

SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

DL7600-M1-Q

DL7600-H1-Q

DL7600-X2-Q



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）

1 按鍵說明

功能參數編輯按鍵		進入或退出功能參數的編輯。
參數查看保存鍵		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
上鍵		1、參數選擇區內參數項遞增鍵 2、參數內容區內設定數值遞增鍵
下鍵		1、參數選擇區內參數項遞減鍵 2、參數內容區內設定數值遞減鍵
慢速起縫鍵		若點擊，設定使用或取消慢速起縫功能。
停針位鍵		若點擊，切換縫製後機針的停止位置（上停針位/下停針位）。

2 操作說明

2.1 恢復出廠設置

在關機狀態下，同時按住上鍵和下鍵開機，再按 S 鍵確認即可恢復。

3 參數表

參數項	中文說明	範圍	初始值	內容值名稱說明與備註
P01	最高轉速	200-3700	3700	車縫時的最高轉速設定
P02	停針位選擇	0-2	1	0：上停針；1：下停針；2：無定位
P03	慢速起縫開關	0-1	1	0：關；1：開
P04	慢速起縫速度	200-1500	400	
P05	慢速起縫針數	1-15	1	
P06	最低轉速	200-500	200	車縫時的最低轉速設定
P07	上定位調節	0-24	0	
P08	下定位調節	0-24	12	
P09	開機自動找定位	0-1	1	0：開機不找上定位；1：開機找上定位
P10	機頭保護開關檢測	0-2	0	0：不檢測；1：檢測零信號；2：檢測正信號
P11	加速曲線調整	1-100	32	控速器的加速爬升斜率設定
P15	補針方式	0-3	3	0：半針；1：一針；2：連續補半針；3：連續補一針
P21	馬達運轉方向	0-1	1	0：順時針；1：逆時針
P22	自動跑合速度	200-6000	3500	跑合速度的設置
P23	自動跑合跑時間	1-250	20	
P24	自動跑合停時間		20	
P25	A 項測試	1-250	0	速度持續運行
P26	B 項測試	0-1	0	執行定位迴圈運行
P36	機型選擇		1	

