

SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

DL7600-BM1-16Q

DL7600-BH1-16Q

DL7600-BX2-16Q



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，必須確定工作電壓符合本產品標識中規定的額定電壓值。
- 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

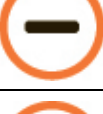
本產品在正常情況使用且無人為操作失誤的前提下，於保修期間無償為客戶維修使能正常操作。

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 按鍵顯示及操作說明

名稱	按鍵	注明
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。
參數遞增鍵		增大速度/參數。
參數遞減鍵		減小速度/參數。
左移鍵		若點擊，參數位左移。
右移鍵		若點擊，參數位右移。 若長按，進入 P41 項計數器介面。
起始回縫鍵/ 慢速起縫鍵		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，設定使用或取消慢速起縫功能。
終止回縫鍵/ 停針位鍵		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，切換縫製後機針的停止位置（上停針位/下停針位）。
自由縫鍵/一 段定針縫鍵		若點擊，設定為自由縫模式。 若長按，設定為一段定針縫模式。
連續回縫鍵/ 模式切換鍵		若點擊，設定為連續回縫縫模式。 若長按，設定為多段定針縫模式。
剪線鍵/夾線 鍵		若點擊，設定使用或取消切線功能。 若長按，設定使用或取消夾線功能。
壓腳鍵/自動 觸發鍵		若點擊，切換關閉自動抬壓腳、切完線後壓腳自動抬起、車縫中馬達停止時壓腳自動抬起、切完線後和車縫中馬達停止時壓腳都自動抬起。 若長按，設定使用或取消觸發自動功能。
一鍵恢復		若長按，恢復出廠設置。

2 協助工具

2.1 電機電角度校正

進入參數，將參數調至 P92 項，點擊 S 鍵進入參數項，在參數介面點擊停針位元鍵，然後電機會自動運轉並計算電機電

角度，等電機停下來後，參數值將自動變化，點擊 S 鍵保存即可。

2.2 停針位快捷設置

在關機狀態下，按住 S 鍵開機，進入 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。

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（rpm）	100-4000	3500	車縫時的最高轉速設定
P02	加速曲線調整（%）	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
P03	針停定位選擇	UP/DN	DN	UP：上停針 DN：下停針
P04	起始回縫速度（rpm）	200-3200	1800	
P05	終止回縫速度（rpm）	200-3200	1800	
P06	連續回縫速度（rpm）	200-3200	1800	
P07	慢速起縫速度（rpm）	200-1500	400	
P08	慢速起縫針數	0-99	2	
P09	自動定針縫速度（rpm）	200-4000	3700	觸發自動功能鍵按下時的速度設定
P10	定針縫後自動執行終止回縫功能	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。即在任何縫製模式下，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
P11	手按回縫時功能模式選擇	J/B	J	J：在車縫中和中途停止時均執行倒縫 B：在車縫中執行倒縫動作，在停止時執行補針動作
P12	起始回縫運動模式選擇	0-1	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
P13	起始回縫結束模式選擇	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
P14	慢速起縫功能設定	ON/OFF	OFF	
P15	補針方式	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
P16	手動倒縫限速	0-3200	0	數值大於 100 時功能開啟
P17	自動計件選擇	0-50	1	0：P41 項計數器不自動計數 1-50：計數器切線次數
P18	起始回縫補償 1	0-200	131	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
P19	起始回縫補償 2	0-200	165	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
P20	終止回縫運動模式選擇	0-1	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
P21	踏板前踩運行位置	30-1000	520	
P22	踏板回中位置	30-1000	420	
P23	踏板抬壓腳位置	30-1000	270	
P24	踏板剪線位置	30-1000	130	
P25	終止回縫補償 3	0-200	131	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
P26	終止回縫補償 4	0-200	165	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

