



按键屏 LED

6E3XX 套结机/锁眼机  
Bar-tacking/Buttonholing Machine



安全注意事项

- 使用前，请详细阅读本技术资料所搭配的缝制机械说明书，配合正确使用：
- （1）电源电压与工作频率：请遵照马达与控制箱铭牌所标注的规格使用；
  - （2）电磁波干扰：请远离高频磁波机器或电波发射器，以免产生的电磁波干扰本驱动装置，因而发生错误动作；
  - （3）接地：为防止杂讯干扰或漏电事故，请做好接地工程（包括缝纫机、马达、控制箱、定位器）。
- 2、拆卸马达或控制箱时，请勿带电插拔；控制箱里面有危险高压电，所以关闭电源后需等待 1 分钟以上方可打开控制箱盖；
- 3、为保证人身安全，请在维修机械或进行穿针作业时关闭电源；

Safety instruction

- Please read the operation manual and related sewing machinery data sheet carefully before correct use:
- (1)Power voltage and frequency:Please refer to motor and control box nameplate;
  - (2)Interference from electromagnetic wave:please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to misoperation;
  - (3)Grounding:to avoid the noise obstructions or leakage of electricity accident(including sewing machine/motor/control box and positioner)
- 2、Please make sure power off at least 1 min and then can open control box cover,because there are dangerous high voltage.
- 3、Please turn off the power while repairing or wearing needle need in order to protect ensure personal safety.

1 按键说明

|                           |  |                                                                                                                |
|---------------------------|--|----------------------------------------------------------------------------------------------------------------|
| 1、进入和确定存储内容值<br>2、锁定、触发功能 |  | 1、进入参数内容值，其内容值如经调整变更后，需按下 ENTER 键予以储存确认。<br>2、正常界面，按下该键时显示面板出现无运转、压脚下放处于锁定模式，踩踏无效，反踏压脚抬起；再次按下该键恢复到正常界面，踏板踩踏正常。 |
| 进入参数区功能键                  |  | 1、常规界面按下 F 键退出当前界面<br>2、准备缝制模式下按 F 键进入用户参数模式<br>3、按住 F 键开机进入技术员参数模式                                            |
| 1、设置数值递增<br>2、参数递增        |  | 1、参数内容区内当设定数值递增键。<br>2、参数选择区内当参数递增键。                                                                           |
| 1、设置数值递减<br>2、参数递减        |  | 1、参数内容区内当设定数值递减键。<br>2、参数选择区内当参数递减键。                                                                           |

2 正常操作：

- 正常操作：**打开电源，（6E351 机型开机后显示 791，6E390 机型开机后显示 186）随后进入待机状态；按下 ENTER 键后进入准备缝制状态，压脚抬起，此时若再次按下 ENTER 键，则压脚落下，回退至待机状态，待机状态不响应踏板操作；准备缝制状态下踏板踩一档，压脚落下，踏板踩二档，启动缝制。
- 正常缝制过程中，反踩踏板可进行急停操作，急停后再次踩踏板至二档可重新启动。
- 6E351 机型情况下，当进入缝制结束前的低速（切布转速）运行状态时，无法进行急停操作。

3 检测模式：

- 检测模式：**同时按住面板上的 F 和 ENTER 键后再开机，面板显示 CP1 则进入检测模式；检测模式共有 8 个选项，按上或下键选择要检测的项目，按 ENTER 键进入检测模式；按上或下键可调节设置参数，再次按 ENTER 键确认输出，随后按 F 键退出至检测模式选择界面，再按 F 键则退出检测模式至待机模式，按照正常流程即可启动缝制。