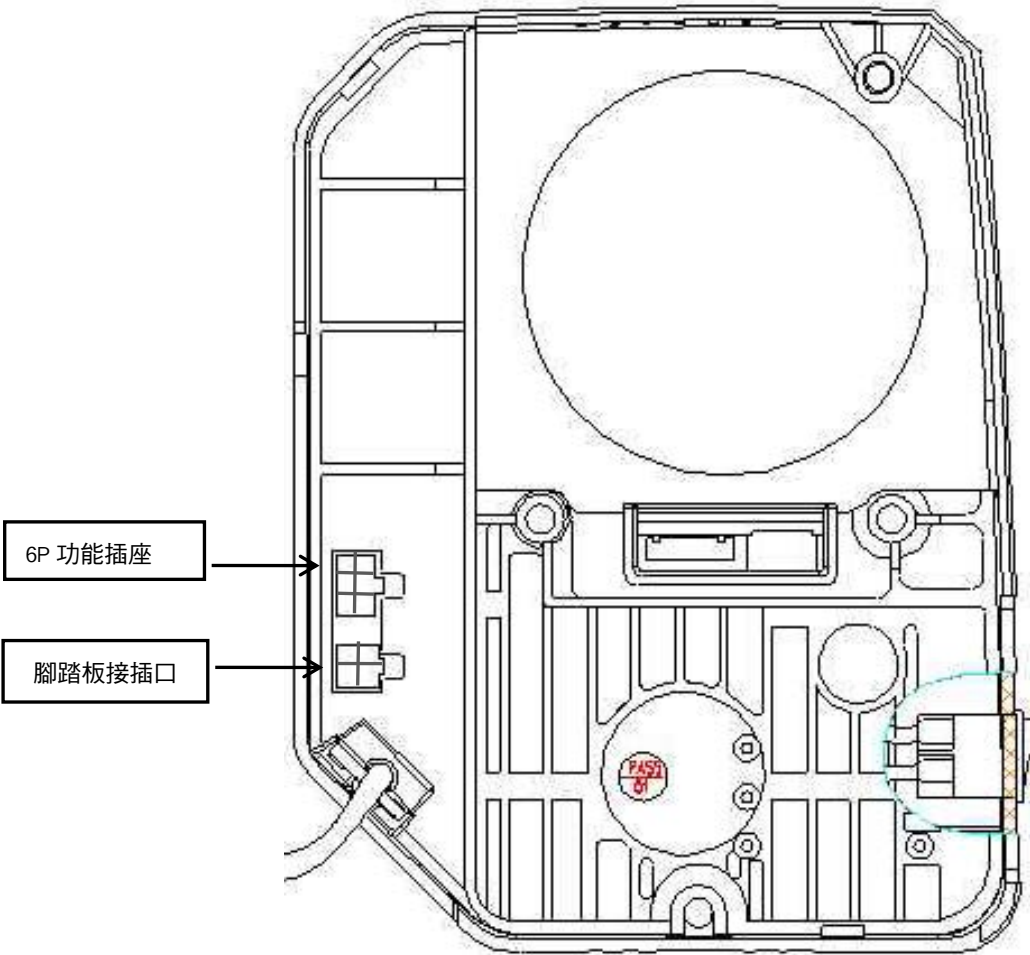
注：參數初始值僅供參考，實際參數值以實物為準。

4 錯誤代碼表

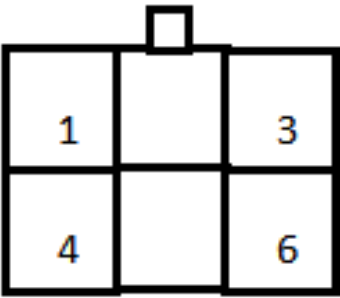
錯誤碼	內容	對策
E01	超電壓	關閉系統電源，檢測供應電源電壓是否正確。（或是否超過使用規定的額定電壓）。 若正確，請更換控制箱並通知售後服務。
E02	低電壓	關閉系統電源，檢測供應電源電壓是否正確。（或是否低於使用規定的額定電壓）。 若正確，請更換控制箱並通知售後服務。
E03	CPU 傳輸通信異常	將模組驅動出力與機頭出力全部關閉請檢查操作盒信號配線是否異常或故障。
E05	控速器接觸異常	關閉系統電源，檢查控速器接頭是否鬆動或脫落，將其恢復正常後重啟系統。若仍不能正常工作，請更換控速器並通知售後服務。
E07	電機堵轉	轉動機頭手輪觀察是否卡住。如卡住則先排除機械故障。 如轉動正常，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。 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。 若仍不能正常工作，請更換控制箱並通知售後服務。
E09 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，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。
E14	編碼器信號異常	關閉系統電源，檢查電機編碼器介面是否鬆動或脫落，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。
E15	電力模組不正常過流保護	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。
E17	機頭保護開關沒到正確位置	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或損壞。

5 端口示意图

5.1 各個埠說明



5.1 6P 功能埠說明



- 1、手動補針：1 (信號)、4(GND)
- 2、衣車燈：3(+5V)、6(GND)

 Safety Instruction

- 1) Users are required to read the operation manual completely and carefully before installation or operation.
- 2) The product should be installed and pre-operated by well-trained persons
- 3) All the instruction marked with sign , must be observed or executed; Otherwise, bodily injuries might occur.
- 4) For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection
- 5) When connecting power supply cords to power sources, it is necessary to make sure that the power voltage is lower than 250V AC and matches the rated voltage indicated on the motor's name plate.
 ※Attention: If the Control Box is AC 220V system, please don't connect the Control Box to AC 380V power outlet. Otherwise, the error will occur and motor will not work. If that happens, please turn off the power immediately and check the power voltage. Continue supply 380V power over 5 minutes might damage the fuse F2, burst the electrolytic capacitors and the power module U14 of the main board and even might endanger the person safety.
- 6) Please don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 0°C.
- 7) Please avoid operating near the heater at dew area or at the humidity below 10% or above 95%.
- 8) Please don't operate in area with heavy dust, corrosive substance or volatile gas.
- 9) Avoid power cord being applied by heavy objects or excessive force, or over bend.
- 10) 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) All the moving portions must be prevented to be exposed by the parts provided.
- 12) Turing on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
- 13) Turn off the power before the following operation:
 1. Connecting or disconnecting any connectors on the control box or motor.
 2. Threading needle.
 3. Raising the machine arm.
 4. Repairing or doing any mechanical adjustment.
 5. Machine is out of work.
- 14) Repairing and high level maintenance work should only be done by electronic technicians with appropriate training.
- 15) All the spare parts for repairing work must be provided or approved by the manufacturer.
- 16) Don't use any objects 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, lighting, 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 all a failsafe device. (Such as residual current breaker).

