

Industrial High Speed Overlock Sewing  
Machine Auto-trimming System

工业高速包缝机  
自动剪线系统

User Manual  
用户手册

# Foreword

Welcome to use the products of our company and it's the right investment choices of clothing industry!

This is the product reference manual of the company's newly developed "suction line cut". Please carefully read this manual to better use the company's products!

## ● ATTENTION:

1. Before practicing, the user must be grounded , can greatly reduce the external adverse factors on the internal damage of the machine
2. Please use at room temperature above 5 °C, below 45 °C and 30% to 90% of the relatively humid environment;
3. Please don't operate the machine in the direct sunlight or outdoor
4. It's a precision electronic product .Please don't use when thundering or the voltage is not steady or the poor contact. It may cause the machine damage.
5. Use soft cotton cloth to clean the upper and lower infrared light before daily use.












## ● Safety Precautions:



1. This product requires professional installation and commissioning;
2. Do not put your feet on the pedal when the power is connected;
3. Do not open the control box when power is on;
4. Turn off the power when changing the needle, threading or replacing the bottom thread;
5. Turn off the power when installing, removing and repairing;
6. Away from high-frequency electromagnetic waves and radio waves, etc, in order to avoid the servo drive being interference by the electromagnetic waves and leading to the wrong action.
7. When connecting the power, make sure that it is conformed to the voltage and the technical requirements marked on the label, and the product connect the ground.

## ● warranty strategy:




1. Without the consent of the company to disassemble, modification damage will not give the warranty;
2. If you can't solve a problem, you can contact the company;
3. The company has the final interpretation of this manual;




# 1: Introduction to the common operation of the display

NO	Icon	Function description
1		Mode switch key: to switch the current sewing mode, will be in cycle between the free seam, semi-automatic, fully automatic, and normal sewing.
2		Infrared light function key: click to select the corresponding mode, you need to press the OK key to automatically adjust to the desired mode. There are six modes to choose .
3		Presser-foot function key: Select the ways of the presser-foot when sewing mode, you can continuously press to successively select before presser-foot, after the presser-foot, before and after the presser-foot, or closed.
4		Trimming function key: select the ways of trimming when sewing mode, continuously press in turn can choose the front trimming, after trimming, before and after trimming, or close.
5		Air-suction function key (need to install the suction device): select the method of suction when sewing, continuously press can be selected before the suction, after the suction, before and after the suction, or closed.
6		Stop-needle adjustment key: used to change over the needle bar stop position at the time of stopping sewing between up and down.
7		Menu key: Short press enter the user parameters, long press 2 seconds to enter the system parameters (need a password).
8		Confirm key: parameter confirmation key.
9		Numeric adjustment key: used to modify the data.
10		Numeric adjustment key: used to modify the data.
11		Left key: When the parameter is modified, the cursor moves left.

12		Right key: When the parameter is modified, the cursor moves right Under the main interface, press the right button to enter the brightness adjustment interface of the headlamp..	
13		Maintenance key: When the machine need to be adjusted when an exception occurs, press this button or turn off the power for maintenance.	
14	F-SENSO R	The front infrared sensor indicator light	When the front infrared sensor is blocked by a cloth, F-SENSOR light on, else light off.
15	M-SENS OR	The middle infrared sensor indicator light	When the middle infrared sensor is blocked by a cloth, M-SENSOR light on, else light off.
16	B-SENS OR	The Behind infrared sensor indicator light	When the behind infrared sensor is blocked by a cloth, B-SENSOR light on, else light off.
17	ERROR	fault indicator lamp	Fault continued light, normal light off

## 2: How to enter parameters and how to modify the parameters

The analysis to enter System parameters: long press () button for 2 seconds into the "system parameters" list (need the password to enter adjustment). () , () Keys be used to select to modify the parameter value or menu value, the selected place will be flashing.

