

SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

DL720G-BM1-1F
DL720G-BH1-1F



一、安全上的注意事項

使用前請詳細閱讀本技術資料與所搭配的縫製機械說明書，配合正確使用。

(1)電源電壓與工作頻率：請遵照馬達與控制箱銘牌所標之規格。

(2)電磁波干擾：請遠離高頻磁波機器或電波發射器等，以免所產生的電磁波干擾本驅動裝置因而發生錯誤動作。

(3)接地：為防止雜訊干擾或漏電事故，請做好接地工程（包括縫紉機、馬達、控制箱）。

拆卸馬達或控制箱時，勿帶電拔插；控制箱裡面有危險高壓電，所以關閉電源後要等 1 分鐘以上方可打開控制箱蓋。

為保證人身安全，請在維修機械或進行穿針作業時關閉電源。



這個標誌符號表示機器安裝時，如有錯誤恐會傷害到人體或機器會受到損壞。所以機器方面有危險性的地方會有此標誌。



這個標誌符號表示有高壓電等，電氣方面有危險性的地方會有此標誌。

本裝置保證在正常工作情況且無人為失誤的操作下，保修期為一年。

二、操作說明

恢復出廠設置

在關機狀態下，同時按住▲▼鍵開機，再按 S 鍵確認即可恢復。

監控模式

長按 S 鍵進入到監控狀態，按▲▼鍵進行變更監控序號，按 S 鍵查看。

出廠調試模式

長按剪線鍵進入調試模式，按▲▼鍵選擇調試項目，按 S 鍵進入對應模式。

1- dJ電機測試模式，按剪線鍵開始測試，完成後顯示測試結果。

2- bJ手輪位置校準，轉手輪到上停針定位位置，運行後再次確認位置。

老化模式

同時按住 P 鍵和 S 鍵開機，可直接進入老化 P26 參數，選擇開始老化。

二級參數模式

按 P 鍵開機，直接進入二級參數模式，可查看 P21-P40 參數。長按 P 鍵，輸入密碼 111，

也可進入二級參數模式。

三級參數模式

長按 P 鍵，輸入密碼 824，進入三級參數模式，可查看 P41-P60 參數。

三、監控模式

顯示序號	項目名稱	單位
JJ	計件	件
SPd	速度	RPM
CUr	電流	0.1A
UdC	電壓	V
PdL	踏板	/

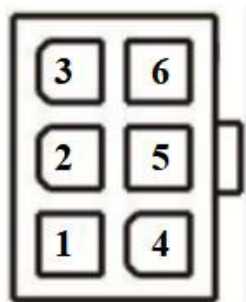
顯示序號	項目名稱	單位
PoS	角度	度
dJ	電機	/
id	機型	/
vEr	版本	/

注：在計件數顯示介面長按剪線鍵可復位計件數。

四、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
上選擇鍵		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
下選擇鍵		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		設定使用或取消慢速起縫功能。
剪線選擇鍵		設定使用或取消剪線功能。
停針位選擇鍵		切換縫製後機針的停止位置（上停針位/下停針位）。

五、電控介面定義



定義	信號（LED燈）	地線（點動補針）	32V(電磁鐵)
腳位	6PIN	5PIN	4PIN
定義	5V（LED燈）	信號（點動補針）	剪線（電磁鐵）
腳位	3PIN	2PIN	1PIN

