


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, it must be determined that the operating voltage conforms to the rated voltage value specified in the product identification.
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, earthquake, 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. Operation panel key function description

| No. | Icon | Name | Function description |
|-----|---|---------------------------------------|---|
| 1 |  | Function key | <p>①In the normal mode interface, short press the [P] key to enter the "User parameter setting" interface.</p> <p>②Long press [P] to turn on the machine and enter the "Technician parameter setting" interface.</p> <p>③In the normal mode interface, press and hold the [P]+[S] keys at the same time to enter the "Advanced parameter setting" interface.</p> <p>④In the parameter setting interface, press the [P] key to return without saving the parameters.</p> |
| 2 |  | Save key | Under the parameter setting interface, press [S] key to save. |
| 3 |  | Parameter increases / Speed increases | <p>①In the normal mode, press this key can increase speed, long-press to increase speed quickly.</p> <p>②In the parameter setting interface, press this key can increase the parameter.</p> |
| 4 |  | Parameter decreases / Speed decreases | <p>①In the normal mode, press this key can decrease speed, long-press to decrease speed quickly.</p> <p>②In the parameter setting interface, press this key can decrease the parameter.</p> |
| 5 |  | Left key / Cloth choice | <p>①In the parameter setting interface, move the position of the parameter item to the left.</p> <p>②In the normal mode interface, long-press this key to enter the cloth choice mode.</p> |
| 6 |  | Right key / LED+ | <p>①In the parameter setting interface, move the position of the parameter item to the right.</p> <p>②In the normal mode interface, long-press this key to enter the LED light brightness adjustment mode</p> |
| 7 |  | Front trimming / Back trimming | <p>①In the normal mode interface, press this key can execute the cycle shift of front trimming on and front trimming off. Press up and down key can adjustment front trimming action time. (same as P-27)</p> <p>②In the normal mode interface, long-press this key can execute the cycle shift of back trimming on and back trimming off. Press up and down key can adjustment back trimming action time. (same as P-28)</p> |
| 8 |  | Mode selection / Auto-suction mode | <p>①In the normal mode, press this key can execute the cycle shift of the following four modes:</p> <ol style="list-style-type: none"> 1. Full manual: start-up according to the pedal completion. 2. Free sewing. 3. Semi-automatic: start-up according to front sensor signal + pedal completion (same as P-05). 4. Automatic: start-up according to sensor signal. <p>②In the normal mode interface, long-press this key can execute the cycle shift of suction off, front suction on, back suction on and suction on.</p> |

| | | | |
|---|---|-----------------------------------|---|
| 9 |  | Presser foot lifting / Sensor key | <p>①In the normal mode interface, press this key it can execute the cycle shift of function off, front presser foot lifting on, back presser foot lifting on and function on (same as P-10).</p> <p>②In the normal mode interface, long-press this key can check sensor real-time sensor value and current threshold value.</p> |
|---|---|-----------------------------------|---|

2. Special function operation definition

| No. | Function name | Function description |
|-----|-------------------------------|---|
| 1 | Reset | After powering on, press and hold  +  at the same time to restore factory settings. |
| 2 | Machine debugging interface | Press and hold the  +  key at the same time after starting up to enter machine debugging interface. |
| 3 | Cloth identification mode | <p>Step 1: Press  +  in the normal mode to enter the cloth identification mode;</p> <p>Step 2: Press  key to confirm, enter the cloth identification mode selection, and then press  key to confirm;</p> <p>Step 3: Wait a few seconds, after jumping out of the cloth identification success interface, the cloth identification is successful.</p> |
| 4 | Sensor sensitivity adjustment | <p>Step 1: Long press  key in the normal mode interface to enter the sensor sensitivity debugging interface;</p> <p>Step 2: Press  key once for the three sensors when there is no cloth cover;</p> <p>Step 3: When the three sensors are covered by cloth, press  key once to complete the setting.</p> |
| 5 | Piece counting function | In the normal mode interface, press the  +  key to enter the piece counting interface. |
| 6 | Advanced parameter mode | After powering on, press and hold  +  key at the same time, and enter the password to enter the advanced parameter mode interface. |

