![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** **Interface and operating instructions**

**1.1 Power-on interface**



|  |  |  |
| --- | --- | --- |
| Name | key | Description |
| M key |  | If clicked, enter the main interface. |
| Machine adjustment |  | If clicked, enter the machine adjustment interface. |
| Other functions |  | If clicked, enter the other functions interface. |

**1.2 Machine adjustment interface description**

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| 1**.**2**.**1 Panel related |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Model selection |  | 7 | Odd number for single needle model; even number for double needle model | P70 |
| 2 | Restore factory setting |  |  |  | P124 |
| 3 | Single or double needle type | 0-1 | 0 | 0 for single-needle mode; 1 for double-needle mode | P200 |
| 1.2.2 Machine debugging |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Main shaft motor electricity angle adjustment |  |  | Reading the Main shaft motor electricity angle, 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). | P92 |
| 2 | Upper positioning quick adjustment |  |  | Adjust upper needle stop position, the displayed value will change with the position of the handwheel, press "SET" key to save the current position (value) as upper needle stop position. | P72 |
| 3 | Swing needle motor angle adjustment | -1800~1800 | 0 | Enter the parameter down command 1's and exit the parameter down command 0's. | P128 |
| 4 | The Swing needle stepping motor zero-point correction | -500~500 | 0 |  | P129 |
| 5 | Upper roller diameter | 10-99 | 28 |  | P140 |
| 6 | Upper roller gear ratio | 101-9999 | 2058 |  | P141 |
| 7 | Upper roller gear ratio 2 | 101-9999 | 101 |  | P139 |
| 8 | Lower roller diameter | 1-99 | 43 |  | P143 |
| 9 | Lower roller gear ratio 1 | 101-9999 | 1663 |  | P144 |
| 10 | Lower roller gear ratio 2 | 101-9999 | 2416 |  | P145  |
| 11 | Swing needle range value | 0-60 | 24 |  | P147 |
| 12 | Swing needle direction | 0-1 | 0 | 0: Positive direction1: Negative direction | P148 |
| 13 | Machine key, back-tacking wrench, knee-control and turn-over switch detection |  | 20 |  | P42-N20 |

**2 Mode interface description**

**2.1 Key description**

|  |  |  |
| --- | --- | --- |
| Name | Icon | Function description |
| Sewing mode |  | If clicked, switch sewing mode (free sewing, overlap sewing, target stitch sewing, editing sewing). Note: the mode can be switched only after the back pedal has finished its stroke. |
| Temporary cancellation of back-tacking |  | If clicked, the back-tacking status of the sewing can be canceled, the back-tacking remains in effect thereafter. |
| Knee-control key |  | If clicked, set used or cancelled second stitch length function. |
| Monitoring key |  | If clicked, enter the monitoring parameter interface. |
| Setting key |  | If clicked, enter the parameter setting interface.If long-press, enter the password to enter the advanced parameters. |
| Lock Screen Key |  | If clicked, switch lock screen and unlock. |
| Thread winding |  | If long-press, activates or deactivates the winding action. |
| Thread trimming counting |  | If long-press, enter thread trimming counting interface. |
| Parameter increase |  | If click, increase the parameter.If long-press, continuously increase the parameter. |
| Parameter decrease |  | If click, decrease the parameter.If long-press, continuously decrease the parameter. |
| Speed display |  | The current speed is displayed and can be adjusted with the corresponding plus or minus keys below. |
| Stitch length mode |  | The current stitch length is displayed and cannot be adjusted. |
| Upper roller stitch length |  | The current upper roller stitch length is displayed and can be adjusted with the corresponding plus or minus keys below; after changing the value, the lower roller stitch length follows the current difference. |
| Lower roller stitch length |  | The current lower roller stitch length is displayed and can be adjusted with the corresponding plus or minus keys below; the lower roller stitch length can be modified individually. |
| Number of back-tacking stitches |  | The number of stitches corresponding to the start and end back-tacking is displayed and can be adjusted with the corresponding plus or minus keys below. |
| Soft start setting |  | If clicked, set used or cancelled soft start function. |
| Tight seam setting |  | If clicked, switch starting tight seam, ending tight seam, full function and function off successively. |
| Needle stop position key |  | If clicked, toggles the stop position of the machine needle after sewing. |
| 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. |
| Automatic presser foot lifting |  | If click, switch function off → automatic presser foot lifting after trimming → automatic presser foot lifting after pause → full function successively. |
| Thread trimming |  | If clicked, set used or cancelled thread trimming function. |
| 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. |
| Locking wheel key |  | If clicked, set used or cancelled locking wheel function (upper and lower rollers lock when parking). |
| Segment display |  | The total number of segments of overlap sewing is displayed and can be adjusted with the corresponding plus or minus keys below. |
| Auto function |  | If clicked, set used or cancelled auto function. |
| Interrupt function |  | If clicked, the activation function current sewing program is interrupted and changed to free sewing; if de-activated, the program continues. |
| Total number of segments |  | The total number of segments is displayed. If clicked, you can adjust it with the corresponding plus or minus below. |
| Number of current segments |  | The current segment is displayed and can be adjusted with the corresponding plus or minus keys below. |
| Current number of stitches |  | Displays the number of stitches in the current segment and can be adjusted with the corresponding plus or minus keys below |
| Pattern No. |  | Displays the pattern No. currently in use and can be adjusted with the corresponding plus or minus keys below |
| Pattern editing mode |  | If long-press, enter pattern editing mode. |
| Reverse sewing |  | If clicked, toggles the direction of the current sewing segment. |
| Layer seam |  |  |
| Calling function |  | If clicked, set used or cancelled IoT calling function |
| Pedal sensitivity key |  | If click, switching to pedal sensitivity gear adjustment. |
| Circular seam |  | If clicked, set used or cancelled circular seam mode |

