# ⚠安全指示

1） 在安装或使用本产品前，使用者必须详细阅读本操作手册。

2） 本产品须由受过正确训练的人员来安装或操作。安装作业时必须关闭所有电源，切记不可带电操作。

3） 所有标有⚠符号的指示，必须特别注意并按照说明书上的执行，以免造成不必要的损害。

4） 为安全起见，禁止以延长线作电源座供应二项以上的电器产品使用。

5） 在连接电源线时，必须确定工作电压低于 AC 250V，且符合本产品标识中规定的额定电压值。

※注意 ：电控箱电源规格如为 AC220V 时，请勿插接至 AC380V 的电源插座上，否则将出现异常且电机无法动作。此时请立即关闭电源开关，重新检查电源。持续供应 380V 超过五分钟以上，将可能烧损电控箱内器件，而危及人身安全。

6） 请不要在日光直接照射的场所、室外及室温 45℃以上或 0℃以下的场所操作。

7） 请不要在暖气（电热器）旁、有露水的场所及在相对湿度 10%以下或 90%以上的场所操作。

8） 请不要在灰尘多的场所、具有腐蚀性物质的场所及有挥发性气体的场所操作。

9） 请注意所有电源线、信号线、接地线等接线时不要受压或过度扭曲，以确保使用安全。

10）电源线的接地端须以适当大小的导线和接头连接到生产工厂的系统地线，此连接必须被永久固定。

11）所有可转动的部分，必须以所提供的零件加以防范露出。

12)在安装完成第一次开电后，先关闭切线功能以低速操作缝纫机并检查转动方向是否正确、运转是否稳定。

13）在进行以下操作前，请先关闭所有电源：

1.在控制箱与马达上插拔任何连接插头时。

2.穿针线时。

3.翻抬缝纫机机头时。

4.修理或做任何机械上的调整时。

5.机器闲置不用时。

14）修理或高层次的保养工作，仅能由受过训练的机电技师来执行。

所有维修用的零件，须由本公司提供认可，方可使用。

15）使用本产品请远离高频电磁波和电波发射器等，以免所产生的电磁波干扰伺服驱动装置而发生误动作。

16）请不要以不适当物体来敲击或撞击本产品及各装置。

**保修期限**

本产品保修期限为购买日期起一年内或出厂月份起两年内。

**保修内容**

本产品在正常情况使用且无人为操作失误的前提下，于保修期间无偿为客户维修使能正常操作。

但以下情况于保修期间将收取维修费用：

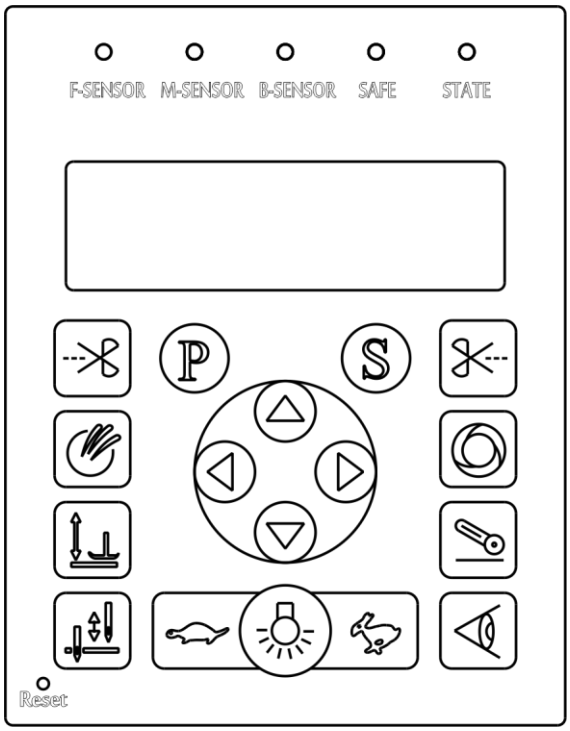
1. 不当使用包括误接高压电源、将产品移做其它用途、自行拆卸、维修、更改、或不依规格范围使用、进水进油及插入异物于本产品。

2. 火灾、地震、闪电、风灾、水灾、盐蚀、潮湿、异常电压及其它天灾或不当场所造成的损害。

3. 客户购买后摔落本产品，或客户自行运输（或托付运输公司）造成的损害。

＊ 本产品在生产及测试上皆尽最大努力和严格控制使其达到高品质及高稳定的标准，但外部的电磁或静电干扰或不稳定的供应电源，仍可能对本产品造成影响或损害，因此操作场所的接地系统一定要确实做好，并建议用户安装故障安全防护装置（如漏电保护器）

