# ▲ Safety Instruction

- 1. Users are required to read the operation manual completely and carefully before installation or operation.
- 2. This product must be installed or operated by properly trained personnel. All power must be turned off during installation, and remember not to operate with power.
- 3. All the instruction marked with sign  $\triangle$  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 power supply cords to power sources, it is necessary to make sure that the power voltage matches the rated voltage  $\pm 20\%$  indicated on the motor's name plate.
- 6. Do not operate in direct sun light, outdoors area and where the room temperature is over  $45^{\circ}$ 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. Do not operate in area with heavy dust, corrosive substance or volatile gas.
- 9. Avoid power cord being applied by heavy objects or excessive force, or over bend.
- 10. The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.
- 11. All the moving portions must be prevented to be exposed by the parts provided.
- 12. Turing on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
- 13. Turn off the power before the following operation:
  - 1. Connecting or disconnecting any connectors on the control box or motor.
  - 2. Threading needle.
  - 3. Raising the machine head.
  - 4. Repairing or doing any mechanical adjustment.
  - 5. Machines idling.
- 14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
- 15. All the spare parts for repair must be provided or approved by the manufacturer.
- 16. Don't use any objects or force to hit or ram the product.

#### **Guarantee Time**

Warranty period of this product is 1 year dated from purchasing, or within 2 years from ex-factory date.

#### Warranty Detail

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

1. Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product.

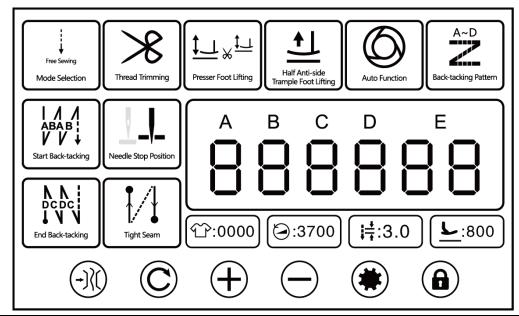
2. Damage by fire, earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.

3. Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency

Note: 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 operation instructions

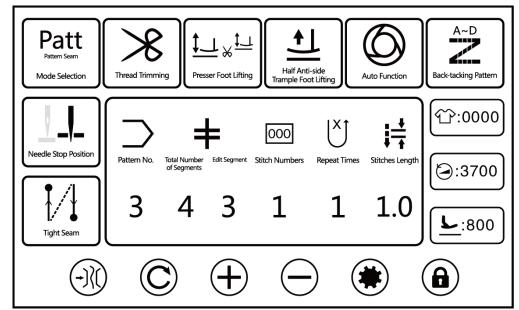
### 1.1 Main interface description



| Name                                       | Key                           | Indicate   |
|--|-------------------------------|--|
| Clamp function<br>setting                  | $\overline{\mathbb{R}}$       | If click, set used or cancelled clamp function.  |
| Constant stitch<br>sewing switching<br>key | $\bigcirc$                    | In constant stitch sewing mode, if click, switch to stitch numbers and segments display interface.   |
| Parameter increase                         | (+)                           | If click, it can increase parameters.<br>If long-press, it can continuously increase parameters.   |
| Parameter decrease                         | $\bigcirc$                    | If click, it can decrease parameters.<br>If long-press, it can continuously decrease parameters.   |
| Set key                                    |                               | If click, enter the parameter setting interface.   |
| Lock screen key                            |                               | If you click, switch the lock screen and unlock.   |
| Mode selection                             | Free Sewing<br>Mode Selection | If click, shift to free sewing, continuous back seam mode, constant stitch sewing and pattern seam mode.   |
| Start back-tacking                         | ABAB<br>V V V                 | If click, executions starting back seam B segment, execution starting back seam (A, B segment) 1 time or execution starting back seam (A, B segment) 2 times.<br>If long-press, switch to back-tacking setting.      |
| End back-tacking                           | End Back-tacking              | If click, execution terminates back seam C segment, execution terminates back seam (C, D segment) 1 time or execution terminates back seam (C, D segment) 2 times.<br>If long-press, switch to back-tacking setting. |
| Thread trimming                            | Thread Trimming               | If click, set used or cancelled trimming function.   |

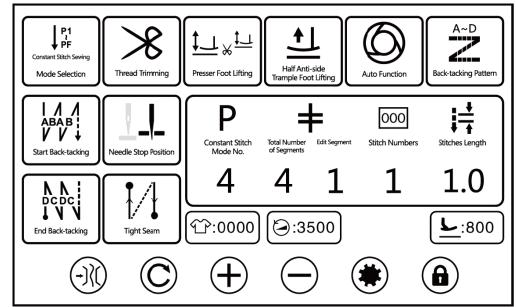
| Needle stop<br>position                 | Needle Stop Position                   | If click, switch the needle stop position after sewing (up position / down position).  |
|---|--|--|
| Tight seam                              | Tight Seam                             | If click, switch between function OFF, starting tight seam function ON, ending tight<br>seam function ON and full function in turn.<br>If long-press, switch to tight seam function setting. |
| Presser foot lifting                    |  | If click, switch between automatic presser foot lifting after pause, automatic presser foot lifting after trimming, full function and function off in turn.                                  |
| Half anti-side<br>trample foot lifting  | Half Anti-side<br>Trample Foot Lifting | If click, set used or cancelled half anti-side trample foot lifting function.  |
| Auto function                           | Auto Function                          | In constant stitch sewing mode, If click, set used or cancelled auto function.   |
| Back-tacking pattern                    | A~D<br>Back-tacking Pattern            | If click, set used or cancelled back-tacking pattern function.   |
| Slow launch<br>setting                  | Slow Launch                            | If click, set used or cancelled slow launch function.  |
| Advanced<br>parameter settings          | $\bigcirc$                             | If double click, enter the advanced parameter setting interface.   |
| Trimming count<br>display               | £₽:0000                                | The trimming count value is displayed.<br>If double click, the count is cleared.   |
| Sewing speed<br>display                 | 3700                                   | The sewing speed of the current mode is displayed.<br>If click, select this data, and you can adjust the data by parameter increase and decrease keys.                                       |
| Sewing stitch<br>length display         | [;;:3.0]                               | The stitch length of the current mode is displayed.<br>If click, select this data, and you can adjust the data by parameter increase and decrease keys.                                      |
| The highest presser foot height display | <u>L</u> :800                          | The highest presser foot height is displayed.<br>If click, select this data, and you can adjust the data by parameter increase and decrease keys.  |

# 1.2 Pattern seam interface description



| No. | Items                                    | Range | Default | Description  |
|-----|--|-------|---------|--|
| 1   | Pattern No.                              | 1-9   |         | "3" stands for the number of the pattern. The figure represents the 3rd pattern.   |
| 2   | Total Number Edit Segment<br>of Segments | 1-10  |         | <ul> <li>"4" represents the total number of segments of the pattern. If you click, you can select the total number of segments.</li> <li>"3" represents the segment No. of the pattern. As shown in the figure, there are 4 patterns in the 3rd pattern. The figure is the data of the 3rd segment.</li> </ul> |
| 3   | 000<br>Stitch Numbers                    | 1-99  |         | "1" represents the stitch numbers of the pattern.<br>As shown in the figure, the number of stitches in<br>the 3rd segment of the 3rd pattern is 1.   |
| 4   | Repeat Times                             | 1-9   |         | "1" represents the repeat times of the pattern. As<br>shown in the figure, the repeat times for the 3rd<br>segment of the 3rd pattern is 1.  |
| 5   | Stitches Length                          | 0-5.0 |         | "1.0" represents the stitches length of this pattern.<br>As shown in the figure, the stitches length of the<br>3rd segment of the 3rd pattern is 1.0 mm.   |

