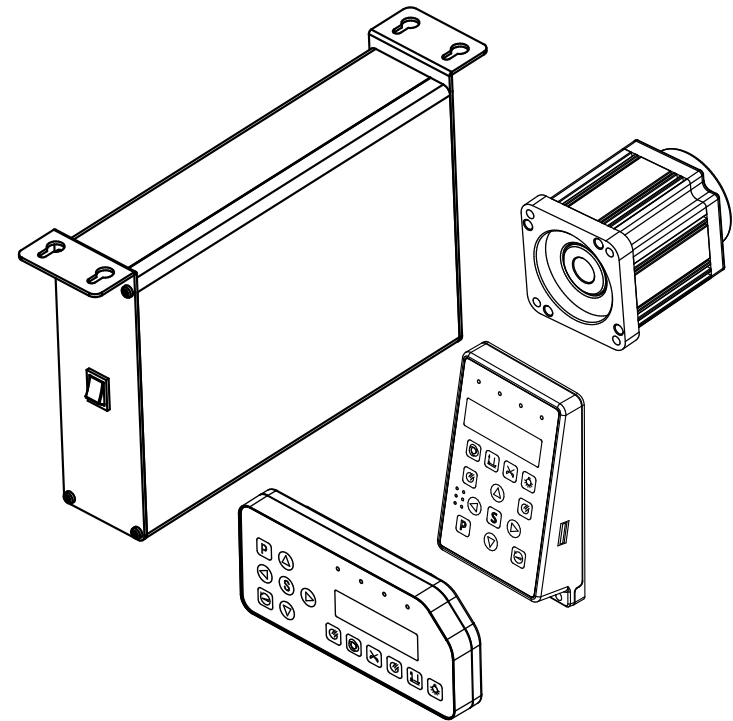


**Voice automatic overlock sewing machine series  
Industrial sewing machine servo control box**

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**Instructions**



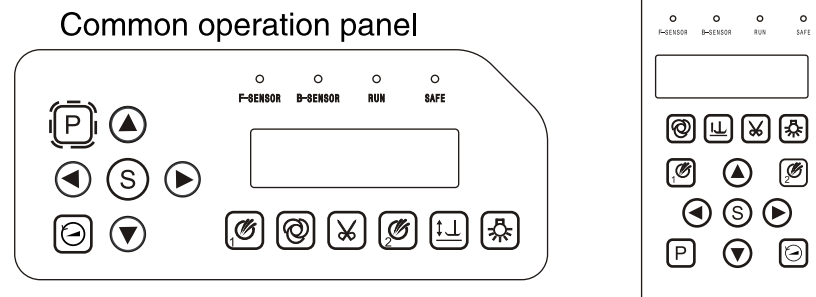
**In order to safely use this product, please read this manual carefully before using**

# DIRECTORY




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## 一、 Display and operation panel







voice operation panel




| NO | Icon | Explain                            | Remark |
|----|------|------------------------------------|--------|
| 1  |      | User parameter set                 |        |
| 2  |      | Move left                          |        |
| 3  |      | Speed set                          |        |
| 4  |      | Move upward                        |        |
| 5  |      | Confirm                            |        |
| 6  |      | Move down                          |        |
| 7  |      | Move right                         |        |
| 8  |      | Suction choice in running interval |        |
| 9  |      | Mode switch                        |        |
| 10 |      | Trimmer mode adjustment            |        |

|    |                                                                                   |                                   |                                                     |
|----|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------|
| 11 |  | Trimmer suction mode adjustment   |                                                     |
| 12 |  | Press foot lifter mode adjustment |                                                     |
| 13 |  | LED brightness adjustment         |                                                     |
| 14 | Light                                                                             | F-SENSOR                          | Front sensor touch fabric, F-SENSOR on,no touch off |
|    |                                                                                   | B-SENSOR                          | Back sensor touch fabric, B-SENSOR ON,no touch off  |
|    |                                                                                   | RUN                               | Motor run ,RUN on, stop, RUN off                    |
|    |                                                                                   | SAFE                              | SAFE alarm safe on                                  |

## 二、User area parameter modification


When user press key P () for 3seconds,enter into user parameter adjustment mode, modificate relative parameter by move left () or right () , modificate parameter values by key upward () or downward () .Press () to confirm

## 三、Suction choice adjustment in running interval

When user press key () , can modificate suction function in running interval. Constantly press the key to see 3 mode: no action, suction interval, suction continually.after choose mode,will automatically saved.