六、故障說明

錯誤碼	故障內容	故障原因	檢查項目、處理
E-01	系統電壓過高	實際電壓偏高 電壓檢測有誤	系統進線電壓是否過高 系統電壓檢測回路是否工作正常
E-02	系統電壓過低	實際電壓偏低 電壓檢測有誤	系統進線電壓是否過低 系統電壓檢測回路是否工作正常
E-05	踏板 ID 故障	踏板辨識故障	踏板接頭鬆動
E-07 E-08	電機超負荷	電機堵轉電 機超負荷	電機插頭是否接觸 良好 機頭或剪線機 構是否卡死 是否縫製規格厚度以上布料 電流檢測信號是否正常
E-09 E-11	電機信號故障	電機定位信號故障	電機編碼器介面是否接觸良好
E-15	硬體過流	電流檢測非正 常電機運轉非 正常	系統電流檢測回路是否 工作正常硬體驅動器件 是否工作正常
E-17	翻抬開關故障	翻抬開關有效	放下機頭或者檢查翻抬開關
E-18	軟體過流	電機持續大電流運行	系統電流檢測回路是否工作正常
E-19	電機超載	電機長時間超負荷運行	檢查機頭電機是否適配
E-20	參數讀寫故障	參數讀出或者保存故障	操作盒插頭是否接 觸良好操作盒器件 是否損壞
E-21	電流檢測回路故障	電流檢測異常	系統電流回路檢測是否正常
E-22	OZ 回路故障	OZ 回路檢測異常	檢查 OZ 回路是否正常
E-23 E-24	電機轉速異常	電機運轉轉速非正常	電機編碼器介面是否接觸良好 電機初始角是否異常

七、參數列表

參數項	中文說明	範圍	初始值	內容值名稱說明與備註
P-01	最高轉速	200~3700	3700	車縫時的最高轉速設定
P-02	停針位選擇	0~2	1	0：上停針；1：下停針；2：無定位
P-03	軟啟動開關	0~1	1	0：關；1：開
P-04	軟啟動速度	200~1500	400	軟啟動速度
P-05	軟啟動針數	1~15	1	軟啟動針數
P-06	最低轉速	200~500	200	車縫時的最低轉速設定
P-07	上針位微調	-20~20	0	上針位調節
P-08	下針位調節	0~240	175	下針位調節
P-09	開機找上針位	0~1	0	0：無效；1：開機找上針位
P-10	機頭保護開關檢測	0~2	1	0：無效；1：檢測零信號；2：檢測正信號
P-11	加速曲線調整	0~4	1	控速器的加速爬升斜率設定
P-12	反轉提針開關	0~1	0	0：關；1：開
P-13	反轉提針角度	0~45	20	反轉提針角度
P-14	衣車燈亮度調節	0~100	100	衣車燈亮度調節
P-15	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
P-16	剪線功能開關	0~1	1	0：關閉；1：開啟；
P-17	剪線速度	100~400	280	剪線速度
P-18	計件倍率	0~20	0	0：無計件功能 1-20：每設定次剪線計件值加1
P-19	計件初值設定	0~1000	100	計件減的初值

P-20	計件方向設定	0~1	0	0：計件加；1：計件減
P-21	馬達運轉方向	0~1	1	0：順時針；1：逆時針
P-22	自動跑合速度	200~3700	3500	跑合速度的設置
P-23	自動跑合跑時間	1~250	20	自動跑合跑時間
P-24	自動跑合停時間	1~250	20	自動跑合停時間
P-25	A 項測試	0~1	0	速度持續運行
P-26	B 項測試	0~1	0	執行定位迴圈運行
P-30	機針位置調整	0~240	0	機針位置調整
P-33	過厚加力大小	0~15	0	過厚加力大小
P-34	剪線加力大小	0~15	0	剪線加力大小
P-35	剪線吸合角度	150~200	175	剪線吸合角度
P-36	剪線加力角度	200~300	260	剪線加力角度
P-37	剪線釋放角度	300~360	346	剪線釋放角度
P-40	機型選擇	預留	預留	預留

Integrated lockstitch with thread trimming

1.Safety precautions

Before use, please read this manual and lockstitch machine's manual at the same time, thanks for your cooperation.


1.1 (1) The voltage and working frequency: please according the name plate of motor and controlling box.


(2) Electromagnetic interference: Please stay away from high-frequency magnetic wave machines or Radio wave transmitter etc. In order to prevent the generated electromagnetic waves from interfering with the drive device and causing wrong action.

(3) Grounded: To prevent noise interference or leakage accidents, Please do grounding works including sewing machine, motor and control box.