3. System parameter setting definition




| User parameter (press [P] key to enter in normal mode) | | | | |
|--|-------------------------|----------|---------|-----------------------|
| No | Function parameters | Range | Default | Description |
| P-01 | Sewing speed (r/min) | 200-7000 | 5000 | |
| P-02 | Needle stop positioning | 0-1 | 0 | 0: Up needle position |

| | | | | |
|------|--|----------|------|---|
| | selection | | | 1: Down needle position |
| P-03 | Trimming speed (r/min) | 200-7000 | 5000 | With trimming function: the speed setting for front sensor trigger start-up and back sensor signal finish (before trimming) |
| P-04 | Start-up mode | 0-1 | 1 | (Valid for full-automatic mode) 0: Automatic mode 1: Foot control mode (start-up by front sensor + front pedal) |
| P-05 | Automatic / semi-automatic mode selection | 0-1 | 1 | (P-06 is turn on) 0: Automatic (match with P-04 use) 1: Semi-automatic (foot control mode) |
| P-06 | Auto sensing switch | 0-1 | 1 | 0: OFF (full manual mode is turn on) 1: ON (it can execute automatic / semi-automatic mode also match with P-05 use) |
| P-07 | Auto trimming switch | 0-3 | 3 | (P-70= Horizontal knife type, this parameter is valid) 0: OFF 1: Front trimming (Trimming when Mid-sensor receive signal) 2: Back trimming (Trimming after back-sensor receive signal) 3: Front and back trimming |
| | Automatic thread tension release switch | 0-1 | 1 | (P-70=Side knife type, this parameter is valid) 0: OFF 1: Back thread tension release |
| P-08 | Auto suction | 0-3 | 3 | 0: OFF 1: Front trimming suction 2: Back trimming suction 3: Front and back trimming suction |
| P-09 | Automatic cloth feeding | 0-1 | 1 | (P-70= Horizontal knife type, this parameter is valid) 0: OFF 1: Cloth feeding when sewing |
| P-10 | Auto presser foot lifting | 0-3 | 1 | 0: OFF 1: Front presser foot lifting (When front sensor receive signal) 2: Back presser foot lifting (After back sensor receive signal) 3: Front and back presser foot lifting |
| P-11 | Presser foot lifting when stop on the sewing | 0-1 | 0 | (Valid for full-manual and semi-automatic mode) 0: OFF 1: ON (when stop on the sewing the presser foot lifting automatically) |
| P-12 | Presser foot lifting after trimming | 0-1 | 1 | 0: OFF 1: ON |
| P-13 | Presser foot lifting when half back pedal | 0-2 | 0 | (Valid for full-manual / semi-automatic mode) 0: Half back & full back 1: OFF 2: Full back |
| P-14 | Manual suction | 0-2 | 1 | 0: No suction 1: Back suction 2: Front and back suction |

| | | | | |
|--|--|----------|-----|---|
| P-15 | Machine lamp brightness | 0-4 | 3 | 0: OFF 1→4: The brightness grade, the more value the more brightness. |
| P-16 | Low air pressure mode | 0-1 | 0 | 0: Normal mode 1: Low pressure mode |
| P-17 | Semi-automatic continuous sewing | 0-1 | 0 | 0: OFF 1: Front step continuous sewing (P70=Horizontal knife model, default: 1; P70=Side knife model, default: 0) |
| P-18 | Constant speed of thread trimming switch | 0-1 | 0 | 0: OFF (After finish before trimming not execute P-03 speed) 1: Constant trimming speed (The speed of front and back trimming is fixed to the speed of P-03) |
| P-20 | Stop position selection after trimming | 0-1 | 1 | 0: Down position 1: Up position |
| P-22 | Front receiver E# switch | 0-1 | 1 | 0: ON (Turn on front sensor, sensor signal + pedal activated) 1: OFF (Turn off front sensor, pedal directly activated) (P70=Horizontal knife model, default: 0; P70=Side knife model, default: 1) |
| P-23 | Intermittent suction opening time (×100ms) | 1-600 | 20 | The more value the more time |
| P-24 | Intermittent air suction off time (×100ms) | 0-600 | 0 | 0: For no intermittent air suction Front suction off time (valid when P-46 function setting is 1) |
| P-25 | Synchronous suction (P16=1) (ms) | 0-2000 | 200 | Synchronous suction time of cloth (Valid for P-16 setting is 1) |
| P-26 | The stitches number between two sensors | 1-600 | 100 | Cycle period parameter: In a circle the back sensor receive signal then can continue running, otherwise a cycle stop. |
| P-27 | The delayed stitches number of front trimming (stitches) | 0-50 | 4 | (P-70= Horizontal knife type, this parameter is valid) The smaller value the more in advance, thread will retain longer. (Mid-sensor trigger) |
| P-28 | The delayed stitches number of back trimming (stitches) | 0-50 | 4 | (P-70= Horizontal knife type, this parameter is valid) The small value the more in advance, the short of end-thread (Back-sensor trigger) |
| | The starting time for back thread tension release (stitches) | 0-50 | 2 | (P-70= Side knife type, this parameter is valid) |
| P-30 | The delayed time of front suction off (ms) | 100-5000 | 100 | (P-70= Horizontal knife type, this parameter is valid) The small value the close is fast. |
| | The stitches number when front suction off (stitches) | 0-50 | 25 | (P-70= Side knife type, this parameter is valid) |
| P-31 | The delayed time of back suction off (ms) | 100-5000 | 300 | The small value the close is fast. (P70=Horizontal knife model, default: 300; P70=Side knife model, default: 1000) |
| Technician parameter (hold [P] key to enter) | | | | |
| P-32 | Cloth puller opening timing | 0-50 | 20 | (P-70= Horizontal knife type, this parameter is valid) |