### 1.3 Constant stitch sewing interface description



| No. | Items                                    | Range | Default | Description  |
|-----|--|-------|---------|--|
| 1   | Constant Stitch<br>Mode No.              | 1-10  |         | "4" represents the number of constant stitch<br>sewing mode. As shown in the figure, it<br>represents 4th constant stitch sewing mode.   |
| 2   | Total Number Edit Segment<br>of Segments | 1-4   |         | "4" represents the total number of segments of the constant stitch sewing mode. If clicked, the total number of segments can be selected.<br>"1" represents the segment No. of constant stitch sewing.<br>As shown in the figure, it represents the data of the 1st segment of the 4 segments. |
| 3   | 000<br>Stitch Numbers                    | 0-99  |         | "1" represents the number of stitches in this<br>segment. As shown in the figure, the number of<br>stitches in the 1st segment of the 4 segments is 1.   |
| 4   | Stitches Length                          | 0-5.0 |         | "1.0" represents the stitches length of the constant<br>stitch sewing mode. As shown in the figure, the<br>stitches length of the 1st segment of the 4<br>segments is 1.0mm.   |

### 1.4 Debug interface description

Long press on the main screen, the debugging interface will be displayed.

| No. | Items                                    | Range    | Default | Description | Parameter |
|-----|--|----------|---------|-------------|-----------|
| 1   | Main shaft motor zero-point correction   |          |         |             | P92       |
| 2   | Up position quick adjustment             |          |         |             | P72       |
| 3   | Back-tacking motor zero-point correction | -100~100 | 0       |             | P129      |
| 4   | Tacking stitch length compensation       | -100~100 | 0       |             | P74       |

| 5 | Back-tacking stitch length compensation                      | -100~100 | 0  | P75  |
|---|--|----------|----|------|
| 6 | Tacking stitch length compensation in high speed             | -100~100 | -2 | P144 |
| 7 | Back-tacking stitch length compensation in high speed        | -100~100 | -2 | P145 |
| 8 | Back-tacking stitch overall compensation                     | -20~20   | 0  | P11  |
| 9 | Large stitch length back-tacking stitch overall compensation | -20~20   | 0  | P244 |

## 2. User parameter setting interface

Click in the interface of free sewing, pattern seam, or W sewing to enter user parameter setting interface.

|--|

| No. | Setting                          |
|-----|----------------------------------|
| 1   | Main shaft motor setting         |
| 2   | Tight seam function setting      |
| 3   | Back-tacking setting             |
| 4   | Counter setting                  |
| 5   | Soft start setting               |
| 6   | Machine switch setting           |
| 7   | Clamp & tension setting          |
| 8   | Interface display                |
| 9   | Layer seam setting               |
| 10  | Clamp function without any thrum |

| No.   | Items  | Range    | Default         | Description  | Parameter |  |  |  |
|-------|--|----------|-----------------|--|-----------|--|--|--|
|       | 2.1 Main shaft motor setting                           |          |                 |  |           |  |  |  |
| 2101  | Needles goes up<br>automatically as power<br>turned on | OFF/ON   | OFF             |  | P56       |  |  |  |
|       |  | 2.2 T    | ight seam fur   | action setting   |           |  |  |  |
| 2201  | Starting tight seam                                    |          |                 |  |           |  |  |  |
| 2202  | Ending tight seam                                      |          |                 |  |           |  |  |  |
|       |  | 2.       | .2.1 Starting t | ight seam  |           |  |  |  |
| 22101 | 000  | 0-12     | 2               | When the value is 0, the starting tight seam mode is turned off. |           |  |  |  |
| 22102 |  | 0-5.0    | 0.5             | Stitches length  |           |  |  |  |
| 22103 | $\bigcirc$   | 100-2000 | 1800            | Speed  |           |  |  |  |
| 22104 | U  | CW/CCW   | CW              | Direction  |           |  |  |  |
|       |  | 2        | .2.2 Ending ti  | ght seam   |           |  |  |  |

| 22201 | 000   | 0-12     | 2             | When the value is 0, the ending tight seam mode is turned off.   |      |
|-------|---|----------|---------------|--|------|
| 22202 |   | 0-5.0    | 0.5           | Stitches length  |      |
| 22203 |   | 100-2000 | 1800          | Speed  |      |
| 22204 | U   | CW/CCW   | CW            | Direction  |      |
|       |   | 2.       | .3 Back-tacki | ng setting   |      |
| 2301  | Start back-tacking speed  | 200-3200 | 2000          |  | P04  |
| 2302  | End back-tacking speed  | 200-3200 | 2000          |  | P05  |
| 2303  | Mode selection for<br>bar-tacking   | OFF/ON   | ON            |  | P08  |
| 2304  | The constant-stitch whether<br>can execute end<br>back-tacking sewing<br>function selection | OFF/ON   | ON            |  | P10  |
| 2305  | Star back-tacking mode selection  | OFF/ON   | ON            |  | P12  |
| 2306  | Mode selection at the end of start back-tacking   | OFF/ON   | ON            |  | P13  |
| 2307  | Start back-tacking stitch compensation 1  | 0-200    | 160           |  | P18  |
| 2308  | Start back-tacking stitch compensation 2  | 0-200    | 160           |  | P19  |
| 2309  | End back-tacking stitch compensation 3  | 0-200    | 160           |  | P25  |
| 2310  | End back-tacking stitch compensation 4  | 0-200    | 160           |  | P26  |
| 2311  | Back-tacking stitch<br>compensation 5   | 0-200    | 162           |  | P32  |
| 2312  | Back-tacking stitch<br>compensation 6   | 0-200    | 162           |  | P33  |
| 2313  | Start back-tacking stitch compensation 11   | 0-200    | 160           |  | P237 |
| 2314  | Start back-tacking stitch compensation 12   | 0-200    | 160           |  | P238 |
| 2315  | End back-tacking stitch compensation 13   | 0-200    | 160           |  | P239 |
| 2316  | End back-tacking stitch compensation 14   | 0-200    | 160           |  | P240 |
| 2317  | Back-tacking stitch<br>compensation 15  | 0-200    | 160           |  | P241 |
| 2318  | Back-tacking stitch<br>compensation 16  | 0-200    | 160           |  | P242 |
| 2319  | Pattern sewing<br>compensation 1  | 0-200    | 160           |  | P235 |
| 2320  | Pattern sewing<br>compensation 2  | 0-200    | 160           |  | P236 |
|       |   |          | 2.4 Counter   | setting  |      |
| 2401  | Counter selection   | 0-2      | 1             | <ul> <li>0: Counter does not count</li> <li>1: Count up sewing counter (Each time the thread is cut, the count is increased by 1; the current value and the set value are the same, and the count screen is displayed.)</li> <li>2: Count-down sewing counter (1 counts each time the thread is trimmed; the count screen is displayed after the current value becomes 0)</li> </ul> |      |