**2.2** **Pattern editing interface description**

In the editing sewing interface, long press  to enter the "Pattern parameter" interface, click "Pattern editing", select the pattern and enter the editing interface.

**2.3 Monitoring interface description**

Press  to enter the status information screen, you can observe the speed, angle, mechanical position, etc.

**3 Parameter table**

Press  to enter the parameter user parameter setting interface, the parameter setting interface directory is as follows.

|  |  |
| --- | --- |
| No. | Parameter selection catalogue |
| 1 | Panel parameter |
| 2 | Statistics function |
| 3 | Main shaft parameter |
| 4 | Presser foot parameter |
| 5 | Thread trimming parameter |
| 6 | Back-tacking parameter |
| 7 | Soft start parameter |
| 8 | Multi-stitch length parameter |

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| 1 Panel parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Screen brightness | 10-100 | 50 |  |  |
| 2 | Main screen auto-lock time | 10-999 | 20 | Unit: s |  |
| 2 Statistics function |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Automatic piece count selection | 0-30 | 0 | 0: OFF1-50: Trimming counting times setting | P27-N06 |
| 2 | Thread trimming counter mode selection | 0-1 | 1 | 0: Incremental piecework mode1: Diminishing piecework mode | P27-N13 |
| 3 Main shaft parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | The strength of machine stopping after thread trimming | 1-45 | 25 |  | P29 |
| 4 Presser foot parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Presser foot release buffer duty radio (%) | 0-100 | 6 |  | P32 |
| 2 | Presser foot release buffer delay time (ms) | 0-990 | 6 |  | P33 |
| 3 | Automatic presser foot setting when machine pause | 0-1 | 0 | 0: OFF1: ON | P39 |
| 4 | Automatic presser foot setting after trimming | 0-1 | 0 | 0: OFF1: ON | P40 |
| 5 Thread trimming parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Automatic trimming function setting | 0-1 | 1 | 0: OFF1: ON | P38 |
| 6 Back-tacking parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Start back-tacking speed | 200-1500 | 1200 |  | P04 |
| 2 | End back-tacking speed | 200-1500 | 1200 |  | P05 |
| 3 | 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. | P12 |
| 4 | Start back-tacking ending mode selection |  | CON | STP: Automatic stop after the number of stitches in start back-tacking section is completed; parameter value is 0.CON: When start back-tacking section is completed, the function of the next section is automatically continued; the parameter value is 1.CON2: Solve the problem that start back-tacking will go forward one more stitch in free sewing, and auto function off with start back-tacking will go forward one more stitch in target stitch sewing and editing sewing. | P13 |
| 5 | Back-tacking switch | 0-1 | 1 | 0: OFF; 1: ON | P15 |
| 6 | Speed limit of manual back-tacking | 0-2200 | 0 | 0 for OFF. | P16 |
| 7 | Back-tacking sewing advance commutation factor 1 | 0-30 | 15 |  | P18 |
| 8 | Back-tacking sewing advance commutation factor 2 | 0-30 | 15 |  | P19 |
| 7 Soft start parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Soft start speed after second stitch | 200-1500 | 1500 |  | P07 |
| 2 | Stitch numbers for soft start | 1-15 | 2 |  | P08 |
| 3 | Soft start function setting | 0-1 | 1 | 0: OFF; 1: ON | P14 |
| 8 Multi-stitch length parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Switching the second stitch length switch | 0-1 | 1 | 0: OFF; 1: ON | P111 |
| 2 | Upper roller first stitch length | 0-5.0 | 3.0 | Stitch length in normal sewing mode. | P131 |
| 3 | Upper roller second stitch length | 0-5.0 | 2.8 | Second stitch length | P132 |
| 4 | Upper roller third stitch length | 0-5.0 | 3.2 | Third stitch length | P133 |
| 5 | Upper roller fourth stitch length | 0-5.0 | 3.4 | Fourth stitch length | P134 |
| 6 | Upper roller fifth stitch length | 0-5.0 | 3.6 | Fifth stitch length | P135 |
| 7 | Automatic switch back to first stitch length at the end of back pedaling. | 0-1 | 1 | 0: ON; 1: OFF | P136 |