| | | | | |
|------|---|----------|------|--|
| | (stitches) | | | |
| P-34 | Full manual trimming protection | 0-1 | 1 | (P-70= Horizontal knife type, this parameter is valid) 0: OFF 1: ON |
| P-35 | The delayed stitches number before the machine stops (stitches) | 1-99 | 1 | After cloth has passed the sensor, the number of stitches when machine stop automatically. (Valid for back trimming off condition) (P70=Horizontal knife model, default: 1; P70=Side knife model, default: 3) |
| P-36 | The response time of front sensor (ms) | 10-990 | 50 | The small value the response is fast, the large value the response is slow |
| P-37 | The sensitivity of front sensor | 0-700 | 440 | In order to adapt different cloth material setting front sensor receive strength. |
| P-38 | The sensitivity of middle sensor | 0-700 | 440 | In order to adapt different cloth material setting mid-sensor receive strength. |
| P-39 | The holding time of front presser foot lifting (ms) | 10-2000 | 200 | (In full automatic / semi-automatic mode) The larger value the longer holding time. |
| P-40 | Back presser foot lifting start time (ms) | 0-2000 | 120 | The starting time of back presser foot lifting, the smaller value the faster the response. |
| P-41 | Full-on output time setting of presser foot (ms) | 10-990 | 100 | The larger value the higher of foot lifting (noted: not too high) |
| P-42 | Periodic signal of presser foot output (%) | 10-90 | 20 | When the presser foot is moving, the output is periodically power-saved to prevent the electromagnet from getting hot |
| P-43 | The time for the presser foot laying down (ms) | 10-990 | 100 | The action time of presser foot laying down sequence. |
| P-44 | Presser foot protection (s) | 1-120 | 5 | Stop on the sewing the presser foot lifting, stop after trimming presser foot lifting, positive closing after heeling pedal for retention time. |
| P-45 | Trimming time (ms) | 10-990 | 20 | (P-70= Horizontal knife type, this parameter is valid) the longer time, the greater trimming force |
| | Thread tension release time (ms) | 0-5000 | 1000 | (P-70= Side knife type, this parameter is valid) |
| P-46 | Suction when continuous feeding | 0-2 | 0 | 0: No suction 1: Long suction 2: Synchronous suction (P70=Horizontal knife model, default: 0; P70=Side knife model, default: 2) |
| P-47 | Number of completed | 0-65535 | 0 | |
| P-48 | Needle goes up as power on | 0-1 | 0 | 0: OFF 1: ON |
| P-50 | Up needle position adjustment | 0-1439 | | Same as P-72 |
| P-51 | Down position adjustment | 0-1439 | | Same as P-73 |
| P-52 | Test speed (r/m) | 100-6000 | 5500 | |