3.1 检测模式说明：

| 代码  | 功能        | 内容                                                                                                                                                                              |
|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CP1 | 传感器 1 检测  | 该项检测送料盘上的停车位置传感器，该传感器指示机器何时停止缝制，传感器有信号时（送料盘转至停车位置时）显示 ON，无信号时显示 OFF；                                                                                                            |
| CP2 | 传感器 2 检测  | 该项检测送料盘上的降速位置传感器，该传感器指示机器何时进入降速至切布转速流程，传感器有信号时显示 ON，无信号时显示 OFF；                                                                                                                 |
| CP3 | 传感器 3 检测  | 该项检测压脚步进电机的原点位置，该传感器指示压脚电机是否处于原点位置，传感器有信号时（压脚电机处于原点状态，也既压脚落下状态）显示 ON，无信号（压脚抬起状态）时显示 OFF；                                                                                        |
| CP4 | 版本查询      | 可查看厂家代号和软件版本                                                                                                                                                                    |
| CP5 | 老化模式 A    | 开启后将按照 P01 设定转速进行全功能运转测试，测试间隔时间为 P18 设定值；                                                                                                                                       |
| CP6 | 主轴上针位调整模式 | 进入该模式可调整主轴上停针位置。进入该模式，面板显示“- - -”，同时主轴找原点，主轴找原点结束后可转动手轮调节针位（设置标准停车位置时将手轮转至机针刚入布的位置即可，实际使用情况可根据机器的差异自行调节），针位调整合适后，按 ENTER 键，主轴会再次找原点，找原点结束后按 F 键退出，随后关机再开机，此时上停针位置已经过调整，可正常开始缝制。 |
| CP7 | 老化模式 B    | 设定后将按 P01 转速进行连续运行测试；                                                                                                                                                           |
| CP8 | 老化模式 C    | 设定后将按 P01 转速进行无定位连续测试，测试间隔时间为 P18 设定值；                                                                                                                                          |

4 参数初始化

- 参数初始化：**同时按住上键和下键后开机，面板会显示 INF；该界面维持一段时间后进入待机状态，此时所有参数均初始化至默认值。

5 用户参数设置

- 用户参数设置：**在准备缝制模式下，按 F 键进入用户参数设置界面，此时面板显示 P01，用户可在此模式下设置参数 P01 至 P10 的十个参数值；
- 参数修改流程：**按上或下键选择要修改的参数，按 ENTER 键进入检测模式；按上或下键可调节设置参数，再次按 ENTER 键确认输入值；随后按 F 键退出至参数选择界面，再按 F 键则退出用户参数设置模式至准备缝制模式，按照正常流程即可启动缝制。

5.1 用户参数一览表

| 参数项 | 中文说明      | 范围     | 初始值 | 内容值名称说明与备注                |
|-----|-----------|--------|-----|---------------------------|
| P01 | 最高转速（spm） | 10-300 | 280 | 车缝时的最高转速设定（实际速度=显示数*10）   |
| P02 | 起缝速度（spm） | 20-300 | 130 | 前缝（起缝）时的速度设定（实际速度=显示数*10） |
| P03 | 切刀动作速度    | 10-100 | 60  | 切刀时机头的转速（实际速度=显示数*10）     |
| P04 | 第一针限速     | 10-300 | 80  | （实际速度=显示数*10）             |
| P05 | 第二针限速     | 10-300 | 80  | （实际速度=显示数*10）             |
| P06 | 第三针限速     | 10-300 | 200 | （实际速度=显示数*10）             |
| P07 | 第四针限速     | 10-300 | 250 | （实际速度=显示数*10）             |
| P08 | 第五针限速（预留） | 10-300 | 250 | （实际速度=显示数*10）             |
| P09 | 压脚保护时间（s） | 30-300 | 60  | 自动压脚连续抬起超过设置时间自动落下（机械锁）   |
| P10 | 切刀动作针数    | 0-10   | 3   | 切刀时所需的针数，配合切刀的速度          |

6 二级参数设置：

- 二级参数设置：**按住 F 键后开机，界面显示 P16，则进入二级参数设置界面；参数修改流程与用户参数设置流程一致。

6.1 二级参数一览表：

| 参数项 | 中文说明      | 范围      | 初始值   | 内容值名称说明与备注                                 |
|-----|-----------|---------|-------|--------------------------------------------|
| P16 | 保护针数      | 1-990   | 400   | 在大盘未感应到情况下，机针要动作多少针进行保护                    |
| P17 | 测试工作时间    | 0-999   | 250   | B 项测试中，设置导通时间                              |
| P18 | 老化间隔时间/ms | 0-250   | 20    | A 项与 C 项测试中，设置运行间隔时间                       |
| P19 | 机械锁保护开关   | 0-1     | 0     | 0:机械锁保护功能关闭<br>1:机械锁保护功能打开                 |
| P20 | 限速项       | 10-300  | 300   | 限制车缝的最高转速（实际速度=显示数*10）                     |
| P21 | 压脚位置调整    | 130-300 | 200   | 该项可控制压脚抬起高度，可根据机器情况调整压脚的抬起高度               |
| P22 | 压脚动作时间    | 100-220 | 120ms | 该项可控制压脚拍落的速度，可根据实际使用需求进行设置                 |
| P26 | 剪线动作时间    | 60-110  | 88    | 该项可控制剪线速度，可根据实际使用需求进行设置（该参数仅机型为 6E390 时存在） |

