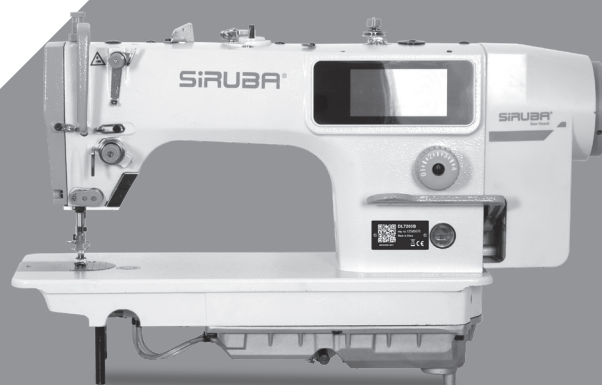


SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

DL7200B



⚠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

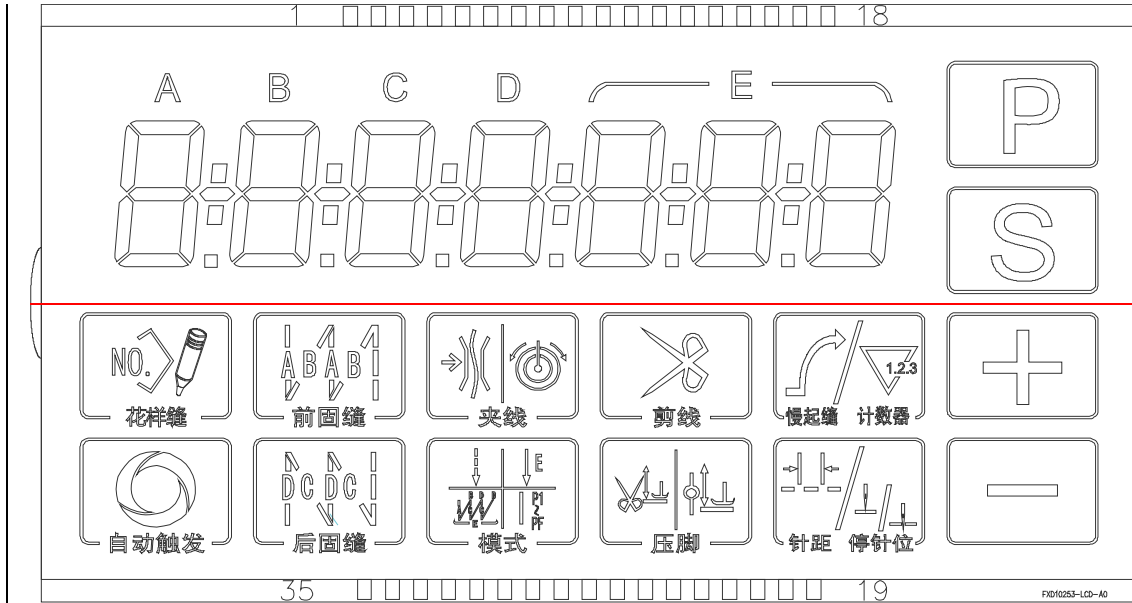
本產品在正常情況使用且無人為操作失誤的前提下，於保修期間無償為客戶維修使能正常操作。

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



1.1 按鍵說明

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		增大參數。
參數遞減鍵		減小參數。
起始回縫鍵		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，增加螢幕背光亮度。
終止回縫鍵		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，降低螢幕背光亮度。
模式切換鍵		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。
自動觸發鍵		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。
抬壓腳鍵		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。
夾線鍵		若點擊，設定使用或取消夾線功能。

切線鍵		若點擊，設定使用或取消切線功能。
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）。
補針鍵		若點擊，可進行補針動作。

