781FS SIRUBA



Preface

Welcome to use our products, it is the right investment choices in garment industry!

This user manual is for our newly developed “Double step + servo control box” products reference manual, please read this manual carefully, hope it can give you useful help!

Before reading the manual, please note the following requirements:
1. The user must be grounded before operations to ensure safety
2. Non-professionals do not disassemble the control box

3. The control box and motor away from the magnetic high radiation environment
4. Do not work in hot environment
5.Do not work in humid environments
6 ： 220V electronic control: [220V access to power supply voltage stability between (200V~260V)]

Voltage	220V 1 phase
Frequency	50~60HZ
Speed	200-4000RPM
Motor torque	⩽3.5N.M

110V electronic control: [110V access to power supply voltage stability between (100V~130V)]

Voltage	110V 1 phase
Frequency	50~60HZ
Speed	200-4000RPM
Motor torque	⩽3.5N.M

Safety requirement:

1： Do not put your feet on the pedals when the control box and motor is switched on (boot status)
2： Let professionals to install and debug this product
3： Do not open the control box and the motor cover when energized
4： Please turn off the power when changing the needle, threading or replacing the bottom line
5： During installation and removal service, please turn off the power and pull the plug
6： Please turn off the power when turn lift sewing machine
7： When use this product, please stay away from high-frequency electromagnetic waves and radio wave transmitters, etc., in case the electromagnetic waves generated interfere with the servo drive to occur wrong action.

Solemnly Declare:

1：Do not comply with the manual book operating regulations and the safety requirements, all accidental occurrence should be taken by yourself.

2：Without our authorization, please do not alter our products, our company is not liable for any consequences arising therefrom.

Warranty policy:

1：Since from the purchase of this product, the free 2-year warranty, lifetime maintenance. During the warranty period, any quality problems the product will be free repaired, except artificial damage.

2：Without our consent disassemble or modify, the damaged will not give in warranty

3：Whenever find the problem cannot be solved, you can contact with our company

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I. Introduction of display screen common Operation



1. Function introduction:

No.	Button Icons	Function Description
1	P	**1.** Short press the P key to enter the password interface; enter the correct password to enter the parameter interface. **2.** Long press the P key to enter the control box software version number.
2	OK	**1.** Parameter determines the Save button **2.** Long press the "OK" button for 3 seconds to display the current control box motor status, governor status and current input voltage.
3	+	1. +" button (Add when modifying the parameter number) 2. When adjusting the brightness of the LED light interface, press this button to increase the brightness of the LED light.
4	−	**1.** "-"button (Decrease when modifying the parameter number) **2.** When adjusting the brightness of the LED light interface, press this key to decrease the brightness of the LED light.
5	←	Left key (decrease when modifying parameter value)
6	→	Right arrow (Add to modify parameter value)
7		1. Short press this key to enter the brightness adjustment interface of the machine head LED light. **2.** After entering the LED light brightness adjustment interface, short press this key to increase the LED light brightness.
8	清 零 Clear	**Clear key for current number of jobs**

9		**Factory reset button**
10		**Enter the related parameter keys of stepping presser foot lifting**
11		**Language switch key**
12		**Upper needle position calibration key**

II. How to enter parameter and how to modify the parameter

System parameters enter the analysis:

1. Short press the (P) key to enter the "system parameter" list (password required. 2021 to enter the adjustment, press (OK) enter).

2. Short press the (+)(−) key to switch the parameter number. When you need to modify the parameter value, press the (←) (→) key to add or subtract.

3. After modifying the parameters, you need to press the (OK) key to save the parameters and exit the system parameter adjustment.

System parameters entering analysis:

Note: the upper is entry method, specific parameters No. on behalf of the parameters meaningasfollows:

“3：Operating Parameter Description Table”