| 2402 | Counter current value /setting value                              | 0-9999   | 0/9999        | The current value is the current actual value;<br>the setting value is a reference value   |      |
|------|---|----------|---------------|--|------|
| 2403 | Sewing counter trimming time                                      | 0-50     | 1             |  |      |
|      |   |          | 2.5 Soft star | t setting  |      |
| 2501 | Soft start switch   | ON/OFF   | OFF           |  | P14  |
| 2502 | Stitch numbers for soft start                                     | 1-15     | 2             |  | P08  |
| 2503 | Soft start first stitch speed                                     | 200-1500 | 400           |  | P90  |
| 2504 | Soft start second stitch speed                                    | 200-1500 | 1000          |  | P91  |
| 2505 | Soft start speed after second stitch                              | 200-1500 | 1500          |  | P07  |
|      |   | 2.6      | 6 Machine sw  | itch setting   |      |
| 2601 | Manual switch A setting   | 0-6      | 5             | <ul> <li>0: OFF</li> <li>1: Half stitch</li> <li>2: One stitch</li> <li>3: Continuous half stitch</li> <li>4: Continuous one stitch</li> <li>5: Back-tacking when machine stop or pause</li> <li>6: Tight seam function</li> </ul>           | P15  |
| 2602 | Manual switch B setting   | 0-6      | 3             | <ul> <li>0: OFF</li> <li>1: Half stitch</li> <li>2: One stitch</li> <li>3: Continuous half stitch</li> <li>4: Continuous one stitch</li> <li>5: Back-tacking when machine stop or pause</li> <li>6: Tight seam function</li> </ul>           | P174 |
| 2603 | Manual switch C setting   | 0-6      | 0             | <ul> <li>0: OFF</li> <li>1: Half stitch</li> <li>2: One stitch</li> <li>3: Continuous half stitch</li> <li>4: Continuous one stitch</li> <li>5: Back-tacking when machine stop or pause</li> <li>6: Tight seam function</li> </ul>           | P175 |
| 2604 | Manual switch D setting   | 0-6      | 0             | <ul> <li>0: OFF</li> <li>1: Half stitch</li> <li>2: One stitch</li> <li>3: Continuous half stitch</li> <li>4: Continuous one stitch</li> <li>5: Back-tacking when machine stop or pause</li> <li>6: Tight seam function</li> </ul>           | P176 |
| 2605 | Manual back-tacking<br>function selection under<br>pattern sewing | 0-1      | 1             | <ul><li>0: If click, it will clear the current number of pattern stitches and restart. It is used for corner sewing to avoid protruding one stitch.</li><li>1: If you press it for a long time, you can sew the pattern backwards.</li></ul> | P118 |

|       |  | 2.7 0                | Clamping & te | ension setting  |      |  |  |
|-------|--|----------------------|---------------|---|------|--|--|
| 2701  | Tension strength setting   | 1-80                 | 30            |   | P103 |  |  |
| 2702  | With or without tension<br>while foot lifting action   | ON/OFF               | OFF           |   | P35  |  |  |
| 2703  | Wiping / clamping strength setting   | 0-11                 | 8             | <ul> <li>0: OFF</li> <li>1: Wiping function</li> <li>2~11: Clamping function, the higher the value, the stronger the action.</li> </ul> | P37  |  |  |
| 2704  | Tension function switch  | ON/OFF               | ON            |   | P36  |  |  |
| 2705  | The foot lift height of<br>thread tension release start<br>action when knee-control<br>foot lift | 0-300                | 75            |   | P30  |  |  |
| 2706  | Thread tension release<br>function switch when<br>knee-control foot lift                         | 0-1                  | 0             |   | P31  |  |  |
|       |  |                      | 2.8 Interface | display   |      |  |  |
| 2801  | Brightness   | 5-100                | 80            | The larger the value, the higher the brightness.  |      |  |  |
| 2802  | Main interface locked automatically  | 0-900                | 60            |   |      |  |  |
| 2803  | Restore factory defaults   |                      |               |   |      |  |  |
| 2804  | Language   | Chinese /<br>English | Chinese       |   |      |  |  |
| 2805  | Brightness of Logo light   | 0-3                  | 0             |   |      |  |  |
|       |  | 2.                   | 9 Layer sea   | m setting   |      |  |  |
| 2901  | Layer seam mode switch   | ON/OFF               | OFF           |   | P119 |  |  |
|       | 2.10 Clamp function without any thrum  |                      |               |   |      |  |  |
| 21001 | Clamp function without any thrum switch  | ON/OFF               | OFF           |   | P111 |  |  |

## 3. Advanced parameter setting interface

) in the interface of free sewing, pattern seam, or W sewing to enter the advanced parameter Double-click (

setting interface. The parameter setting interface catalog is as follows.

| No. | Setting  |
|-----|--|
| 1   | Trimming function setting                      |
| 2   | Clamp function setting                         |
| 3   | Foot lifting setting                           |
| 4   | Tension setting                                |
| 5   | Pedal setting                                  |
| 6   | Safety protection setting                      |
| 7   | Stitch length setting of stepping back-tacking |
| 8   | Testing mode                                   |
| 9   | State information                              |
| 10  | Main shaft motor setting                       |

| 11 | amp function without any thrum                       |  |  |  |  |
|----|--|--|--|--|--|
| 12 | ayer seam setting                                    |  |  |  |  |
| 13 | ther settings  |  |  |  |  |
| 14 | Speed limit setting of main shaft motor start sewing |  |  |  |  |

| No.  | Items  | Range    | Default        | Description  | Parameter |
|------|--|----------|----------------|--|-----------|
|      |  | 3.1      | Frimming fun   | ction setting  |           |
| 3101 | Trimming step return speed   | 20-400   | 150            |  | P140      |
| 3102 | Trimming first section speed   | 20-400   | 300            |  | P142      |
| 3103 | Trimming second section speed  | 20-400   | 250            |  | P141      |
| 3104 | Trimming action time   | 10-990   | 200            |  | P55       |
| 3105 | The angle of trimming first infeed   | 0-359    | 40             |  | P80       |
| 3106 | The angle of trimming second infeed  | 0-359    | 175            |  | P82       |
| 3107 | First trimming distance  | 0-200    | 90             |  | P137      |
| 3108 | Second trimming distance   | 0-200    | 125            |  | P134      |
| 3109 | Trimming step return time  | 10-990   | 100            |  | P110      |
| 3110 | Main shaft motor speed<br>when trimming  | 100-500  | 300            |  | P49       |
| 3111 | The stopping angle of trimming first infeed  | 100-250  | 130            |  | P81       |
|      |  | 3.2      | 2 Clamp funct  | tion setting   |           |
| 3201 | Clamp start angle  | 10-359   | 100            |  | P78       |
| 3202 | Clamp end angle  | 10-359   | 270            |  | P79       |
| 3203 | Wiper thread action time   | 10-990   | 220            |  | P55       |
| 3204 | The delay time before wiper thread   | 5-990    | 5              |  | P109      |
|      |  | 3        | 3.3 Presser fo | ot setting   |           |
| 3301 | Presser foot lay down time   | 10-990   | 120            |  | P52       |
| 3302 | Presser foot lift highness<br>compensation when pedal<br>return to intermediate step<br>at sewing stop | 0-160    | 80             | Set 80 as 0 compensation, go to the major<br>adjustment for positive compensation, the<br>height of the presser foot will increase, go to<br>the minor adjustment for the negative<br>compensation, the height of the presser foot<br>will decrease. | P125      |
| 3303 | The highest of presser foot lift highness  | 0-300    | 105            |  | P136      |
| 3304 | Presser foot speed   | 20-400   | 150            |  | P146      |
| 3305 | Zero correction of foot<br>lifting motor   | -100~100 | 0              |  | P130      |
| 3306 | Presser foot step motor steady current   | 10-100   | 20             |  | P150      |
| 3307 | Presser foot motor<br>maximum current  | 10-100   | 55             |  | P152      |
| 3308 | Electronic knee-control device the lowest presser  | 0-200    | 20             |  | P135      |