2. 協助工具

2.1 恢復出廠設置

在主介面下，長按自動觸發鍵可恢復出廠設置。

2.2 停針位快捷設置

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。

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)	100-3700	3700	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	前段回縫（起始回縫）時的速度設定
P05	終止回縫速度 (rpm)	200-3200	1800	後段回縫（終止回縫）時的速度設定
P06	連續回縫速度 (rpm)	200-3200	1800	連續回縫時的速度設定
P07	慢速起縫速度 (rpm)	200-1500	400	慢速起縫時的速度設定
P08	慢速起縫針數	0-99	2	慢速起縫時的針數設定
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：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）
P12	起始回縫運動模式選擇	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； 2：停頓，裝飾縫模式
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	ON	
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	數值為 0 時功能關閉
P17	自動計件選擇	0-50	0	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	158	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	0-3	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; 2: 停頓, 裝飾縫模式
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	30-500	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	158	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
P27	協助工具設置			N01 鎖屏時間 (s) N10 背光亮度設置 N11 背光熄滅時間設置 (s) N12 開機顯示計數器介面選擇 (0: 關閉 1: 開啟) N13 計數器模式選擇 (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	0-3	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; 2: 停頓, 裝飾縫模式
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	158	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
P36	鬆線功能設定	0-11	5	0: 關閉 1~11: 鬆線力度逐步變大
P37	自動撥線/夾線功能設定	0-11	1	0: 關閉 1: 撥線功能 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	ON: 打開 OFF: 關閉
P39	中途停車自動抬壓腳設定	UP/DN	DN	UP: 開啟 DN: 關閉
P40	切線自動抬壓腳設定	UP/DN	DN	UP: 開啟 DN: 關閉
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	資訊顯示			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
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	12	

P45	回縫出力的週期信號(%)	1-50	25	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	ON：開啟 OFF：關閉
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	300	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	25	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	切線時序所需的動作時間
P55	撥線動作時間	10-990	30	撥線時序的動作時間
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）	1-120	5	抬壓腳保持時間後強制關閉
P58	上定位調整	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
P59	下定位調整	0-1439	750	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）	100-3500	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	0-2	1	0：不檢測 1：檢測零信號 2：檢測正信號
P71	壓腳釋放緩衝占空比(%)	0-50	5	壓腳下放時的力度調整
P72	上定位快捷調整	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
P73	下定位快捷調整	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
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
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）
P82	剪線退刀角度	5-359	175	剪線退刀角度設置（下定位為 0°計算，需大於 P81 項參數值）
P87	撥線回程延遲時間	10-990	50	

P92	電機電角度校正		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)
P93	半反踏功能延遲時間	10-900	200	
P99	終止回縫補償 C1	0-250	120	剪線後防脫線頭模式下，終止回縫結束為 C 段時回 縫一針的補償
P100	終止回縫補償 D1	0-250	175	剪線後防脫線頭模式下，終止回縫結束為 D 段時回 縫一針的補償
P101	鬆線開始角度	1-359	30	鬆線開始角度(下定位為 0°計算)
P102	鬆線結束角度	1-359	180	鬆線結束角度(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	200	
P110	剪線回程時間 (ms)	60-990	200	
P117	壓腳釋放緩衝延遲時間 (ms)	0-990	12	
P119	電磁鐵過流保護選擇	0-1	0	0：不檢測 1：檢測
P120	油位元報警開關檢測	0-1	0	0：不檢測 1：檢測
P121	剪線模式選擇	0-3	0	0：普通模式 1：短線頭模式 2：剪線後防脫線頭模式 3：短線頭和防脫線頭模式
P122	剪線後防脫線頭模式，剪 線前倒縫動作的時機	0-1439	1000	參數值越大剪線前一針的針距越大
P123	剪短線頭模式，剪線過程 中倒縫動作的時機	0-100	25	
P124	膝靠抬壓腳釋放緩衝占 空比 1	0-50	10	當膝靠位置感應器檢測到 AD 值處於 P125 項所設的 AD 值 1 與 P126 項所設的 AD 值 2 之間時輸出阻力。 數值越大阻力越大。
P139	起縫時鬆線功能開關	0-1	0	0：關閉；1：開啟
P140	鬆線模式設置	0-2	0	0：剪線鬆線模式； 1：起縫鬆線模式； 2：防鳥巢鬆線模式
P141	起縫時鬆線開始角度	1-359	1	起縫時鬆線開始角度(相對於上針位角度)
P142	起縫時鬆線結束角度	1-359	270	起縫時鬆線結束角度(相對於上針位角度，需大於 P141 項參數值)
P146	防鳥巢模式鬆線延遲時 間	0-990	150	
P147	防鳥巢模式鬆線持續時 間	0-990	120	
P148	防鳥巢模式鬆線返程時 間	0-990	30	
P151	鉤線功能開關	0-1	1	0：關閉；1：開啟
P152	鉤線延遲時間	0-990	10	
P153	鉤線持續時間	0-990	150	
P154	鉤線返程時間	0-990	30	