| | | | | |
|---|---------------------------------------|----------|------|--|
| P-53 | Test working time (×100ms) | 1-250 | 50 | |
| P-54 | Test stop time (×100ms) | 1-250 | 20 | |
| P-55 | Item A testing: Continuous running | 0-1 | 0 | 0: OFF 1: ON |
| P-56 | Item B testing: With function running | 0-1 | 0 | 0: OFF 1: ON |
| P-57 | Item C testing: Start stop operation | 0-1 | 0 | 0: OFF 1: ON |
| P-58 | Machine plate protection switch | 0-1 | 1 | 0: OFF 1: ON |
| P-59 | Presser foot protection switch | 0-1 | 1 | 0: OFF 1: ON |
| P-60 | Electric /Air-powered | 0-1 | 1 | 0: Electric 1: Air-powered |
| P-61 | Trimming switch by heeling pedal | 0-7 | 0 | 0: OFF 1: In manual mode 2: In semi-automation 3: In automation 4: In manual mode and semi-automation 5: In semi-automation and automation 6: In manual mode and automation 7: ON |
| P-63 | Language | 0-1 | 1 | 0: English 1: Chinese |
| P-64 | The strength of front sensor | 0%-100% | 50% | Adjustment front sensor strength |
| P-65 | The strength of middle sensor | 0%-100% | 50% | Adjustment middle sensor strength |
| P-66 | The strength of back sensor | 0%-100% | 50% | Adjustment back sensor strength |
| P-67 | The sensitivity of back sensor | 0-700 | 440 | In order to adapt different cloth material setting back-sensor receive strength. |
| P-69 | Response time of back sensor (ms) | 0-3000 | 0 | Response time of back-sensor, when sewing such as mesh cloth can adjust this item, then can achieve you want effects. |
| Advanced parameter (press [P]+[S] keys at the same time to enter) | | | | |
| P-70 | Model selection | 0-1 | 0 | 0: Horizontal knife type 1: Side knife type 2: Thread tip overlocked |
| P-71 | Maximum speed limit (r/m) | 200-7000 | 5500 | |
| P-72 | Manually up positioning adjustment | 0-1439 | | Through hand-wheel direction, clockwise turn hand-wheel to up position press  to save the current value. |
| P-73 | Manually down positioning adjustment | 0-1439 | | Through hand-wheel direction, clockwise turn hand-wheel to |

| | | | | |
|------|---|--------|----|--|
| | | | | down position then press  to save current value. |
| P-74 | Parameter reference | N1-N5 | N1 | N1: Control box software version N2: Panel software version N3: Rotation N4: Pedal AD N5: Driver software version |
| P-76 | Password setting | | | |
| P-77 | Zero point angle setting | | | Enter this item and press  to automatically find the change point, wait for the machine to stop, and press  to save. |
| P-78 | Suction bucket type | 0-2 | 1 | 0: With brush 1: Without brush 2: Valve |
| P-79 | One-click test | 0-1 | 0 | 0: OFF 1: ON |
| P-80 | The needle bar shield protection switch | 0-1 | 0 | 0: OFF 1: ON |
| P-81 | Electromagnet protection | 0-1 | 1 | 0: OFF 1: ON |
| P-82 | Alarm pieces | 0-9990 | 0 | |
| P-83 | The number of standby display pieces | 0-1 | 0 | 0: OFF 1: ON |
| P-84 | Piece counting mode selection | 0-1 | 0 | 0: Ascending 1: Descending |
| P-85 | Piece counting trimming times | 0-50 | 1 | |
| P-86 | Voice volume | 0-5 | 1 | |
| P-87 | Voice broadcast selection | 0-3 | 3 | 0: OFF 1: Start-up voice only 2: Key tone only 3: ON |
| P-88 | User model | | 0 | |
| P-90 | Voice chip selection | 0-4 | 4 | |
| P-91 | Back sensor switch | 0-1 | 1 | 0: OFF 1: ON After the back sensor is turned off, the back sensor is based on the parameter value set in P28. |
| P-92 | Start machine voice selection | 0-11 | 0 | |
| P-93 | Lock screen time (s) | 0-300 | 20 | |
| P-94 | Thin material light transmission | 1-800 | 45 | The smaller the number, the stronger the sensitivity, and the |