7 错误代码表：

| 错误号        | 错误描述       | 解决方案                                                                |
|------------|------------|---------------------------------------------------------------------|
| E03        | 主轴电流开机检测异常 | 1、检查输入电压是否正确，确保输入电压稳定；<br>2、检查主轴电机工作是否正常；                           |
| E06<br>E12 | IPM 过流     | 1、检查输入电压是否正确，确保输入电压稳定；<br>2、检查主轴电机工作是否正常；                           |
| E07        | 主轴电流异常     | 重启后恢复，若重启无法恢复或多次出现，请检查主轴电机是否正常；                                     |
| E08        | 辅助设备电压过载   | 请关闭电源，检查传感器接头是否短路                                                   |
| E10        | 主轴转速异常     | 断电重启后恢复，若重启无法恢复或多次出现，请检查主轴电机是否正常；                                   |
| E11        | 主轴过载       | 1、断电重启后恢复，若重启无法恢复或多次出现，请检查主轴电机是否正常；<br>2、检查是否有卡点导致电机堵转              |
| E13        | 编码器故障或未连接  | 1、检查主轴电机线缆（控制箱 X4、X5 接口线缆）是否正确，连接是否牢靠；<br>2、检查主轴电机是否正常；             |
| E14        | 主轴运行异常     | 1、检查主轴电机线缆（控制箱 X4、X5 接口线缆）是否正确，连接是否牢靠；<br>2、检查机械是否有卡点；3、检查主轴电机是否正常； |
| E22        | 主轴动作超时     | 1、检查机械是否有卡点；2、检查主轴电机是否正常；                                           |
| E23        | 编码器异常      | 1、检查主轴编码器线缆（X5 接口线缆）是否正确，连接是否牢靠；<br>2、检查主轴编码器是否正常                   |
| E40        | 步进通讯异常     | 断电重启，若反复出现，请更换电控                                                    |
| E45        | FLASH 读取错误 | 断电重启，若反复出现，请更换电控                                                    |
| E53        | 压脚电机过流     | 请关闭电源，检查压脚电机是否正常                                                    |
| E54        | 压脚电机超差     | 请关闭电源，检查压脚原点传感器及压脚电机是否正常工作                                          |
| E57        | SPI 校验错误   | 断电重启，若反复出现，请检查系统硬件                                                  |
| E58        | 指令错误       | 断电重启，若反复出现，请检查系统硬件                                                  |
| E77        | FLASH 写入错误 | 断电重启，若反复出现，请检查系统硬件                                                  |
| E84        | 冷却风扇异常     | 1、检查冷却风扇接头是否正确，连接是否牢靠；2、检查冷却风扇是否正常                                  |
| E85        | 面板参数读取错误   | 关闭电源，再次开机后系统自动初始化参数，若重复出现，则需要更换电控                                   |
| E86        | 面板参数存储区域错误 | 断电重启，若反复出现，请检查系统硬件                                                  |
| E87        | 压脚动作异常     | 请关闭电源，检查压脚原点传感器及压脚电机是否正常工作                                          |

8 液晶显示字体与实际字体对照表

8.1 数字字体部分

| 实际数值 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| 液晶显示 |   |   |   |   |   |   |   |   |   |   |

8.2 英文字体部分

| 英文字母 | A | B | C | D | E | F | G | H | I |
|------|---|---|---|---|---|---|---|---|---|
| 液晶显示 |   |   |   |   |   |   |   |   |   |
| 英文字母 | J | K | L | M | N | O | P | Q | R |
| 液晶显示 |   |   |   |   |   |   |   |   |   |
| 英文字母 | S | T | U | V | W | X | Y | Z |   |
| 液晶显示 |   |   |   |   |   |   |   |   |   |