P155	鉤線出力的週期信號(%)	0-100	90	
P156	起縫時壓腳出力的週期信號(%)	0-100	0	參數值為 0 時功能關閉
P157	起縫時壓腳開始出力角度	1-359	1	起縫時壓腳開始出力角度（相對於上針位角度）
P158	起縫時壓腳結束出力角度	1-359	300	起縫時壓腳結束出力角度（相對於上針位角度，需大於 P157 項參數值）
P159	吸風開關	0-1	1	0：關閉；1：開啟
P160	吸風時間（ms）	5-5000	500	

注：參數初始值僅供參考，實際參數值以實物為準。

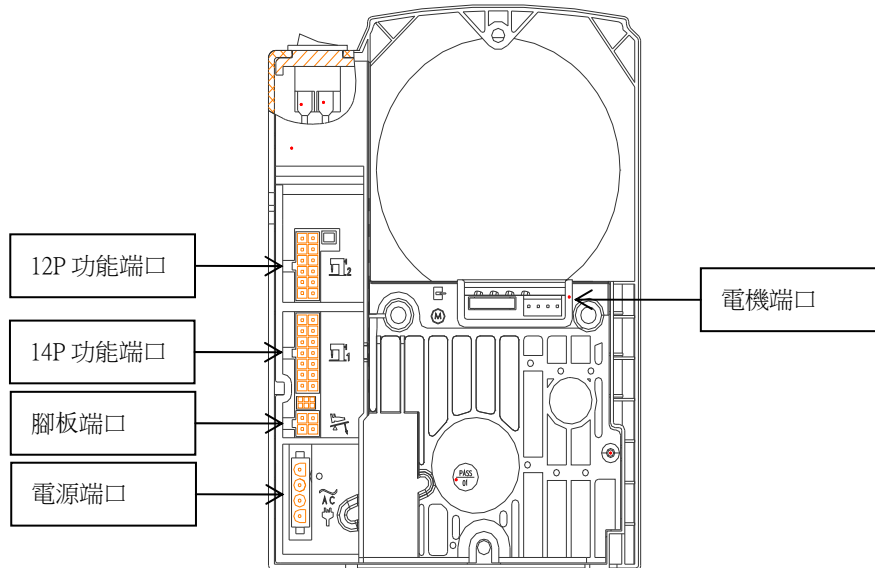
4. 錯誤代碼表

錯誤碼	問題描述	解決措施
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 通信異常	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。
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。
E08	手動倒縫動作時間超過 15 秒	倒縫電磁鐵吸合時間過長，重啟產品即可。 若重啟產品後還是報 E-08，請檢查手動倒縫開關是否損壞。
E10	電磁鐵過流保護	關閉系統電源，檢查電磁鐵（電磁閥）是否損壞或短路。
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元或損壞。
E20	電機啟動失敗（電角度錯誤）	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

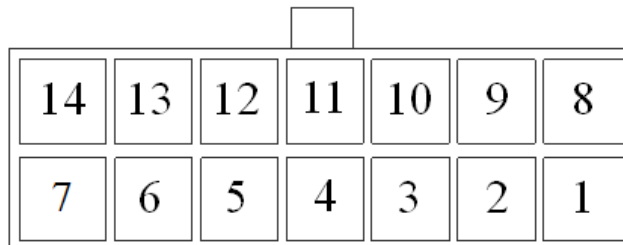
		常工作，請更換控制箱並通知售後服務。
oil	油量過低	關閉電源，檢查縫紉機油量是否過低，將油量加滿後重啟系統。若仍不能正常工作，請更換油位感應器並通知售後服務。