|      | foot lift height  |                 |                |   |      |
|------|---|-----------------|----------------|---|------|
| 3309 | Electronic knee-control<br>device the highest presser<br>foot lift height     | 0-200           | 130            |   | P126 |
| 3310 | The highest of presser foot<br>lift highness limit                            | 0-300           | 150            |   | P172 |
| 3311 | Kneeling device starting<br>AD value  | 0-1023          | 400            |   | P122 |
| 3312 | Rotation direction of the presser foot motor                                  | 0-1             | 0              |   | P147 |
| 3313 | Knee-control function selection   | 0-2             | 1              | <ul><li>0: OFF</li><li>1: Valid when the main shaft motor stops</li><li>2: Valid when the main shaft motor runs and stops</li></ul>                       |      |
| 3314 | The highest presser foot lift<br>height of electric<br>knee-control in sewing | 0-300           | 100            |   |      |
|      |   |                 | 3.4 Tension    | setting   |      |
| 3401 | Tension starting angle  | 1-359           | 30             |   | P101 |
| 3402 | Tension ending angle  | 1-359           | 180            |   | P102 |
| 3403 | Periodic signal of the first<br>thread tension release<br>output action (%)   | 1-100           | 35             |   | P211 |
| 3404 | Thread tension release the first output action time                           | 1-100           | 20             |   | P212 |
|      |   |                 | 3.5 Pedal s    | etting  |      |
| 3501 | Speed curve adjustment (%)  | 10-100          | 80             |   | P02  |
| 3502 | The voltage of forward step pedal point                                       | 30-1000         | 520            |   | P21  |
| 3503 | The voltage of intermediate step pedal point                                  | 30-1000         | 420            |   | P22  |
| 3504 | The voltage of half heeling pedal point                                       | 30-1000         | 270            |   | P23  |
| 3505 | The voltage of heeling<br>pedal point   | 30-1000         | 130            |   | P24  |
| 3506 | Delay time of half heeling pedal  | 10-900          | 100            |   | P93  |
|      | ·   | 3.6             | Safety protec  | ction setting   |      |
| 3601 | Machine protection switch testing   | 0-2             | 1              | 0: OFF<br>1: Testing zero signal<br>2: Testing positive signal  | P66  |
| 3602 | Oil level lower protection testing  | OFF/ON          | OFF            |   | P120 |
| 3603 | Setting high voltage<br>protection value                                      | 850-1023        | 880            | When the external input AC voltage is<br>converted into DC voltage and the value<br>exceeds the set value, the system will alarm<br>E01 and stop working. | P89  |
| 3604 | Tension electromagnet<br>protection time                                      | 1-60            | 5              | Electromagnet working protection time (S)   | P57  |
| 3605 | Trimming protection switch  | OFF/ON          | OFF            |   | P67  |
|      |   | 3.7 Stitch leng | gth setting of | stepping back-tacking   |      |
| 3701 | Back-tacking motor<br>zero-point correction                                   | -100~100        | 0              |   | P129 |

