MCj03463170000[1]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 MCj03463170000[1] 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.

1. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
2. All the spare parts for repair must be provided or approved by the manufacturer.
3. 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 | Description |
| Thread winding |  | If clicked, activates or deactivates the winding action. |
| Scroll key |  | In the target stitch sewing or editing sewing mode, if clicked, switch to the parameter interface. |
| Confirm key |  | View and save the contents of the selected parameter number: After selecting the parameter number, press this key to view and modify the operation. After modifying the parameter value, press this key to exit and save the parameter.  In the main interface, if you long-press, enter the debugging parameter interface. |
| Function key |  | If clicked, enter or exit the user parameter setting interface.  If long-press, it will switch to the password input interface. Enter the correct password, press S key to confirm, you can enter the advanced parameter setting interface. |
| Knee-control key |  | If clicked, set used or cancelled second stitch length function. |
| M key |  | In the power-on interface, if clicked, automatically find the upper positioning.  In the main interface, if you clicked, switch sewing mode. |
| Parameter increase |  | Increase the parameters. |
| Parameter decrease |  | Decrease the parameters. |
| Start back-tacking |  | If clicked, switch AB start back-tacking → ABAB start back-tacking → function off → B start back-tacking successively. |
| End back-tacking |  | If clicked, switch CD end back-tacking → CDCD end back-tacking → function off → C end back-tacking successively. |
| Needle stop position key |  | If clicked, toggles the stop position of the machine needle after sewing (upper stop position / lower stop position). |
| Automatic presser foot lifting after pause |  | If clicked, set used or cancelled automatic presser foot lifting after pause function. |
| Automatic presser foot lifting after trimming |  | If clicked, set used or cancelled automatic presser foot lifting after trimming function. |
| Presser foot lifting |  | If clicked, three functions can be set in order: presser foot lift function off, presser foot lift on function when reverse pedal and semi-reverse pedal, reverse pedal presser foot on and semi-reverse pedal presser foot off function. |
| Stitch length setting |  | A single click adjusts the upper roller stitch length, and another click adjusts the lower roller stitch length. |
| Speed setting |  | If clicked, the speed can be adjusted. |
| Thread trimming |  | If clicked, set used or cancelled thread trimming function. |
| Soft start setting |  | If clicked, set used or cancelled soft start function. |
| Reverse sewing |  | In the editing sewing mode, if clicked, toggles the direction of the current sewing segment. |
| Voice Key |  | Reserved. |
| Tight seam key |  | If clicked, switch in order: Starting tight seam → Ending tight seam → Starting and ending tight seam → function off. |
| Auto function |  | If clicked, set used or cancelled auto function. |
| Reset |  | Long-press can restore factory setting. |

**2 Special function operation instructions**

|  |  |  |
| --- | --- | --- |
| No. | Name | Description |
| 1 | Programming seam pattern setting | In the main interface programming sewing mode, long press "" and "" at the same time to enter the setting options. The options include add pattern, delete pattern, select programming pattern number, pattern output to U disk, import U disk pattern. |
| P001 | Pattern adding | Click "" to enter the pattern adding interface, and click "" again to edit start back-tacking, end back-tacking and the number of segments in the currently added pattern number. |
| P002 | Pattern deleting | Click "" to enter the pattern deleting interface (you can select the pattern to be deleted according to"" and ""), and click "" again to delete the corresponding pattern, but not the pattern currently in use. |
| P003 | Pattern editing | Click "" to enter the pattern editing interface, (you can select the pattern to be edited according to "" and ""), and click "" again to edit start back-tacking, end back-tacking and the number of segments in the currently selected pattern number. |
| P004 | Pattern exporting | Click "" to enter the pattern exporting interface, (you can select the pattern to be exported according to "" and ""), click "" again, then long press "" and wait for the interface to display END. |
| P005 | Pattern importing | Click "" to enter the pattern importing interface, then long press "" and wait for the interface to display END. |
| 2 | P42 monitoring parameters shortcut combination key | In the main interface, press and hold "" and "" at the same time to enter the P42 item parameter interface. |
| 3 | Installment payment function | Boot M interface, double click "", then long press "", you can enter the password input interface; only enter the password correctly to enter the installment setting interface. |
| 3.1 | Machine code setting | 4 characters for 1 page, click "", switch the page and set all characters of the machine code before you click "" to save. |
| 3.2 | Panel system current date setting | The first page shows the year, the second page shows the month and day, click "" to switch the page, and click "" to save after confirming. |
| 3.3 | Each instalment date setting | Insert the U disk before use.  A total of 6 periods can be set, set the number of periods as needed, no set number of periods will not take effect.  Each period is displayed as "F-0X", click "" to enter the set date, set the date and long press "" to save, the corresponding password of each period will be saved to the root folder of the U disk. |
| 3.4 | Password setting for entering the installment payment setting interface | Insert the U disk before setting.  Click "" to save after setting and wait for END to show, that is successful. |
| 3.5 | Expiration and password entry operations | After the expiration date, "W-0X" is displayed, indicating the expiration date of the first issue.  If you want to enter the password for that period, long press "" to enter the password, long press "" and wait for "TRUE" to be displayed, that is, the password is correct, otherwise “FALSE".  If you want to pay all the money at once, and you want to enter the password to release the lock function, press and hold "", enter the password, press and hold "", wait for the display of "TRUE", that is password is correct, otherwise "FALSE". |

