

ENGLISH

**M-1 Series
INSTRUCTION MANUAL
(Electrical)**

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".

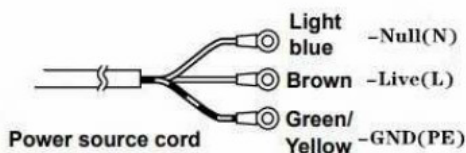
Please carefully read this manual to better use the company's products!

- **Before reading this manual, please note the following requirements:**

1. Before practicing, the user must be grounded to ensure personal safety! (Ground resistance : $< 4\Omega$)
2. Non-professionals do not disassemble the control box;
3. Please use at room temperature above 5°C , below 45°C ;
4. Please work in 30% to 90% of the relatively humid environment;
5. Rated voltage $220\text{V}\pm 10\%$, frequency 50/60HZ;
6. Use soft cotton cloth to clean the upper and lower infrared light before daily use.

- **Safety Precautions:**

1. Do not put your feet on the pedal when the power is connected;
2. This product requires professional installation and commissioning;
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. Turn off the power when turning or lifting the sewing machine;
7. 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;
8. Power terminals should be installed by specially assigned person. Connect the wires of the same function together.



- **Warranty strategy:**

1. Any quality problems other than man-made damage during the warranty period may be free of charge;
2. Without the consent of the company to disassemble, modification damage will not give the warranty;
3. If you can't solve a problem, you can contact the company;
4. The company has the final interpretation of this manual.

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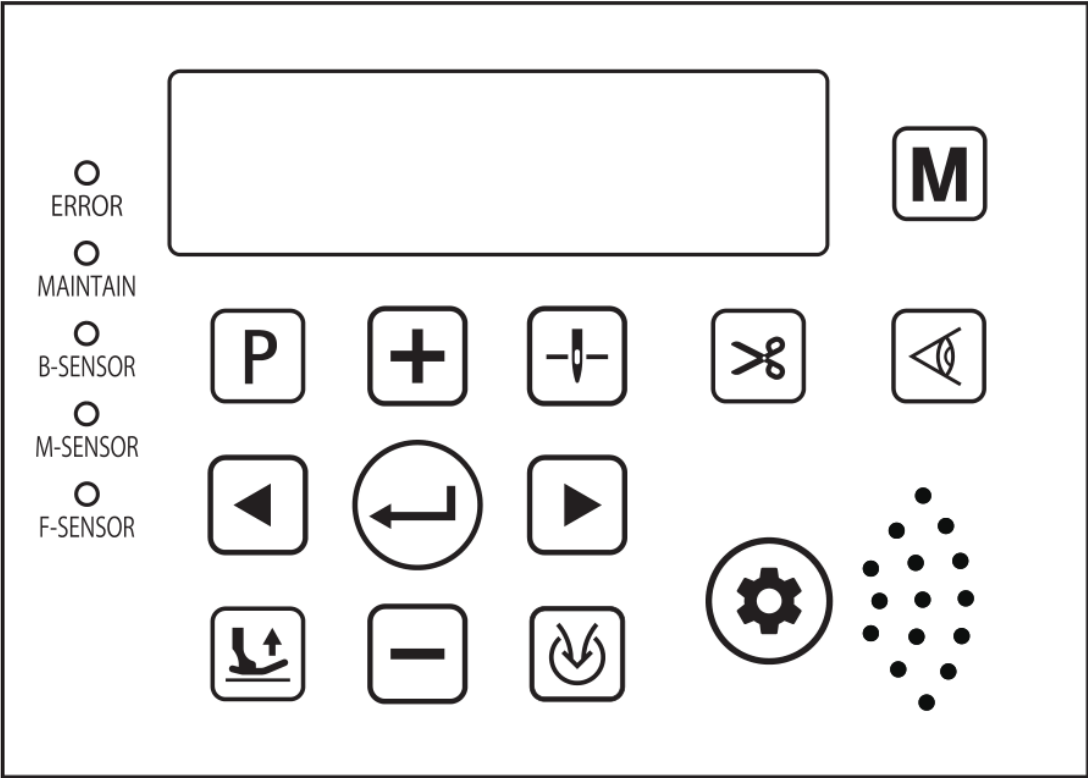
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1: Introduction to the common operation of the display



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: open and close the infrared light, long press 2 seconds into the light eye sensitivity adjustment. In the light eye sensitivity adjustment interface, click, , , to automatically adjust the light eye intensity corresponding to thin material, medium material, thick material. After the adjustment is completed, press the button to save.