參數項	中文說明	範圍	初始值	內容值名稱說明與備註
P27-N04	語言選擇	0-2	1	0：關閉語音 1：中文語音 2：英文語音
P27-N05	語音播報選擇	0-3	2	0：關閉 1：有開機語，無按鍵音 2：無開機語，有按鍵音 3：有開機語和按鍵音
P27-N08	虛實轉速功能開關	0-1	0	每增加 100，實際增加 100*【P27-N09】
P27-N09	虛實轉速比（%）	1-100	100	
P27-N12	開機顯示計數器介面選擇	0-1	0	0：關閉 1：開啟
P27-N13	計數器模式選擇	0-1	0	0：加數縫製計數器 1：減數縫製計數器
P28	連續回縫運動模式選擇	0-1	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
P29	切線停車力度	1-45	28	
P32	連續回縫補償 5	0-200	131	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
P33	連續回縫補償 6	0-200	165	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
P34	定針縫運動模式選擇	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
P35	抬壓腳時松線功能設置	0-2	0	0：關閉 1：抬壓腳時松線出力功能開啟，中途停車時松線出力功能關閉； 2：抬壓腳時松線出力功能和中途停車時松線出力功能開啟
P36	松線功能設定	0-11	3	0：關閉 1-11：松線力度逐步變大
P37	自動撥線/夾線功能設定	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
P38	自動切線功能設定	ON/OFF	ON	
P39	中途停車自動抬壓腳設定	UP/DN	DN	
P40	切線自動抬壓腳設定	UP/DN	DN	
P41	計數器顯示	0-9999		車縫完成件數顯示；長按減號鍵可計數清零
P42-NO 1	電控版本號			
P42-NO 2	選針盒版本號			
P42-NO 3	轉速			
P42-NO 4	腳踏板 AD 值			
P42-NO 5	機械角度（上定位）			

參數項	中文說明	範圍	初始值	內容值名稱說明與備註
P42-NO 6	機械角度（下定位）			
P42-NO 7	母線電壓 AD 值			
P43	馬達轉動方向設定	CCW/CW	CCW	CW：順時針方向 CCW：逆時針方向
P44	正常停車力度	1-45	16	
P45	回縫出力的週期信號（%）	1-50	30	回縫動作時，以週期性省電輸出，避免電磁鐵發燙
P46	切線後，反轉提針功能選擇	ON/OFF	OFF	
P47	切線後，反轉提針角度的調整	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
P48	最低速度（定位速度）（rpm）	100-500	210	最低速度限制調整
P49	切線速度（rpm）	100-500	250	調整切線週期時的電機速度
P50	抬壓腳全額出力的工作時間（ms）	10-990	150	
P51	壓腳出力的週期信號（%）	1-50	30	壓腳動作時，以週期性省電輸出，避免電磁鐵發燙
P52	延遲馬達啟動，保護壓腳下放時間（ms）	10-990	120	踩下時延遲啟動時間，以配合自動抬壓腳放下的確認
P53	半後踏抬壓腳功能取消	ON/OFF	OFF	ON：半後踏時，無抬壓腳 OFF：半後踏時，有抬壓腳
P54	切線動作時間（ms）	10-990	200	
P55	撥線動作時間	10-990	30	
P56	開電後自動找上定位	0-2	0	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
P57	抬壓腳保護時間（s）	1-60	10	抬壓腳保持時間後強制關閉。
P58	上定位調整	0-2399	1870	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
P59	下定位調整	0-2399	670	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
P60	測試速度（rpm）	100-4000	3500	設置測試速度
P61	A 項測試	ON/OFF	OFF	持續運行測試模式
P62	B 項測試	ON/OFF	OFF	全功能啟停測試模式
P63	C 項測試	ON/OFF	OFF	無定位、無功能啟停測試模式
P64	測試時測試執行時間	1-250	30	
P65	測試時測試停止時間	1-250	10	
P66	機頭保護開關	0-1	1	0：不檢測 1：檢測零信號
P70	機型選擇		12	
P71	壓腳釋放緩衝占空比(%)	0-50	1	壓腳下放時的力度調整
P72	上定位快捷調整	0-2399		調整上停針位元，顯示的數值會隨手輪位置變化而