5. 埠示意圖

5.1 埠示意圖

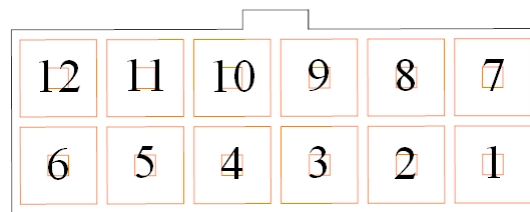


5.2 14P 功能埠對應表





1. 剪線電磁鐵：1、8 (+32V)
2. 夾線（掃線）電磁鐵：2、9 (+32V)
3. 鬆線電磁鐵：3、10 (+32V)
4. LED 燈：4 (DGND)、11 (+5V)
5. 倒縫按鍵：5 (信號)
6. 倒縫電磁鐵：6、13 (+32V)
7. 補針按鍵：7 (信號)
8. 風扇：12 (DGND)、14 (+32V)

5.3 12P 功能埠對應表



1. 吸風**鉤線**：1、7 (+32V)
2. 鉤線**吸風**：2、8 (+32V)
3. 油位感應：9 (+5V)、10 (DGND)、4 (信號)
4. 膝靠**壓腳**位置感應：3 (+5V)、11 (DGND)、5 (信號)
5. 壓腳**電磁鐵**：6、12 (+32V)

 Safety Instruction

1. Users are required to read the operation manual completely and carefully before installation or operation.
2. All the instruction marked with sign  must be observed or executed; otherwise, bodily injuries might occur.
3. The product should be installed and pre-operated by well-trained persons.
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 matches the rated voltage indicated on the motor's name plate.
6. Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 5°C.
7. Please avoid operating near the heater at dew area or at the humidity below 30% or above 95%.
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:
 - 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. 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.

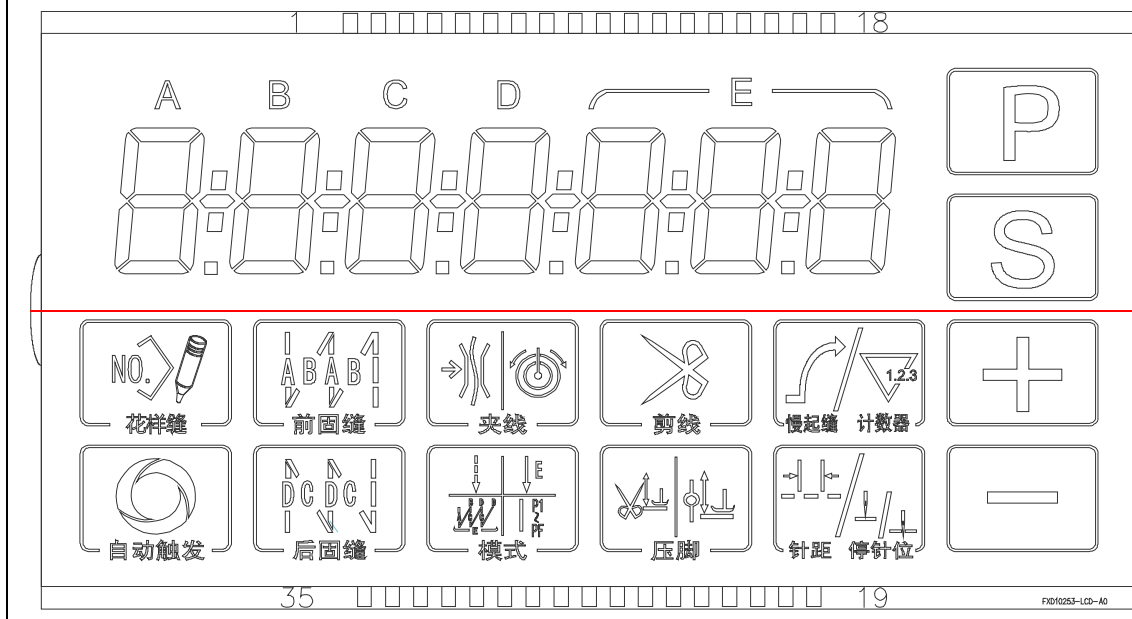
Warranty Detail:

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, 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

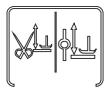












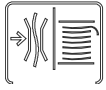

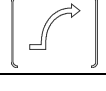
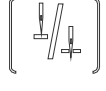
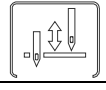
Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefore the grounding system of operate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

1 Button Displays and Operating Instructions



1.1 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.
Parameter Increase		Parameter increase
Parameter Decrease		Parameter decrease
Start Back-Tacking Selection		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.
End Back-Tacking Selection		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.
Mode Shift Key		If click, shift to free sewing, constant stitch sewing, continuous back seam shortcuts and multi-section set needle shortcuts.
Auto Function		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.

Automatic Presser Foot Lifting Setting		<ol style="list-style-type: none"> 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.
Clamp Function Setting		Set used or cancelled clamp function.
Thread Trimming		If click, set used or cancelled thread trimming function.
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)
Fill Up Needle		If click, set used or cancel fill up needle function.

1.2 Auxiliary function

1.2.1 Restore Factory Setting

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

1.2.2 Needle Stop Position Function Setting

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 Lock Screen Function

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 User Parameter

No.	Items	Range	Default	Description
P01	Maximum sewing speed (rpm)	100-3700	3700	Maximum speed of machine sewing
P02	Set accelerated curve (%)	10-100	80	Set the acceleration slope
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	Set Start Back-Tacking Speed
P05	End back-tacking speed (rpm)	200-3200	1800	Set End Back-Tacking Speed
P06	Bar-tacking speed (rpm)	200-3200	2000	Set Repeat Bar-Tacking Speed
P07	Soft start speed (rpm)	200-1500	400	Set Soft Start Speed

No.	Items	Range	Default	Description
P08	Stitch numbers for soft start	0-99	2	Soft Start Stitches Setting
P09	Automatic constant-stitch sewing speed (rpm)	200-4000	3700	Speed adjustment for automatic constant-stitch sewing
P10	Automatic end back-tacking sewing	ON/OFF	ON	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	Back-tacking mode Selection	J/B	J	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	Start back-tacking running mode selection	0-3	1	0: Could be arbitrarily stop and start 1: Automatically perform actions 2: Pause mode
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	ON	
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	Back-Tacking speed limit	0-3200	0	When the parameter is 0, the speed limit function is OFF.
P17	Auto count selection	0-50	0	0: P41 item counter not count automatically. 1-50: P41 item counter increment count automatically.
P18	Start back-tacking compensation 1	0-200	131	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	Start back-tacking compensation 2	0-200	158	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	End back-tacking running mode selection	1-3	1	1: Automatically perform actions 2: Pause mode
P21	The position of the pedal for running	30-1000	520	
P22	The position of the pedal for the stop	30-1000	420	
P23	The position of the pedal for lifting presser foot	30-1000	270	
P24	The position of the pedal for thread trimming	30-500	130	

No.	Items	Range	Default	Description
P25	End back-tacking compensation 3	0-200	131	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	End back-tacking compensation 4	0-200	158	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.
P27-N01	Lock screen clock	0-300	0	When the parameter value is 0, the lock screen function is invalid.
P27-N10	Backlight brightness settings	0-3	2	
P27-N11	Backlight extinguishing time setting	0-200	30	When the parameter value is 0, the backlight brightness remains the same.
P27-N12	Start machine display counter interface selection	0-1	0	0: OFF 1: ON
P27-N13	Counter mode selection	0-1	0	0: Addend sewing counter 1: Subtrahend sewing counter
P28	Bar-Tacking running mode selection	0-3	1	0: Could be arbitrarily stop and start 1: Automatically perform actions
P32	Bar-Tacking compensation 5	0-200	131	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	Bar-Tacking compensation 6	0-200	158	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	Constant-Stitch Sewing running mode selection	A/M	A	A: Automatically perform actions M: Could be arbitrarily stop and start
P36	Thread slacking function selection	0-11	5	0: OFF 1-11: The strength of thread slacking
P37	Automatic thread wiping function / Automatic thread clamping function selection	0-11	1	0 : OFF 1: Automatic thread wiping Function 2-11: Automatic thread clamping Function and the strength of automatic thread clamping.
P38	Automatic thread trimming function selection	ON/OFF	ON	ON: ON OFF: OFF
P39	Automatic presser foot lifting when pause function selection	UP/DN	DN	UP: ON DN: OFF
P40	Automatic presser foot lifting after trimming function selection	UP/DN	DN	UP: ON DN: OFF
P41	Counter display	0-9999		Display the quantity of finished sewing piece.
P42	Information Display			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	Direction of Motor Rotation	CCW/CW	CCW	CW: Clockwise CCW: Counter Clockwise