Note: time cycle of interval of suction and suction time are set by  
[071.W] [033.BRC]

## 四、Semi-auto / Full-auto / Full manual set


When user press mode switch key () ,enter into semi-auto,full-auto, full manual modification state,continously press key,cycle mode show :semi-auto,full-auto and full manual. after choose mode,will automatically saved.

Note: in semi-auto and full-auto mode,front and back sensor will open automatically.


## 五、Trimmer mode adjustment

User press trimmer mode key () to modify trimmer mode.Continously press key, cycle mode will show:front trimmer, back trimmer front and back trimmer and no trimmer. After choose mode,will automatically saved.


## 六、trimmer suction mode adjustment

User press trimmer suction mode key () to modify trimmer suction mode.Continously press key, cycle mode will show:no suction, front suction, back suction,front and back suction. after choose mode,will automatically saved.




## 七、Auto press foot lifter mode adjustment

User press auto press foot lifter mode key () to modify auto press foot lifter mode. Continously press key, cycle mode will show:front lifter,back lifter,front and back lifter,no lifter. after choose mode,will automatically saved.


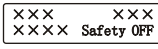
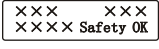

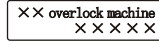
## 八、LED brightness mode adjustment

User press LED brightness mode key () to modify brightness and on/off mode.Continously press key,cycle mode will show:off,bright 1 , bright 2,bright 3 and full bright. after choose mode,will automatically saved.

## 九、Speed adjustment

User press () to modify speed mode. press move upward key () and move downward key () to modify speed,press 1 time add/reduce 100rpm.after choose speed,will automatically saved.

## 十、Press foot safety switch set

When press foot is moved outside, machine will automatically start safety mode, press () quit, then switch back and forth,machine will be forbidden to run,screen display  , re-assembly press foot,screen display  , then press () screen display  enter into sewing mode.

## 十一、Up needle position set

System Power on,turn hand wheel,stop needle bar to the top position,then press (S) and LED key (LED) at same time for 3seconds, then loosen, up needle position is set

Note: cant tread pedal after system power on.

## 十二、 Process pieces number display and reset set

Press (S) in common sewing mode, then show ( process pieces: 22 press ► to reset ) 22pieces. ( loosen and back to common sewing mode ) if want to reset and don't loose (S), press move right key (►) show (process pieces:0, press ► to reset ) process pieces will start from 0.

## 十三、 How to enter the user parameters and system parameters

In ready mode,press P key (P) 2-3seconds to enter user parameters area A, can modify No.001-No.045 parameters. After modify parameter, press S key (S) confirm save,then press P (P) 2-3seconds quit.

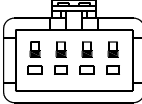
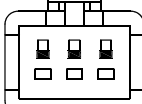
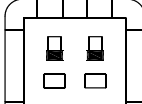
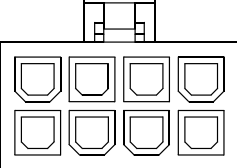
In shutdown mode,press P (P) system power on, display show[046.DIR] enter into system parameter area B, can modify parameter No.046-No.079, after modification press S (S) to confirm save then press P (P) 2-3seconds quit. Enter into system parameter and area B user parameter can also modify area A user parameter.

Note: enter into parameter area and find need-to-be-modified parameter then press S (S) enter into parameter content modification interface,then modify relative content,then press S (S) confirm save.

## 十四、 Restore factory settings

Press P (P) and S (S) simultaneously, system power on, (full-auto overlock sewing machine V1.2(C) 2015) flash show successfully restore factory settings.