**3 User parameter**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Items | Range | Default | Description |
| P01 | Maximum speed (rpm) | 100-3000 | 2200 | Maximum speed of machine sewing. |
| P02 | Speed-up curve line adjustment (%) | 10-100 | 80 | The speed controller climbing slope setting.  The larger the slope value, the steeper the speed; the smaller the slope value, the slower the speed. |
| P03 | Needle stop position selection | UP/DN | DN | UP: Upper position; DN: Lower position |
| P04 | Start back-tacking speed (rpm) | 200-3000 | 1200 |  |
| P05 | End back-tacking speed (rpm) | 200-3000 | 1200 |  |
| P06 | Bar-tacking speed (rpm) | 200-3000 | 1500 |  |
| P07 | Soft start speed after second stitch (rpm) | 200-1500 | 1500 |  |
| P08 | Stitch numbers for soft start (stitch) | 1-15 |  |  |
| P09 | Automatic constant-stitch  sewing speed (rpm) | 200-3000 | 2200 | The speed setting when the auto function key is pressed. |
| P10 | Automatic end back-tacking  sewing after constant-stitch  sewing | ON/OFF | ON | ON: After executing the constant-stitch sewing, the back-tacking sewing will be executed automatically. In any sewing mode, mending stitch function cannot be used.  OFF: After executing the last constant-stitch sewing, the back-tacking sewing function will not be automatically executed, and the front step or full back step must be performed again. |
| P11 | Pedal mode | 0-1 | 0 | 0: Regular mode; 1: Special mode |
| 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 a pattern sewing action. |
| P13 | Start back-tacking ending mode selection | 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 | Soft start function setting | ON/OFF | OFF | Effective in any mode. |
| P15 | Back-tacking switch | 0-1 | 1 | 0: OFF; 1: ON |
| P16 | Speed limit of manual back-tacking | 0-3000 | 0 | The function is disabled when the value is less than 100. |
| P18 | Bar-tacking compensation 1 | 0-30 | 15 |  |
| P19 | Bar-tacking compensation 2 | 0-30 | 15 |  |
| P20 | End 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 a pattern sewing action. |
| P21 | Pedal speed-up position | 30-1000 | 580 |  |
| P22 | Pedal start up position | 30-1000 | 480 |  |
| P23 | The position of the pedal for presser foot lifting | 30-1000 | 230 |  |
| P24 | The position of the pedal for thread trimming | 30-500 | 110 |  |
| P25 | Pedal acceleration | 0-40 | 10 |  |
| P26 | Pedal flexibility | 0-20 | 12 |  |
| P27-N04 | Voice Setting | 0-2 | 1 | 0: OFF; 1: Chinese; 2: English |
| P27-N06 | Automatic piece counting function | 0-50 | 1 | 0: P41 thread trimming counter does not count automatically  1-50: Trimming counting times setting |
| P27-N07 | Volume adjustment | 0-5 |  |  |
| P27-N13 | Thread trimming counter mode selection | 0-1 | 0 | 0: Incremental piecework mode  1: Diminishing piecework mode |
| P27-N15 | Clock Setting |  |  |  |
| P28 | Bar-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 a pattern sewing action. |
| P29 | The strength of machine stopping after thread trimming | 1-45 | 25 |  |
| P32 | Presser foot release buffer duty radio (%) | 0-100 | 6 |  |
| P33 | Presser foot release buffer delay time (ms) | 0-990 | 6 |  |
| P34 | Constant-stitch 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. |
| P36 | Thread tension releasing function setting | 0-1 | 1 | 0: OFF; 1: ON |
| P37 | Thread clamping function selection | 0-10 | 6 | 0: OFF  1-10: Thread clamping function, the greater the value, the greater the action strength. |
| P38 | Automatic trimming function setting | ON/OFF | 1 |  |
| P39 | Automatic presser foot setting when machine pause | UP/DN | 0 |  |
| P40 | Automatic presser foot setting after trimming | UP/DN | 0 |  |
| P41 | Thread trimming counter display | 0-9999 | 0 | Display the quantity of finished sewing piece. Long-press “-” key to clear the count. |
| P42 | Monitoring parameters table |  |  | For detailed instructions, please pull to the bottom. |
| P44 | The stopping strength during machine pause | 1-45 | 16 |  |
| P45 | The minimum speed (rpm) | 150-300 | 200 |  |