參數項	中文說明	範圍	初始值	內容值名稱說明與備註
				變化，按“S”鍵可保存當前位置（數值）為上停針位
P73	下定位快捷調整	0-2399		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
P76	倒縫全額出力時間(ms)	10-990	250	倒縫開始動作時，全額出力的動作時間
P77	自由縫連終止回縫時倒縫回應時間（ms）	20-350	160	
P78	夾線器起夾角度	5-359	100	
P79	夾線器結束角度	5-359	270	
P80	剪線進刀角度	5-359	18	剪線進刀角度設置（下定位為 0°計算）
P81	壓腳釋放緩衝工作時間（ms）	1-800	60	
P83	切線後停車力度	10-100	20	
P84	剪線全額出力時間（ms）	10-990	60	
P85	剪線出力的週期信號（*10%）	1-10	6	
P86	上下定位距離	0-2399	1200	
P87	撥線回程延遲時間	10-990	50	
P89	交流過壓值設定	500-1023	920	
P92	電機電角度校正		160	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）
P93	半反踏功能延遲時間	10-900	200	
P101	松線開始角度	1-359	30	松線開始角度（下定位為 0°計算）
P102	松線結束角度	1-359	180	松線結束角度（下定位為 0°計算，需大於 P101 項參數值）
P109	撥線前延遲時間	0-990	5	
P110	剪線回程時間（ms）	60-990	60	
P113	壓腳全額出力動作的週期信號（%）	0-100	90	
P117	壓腳釋放緩衝延遲時間（ms）	0-990	22	
P119	電磁鐵過流保護選擇	0-1	0	0：不報警，關閉輸出 1：報警，並停機
P131	終止密縫速度	100-1200	1000	
P132	終止密縫針數	0-10	2	
P133	終止密縫開始動作角度	20-330	100	
P134	起縫第一針限速	0-3000	0	參數值為 0 時無效
P135	起縫第二針限速	0-3000	0	參數值為 0 時無效
P138	起縫限速功能開關	0-1	0	0：關閉 1：開啟

注：參數初始值僅供參考，實際參數值以實物為準。

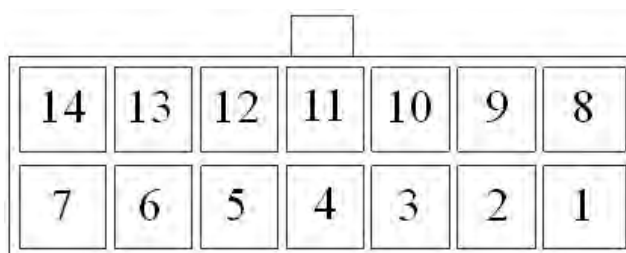
4 錯誤代碼表

錯誤碼	內容	對策
E01	電壓高	1、電網電壓是否高於 AC260V。 2、如果是自行發電供電，請降低發電機功率。 3、若仍不能正常工作，請更換控制箱並通知售後服務。
E02	電壓低	1、是否插入低電壓。 2、恢復出廠設置。 3、若仍不能正常工作，請更換控制箱並通知售後服務。
E03	主 CPU 與面板 CPU 通信異常	1、關閉系統電源，檢測顯示幕的連線是否鬆動或脫落，將其恢復正常後重啟系統。 2、關閉系統電源，拆下電控箱只插電源線通電，是否報警 E05，如還是報警 E03，更換控制箱並通知售後服務。
E05	控速器信號異常	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。
E07	主軸電機堵轉	1、關閉電源，檢查手輪是否可以順暢轉動（手轉手輪），如果無法轉動請排查機械。 2、關閉電源，檢查電機電源介面是否鬆動，插好後重啟。 3、檢查上停針位是否正確，如果不正確請調整上定位位置。 4、若仍不能正常工作，請更換控制箱或主軸電機並通知售後服務。
E10	電磁鐵過流保護	1、拔除電磁鐵介面，如報警 E10，更換控制箱並通知售後服務。 2、如果拔除電磁鐵介面後不再報警，請插回介面。 1) 前踏踏板讓縫紉機進行夾線和加固縫，如果報警，請關閉前加固和後加固，重啟電控，再進行前踏，如果報警，請關閉夾線功能重啟電控，再次前踏，如果不報警，請更換夾線器。 2) 前踏踏板讓縫紉機進行夾線和加固縫，如果報警，請關閉前加固和後加固，重啟電控，再進行前踏，如果不報警，請關閉夾線功能重啟電控，並打開前加固縫功能，再次前踏，如果報警，請更換倒縫電磁鐵。 3) 前踏踏板讓縫紉機進行夾線和加固縫，如果不報警，請半反踏進行抬壓腳，如果報警請更換壓腳電磁鐵。 4) 前踏踏板讓縫紉機進行夾線和加固縫，半反踏抬壓腳，如果不報警，請全反踏剪線，如果報警請更換剪線電磁鐵。
E09 E11	開機找定位時，主軸電機編碼器定位信號異常	1、關閉系統電源，檢查主軸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。 2、檢查電機零點校正設置是否正確。重新設置電機零點校正，編碼器碼盤是否有油，如果有請清理乾淨。 3、若仍不能正常工作，請更換控制箱或主軸電機並通知售後服務。
E14	主軸電機編碼器信號異常	1、關閉系統電源，檢查主軸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。 2、檢查光柵安裝是否正確（光柵螺絲有沒有固緊，光柵是不是在編碼器頭居中位置）。 3、檢查光柵碼盤是不是有油，如果有，請清理乾淨，復原後重啟系統。 4、若仍不能正常工作，請更換控制箱或主軸電機並通知售後服務。
E15	主軸電機驅動過流	1、請檢查電機電源線有沒有接觸不良。 2、請檢查電機電源線有沒有被壓破。 3、請更換控制箱或主軸電機並通知售後服務。
E17	機頭翻倒	1、關閉系統電源，檢查機頭是否翻倒。 2、檢查機頭保護開關檢測設置是否正確。 3、若仍不能正常工作，請更換控制箱或面板並通知售後服務
E20	主軸電機啟動失敗	1、關閉系統電源，檢查主軸電機電源線介面、編碼器介面是否鬆動或脫落，將其恢復