## 十五、 Terminal explanation and annexed table

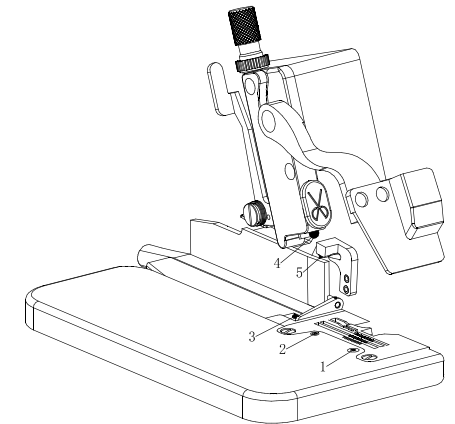
|                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |
| 4P□                                                                                 | 3P□                                                                                 | 2P□                                                                                 | Operation panel and computer box link terminal                                      |
| Terminal serial number                                                              | Terminal name                                                                       |                                                                                     | Port type                                                                           |
| A                                                                                   | LED/Manual trimmer terminal                                                         |                                                                                     | 4P□                                                                                 |
| B                                                                                   | Press foot safety switch                                                            |                                                                                     | 3P□                                                                                 |
| C                                                                                   | Launcher                                                                            |                                                                                     | 4P□                                                                                 |
| D                                                                                   | Receiver                                                                            |                                                                                     | 2P□                                                                                 |
| E                                                                                   | Receiver                                                                            |                                                                                     | 2P□                                                                                 |
| F                                                                                   | Seam entry safety switch                                                            |                                                                                     | 3P□                                                                                 |

## 十六、 Sensor diagram

Safety mode TS00  
Front 00 back 00 safety OK

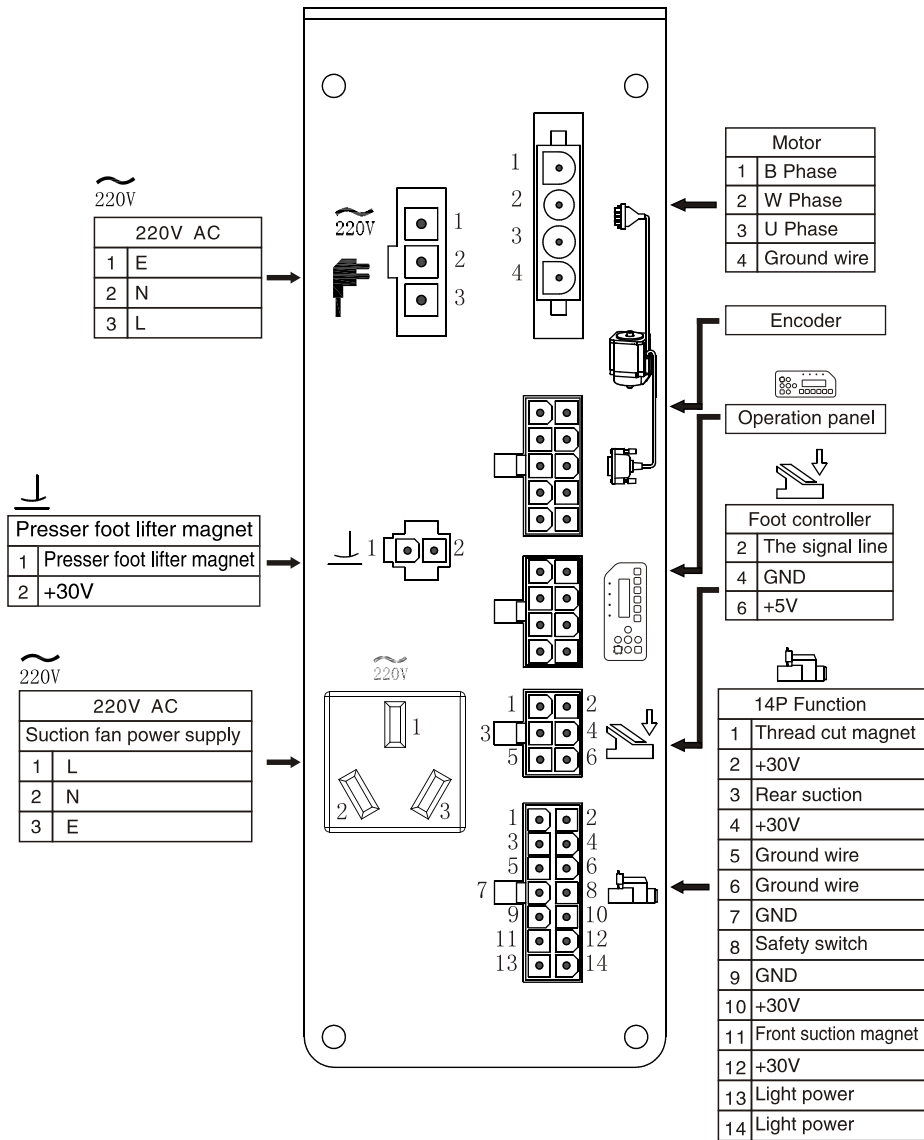


Press ◀ quit TS00  
Front 00 back 00 safety OFF



- ①、 1 Is front receiving sensor: show (front 00) strongest signal
- ②、 2 Is back receiving sensor: show (back 00) strongest signal
- ③、 3 Is trimmer receiving sensor: show (TS00)strongest signal
- ④、 4 Is launch sensor: for 1 and 2 receiving pipe
- ⑤、 5 Is launch sensor: for 3 trimmer receiving pipe