() () Keys will increase or decrease the value of the flashing area. After editing the parameters, press the () key to save the parameters and exit the system parameters.

### 3: Operating Parameter Description Table

#### 3.1 List of system parameters for technicians (short press “P”enter)

NO.	Function declaration	Reference range	Default	Parameter specification
P01	Operator schema	0	0-3	0: normal sewing 1: free seam 2:semi-automatic 3:full automatic
P02	Trimming mode	3	0-3	0:off 1:front trimming 2:back trimming 3:front and back trimming
P03	suction mode	3	0-3	0:off 1:front suction 2:back suction 3:front and back suction
P04	Presser foot mode	3	0-3	0:no presser foot 1:front presser foot 2:back presser foot 3:front and back presser foot
P05	Loose line mode	3	0-3	0: off 1: Front loose line 2: Back loose line 3:front and back loose line
P06	Back pulley wheel	0	0-2	0: close 1: sewing in 2: after sewing
P07	Needle position	0	0-1	0:up needle position 1:below needle position
P08	Hand-operated suction	1	0-1	0:off 1:on
P09	Medium suction	0	0-2	0:off 1: Interval suction 2: long suction
P11	Start sewing speed	5500	500-7000	RPM
P12	Maximum speed	5500	500-7000	RPM
P13	Free for sewing	0	0-1	0:off 1:on
P14	Semi-automatic constant speed trimming	0	0-1	0:off 1:on
P15	Control pedal trimming	1	0-1	0:off 1:on
P16	Parking automatic presser foot	0	0-1	0:off 1:on

P17	The presser foot after trimming	1	0-1	normal sewing: 0:off 1:on
P18	Half back presser foot	0	0-1	0:off 1:on
P19	Turn off back presser foot	1	0-1	0:off 1:on
P20	Stop and stop function	1	0-1	0:off 1:on
P21	The running-in switch	0	0-1	0:off 1:on
P22	Running-in running time	5	0-99	Unit of time for Second
P23	Running-in pause time	5	0-99	Unit of time for Second
P24	Electric control version			
P25	The volume	7	0-15	The higher the number, the louder the sound
P26	head lamp switch	5	0-5	The higher the value, the brighter the brightness
P27	Backlight brightness	5	1-5	
P28	counting mode	0	0-50	Count according to the times of thread cutting, 0: turn off counting
P29	counting number	0	0-9999	Press the plus minus key to clear the number

### 3.2 List of system parameters for technicians

long press 2 seconds to enter the system parameters (need a password).

NO.	Function declaration	Reference range	Default	Parameter specification
S02	The stitch number between front sensor and back sensor	160	0-990	
S03	Delay before trimming the number of stitches	16	0-990	The number of stitches in the tangent after the cloth blocks the middle light eye for the first time

S04	Delay after trimming the number of stitches	48	0-990	The number of stitches in the tangent after the cloth leaves the middle light eye
S05	Front rimming suction open needle number	16	0-990	Induction of the first sensor from which needles began to suction
S06	Front trimming suction close needle number	0	0-990	When opened, the count after a few stitches to close the intake
S07	Behind suction open needle number	16	0-990	leaving the behind infrared light from which needles began to inhale
S08	Behind suction close delay	200ms	0-990	After leaving the light eye, count how much milliseconds to close the inhale
S09	Number of opening stitches of front loose thread	0	0-990	After the first light is sensed, the number of stitches opened on the fore loose thread
S10	Number of stitches closed before thread loosing	8	0-990	After the front loose thread is opened, count a few stitches and close the front loose thread
S11	Number of opening stitches of back loose thread	96	0-990	The number of stitches opened when the cloth leaves the front sensor
S12	Number of closed stitches of back loose thread	160	0-990	After the thread is opened, count a few stitches and close the thread
S13	Number of opening needles in middle suction	160	0-990	middle suction intermittent suction mode (p09 = = 1) is effective
S14	Number of closed needles in middle suction	160	0-990	middle suction intermittent suction mode (p09 = = 1) is effective
S15	The number of thread cutting needles delayed by back sensor	16	0-990	After leaving the light in eyes for how many needle not detected the third eye light signal to begin to cut the line