| | | | | |
|-------|--|-----------------|------|--|
| | | | | larger the number, the weaker the sensitivity. |
| P-95 | Ordinary material light transmission | 1-800 | 200 | The smaller the number, the stronger the sensitivity, and the larger the number, the weaker the sensitivity. |
| P-96 | Grid material light transmission | 1-800 | 50 | The smaller the number, the stronger the sensitivity, and the larger the number, the weaker the sensitivity. |
| P-97 | Number of special material detection needles | 0-50 (stitches) | 7 | The larger the grid, the greater the number of needles that need to be tested. |
| P-98 | Trimming speed switch | 0-3 | 0 | 0: OFF 1: Front trimming 2: Back trimming 3: ON |
| P-99 | Front trimming protection | 0-1 | 0 | 0: OFF 1: ON |
| P-100 | Sewing fabric type | 0-2 | 0 | 0: Thin material 1: Ordinary material 2: Grid material |
| P-101 | Front sensor identification signal difference | 0-50 | 10 | |
| P-102 | Middle sensor identification signal difference | 0-50 | 10 | |
| P-103 | Back sensor identification signal difference | 0-50 | 10 | |
| P-104 | Pedal acceleration slope | 1-100 | 40 | The higher the number, the faster the pedal response. |
| P-105 | Speed ratio | 0-100 | 33 | The higher the number, the higher the rotation speed (real number). |
| P-106 | Back pedal trimming times | 0-1 | 0 | 0: Trimming once when back pedal after sewing is completed; 1: Trimming every time when back pedal after sewing is completed. (Use with P-61) |
| P-108 | Machine barcode A | XXXX(0-Z) | 01HA | |
| P-109 | Machine barcode B | XXXX(0-Z) | 0000 | Set the origin of the stepping motor and observe the current angular position of the stepping motor. (It is not recommended to modify, it will change the timing of thread trimming and the timing of presser foot lifting) |
| P-129 | Stepping motor switch | 0-1 | 1 | This parameter is used for the consistency of the thread end length of the sewing fabric under the conditions of high speed and low speed of the main shaft motor (cannot be easily modified) |
| P-130 | Stepping motor original point | -4800~4800 | 0000 | Need to lock the P131 stepping motor off |
| P-131 | Stepping motor lock | 0-1 | 0 | 0: Locked 1: Release |
| P-132 | Maximum current of stepping motor | 20-60 | 50 | (*100mA) The maximum current when the stepping motor is running |

| | | | | |
|-------|--------------------------------------|------------|------|--|
| P-133 | Steady current of stepping motor | 5-30 | 20 | (*100mA) The steady current of stepping motor when the presser foot is raised (that is the steady force of the presser foot) |
| P-134 | Trimming first feed speed | 5-1500 | 150 | Quickly pass the first half of the empty stroke section of the thread trimming mechanism |
| P-135 | Trimming first feed angle | -4800~4800 | 0 | It is not allowed to be greater than P-137 second feed angle |
| P-136 | Trimming second feed speed | 5-1500 | 400 | Reduce the speed appropriately and increase the force when thread trimming |
| P-137 | Trimming second feed angle | -4800~4800 | 175 | It is not allowed to be smaller than P-135 first feed angle [decreasing parameters can reduce the metal collision sound of the trimming tool, but at the same time it will also reduce the trimming force] |
| P-141 | Trimming first retract speed | 5-1500 | 145 | The scissors quickly return to the position through the empty stroke section of the thread trimming mechanism, reducing the impact on the fabric being sewn |
| P-142 | Trimming first retract angle | -4800~4800 | 0 | It is not allowed to be smaller than P-144 second retract angle, and it is not allowed to be larger than P137 second feed angle |
| P-143 | Trimming second retract speed | 5-1500 | 245 | |
| P-144 | Trimming second retract angle | -4800~4800 | 0 | It is not allowed to be greater than P-142 first retract angle (generally set as the origin of the stepping motor) [control the scissors return position] |
| P-145 | Presser foot first lifting speed | 5-1500 | 600 | The gap between the stepping motor mechanism and the presser foot mechanism is stuck at low speed to prevent collision and sound |
| P-146 | Presser foot first lifting angle | -4800~4800 | -25 | It is not allowed to be smaller than P-148 presser foot second lifting angle |
| P-147 | Presser foot second lifting speed | 5-1500 | 600 | |
| P-148 | Presser foot second lifting angle | -4800~4800 | -405 | It is not allowed to be smaller than P-146 presser foot first lifting angle [control the highest position of the presser foot] |
| P-149 | Presser foot first lowering speed | 5-1500 | 800 | |
| P-150 | Presser foot first lowering angle | -4800~4800 | -150 | It is not allowed to be larger than P-152 presser foot second lowering angle, and not allowed to be smaller than P148 presser foot second lifting angle |
| P-151 | Presser foot second lowering speed | 5-1500 | 300 | Return to the origin at low speed to prevent the separation of the stepping motor mechanism and the presser foot mechanism from causing excessive noise |
| P-152 | Presser foot second lowering angle | -4800~4800 | 0 | It is not allowed to be smaller than P-150 presser foot first lowering angle (generally set to the origin of the stepping motor) [control presser foot return position] |
| P-153 | Timing fine-tuning of front trimming | 0-100 | 27 | This parameter is used for the consistency of the thread end length of the sewing fabric under the conditions of high speed and low speed of the main shaft motor (cannot be easily |