## 十七、Control box socket diagram



Note: before front sensor ( receiver 1 ) finish setted needle numbers, must trigger back sensor (receiver 2) to keep machine run, or machine will stop automatically.

## Appendix I 、 Function Parameter Diagram

### 1、 User Parameter Area A

| Parameter | Name                                           | Range      | Initial Value | Setting Content Numerical Value Explain                                                 |
|-----------|------------------------------------------------|------------|---------------|-----------------------------------------------------------------------------------------|
| [001. H]  | Highest rotary speed                           | 400 ~ 7000 | 5500          | Setting sewing highest rotary speed                                                     |
| [002.PSL] | Acceleration                                   | 1 ~ 100    | 80            | Set controller speed up climbing slope rate                                             |
| [003.NUD] | Needle guage choice                            | UP/DN      | DN            | UP: Up needle stop<br>DN: Down needle stop                                              |
| [004. N]  | Start runing speed                             | 500 ~ 4000 | 4200          | Slow sewing speed                                                                       |
| [005.LMD] | Overlock runing mode                           | 0/1/2      | 1             | 0: Manual<br>1: Semi-auto<br>2: Full-auto                                               |
| [006.SEN] | Selvage detect Sensor switch                   | OFF/ON     | ON            | OFF<br>ON                                                                               |
| [007.TMD] | Trimmer mode                                   | 0 ~ 3      | 3             | 0: No trimmer<br>1: Front trimmer<br>2: Back trimmer<br>3: Front and back trimmer       |
| [008.SMD] | Suction mode                                   | 0 ~ 3      | 0             | 0: No suction<br>1: Front suction<br>2: Back suction<br>3: Back and forth suction       |
| [010.PMD] | Press foot lifter mode                         | 0 ~ 3      | 3             | 0: No lifter<br>1: Front lifter<br>2: Back lifter<br>3: Back and forth lifter           |
| [011.LED] | Housing LED brightness adjust                  | 0 ~ 4      | 2             | 0: Close<br>1: Brightness 1<br>2: Brightness 2<br>3: Brightness 3<br>4: Full brightness |
| [012.SAM] | Manual suction                                 | 0 ~ 1      | 1             | 0: NO suction<br>1: Suction                                                             |
| [013.TYS] | Selvage sensor response time                   | 10 ~ 990   | 30            | Time filtering(ms)                                                                      |
| [014.SFT] | Front sensor sensitivity                       | 02 ~ 50    | 30            | Sensor signal threshold value set(%)                                                    |
| [015.SFB] | Back sensor sensitivity                        | 02 ~ 50    | 30            | Sensor signal threshold value set(%)                                                    |
| [016.NFB] | Number of threads between 2 sensors in selvage | 1 ~ 600    | 105           |                                                                                         |
| [017.NFT] | Front trimmer delay number of threads          | 1 ~ 50     | 5             |                                                                                         |
| [018.NBT] | Back trimmer delay number of threads           | 1 ~ 50     | 0             |                                                                                         |
| [019.NFS] | Front suction start number of threads          | 1 ~ 50     | 3             |                                                                                         |

