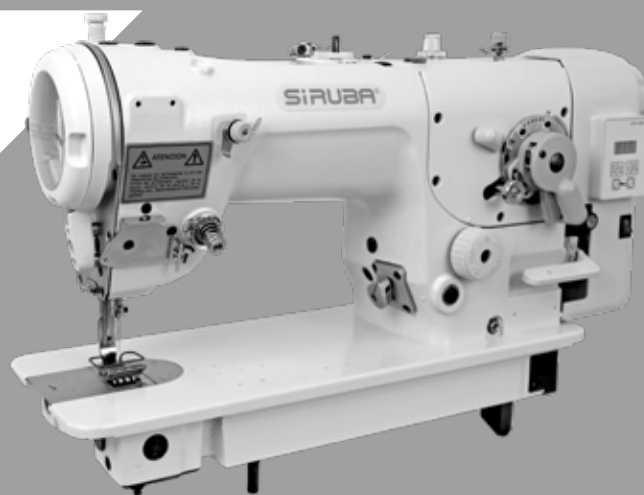


SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

■ LZ1388 Series



一、安全說明 General Safety Instruction

1.電機接通電源時請不要把腳放在腳踏板上。

Do not put your foot onto the neck when motor is powered on.

2.本產品需專業人員安裝，調試。

Installation and trial-run must be done by skilled Person.

3.嚴禁在通電時打開控制箱與電機端蓋。

Open control box or motor cover under electrical power is not permitted.

4.必須保證系統接地可靠。

Make sure the grounding system is reliable.

5.以下操作請務必斷電。

Please be sure power off the following operations.

A. 換針、穿線或更換底線時。

When changing needles, reading or changing the bottom thread.

B. 安裝、拆卸或修理時。

When install, dismantle and repair.

C.翻抬縫紉機時

When turn over the sewing machine.

二、產品介紹 Product instruction

1.組成部分：

1.component

控制器系統由控制器和電機兩部分：

The servo motor is composed of control system and motor：

A.控制器：控制箱和控速器

A.Control system includes control box and speed pedal



本控制系統體現出了超前的設計理念，系統操作簡單易上手，整個控制系統性能優越。具有起步快，停車快，准等優點。而且電路模組保護功能完善：有欠壓、過流、等一系列保護功能。

速控器可實現無級調速

This control system features is easy to use and features in excellent performance, including quick start quick stop (sewing machine), accurate needle position. Furthermore, the modular circuit has Self - Protection System when against lower voltage, overcurrent and so on. Speed controller is realized by the pedal speeder.

B.電機： B.Motor

電機轉子屬於稀土水磁材料，具備功率大，節能環保等各大優點。電機內沒有霍爾感測器，使電機具有準確的上下定位，使電機體積更小更美觀。

The Motor rotor is made of rare earth permanent magnet, guarantee high power and environmental. Exactly needle UP/DOWN position due to its built-in Hall type sensor and compact design.

2.性能參數指標 Specifications

電源供電電壓 Voltage	220V 單相 1 phase
頻率 Frequency	50~60Hz
電機轉速 Speed	200-6500RPM
電機扭矩 Motor torque	≤ 2. 2N. M