| P46 | The reverse-rotating needle-lift function selection after thread trimming | ON/OFF | OFF |  |
| P47 | The adjustment of the reverse-rotating needle-lift angle after thread trimming (degree) | 10-300 | 40 | Start from the upper needle position and adjust the angle of the needle lift in reverse operation after trimming. |
| P48 | The speed of machine stopping | 100-500 | 300 | Adjust the minimum speed. |
| P49 | Trimming speed (rpm) | 100-500 | 260 | Adjusting the motor speed during thread trimming cycle. |
| P50 | The working time of presser foot second section full output (ms) | 10-990 | 150 |  |
| P51 | Periodic signal of presser foot third section output (%) | 1-50 | 25 |  |
| P52 | Delaying motor start time after presser foot starts to lower (ms) | 10-990 | 120 | Delayed start time to match automatic presser foot lowering. |
| P53 | Presser foot lifting function selection when back pedaling | 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 | Trimming action time (ms) | 10-990 | 200 | The required action time when thread trimming to protect the thread trimming solenoid. |
| P55 | The angle of fabric entering point | 0-1000 | 300 |  |
| P56 | Automatically find upper position after power on | 0-1 | 0 | 0: Always not to find the up needle position  1: Always to find the up needle position |
| P57 | Presser foot lifting protection time (s) | 1-60 | 10 | After the holding time is over, it is forced to be lowered to prevent the stepping motor from being raised for a long time and becoming hot. |
| P58 | Upper position adjustment | 0-359 | 160 | Up position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased. |
| P59 | Lower position adjustment | 0-359 | 230 | 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) | 100-3000 | 2400 |  |
| P61 | Testing A | ON/OFF | 0 | Continuous running testing. |
| P62 | Testing B | ON/OFF | 0 | Start and stop testing with all functions. |
| P63 | Testing C | ON/OFF | 0 | Start and stop testing without all function. |
| P64 | Test run time | 1-250 | 30 |  |
| P65 | Test stop time | 1-250 | 20 |  |
| P66 | Machine protection switch | 0-1 | 1 | 0: OFF; 1: ON |
| P70 | Model selection |  | 9; 10; 109 | 9: ZOJE-single needle; 10: ZOJE-double needle; 109: ZOJE-single needle-short thread |
| P72 | Upper positioning quick adjustment | 0-359 |  | Adjust up needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current position (value) as up needle position. |
| P73 | Lower positioning quick adjustment | 0-359 |  | Adjust down needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current position (value) as down needle position. |
| P74 | Tacking stitch length overall compensation | -200~200 | 0 | Compensates for all stitch length in tacking. |
| P75 | Back-tacking stitch length overall compensation | -200~200 | 0 | Compensates for all stitch length in back-tacking. |
| P78 | The start angle of thread clamping | 5-359 | 100 |  |
| P79 | The stop angle of thread clamping | 5-359 | 270 |  |
| P80 | Trimming first engage angle | 0-300 | 50 | Trimming engage angle setting (calculated at 0° for lower positioning) |
| P82 | Trimming retract angle | 0-359 | 330 |  |
| P84 | Trimming full output time (ms) | 0-990 | 60 |  |
| P85 | Periodic signal of trimming output (\*10%) | 1-10 | 7 |  |
| P86 | Upper and lower positioning distance | 0-359 | 70 | Upper and lower positioning distance (1 degree for every 4 values). |
| P89 | AC overvoltage value setting | 500-1023 | 880 | Set the threshold value of overvoltage alarm E01. |
| P90 | Soft start first stitch speed | 200-1500 | 400 | Sets the first stitch speed when the soft start sewing function is on. |
| P91 | Soft start second stitch speed | 200-1500 | 1000 | Sets the second stitch speed when the soft start sewing function is on. |
| P92 | Main shaft motor electricity angle adjustment | 0-1200 | 160 | 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 | Half back pedaling function effect time (ms) | 10-900 | 140 |  |
| P95 | Periodic signal of presser foot second section output action (%) | 10-100 | 100 |  |
