


### Safety Instruction

1. Users are required to read the operation manual completely and carefully before installation or operation.
2. The product should be installed and pre-operated by well-trained persons. All power supplies must be turned off during the installation work, remember not to operate with power on.
3. All the instruction marked with sign  must be observed or executed; otherwise, bodily injuries might occur.
4. For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection.
5. When connecting the power cord, you must make sure that the operating voltage is lower than AC 250V and that it meets the rated voltage value specified in the product logo.  
※ Note: If the power specification of the electric control box is AC220V, please do not plug it into the AC380V power socket, otherwise abnormality will occur and the motor will not operate. At this time, immediately turn off the power switch and recheck the power supply. Continuous supply of 380V for more than five minutes may burn the components in the electric control box and endanger personal safety.
6. Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 0°C.
7. Please avoid operating near the heater at dew area or at the humidity below 10% or above 90%.
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 conductions 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:
  1. Connecting or disconnecting any connectors on the control box or motor.
  2. Threading needle.
  3. Raising the machine head.
  4. Repairing or doing any mechanical adjustment.
  5. 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**

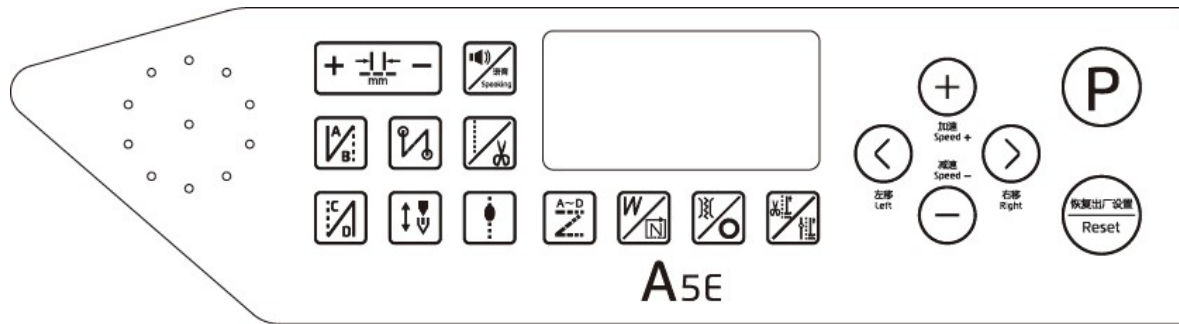
Any trouble found within warranty period under normal operation, it will be repaired free of charge. However, maintenance cost will be charged in the following cases even if within warranty period:

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

\* 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 Key Description










Name	Key	Indicate
Stitch length setting		If click <b>+</b> , Stitch length increases by 0.1mm each time If click <b>-</b> , Stitch length decreases by 0.1mm each time.
Start back-tacking sewing		If click, switch starting back seam (A, B segment) 1 time, starting back seam (A, B segment) 2 times or turn off.
Clamping function without any thrum		If click, set used or cancelled clamping function without any thrum.
End back-tacking sewing		If click, switch ending back seam (C, D segment) 1 time, ending back seam (C, D segment) 2 times or turn off.
Needle stop position selection		If click, shift to the needle stop position (up position / down position).
Clamping function / Auto function		If click, set used or cancelled clamping function. If long-press, set used or cancelled auto function (Effective in multi-segment mode).
Press foot lifting after trimming / Press foot lifting after pause		If click, set used or cancelled press foot lifting after trimming function. If long-press, set used or cancelled press foot lifting after pause function.
Free sewing / Thread trimming		If click, shift to free sewing If long-press, set used or cancelled thread trimming function.
W sewing / Multi-segment sewing		If click, shift to W sewing. If long-press, shift to multi-segment sewing.
Lock needle key		If click, set to use front lock needle, back lock needle, front and back lock needle or cancel front and back lock needle function. (The needle lock function is tight seam)

Boot speech / Voice function key		Without error: 1. If click, the boot speech switch is cyclically selected. 2. If long-press, the voice switch is cyclically selected. In the case of error: If click, broadcast error codes and solutions directly.
Pattern sewing mode		If click, switch the pattern sewing mode and pattern sewing editing.
Function parameter edit		Press this key can enter or exit the parameter setting interface. Save and exit the selected parameter: Press this key after modifying the parameter value to exit and save the parameter.
Parameter increase		The main interface, if clicked, increase the speed of 50 rpm each time. Parameter interface, if click, increase the parameter.
Parameter decrease		The main interface, if clicked, reduces the speed of 50 rpm each time. Parameter interface, if click, decrease the parameter.
Left selection		Left selection parameter content
Right selection		Right selection parameter content
Restore Factory		Long-press can restore factory setting.