**4 Advanced parameter table**

Long-press  and enter the password to enter the parameter user advanced parameter setting interface, the parameter setting interface directory is as follows.

|  |  |
| --- | --- |
| No. | Advanced parameter selection catalogue |
| 1 | Panel parameter |
| 2 | Statistics function |
| 3 | Main shaft parameter |
| 4 | Presser foot parameter |
| 5 | Thread trimming parameter |
| 6 | Thread clamping parameter |
| 7 | Thread tension release parameter |
| 8 | Tight seam parameter |
| 9 | Roller parameter |
| 10 | Swing needle parameter |
| 11 | Back-tacking parameter |
| 12 | Pedal parameter |
| 13 | Soft start parameter |
| 14 | Multi-stitch length parameter |
| 15 | Segment sewing parameter |
| 16 | Safety protection |
| 17 | Presser foot lifting when start sewing |
| 18 | Reset |
| 19 | P parameter |

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| 1 Panel parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | The function selection of darning stitch key | 0-4 | 3 |  | P174 |
| 2 | Language | Chinese / English | Chinese |  |  |
| 2 Statistics function |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Bobbin thread stitch number counter mode selection | 0-4 | 0 | 0: Do not count1: Increase cycle count2: Decrease cycle count3: Increase count, alarm after the count is full, need to press the clear key to start recounting4: Decrease count, alarm after the count is full, need to press the clear key to start recounting | P165 |
| 2 | Bobbin thread stitch counter upper limit value (stitch) \*10 | 0-1 | 500 |  | P166 |
| 3 | Maintenance stitch upper limit value (10000 stitches) \*10 | 0-9999 | 9000 |  | P167 |
| 3 Main shaft parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Brake strength during stopover | 1-45 | 16 |  | P44 |
| 2 | Minimum speed of main shaft motor when front pedaling | 150-300 | 200 |  | P45 |
| 3 | The reverse-rotating needle-lift function selection after thread trimming | ON/OFF | OFF |  | P46 |
| 4 | The adjustment of the reverse-rotating needle-lift angle after thread trimming (degree) | 10-300 | 40 |  | P47 |
| 5 | Stopping speed | 100-500 | 300 |  | P48 |
| 6 | The angle of fabric entering point | 100-500 | 300 |  | P55 |
| 7 | Automatically find upper position after power on | 0-1 | 0 | 0: Always do not find the upper positioning1: Always find the upper positioning | P56 |
| 8 | Upper position adjustment | 0-359 | 160 | Upper positioning adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased. | P58 |
| 9 | Lower position adjustment | 0-359 | 230 | Lower positioning adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased. | P59 |
| 10 | The maximum limit speed | 100-3000  | 2200 |  | P68 |
| 11 | Upper positioning adjustment offset angle (°) | 0-60 | 0 |  | P71 |
| 12 | Upper positioning quick adjustment |  |  | Adjust upper needle stop position, the displayed value will change with the position of the handwheel, press "SET" key to save the current position (value) as up needle position. | P72 |
| 13 | Lower positioning quick adjustment |  |  | Adjust lower needle stop position, the displayed value will change with the position of the handwheel, press "SET" key to save the current position (value) as down needle position. | P73 |
| 14 | Upper and lower positioning distance | 15-345 | 70 | Upper and lower positioning distance angle. | P86 |
| 15 | Main shaft motor electricity angle adjustment |  |  |  | P92 |
| 16 | Main shaft motor maximum current | 0-10 | 7 |  | P94 |
| 17 | Main shaft motor blocking current peak value (A) | 0-10 | 7 | Numerical value\*0.5+10. | P96 |
| 18 | Main shaft motor blocking protection time (s) | 0-10 | 5 |  | P97 |
| 19 | The function switch of upper and lower roller motor locking main shaft when machine stopping | 0-1 | 1 | 0: OFF1: ON | P180 |
| 20 | The strength of upper and lower roller motor locking main shaft when machine stopping (0.1A) | 1-30 | 15 |  | P181 |