		正常後重啟系統。 2、檢查電機零點校正設置是否正確。重新設置電機零點校正。 3、若仍不能正常工作，請更換控制箱或主軸電機並通知售後服務。
E42	EEPROM 讀寫故障	1、恢復出廠設置。 2、若仍不能正常工作，請更換控制箱並通知售後服務。
E43	主晶片陷阱重定	1、恢復出廠設置。 2、若仍不能正常工作，請更換控制箱並通知售後服務。
E44	主晶片欠壓重定	1、恢復出廠設置。 2、若仍不能正常工作，請更換控制箱並通知售後服務。
E45	主晶片看門狗報警	1、恢復出廠設置。 2、若仍不能正常工作，請更換控制箱並通知售後服務。
OFF	電源關閉	1、檢查電源開關是否關閉。 2、重啟電源。 3、若仍不能正常工作，請更換控制箱並通知售後服務。

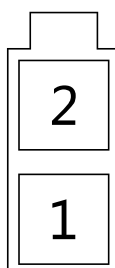
5 埠示意圖

14P 埠示意圖



1. 剪線電磁鐵：1、8（+32V）
2. 夾線（或撥線）電磁鐵：2、9（+32V）
3. 密縫電磁鐵：3、10（+32V）
4. LED 燈：4（DGND）、11（+5V）
5. 手動倒縫按鍵：5（信號）
6. 倒縫電磁鐵：6、13（+32V）
7. 手動補針按鍵：7（信號）

2P 埠示意圖



1. 抬壓腳電磁鐵：1、2（+32V）

 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. All power supplies must be turned off during the installation work, remember not to operate with power on.
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 the power cord, it must be determined that the operating voltage conforms to the rated voltage value specified in the product identification.
6. 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 90%.
8. 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 head.
 4. Repairing or doing any mechanical adjustment.
 5. Machines idling.
14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
15. All the spare parts for repair must be provided or approved by the manufacturer.
16. 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, 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

* 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 Button displays and operating instructions

Name	key	Indicate
Function parameter edit		Enter or exit the user parameter setting interface.
Setting parameter check and save		View and save the content of the selected parameter number: After selecting the parameter number, press this key to view and modify the operation. After modifying the parameter value, press this key to exit and save the parameter.
Parameter increment		Increase running speed or parameter.
Parameter decrement		Decrease running speed or parameter.
Left selection		If click, left selection parameter content.
Right selection		If click, right selection parameter content. If long-press, enter the P41 counter interface
Start back-tacking / Slow launch setting		If click, execution start back-tacking B segment, execution start back-tacking (A, B segment) 1 time or execution start back-tacking (A, B segment) 2 times. If long-press, set used or cancelled slow launch function.
End back-tacking / Needle stop position selection		If click, execution end back-tacking C segment, execution end back-tacking (C, D segment) 1 time or execution end back-tacking (C, D segment) 2 times. If long-press, shift the needle stop position after sewing (up position / down position).
Free sewing / Constant stitch sewing		If click, set to free sewing mode. If long-press, set to constant stitch sewing mode.
Consecutive reverse sewing / Multi-segment sewing		If click, set to consecutive reverse sewing mode. If long-press, set to multi-segment sewing mode.
Trimming setting / Clamp function setting		If click, set used or cancelled trimming function. If long-press, set used or cancelled clamp function.
Presser foot lifting setting / Auto function		If click, switch function off, automatic presser foot lifting after trimming, automatic presser foot lifting after pause and full function successively. If long-press, set used or cancelled auto function.
Reset		Long-press can restore factory setting.