III. Operating Parameter Description Table

System parameter list	Function Description	Function parameter default values	Function parameter ranges	Parameter Description
P00	MAX Sewing speed	2800	200 ~ 4000	Round / Minute
P03	Pedal acceleration curve	100	0 —100 %	
P06	Slow Start Selection	1	0 — 1	0: Disable 1: Enabled
P07	Slow start speed	350	200 — 800	Round / Minute
P08	Slow start Stitches number	2	1 — 30	Stitch number
P09	Depress the emergency stop switch	1	0 — 1	0: Disable 1: Enabled
P10	Parking parameter selection	3	0 — 3	The smaller the value, the greater the braking force
P12	Market signal selection	1	0 — 1	0: Disable 1: Enabled
P15	Input voltage detection switch	1	0 — 1	0: Disable 1: Enabled
P16	Low speed speed size	800	200 ~ 1500	Round / Minute
P19	Clamping current when stepping stops	12	0~50	The larger the value, the stronger the step
P21	Delayed start of main servo	100	100~1500	ms
P22	Upper stroke of stepping presser foot	780	0~2400	The smaller the top
P23	Lower stroke of stepping presser foot	2100	0~2400	The larger the presser foot, the lower the press
P24	Step current size	31	0~50	The larger the value, the stronger the step
P25	Step speed size	36	0~80	The larger the value, the faster the stepping speed

P26	Automatic presser foot lifter down time	10	1 — 120	Second
P27	Servo stepping presser foot delay start	0	0~900	ms
P32	Cutting speed	60	30~70	The larger the value, the faster the stepping speed
P36	Number of cuts	once	0: Close the cutter 1: Cut the knife once 2: Cut the knife Two times 3: Cut the knife Three times	
P37	Number of first cutting needles for cutting step	50 needles	0~300	Number of stitches activated until the first cutting
P38	Number of cutting needles for the second cutting step	10 needles	0~300	Number of stitches from the first cutting to the second cutting

IV. 四： Error code analysis

Display error code	Error code meaning	Various possible for the error	Solution
ER-01	Software overcurrent		
ER-02	Foot controller signal error	1：Not plugged foot controller into control box 2: foot controller inserted upside 3: foot control box line broken 4: foot controller damage	1: check the foot controller signal line 2: change the foot controller 3: replace the foot controller
ER-03	Motor phase signal error	1: Nine-pin terminal plug Poor connect 2: Hall and rotor have large deviations when the motor is mounted 3: Motor hall damage	1: open the rubber cover on the motor through the hole to see whether the motor rotor and stator in the same surface to ensure the error is not more than 1MM 2: replace the motor 3: replace the control box

ER-04	Motor stall protection	1: Sewing machine overweight or blocked 2: Motor overload 3: 4-wire motor drive cable is not connected or inserted upside	1: check motor 4P line 2: check whether the sewing machine is too heavy 3: replace the controller
ER-05	Hardware over current	1: Sewing machine overweight or blocked 2: Motor overload 3: Motor phase signal line is not connected 4: Power tube damage	
ER-06	Needle-stop signal from the main motor not detected	**1.** Nine-pin terminal plug Poor connect **2.** Motor hall damage	replace the motor
ER-07	Over load	1. The motor drive power supply voltage is too high, the 220V power supply voltage exceeds the limit value (AC310V), or the load inertia is too large to the regenerative voltage exceeds the limit value (DC440V), or the voltage detection circuit fails. Note:(110V control system power supply voltage exceeds limit value (AC155V), or load inertia is too large to regeneration voltage exceeds limit value (DC220V).	Over load
ER-08	Under voltage error	1. The motor drive power supply voltage is too low, the 220V power supply voltage is lower than the limit value (AC91V), or the motor drive power supply voltage is lower than the limit value (DC130V), or the voltage detection circuit fails. Note:(110 V power supply voltage is below the limit (AC45.5 V), or motor drive power supply voltage is below the limit (DC 65V)	Under voltage error
ER-10	Main motor encoder failure		
ER-11	The market signal is not detected		
ER-13	Stepping communication failed		
ER-14	Serial communication timeout	1: Display bad cable connection Motherboard 2: Motherboard chip damage	1: Check the connection line between the display screen and the control box. 2: check whether the controller run well, if not, controller damage 3: check whether there is a high frequency machine near the machine interference 4: change the display panel

ER-22	Stepper motor reset failed		
ER-23	Stepper motor lifts up and stalls		
ER-24	Stepper motor back to the origin blocked		
ER-25	Stepper motor under pressure and locked rotor		
ER-26	Stepper board hardware overcurrent		
ER-27	Stepper board software overcurrent		
ER-31	Knife step Z signal not detected		
ER-32	Cutter step reset failed		
ER-33	Cutter step communication failure		
ER-34	Knife step blocked rotation		
ER-35	Knife stepper hardware overcurrent		
ER-36	Cutting tool step origin running		
ER-38	Knife current detection fault		