|           |                                            |            |      |                                                                                                                                                                                              |
|-----------|--------------------------------------------|------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [020.NBS] | Front suction close number of threads      | 1 ~ 50     | 20   |                                                                                                                                                                                              |
| [024.EBN] | Back suction close time delay              | 100 ~ 5000 | 200  | Back suction close time delay (ms)                                                                                                                                                           |
| [025.BT3] | Stop sewing delay number of threads        | 1 ~ 99     | 10   |                                                                                                                                                                                              |
| [026.BT4] | Front press foot lifter delaying time      | 0 ~ 2000   | 0    | Front selvage detecting back delay press foot lifter                                                                                                                                         |
| [027. CT] | Back press foot start time                 | 0 ~ 2000   | 120  | Since back trimmer ends                                                                                                                                                                      |
| [028.PNS] | Pieces statistics multiplying set          | 0 ~ 999    | 1    | [028.PNS] is pieces statistics multiplying set ,5 means 5times back trimmer,pieces + 1(display at [044. PN] )                                                                                |
| [029. DS] | Back trimmer sensor sensitivity            | 02 ~ 50    | 30   | Sensor signal value set(%)                                                                                                                                                                   |
| [030.BCC] | Press foot hold time                       | 1 ~ 500    | 100  | Front press foot lifter hold time ms                                                                                                                                                         |
| [031.SMB] | Back press foot lifter hold time parameter | 0 ~ 990    | 200  | Back press foot lifter hold time ms                                                                                                                                                          |
| [032.BAR] | Overlock trimmer time                      | 0 ~ 990    | 50   | Overlock trimmer time                                                                                                                                                                        |
| [033.BRC] | Interval suction start time                | 0 ~ 5000   | 300  | Interval suction start time in cycle (ms)                                                                                                                                                    |
| [034.BRA] | Pedal low speed gap adjust                 | 20 ~ 400%  | 100% | Three thread pedal low speed gap shrink/enlarge 50% means half of original,200%means double of original                                                                                      |
| [035.BT5] | Stop machine locking time                  | 10 ~ 990   | 40   | Stop machine motor locking time(ms)                                                                                                                                                          |
| [036.BTM] | Interval,continous feeding and suction     | 0 ~ 2      | 0    | Continous sewing high speed running suction mode setting:<br>0: No suction;<br>1: Interval suction;<br>2: Continous scution;<br>Interval suction time cycle and suction time set by[071、033] |
| [037.SMP] | Action mode selection                      | 0/1        | 0    | Auto sewing A(0x00)/M(0x01)                                                                                                                                                                  |
| [038. PM] | Press foot safety switch                   | 0/2        | 0    | 0: Start safety switch<br>2: Close safety switch                                                                                                                                             |
| [040.WON] | Back tread trimmer switch on manual mode   | OFF/ON     | ON   | OFF: close back tread trimmer<br>O N: open back tread trimmer                                                                                                                                |
| [044. PN] | Finished sewing pieces display             | 0 ~ 9999   | 0    | Set by parameter[028.PNS],display auto adding up finished pieces                                                                                                                             |
| [045. SS] | Selected start motor under semi-auto mode  | 0/1        | 0    | 0: run when sense front sensor;<br>1: front selvage sensor ignore, allowed run is parameter [004. N]                                                                                         |

## 2、System Parameter Area B

| Parameter | Name                                                                          | Range                    | Initial Vallue | Setting Content Numerical Value Explain                                                                                                                                        |
|-----------|-------------------------------------------------------------------------------|--------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [046.DIR] | Motor direction of rotation set(positive and negative run)                    | CW/CCW                   | CCW            | CCW/CW                                                                                                                                                                         |
| [048.SYM] | SYNC model set                                                                | 0 ~ 3                    | 3              | Overlock sewing machine SYNC has zero signal,down needle position and up needle position need [0.76.DRU]、[078.URU] set needle position angle (based on zero)                   |
| [051.CHK] | Power on,self checking function open or not(pedal signal,power off detection) | 0 ~ 10                   | 1              | 1: Power on,self checking function open;<br>0: Power on,self checking function close;<br>Extended function set:block up think time:1 is 2second,2 is 3seconds...9is 10 seconds |
| [052. PA] | Pedal front tread sewing speed response sensitivity set                       | 50 ~ 400%                | 100%           | 5% slowest, 400% fastest, Set by workers proficiency                                                                                                                           |
| [053. FT] | In sewing,half back tread(slightly back tread) press foot lifter confirm time | 50 ~ 2000ms              | 300            | If press foot riser is stalled, Please set parameter according to sewing machine' s machanical pedal flexibility                                                               |
| [054. BK] | When motor stops,brake locks function                                         | OFF/ON                   | OFF            | ON: When motor stops,brake locks head<br>OFF: NO WORK                                                                                                                          |
| [055.TOT] | UTD=0N,motor run total limited time                                           | 1 ~ 800Hrs               | 2              | Longest time up to 33days (800hours)                                                                                                                                           |
| [056.TM1] | UTD=0N,motor run time                                                         | 1 ~ 60s                  | 3              | At Auto run test,free sewing working time                                                                                                                                      |
|           | Choose continous starting sewing under semi-auto mode                         | Odd numbers/even numbers | Odd numbers    | Odd numbers: close,keep tread forward continous start sewing;<br>even numbers: open,keep tread forward continous start sewing;                                                 |
| [057.TM2] | UTD=0N,motor stop time                                                        | 1 ~ 60s                  | 3              | At Auto run test,every time interval time                                                                                                                                      |
| [058.UTD] | Auto run test function                                                        | OFF/ON                   | OFF            | Set the parameter ON,start auto run test,run under the sewing mode set by needle selection box                                                                                 |