| 21 | Upper and lower roller motor locking main shaft holding time (s) | 0-9999 | 30 | 0: Always lock the main shaft for an unlimited amount of time. | P182 |
| 22 | Upper limit of bar-tacking speed | 200-2500 | 1500 |  |  |
| 23 | Automatically recognize whether needs to be missed by one stitch in start back-tacking or overlap sewing | 0-1 | 0 |  | P208 |
| 24 | Main shaft noise reduction switch (valid for restart) | 0-1 | 0 | (Reserved) Main shaft noise reduction function switch when machine stop; Save and restart to take effect. | P210 |
| 4 Presser foot parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | The working time of presser foot second section full output (ms) | 10-990 | 150 |  | P50 |
| 2 | Periodic signal of presser foot third section output (%) | 1-50 | 30 |  | P51 |
| 3 | Delaying motor start time after presser foot starts to lower (ms) | 10-990 | 120 | Delayed start time to match automatic presser foot lowering. | P52 |
| 4 | Presser foot lifting function selection when back pedaling | 0-2 | 2 | 0: OFF1: Back pedaling and half back pedaling with lifting presser foot.2: Half back pedaling without lifting presser foot, back pedaling with lifting presser foot. | P53 |
| 5 | Presser foot protection time | 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. | P57 |
| 6 | Presser foot second section strength | 10-100 | 100 |  | P95 |
| 7 | Presser foot first section strength | 5-40 | 20 |  | P112 |
| 8 | Presser foot first section strength holding time | 0-200 | 100 |  | P113 |
| 5 Thread trimming parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Trimming speed | 100-500 | 260 | Adjusting the motor speed during thread trimming cycle. | P49 |
| 2 | Trimming output protection time (ms) | 10-990 | 500 | The required action time when thread trimming to protect the thread trimming solenoid. | P54 |
| 3 | Trimming first engage angle | 0-300 | 50 | Trimming engage angle setting (calculated at 0° for lower positioning). | P80 |
| 4 | Trimming retract angle | 0-359 | 330 |  | P82 |
| 5 | Trimming full output time (ms) | 0-990 | 60 |  | P84 |
| 6 | Periodic signal of trimming output (\*10%) | 1-10 | 7 |  | P85 |
| 7 | Trimming return time (ms) | 60-990 | 65 | Make sure the thread trimming device returns to its original position. | P110 |
| 8 | The switch of allowed to darning stitch after trimming | 0-1 | 1 | 0: OFF; 1: ON | P175 |
| 6 Thread clamping parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Thread clamping mode | 0-3 | 0 | 0: OFF1: Thread clamping when start sewing2: Thread clamping after thread trimming3: Full function | P35 |
| 2 | Thread clamping function selection | 0-10 | 6 | 0: OFF1-10: Thread clamping function, the greater the value, the greater the action strength. | P37 |
| 3 | The start angle of thread clamping when trimming | 5-359 | 0 |  | P76 |
| 4 | The stop angle of thread clamping when trimming | 5-359 | 120 |  | P77 |
| 5 | The start angle of thread clamping when start sewing | 5-359 | 100 |  | P78 |
| 6 | The stop angle of thread clamping when start sewing | 5-359 | 270 |  | P79 |
| 8 Thread tension release parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Thread tension releasing function setting | 0-1 | 1 | 0: OFF; 1: ON | P36 |
| 2 | The start angle of thread tension releasing | 1-359 | 300 | Thread tension releasing start angle (defined as 0°under calculation). | P101 |
| 3 | The stop angle of thread tension releasing | 1-359 | 340 | Thread tension releasing end angle (defined as 0°under calculation, must be greater than P101 parameter value). | P102 |
| 4 | Periodic signal of the second thread tension releasing output (%) | 1-100 | 35 |  | P103 |
| 5 | Periodic signal of the first thread tension releasing output (%) | 1-100 | 60 |  | P211 |
| 6 | Action time of the first thread tension releasing output | 1-100 | 25 |  | P212 |
| 8.1 Starting tight seam |
| No. | Display | Range | Default | Description | Parameter |
| 1 |  | 0-12 | 1 | When the parameter value is 0, starting tight seam function is turned off. | P108 |