1.2 If Disassemble motor and controlling box, please Turn off the power in advance. Dangerous high voltage electricity in the electric control box, so please waiting more than 1 mins after Turn off the power, then to disassemble the control box

1.3 To ensure the safety of life, Please turn off the power when repair the machine or threading needles.



1.4  This symbol indicates when the machine is installed, if made a mistake, the human body or the machine may be damaged. Therefore, there will be this mark in the dangerous place of the machine.

 This symbol indicates that there is high voltage, etc. Electrically dangerous places have this mark.



1.5 This products guarantees a one-year warranty under normal working conditions and no-one error operation.

2.Instructions



2.1 Reset

In the shutdown state, press   at the same time to turn on, then press the "S" key to confirm to recover

2.2 Monitoring mode

Long press the "S" to enter the monitoring state, press   to change the monitoring serial number, press the "S" to check.

2.3 Factory debugging mode

Long press the thread trimming key to enter the debugging mode, press   to choose debug item, press "S" to enter corresponding mode.

1-dJ Motor test mode, Press the trimming key to start the test, and the test result will be displayed after completion.

2-bJ Calibrate the handwheel position, turn the handwheel to the upper needle positioning position, and reconfirm the position after running.

2.4 Aging mode

Press and hold the P key and S key at the same time to turn on the motor, you can directly enter the P26 parameter, and choose to start aging.

2.5 Secondary parameter mode

Press the P key to turn on, and directly enter the secondary parameter mode, you can view the P21-P40 parameters.

Long press the P key, enter the password 111, you can also enter the secondary parameter mode.

2.6 Three-level parameter mode

Long press the P key, enter the password 824, enter the three-level parameter mode, you can check the P41-P60 parameters.








3、Monitoring mode

Display No:	Item number	unit
JJ	Counting	Piece
SPd	Speed	RPM
CUr	Current	0. 1A
UdC	Voltage	V
PdL	Pedal	/

Display No:	Item number	unit
PoS	Angle	degree
dJ	Motor	/
id	Model	/
vEr	Version	/

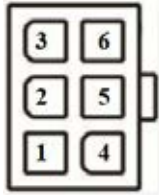
Note: Long press the thread trimming button on the piece count display interface to reset the piece count.

4、Key Description

Function parameter edit		Enter or exit the editing of function parameters
Parameter view 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
Up selection		1. Increment key for parameter item in parameter selection area 2. Set the value increment key in the parameter content area
Down Select		1. Decrease key of parameter item in parameter selection area 2. Set the value decreasing key in the parameter content area
Slow start		To setting open or cancel the slow start sewing function
Thread trimming		Set to use or cancel the thread trimming function.
Stop needle position selection		Switch the stop position of the needle after sewing (upper stop position/lower stop position)

Integrated lockstitch with thread trimming

5、Electrical control



Definition	Signal (LED)	Ground wire(Jog needle)	32V(Electromagnet)
Foot position	6PIN	5PIN	4PIN
Definition	5V (LED)	Signal (inching for add stitch)	Thread trimming (Electromagnet)
Foot position	3PIN	2PIN	1PIN

