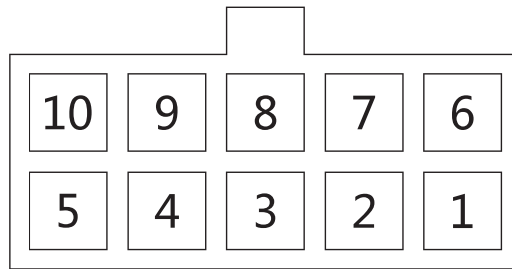
錯誤碼 ERROR	內容 DESCRIPTION	對策 SOLUTION
E01	超電壓 Overvoltage	關閉系統電源，檢測供應電源電壓是否正確。(或是否超過使用規定的額定電壓)。Power off the system and check if the input voltage is correct (or exceeds the rated voltage). 若正確，請更換控制箱並通知售後服務。 If voltage is normal, replace the control box and contact after-sales service.
E02	低電壓 Low voltage	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)。 Power off the system and check if the input voltage is correct (or is below the rated voltage). 若正確，請更換控制箱並通知售後服務。 If voltage is normal, replace the control box and contact after-sales service.
E05	控速器接觸異常 Speed Controller Connection Fault	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。 Power off the system and check for loose/disconnected speed controller wiring. Reconnect and restart. If the issue persists, replace the speed controller and contact after-sales service.
E07	電機堵轉 Motor Stall	轉動機頭手輪觀察是否卡住。如卡住則先排除機械故障。 Rotate the hand wheel to check for mechanical jams. Resolve any obstructions. 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。 If rotation is smooth, inspect the motor encoder and power cable connections for looseness. 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。 Verify input voltage and speed settings (adjust if abnormal). 若仍不能正常工作，請更換控制箱並通知售後服務。 If unresolved, replace the control box and contact after-sales service.
E10	電磁鐵過流保護 Solenoid Overcurrent Protection	關閉系統電源，檢查電磁鐵(電磁閥)連接線或電磁鐵(電磁閥)是否損壞。 Power off the system and inspect solenoid (or valve) wiring for check any damaged component.
E11	定位信號異常	關閉系統電源，檢查電機編碼器介面是否鬆動或脫落，

	Positioning Signal Error	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。 Power off the system and check the motor encoder interface for loose connections. Restart after reseating. If unresolved, replace the motor and contact after-sales service.
E14	編碼器信號異常 Encoder Signal Error	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。 Power off the system and reseal the motor encoder interface. Restart the system. If the issue persists, replace the motor and contact after-sales service.
E15	電力模組不正常過流保護 Power Module Overcurrent Protection	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。 Power off the system then turn it back on. If the error remains, replace the control box and contact after-sales service.
E16	抬壓腳保護開關沒到正確位置 Presser Foot Protection Switch Misaligned	檢查壓腳是否回到正確位置，抬壓腳開關是否損壞，插座是否異常。 Ensure the presser foot is in the correct position. Check for switch damage or faulty sockets
E17	縫台保護開關沒到正確位置 Bed Protection Switch Misaligned	檢查縫台是否打開，縫台安全開關是否損壞，插座是否異常。 Verify the bed is closed. Inspect the safety switch and socket for damage
E92	步進電機過流 Stepper Motor Overcurrent	關閉系統電源，檢查剪線（壓腳）步進電機是否卡住。若卡住，請先排除機頭機械故障。 如正常，檢查剪線（壓腳）步進電機接口是否鬆動或脫落，恢復正常後重新啟動系統。 Turn off the system power and check whether the thread trimmer (presser foot) stepper motor is jammed. If jammed, first eliminate any mechanical issues in the machine head. If normal, check whether the stepper motor connector is loose or disconnected. After restoring to normal condition, restart the system.
E94	步進電機找零點異常 Stepper Motor Homing Abnormal	關閉系統電源，檢查剪線（壓腳）步進電機是否卡住。若卡住，請先排除機頭機械故障。 如正常，檢查步進電機編碼器接口是否鬆動或脫落，並檢查編碼器碼盤是否有油污。如有請清潔乾淨。恢復正常後重新啟動系統。 Turn off the system power and check whether the thread trimmer (presser foot) stepper motor is jammed.