| P98 | Thread tension release protection time (s) | 1-5 | 2 | Forced shutdown after protection time to prevent long-term magnetic absorption from getting hot. |
| P99 | Starting tight seam stitch length | 0-5.0 | 1.5 |  |
| P100 | Direction of starting tight seam | 0-1 | 0 | 1: Clockwise  0: Counter clock wise |
| P101 | The start angle of thread tension releasing | 1-359 | 300 |  |
| P102 | The stop angle of thread tension releasing | 1-359 | 340 |  |
| P103 | Periodic signal of the second thread tension releasing output (%) | 1-100 | 35 |  |
| P104 | Back-tacking angle when main shaft motor running | 0-180 | 70 |  |
| P105 | Back-tacking angle when main shaft motor stopping | 0-180 | 120 |  |
| P107 | Starting tight seam speed | 100-2000 | 500 |  |
| P108 | Starting tight seam stitch numbers | 0-12 | 1 | When the parameter value is 0, starting tight seam function is turned off. |
| P110 | Trimming return time (ms) | 60-990 | 65 | Make sure the thread trimming device returns to its original position. |
| P111 | Switching the second stitch length switch | 0-1 | 0 |  |
| P112 | Periodic signal of presser foot first section output action (%) | 5-40 | 20 |  |
| P113 | Presser foot first section output action time | 0-200 | 0 |  |
| P128 | Swing needle motor stepping angle (0.1 degree) | -1800~1800 | 0 | Enter the parameter to issue command 1 and exit the parameter to issue command 0. |
| P129 | The back-tacking stepping motor zero-point correction | -500~500 | 0 |  |
| P130 | Number of cycles allowed for switching stitch length | 1-5 | 2 |  |
| P131 | Upper roller first stitch length | 0-50 | 30 |  |
| P132 | Upper roller second stitch length | 0-50 | 28 |  |
| P133 | Upper roller third stitch length | 0-50 | 32 |  |
| P134 | Upper roller fourth stitch length | 0-50 | 34 |  |
| P135 | Upper roller fifth stitch length | 0-50 | 36 |  |
| P139 | Upper roller gear ratio 2 | 101-9999 |  |  |
| P140 | Upper roller diameter (mm) | 10-99 | 30 |  |
| P141 | Upper roller gear ratio | 101-9999 | 2570 |  |
| P142 | Upper roller percentage compensation | -100~100 | 0 |  |
| P143 | Lower roller diameter (mm) | 10-99 | 43 |  |
| P144 | Lower roller gear ratio 1 | 101-9999 | 1663 | Single needle: 1663; Double needle: 4350 |
| P145 | Lower roller gear ratio 2 | 101-9999 | 2717 | Single needle: 2717; Double needle: 1726 |
| P146 | Lower roller percentage compensation | -100~100 | 0 |  |
| P147 | Swing needle range value | 0-60 | 20 |  |
| P148 | Swing needle direction | 0-1 | 1 | 0: Positive direction; 1: Negative direction |
| P149 | Swing needle synchronization mode | 0-2 | 1 | 0: synchronization mode 0  1: synchronization mode 1  2: Synchronization mode 2 |
| P150 | Upper and lower roller stitch length difference value limitation | 0~20 | 10 |  |
| P151 | Upper and lower roller stitch length difference value (first stitch length) | [-P150]~ [P150] | 0 |  |
| P152 | Upper and lower roller stitch length difference value (second stitch length) | [-P150]~ [P150] | 0 |  |
| P153 | Upper and lower roller stitch length difference value (third stitch length) | [-P150]~ [P150] | 0 |  |
| P154 | Upper and lower roller stitch length difference value (fourth stitch length)） | [-P150]~ [P150] | 0 |  |
| P155 | Upper and lower roller stitch length difference value (fiftht stitch length) | [-P150]~ [P150] | 0 |  |
| P156 | Tight seam mode selection | 0-3 | 0 | 0: OFF  1: Starting tight seam  2: Ending tight seam  3: Full function |
| P157 | Ending tight seam stitch length | 0-50 | 15 |  |
| P158 | Ending tight seam speed | 100-2000 | 1000 |  |
| P159 | Direction of ending tight seam | 0-1 | 0 | 0: Forward; 1: Backward |
| P160 | Ending tight seam stitch numbers | 0-12 | 1 | When the parameter value is 0, ending tight seam function is turned off. |
| P165 | Stitch numbers counter mode selection | 0-4 | 0 | 0: Do not count  1. Increase cycle count  2. Decrease cycle count  3. Increase count, alarm after the count is full, need to press the clear key to start recounting  4. Decrease count, alarm after the count is full, need to press the clear key to start recounting |
| P166 | Bobbin thread stitch counter upper limit value (stitch) \*10 | 0-9999 | 500 |  |