No.	Items	Range	Default	Description
P44	The rate of normal stop	1-45	12	
P45	Back-tacking operation duty cycle (%)	1-50	25	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	ON: ON OFF: OFF
P47	Adjust the reverse angle when motor stop after trimming	50-200	160	Adjusting at reverse direction after trimming.
P48	The minimum speed Limit (rpm)	100-500	210	Adjust the minimum speed
P49	Thread trimming speed (rpm)	100-500	300	Adjust thread trimming speed
P50	Toot lifter operation time to full output (ms)	10-990	150	
P51	Presser foot lifter operation duty cycle (%)	1-50	25	Presser foot lifter operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P52	Motor starting delay time (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: Function to cancel OFF: Half back pedaling lifting presser foot
P54	Thread trimming action time (ms)	10-990	200	Completion of the thread trimming action required time.
P55	Thread wiping action time (ms)	10-990	30	Completion of the thread wiping action required time.
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 not into the up needle position, it will find the up needle position
P57	Hold time of presser foot lifter (s)	1-120	5	Forced shut-down after hold time.
P58	Up needle position adjustment	0-1439	40	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	0-1439	750	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)	100-3500	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	Running Time of Testing B and C	1-250	30	
P65	Stop Time of Testing B and C	1-250	10	
P66	Machine protection switch selection	0-2	1	0: Disable 1: Testing zero signal 2: Testing positive signal

No.	Items	Range	Default	Description
P71	Presser foot release operation duty cycle (%)	0-50	5	The buffer force of presser foot release operation.
P72	Up needle position adjustment	0-1439		Hand rotation manual to the appropriate position, press S key to save.
P73	Down needle position adjustment	0-1439		Hand rotation manual to the appropriate position, press S key to save.
P76	Back-tacking operation time to full output (ms)	10-990	250	Back tacking start action, full output action times.
P78	The start angle of thread clamping	5-359	100	
P79	The stop angle of thread clamping	5-359	270	
P80	The start angle of thread trimming	5-359	18	Shear line infeed id angle setting(under defined as 0°)
P82	The stop angle of thread trimming	5-359	175	Feeder back angle of thread trimming setting Down position as 0°, the value need greater than the P80 parameter item)
P87	Wiping thread return delay time	10-990	50	Make sure the wiper returns to its original position
P92	Correct the electrical angle of motor		160	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	The delay time of the half back pedaling function	10-900	200	
P99	End Back-Tacking compensation C1	0-250	120	Prevent taking off the thread after thread trimming mode, compensation for C part of End Back-Tacking.
P100	End Back-Tacking compensation D1	0-250	175	Prevent taking off the thread after thread trimming mode, compensation for D part of End Back-Tacking.
P101	The start angle of thread slacking	1-359	30	Song line start angle (defined as 0°under calculation)
P102	The stop angle of thread slacking	1-359	180	Loose wire end angle (defined as 0°under calculation)
P110	Trimming back time (ms)	60-990	200	Make sure the trimming device returns to its original position
P117	The delay time of the presser foot release damping force (ms)	0-990	12	
P119	Electromagnet overcurrent protection selection	0-1	0	0: OFF 1: ON