三、安裝調試 Installation

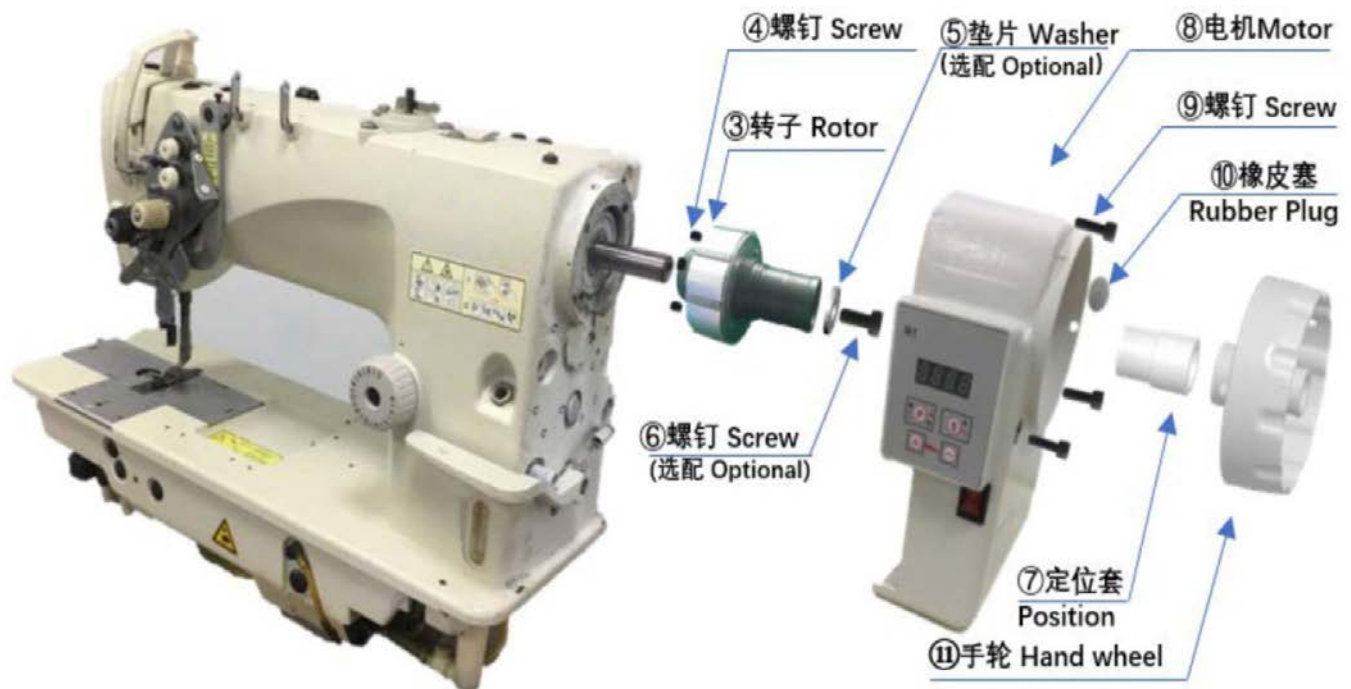
R1/S1 一體電機帶底座安裝示意圖：

R1/S1 integrated motor base installation diagram:



R1/S1 一體電機不帶底座安裝示意圖：

R1/S1 integrated motor without base installation schematic diagram:



(1) 安裝底座：Install base

A：拆掉縫紉機上的手輪、皮帶罩。

removed the handwheel and belt cover from the sewing machine.

B：將圖①底座套入縫紉機頭裡，再將圖②螺釘固定住底座。

B: Place the base of Figure 1 into the head of the sewing machine and fix the screw of Figure 2 to the base.

(2) 裝轉子：Install

將圖③轉子裝入縫紉機軸上拉出 1mm，先固定圖④三個螺釘。再用圖⑤墊片和圖⑥螺釘固定住轉子。(2280 款不需要圖⑤、圖⑥)

檢查 1：用右手抓緊轉子要無自轉現象。

檢查 2：用手轉動縫紉機軸無加重轉動阻力。

Pull the rotor of Figure 3 into the sewing machine shaft and pull out 1 mm. Fix the three screws of Figure 4 first. The rotor is secured by the washer of Figure 5 and the screw of Figure 6. (2280 does not need Figure 5. Figure 6)

Check 1: Hold the rotor with your right hand and there is no rotation.

Check 2: Turn the sewing machine shaft by hand without any increase in rotational resistance.

(3) 裝電機：Connection cover

用專用塑膠定位套圖⑦卡在電機圖⑧孔+30 內，對準圖③轉子裝入縫紉機，用圖⑨螺釘固定，螺釘擰緊後要能輕鬆拔出定位套。(注：定子裝入轉子要注意磁鐵吸力，小心夾到手。)

Use special plastic positioning sleeve. Figure 7 is stuck in the hole $\phi 30$ of the motor Figure

8. Align the rotor of Figure 3 into the sewing machine and fix it with the screw of Figure 9.

After the screw is tightened, the positioning sleeve can be easily pulled out. (Note: When the stator is installed in the rotor, pay attention to the magnet suction and carefully clamp it to the hand.)