| P167 | Maintenance stitch upper limit value (10000 stitches) \*10 | 0-9999 | 9000 |  |
| P168 | Machine code |  |  |  |
| P174 | The function selection of darning stitch key | 0-4 | 3 | 0: OFF  1: Half stitch  2: One stitch  3: Continuous half stitch  4: Continuous one stitch |
| P175 | The switch of allowed to darning stitch after trimming | 0-1 | 1 | 0: OFF; 1: ON |
| P177 | Emergency stop button function selection | 0-1 | 0 | 0: Emergency stop function.  1: Special darning stitch function; (darning stitches with the darning stitch length of item P178; in addition, the sewing speed during darning can be controlled by the speed control). |
| P178 | Stitch length ratio of darning stitch (%) | 1-200 | 50 | 50 is 50% of the current stitch length, and so on. |
| P180 | The function switch of upper and lower roller motor locking main shaft when machine stopping | 0-1 | 0 | 0: OFF; 1: ON |
| P181 | The strength of upper and lower roller motor locking main shaft when machine stopping | 1-30 | 15 |  |
| P182 | The holding time of upper and lower roller motor locking shaft when machine stopping | 0-9999 | 30 | 0: Always lock shaft, unlimited time. |
| P185 | Upper roller encoder correction function switch | 0-1 | 0 | 0: OFF; 1: ON |
| P186 | Lower roller encoder correction function switch | 0-1 | 0 | 0: OFF; 1: ON |
| P200 | Single or double needle type | 0-1 |  | 0: Single; 1: Double |
| P201 | Presser foot lifting switch when start sewing | 0-1 | 0 | 0: OFF; 1: ON |
| P202 | Presser foot lifting start angle when start sewing | 0-359 | 1 |  |
| P203 | Presser foot lifting stop angle when start sewing | 0-359 | 200 |  |
| P204 | Presser foot lifting strength when start sewing | 0-100 | 40 |  |
| P211 | Periodic signal of the first thread tension releasing output (%) | 1-100 | 60 |  |
| P212 | Action time of the first thread tension releasing output | 1-100 | 25 |  |
| P230 | The switch of each constant-stitch sewing with start back-tacking sewing, end back-tacking sewing and trimming | 0-1 | 0 | 0: OFF; 1: ON |
| P256 | Panel ID |  | 500 |  |
| P42-N01 | Control box version number |  |  |  |
| P42-N02 | Panel version number |  |  |  |
| P42-N03 | Speed |  |  |  |
| P42-N04 | The pedal AD |  |  |  |
| P42-N05 | The mechanical angle (upper position) |  |  |  |
| P42-N06 | The mechanical angle (lower position) |  |  |  |
| P42-N07 | Busbar voltage AD value |  |  |  |
| P42-N10 | Dynamic state information |  |  |  |
| P42-N11 | Static state information |  |  |  |
| P42-N13 | Swing needle motor control state |  |  |  |
| P42-N14 | Slave machine version number 1 |  |  |  |
| P42-N15 | Slave machine version number 2 |  |  |  |
| P42-N16 | Stitch counter display (every 10 stitches, the value changes by 1) |  |  |  |
| P42-N17 | Stitch number of maintenance running (10000 stitches)\*10 |  |  |  |
| P42-N19 | Presser foot times |  |  |  |
| P42-N20 | Key switch detection |  |  | 1 for back-tacking key; 2 for stop key; 4 for darning stitch key; 8 for back-tacking wrench; 16 for second stitch length key; 32 for knee-control switch; 64 for Machine overturned switch. |
| P42-N21 | Presser foot detection |  |  | The thousand digits of the parameter value represent presser foot switch, and the single digit to hundred digits represent presser foot output duty cycle. |
| P42-N22 | Thread trimming detection |  |  | The thousand digits of the parameter value represent thread trimming switch, and the single digit to hundred digits represent thread trimming output duty cycle. |
| P42-N23 | Thread clamping detection |  |  | The thousand digits of the parameter value represent thread clamping switch, and the single digit to hundred digits represent thread clamping output duty cycle. |
| P42-N24 | Thread tension releasing detection |  |  | The thousand digits of the parameter value represent thread tension releasing switch, and the single digit to hundred digits represent thread tension releasing output duty cycle. |
| P42-N30 | Production locking shaft mode |  |  |  |
| P42-N35 | Main control subversion number |  |  |  |