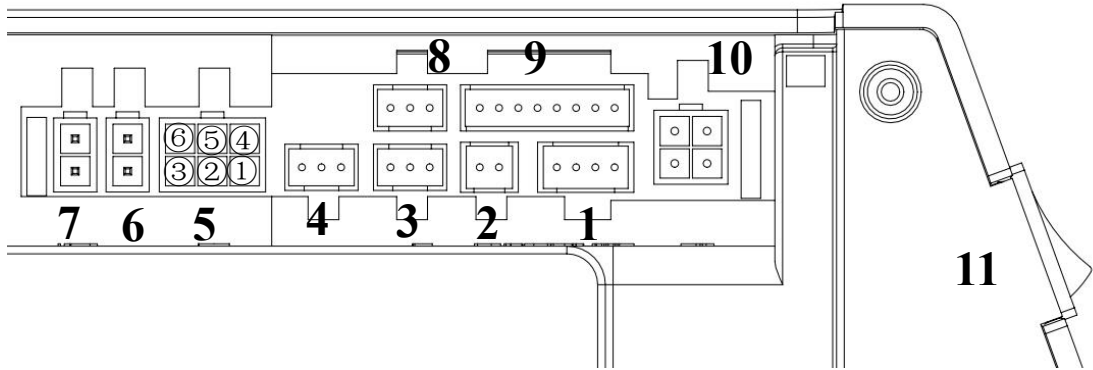
S16	Stop delay pin number	0	0-990	After How many needles , it automatically stops after the cut line
S17	The front presser foot retaining time	220	20-2000	The duration after the presser foot lift(ms)
S18	Presser foot full time	180	10-990	Presser foot work full power time(MS)
S19	Presser foot keep power	20	10-90	presser foot lift after maintain power (no more than 50%)
S20	the presser foot protection time	20	1-990	The time of putting the presser foot (ms)
S21	Presser foot protection time	5	1-120	how much time before manual presser foot turn off ( s )
S22	Half back step confirmation time	200	50-990	
S23	Scissors keep time	35	10-990	Cutting time ( no need adjust in principle ) /MS
S24	Trimming full power	100	1-100	Trimming action full power adjustment
S25	Full back step voltage	200	1-4096	
S26	Half back step voltage	500	1-4096	
S27	Starting voltage	1500	1-4096	
S28	Accelerating voltage	1700	1-4096	
S29	Maximum voltage	3000	1-4096	
S30	Pedal acceleration curve	50	1-100	More than 50, the curve up; Less than 50, curve under the cast
S31	Presser foot safety switch	1	0-1	0: off 1: on
S32	Sewing table safety switch	1	0-1	0: off 1: on
S34	side draught time	500	1-2000	ms
S35	side draught speed	3500	500-7000	rpm
S37	Adjustment gear of Front sensor	300	1-600	In order to adapt to different fabric setting back light eye through



				cloth strength, the greater the value the stronger air-penetration
S38	Adjustment gear of Middle sensor	300	1-600	In order to adapt to different fabric setting back light eye through cloth strength, the greater the value the stronger air-penetration
S39	Adjustment gear of back sensor	300	1-600	In order to adapt to different fabric setting back light eye through cloth strength, the greater the value the stronger air-penetration
S40	Front sensor threshold	2200	100-4000	
S41	Middle sensor threshold	2200	100-4000	
S42	Back sensor threshold	2200	100-4000	
S43	Adjustment gear of Auxiliary sensor	300	1-600	
S44	Auxiliary sensor threshold	2200	100-4000	
S52	Mesh pattern stitch number	16	1-990	Adjust the appropriate number of stitches according to the size of the mesh hole.
S53	sensor for anti-cutting the cloth switch	1	0-1	0: off 1:on
S54	Down stop angle	12	0-23	180 degrees based on the position of top stop needle
S55	Maximum speed lock	5500	500-7000	Limit the maximum adjustable speed of the motor
S56	Restore factory parameters	0	0-1	
S57	Password		0-9999	
S58	Language	0	0-1	0: Chinese 1: English
S59	Electric/ side draught	0	0-1	0: Electric 1: side draught
S61	Infrared light pattern	3	2-3	2: double lights 3: three lights
S62	The starting speed	500	300-800	