(4) 檢查轉子和定子是否裝好 Check the rotor and the stator is installed well

A：拿出圖⑨橡皮孔塞。

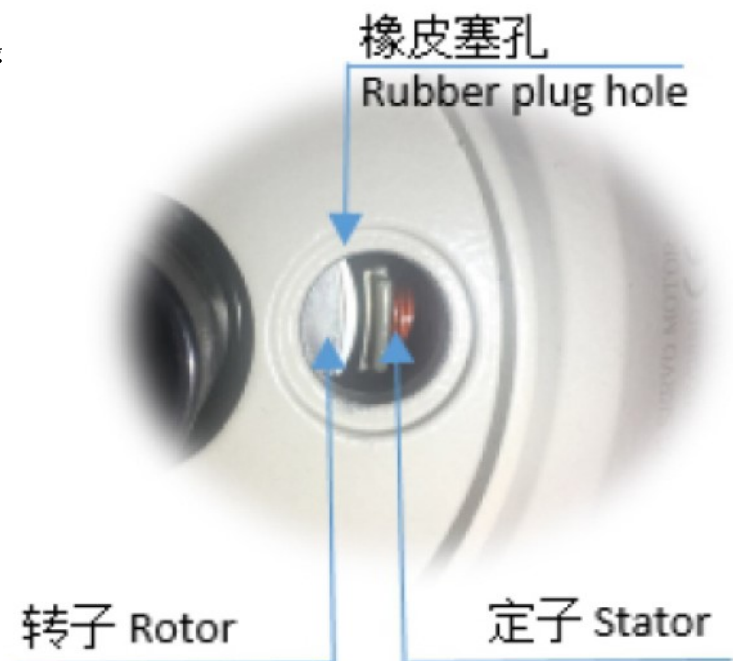
Taking out figure⑨rubber hole stopper.

B：目測轉子平面與定子鋼片平面是否相平，如果轉子平面低於定子鋼片平面 1.5mm 時，要拆掉電機和轉子，將轉子拉出 1.5mm 來調整，(看剖視圖 A)。

B: Look at whether the rotor plane is flat with the stator steel plate plane. If the rotor plane is lower than the stator steel plate plane of 1.5 mm, remove the motor and rotor and pull the rotor out of 1.5 mm to adjust (see section view A) .

C：調整好後裝回橡膠孔塞。

After adjustment, replace the rubber hole plug



(5) 裝手輪： Install hand wheel

A：用手轉動縫紉機，使機針停在最高位

Turn the sewing machine by hand, make the needle stop at the highest position

B：將手輪裝入轉子並將刻度 3 個小條對準電機外殼的刻度線(看圖 B)。擰緊安裝示意圖上的圖①2 個螺釘，並且保證手輪與電機外殼留有 1mm--2.5mm 的間 (看圖 C)。

Insert the handwheel into the rotor and align the 3 strips of the scale with the scale line of the motor casing (see Figure B). Tighten the screws in Figure 10 2 on the

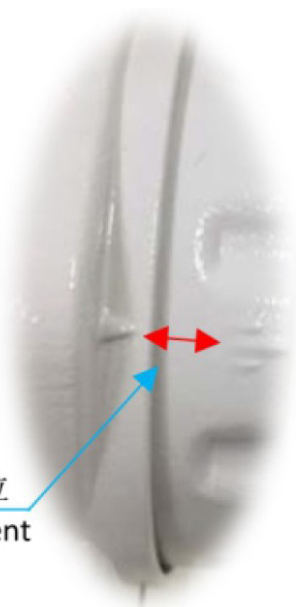
installation diagram, and ensure that the handwheel and the motor casing have a gap of mm-2. 5 mm (see Figure C)

C：檢查 手轉動手輪無卡擦現象 縫紉機也無加重

Check that the handwheel is free from scratch and the sewing machine is not aggravated