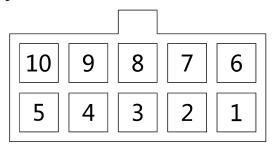
| 3700     Silch lengh reference<br>compension     100~100     0     P74       3704     Tarking sitch lengh<br>compension     100~100     0     P74       3705     Bak-tacking sitch lengh<br>compension     0.200     0     P74       3706     Bak-tacking sitch lengh<br>compension     0.200     0     P74       3707     Bak-tacking sitch lengh<br>compension     0.200     0     P243       3708     Bak-tacking sitch lengh<br>compension     0.200     0     P243       3709     Bak-tacking sitch lengh<br>distance     0.6.0     2.0     P149       3709     Bak-tacking sitch lengh<br>distance     0.6.0     2.0     P171       3709     Correction sitches distance<br>distance     0.6.0     0     P171       3710     Correction sitches distance<br>distance     0.6.0     0     P171       3711     Correction sitches distance<br>distance distance     0.6.0     0     P171       3712     Correction sitchengh sering     0.6.0     0     P173       3713     Maximum sitch lengh     0.6.0     0     P173       3714     Maximum sitch lengh     0.6.0     0     P173       3715     Back-tacking correction sitches distance<br>distance method bio D     0     P245       3716     Back-tacking correction sitches di   | 3702 | Normal stitch length   |                   | 0-6.0         | 3.0           |                    |             | P131 |
|--|------|--|-------------------|---------------|---------------|--------------------|-------------|------|
| 3700     compensation     100 × 100     0     174     174       3700     Back-tacking sith lengh     -100 ~ 100     0     174     174       3700     Back-tacking sith lengh     -100 ~ 100     0     124     1243       3700     Back-tacking sith lengh     -100 ~ 10     6     1243     1243       3700     Back-tacking sith lengh     -100 & 12     124     1243       3700     Back-tacking sith lengh     -100 & 12     121     1213       3700     Back-tacking sith lengh     0.6.0     2.0     121     1213       3710     Correction sitches distance     0.6.0     0     1711     1711       3711     Correction sitches distance     0.6.0     0     1711     1711       3712     Correction sitches distance     0.6.0     0     1711     1711       3713     Correction sitches distance     0.6.0     0     1711     1711       3714     Back-tacking response time<br>and abuton D     0.6.0     125     1713     1713       3714     Back-tacking stat     0.6.0     125     1723     1713       3715     Back-tacking stat     0.6.0     125     1724       3716     Back-tacking stat     0.6.0     126  | 3703 | value setting  |                   |               |               |                    |             |      |
| 3700         compensation         IOD         0         0         0         177           3700         Back-tacking sith         0-200         0         0         P243           3700         Back-tacking sith         0-200         0         0         P149           3700         Back-tacking sith period         1-100         6         P149           3700         Maximum current         1-100         6         P149           3700         Maximum current         0-6.0         2.0         P132           3710         Orrection sitches distance         0-6.0         0         P170           3711         Orrection sitches distance         0-6.0         0         P171           3712         Orrection sitches distance         0-6.0         0         P173           3711         Orrection sitches distance         0-6.0         0         P173           3711         Maximum sitch length setting         0-8.0         5.0         P123           3713         Maximum sitch length setting         0-8.0         5.5         P245           3713         Maximum durrer serving end         0.8.0         5.5         P246           37117         Maxima during setting  | 3704 | compensation   |                   | -100~100      | 0             |                    |             | P74  |
| 3700<br>compensation<br>steady current0 - 0.0.0<br>1 - 1000<br>00<br>072.433707<br>steady current<br>maximum current<br>of manual blob at<br>distance1-1006<br>671.10071.1003708<br>distance<br>of manual blob at<br>of manual blob at<br>   | 3705 | compensation   | ength             | -100~100      | 0             |                    |             | P75  |
| 3700     steady current<br>maximum current<br>distance     1-100     0     0     P149       3700     Maximum current<br>distance     0-6.0     2.0     P151       3700     Örmanual close sitiches<br>of manual button A     0-6.0     0     P171       3710     Örection sitches distance<br>of manual button A     0-6.0     0     P171       3711     Örection sitches distance<br>of manual button A     0-6.0     0     P170       3712     Örection sitches distance<br>of manual button A     0-6.0     0     P171       3713     Örection sitches distance<br>of manual button B     0-6.0     0     P173       3714     Maximum sitches distance<br>of manual button B     0-8.0     5.0     P173       3715     Steak facking response time<br>back-tacking response time<br>back-tacking response time<br>back-tacking comer sitch<br>compensation 1     0-8.0     5.5     P245       3717     Back-tacking comer sitch<br>oback-tacking comer sitch<br>compensation 2     00-3000     1600     P246       3718     Back-tacking sorent sitch<br>on findig speet     -100~100     0     P247       3719     Back-tacking sitch length<br>oack-tacking sitch length     -100~100     0     P246       3710     Back-tacking sitch length<br>in high speet     -100~100     0     -100~100       3720     Back-tacking sitch length<br>in high speet <td>3706</td> <td></td> <td></td> <td>0-200</td> <td>0</td> <td></td> <td></td> <td>P243</td>  | 3706 |  |                   | 0-200         | 0             |                    |             | P243 |
| 3706maximum current<br>distance110012P1313709Maximum current<br>distance0-6.02.0P1323710Correction stitches distance<br>of manual button A<br>of manual button B<br>correction stitches distance<br>of manual button B<br>of manual button B<br>   | 3707 |  | otor              | 1-100         | 6             |                    |             | P149 |
| 3.00       distance       0-0.0       2.0       P132         3710       Correction sitches distance<br>of manual button A       0-6.0       0       P170         3711       Correction sitches distance<br>of manual button P       0-6.0       0       P170         3712       Correction sitches distance<br>of manual button P       0-6.0       0       P171         3713       Correction sitches distance<br>of manual button D       0-6.0       0       P173         3714       Maximum sitch length<br>minit       0-8.0       5.0       P173         3715       when dier free sewing end<br>back-tacking start<br>back-tacking and<br>back-tacking nucleoner sitch<br>compensation 1       20-350       125       P245         3717       Speed limit of start<br>back-tacking nucleoner sitch<br>compensation 1       -100~100       0       P246         3718       Back-tacking corre sitch<br>compensation 1       -100~100       0       P247         3718       Back-tacking stering<br>stich length sceling<br>compensation 1       -100~100       0       P247         3719       Back-tacking stering<br>stich length sceling<br>compensation 1       -100~100       0       P247         3719       Back-tacking stich length<br>compensation 1       -100~100       0       P248         3720       Back-tacking stich length<br>compensation  | 3708 |  | otor              | 1-100         | 12            |                    |             | P151 |
| 3710     of manual button A<br>Correction stitches distance<br>of manual button B<br>correction stitches distance<br>when after free sewing end<br>back-tacking response time<br>when after free sewing end<br>back-tacking semi<br>back-tacking and<br>back-tacking and<br>back-tacking and<br>back-tacking and<br>back-tacking and<br>back-tacking and<br>back-tacking corner stitch<br>stitch length setting<br>stitch length setting<br>stitch length setting<br>and the display bene in large<br>stitch length setting<br>and the display bene in large<br>stitch length setting<br>stitch length setting<br>and the display bene in large<br>stitch length setting<br>and the displa | 3709 |  | 3                 | 0-6.0         | 2.0           |                    |             | P132 |
| 3/11     of manual button B     0-6.0     0     P1/0       3712     Correction stitches distance<br>of manual button C     0-6.0     0     P171       3713     Granual button C     0-6.0     0     P173       3714     Maximum stitchength<br>min     0-8.0     5.0     P123       3715     Maximum stitch length<br>when after free sewing end<br>back-tacking start     0-8.0     5.0     P245       3716     Large stitch length setting     0-8.0     5.5     P245       3717     back-tacking start     20-3500     125     P245       3718     Speed limit of start<br>back-tacking and<br>back-tacking start     200-3000     1600     P246       3718     Speed limit of start<br>back-tacking start     -100~100     0     P247       3719     Back-tacking corner stitch<br>onepassion 1     -100~100     0     P247       3719     Back-tacking start-tacking start  | 3710 |  | istance           | 0-6.0         | 0             |                    |             | P71  |
| 3/12<br>of manual button C0-6.009/173713Correction stitches distance<br>of manual button D0-6.009/1733714Maximum stitch length<br>imit0-8.05.09/1233715Back-tacking response time<br>when after free sewing end<br>back-tacking stance<br>back-tacking stant<br>back-tacking stan  | 3711 |  | istance           | 0-6.0         | 0             |                    |             | P170 |
| 3713<br>of manual button D0-6.000P173Maximum stick length<br>imit0-8.05.0P1233714Back-tacking response time<br>back-tacking start20.350125P773716Large stich length setting0-8.05.5P2453717Speed limit of start<br>back-tacking and<br>back-tacking and<br>back-tacking and<br>back-tacking and<br>stich length setting0-8.05.5P2453718Speed limit of start<br>back-tacking and<br>back-tacking ormer stich<br>compensation 2200-30001600P2463719Back-tacking corner stich<br>compensation 2-100~1000P2473719Back-tacking corner stich<br>compensation 2-100~1000P2483720Stich length tacking<br>compensation 1-100~1000P2483721Iarge stich length tacking<br>compensation 1-100~1000P2483721Large stich length tacking<br>compensation 1-100~1000P2483722Large stich length<br>compensation 1-100~1000Imm3722Back-tacking stich length<br>speed-100~1000Imm3723Back-tacking stich length<br>speed-100~1000Imm3734Imm-100~1000ImmImm3735Stich length<br>speed-100~1000ImmImm3736Stich length<br>speed-100~100StichImmImm3737Stich length<br>speed-100~100Stich lengthImm <td>3712</td> <td></td> <td>stance</td> <td>0-6.0</td> <td>0</td> <td></td> <td></td> <td>P171</td>   | 3712 |  | stance            | 0-6.0         | 0             |                    |             | P171 |
| 3714       Maximum stick length limit       0.8.0       5.0       P123         3715       back-tacking response time when after free sewing end back-tacking start       20.350       125       P77         3716       Large stick length string back-tacking end back-tacking, end back-tacking, end back-tacking when in large stick length setting       0.8.0       5.5       P245         3717       back-tacking comer stick compensation 1       20.300       1600       P247         3718       Back-tacking corner stick compensation 1       -100~100       0       P247         3718       Back-tacking corner stick compensation 1       -100~100       0       P248         3719       Back-tacking corner stick compensation 1       -100~100       0       P247         3718       Back-tacking corner stick compensation 1       -100~100       0       P248         3719       Back-tacking stick length setting       -100~100       0       P248         3710       Back-tacking stick length compensation 2       -100~100       0       P248         3711       Back-tacking stick length setting       -100~100       0       P248         3712       Back-tacking stick length       -100~100       0       P248         3712       Back-tacking stick length       -100~100  | 3713 |  | stance            | 0-6.0         | 0             |                    |             | P173 |
| 3715when after free sewing end<br>back-tacking start20-350125P773716Large stitch length setting0-8.05.5P2453717Speed limit of start<br>back-tacking when in large<br>stitch length setting200-30001600P2453718Back-tacking ormer stitch<br>compensation 2-100~1000P2473719Back-tacking ormer stitch<br>compensation 2-100~1000P2483720Back-tacking ormer stitch<br>compensation 2-100~1000P2483721Back-tacking stitch length<br>compensation in high speed-100~1000P2483722Back-tacking stitch length<br>speed-100~1000Image: Stitch length<br>compensation 2-100~1003723Back-tacking stitch length<br>compensation in high speed-100~1000Image: Stitch length<br>compensation 2-100~1003724Back-tacking stitch length<br>compensation in high speed-100~1000Image: Stitch length<br>compensation 2-100~1003724Back-tacking step meter<br>speed50-1000550Image: Stitch lengthImage: Stitch length<br>compensation 23725ForwardStitch length<br>speedStitch length<br>speedImage: Stitch length<br>compensation 2Stitch length<br>compensation 2Image: Stitch length<br>compensation 23725Stitch length<br>speedStitch length<br>compensation 2Stitch length<br>compensation2Stitch length<br>compensation2Image: Stitch length<br>compensation2Image: Stitch length<br>compensation2Im   | 3714 | Maximum stitch leng  | th                | 0-8.0         | 5.0           |                    |             | P123 |
| Speed limit of start<br>back-tacking, end<br>back-tacking when in large<br>stich length setting200-30001600P2463718Back-tacking ormer stitch<br>compensation 1 $-100 \sim 100$ 0P2473719Back-tacking corner stitch<br>compensation 2 $-100 \sim 100$ 0P2483720Stitch length tacking<br>ormer stitch length setting $-100 \sim 100$ 0P2483721Large stitch length tacking<br>compensation in high speed $-100 \sim 100$ 0P2483722Large stitch length<br>compensation in high speed $-100 \sim 100$ 0P2483721Back-tacking stitch length<br>opensation in high speed $-100 \sim 100$ 0P2483722Back-tacking stitch length<br>speed $-100 \sim 100$ 0P2483723Back-tacking stitch length<br>speed $-100 \sim 100$ 0P2483724Targe stitch length<br>speed $-100 \sim 100$ 0P2483724Back-tacking stitch length<br>speed $-100 \sim 100$ 0P2493725Back-tacking stitch length<br>speed $-100 \sim 100$ 0P2493726Tum<br>speed $-100 \sim 100$ 0Tum<br>speedTum<br>speedTum<br>speed3727Back-tacking step true<br>speedStitch length respectiveStitch length respectiveTum<br>speedTum<br>speed3728Tum<br>speedStitch length respectiveStitch length respectiveStitch length respectiveTum<br>speed3729Tum<br>speedStitch length respectiveStitch length respec  | 3715 | when after free sewin  | se time<br>ng end | 20-350        | 125           |                    |             | P77  |
| 3717       back-tacking end<br>back-tacking own in large<br>stitch length setting       200-3000       1600       P246         3718       Back-tacking corner stitch<br>compensation 1       -100~100       0       P247         3719       Back-tacking corner stitch<br>compensation 2       -100~100       0       P248         3719       Large stitch length tacking<br>compensation 2       -100~100       0       P248         3720       Stitch length compensation<br>in high speed       -100~100       0       P248         3721       Large stitch length<br>stitch length compensation       -100~100       0       0       Image         3721       Large stitch length<br>compensation in high speed       -100~100       0       0       Image       Image         3722       Back-tacking stitch length<br>compensation in high speed       -100~100       0       0       Image       Image       Image         3722       Back-tacking stip in high speed       -100~100       0       0       Image       Image<   | 3716 | Large stitch length se   | etting            | 0-8.0         | 5.5           |                    |             | P245 |
| 3718Back-tacking correr stitch<br>compensation 1 $-100 \sim 100$ 0P2473719Back-tacking correr stitch<br>compensation 2 $-100 \sim 100$ 0P2483720Large stitch length tacking<br>in high sped $-100 \sim 100$ 0P2483721Stitch length compensation<br>in high sped $-100 \sim 100$ 00P2483721Large stitch length tacking<br>in high sped $-100 \sim 100$ 00003721Large stitch length<br>compensation in high sped $-100 \sim 100$ 00003722Back-tacking stitch length<br>compensation in high sped $-100 \sim 100$ 00003723Back-tacking stitch length<br>sped $-100 \sim 100$ 000003724Back-tacking stitch length<br>sped $-100 \sim 100$ 0000003725Back-tacking step length<br>sped $50 \cdot 1000$ 0000003726Stitch length<br>sped $50 \cdot 1000$ $550$ BackwardStitch length11mmImmImmImmImmImmImmImm3mnImmImmImmImmImmImm3mnImmImmImmImmImm3mnImmImmImmImmImm3mnImmImmImmImmImm3mmImmImmImmImmImm3mmImmImm <td>3717</td> <td colspan="2"><ul><li>back-tacking, end</li><li>back-tacking and</li><li>bar-tacking when in large</li></ul></td> <td>200-3000</td> <td>1600</td> <td></td> <td></td> <td>P246</td>  | 3717 | <ul><li>back-tacking, end</li><li>back-tacking and</li><li>bar-tacking when in large</li></ul> |                   | 200-3000      | 1600          |                    |             | P246 |
| 3719       Back-tacking corner stitch compensation 2 $-100 \sim 100$ 0       P248         3720       Large stitch length tacking in high speed $-100 \sim 100$ 0       0       1000000000000000000000000000000000000   | 3718 | Back-tacking corner  | stitch            | -100~100      | 0             |                    |             | P247 |
| $ \begin{array}{c c c c } & \mbox{Large stitch length tacking stich length compensation in high speed} & -100 ~ 100 & 0 & & & & & & & & & & & & & & & &$   | 3719 | Back-tacking corner  | stitch            | -100~100      | 0             |                    |             | P248 |
| $ \begin{array}{c c c c } \mbox{in high speed} & i$   |      | Large stitch length ta   | -                 |               |               |                    |             |      |
| $3721$ Large stitch length<br>back-tacking stitch length<br>compensation in high speed $-100 \sim 100$ $0$ $3722$ Back-tacking step motor<br>speed $50-1000$ $550$ $3722$ Back-tacking step motor<br>speed $50-1000$ $550$ Stitch length reference value settingTorwardStitch length<br>Stitch lengthBackwardStitch lengthImmImmStitch lengthBackwardStitch lengthImmImmStitch lengthBackwardStitch lengthImmImmStitch lengthImm   | 3720 |  | sation            | -100~100      | 0             |                    |             |      |
| $\begin{array}{c c c c c c } 3721 & \begin{array}{c c c c c } back-tacking stitch \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$   |      |  |                   |               |               |                    |             |      |
| 3722       Back-tacking step motor speed $50-1000$ $550$ $3.7.3$ Stitch length reference value setting $3.7.3$ Stitch length reference value setting         Forward       Stitch length reference value setting         1mm       1mm       1mm         2mm       2mm       2mm         3mm $4mm$ 4mm   | 3721 |  | ngth              | -100~100      | 0             |                    |             |      |
| 3722     speed     50-1000     550       3.7.3 Stitch length reference value setting       3.7.3 Stitch length reference value setting       Forward     Stitch length     Backward     Stitch length       1mm     1mm     1mm     1mm       2mm     2mm     3mm     3mm       4mm     4mm     4mm     50   |      | compensation in high   | speed             |               |               |                    |             |      |
| ForwardStitch lengthBackwardStitch length1mm1mm1mm2mm2mm2mm3mm3mm3mm4mm4mm7  | 3722 |  | otor              | 50-1000       | 550           |                    |             |      |
| 1mm1mm2mm2mm3mm3mm4mm4mm   |      |  |                   | 3.7.3 Stite   | h length refe | ence value setting |             |      |
| 1mm         2mm         2mm           2mm         2mm         3mm           3mm         3mm         4mm  |      | Forward  |                   | Stitch length | 1             | Backward           | Stitch leng | ţth  |
| 3mm         3mm           4mm         4mm  |      | 1mm  |                   |               |               | 1mm                |             |      |
| 4mm         4mm  |      | 2mm  |                   |               |               | 2mm                |             |      |
|  |      | 3mm  |                   |               |               | 3mm                |             |      |
| 5mm 5mm  |      | 4mm  |                   |               |               | 4mm                |             |      |
|  |      | 5mm  |                   |               |               | 5mm                |             |      |