2 Auxiliary Function

2.1 Motor electrical angle correction

Enter the parameter, adjust the parameter to P92 item, click the S key to enter the parameter item, click the needle stop

position selection key in the parameter interface, and then the motor will automatically run and calculate the motor electrical angle. After the motor stops, the parameter value will automatically change, click S key to save.

2.2 Quick setting of needle stop position

In the shutdown state, press and hold the S key to turn on, enter P72, manually turn the handwheel to the desired up position, the displayed value will change with the change of the handwheel position, press the S key to save the current position (value) as up position will automatically calculate down position at the same time.

3 User Parameter

No.	Items	Range	Default	Description
P01	Maximum sewing speed (rpm)	100-4000	3500	Maximum speed of machine sewing
P02	Set accelerated curve (%)	10-100	80	Set the acceleration slope The greater the slope value, the steeper the speed; the smaller the slope value, the slower the speed
P03	Needle UP/ DOWN	UP/DN	DN	UP: Needle stops at up position DN: Needle stops at down position
P04	Start back-tacking speed (rpm)	200-3200	1800	
P05	End back-tacking speed (rpm)	200-3200	1800	
P06	Bar-tacking speed (rpm)	200-3200	1800	
P07	Soft start speed (rpm)	200-1500	400	
P08	Stitch numbers for soft start	0-99	2	
P09	Automatic constant-stitch sewing speed (rpm)	200-4000	3700	Speed adjustment for automatic constant-stitch sewing
P10	Automatic end back-tacking sewing after constant-stitch sewing	ON/OFF	ON	ON: After executing the constant-stitch sewing, the back-tacking sewing will be executed automatically. In any sewing mode, mending stitch function cannot be used. OFF: After executing the last constant-stitch sewing, the back-tacking sewing function will not be automatically executed, and the front step or full back step must be performed again.
P11	Manual back-tacking mode selection	J/B	J	J: It will execute back-tacking during sewing or when it stops halfway B: It will execute back-tacking during sewing, and it will mend needle when it stops halfway
P12	Start back-tacking running mode selection	0-1	1	0: Controlled by foot pedal, can be stopped and started at will 1: Touch the foot pedal to automatically execute back-tacking action
P13	Ending mode of start back-tacking	CON/STP	CON	CON: Start back-tacking is completed automatically continued for next action. STP: After the number of stitches is completed, stop automatically.
P14	Slow start function selection	ON/OFF	OFF	
P15	Mending stitch mode	0-4	2	0: half stitch; 1: one stitch; 2: continuous half stitch; 3: continuous one stitch; 4: continuous one stitch, quick stop.
P16	Speed limit of manual back-tacking	0-3200	0	The function is disabled when the value is 0.

No.	Items	Range	Default	Description
P17	Auto count selection	0-50	1	0: P41 item counter not count automatically. 1-50: Counter thread trimming times
P18	Start back-tacking compensation 1	0-200	131	Stitch compensation for start 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	Start back-tacking compensation 2	0-200	165	Stitch compensation for start back-tacking A section, 0~200 action gradually delay; The large value, the longer of the B section last stitch.
P20	End back-tacking running mode selection	0-1	1	0: Controlled by foot pedal, can be stopped and started at will 1: Touch the foot pedal to automatically execute back-tacking action
P21	The position of the pedal for accelerating	30-1000	520	
P22	The position of the pedal for the stop	30-1000	420	
P23	The position of the pedal for presser foot lifting	30-1000	270	
P24	The position of the pedal for thread trimming	30-1000	130	
P25	End back-tacking compensation 3	0-200	131	Stitch compensation for end back-tacking C section, 0~200 action gradually delay; The large value, the shorter of the C section first stitch.
P26	End back-tacking compensation 4	0-200	165	Stitch compensation 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.
P27-N04	Language setting	0-2	1	0: OFF 1: Chinese 2: English
P27-N05	Voice broadcast selection	0-3	2	0: OFF 1: Start-up voice only 2: Key tone only 3: With start-up voice and key tone
P27-N08	Virtual and real speed function switch	0-1	0	For every increase of 100, the actual increase is 100*[P27-N09].
P27-N09	Virtual and real speed ratio (%)	1-100	100	
P27-N12	Boot display counter interface selection	0-1	0	0: OFF 1: ON
P27-N13	Counter mode selection	0-1	0	0: Incremental piecework mode 1: Diminishing piecework mode
P28	Bar-tacking running mode selection	0-1	1	0: Controlled by foot pedal, can be stopped and started at will 1: Touch the foot pedal to automatically execute back-tacking action
P29	The strength of thread trimming stop	1-45	28	
P32	Bar-tacking compensation 5	0-200	131	Stitch compensation for bar-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.

