

▲ Safety Instruction

- Users are required to read the operation manual completely and carefully before installation or operation.
 - The product should be installed and pre-operated by well trained persons
 - All the instruction marked with sign ▲, must be observed or executed; otherwise, bodily injuries might occur.
 - For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection
 - When connecting power supply cords to power sources, it is necessary to make sure that the power voltage is lower than 250V AC 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. Continue supply 380V power over 5 minutes might damage the fuse F2, burst the electrolytic capacitors and the power module U14 of the main board and even might endanger the person safety.
 - Please don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 0°C.
 - Please avoid operating near the heater at dew area or at the humidity below 10% or above 95%.
 - Please don't operate in area with heavy dust, corrosive substance or volatile gas.
 - Avoid power cord being applied by heavy objects or excessive force, or over bend.
 - 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.
 - All the moving portions must be prevented to be exposed by the parts provided.
 - Tuning on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
 - Turn off the power before the following operation:
 - Connecting or disconnecting any connectors on the control box or motor.
 - Threading needle.
 - Raising the machine arm.
 - Repairing or doing any mechanical adjustment.
 - Machine is out of work.
 - Repairing and high level maintenance work should only be done by electronic technicians with appropriate training.
 - All the spare parts for repairing work must be provided or approved by the manufacturer.
 - Don't use any objects 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:
- 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.
 - Damage by fire, Earth quake, lightning, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage caused by the natural disaster or by the inappropriate environments.
 - 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 all a failsafe device. (Such as residual current breaker).

1. Button Display and Operating Instructions

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.
Parameter Increase/ Speed Increase		Increase the parameter/ Increase the sewing speed
Parameter Decrease/ Speed Decrease		Decrease the parameter/ Decrease the sewing speed
LED brightness adjustment		Press this key to adjust LED brightness.
Slow Launch Setting		Set used or cancelled slow launch function.
Automatic Presser Foot Lifting Setting		Click to shift auto presser foot lift OFF, intermediate stop presser foot lift, presser foot lift after trimming, presser foot lift after intermediate stop and trimming
Auto-suction		Set used or cancelled auto-suction function.
Needle Stop Position Selection		Set needle stop position.
Wiper Key		Set used or cancelled wiper function.
Upper knife trimming		Set used or cancelled upper knife trimming function.
Lower knife trimming		Set used or cancelled lower knife trimming function.

2 User Parameter

No.	Items	Range	Default	Description
P01	Maximum Sewing Speed (rpm)	100-6000	4500	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
P07	Soft Start Speed (rpm)	200-1500	1000	
P08	Stitch Numbers for Soft Start	1-99	2	
P14	Slow start function selection	ON/OFF	OFF	
P15	Mending stitch mode	0-4	3	
P21	The position of the pedal for running	30-1000	500	
P22	The position of the pedal for the stop	30-1000	420	
P23	The position of the pedal for lifting presser foot	30-1000	280	
P24	The position of the pedal for thread trimming	30-500	130	
P29	The rate of thread trimming stop	1-45	20	
P36	Thread wiping switch selection	ON/OFF	OFF	
P37	Upper knife trimming output function setting	ON/OFF	ON	
P38	Lower knife trimming output function setting	ON/OFF	ON	
P39	Automatic presser foot lifting when pause function selection	UP/DN	DN	UP: ON DN: OFF
P40	Automatic presser foot lifting after trimming function selection	UP/DN	DN	UP: ON DN: OFF
P41	Counter display	0-9999		Display the quantity of finished sewing piece
P42	Information Display			N01 The control system version number N02 The panel version number N03 Speed N04 The pedal AD N05 The mechanical angle(up position) N06 The mechanical angle(down position) N07 Bushar voltage AD
P43	Direction of Motor Rotation	CCW/CW	CCW	CW: Clockwise CCW: Counter Clockwise
P44	The rate of normal stop	1-45	25	
P46	Motor stop with a reverse angle after trimming function	ON/OFF	OFF	