1 Key Description

Name	Key	Indicate
Function Parameter Edit		Press this key to enter or exit function parameter edit mode.
Setting Parameter Check and Save		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.
On the Adjustment Key		1. Choose the region parameter items of incrementing key 2. Parameter setting value incrementing key

Under the Adjustment Key		1. Choose the region parameter items of diminishing key 2. Parameter setting value decrementing key
Slow Launch Setting		If click, set used or cancelled slow launch function.
Needle Stop Position Selection		If click, the needle stop position after shift the sewing mode (Up position / Down position)

2. Operating Instructions

2.1 Restore Factory Setting

Under the shutdown state, hold on the “up” key and “down” key to boot, then double-click the S key to confirm it, shutdown restart.

3 Parameter List

Parameters	Parameter Function	Range	Default	Description
P01	Maximum speed	200-3700	3700	Set the max sewing speed.
P02	Needle stop position selection	0-2	1	0: Needle up 1: Needle down 2: OFF
P03	Soft start switch	0-1	1	0: OFF 1: ON
P04	Soft start sewing speed	200-1500	400	
P05	Stitches number of soft start	1-15	1	
P06	Minimum speed	200-500	200	Set the minimum speed.
P07	Up position adjustment	0-24	0	
P08	Down position adjustment	0-24	12	
P09	Needle goes up automatically as power turned on	0-1	1	0: No Function 1: Power turned on, needle goes up position automatically
P10	Machine protection switch selection	0-2	0	0: Disable 1: Testing zero signal 2: Testing positive signal
P11	Speed curve adjustment	1-100	32	The larger the value, the faster to increase speed
P15	Stitch Correction Mode	0-3	3	0: Half stitch 1: One stitch 2: Continuous correct half stitch 3: Continuous correct stitch and quickly stop machine
P21	Motor rotate direction	0-1	1	0: clockwise 1: counter-clockwise
P22	Auto running speed	200-6000	3500	Auto running speed setting
P23	Auto running time	1-250	20	
P24	Auto running stop time		20	
P25	Item A test	1-250	0	Continue running with constant speed
P26	Item B test	0-1	0	Carry out the set loop running
P36	Type		1	