| | | | | |
|-------|---|------------|------|--|
| | | | | modified). |
| P-154 | Thread trimming method | 0-1 | 0 | 0: Thread trimming 1: Cloth cutting |
| P-155 | Cloth cutting first feed speed | 5-1500 | 350 | |
| P-156 | Cloth cutting first feed angle | -4800~4800 | 180 | |
| P-157 | Cloth cutting second feed speed | 5-1500 | 170 | |
| P-158 | Cloth cutting second feed angle | -4800~4800 | 265 | |
| P-159 | Cloth cutting first retract speed | 5-1500 | 245 | |
| P-160 | Cloth cutting first retract angle | -4800~4800 | 70 | |
| P-161 | Cloth cutting second retract speed | 5-1500 | 305 | |
| P-162 | Cloth cutting second retract angle | -4800~4800 | 5 | |
| P-164 | Presser foot micro-lifting switch | 0-1 | 0 | 0: OFF 1: ON |
| P-165 | The detection stitches number of presser foot micro-lifting | 0-50 | 2 | |
| P-166 | Presser foot micro-lifting angle | -4800~4800 | -120 | |
| P-167 | Presser foot micro-lifting speed | 5-1500 | 600 | |
| P-168 | Presser foot micro-lifting lowering speed | 5-1500 | 100 | |

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

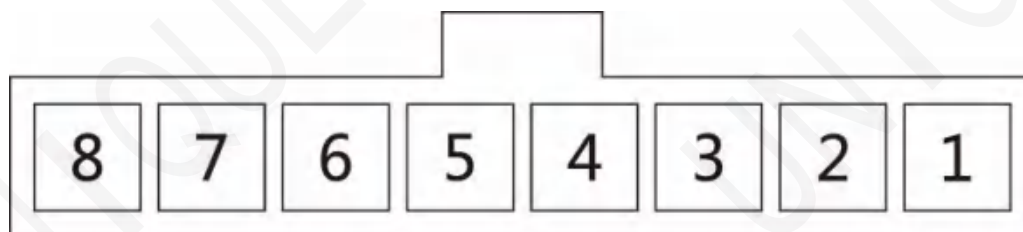
4. Error code list

| Error code | Problem | Solution |
|------------|-----------------------------------|---|
| E01 | System overvoltage | Please cut off the power supply and confirm whether the power supply voltage is correct (or whether it exceeds the rated voltage specified for use). |
| E02 | System undervoltage | Please cut off the power supply and confirm whether the power supply voltage is correct (or is it lower than the rated voltage specified for use). |
| E05 | Speed controller failure | Please cut off the power and confirm whether the speed controller is correctly connected to the control box. |
| E07 | Motor locked-rotor | Please turn the handwheel to confirm whether main shaft motor is locked. Turn the handwheel 45° after the alarm can automatically eliminate the alarm. Please confirm whether the encoder cable or the motor and the power cable of the motor are properly connected. |
| E11 | Unable to find the upper position | Please cut off the power supply, check whether the connection of the positioning signal board on the control box is loose, or whether the handwheel installation location is standardized, restore it to normal and restart the system. |