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 cut line, after the cut line, before and after the cut line, 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: 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.	
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-SENSOR	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-SENSOR	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-SENSOR	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	Safety switch indicator light	Flashing when disconnecting, light off under normal circumstances
18	MAINTAIN	Maintenance indicator light	When the maintenance key is pressed, the lamp flashes and the lamp is turned off after exiting the service mode.

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 Technician system parameter list (long press **P** to enter)

NO.	Function description	Parameter default values	Parameter adjustment range	Parameter description
S02	Check the number of needles after living the first infrared light	20	1~50	Set the number of needles between two infrared light
S03	Delay before trimming the number of stitches	4	0~50	After the behind infrared light sensing, the number of stitches to delay trim
S04	Delay after trimming the number of stitches	4	0~50	After the behind infrared light leaving, the number of stitches to delay trim
S05	Front suction open needle number	2	1~50	Induction of the first infrared light from which needles began to inhale
S06	Front suction close needle number	14	1~50	When opened, the count after a few stitches to close the intake
S07	Behind suction open needle number	2	1~50	leaving the behind infrared light from which needles began to inhale
S08	Behind suction close delay	200	50~5000ms	After leaving the light eye, count how much milliseconds to close the inhale
S12	Stop delay pin number	2	1~99	After How many needles , it automatically stops after the cut line
S13	The suction opening pin number	50	1~247	Suction after how many needles leave eye light

S14	Suction close pin number	20	1~100	Number of suction pins
S15	Back cut light eye	25	1~100	After leaving the light in eyes for how many needle not detected the third eye light signal to begin to cut the line
S16	Back sensor response time	40	1~100ms	The front eye light' s response time after the induction
S19	The front presser foot retaining time	220	100~2000ms	The duration after the presser foot lift(ms)
S20	Trimming full power	100	0—100%	Trimming action full power adjustment
S21	Presser foot protection time	4	1~120S	how much time before manual presser foot turn off (s)
S22	the presser foot protection time	20	20~800ms	The time of putting the presser foot (ms)
S23	Continuous feed, suction, and shear line	0	0~1	0: close 1: open
S24	Manual trimming switch	1	0~1	0: When the motor is running, manual trimming doesn't work. 1: It works
S25	Safety switch	3	0~3	0: closed safety switch 1: sewing station safety switch 2: presser foot safety switch 3: open all safety switch
S26	Scissors keep time	35	10~1000ms	Cutting time (no need adjust in principle)

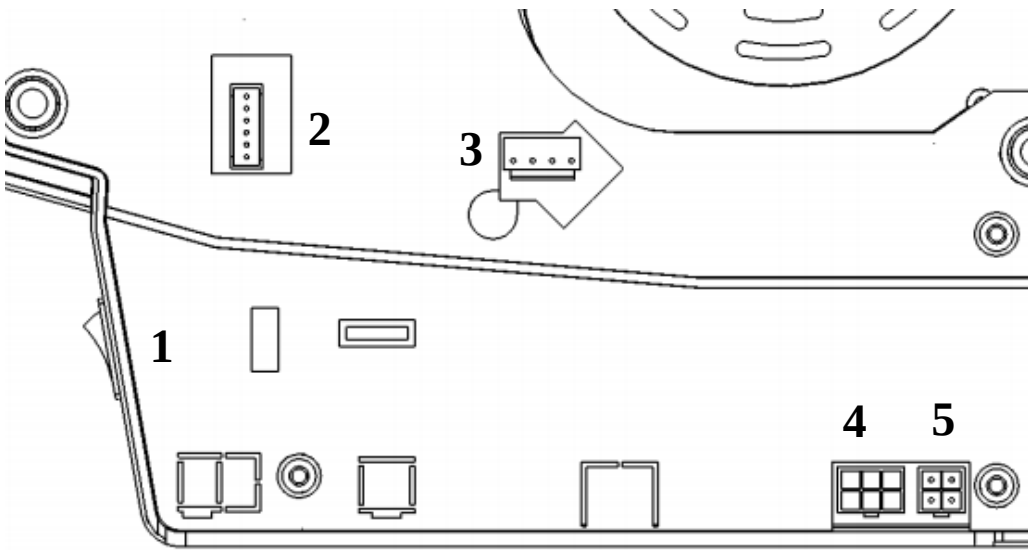
S27	Interface recovery time	5	5~99S	The time does the control panel go back to the main interface (seconds) after entering the menu
S29	Front light eye polarity	0	0~1	front light eye reflex reverse polarity
S30	Back light eye polarity	0	0~1	back light eye reflex reverse polarity
S31	Presser foot full time	180	10~990ms	Presser foot work full power time
S32	Presser foot full power	100	20~100%	presser foot start action, instantaneous power output
S33	Presser foot keep power	39	10~90%	presser foot lift after maintain power(no more than 50%)
S35	Back cut light eyes	1	0~1	0: close 1: open
S37	Language	1	0~1	0: Chinese 1: English
S38	Maximum speed lock	5500	300~6500	Limit the maximum adjustable speed of the motor
S39	Restore factory parameters	0	0~1	Adjusted to 1 and long press OK key to reset valid