图B

停针安装对应位
Map of Fixed Stent
Installation



图C



四、控制台使用說明 Introduce for control panel

系統介面連接和操作面板示意圖如下：System interface connect and control panel diagram



1. 各按鍵的用途 (Each key purpose):

(1) “p” 鍵的用途；

A: “p” 鍵為上、下停針鍵，按下 “p” 鍵，上燈孔亮，為上 “P” key：停針。下燈孔亮，為下停針：兩個燈孔都不亮，為自由停針

First, "p" key function:

"P"key for up and down stop needle position. Press "p", if up indicate light on means it's up stop needle, if down indicate light on means that it is down stop needle, if two indicate lights off means needle position is freedom.

B: 功能進入鍵 (見進入參數的操作方法)

Second: Function Enter button (enter the parameter method of operation)

(2) “S” 鍵的用途：Function of “S” key：

第一：“S” 鍵為機頭燈開關鍵，按下“S” 鍵，當“S” 鍵上的小燈亮為打開機頭燈，滅為關掉機頭燈。

First: "S" button for off or on the head lamp. Press "S" key the lamplights, if don't do it is turn off.

第二：功能參數（確認）鍵（見進入參數的操作方法）

Second: Function Enter button (below to enter the parameter method of operation)

(3) “+” “-” 鍵的用途：Function of “+” 、 “-” key

此兩個鍵用於轉速調整和參數調整。

These two keys are used to adjust speed and parameter modulation.

2. 進入參數的操作方法：

例：怎樣把電機的順時針轉調到逆時針轉：

第一步：打開電源；

第二步：先按“P” 鍵不放，同時按“+” 號鍵，此時畫面會顯示 P-00。

第三步：按“+” 號鍵，把 P-00 調至 P-02，(P-02) 就是電機正反轉參數（常用參數表上有標明）；

第五步：按下“-” 號鍵把“1” 調到“0”（“1” 為順時針塊，“0” 為逆時針轉，常用參數表上有標明）；

第六步：按下“S” 鍵確定參數調整完成。

2. To enter the parameter method of operation:

Example: How to change the motor from clockwise to counter clockwise:

Step one: Open the power;

Step two: Press the "p" key, no leave, and press "+" key, the screen will display the P-00;

Step three: Press "+" key, change the P-00 to P-02, (P-02) is a motor clockwise or counter clockwise parameters (common parameter list has record);

Step four: Now press "p" key (enter into parameters) screen will display 1;

Step five: Press "-" key, change "1" to 0; ("1" for clockwise, "0" for counter clockwise rotation, commonly used in the parameter table is indicated);

Step six: Press the "S" key to determine the parameters, save and exit the parameter.

3. 恢復出廠設置

恢復出廠設置方法：先按“P” 鍵不放，同時按“+” 號鍵，此時畫面會顯示 P-00，再長按“S” 鍵約 3 秒即可。

3. Restore factory settings

Restore factory settings: Press the "p" key, no leave, and press the "+" key, the

4. 電機常用參數設置 Commonly used parameter setting

序號 No.	參數編號 Parameters No.	參數名稱 The Parameters name	參數範圍 Adjusting range	出廠設置 The factory settings	備註 Remark
1	P-01	最大速度鎖定 Maximum Speed lock	200-6500RPM	3000RPM	
2	P-02	電機方向 Direction of rotation	0 是逆時針/1 是順時針 0 is counter clockwise/ 1 is clockwise	1	
3	P-03	下停針角度 Down needle position angle	6-18	12	
4	P-04	起縫速度 Start sewing speed	200-800RPM	250RPM	
5	P-05	加速快慢 Speed up and slow	2000-4000RPM	3000RPM	
6	P-06	定針縫 Set the seam	0-999 Sitch	0	

7	P-10	自動間隙運行（跑合） Automatic gap running	把 0 改成 1 再按 S 鍵 Change 0 to 1 and press the S key	0	
8	P-11	抬壓腳起動時間 Footlifter ascend start time	0-2000s	0	
9	P-12	抬壓腳保持時間 Footlifter keep time	1-120s	5s	
10	P-14	最大電流限制 Maximum current limit	50-450	300	
11	P-15	是否檢測上針位 Whether the up needle position	1：檢測針位，0：不檢測 1: detect needle 0: no detect	1	

