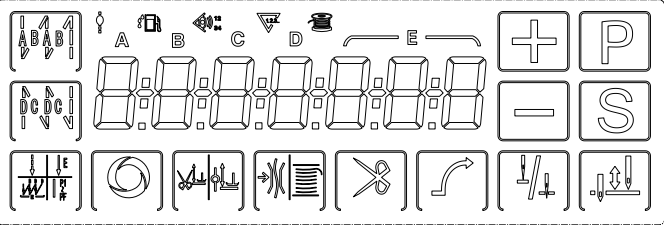


⚠Safety Instruction	
1. Users are required to read the operation manual completely and carefully before installation or operation.	
2. All the instruction marked with sign ⚠ must be observed or executed; otherwise, bodily injuries might occur.	
3. The product should be installed and pre-operated by well trained persons.	
4. For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection.	
5. When connecting power supply cords to power sources, it is necessary to make sure that the power voltage is lower than 250 VAC and matches the rated voltage indicated on the motor's name plate.	
⚠ ※Attention: If the Control Box is AC 220V system, please don't connect the Control Box to AC 380V power outlet. Otherwise, the error will occur and motor will not work. If that happens, please turn off the power immediately and check the power voltage.	
6. Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 5°C.	
7. Please avoid operating near the heater at dew area or at the humidity below 30% or above 95%.	
8. Don't operate in area with heavy dust, corrosive substance or volatile gas.	
9. Avoid power cord being applied by heavy objects or excessive force, or over bend.	
10. The earth wire of power cord must be connected to the system ground of the production plant by proper size of conduction and terminals. This connection should be fixed permanently.	
11. All the moving portions must be prevented to be exposed by the parts provided.	
12. Turing on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.	
13. Turn off the power before the following operation: a) Connecting or disconnecting any connectors on the control box or motor.	
b) Threading needle.	
c) Raising the machine head.	
d) Repairing or doing any mechanical adjustment.	
e) Machines idling.	
14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.	
15. All the spare parts for repair must be provided or approved by the manufacturer.	
16. Don't use any objects or force to hit or ram the product.	
Guarantee Time	
Warranty period of this product is 1 year dated from purchasing, or within 2 years from ex-factory date.	
Warranty Detail:	
Any trouble found within warranty period under normal operation, it will be repaired free of charge. However, maintenance cost will be charged in the following cases even if within warranty period:	
1. Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product.	
2. Damage by fire, Earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.	
3. Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency	
Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefore the grounding system of operate area must guarantee the good earth and it's also recommended to install a failsafe device. (Such as residual current breaker)	
1	

1 Button Displays and operating instructions



1.1 Key Description

Name	Key	Indicate
Function Parameter Edit		Press this key to enter or exit function parameter edit mode.
Setting Parameter Check And Save		For the content of the selected parameters check and save: after select parameter press this key to check and modify operation, after modified parameter value press this key to exit and save the parameter.
Set value increment / parameter increment key		1. A、B、C、D、E、F、G、H section, increase the number of setting stitch. 2. Increase the parameter in parameter selection. 3. Increase the setting value in parameter value. 4.Under the main interface click can increase sewing speed.
Set value decrement / parameter decrement key		1. A、B、C、D、E、F、G、H section, decrease the number of setting stitch. 2. Decrease the parameter in parameter selection. 3. Decrease the setting value in parameter value. 4.Under the main interface click can decrease sewing speed.
Back-tacking Selection		Execution starting back seam B segment or execution starting back seam (A, B segment) 1 Execution starting back seam (A, B segment) 2 times. if long press, can increase screen backlighting brightness.
End Back-tacking Selection		Execution terminates back seam C segment or execution terminates back seam (C, D segment) 1 Execution terminates back seam (C, D segment) 2 time. if long press, can decrease screen backlighting brightness
Free Sewing		As the treadle is toed down, machine will start sewing. Once the treadle returns to neutral, machine will stop immediately. As the treadle is heeled back, machine will automatically start trimming cycle.
Constant Stitch Sewing		Execute section E constant stitch sewing.