1. 显示及操作界面




1.1 操作界面按键说明

| 索引 | 图标 | 名称 | 功能说明 |
|---|---|---|---|
| 1 | P | 功能键 | 1. 进入或退出功能参数的编辑<br>2. 一般模式下按下 P 键进入用户参数设置模式<br>3. 在关机状态，按住 P 键开机进入技术员参数设置模式<br>4. 在关机状态，按住 P 键+S 键开机进入高级参数设置模式 |
| 2 | S | 参数查看保存键<br>语言转换键 | 对所选参数号内容进行查看和保存：选择好参数号后按此键可以进行查看和修改操作，修改参数值后按此键则退出并保存参数；<br>一般模式界面下，切换中、英文语言 |
| 3 | | 上键 | 参数值设置递增或功能转换键 |
| 4 | | 下键 | 参数值设置递减或功能转换键 |
| 5 | | 左键 | 参数项及参数内容递减 |
| 6 | | 右键 | 参数项及参数内容递增 |
| 7 | | 加速键 | 按下此键可实现转速的递增调整，设置完成需按 S 键保存有效。 |
| 8 | | 减速键 | 按下此键可实现转速的递减调整，设置完成需按 S 键保存有效。 |

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|---|---|---|---|
| 9 | | 机头灯亮度调整快捷键 | 依次按该键，可调节灯的亮度。（对应参数项 P-15） |
| 10 | | 前剪线开关快捷键 | 依次按此键可以进行前剪线开、前剪线关闭的循环切换，设置完成需按 S 键保存有效。 |
| 11 | | 后剪线开关快捷键 | 依次按此键可以进行后剪线开、后剪线关闭的循环切换，设置完成需按 S 键保存有效。 |
| 12 | | 自动吸气模式快捷键 | 依次按此键可以进行前剪线吸气开、后剪线吸气开、前后剪线吸气开、长吸气、前剪线+长吸气、后剪线+长吸气、前后剪线+长吸气、关闭的循环切换，设置完成需按 S 键保存有效。（对应参数项 P-08） |
| 13 | | 自动抬压脚模式快捷键 | 依次此键可以进行前抬、后抬、前后抬、关闭的循环切换，设置完成需按 S 键保存有效。（对应参数项 P-10） |
| 14 | | 停针位快捷键 | 依次此键可以进行上针位、下针位的循环切换，设置完成需按 S 键保存有效。（对应参数项 P-02） |
| 15 | | 模式选择快捷键 | 依次此键可以进行全自动、半自动、全人工的循环切换，设置完成需按 S 键保存有效。（对应参数项 P-05、P-06） |
| 16 | | 自动拉布模式快捷键 | 依次按此键可实现：缝制中拉布、缝制后拉布、关闭模式的循环切换，设置完成需按 S 键保存有效。（对应参数项 P-09） |
| 17 | | 感应状态查看快捷键 | 1. 短按此键可查看前、中、后传感器灵敏度实时值；<br>2. 长按此键可进入传感器灵敏度设置界面，请按显示界面提示操作即可。 |
| 18 | RESET | 恢复出厂设置 | 用针插入 RESET 孔，长按 2 秒在“滴”的一声后既恢复出厂设置。 |
| 19 | 指示灯 | 1、F-SENSOR<br>2、M-SENSOR<br>3、B-SENSOR<br>4、SAFE<br>5、STATE | 1、前传感器接收到有布时，F-SENSOR 灯点亮；无布时熄灭。<br>2、中传感器接收到有布时，M-SENSOR 灯点亮；无布时熄灭。<br>3、后传感器接收到有布时，B-SENSOR 灯点亮；无布熄灭。<br>4、台板或抬压脚安全开关异常时，SAFE 灯点亮，正常时熄灭。<br>5、工作正常时亮绿灯，报警时亮红灯。 |

**2. 特殊功能操作说明**

| | | |
|---|---|---|
| 1 | 恢复出厂设置 | 1. 在关机状态下，同时按住 两键开机，显示屏显示【P-26】，按 S 键确认<br>2. 快捷方式：用针插入 RESET 孔，长按 2 秒在“滴”的一声后既恢复出厂设置。 |
| 2 | 手动上定位调整 | 1. 在关机状态，同时按住 P+S 键开机，显示屏显示 P-70 项；<br>2. 将参数调至 P-72 项；<br>3. 手轮方向看，顺时针转动手轮转到上定位，按 S 键即保存当前位置数值为 P-50 |

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| | | 项上定位数值。 |
| 3 | 手动下定位调整 | 1. 在关机状态，同时按住 P+S 键开机，直接进入 P-70 项；<br>2. 将参数调至 P-73 项；<br>3. 手轮方向看，顺时针转动手轮转到下定位，按 S 键即保存当前位置数值为 P-51 项下定位数值。 |
| 4 | 传感器灵敏度调整 | 在一般模式界面长按 进入传感器灵敏度调试界面，（界面提示）调整步骤：<br>1. 请将布移开三个感应器之后，按电眼键；<br>2. 请将布遮住三个感应器之后，按电眼键；<br>3. 设置完成。 |