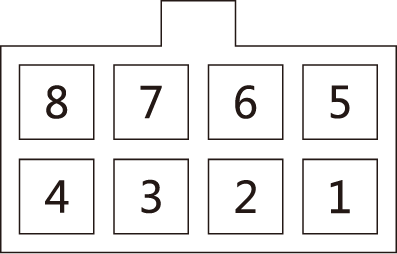
Note: the initial value of parameters is for reference only, and the actual value of parameters is subject to the real object.

**4 Error code list**

|  |  |  |
| --- | --- | --- |
| Error Code | Problem description | Solutions |
| E01 | High voltage | 1. Whether the grid voltage is higher than AC260V.  2. If it is self-generated power supply, please reduce the generator power.  3. If it still does not work normally, please replace the control box and notify the after-sales service. |
| E02 | Low voltage | 1. Whether to connect to low voltage.  2. Reset.  3. If it still does not work normally, please replace the control box and notify the after-sales service. |
| E03 | CPU communication abnormal | 1. Turn off the system power and check whether the connection of the display screen is loose or disconnected, restart the system after returning it to normal.  2. Turn off the system power, remove the control box and only plug in the power cord to power on, whether alarm E05, if it still alarms E03, replace the control box and notify the after-sales service. |
| E05 | Pedal signal abnormal | 1. Check whether the pedal connector is loose or fall off, and restart the system after returning it to normal.  2. If it still does not work normally, please replace the control box or speed controller and notify the after-sales service. |
| E07 | Main shaft motor locked-rotor | 1. Turn off the power and check whether the handwheel can be turned smoothly (turn the handwheel by hand), if it cannot be turned, please check the machine;  2. Turn off the power, check whether the motor power connector is loose, plug it in and restart it;  3. Check whether the upper needle stop position is correct, if not, please adjust the upper positioning position;  4. If it still does not work normally, please replace the control box or spindle motor and notify the after-sales service. |
| E09 | When power on to position, main shaft motor encoder positioning signal abnormal | 1. Turn off the system power, check whether main shaft motor encoder connector is loose or fall off, restore it to normal and restart the system.  2. Check whether the motor zero point correction setting is correct; Reset the motor zero point correction.  3. Whether there is oil on the encoder code plate, please clean it if there is any.  4. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service. |
| E10 | Electromagnet overcurrent | 1. Unplug the solenoid connector, if alarm E10, replace the control box and notify the after-sales service.  2. If there is no alarm after removing the solenoid connector, please plug it back in  1) Step on the front pedal to let the sewing machine perform thread clamping and back-tacking.  If alarms, please turn off start back-tacking and end back-tacking, restart the control box, and then step forward. If alarms, please turn off the thread clamping function and restart the electronic control, and step forward again. If there is no alarm, replace the clamper.  2) Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If it alarms, please turn off start back-tacking and end back-tacking, restart the control box, and then step forward. If there is no alarm, please turn off the thread clamping function and restart the control box, and open start back-tacking function, step forward again, if it alarms, please replace the back-tacking solenoid.  3) Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If there is no alarm, please step back halfway to raise the presser foot. If it alarms, please replace the presser foot solenoid.  4) Step on the front pedal to let the sewing machine perform thread clamping, back-tacking and half anti-side trample. If there is no alarm, please back step pedal to trim. If it alarms, please replace the thread trimming solenoid. |