| 2 |  | 0-5.0 | 0.5 | Stitch length | P99 |
| 3 |  | 100-2000 | 500 | Speed | P107 |
| 4 |  | CW/CCW | CCW | Direction | P100 |
| 8.2 Ending tight seam |
| No. | Display | Range | Default | Description | Parameter |
| 1 |  | 0-12 | 1 | When the parameter value is 0, ending tight seam function is turned off. | P160 |
| 2 |  | 0-5.0 | 0.5 | Stitch length | P157 |
| 3 |  | 100-2000 | 500 | Speed | P158 |
| 4 |  | CW/CCW | CCW | Direction | P159 |
| 9 Roller parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Upper roller diameter |  10-99 | 28 |  | P140 |
| 2 | Upper roller gear ratio 1 | 101-9999 | 2058 |  | P141 |
| 3 | Upper roller gear ratio 2 | 101-9999 | 101 |  | P139 |
| 4 | Upper roller percentage compensation | -100~100 | 0 |  | P142 |
| 5 | Lower roller diameter | 10-99 | 43 |  | P143 |
| 6 | Lower roller gear ratio 1 | 101-9999 | 1663 |  | P144 |
| 7 | Lower roller gear ratio 2 | 101-9999 | 2416 |  | P145 |
| 8 | Lower roller percentage compensation | -100~100 |  0 |  | P146 |
| 9 | Maximum stitch length limit |  0.0-7.0 | 5.0 |  | P123 |
| 10 | Running angle range in double needle model | 200-300 | 0 | The single needle defaults to 0. | P199 |
| 10 Swing needle parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Swing needle motor debugging angle | -1800~1800 | 0 |  | P128 |
| 2 | Swing needle stepping motor zero-point correction | -500~500 | 0 |  | P129 |
| 3 | Swing needle range value | 0-60 | 24 |  | P147 |
| 4 | Swing needle direction | 0-1 | 0 | 0: Positive direction; 1: Negative direction | P148 |
| 5 | Swing needle synchronization mode | 0-2 | 1 | 0: Synchronization mode 01: Synchronization mode 12: Synchronization mode 2 | P149 |
| 11 Back-tacking function |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Tacking stitch length overall compensation | -200-200 | 0 | Compensates for all stitch length in tacking. | P74 |
| 2 | Back-tacking stitch length overall compensation | -200-200 | 0 | Compensates for all stitch length in back-tacking. | P75 |
| 3 | When the main shaft motor running, the allowed back-tacking angle after needle bar at the lowest position | 0-180 | 70 |  | P104 |
| 4 | When the main shaft motor stopping, the allowed back-tacking angle after needle bar at the lowest position | 0-180 | 120 |  | P105 |
| 5 | The switch of each constant-stitch sewing with start back-tacking sewing, end back-tacking sewing and trimming | 0-1 | 0 | 0: OFF1: ON | P230 |
| 6 | Function switch for continuous sewing in all segments | 0-1 | 0 | 0: OFF1: ON | P201 |
| 12 Pedal parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Pedal mode | 0-3 | 0 | 0: Factory mode1: Beginner mode2: Standard mode3: Proficiency mode | P27-N21 |
| 2 | 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. | P02 |
| 3 | Pedal hysteresis mode | 0-1 | 0 | 0: 1 stitch well controlled, 2 stitches slightly less so.1: 1 stitch slightly better control, 2 stitches slightly better control.2: 1 stitch is slightly difficult to control, 2 stitches are good. | P11 |
| 4 | Pedal speed-up position | 30-1000 | 580 |  | P21 |
| 5 | Pedal start up position | 30-1000 | 480 |  | P22 |
| 6 | The position of the pedal for presser foot lifting | 30-1000 | 230 |  | P23 |
| 7 | The position of the pedal for thread trimming | 30-500 | 110 |  | P24 |
| 8 | Front pedaling acceleration | 0-40 | 10 | The higher the value, the higher acceleration of front pedaling. | P25 |
| 9 | Front pedaling flexibility | 0-20 | 12 | The larger the value, the less sensitive it is, and 1 stitch is better control. | P26 |
| 10 | Half back pedaling function effect time (ms) | 10-900 | 100 |  | P93 |
| 13 Soft start parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Soft start first stitch speed | 200-1500 | 400 | Sets the first stitch speed when the soft start sewing function is on. | P90 |
| 2 | Soft start second stitch speed | 200-1500 | 1000 | Sets the second stitch speed when the soft start sewing function is on. | P91 |