## 2 Auxiliary Function



### 2.1 Parameter adjustment

#### 2.1.1 User parameter adjustment

Boot, long press  key enter to user parameter mode. Press  or  to change parameter item, remove cursor, the corresponding digit value is flashing, then press  or  to modify this digit value, when the cursor is blinking at a numerical position, press  key, the whole parameter value is flashing, save the parameter. Press  key again to exit.

#### 2.1.2 Technician parameter adjustment



In the off state, hold on  key to turn on the machine (show P92) enter to technician parameter mode. Press  or  change parameter item, remove cursor, the corresponding digit value is flashing, then press  or  to modify this digit value, when the cursor is blinking at a numerical

position, press  key, the whole parameter value is flashing, save parameter. Press  key again to exit.



## 2.2 Soft start

P14 adjustment in user parameters, the parameter is ON means open, the parameter is OFF means close (The default value).




## 2.3 Needle stop position function setting

In the off state, press and hold  key to enter the technician parameter mode (the P92 parameter interface is displayed). Adjust the parameter to P72, manually rotate the handwheel to up position, the value displayed will change with the change of the wheel position. Press  key to save the current position (value) as the up needle stop position and calculate down needle stop position automatically.

## 2.4 Stepper motor zero correction setting

In the shutdown state, press and hold  key to boot into the technician parameter mode (display the P92 parameter interface). Adjust the parameter to item P129, use ordinary A4 paper to measure, the speed is 4000, adjust the parameter to make the needle stick more than 10 stitches in place, and press the  key to save; (if the stitch length is along the seam, the number increases upwards, if the stitch length is reverse stitching, the number decreases downward, the value is between -50 and -80.)

## 2.5 Stitch length setting

In the shutdown state, press and hold  key to boot into the technician parameter mode (display the P92 parameter interface). Adjust the parameter to P197 (tacking stitch length compensation), adjust the stitch length to 5, use ordinary A4 paper, speed 200 to measure, adjust the parameter so that the stitch length is 4.9-5.1mm, press  to save, (The larger the stitch pitch, the greater the stitch length, The stitch length of 1 value changed to about 0.05), then enter the P198 (back-tacking stitch length compensation) parameter, use ordinary A4 paper, speed 200 to measure, press and hold the back-tacking switch, speed 200, adjust parameters to make the sewing overlap more than 11 stitches, press  key to save; (the greater the value, the greater the back-tacking stitch length)

## 2.6 Quick adjustment of presser foot lift

In the main interface, press and hold  and , you can quickly turn on or off the presser foot lifting function.

## 3 Parameter Definition

### 3.1 User Parameter (Turn on the machine and long-press P key to enter)

No.	Items	Range	Default	Description
P01	Maximum sewing speed (rpm)	100-5000	4000	

P02	Set accelerated curve (%)	10-100	80	The speed controller climbing slope setting. The large of slope value = the fast of the speed. The small of slope value = the slow of the speed.
P03	Needle up/ down	UP/DN	DN	UP: Needle stops at up position DN: Needle stops at down position
P04	Start back-tacking speed (rpm)	200-3200	1800	
P05	End back-tacking speed (rpm)	200-3200	1800	
P06	W sewing speed (rpm)	200-3200	1800	
P07	Soft start speed (rpm)	200-1500	400	
P08	Stitch numbers for soft start (needle)	1-15	2	
P09	Automatic multi-segment sewing speed (rpm)	200-4000	3700	Speed adjustment for automatic constant-stitch sewing
P10	Automatic end back-tacking sewing after multi-segment sewing (without mending stitch function)	ON/OFF	ON	ON: After executing the last multi-segment sewing, the back-tacking sewing will be executed automatically. Note: In other words, in any sewing mode, mending stitch function cannot be used. OFF: After executing the last multi-segment sewing, the back-tacking sewing function will not be automatically executed, and the front step or full back step must be performed again.
P12	Start back-tacking running mode Selection	0-1	1	0: Controlled by foot pedal, can be stopped and started at will. 1: Touch the foot pedal to automatically execute start back-tacking action.
P13	Operation mode selection of the end point of start back-tacking sewing	CON/STP	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	0-6	5	0: OFF 1: Half stitch 2: One stitch 3: Continuous half stitch 4: Continuous one stitch 5: Back-tacking when machine stop or pause 6: Tight seam function
P16	Speed limit of manual back-tacking	0-3200	0	When the parameter is 0, the speed limit function is OFF.