|           |                                                                           |           |      |                                                                                                                                                                                                                                                                                                          |
|-----------|---------------------------------------------------------------------------|-----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [059. T]  | Down stop to up needle position speed set r/min                           | 200 ~ 900 | 500  | Trimmer stop machine' s speed adjust,too low speed may cause not normal trimmer ,too high speed may cause unstable positioning control.                                                                                                                                                                  |
| [060. L]  | Low speed                                                                 | 200 ~ 900 | 500  | Run low speed adjust                                                                                                                                                                                                                                                                                     |
| [061. FO] | Press foot full initial force operation time                              | 0 ~ 990   | 250  | Full force operation time when start press foot,reverse stitching                                                                                                                                                                                                                                        |
| [062. FC] | Press foot operation cycle signal %                                       | 10 ~ 90   | 30   | When press foot working,output by cyclicly of power saving to advoid press foot get hot                                                                                                                                                                                                                  |
| [063. FD] | Delay motor start,protect press foot lower time                           | 0 ~ 990   | 50   | Delay start when tread to fit press foot lower                                                                                                                                                                                                                                                           |
| [064.HHC] | Half after the lifting of the foot can be lifted foot                     | OFF/ON    | ON   | ON: half back tread,no press foot lifter force and direct trimmer;OFF: half back tread,press foot lifter output force,no trimmer(full back tread to trimmer)<br>Note:set ON once need press foot lifter in midway,064 parameter no effective that is press foot lifter output force when half back tread |
| [067. T1] | Back trimmer sensor switch                                                | 0 ~ 1     | 0    | 0: open back trimmer sensor switch<br>1: close back trimmer sensor(open [018.NBT] parameter delay trimmer number of threads)                                                                                                                                                                             |
| [068. T2] | Semi-auto mode:appear second optical eye,auto and manual till timmer stop | 0 ~ 1     | 0    | 0: start pedal plate controlled number of threads and speed<br>1: start auto feed fabric to the third optical eye,stop trimmer,auto speed parameter [004. N]                                                                                                                                             |
| [069. M]  | Stop machine speed set in midway                                          | 150 ~ 800 | 350  | No timmer stop machine set in midway                                                                                                                                                                                                                                                                     |
| [071. W1] | Time cycle in interval suction                                            | 0 ~ 5000  | 1000 | Time cycle in interval suction(ms)                                                                                                                                                                                                                                                                       |
| [072. W2] | Start auto timmer under manual mode                                       | 0 ~ 3     | 0    | 0: No timmer<br>1: Front trimmer<br>2: Back trimmer<br>3: Back and forth trimmer                                                                                                                                                                                                                         |

|           |                                                                                      |         |     |                                                                                                                                   |
|-----------|--------------------------------------------------------------------------------------|---------|-----|-----------------------------------------------------------------------------------------------------------------------------------|
| [075.UEG] | Up needle stop position adjust                                                       | 5 ~ 250 | 40  | Slightly adjust the angle of up needle stop(centre value 40): value reduced will advance stop needle, value added will delay stop |
| [076.DRU] | Start from down needle position,counter rotate up to the angle of up needle position | 1 ~ 360 | 165 | [048.SYM]set 3,start from down needle up to back-angle of up needle to set virtual down needle position                           |
| [077.ANU] | Auto look for up position after power on                                             | OFF/ON  | OFF | ON: Power on,stop when auto find up position signal<br>OFF: No work                                                               |
| [078.URU] | Start from up needle position counter rotate up to angle of zero                     | 1 ~ 360 | 0   | [048.SYM] Set 3,start from zero up to up needle' s counter angle to set virtual up needle position                                |
| [079.ERR] | Error code of last fault                                                             | 0 ~ 999 | 0   | 0 - No Fault accured                                                                                                              |

## Appendix II 、 System Failure Alarm Code And Troubleshooting

Overlock series high speed sewing machine control system has function of self alarm. Once failure occurred,controller will have buzzing sound of “didi” and relative error code will appear in operation panel.controller auto start protection,stop all sewing to advoid accident.