| 3 | Start sewing first stitch speed limit | 0-3000 | 0 | The function is disabled when the value is less than 100. | P205 |
| 4 | Start sewing second stitch speed limit | 0-3000 | 0 | The function is disabled when the value is less than 100. | P206 |
| 5 | Start sewing speed limit function switch | 0-1 | 0 | 0: OFF; 1: ON(This function is active when P14 = 0.) | P207 |
| 14 Multi-stitch length parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Number of cycles allowed for switching stitch length | 1-5 | 2 |  | P130 |
| 2 | Upper and lower roller stitch length difference value limitation | 0-2.0 | 1.0 |  | P150 |
| 3 | Upper and lower roller stitch length difference value (first stitch length) | -1.0~1.0 | 0.0 |  | P151 |
| 4 | Upper and lower roller stitch length difference value (second stitch length) | -1.0~1.0 | 0.0 |  | P152 |
| 5 | Upper and lower roller stitch length difference value (third stitch length) | -1.0~1.0 | 0.0 |  | P153 |
| 6 | Upper and lower roller stitch length difference value (fourth stitch length)） | -1.0~1.0 | 0.0 |  | P154 |
| 7 | Upper and lower roller stitch length difference value (fifth stitch length) | -1.0~1.0 | 0.0 |  | P155 |
| 15 Segment sewing parameter |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Testing speed | 100-3000 | 2400 |  | P60 |
| 2 | Testing A | ON/OFF | OFF | Continuous running testing. | P61 |
| 3 | Testing B | ON/OFF | OFF | Start and stop testing with all functions. | P62 |
| 4 | Testing C | ON/OFF | OFF | Start and stop testing without all function. | P63 |
| 5 | Test run time | 1-250 | 30 |  | P64 |
| 6 | Test stop time | 1-250 | 20 |  | P65 |
| 16 Safety protection |
| No. | Display | Range | Default | Description | Parameter |
| 1 | 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. | P57 |
| 2 | Machine protection switch | 0-1 | 1 | 0: OFF; 1: ON | P66 |
| 3 | AC overvoltage value setting | 500-1023 | 880 | Set the threshold value of overvoltage alarm E01. | P89 |
| 4 | Thread tension release protection time (s) | 1-5 | 2 | Forced shutdown after protection time to prevent long-term magnetic absorption from getting hot. | P98 |
| 17 Presser foot lifting when start sewing |
| No. | Display | Range | Default | Description | Parameter |
| 1 | Presser foot lifting start angle when start sewing | 0-359 | 1 |  | P202 |
| 2 | Presser foot lifting stop angle when start sewing | 0-359 | 200 |  | P203 |
| 3 | Presser foot lifting strength when start sewing | 0-100 | 40 |  | P204 |
| 18 Reset |
| 19 P parameter |

**5 Machine debugging mode**

Step 1: Turn on the machine and enter the boot interface, click  to enter the panel related interface, select the model you need and then turn off the machine and restart (if the factory model is the model you need, there is no need for this operation). Enter machine adjustment setting, check whether the upper and lower roller gear ratio is consistent with the mechanical gear ratio (if it is not consistent, change the data).

Step 2: Click "Main shaft motor electricity angle adjustment" parameter, and press save after the motor rotation stops.

Step 3: Click on the "Upper Positioning Quick Adjustment" parameter and manually turn the handwheel counterclockwise so that the upper stop position stops where you need it to (the actual stop position) and press "Save".

Step 4: Make the wide slot of the swing needle cam face upward and lock the corresponding screw.

Step 5: Make the needle bar of the swing needle at the lowest point and at the center of the needle hole, and lock the needle bar screw.

Step 6: Go back to the start-up screen and click  to enter the sewing interface, adjust the stitch length to the maximum and turn the handwheel to observe whether the trajectory of the needle bar movement is within the needle hole (if not, you can make appropriate adjustments).

Step 7: Use paper to test the machine stitch size and synchronization. (If there is an error, go to the advanced parameters roller parameters to adjust the upper and lower roller compensation appropriately)