No.	Items	Range	Default	Description
P33	Bar-tacking compensation 6	0-200	165	Stitch compensation for bar-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	Constant-stitch sewing running mode selection	A/M	A	A: Touch the foot pedal to automatically execute constant-stitch sewing action M: Controlled by foot pedal, can be stopped and started at will
P35	Thread tension releasing function setting when presser foot lifting action	0-2	0	0: OFF 1: Thread tension releasing output function ON when presser foot lifting, thread tension releasing output function OFF when stopover 2: Full function
P36	Thread tension releasing function selection	0-11	3	0: OFF 1-11: The strength of thread tension releasing gradually increases
P37	Thread wiping function / Thread clamping function selection	0-11	8	0 : OFF 1: Thread wiping function. 2-11: Thread clamping Function, the larger the value, the stronger the strength of automatic thread clamping.
P38	Automatic thread trimming function selection	ON/OFF	ON	
P39	Automatic presser foot lifting when pause function selection	UP/DN	DN	
P40	Automatic presser foot lifting after trimming function selection	UP/DN	DN	
P41	Thread trimming counter display	0-9999		Display the quantity of finished sewing piece. Long-press “-” key to clear the count
P42-N01	The control system version number			
P42-N02	The panel version number			
P42-N03	Speed			
P42-N04	The pedal AD			
P42-N05	The mechanical angle(up position)			
P42-N06	The mechanical angle(down position)			
P42-N07	Bus bar voltage AD			
P43	Motor rotation direction setting	CCW/CW	CCW	CW: clockwise CCW: counter clock wise
P44	Brake strength during stopover	1-45	16	
P45	Back-tacking operation duty cycle (%)	1-50	30	Back-tacking operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P46	Motor stop with a reverse angle after trimming function	ON/OFF	OFF	
P47	Adjust the reverse angle when motor stop after trimming	50-200	160	Start from the upper needle position and adjust the angle of the needle lift in reverse operation after trimming.
P48	The minimum speed (positioning	100-500	210	Minimum speed limit adjustment

No.	Items	Range	Default	Description
	speed) (rpm)			
P49	Thread trimming speed (rpm)	100-500	250	Motor speed when adjusting thread trimming cycle
P50	Presser foot operation time to full output (ms)	10-990	150	
P51	Presser foot operation duty cycle (%)	1-50	30	Presser foot lifter operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P52	Delay the start of the motor to protect the lowering time of presser foot (ms)	10-990	120	Delay the start time, with automatic presser foot down.
P53	Half back pedaling lifting presser foot function to cancel	ON/OFF	OFF	ON: Half back pedaling with lifting presser foot OFF: Half back pedaling without lifting presser foot
P54	Thread trimming action time (ms)	10-990	200	
P55	Thread wiping action time (ms)	10-990	30	
P56	Power on and positioning	0-2	0	0: Always not to find the up needle position 1: Always to find the up needle position 2: If the motor is already in the up needle position, no longer find the up needle position
P57	Presser foot solenoid protection time (s)	1-60	10	Forced shutdown after hold time to prevent the electromagnet from being hot for a long time
P58	Up needle position adjustment	0-2399	1870	Up position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P59	Down needle position adjustment	0-2399	670	Down position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P60	Testing speed (rpm)	100-4000	3500	Setting testing speed.
P61	Testing A	ON/OFF	OFF	Continuous running testing.
P62	Testing B	ON/OFF	OFF	Start and stop testing with all functions.
P63	Testing C	ON/OFF	OFF	Start and stop testing without all function.
P64	Test run time	1-250	30	
P65	Test stop time	1-250	10	
P66	Machine protection switch selection	0-1	1	0: Disable 1: Testing zero signal
P70	Type		12	
P71	Presser foot release operation duty cycle (%)	0-50	1	The buffer force of presser foot release operation.
P72	Up needle position adjustment	0-2399		Adjust up needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current position (value) as up needle position.
P73	Down needle position adjustment	0-2399		Adjust down needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current position (value) as down needle position.