### Error Code Meanings ,Possible Problem And Solutions:

| Error code   |        | Code meaning                                                | Possible problem                                                                                                                                                                                                              | solution                                                                                                    |
|--------------|--------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Severe Error | ERR—00 | Input signal Self checking error                            | 1.pedal plate speed control circuit has problem or power on self checking found pedal in a state of front tread,back tread and cant back to neutral position<br>2.DC bus voltage low<br>3.driver module fault,signal unnormal | 1.Loosen pedal plateback to neutral position<br>2.Check pedal plate' s signal wire whether connected or not |
|              | ERR—01 | Head signal feedback is not normal                          | 1.Synchronizer not normal cant check up needel positon<br>2.Sensor' s magnet fall off                                                                                                                                         |                                                                                                             |
|              | PWROFF | Power off                                                   | 1.30v fuse fault<br>2.System power off                                                                                                                                                                                        | Power off,Check each fuse, re-power on                                                                      |
|              | ERR—03 | Head run unnormal                                           | 1.Synchronizer unnormal cant check down needle position<br>2.Sensor' s magnet fall off                                                                                                                                        |                                                                                                             |
|              | ERR—04 | Over current, over voltage, over temperature, under voltage | 1.Motor power drive module fault<br>2.Instant disturb                                                                                                                                                                         |                                                                                                             |

|                 |        |                                         |                                                                                                                                                                                 |                                                                                                                       |
|-----------------|--------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|                 | ERR—05 | Direct busbar voltage over volate       | 1.Brake resistor broke or brake fuse blowout<br>2.Instant disturb                                                                                                               | shutdown system ,check                                                                                                |
|                 | ERR—06 | Electromagnet power supply over current | 1.Electromagnet overload or short circuit<br>2.Drive circuit fault<br>3.Instand disturub                                                                                        | Shutdown system,check                                                                                                 |
|                 | ERR—07 | block up                                | 1.Machine locked<br>2.Trimmer institution prblem<br>3.Encoder signal unnormal<br>4.Motor output HALL signal unnormal                                                            | Shutdown system check,detect sewing machine machanical feactures normal or not                                        |
| General Warning | 9      | DC busbar voltage too low               | 1.Input AC voltage too low<br>2.Internal has error                                                                                                                              | Check power voltage                                                                                                   |
|                 | A      | Position stop machine fault             | 1.MPD.SPD set wrong parameter<br>2.overload too much<br>3.Encoder signal unnormal<br>4.Synchronizer signal unstable<br>5.Motor fault, drive power shortage                      | Shutdown,check head and motor normal or not                                                                           |
|                 | B      | Over max speed                          | 1.Over max speed in same direction<br>2.Over 300r/min in revese direction<br>3.Encoder signal unnormal<br>4.Motor output HALL signal unnormal<br>5.Motor fault(ex. demagnetizm) | 1.Drive wire U/V/WW well connected or not between Control box and motor<br>2.System reliable ground connected or not. |
|                 | C      | Synchronizer self check fault           | Synchronizer not power on                                                                                                                                                       | 1.Power off , synchronizer plug in then power on<br>2.Change synchronizer                                             |
|                 | D      | EEPROM read/write data fault            | Parameter stored EEPROM has problem                                                                                                                                             | Change EEPROM                                                                                                         |
|                 | E      | EEPROM builtin parameter set wrong      | EEPROM builtin parameter set wrong                                                                                                                                              | Power on and resume                                                                                                   |
|                 | F      | Motor encode output signal wrong        | “F” keep alarming means motor built in encoder has problem                                                                                                                      | Check motor output signal wire disconnected or not well connected                                                     |

Fault occurred,first shutdown system power,check control systme well ground connected or not.after 30s,resume power ,check system work or not.if fault not solved,please try several time,still not solved,please contact supplier.