P17	Automatic count mode selection	0-9	1	0: P41 parameter disable auto-count. 1-9: P41 item counter automatically counts one piece every 1-9 times of tangent.
P18	Start back-tacking compensation 1	0-200	162	0~200 action gradually delay.
P19	Start back-tacking compensation 2	0-200	162	0~200 action gradually delay.
P20	End back-tacking running mode selection	0-1	1	0: Artificial, controlled by foot pedal, can be stopped and started at will. 1: Automatic, touch the foot pedal to automatically execute back-tacking action.
P21	The position of the pedal for running	30-1000	520	
P22	The position of the pedal for stopping	30-1000	420	
P23	The position of the pedal for presser foot lifting	30-1000	270	
P24	The position of the pedal for thread trimming	30-500	130	
P25	End back-tacking compensation 3	0-200	162	0~200 action gradually delay.
P26	End back-tacking compensation 4	0-200	162	0~200 action gradually delay.
P28	W sewing running mode selection	0-1	1	0: Controlled by foot pedal, can be stopped and started at will. 1: Touch the foot pedal to automatically execute back-tacking action.
P29	The strength of thread trimming stop	1-45	20	
P32	W sewing compensation 5	0-200	162	
P33	W sewing compensation 6	0-200	162	
P34	Multi-segment sewing running mode selection	A/M	A	A: Touch the foot pedal to automatically execute constant-stitch sewing action. M: Controlled by foot pedal, can be stopped and started at will.
P35	Thread slacking function setting when presser foot lifting	0-2	0	0: OFF 1: Thread slacking function ON when presser foot lifting, Thread slacking function off when pause 2: Full function
P36	Thread slacking function selection	0-1	1	0: OFF 1: ON
P37	Thread wiping function / Thread clamping function selection	0-11	8	0: OFF 1: Thread wiping function 2-11: Thread clamping function, the higher the value, the stronger the action.
P38	Automatic thread trimming function selection	ON/OFF	ON	ON: With thread trimming OFF: Without thread trimming

P39	Automatic presser foot lifting when pause function selection	UP/DN	DN	UP: When the sewing stops, the presser foot will lift automatically DN: When the sewing stops, the presser foot will not lift automatically (Controlled by heeling pedal)
P40	Automatic presser foot lifting after trimming function selection	UP/DN	DN	UP: When the sewing stops, the presser foot will lift automatically DN: When the sewing stops, the presser foot will not lift automatically (Controlled by heeling pedal)
P41	Counter display	0-9999		The number of sewing completed pieces is displayed; long press parameter decrease key to clear the count;
P42	Information display		N01	N01 The control system version number I N02 The panel version number N03 Speed N04 The pedal AD N05 The mechanical angle(up position) N06 The mechanical angle(down position) N07 Busbar voltage AD N12 Kneeling device position sensor AD N13 Presser foot height sensing AD N14 The control system version number II N15 Stepping version number
P43	Direction of motor rotation	CCW/CW	CCW	CW: Clockwise CCW: Counter Clockwise

### 3.2 Technician Parameter (Hold P key to boot)

No.	Items	Range	Default	Description
P44	Brake strength during stopover	1-45	16	Adjustment of efforts while machine stop.
P46	Motor stop with a reverse angle after trimming function	ON/OFF	OFF	ON: Function on OFF: Function off
P47	Adjust the reverse angle when motor stop after trimming	40-200	160	After trimming, count from the up needle position and adjust the angle of the needle lift by reverse rotation.
P48	Minimum speed (Positioning speed) (rpm)	100-500	200	Minimum speed limit adjustment
P49	Thread trimming speed (rpm)	100-500	250	Adjust the motor speed during the trimming cycle
P50	Foot lifter operation time to full output (ms)	10-990	200	
P51	Presser foot lifter operation duty cycle (%)	10-50	30	Presser foot lifter operate in duty cycle to save electricity and protect the electromagnet from over-heat.