|        | 6mm   |         |                 |             |          | 6mm                              | 1                                 |            |             |                            |
|--------|---|---------|-----------------|-------------|----------|----------------------------------|-----------------------------------|------------|-------------|----------------------------|
| 7mm    |   |         |                 |             | 7mm      |                                  |                                   |            |             |                            |
| 8mm    |   |         |                 |             | 8mm      |                                  |                                   |            |             |                            |
|        |   |         |                 | 3.8         | Testing  | mode                             |                                   |            |             |                            |
| 3801   | Testing mode switch   | L       | ON/OFF          | C           | )FF      | (Perform the c<br>trimming at th |                                   |            | stop-thread |                            |
| 3802   | Output function sing testing  | le      |                 |             |          |                                  |                                   |            |             |                            |
| 3803   | Testing mode setting  | 5       |                 |             |          |                                  |                                   |            |             |                            |
|        |   |         | 3.8.2 0         | Output      | function | n single testing                 |                                   |            |             |                            |
|        | Trimming  |         |                 |             |          |                                  |                                   |            |             |                            |
|        | Presser foot  |         |                 |             |          |                                  |                                   |            |             |                            |
|        |   |         | 3               | .8.3 A      | utorun t | est mode                         |                                   |            |             |                            |
| Period | Testing speed (whe<br>test speed is 0,the cu<br>cycle is not execut | ırrent  | Running time (0 | (0.1s) Stop |          | o time (0.1s)                    | o time (0.1s) Motor ru<br>directi |            |             | me (m) (No<br>n time is 0) |
| 1      | 3500  |         | 30              |             |          | 10                               | CCV                               | W 0        |             | )                          |
| 2      | 0   |         | 0               |             |          | 0                                | CCV                               | W          | 0           |                            |
| 3      | 0   |         | 0               |             |          | 0                                | CCV                               | W 0        |             | )                          |
| 4      | 0   |         | 0               |             |          | 0                                | CCV                               | W          | 0           |                            |
| 5      | 0   |         | 0               |             |          | 0                                | CCV                               | W 0        |             | )                          |
|        |   |         |                 | 3.9 St      | ate info | rmation                          |                                   |            |             |                            |
| 3901   | Version number  |         |                 |             |          |                                  |                                   |            |             |                            |
| 3902   | Motor speed display   |         |                 |             |          | Display currer                   | nt motor spe                      | ed         |             |                            |
| 3903   | Needle position angl  | e value |                 |             |          | Display the cu                   | irrent motor                      | angle of t | he machine  |                            |
| 3904   | Pedal AD value  |         |                 |             |          | Display the cu                   | rrent AD va                       | lue of the | pedal       |                            |
| 3905   | Busbar voltage AD v   | alue    |                 |             |          |                                  |                                   |            |             |                            |
| 3906   | Oil level sensor AD   |         |                 |             |          |                                  |                                   |            |             |                            |
| 3907   | Knee moving position sensor AD value                                | n       |                 |             |          |                                  |                                   |            |             |                            |
| 3908   | Trimming position s<br>AD value                                     |         |                 |             |          |                                  |                                   |            |             |                            |
| 3909   | Presser foot lift high<br>sensor AD value                           | ness    |                 |             |          |                                  |                                   |            |             |                            |
| 3910   | Grating signal  |         |                 |             |          |                                  |                                   |            |             |                            |
|        |   |         |                 | 3.9.1       | Version  | number                           |                                   |            |             |                            |
| 39101  | Control box version   |         |                 |             |          |                                  |                                   |            |             |                            |
| 39102  | Control box vice ver<br>number                                      | sion    |                 |             |          |                                  |                                   |            |             |                            |