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Continuous Back Seam Shortcuts		Once the treadle is toed down, all the seams of bar-tacking will be completed with E times, and then the thread will automatically be trimmed. Note: When the bar-tacking sewing starts, will not stop until the trimming cycle finished, except for the treadle heeled back to cancel the action.
Multi-section set needle shortcuts		Line multi-section stitching function, when the display shows the icon, the activation of multi-section needle stitch function.
Automatically Trigger Button		1. (Valid only the Constant-Stitch Sewing) when the one-shot sewing function ON, screen display the icon. one-shot pedal, it can automatic completion the setting of sewing process. 2. If long press, can restore factory setting.
Automatic Presser Foot Lifting Setting		1. Automatic presser foot lifting after trimming function when  icon is lighting. 2. Automatic presser foot lifting after pause function when  icon is lighting. 3. Automatic presser foot lifting after pause function or trimming function when  icon and  icon are lighting. 4. Presser Foot is inactive when  icon and  icon are not lighting.
Thread clamping function / lifting the foot when the loose line function shortcut keys		Set used or cancelled clamp function.
Trimming Switch		Set used or cancelled thread trimming function.
Slow Launch Setting		Set used or cancelled slow launch function.
Needle Stop Position Selection		1. The needle stop position is up position when  icon is lighting. 2. The needle stop position is down position when  icon is lighting.
Lift Or Fill Up Needle		When sewing stop, press this key to actuate lift or fill up needle function.

2 User Parameter

No.	Items	Range	Default	Description
P01	Maximum Sewing Speed (rpm)	100-2200	2200	Maximum speed of machine sewing
P02	Set accelerated curve (%)	10-100	80	Set the acceleration slope
P03	Needle UP/ DOWN	UP/DN	DN	UP: Needle Stops at Up Position DN: Needle Stops at Down Position

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3 Error Code List

Error Code	Problem description	Measure
E1	Over-voltage	Turn off the machine, check the power supply voltage (Or whether exceed the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E2	Low-voltage	Turn off the machine, check the power supply voltage (Or whether under the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E3	CPU communication error	Turn off the machine, please check if the operation panel in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E5	Pedal connection error	Turn off the machine, please check if the pedal in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E7	Motor locked-rotor error	Turn the machine handwheel, check if it is stuck. If it is stuck, you have to rule out the mechanical failure. If turn normal, check if the encoder and motor in bad connection or is too loose. If yes, please correct. If connection well, check if the power supply voltage is abnormal or sewing speed is too high. If yes, please adjust. If there are still errors, please replace the control box and call for customer service.
E8	Manual reverse feeding operation more than 15 seconds	Back-Tacking electromagnet response time is too long, you have only to restart the machine. If there are still errors E-08 after restart the machine, check if the manual reverse feeding switch is damaged.
E09 E11	Positioning signal error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E10	Solenoid over-current	Turn off the machine, please check the related circuit is shorted or damaged.
E14	Encoder error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E15	Power supply module abnormal over-current	Turn off the machine, then turn on again. If there are still errors, please replace the control box and call for customer service.
E17	Machine protection switch is not in the correct position	Turn off the machine, check if the machine is turn over, or the Mercury Switch is shifted or damaged.
E20	Motor failed to start(Electrical angle error)	Turn off the machine, please check if the encoder and motor in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
oil	Low oil	Turn off the machine, check if the oil is too little. To fill it up and turn on. If there are still errors, please replace the control box and call for customer service.