五、常規故障分析、處理方法 Normal faults analysis and treatment

序號 No.	錯誤碼 Error code	錯誤內容 Error content	錯誤問題的多種可能 Multiple possibilities of error problem
1	Er01	找不到停針位 Can't find the needle position	1.手輪靠的不夠近間隙在 2.5mm 內 2.九針插頭接觸不良 3.電機霍爾壞，要更換電機 4.手輪上的磁鐵掉落 1. The hand wheel is not close, the gap within 2.5mm 2. Nine plug connect not well 3. Motor holl sensor broken, to replace the motor 4. The hand wheel magnet loss
2	Er02	開機沒有檢測到調速器 Power on not detected the speed pedal	1.調速器插頭沒有插 2.調速器線斷了或接觸不良 1. Speed control device not plugged in 2. Speed wire is broken or connect not well
3	Er03	電機霍爾或相位線錯誤 Motor holl sensor or phase error	1.九孔插頭連接不好 2.馬達沒安裝好 3.霍爾感應器壞了 1. Nine hole plug connect not well 2. The motor doesn't installed good 3. Holl sensor is broken
4	Er04	堵轉保護 Locked-rotor protection	1.電機超載 2. 電機與電控相連接的四心線接觸不好 3.電機斷線或壞了 1. The motor overload 2. The motor and the control box connected four hole line contact is not good 3. Motor is broken.
5	Er05	硬體過流保護 Hardware overcurrent protection	1.電機超載 2. 信號線接觸不好或斷了 3. 主機板壞了 1. The motor overload 2. Line connect is bad or broken

			3. Main board is broken
6	Er07	串口通信逾時錯誤 Serial port communication timcout error	顯示幕至主機板信號線不良或主機板壞 Display to the main board signal is bad or mair board is broken
7		顯示幕無電開關有電 Display withou telectricity Switch with electricity	1.主機板壞 2. 顯示幕與主機板連接線接觸不良 1.Main board is broken 2.The display screen and the main board conection line contact is bad

六、作業環境要求 Environmental Requirements

1.請不要在過潮濕的環境中作業

Please do not work at damp place

2.用戶供電應保持穩定 210Y-240Y

The voltage requires being stable (210V™ 240V)

3.不要在過熱地方作業

No not work at noh tomperaturel

4.用戶使用前必須接地，確保人身安全

Must be adequately grounded for safety

5.控制系統與電機不要在強磁高輻射環境中作業，以免幹擾而使系統錯吳

Do not run motor and control system near to ferromagnetie orhigh radiance area

七、產品包裝元件說明 Component packaging description

序號 No.	組件名稱 Component name	單位 Unit	數量 Quantity
1	一體電機 Integrated Motor	個 Pcs	1
2	控速器 Pedal	個 Pcs	1
3	腳踏板連接拉杆 Pedal coupling bar	個 Pcs	1
4	螺絲、墊片 Screw, spacer	包 Bag	1
5	底座 The base (選配 Optional)	個 Pcs	1
6	轉子 Rotor	個 Pcs	1
7	手輪 Handwheel	個 Pcs	1
8	定位環 Positioning ring	個 Pcs	1
9	說明書 Installation manual	本 Pcs	1

此圖僅供參考，因各機型不樣，配置略有差異。

Above information only for reference different model and configuration different

八、保修服務 Warranty and service

本產品自購買日起免費保修 1 年。保修期內，人為損壞、外觀破損不在免費保修範圍內。

公司對此產品實行終身維護，根據產品使用及實際維修情況收取相應工本費用。

Our product have 1 year of quality guarantee.

Man-made damage or appearance broken not involve in guarantee period.

Product under warranty for life, according to the actual product use andmaintenance to charge corresponding fee.



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由於對產品的改良及更新，本產品使用說明書中與零件圖之產品及外觀的修改恕不事先通知！
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.
IH-03G02.JUL.2024