P52	Delay the start of the motor to protect the lowering time of presser foot (ms)	10-990	120	Delay the start time, with automatic presser foot down.
P53	Half back pedaling lifting presser foot function to cancel	0-2	1	0: OFF 1: Back pedaling and half back pedaling with lifting presser foot. 2: half back pedaling without lifting presser foot, back pedaling with lifting presser foot.
P54	Thread trimming action time (ms)	10-990	200	Completion of the thread trimming action required time.
P55	Thread wiping action time (ms)	10-990	10	Completion of the thread wiping action required time.
P56	Power on and positioning	0-1	1	0: always not to find the up needle position 1: always to find the up needle position
P57	Presser foot solenoid protection time (s)	1-60	5	Forced shutdown after hold time to prevent the electromagnet from being hot for a long time
P58	Up needle position adjustment	0-359	180	Up position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P59	Down needle position adjustment	0-359	350	Down position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P60	Testing speed (rpm )	100-4000	3500	Setting testing speed.
P61	Testing A	ON/OFF	OFF	After setting A, continuous running at the speed of 【P60.TV】
P62	Testing B	ON/OFF	OFF	Option of Testing B, after setting press 【P60.TV】 to set the speed execute the cycle of Start – Sewing –Stop - Trimming
P63	Testing C	ON/OFF	OFF	Option of Testing C, after setting press 【060.TV】 to set the speed execute the cycle of Start – Sewing –Stop without positioning function
P64	Running time of testing B and C	1-250	30	Setting running time of testing B and C
P65	Stop time of testing B and C	1-250	10	Setting stop time of testing B and C
P66	Machine protection switch selection	0-2	1	0: Disable 1: Testing zero signal 2: Testing positive signal
P68	Maximum speed limit	100-5000	4000	
P69	The speed of pattern freedom sewing	100-3000	2000	
P71	Correction stitches distance of manual button A	0-50	30	



P72	Up needle position adjustment	0-359		
P73	Down needle position adjustment	0-359		
P76	Brake strength of back-tacking step motor	0-5	0	
P78	The start angle of thread clamping	10-150	130	Positioning angle when start clipping.
P79	The stop angle of thread clamping	160-359	320	Positioning angle when finish clipping.
P80	The start angle of thread trimming	0-359	5	Shear line infeed id angle setting(under defined as 0°)
P81	Presser foot release buffer time	1-800	200	
P82	The stop angle of thread trimming	0-359	175	Feeder back angle of thread trimming setting Down position as 0°.
P83	Stopping strength after trimming	10-100	20	
P86	The distance of up and down position	15-345	170	
P87	Wiping thread return delay time	10-990	50	Make sure the wiper return to its original position
P88	Stopover distance	10-100	30	
P89	Alternating current (AC) over-voltage value setting	500-1023	880	
P92	Correct the electrical angle of motor	0-1200	430	Press the needle position key to read the initial angle of encoder, the factory default was set, please do not change the values (parameter value cannot be changed manually, random change it will result the control box and motor abnormal or damaged).
P93	The delay time of the half back pedaling function (ms)	10-900	100	
P99	Starting tight seam stitch length	0-50	8	If the value is 10, the stitch length is 1.0
P100	Direction of starting tight seam	0-1	0	
P101	The start angle of thread slacking	1-359	30	Thread slacking start angle (defined as 0°under calculation)
P102	The stop angle of thread slacking	1-359	180	Thread slacking end angle (defined as 0°under calculation, must be greater than P101 parameter value)
P103	Thread slacking strength	1-5	3	
P105	Pattern freedom sewing mode selection	N0-N9	N0	N0: OFF N1-N9: Pattern freedom sewing mode
P107	Starting tight seam speed	100-2500	1000	
P108	Starting tight seam stitch number	0-12	2	When the parameter value is 0, ending tight seam function is closed