1 Instructions

|                                                      |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |
|------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 1、Enter and save the value<br>2、lock, start function |  | 1、Enter to the parameter value, press ENTER key for confirmation and save if the parameter value adjustment.<br>2、Normal interface, display panel appears when you press the button without running, under the presser foot put in lock down mode, stampede invalid, anti-riding presser foot lift; press the key again to return to normal screen, pedal stampede normal. |  |
| Enter parameter value selection                      |  | 1.In 1Normal Mode, press “F” key to enter User Parameter Mode1.<br>2.Press and hold “F” key, then turn on the power to enter Technician Parameter Mode.                                                                                                                                                                                                                    |                                                                                   |
| Value Increment Key                                  |  | 1、Increase the parameter in Parameter selection.<br>2、Increase the setting value in Parameter value.                                                                                                                                                                                                                                                                       |                                                                                   |
| Value Decrement Key                                  |  | 1、Decrease the parameter in Parameter selection.<br>2、Decrease the setting value in Parameter value.                                                                                                                                                                                                                                                                       |                                                                                   |

2 Normal operation

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| <p><b>Normal operation:</b> power on,6E351 model shows 791,6 E390 model shows 186 after starting up, then enter standby state; Press the ENTER key to ENTER the state of preparation for sewing, and press the foot to lift up. If press the ENTER key again at this time, press the foot to fall and fall back to standby state. Standby state does not respond to pedal operation; Step on first gear, press the foot down, step on second gear, start sewing.</p> <p>During the normal sewing process, the reverse pedal can be used for emergency stop operation. After emergency stop, the pedal can be restarted when it reaches the second gear.</p> <p> that in 6E351 model: when entering the low speed(cutting speed)running state before sewing,the emergency stop operation cannot be carried out</p> |
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3 Detection mode

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Detection mode:</b> hold down the F and ENTER keys on the panel at the same time before starting the machine, and ENTER the detection mode when the panel displays CP1; There are 8 options in the detection mode. Press the up or down key to select the item to be detected, and press ENTER to ENTER the detection mode. Press up or down to adjust the setting parameters, press ENTER again to confirm the output, then press F to exit to the detection mode selection interface, then press F to exit the detection mode to standby mode, sewing can be started according to the normal process.</p> |
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3.1 Description of detection mode

| No. | Function                    | description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CP1 | Sensor 1 detection          | The sensor detects the stop position sensor ON the feeding tray, which indicates when the machine stops sewing. When the sensor has a signal (when the feeding tray turns to the stop position), it shows ON, and when there is no signal, it shows OFF.                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CP2 | Sensor 2 detection          | The sensor detects the slowing down position sensor ON the feeding plate, which indicates when the machine enters the process of slowing down to the speed of cloth cutting. The sensor displays ON when there is a signal, and OFF when there is no signal.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CP3 | Sensor 3 detection          | The sensor indicates whether the foot motor is at the origin. When there is a signal from the sensor (the foot motor is at the origin, or the foot is falling), it will display ON, and when there is no signal (the foot is lifting), it will display OFF.                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CP4 | Version of the query        | Check the manufacturer code and software version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CP5 | Aging mode A                | After it is started, the full-function running test will be conducted according to the speed set by P01. The test interval is set to P18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CP6 | Spindle pin adjustment mode | Enter this mode to adjust the stop pin position on the spindle. Into the model, panel shows the "-", at the same time, the main shaft to find the origin, after the spindle to find the origin can turn the hand wheel to adjust the needle position (set standard parking position just turn the hand wheel to machine needle into the cloth location, the actual usage according to the difference of the machine adjust themselves), needle after adjusting, press ENTER, the spindle will once again to find the origin, to find the origin after press F to exit, then turn it off to boot, at this time on the needle position has been adjusted, can be normal to start sewing. |
| CP7 | Aging mode B                | After setting, continuous running test will be conducted according to the speed of P01;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CP8 | Aging mode C                | After setting, the continuous test will be conducted according to the speed of P01 without positioning, and the test interval is the set value of P18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