The number of needles is calculated or adjusted according to the unit of 1 / 8 needles.

## 4: Control box's port illustration



NO.	The name of the device port	NO.	The name of the device port
1	Front middle infrared light receiver tube port	7	pressure foot lifer electromagnet
2	Behind infrared light receiver tube port	8	Sewing table safety switch
3	foot safety switch	9	Head lamp port and infrared light launch tube port
4	NC	10	Speed controller port
5	①,④: trimming electromagnet , ②,⑤: suck wind magnet or magnetic value ③, ⑥: NC	11	Power switch
6	NC		

## 5: Fault code analysis

NO.	Description	Reason	Solution
ER-01	The signal of the needle is wrong	1: the contact between the needle and Moore thread is bad 2: the permanent magnet on the hand wheel is at wrong position or is demagnetized.	1: check the needle and Moore thread 2: check whether the permanent magnet is at the wrong position 3: change the hand wheel
ER-02	Foot controller signal error	1: didn't plug the speed controller in when the machine is on. 2: the speed controller is plugged in at the wrong position. 3: the speed controller is disconnected. 4: the speed controller is broken	1: check the signal line of the speed controller 2: change the speed controller 3: change the controller
ER-03	Motor phase signal error	1: the contact between plugs is bad 2: Hall transducer and stator have some big deviations when install the motor 3: the motor and Moore is broken	1: Disassemble the hand wheel and check whether the motor the rotor and stator is at the same level, make sure the deviation is less than 1MM 2: change the motor 3: change the controller
ER-04	The motor stops rolling	1: the sewing machine is too heavy or is stuck 2: the motor is overloaded 3: the motor's 4 drive lines didn't connect or were plugged at the wrong position	Disconnect the controller power, check if the motor input plug is off, loose or damaged. After checking and correction, if the system still does not work, please replace the controller.

ER-05	Hardware over current	<p>1: The sewing machine is too heavy or blocked</p> <p>2: Motor overload</p>	<p>1: Check if the sewing machine is too heavy</p> <p>2: Restart the machine, if the system still does not work, please replace the controller or motor.</p>
ER-07	Communication timeout	<p>1: display connection board line connection is bad</p> <p>2: the main board chip is broken</p>	<p>1: check the connection line between the screen and the controller</p> <p>2: check whether the controller can still function. if not, then it's the controller that's broken</p> <p>3: check whether there are some high frequency machines interfering</p> <p>4: change the screen</p>
ER-11	Safety switch 1 is disconnected	<p>1: press foot safety switch didn't go back to the right position</p> <p>2: the contact of the connection lines of press foot is bad</p> <p>3: the Moore component of the press foot is broken.</p>	<p>1: check whether the connection line of the press foot safety switch is abnormal</p> <p>2: check whether the magnet of the press foot safety switch has gone back to the right position.</p> <p>3: change the Moore component</p>
ER-12	Safety switch 2 is disconnected	<p>1: sewing platform's safety switch isn't installed right or is broken</p> <p>2: line fault</p>	<p>1: check whether the sewing platform's safety switch is broken</p> <p>2: check whether the sewing machine is lifted</p> <p>3: check whether the plug base is abnormal</p>
ER-19	Phase current detection fault	The phase current circuit is abnormal	Turn off the system power, restart the system after 30 seconds, if it still does not work, please replace the controller.