3.2 Workers system parameter list (short press to enter)

Number	Function declaration	default	Reference range	Parameter specification
P-01	Operator schema	0	0~3	0: normal sewing1: free seam2:semi-automatic 3:full automatic
P-02	Infrared Sensor switch	0	0~1	0:off 1:on
P-03	trimming	3	0~3	0:off 1:front trimming 2:back trimming 3:front and back trimming
P-04	suction	3	0~3	0:off 1:front suction 2:back suction 3:front and back suction
P-06	Presser foot	3	0~3	0:no presser foot 1:front presser foot 2:back presser foot 3:front and back presser foot
P-07	Start mode of velocity	1	0~1	0:automatic 1:pedal
P-08	Needle position	1	0~1	0:below needle position 1:up needle position
P-09	automatic presser foot	0	0~1	0:off 1:on
P-10	Hand-operated suction	1	0~1	0:off 1:on
P-11	Start sewing speed	5500	300~6500	
P-12	Maximum speed	5500	300~6500	
P-13	Work lamp brightness	2	0~2	
P-14	Back-light brightness	1	0~1	0:off 1:on
P-15	Free for sewing	0	0~1	0:off 1:on
P-16	Semi-automatic constant speed trimming	0	0~1	0:off 1:on
P-17	Front presser foot	0	0~1	0:Automatic mode 1:hand-operated mode

P-18	Foot control trimming	1	0~1	0:off 1:all hand-operated
P-19	Medium suction	1	0~1	0:off 1:on
P-20	Half back presser foot	0	0~1	0:off 1:on
P-21	The presser foot after trimming	0	0~1	0:off 1:on
P-22	Turn off back presser foot	0	0~1	0:off 1:on
P-23	Start free sewing	0	0~1	0:off 1:on
P-24	Back cut light eyes delay detection	1	0~1	0:off 1:on
P-25	Mesh pattern stitch number	0	0-10	Adjust the appropriate number of stitches according to the size of the mesh hole.
P-26	The running-in switch	0	0~1	0:off 1:on
P-27	Running-in running time	4	3~20	Unit of time for Second
P-28	Running-in pause time	2	2~20	Unit of time for Second
P-29	Electric control version	V1.XX		
P-30	Display screen version	V1.XX		
P-31	Prompt tone	2	0~2	0:Mute 1:Buzzer 2:Voice
P-32	The volume	3	0~3	

4: Control box's port illustration



The port number	The name of the device port
1	power switch
2	Electric outlet
3	Encoding outlet
4	Electromagnet: trimming electromagnet, suck wind magnet or magnetic value, pressure foot lifer electromagnet
5	Speed controller port

5: Fault code analysis

Fault code	Fault description	Fault reason	Fault 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	The signal of the speed controller is wrong	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	The signal of the motor is wrong	1: the contact between plugs is bad 2: Moore and rotator have some big deviations when install the motor 3: the motor and Moore is broken	1: open the rubber cap and check whether the motor rotator 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	1: check the motor's 4P thread 2: check whether the sewing machine is too heavy. 3: change the controller

ER-05	Hardware over current	1: The sewing machine is too heavy or blocked 2: Motor overload	1: Check if the sewing machine is too heavy 2: Replace the controller 3: Restart the machine
ER-07	Communication timeout	1: display connection board line connection is bad 2: the main board chip is broken	1: check the connection line between the screen and the controller 2: check whether there are some high frequency machines interfering 3: Replace the controller
ER-09	Memory error	Memory on main board damage or error	1: Replace the controller
ER-11	Safety switch 1 is disconnected	1: press foot safety switch didn't go back to the right position 2: the contact of the connection lines of press foot is bad 3: the Moore component of the press foot is broken.	1: check whether the connection line of the press foot safety switch is abnormal 2: check whether the magnet of the press foot safety switch has gone back to the right position. 3: change the Moore component
ER-12	Safety switch 2 is disconnected	1: sewing platform's safety switch isn't installed right or is broken 2: line fault	1: check whether the sewing platform's safety switch is broken 2: check whether the sewing machine is lifted

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