4 Parameter initialization

|                                                                                                                                                                                                                                                                       |
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| <p><b>Parameter initialization:</b> hold down the upper key and the lower key at the same time and start up, the panel will display INF; The interface remains in standby mode for a period of time, when all parameters are initialized to their default values.</p> |
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5 User parameter setting

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>User parameter setting:</b> in the ready sewing mode, press F to enter the user parameter setting interface. At this time, the panel displays P01. The user can set ten parameter values from P01 to P10 in this mode.</p> <p><b>Parameter modification process:</b> press the up or down key to select the parameter to be modified, and press ENTER to ENTER the detection mode; Press the up or down key to adjust the parameters. Press ENTER again to confirm the input value. Then press F to exit to the parameter selection interface, and then press F to exit the user parameter setting mode to prepare sewing mode. Sewing can be started according to the normal process.</p> |
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5.1 List of user parameters

| No. | Instruction                              | Range  | Default | Description                                                                 |
|-----|------------------------------------------|--------|---------|-----------------------------------------------------------------------------|
| P01 | Maximum rotating Speed(spm)              | 10-300 | 280     | Maximum rotating speed of machine sewing (the actual speed = display * 10)) |
| P02 | sewing speed (spm)                       | 20-300 | 130     | speed of machine sewing (start sewing) (actual speed =display * 10))        |
| P03 | Cutter moving speed                      | 10-100 | 60      | rotating speed of machine head when cutting (actual speed = display *10))   |
| P04 | The first needle limited speed           | 10-300 | 80      | (actual speed = display *10))                                               |
| P05 | The second needle limited speed          | 10-300 | 80      | (actual speed = display *10))                                               |
| P06 | The third needle limited speed           | 10-300 | 200     | (actual speed = display *10))                                               |
| P07 | The fourth needle limited speed          | 10-300 | 250     | (actual speed = display *10))                                               |
| P08 | The fifth needle limited speed (Reserve) | 10-300 | 250     | (actual speed = display *10))                                               |

|     |                                  |        |    |                                                                                                 |
|-----|----------------------------------|--------|----|-------------------------------------------------------------------------------------------------|
| P09 | Presser foot Protection time (s) | 30-300 | 60 | It will automatic come down when foot lifter keep lift over the setting time. (mechanical lock) |
| P10 | Cutter moving speed              | 0-10   | 3  | Required number of needles coordinating with the cutter speed.                                  |

6 Second level parameter setting

|                                                                                                                                                                                                                                                                               |
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| <p><b>Second level parameter setting:</b> after holding down the F key, start the machine, the interface displays P16, then enter the second level parameter setting interface; The parameter modification process is consistent with the user parameter setting process.</p> |
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6.1 List of secondary parameters:

| No. | Instruction                       | Range   | Default | Description                                                                                                                                          |
|-----|-----------------------------------|---------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| P16 | Protected stitches                | 1-990   | 400     | Required protected machine stitches if crank set have no induction                                                                                   |
| P17 | test working time                 | 0-999   | 250     | Setting running time of testing B                                                                                                                    |
| P18 | Aging interval time /ms           | 0-250   | 20      | In item A and item C, set the running interval                                                                                                       |
| P19 | Mechanical lock Protection Switch | 0-1     | 0       | 0: turn off Mechanical lock Protection function<br>1: turn on Mechanical lock Protection function                                                    |
| P20 | The speed limit item              | 10-300  | 300     | To limit the highest speed sewing (actual speed=display * 10))                                                                                       |
| P21 | Press foot position adjustment    | 130-300 | 200     | This item can control the lifting height of the pressing foot and adjust the lifting height of the pressing foot according to the machine conditions |
| P22 | Foot press action time            | 100-220 | 120ms   | This item can control the lifting and falling speed of the pressure foot, which can be set according to the actual use requirements                  |
| P26 | Shearing action time              | 60-110  | 88      | This item can control the shear line speed, which can be set according to the actual use requirements                                                |