P109	The delay time before thread wiping	5-990	5	Interval time before entering thread wiping action after finding the upper positioning
P110	Trimming back time (ms)	60-990	65	Make sure the thread trimming device returns to its original position
P111	Clamp function without any thrum switch	0-1	0	
P112	The delay time before hook thread with clamp function without any thrum	0-990	100	
P113	The hook thread action time with clamp function without any thrum	0-990	30	
P114	The return back time of hook thread with clamp function without any thrum	0-990	30	
P115	Duty cycle for hook thread with clamp function without any thrum	0-100	80	0: Function off
P116	The suction time for clamp function without any thrum	0-5000	1000	
P117	Duty cycle for pull thread with clamp function without any thrum	0-100	80	
P119	Electromagnet over-current protection selection	0-1	0	0: OFF 1: ON
P120	Oil level alarm switch	0-1	1	0: OFF 1: ON
P123	Maximum stitch length limit	0-70	50	
P129	Back-tacking step motor zero-point correction	-500~500	-65	
P131	Normal stitch length	0-50	35	Stitch length in normal sewing mode
P132	Manual close stitches distance	0-50	20	
P133	Layer seam stitch length	0-50	40	
P138	Foot lifting release buffer duty cycle (%)	0-100	10	
P139	Foot lifting release buffer delay time (ms)	0-200	5	
P143	Tight seam mode selection	0-3	2	Tight seam mode selection: 0: OFF 1: Starting tight seam 2: Ending tight seam 3: Full function
P144	High-speed tacking stitch length compensation	-50~50	0	The larger the value, the smaller the high-speed stitch length.

P145	High-speed back-tacking stitch length compensation	-50~50	0	The larger the value, the smaller the high-speed stitch length.
P153	Ending tight seam stitch length	0-50	5	If the value is 10, the stitch length is 1.0
P154	Ending tight seam speed	100-2500	1800	
P159	Direction of ending tight seam	0-1	0	0: Forward 1: Backward
P160	Ending tight seam stitches	0-12	2	When the parameter value is 0, the function off.
P167	Key tone and voice navigation selection	0-3	1	0: OFF 1: With voice navigation and key tone 2: With key tone but Without voice navigation 3: With voice navigation but without key tone
P168	Voice settings	0-2	1	0: OFF 1: Chinese 2: English
P169	Boot speech switch	0-1	1	0: OFF 1: ON
P197	Tacking stitch length compensation	-50~50	0	It is adjusted when main shaft at low speed, the larger the value is, the larger the stitch length is, it is used when the stitch length is inconsistent due to mechanical error.
P198	Back-tacking stitch length compensation	-50~50	0	It is adjusted when main shaft at low speed, the larger the value is, the larger the stitch length is, it is used when the stitch length is inconsistent due to mechanical error.
P201	Start sewing presser foot lifting switch	0-1	0	0: OFF 1: ON
P202	The start angle of start sewing presser foot lifting	0-359	1	
P203	The stop angle of start sewing presser foot lifting	0-359	200	
P204	Start sewing presser foot lifting strength	0-100	60	
P205	Start sewing first stitch speed limit	0-1500	600	The default 0 is off
P206	Start sewing second stitch speed limit	0-2000	1200	The default 0 is off
P207	Start sewing third stitch speed limit	0-2500	0	The default 0 is off
P208	Panel stitch length lock function	0-1	0	0: Off 1: ON(+ key and - key on the main interface are invalid)

P216	The start angle of clamping when start back-tacking sewing and W sewing function on	10-159	80	
P217	The stop angle of clamping when start back-tacking sewing and W sewing function on	160-359	180	
P218	The start angle of clamping when starting tight seam function on	10-159	80	
P219	The stop angle of clamping when starting tight seam function on	160-359	180	

Note: the initial value of parameters is for reference only, and the actual value of parameters is subject to the real object.