| E11 | The positioning signal of main shaft motor encoder is abnormal | 1. Turn off the system power, check whether main shaft motor encoder connector is loose or fall off, restore it to normal and restart the system.  2. Check whether the motor zero point correction setting is correct; Reset the motor zero point correction; Whether there is oil on the encoder code plate, please clean it if there is any;  3. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service. |
| E14 | Main shaft motor encoder signal is abnormal | 1. Turn off the system power, check whether the main shaft motor encoder connector is loose or fall off, restore it to normal and restart the system.  2. Check whether the grating is installed correctly (whether the grating screws are tightened and whether the grating is in the center of the encoder).  3. Check whether there is oil on the encoder code plate, if there is, please clean it up, and restart the system after recovery.  4. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service. |
| E15 | Main shaft motor drive overcurrent | 1. Please check whether the motor power cord has bad contact.  2. Please check whether the motor power cord is crushed.  3. Please replace the control box or main shaft motor and notify the after-sales service. |
| E17 | Machine overturned | 1. Turn off the system power and check if the machine is overturned.  2. Check whether the machine protection switch detection setting is correct.  3. If it still does not work normally, please replace the control box or panel and notify the after-sales service. |
| E20 | Main shaft motor failed to start | 1. Turn off the system power, check whether main shaft motor power cord connector and encoder connector are loose or fall off, restore them to normal and restart the system.  2. Check whether the motor zero point correction setting is correct, reset the motor zero point correction  3. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service. |
| E28 | Maintenance alarm | Please have a maintenance. |
| E42 | EEPROM read/write failure | 1. Reset.  2. If it still does not work normally, please replace the control box and notify the after-sales service. |
| E43 | Main chip software reset | 1. Reset.  2. If it still does not work normally, please replace the control box and notify the after-sales service. |
| E44 | Master chip undervoltage reset | 1. Reset.  2. If it still does not work normally, please replace the control box and notify the after-sales service. |
| E46 | Watchdog reset | 1. Reset.  2. If it still does not work normally, please replace the control box and notify the after-sales service. |
| E47 | Main chip other reset |  |
| E51 | Insufficient bobbin thread warning | Please add bobbin thread. |
| E82 | Swing needle stepping motor  overcurrent | 1. Turn off the system power and observe whether stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether connector of stepping motor is loose or fall off, restore it to normal and restart the system.  2. If it still does not work normally, please replace the control box or stepping motor and notify the after-sales service. |
| E83 | Swing needle stepping motor current sampling abnormal | 1. Turn off the system power and observe whether stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether connector of stepping motor is loose or fall off, restore it to normal and restart the system.  2. If it still does not work normally, please replace the control box or stepping motor and notify the after-sales service. |
| E84 | Swing needle stepper motor encoder Z signal abnormal | 1. Turn off the system power and observe whether stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether the encoder connector of stepping motor is loose or fall off, and restart the system after returning it to normal.  2. Check whether the grating is installed correctly (whether the grating screws are fastened and whether the grating is in the center of the encoder);  3. Check if there is oil on the grating code plate, if so, please clean it up, and restart the system after restoration;  4. If it still does not work normally, please replace the control box or stepping motor and notify the after-sales service. |