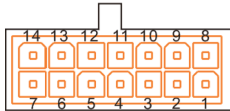
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P04	Start Back-Tacking Speed (rpm)	200-3200	1200	Set Start Back-Tacking Speed
P05	End Back-Tacking Speed (rpm)	200-3200	1200	Set End Back-Tacking Speed
P06	Bar-Tacking Speed (rpm)	200-3200	1200	Set Repeat Bar-Tacking Speed
P07	Soft Start Speed (rpm)	200-1500	400	Set Soft Start Speed
P08	Stitch Numbers for Soft Start	0-99	2	Soft Start Stitches Setting
P09	Automatic Constant-Stitch Sewing Speed (rpm)	200-2200	2200	Speed adjustment for automatic constant-stitch sewing
P10	Automatic End Back-Tacking Sewing	ON/OFF	ON	ON: After last seam of constant stitch sewing, it will automatic execute the End Back-Tacking sewing function. When turn on, the Stitch-Correction is invalid. OFF: Automatic End Back-Tacking will not execute after last seam, but can be done by pedal manually.
P11	Back-Tacking Mode Selection	J/B	J	J:JUKI Mode (Press TB switch will activate reverse solenoid when either machine is stopped or running). B:BROTHER Mode (Press TB switch will activate reverse solenoid only when machine is running).
P12	Start Back-Tacking running mode selection	0-3	1	0:Could be arbitrarily stop and start 1:Automatically perform actions 2:Pause mode
P13	Ending mode of Start Back-Tacking	CON/ST P	CON	CON: Start Back-Tacking is completed automatically continued for next action. STP: After the number of stitches is completed, stop automatically.
P14	Slow start function selection	ON/OFF	OFF	
P15	Mending stitch mode	0-4	2	0:half stitch; 1:one stitch; 2:continuous half stitch; 3:continuous one stitch; 4:continuous one stitch, quick stop.
P16	Back-Tacking speed limit	0-3200	0	When the parameter is 0,the speed limit function is OFF.
P18	Start Back-Tacking compensation 1	0-200	138	Compensation for A part of Start Back-Tacking.
P19	Start Back-Tacking compensation 2	0-200	153	Compensation for B part of Start Back-Tacking.
P20	End Back-Tacking running mode selection	1-3	1	1:Automatically perform actions 2:Pause mode
P21	The position of the pedal for running	30-1000	520	
P22	The position of the pedal for the stop	30-1000	418	
P23	The position of the pedal for lifting presser foot	30-1000	270	
P24	The position of the pedal for thread trimming	30-1000	130	
P25	End Back-Tacking compensation 3	0-200	138	Compensation for C part of End Back-Tacking.
P26	End Back-Tacking compensation 4	0-200	153	Compensation for D part of End Back-Tacking.
P28	Bar-Tacking running mode selection	0-3	1	0:Could be arbitrarily stop and start 1:Automatically perform actions 2:Pause mode
P29	The rate of thread trimming stop	1-45	28	
P30	The strength of the motor torque when sewing	0-100	10	The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities.

4

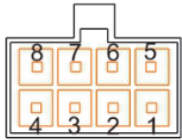
4 Port Diagram

4.1 14P function port description



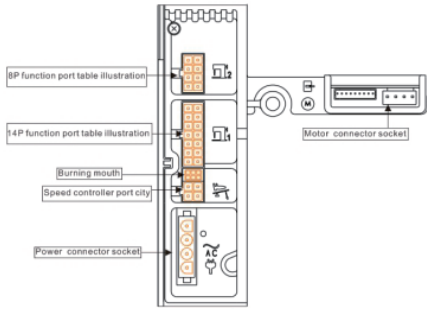
- ① Trimming electromagnet: 1、8
- ② Wiper/clamp solenoid:2、9
- ③ Loose wire electromagnet:3、10
- ④ 5V sewing machine lamp: 4、11
- ⑤ Manual backstitch: 5、12
- ⑥ Backstich solenoid: 6、13
- ⑦ Needle switch:7、14

8P function port description



- 1.Oil level sensor: 5 (+5V)、6 (DGND)、2 (signal)
- 2.Presser foot position sensor: 1 (+5V)、7 (DGND)、3 (signal)
- 3.Presser foot electromagnet: 4、8

4.2 Port Description



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