No.	Items	Range	Default	Description
P120	The oil level alarm switch selection	0-1	0	0: OFF 1: ON
P121	Thread trimming mode selection	0-3	0	0: Normal mode 1: Small thread end mode 2: Prevent taking off the thread after thread trimming mode 3: Small thread end mode and prevent taking off the thread after thread trimming mode
P122	Prevent taking off the thread after thread trimming mode, timing of back-tacking operation before thread trimming	0-1439	1000	The greater the value, the greater the one stitch before thread trimming.
P123	Small thread end mode, timing of back-tacking operation when thread trimming	0-100	25	
P124	Press Foot of knee lifting release buffer duty cycle	0-50	10	
P139	The function of thread tension releasing while starting tack	0-1	0	0: OFF 1: ON
P140	Thread tension releasing mode	0-2	0	0: Thread trimming 1: Start tack 2: clamp function without any thrum
P141	The start angle of thread tension releasing while starting tack	1-359	1	Start angle
P142	The end angle of thread tension releasing while starting tack	1-359	270	End angle
P146	The delay time of thread tension releasing in the mode of clamp function without any thrum	0-990	150	Delay time
P147	The continuous time of thread tension releasing in the mode of clamp function without any thrum	0-990	120	Continuous time

No.	Items	Range	Default	Description
P148	The back time of thread tension releasing in the mode of clamp function without any thrum	0-990	30	Back time
P151	Hook thread function	0-1	1	0: OFF 1: ON
P152	The delay time of hook thread	0-990	10	Delay time
P153	The continuous time of hook thread	0-990	150	Continuous time
P154	The back time of hook thread	0-990	30	Back time
P155	Hooking thread operation duty cycle (%)	0-100	90	Hook thread in duty cycle to save electricity and protect the electromagnet from over-heat
P156	Presser foot lifter operation duty cycle (%)	0-100	0	Presser foot lifter operation in duty cycle to save electricity and protect the electromagnet from over-heat
P157	The initial output angle of presser foot while starting tack	1-359	1	Initial output angle
P158	The end output angle of presser foot while starting tack	1-359	300	End output angle
P159	Suction function	0-1	1	0: OFF 1: ON
P160	Suction time (ms)	5-5000	500	

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

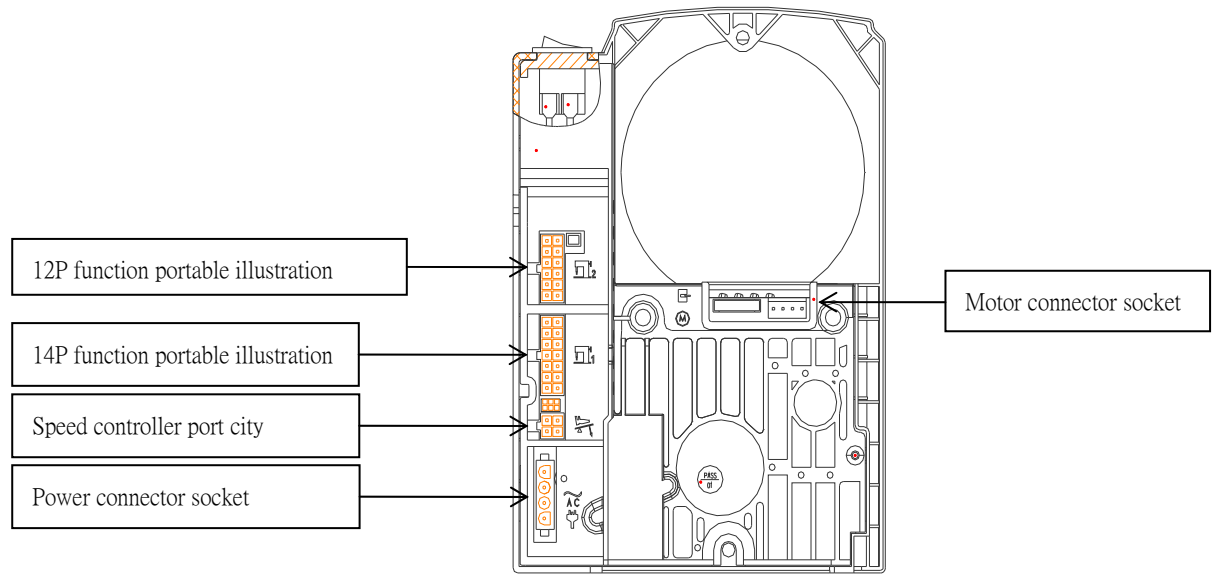
3 Error Code List

Error Code	Problem description	Measure
E01	Over-voltage	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	Low-voltage	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 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.