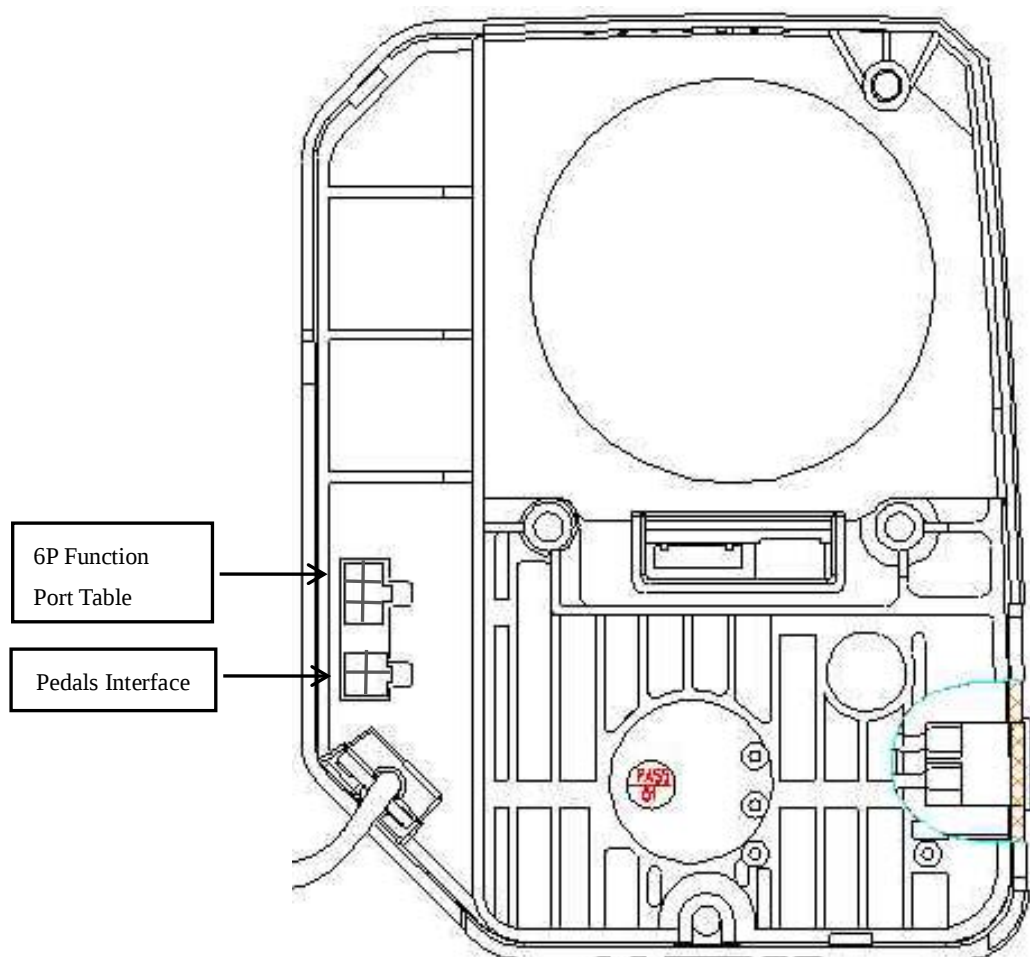
Note: the initial value of parameters is for reference only, and the actual value of parameters is subject to the real object.

4 Error Code List

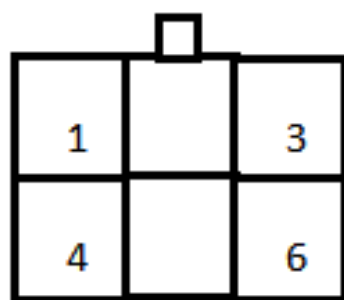
Error Code	Problem	Status / Measurement
E01	Over-voltage	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage.) If correct, please replace the control box and inform the factory
E02	Low-voltage	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage specified in use.) If correct, please replace the control box and inform the factory
E03	CPU communication error	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	Speed control unit connection is abnormal	Turn off the system power supply, please check the speed control unit connector if loose or fall off, Will resume normal after the restart system If you still cannot work normally, please replace the speed control unit and notify the manufacturer.
E07	Motor locked-rotor error	Turn the machine handwheel, check if it is stuck. If it is stuck, you have to rule out the mechanical failure. If turn normal, check if the encoder and motor in bad connection or is too loose. If yes, please correct. If connection well, check if the power supply voltage is abnormal or sewing speed is too high. If yes, please adjust. If there are still errors, please replace the control box and call for customer service.
E09 E11	Positioning signal error	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.
E14	Encoder signal error.	Turn off the system power supply, please check motor encoder connector if loose or fall off, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture.
E15	Power module abnormal over current protection	Turn off the system power supply, and then restart the machine. If still not work, please replace the control box and notify the manufacture.
E17	The sewing table safety switch is not in the correct position	Turn off the system power supply, please check machine head is open or not, the machine head switch is damage or not.

5 Port Outline Diagram:

5.1 Port Description



5.2 6P Function Port Description



1. Manual Filling Needle: 1 (signal)、4(GND)

2. Clothing Lights: 3(+5V) 、6(GND)



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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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