No.	Items	Range	Default	Description
P76	Back-tacking operation time to full output (ms)	10-990	250	Back tacking start action, full output action times.
P77	Opportunity point of back-tacking for end back-tacking in high speed in free sewing mode	20-350	160	
P78	The start angle of thread clamping	5-359	100	
P79	The stop angle of thread clamping	5-359	270	
P80	Trimming engage angle	5-359	18	Trimming engage angle setting (down position defined as 0°)
P83	Stopping strength after trimming	10-100	20	
P84	Trimming full output time (ms)	10-990	60	
P85	Periodic signal of trimming output (*10%)	1-10	6	
P86	Up and down needle position distance	10-2300	1200	
P87	Wiping thread return delay time	10-990	50	
P89	AC overvoltage setting	500-1023	920	
P92	Correct the electrical angle of motor		160	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	The delay time of the half back pedaling function (ms)	10-900	200	
P101	The start angle of thread tension releasing	1-359	30	Thread tension releasing start angle (defined as 0° under calculation)
P102	The stop angle of thread tension releasing	1-359	180	Thread tension releasing end angle (defined as 0° under calculation, must be greater than P101 parameter value)
P109	The delay time before thread wiping	0-990	5	
P110	Trimming back time (ms)	60-990	60	
P113	Presser foot operation duty cycle to full output (%)	0-100	90	
P117	Press foot release buffer delay time (ms)	0-990	22	
P119	Electromagnet overcurrent protection selection	0-1	0	0: No alarm, turn off the output 1: Alarm and shutdown;
P131	Ending tight seam speed	100-1200	1000	
P132	Ending tight seam stitch number	0-10	2	
P133	Start action angle of ending tight seam	20-330	100	
P134	First stitch speed limit of start sewing	0-3000	0	It is invalid when the parameter value is 0.

No.	Items	Range	Default	Description
P135	Second stitch speed limit of start sewing	0-3000	0	It is invalid when the parameter value is 0.
P138	Speed limit of start sewing function switch	0-1	0	0 : OFF 1: ON

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

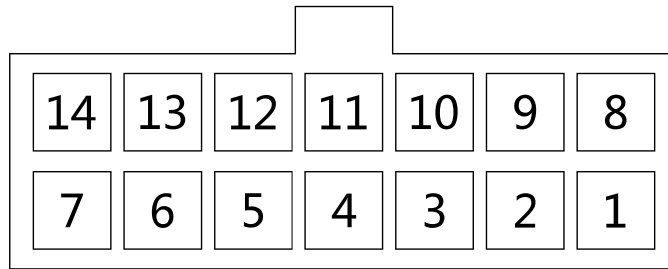
Error Code	Problem description	Solutions
E01	High voltage	- Whether the grid voltage is higher than AC260V. - If it is self-generated power supply, please reduce the generator power. - If it still does not work normally, please replace the control box and notify the after-sales service.
E02	Low voltage	- Whether to connect to low voltage. - Reset. - If it still does not work normally, please replace the control box and notify the after-sales service.
E03	Abnormal communication between main CPU and panel CPU	- Turn off the system power and check whether the connection of the display screen is loose or disconnected, restart the system after returning it to normal. - Turn off the system power, remove the control box and only plug in the power cord to power on, whether alarm E05, if it still alarms E03, replace the control box and notify the after-sales service.
E05	Pedal signal abnormal	Turn off the system power, check whether the speed controller connector is loose or fall off, restore it to normal and restart the system.
E07	Main shaft motor locked-rotor	- Turn off the power and check whether the handwheel can be turned smoothly (turn the handwheel by hand), if it cannot be turned, please check the machine; - Turn off the power, check whether the motor power connector is loose, plug it in and restart it. - Check whether the upper needle stop position is correct, if not, please adjust the upper positioning position. - If it still does not work normally, please replace the control box or spindle motor and notify the after-sales service.
E10	Electromagnet overcurrent protection	- Unplug the solenoid connector, if alarm E10, replace the control box and notify the after-sales service. - If there is no alarm after removing the solenoid connector, please plug it back in - Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If alarms, please turn off start back-tacking and end back-tacking, restart the control box, and then step forward. If alarms, please turn off the thread clamping function and restart the electronic control, and step forward again. If there is no alarm, replace the clasper. - Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If it alarms, please turn off start back-tacking and end back-tacking, restart the control box, and then step forward. If there is no alarm, please turn off the thread clamping function and restart the control box, and open start