		<p>If jammed, eliminate mechanical issues first.</p> <p>If normal, check whether the encoder connector is loose or disconnected, and inspect whether there is oil contamination on the encoder disk. Clean if necessary. After restoring to normal condition, restart the system.</p>
E95	<p>步進電機編碼器信號異常 Stepper Motor Encoder Signal Abnormal</p>	<p>關閉系統電源，檢查剪線（壓腳）步進電機編碼器接口是否鬆動或脫落。恢復正常後重新啟動系統。 Turn off the system power and check whether the encoder connector of the thread trimmer (presser foot) stepper motor is loose or disconnected. After restoring to normal condition, restart the system.</p>
E96	<p>步進電機未連接 Stepper Motor Not Connected</p>	<p>關閉系統電源，檢查剪線（壓腳）步進電機電源線接口及編碼器接口是否鬆動或脫落。恢復正常後重新啟動系統。 Turn off the system power and check whether the power cable connector and encoder connector of the thread trimmer (presser foot) stepper motor are loose or disconnected. After restoring to normal condition, restart the system.</p>
E97	<p>步進電機堵轉 Stepper Motor Stall</p>	<p>關閉系統電源，檢查剪線（壓腳）步進電機是否卡住。若卡住，請先排除機頭機械故障。</p> <p>如正常，檢查步進電機電源線接口及編碼器接口是否鬆動或脫落。恢復正常後重新啟動系統。 Turn off the system power and check whether the thread trimmer (presser foot) stepper motor is jammed. If jammed, eliminate mechanical issues first.</p> <p>If normal, check whether the power cable connector and encoder connector are loose or disconnected. After restoring to normal condition, restart the system.</p>
NC	<p>通訊異常 Communication Error</p>	<p>關閉系統電源，檢查面板連接器是否鬆動或斷開。排除後若仍有此故障，請檢查主控晶片供電電源指示燈是否正常亮起。若異常，請更換電控系統。 Turn off the system power and check whether the panel connector is loose or disconnected.</p> <p>If the problem persists after inspection, check whether the power indicator of the main control chip is lit normally. If abnormal, replace the control system.</p>

5. 埠示意圖 Port Schematic Diagram

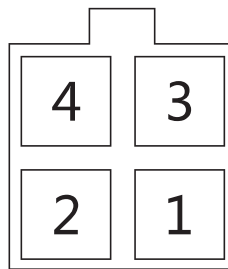
10A 白色埠 (LED、發射器) 10A White port (LED, transmitter)



1 : 負極 (中發射) 2 : 負極 (前發射) 3 : 正極 (剪線開關) 4 : 負極 (後發射) 5 : 空  
6 : 負極 (發射燈) 7 : 5V (發射燈) 8 : 5V (前中後發射) 9 : 空 10 : 負極 (剪線開關)

1: Negative (middle emission) 2: Negative (front emission) 3: Positive (thread trimmer switch)  
4: Negative (rear emission) 5: None 6: Negative (emission light) 7: 5V (emission light) 8: 5V (front, middle and rear emission) 9: Empty 10: Negative (thread trimmer switch)

4A 白色埠 (前, 中接收) 4A White port (front, middle reception)



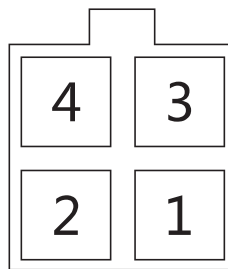
1 : 前接收信號, 3 : 5V

2 : 中接收信號, 4 : 5V

1 : Front reception signal, 3 : 5V

2 : Middle reception signal, 4 : 5V

4A 紅色埠 (縫台開關) 4A Red port (Bed switch)



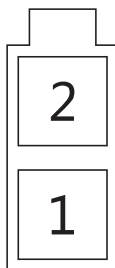
1 : CND 2:空

3 : 5V 4 : 信號

1 : CND 2: None

3 : 5V 4 : Signal

2A 藍色埠 (後接收) 2A Blue port (Rear reception)



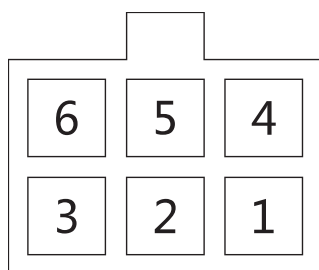
1 : 後接收信號 , 2 : 5V  
1 : Rear reception signal, 2: 5V

2A 白色埠 (剪線) 2A White port (Trimming)



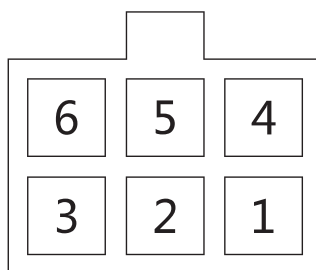
1 : 剪線信號 , 2 : 32V  
1 : Trimming signal, 2: 32V

6A 黑色埠 (壓腳安全開關) 6A Black port (Presser foot protection switch)



1 : GND 2:空  
3 : 空 4 : 5V  
5:信號 6 : 空  
1: GND 2: None  
3: None 4: 5V  
5: Signal 6: None

6A 白色端口（集成端口） White Port (Integrated Port)



- 1: 后吸信号 4: 32V  
2: 前吸信号 5: 32V  
3: 空 6: 空



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KAULIN MFG. CO., LTD.

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The specification and/or appearances of the equipment described in this instruction book & parts list are subject to change because of modification which will without previous notice.  
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