|   |   |   |   | 1  |  |  |  |  |
|---|---|---|---|--|--|--|--|--|
| Display board version<br>number   |   |   |   |  |  |  |  |  |
| Step drive version number   |   |   |   |  |  |  |  |  |
| Control box version number 2  |   |   |   |  |  |  |  |  |
| 3.10 Main shaft motor setting   |   |   |   |  |  |  |  |  |
| Main shaft motor maximum speed limit  | 0-5000  | 3700  |   |  |  |  |  |  |
| Main shaft motor zero-point correction  |   |   |   |  |  |  |  |  |
| Up position quick adjustment  |   |   |   |  |  |  |  |  |
| Down position quick   |   |   |   |  |  |  |  |  |
| Speed limit of manual   | 0-3200  | 0   |   |  |  |  |  |  |
| Reverse angle function selection after trimming                               | ON/OFF  | OFF   |   |  |  |  |  |  |
| Adjustment of reverse angle after trimming                                    | 10-50   | 40  |   |  |  |  |  |  |
| Up position value   | 0-359   | 190   |   |  |  |  |  |  |
| Down position value   | 0-359   | 0   |   |  |  |  |  |  |
| Low (positioning) speed   | 100-500   | 210   |   |  |  |  |  |  |
| half-way  | 1-45  | 16  |   |  |  |  |  |  |
| Stopping strength after trimming  | 1-50  | 20  |   |  |  |  |  |  |
| Up / down needle position<br>distance value                                   | 0-359   | 170   | In the quick setting interface of the needle<br>position for the upper and lower stops, when<br>the upper positioning value is saved, the lower<br>positioning value will be automatically<br>calculated based on the upper and lower<br>positioning distance values.   |  |  |  |  |  |
| Main shaft motor rotation direct setting                                      | CCW/CW  | CCW   | CW: Clockwise<br>CCW: Counterclockwise  |  |  |  |  |  |
| Main shaft motor maximum  | 0-20  | 10  |   |  |  |  |  |  |
| Main shaft motor<br>lockedrotor current (A)                                   | 0-20  | 10  |   |  |  |  |  |  |
| Main shaft motor normal current (A)   | 0-20  | 16  |   |  |  |  |  |  |
| Main shaft motor encoder<br>type selection                                    | No<br>magnetic<br>ring / With<br>magnetic<br>ring   | No<br>magnetic<br>ring  |   |  |  |  |  |  |
| 3.11 Clamp function without any thrum   |   |   |   |  |  |  |  |  |
| The delay time before hook<br>thread with clamp function<br>without any thrum | 0-990   | 60  |   |  |  |  |  |  |
| with clamp function without any thrum   | 0-990   | 70  |   |  |  |  |  |  |
| The return back time of hook thread with clamp                                | 0-990   | 30  |   |  |  |  |  |  |
|   | Step drive version numberControl box version number2Main shaft motor maximum<br>speed limitMain shaft motor zero-point<br>correctionUp position quick<br>adjustmentDown position quick<br>adjustmentSpeed limit of manual<br>back-tackingReverse angle function<br>selection after trimmingAdjustment of reverse angle<br>after trimmingUp position valueDown position valueLow (positioning) speedStopping strength as<br>half-wayStopping strength after<br>trimmingUp / down needle position<br>distance valueMain shaft motor rotation<br>direct settingMain shaft motor normal<br>current (A)Main shaft motor normal<br>current (A)Main shaft motor normal<br>current (A)Main shaft motor encoder<br>type selectionThe delay time before hook<br>thread with clamp function<br>without any thrumThe hook thread action time<br>with clamp function<br>without any thrumThe return back time of | numberImage: step drive version numberStep drive version number | numberImage: stand start motor maximum speed limitImage: start motor maximum speed limit motor zero-point correctionImage: start motor maximum speed limit motor zero-point correctionImage: start motor maximum motor motor motor adjustmentImage: start motor maximum motor maximum furmingImage: start motor maximum motor maximum motor maximum motor maximum motor mage: start motor motor motor motor mage: start motor motor motor maximum motor motor motor maximum motor motor maximum motor motor maximum motor motor maximum motor motor motor maximum motor maximum motor maximum motor maximum motor maximum motor motor motor maximum motor maximum motor maximum motor maximum motor motor motor motor motor motor motor motor maximum motor motor motor maximum motor motor motor motor motor motor maximum motor motor maximum motor motor motor motor motor motor maximum motor motor motor maximum motor motor motor motor motor maximum motor | number((Step drive version number((Control box version number((Control box version number0.50003700Main shaft motor maximum<br>geed limit0.50003700Main shaft motor zero-point<br>correction((Down position quick<br>adjustment((Down position quick<br>adjustment((Preverse angle function<br>selection after trimming(0.5200Down position quick<br>adjustment((Preverse angle function<br>selection after trimming(0.500Down position value(0.5390Down position value(0.5390Down position value(0.500210Down position value(0.500210Down position value(0.359100Down position value(0.359100Low (positioning) speed11.650200100It was the prevision of the upper and lower stops, when<br>the upper positioning value is saved, the lower<br>positioning value is saved, the lower<br>position distance values.Main shaft motor crutation<br>Main shaft motor maximum<br>to exerce normalization<br>calculated based on the upper and lower<br>positioning value will be automatically<br>calculated based on the upper and lower<br>positioning value will be automatically<br>calculated based on the upper and lower<br>positioning distance values.Main shaft motor maximum <b< td=""></b<> |  |  |  |  |