7 Error code table:

| No.        | description                                 | The solution                                                                                                                                                                                                                        |
|------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E03        | Spindle current starting detection abnormal | 1. Check whether the input voltage is correct to ensure the stability of the input voltage<br>2. Check whether the spindle motor works normally;                                                                                    |
| E06<br>E12 | IPM flow                                    | 1. Check whether the input voltage is correct to ensure the stability of the input voltage<br>2. Check whether the spindle motor works normally;                                                                                    |
| E07        | Spindle current anomaly                     | Restore after restart. If the restart fails to restore or appears several times, please check whether the spindle motor is normal.                                                                                                  |
| E08        | Auxiliary equipment voltage overload        | Please turn off the power and check the sensor connector for short circuit                                                                                                                                                          |
| E10        | Spindle speed anomaly                       | Restore after power failure and restart. If the restart fails to restore or occurs more than once, please check whether the spindle motor is normal.                                                                                |
| E11        | The spindle overload                        | 1. Restore after power failure and restart. If the restart fails to restore or occurs more than once, please check whether the spindle motor is normal; 2. Check whether there is a stuck point that causes the motor to be blocked |
| E13        | Encoder failed or not connected             | 1. Check whether the spindle motor cable (control box X4 and X5 interface cable) is correct and reliable; 2. Check whether the spindle motor is normal;                                                                             |
| E14        | Spindle operation anomaly                   | 1. Check whether the spindle motor cable (control box X4 and X5 interface cable) is correct and reliable; 2. Check whether the machine has a sticking point; 3. Check whether the spindle motor is normal;                          |
| E22        | Spindle action timeout                      | 1. Check whether the machine has a sticking point; 2. Check whether the spindle motor is normal;                                                                                                                                    |
| E23        | Encoder anomaly                             | 1. Check whether the spindle encoder cable (X5 interface cable) is correct and reliable; 2. Check whether the spindle encoder is normal                                                                                             |
| E40        | Step communication exception                | Power off restart, if repeated, please replace the electronic control                                                                                                                                                               |
| E45        | FLASH read error                            | Power off restart, if repeated, please replace the electronic control                                                                                                                                                               |
| E53        | Pressure foot motor overcurrent             | Please turn off the power and check whether the motor is normal                                                                                                                                                                     |
| E54        | Foot motor out of tolerance                 | Please turn off the power and check whether the pin origin sensor and the pin motor are working normally                                                                                                                            |
| E57        | SPI check error                             | Restart without power. If it occurs repeatedly, please check the system hardware                                                                                                                                                    |
| E58        | Command error                               | Restart without power. If it occurs repeatedly, please check the system hardware                                                                                                                                                    |
| E77        | FLASH write error                           | Restart without power. If it occurs repeatedly, please check the system hardware                                                                                                                                                    |
| E84        | Cooling fan anomaly                         | 1. Check whether the cooling fan connection is correct and reliable; 2. Check whether the cooling fan is normal                                                                                                                     |
| E85        | Error reading panel parameters              | Turn off the power supply, and the system will automatically initialize the parameters after starting up again. If it appears repeatedly, the electronic control needs to be replaced                                               |
| E86        | Error in panel parameter storage area       | Restart without power. If it occurs repeatedly, please check the system hardware                                                                                                                                                    |
| E87        | Pressure foot movement is abnormal          | Please turn off the power and check whether the pin origin sensor and the pin motor are working normally                                                                                                                            |

8 LCD Fonts and the actual fonts comparison table

8.1 Arabic Numerals

| Actual number | 0                                                                                     | 1                                                                                     | 2                                                                                     | 3                                                                                     | 4                                                                                     | 5                                                                                     | 6                                                                                     | 7                                                                                     | 8                                                                                     | 9                                                                                     |
|---------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| LCD Display   |  |  |  |  |  |  |  |  |  |  |

8.2 English Alphabet

| Actual  | A                                                                                     | B                                                                                     | C                                                                                     | D                                                                                     | E                                                                                     | F                                                                                     | G                                                                                     | H                                                                                     | I                                                                                     |
|---------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Display |  |  |  |  |  |  |  |  |  |
| Actual  | J                                                                                     | K                                                                                     | L                                                                                     | M                                                                                     | N                                                                                     | O                                                                                     | P                                                                                     | Q                                                                                     | R                                                                                     |
| Display |  |  |  |  |  |  |  |  |  |
| Actual  | S                                                                                     | T                                                                                     | U                                                                                     | V                                                                                     | W                                                                                     | X                                                                                     | Y                                                                                     | Z                                                                                     |                                                                                       |
| Display |  |  |  |  |  |  |  |  |  |