P47	Adjust the reverse angle when motor stop after trimming	50-200	160	
P48	The minimum speed Limit (rpm)	100-500	200	Adjust the minimum speed.
P50	Foot lifter operation time to full output (ms)	10-990	150	
P51	Presser foot lifter operation duty cycle (%)	1-50	30	Presser foot lifter operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P52	Motor starting delay time (ms)	10-990	150	Delay the start time, with automatic presser foot down.
P53	Lifting presser foot function selection	0-2	1	0: OFF 1: ON 2: Half back pedaling without function, back pedaling with function
P54	Lower knife trimming action time (ms)	10-990	100	Lower knife trimming sequence time
P55	Upper knife trimming action time (ms)	10-990	45	Upper knife trimming sequence time
P56	Power on and positioning	0-2	0	0: always not to find the up needle position 1: always to find the up needle position 2: If the motor is not into the up needle position, it will find the up needle position
P57	Hold time of presser foot lifter (s)	1-120	10	Forced shut-down after hold time.
P58	Up needle position adjustment	0-1439	40	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	0-1439	750	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)	100-6000	4000	Setting testing speed.
P61	Testing A	ON/OFF	OFF	Continuous running testing.
P62	Testing B	ON/OFF	OFF	Start and stop testing with all functions.
P63	Testing C	ON/OFF	OFF	Start and stop testing without all function.
P64	Running Time of Testing	1-250	50	
P65	Stop Time of Testing	1-250	50	
P66	Machine protection switch selection	0-2	0	0: Disable 1: Testing zero signal 2: Testing positive signal

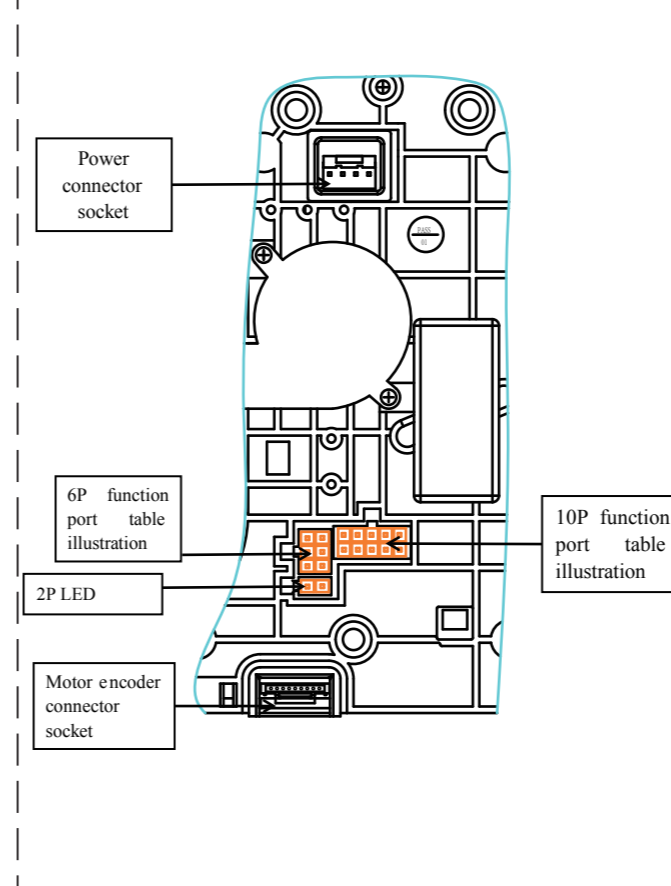
P67	Thread trimming protection switch selection	ON/OFF	ON	
P70	The factory type selection			
P71	Presser foot release operation duty cycle (%)	0-50	0	The buffer force of presser foot release operation.
P72	Up needle position adjustment	0-1439		Hand rotation manual to the appropriate position, press S key to save
P73	Down needle position adjustment	0-1439		Hand rotation manual to the appropriate position, press S key to save
P87	Upper knife trimming back delay times (ms)	10-990	50	
P89	Exchange overvoltage settings	500-1023	880	
P92	Correct the electrical angle of motor			Reading 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	150	
P105	Electric/ pneumatic selection	0-1	0	0: Electric 1: Pneumatic
P108	Interlock suction function selection	ON/OFF	ON	
P109	The delay time before upper knife trimming action after finding up needle stop position	5-990	55	
P110	Lower knife trimming back delay times(ms)	60-990	60	
P112	Lower knife trimming output action time(ms)	10-990	100	
P113	Periodic signal of lower knife trimming output (%)	0-100	100	Force adjustment of lower knife trimming output
P117	The delay time of the presser foot release damping force (ms)	0-990	20	
P119	Electromagnet overcurrent protection selection	0-1	1	0: OFF 1: ON

Note: the parameter initial value is for reference only, the actual parameter value is based on the real thing.

3 Error Code List

Error Code	Problem description	Measure
E01	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.
E02	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.
E03	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.
E05	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.
E07	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.
E10	Solenoid over-current	Turn off the machine, please check the related circuit is shorted or damaged.
E09	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.
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.
E16	Thread trimming switch is not in the correct position	Turn off the machine, check if the thread trimming switch back to the correct position.
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.

4 Port Diagram



4.1 Function Port Description