|       | function without any thrum   |          |               |  |      |  |  |
|-------|--|----------|---------------|--|------|--|--|
| 31104 | Duty cycle for hook thread<br>with clamp function without<br>any thrum | 0-100    | 70            |  |      |  |  |
| 31105 | The suction time for clamp function without any thrum                  | 0-5000   | 500           |  |      |  |  |
| 31106 | Duty cycle for pull thread<br>with clamp function without<br>any thrum | 0-100    | 70            |  |      |  |  |
|       |  | 3        | .12 Layer sea | m setting                                    |      |  |  |
| 31201 | Layer seam mode rotation speed over thick                              | 200-3700 | 2000          |  |      |  |  |
| 31202 | Fabric thickness sensor AD value                                       | 0-1023   | 530           |  |      |  |  |
| 31203 | Layer seam proportion  | 1-100    | 10            |  |      |  |  |
| 31204 | Layer seam stitch length limit   | 0-5.0    | 4.0           |  |      |  |  |
|       |  |          | 3.13 Other    | setting                                      |      |  |  |
| 31301 | Type selection   | 1-50     | 35            |  | P70  |  |  |
|       | 3.14 Speed limit setting of main shaft motor start sewing              |          |               |  |      |  |  |
| 31401 | First stitch speed limit of start sewing                               | 0-1500   | 0             | It is invalid when the parameter value is 0. | P205 |  |  |
| 31402 | Second stitch speed limit of start sewing                              | 0-2000   | 0             | It is invalid when the parameter value is 0. | P206 |  |  |

### 4. Port diagram 10P function port description



1. Suction with clamp function without any thrum: 1, 6(+24V)

2. Hook thread with clamp function without any thrum: 2, 7(+24V)

3. Thread clamping (thread wiping)/ Pull thread with clamp function

without any thrum: 3, 8(+32V)

4. Thread tension release: 4, 9(+32V)

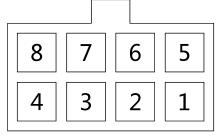
5. Trimming: 5, 10(+32V)

#### 6P function port description

| 6 | 5 | 4 |
|---|---|---|
| 3 | 2 | 1 |

- 1. Manual button A: 1
- 2. Manual button B: 2
- 3. Manual button C: 3
- 4. LED light: 4(+5V), 6(DGND)
- 5. Manual button D: 5

## 8P function port description



- 1. LOGO light: 1, 5(+S5V)
- 2. Oil level sensor: 2, 6(+S5V)
- 3. GND: 3, 7
- 4. Presser foot sensor: 4, 8(+S5V)