#### 4 Error Code List

Error Code	Problem description	Measure
E01	Over-voltage	Turn off the machine, check the power supply voltage, or whether it exceeds the rated voltage used. If there are still errors, please replace the control box and call for customer service.
E02	Low-voltage	Turn off the machine, check the power supply voltage, or whether it is lower than the rated voltage used. If there are still errors, please replace the control box and call for customer service.
E03	CPU communication error	Turn off the power and check whether the connector is connected to the operation panel and the cable condition, restart the system after returning it to normal. If there are still errors, please replace the control box and call for customer service.
E05	Speed control unit connection is abnormal	Please turn off the power and check whether the connector is connected to the speed controller and the cable condition, restart the system after returning it to normal. If there are still errors, please replace the control box and call for customer service.
E07	Main shaft motor rotating abnormally	Please rotate handwheel to check if the spindle motor is locked. Check if the encoder cable of the motor and the power cable of the motor are connected to the connector. Check if the power supply voltage is normal and whether the sewing speed is too high. If it still does not work normally after the removal, please replace the control box and call for customer service.
E10	Solenoid over-current protection	Turn off the system power supply, please check the solenoid is broken or not.
E09	Positioning signal error	Turn off the system power supply, please check motor encoder connector if loose or fall off, restore it to normal then restart system. If there are still errors, please replace the motor and call for customer service.
E11		
E14	Encoder signal error.	Turn off the system power supply, please check motor encoder connector if loose or fall off, restore it to normal then restart system. If there are still errors, please replace the motor and call for customer service.
E15	Power module abnormal over-current protection	Turn off the power, and then turn it on again. If there are still errors, please replace the control box and call for customer service.

E17	Safety switch alarm	Turn off the system power, check whether the machine head is opened, and whether the ball switch in the control box is displaced or damaged.
E20	Motor start failed	Turn off the system power supply, please check motor encoder connector and motor power socket if loose or fall off, restore it to normal then restart system. If there are still errors, please replace the motor and call for customer service.
E30	Shutdown failure when password is locked	The machine has reached the set time. If you need to continue using it, please contact your local service provider.
E40	Crystal oscillator of panel abnormal	Turn off the power and replace the panel PCB. If there are still errors, please call for customer service.
E80	Abnormal communication between the main CPU and the step driver CPU	Turn off the system power and restart. If you still get an error, please call for customer service.
E82	Back-tacking step motor overcurrent	Turn off the power and check the step motor connector, then turn it on again. If you still get an error, please call for customer service.
E84	Back-tacking step motor encoder Z signal abnormal	Turn off the power and check the step motor connector, then turn it on again. If you still get an error, please call for customer service.
E85	Back-tacking step motor encoder AB signal abnormal	Turn off the power and check the step motor connector, then turn it on again. If you still get an error, please call for customer service.
E86	Back-tacking step motor failed to start	Turn off the power and check whether the connector connecting the step motor coding cable and the power cable is loose or fall off, restore it to normal and restart the system. If it still does not work properly, please replace back-tacking step motor and call for customer service.
E87	Back-tacking step motor locked-rotor	Turn off the power and check whether back-tacking step motor is locked, restore it to normal and restart the system. If it still does not work properly, please replace back-tacking step motor and call for customer service.
Oil	Low oil warning	Turn off the power, check whether the oil amount of the sewing machine is too low, and restart the system after filling the oil amount.

Note: 1. Stepping motor encoder wire alarm troubleshooting: when alarm E84 please kindly check whether the encoder wire black (ground wire), blue (zero position signal) and pink (power wire) fall off or not; when alarm E85 please kindly check whether the encoder connector falls off or not, if not please kindly check whether the encoder wire black (ground wire), brown (A signal) and orange (B signal) fall off or not; when the machine after start or normal operation alarm E87 please kindly check the encoder connector falls off or not.