		back-tacking function, step forward again, if it alarms, please replace the back-tacking solenoid. 3) Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If there is no alarm, please step back halfway to raise the presser foot. If it alarms, please replace the presser foot solenoid. 4) Step on the front pedal to let the sewing machine perform thread clamping, back-tacking and half anti-side trample. If there is no alarm, please back step pedal to trim. If it alarms, please replace the thread trimming solenoid.
E09 E11	When power on and positioning, the positioning signal of main shaft motor encoder is abnormal	1. Turn off the system power, check whether main shaft motor encoder connector is loose or fall off, restore it to normal and restart the system. 2. Check whether the motor zero point correction setting is correct; Reset the motor zero point correction; Whether there is oil on the encoder code plate, please clean it if there is any. 3. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service.
E14	Main shaft motor encoder signal is abnormal	1. Turn off the system power, check whether the main shaft motor encoder connector is loose or fall off, restore it to normal and restart the system. 2. Check whether the grating is installed correctly (whether the grating screws are tightened and whether the grating is in the center of the encoder). 3. Check whether there is oil on the encoder code plate, if there is, please clean it up, and restart the system after recovery. 4. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service.
E15	Main shaft motor drive overcurrent	1. Please check whether the motor power cord has bad contact; 2. Please check whether the motor power cord is crushed. 3. Please replace the control box or main shaft motor and notify the after-sales service.
E17	Machine overturned	1. Turn off the system power and check if the machine is overturned. 2. Check whether the machine protection switch detection setting is correct. 3. If it still does not work normally, please replace the control box or panel and notify the after-sales service.
E20	Main shaft motor failed to start	1. Turn off the system power, check whether main shaft motor power cord connector and encoder connector are loose or fall off, restore them to normal and restart the system. 2. Check whether the motor zero point correction setting is correct, reset the motor zero point correction. 3. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service.
E42	EEPROM read and write failure	1. Restore factory settings. 2. If it still does not work normally, please replace the control box and notify the after-sales service.
E43	Main chip trap reset	1. Restore factory settings. 2. If it still does not work normally, please replace the control box and notify the after-sales service.
E44	Main chip undervoltage reset	1. Restore factory settings. 2. If it still does not work normally, please replace the control box and notify the after-sales service.

E45	Main chip watchdog alarm	1. Restore factory settings. 2. If it still does not work normally, please replace the control box and notify the after-sales service.
OFF	Power off	1. Check whether the power switch is off. 2. Restart the power supply. 3. If it still does not work normally, please replace the control box and notify the after-sales service.

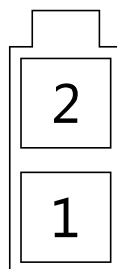
5 Port diagram

14P function port description

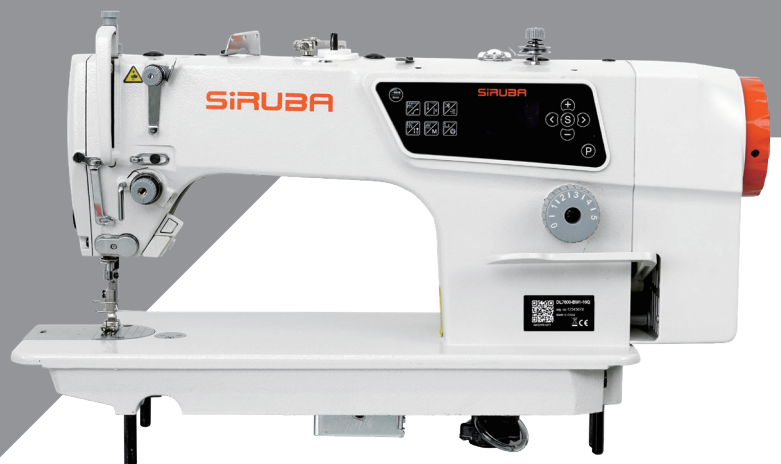


1. Thread trimming electromagnet: 1, 8 (+32V)
2. Thread wiping/ thread clamping electromagnet: 2, 9 (+32V)
3. Thread tension releasing electromagnet: 3, 10 (+32V)
4. LED Light: 4 (DGND), 11 (+5V)
5. Manual back-tacking key: 5 (signal)
6. Back-tacking electromagnet: 6, 13 (+32V)
7. Mending stitch key: 7 (signal)

2P function port description



1. Presser foot electromagnet: 1, 2 (+32V)



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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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