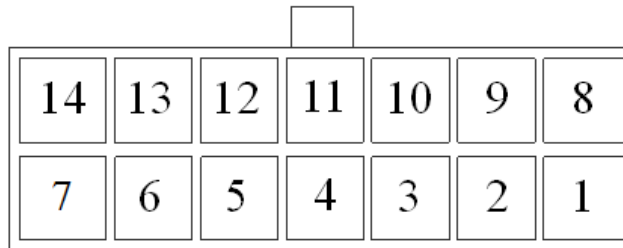
E05	Pedal connection error	Turn off the machine, please check if the pedal in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E07	Motor locked-rotor error	Turn the machine handwheel, check if it is stuck. 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.
E08	Manual reverse feeding operation more than 15 seconds	Back-Tacking electromagnet response time is too long, you have only to restart the machine. If there are still errors E-08 after restart the machine, check if the manual reverse feeding switch is damaged.
E10	Solenoid over-current	Turn off the machine, please check the related circuit is shorted or damaged.
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 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.
E15	Power supply module abnormal over-current	Turn off the machine, then turn on again. If there are still errors, please replace the control box and call for customer service.
E17	Machine protection switch is not in the correct position	Turn off the machine, check if the machine is turn over, or the Mercury Switch is shifted or damaged.
E20	Motor failed to start (Electrical angle error)	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.
oil	Low oil	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.

4 Port Diagram

4.1 Port Description

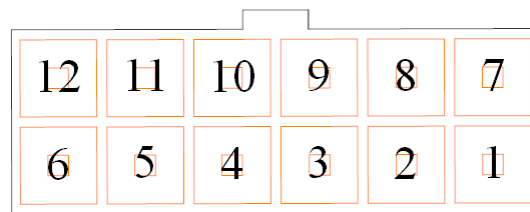


4.2 14P function port description

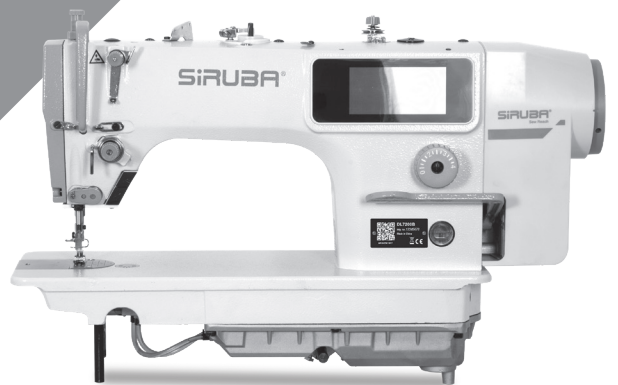


1. Thread trimming electromagnet: 1、8 (+32V)
2. Thread wiping/ thread clamping electromagnet: 2、9 (+32V)
3. Thread slacking electromagnet: 3、10 (+32V)
4. LED Light: 4 (DGND) 、11 (+5V)
5. Reverse stitch key: 5 (signal)
6. Back-tacking electromagnet: 6、13 (+32V)
7. Mending stitch key: 7 (signal)
8. Fan: 12 (DGND) 、14 (+32V)

4.3 12P function port description



1. Suction air ~~Hook thread~~ : 1, 7 (+32V)
2. Hook thread ~~Suction air~~ : 2, 8 (+32V)
3. Oil level sensor : 9 (+5V) , 10 (DGND) , 4 (signal)
4. Knee lifter ~~Presser foot~~ : 3 (+5V) , 11 (DGND) , 5 (signal)
5. Presser foot electromagnet : 6, 12 (+32V)



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are subject to change because of modification with out previous notice
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