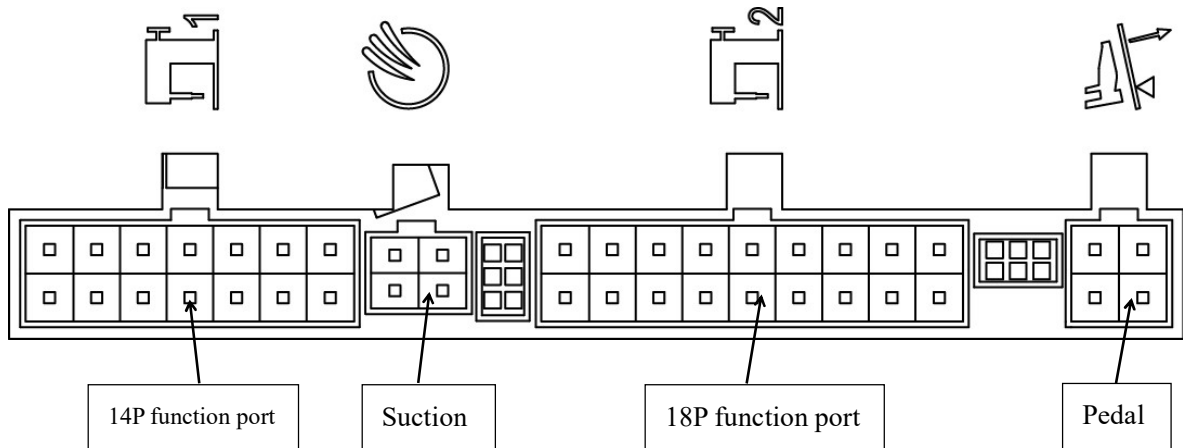
2. Stepping motor power wire alarm troubleshooting: when alarm E82 please kindly check whether the power wire red (A power wire), blue (B power wire), green (C power wire) falls off or not; when starting up then alarm E82 please kindly check whether the connector of power wire falls off or not; if not, please kindly check whether the blue (B power wire), green (C power wire) falls off or not; when the machine after start or normal operation alarm E87 please kindly check the power wire connector falls off or not.

If the above problem is that the wire or connector falls off, please disconnect the power supply and reconnect again. If not, please refer above to solve.

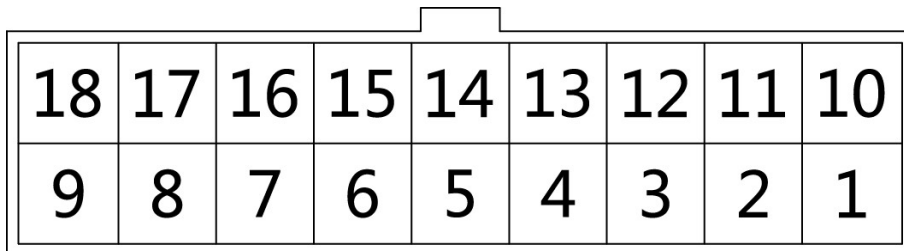
3. The motor disc problem caused alarm troubleshooting: when alarm E85 and the above wire and connectors all not falls off, then please kindly check whether the outer ring motor disc is covered by oil or not. If the outer ring motor disc is covered by oil, please contact after-sales service to replace the motor disc.

## 5 Port Diagram

### 5.1 Port Description

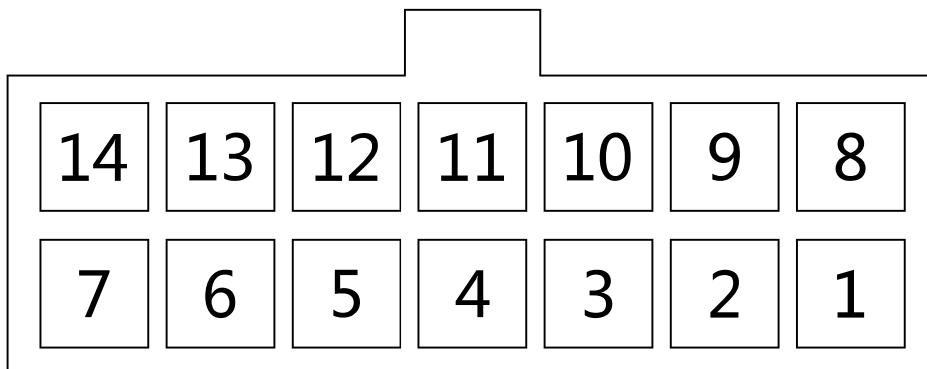


### 5.2 18P function port description



1. Oil level sensor: 2、 11
2. Half-needle button: 4、 14(GND)
3. Back-tacking key switch: 5、 14(GND)
4. Fill needle key switch: 6、 14(GND)

### 5.3 14P function port description



1. Trimming electromagnet: 2、 9
2. Clamping electromagnet: 5、 12
3. Thread releasing electromagnet: 6、 13
4. Presser foot electromagnet: 7、 14