6、Failure description

Error code	Fault content	Reason	Inspection items and how to fix
E-01	System voltage is too high	Actual voltage is too high Incorrect voltage detection	Whether the incoming line voltage of the system is too high Whether the system voltage detection circuit works normally
E-02	System voltage is too low	Actual voltage is low Incorrect voltage detection	Whether the incoming line voltage of the system is too low Whether the system voltage detection circuit works normally
E-05	Pedal ID failure	Pedal recognition failure	Loose pedal joint
E-07 E-08	Motor overload	Motor blocked, Motor overload	Whether the motor plug is in good contact Whether the machine head or trimming mechanism is stuck Whether to sew fabrics above the specification thickness Whether the current detection signal is normal
E-09 E-11	Motor signal failure	Motor positioning signal failure	Whether the motor encoder interface is in good contact
E-15	Hardware overcurrent	Current detection is abnormal The motor is running abnormally	Whether the system current detection circuit is working normally Whether the hardware drive device is working normally
E-17	Flip switch failure	Flip switch effective	Put down the machine head or check the flip switch
E-18	Software overcurrent	The motor continues to run with high current	Whether the system current detection circuit is working normally
E-19	Motor overload	Long-term overload operation of the motor	Check whether the head motor is suitable
E-20	Parameter reading and writing failure	Parameter read or save failure	Whether the control box plug is in good contact Whether the control box device is damaged
E-21	Current detection circuit failure	Current detection circuit failure	Whether the system current loop detection is normal
E-22	OZ loop failure	OZ loop detection abnormal	Check whether the OZ circuit is normal
E-23 E-24	Abnormal motor speed	The rotating speed of the motor is abnormal	Whether the motor encoder interface is in good contact Whether the initial angle of the motor is abnormal

7、Parameter list

Parameter	Description	Range	Initial value	Content value name description and remarks
P-01	Maximum speed	200~3700	3700	Maximum speed setting during sewing
P-02	Synchronizer selection	0~2	1	"0" mean Needle up, "1" mean Needle down, "2" mean without signal
P-03	Soft start switch	0~1	1	"0" mean open, "1" mean turn off
P-04	Soft start Speed	200~1500	400	Soft start speed function setting
P-05	Number of soft start stitches	1~15	1	Number of soft start stitches
P-06	Minimum speed	200~500	200	Minimum speed setting during sewing
P-07	Upper needle position adjustment	-15~15	0	Upper needle position adjustment
P-08	Down needle position adjustment	0~240	175	Position adjustment of lower needle stop
P-09	Automatically find the needle position when starting up	0~1	0	"0" mean can't find upper needle position adjustment, "1" mean find upper needle position adjustment
P-10	Machine head protection switch detection	0~2	1	"0" mean no detection, "1" Detect zero signal, "2" mean Detect positive signal
P-11	Acceleration curve adjustment	0~4	1	Speed controller acceleration and climb slope setting
P-12	Reverse needle lift switch	0~1	0	"0" mean turn off, "1" mean open
P-13	Reverse the needle lifting angle	0~45	20	Reverse the needle lifting angle
P-14	Brightness adjustment of lights	0~100	100	Brightness adjustment of lights
P-15	Needle supplement method	0~3	3	"0" mean Half stitch, "1" mean One stitch, "2" mean Continuous half stitch, "3" Continuous one stitch
P-16	Thread trimming function switch	0~1	1	"0" mean turn off, "1" mean open
P-17	Thread trimming speed	100~400	280	Thread trimming speed
P-18	Piece magnification	0~20	0	0: No piece counting function 1-20: Add 1 to the piece count value for each set time of thread trimming
P-19	Initial piece count setting	0~1000	100	Initial value of piece count reduce
P-20	Piece counting direction setting	0~1	0	0: piece count plus; 1: piece count reduce
P-21	Motor running direction	0~1	1	"0" mean Clockwise, "1" mean Counterclockwise
P-22	Automatically running speed	200~3700	3500	Setting automatically check speed
P-23	Automatic running time	1~250	20	Automatic running-in time setting
P-24	Automatic stop time	1~250	20	Automatic running-in pause time setting
P-25	A item test	0~1	0	Speed continuous operation
P-26	B item test	0~1	0	Perform positioning cycle operation
P-30	Needle position adjustment	0~240	0	Needle position adjustment
P-33	The strength gained in thick material	0~15	0	The strength gained in thick material
P-34	The strength gained when thread trimming	0~15	0	The strength gained when thread trimming
P-35	Suction angle when thread trimming	150~200	175	Suction angle when thread trimming
P-36	The strength angle when thread trimming	200~300	260	The strength angle when thread trimming
P-37	Thread trimming release angle	300~360	346	Thread trimming release angle
P-40	Model selection	Reserved	Reserved	Reserved



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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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