| E85 | Swing needle stepping motor encoder AB signal abnormal | 1. Turn off the power of the system, check whether the encoder connector of stepping motor is loose or fall off, restore it to normal and restart the system.  2. Check whether the grating is installed correctly (whether the grating screws are fastened and whether the grating is in the center of the encoder);  3. Check if there is oil on the grating code plate, if so, please clean it up, and restart the system after restoration;  4. If it still does not work normally, please replace the control box or stepping motor and notify the after-sales service. |
| E86 | Swing needle stepping motor without output | 1. Turn off the power of the system, check whether the power cord connector of stepping motor and the encoder connector are loose or fall off, restore them to normal and restart the system.  2. Check whether the grating is installed correctly (whether the grating screws are fastened and whether the grating is in the center of the encoder);  3. Check if there is oil on the grating code plate, if so, please clean it up, and restart the system after restoration;  4. If it still does not work normally, please replace the control box or stepping motor and notify the after-sales service. |
| E87 | Swing needle stepping motor locked-rotor | 1. Turn off the system power and observe whether stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether the power cord connector of motor and the encoder connector are loose or fall off, restore them to normal and restart the system.  2. If it still does not work normally, please replace the control box or stepping motor and notify the after-sales service. |
| OFF | Power off | 1. Check whether the power is off or not.  2. Check the connecting wire in the control box is loosed off or not, return it to the normal and start up the system again.  3. If it still does not work normally, please replace the control box and notify the after-sales service. |
| E101 | Upper roller chip communication error | 1. Turn off the system power and observe whether stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether the power cord connector of motor and the encoder connector are loose or fall off, restore them to normal and restart the system.  2. If it still does not work normally, please replace the control box or stepping motor and notify the after-sales service. |
| E102 | Upper roller stepping motor overcurrent |
| E103 | Upper roller stepping motor current sampling abnormal |
| E104 | Upper roller encoder without Z signal |
| E105 | Upper roller encoder without AB signal |
| E106 | Upper roller stepping motor without output |
| E107 | Upper roller stepping motor locked-rotor |
| E108 | Upper roller ID distribution abnormal |
| E91 | Lower roller chip communication error |
| E92 | Lower roller stepping motor overcurrent |
| E93 | Lower roller stepping motor current sampling abnormal |
| E94 | Lower roller encoder without Z signal |
| E95 | Lower roller encoder without AB signal |
| E96 | Lower roller stepping motor without output |
| E97 | Lower roller stepping motor locked-rotor |
| E98 | Lower roller ID distribution abnormal |

**5 Port diagram**

**5.1 8P function port description**



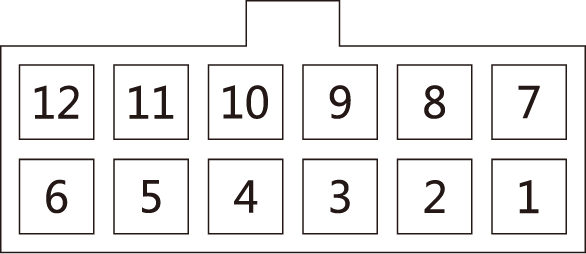
1. Thread tension releasing electromagnet: 1, 5 (+32V)

2. Thread clamping electromagnet: 2, 6 (+32V)

3. Thread trimming electromagnet: 3, 7 (+32V)

4. Presser foot lifting electromagnet: 4, 8 (+32V)

**5.2 12P function port description**



1: S5V; 7: Back-tacking wrench key signal

2: S5V; 8: Stitch length key signal

3: Darning stitch key signal; 9: DGND

4: Pause key signal; 10: DGND

5: Reserved; 11: Back-tacking key signal

6: DGND; 12: Warning light