| | | |
|-----|--|---|
| E14 | Encoder signal is abnormal | Please cut off the power, check whether the motor encoder connector is loose or fall off, restore it to normal and restart the system. |
| E15 | System overcurrent protection | Please cut off the power, check whether the motor power supply cable is damaged or abnormally connected, and restart after troubleshooting. |
| E16 | Incorrect position of presser foot | Check whether the presser foot is open, whether the presser foot safety switch is damaged, and whether the socket is abnormal. |
| E17 | Incorrect position of sewing table | Check whether the sewing table is open, whether the safety switch of the sewing table is damaged, and whether the socket is abnormal. |
| E92 | Thread trimming (presser foot) stepping motor overcurrent | Turn off the system power and observe whether the thread trimming (presser foot) stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine head first. If it is normal, check if the thread trimmer (presser foot) stepping motor interface is loose or fall off, restore it to normal and restart the system. |
| E94 | Thread trimming (presser foot) stepping motor can't find zero-point | Turn off the system power and observe whether the thread trimming (presser foot) stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine head first. If it is normal, check whether the thread trimming (presser foot) stepping motor encoder interface is loose or falling off, and whether there is oil on the encoder code disk. If there is any oil, please clean it up, restore it to normal and restart the system. |
| E95 | Thread trimming (presser foot) stepping motor encoder signal is abnormal | Turn off the system power, check if the thread trimming (presser foot) stepping motor encoder interface is loose or fall off, restore it to normal and restart the system. |
| E96 | Thread trimming (presser foot) stepping motor is not connected | Turn off the power of the system, check whether the wire trimming (presser foot) stepping motor power cord interface and encoder interface are loose or fall off, and restart the system after returning it to normal. |
| E97 | Thread trimming (presser foot) stepping motor stalling | Turn off the system power and observe whether the thread trimming (presser foot) stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine head first. If it is normal, check whether the wire trimming (presser foot) stepping motor power cord interface and encoder interface are loose or fall off, restore them to normal and restart the system. |
| NC | Abnormal communication | Turn off the system power and check whether the panel connector is loose or disconnected. After troubleshooting, if the fault persists, check whether the power supply indicator of the main control chip is on. If abnormal, please replace the control box. |

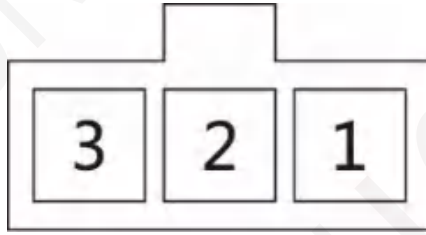
5. Port diagram

8P white port (LED, launcher)



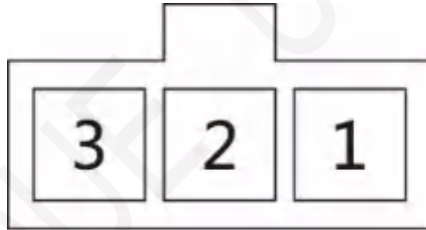
1: LED-, 2: +5V, 3: Manual trimming, 4: GND, 5: Middle launcher, 6: Back launcher, 7: Front Launcher, 8: +5V

3P black port (presser foot position sensing)



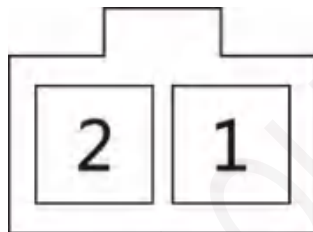
1: GND, 2: signal, 3: +5V

3P red port (sewing table position sensing)



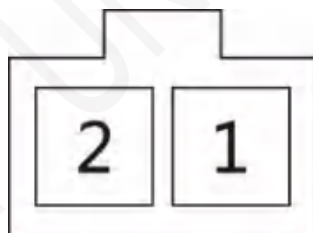
1: GND, 2: signal, 3: +5V

2P black port (front receiving)



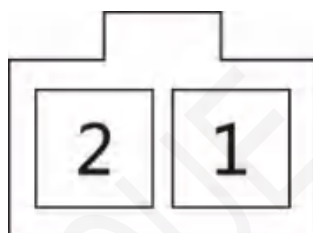
1: Received signal, 2: +5V

2P red port (medium receiving)



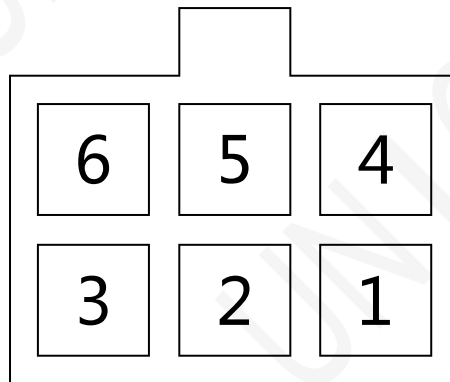
1: Received signal, 2: +5V

2P white port (back receiving)



1: Received signal, 2: +5V

6P white port (suction)



1. Thread chain suction: 1, 4 (+24V)
2. Cloth suction: 2, 5 (+24V)
3. Thread tension release: 3, 6 (+24V)