3. **系统参数设置说明**

3.1 用户参数

| 序号 | 项目 | 范围 | 默认值 | 项目参数说明 |
|---|---|---|---|---|
| P-01 | 最高转速设置（rpm） | 100-7000 | 5000 | 车缝时的最高转速 |
| P-02 | 停针位选择 | 0-1 | 1 | 在全人工或半自动模式下有效：<br>0：上停针 1：下停针 |
| P-03 | 起缝速度（rpm） | 100-7000 | 4000 | 有剪线功能时：前传感器触发启动和后传感器信号结束时（剪线前）的速度设置 |
| P-04 | 启动模式 | 0-1 | 1 | 在全自动模式下有效：<br>0：自动（启动）1：脚控模式（前感应+脚踏板前踏启动） |
| P -05 | 自动/半自动模式选择 | 0-1 | 1 | P-06 开启时：<br>0：半自动<br>1：自动 |
| P -06 | 自动感应开关 | 0-1 | 1 | 0：关闭（全人工模式开启）；<br>1：开启（可实现自动/半自动模式与 P-05 匹配使用） |
| P -07 | 自动剪线开关 | 0-3 | 3 | 0：关闭<br>1：前剪（中间传感器接收到信号时剪线）；<br>2：后剪（后传感器接收信号结束后剪线）<br>3：前后剪 |
| P -08 | 自动吸气 | 0-4 | 3 | 0：关闭 1：前剪线吸气 2：后剪线吸气 3：前后剪线吸气 4：长吸气 |
| P-09 | 自动拉布 | 0-2 | 0 | 0：关闭 1：缝中拉布 2：缝后拉布 |
| P-10 | 自动抬压脚 | 0-3 | 1 | 0：关闭<br>1：前抬（前传感器接收到信号时） 2：后抬（后传感器信号结束时）<br>3：前后抬（1+2=3） |
| P-11 | 缝中抬压脚 | 0-1 | 0 | （在全人工和半自动模式下有效）<br>0：关闭 1：开启（停车时自动抬压脚） |
| P-12 | 预留 | | | |
| P-13 | 半后踏抬压脚 | 0-2 | 0 | （在全人工/半自动模式有效） |

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|---|---|---|---|---|
| | | | | 0：半反踏&反踏抬 1：不抬 2：反踏抬 |
| P-14 | 手动剪线吸气 | 0-2 | 1 | 0：不吸 1：后吸 2：前后吸 |
| P-15 | 机头灯亮度 | 0-4 | 3 | 0：熄灭；1→4 亮度等级，数字越大亮度越大 |
| P-16 | 低气压模式 | 0-1 | 0 | 0：正常模式 1：低气压模式 |
| P-17 | 半自动连续缝制 | 0-1 | 0 | 0：关闭；1：前踏连续缝制 |
| P-18 | 半自动恒速剪线 | 0-1 | 1 | 0：关闭（完成后剪线前不执行 P-03 项的速度）<br>1：恒剪线速度前后剪线的速度固定为 P-03 的速度 |
| P19 | 预留 | | | |
| P-20 | 剪线后停针位选择 | 0-1 | 1 | 剪线后的停针位置：<br>0：下停针 1：上停针 |
| P21 | 预留 | | | |
| P-22 | 前接收器 E#开关 | 0-1 | 1 | 0：开启（打开前传感器，传感器信号+脚踏板启动）1:关闭（关闭前传感器，脚踏板直接启动） |
| P-23 | 间歇吸气吸时间（×100ms） | 1-600 | 20 | 数字越大时间越长 |
| P-24 | 间歇吸气停时间（×100ms） | 0-600 | 0 | 0：为无间歇吸气<br>前吸气关闭时间 |
| P-25 | 低气压模式布边吸风同步时间（P16=1） | 0-2000 | 200 | 与 P-16 为 1 时配合使用有效 |
| 3.2 技术员参数 | | | | |
| P-26 | 两传感器间针数（针） | 1-600 | 100 | 循环周期参数。在一个周期内后传感器接收到信号后才能连续运行，否则一个周期停止。 |
| P-27 | 前剪线延迟针数(针) | 0-50 | 0 | 数值越小越提前，线头预留越长（中间传感器触发） |
| P-28 | 后剪线延迟针数(针) | 0-50 | 8 | 数值越小越提前，结尾线头越短（后传感器触发） |
| P-31 | 后吸气关闭延时（ms） | 100-5000 | 200 | 数值越小，关闭越快 |
| P-35 | 停车延迟针数(针) | 1-99 | 1 | 布过完后传感器后多少针自动停车（后剪线关闭状态有效） |
| P-36 | 前传感器响应时间（ms） | 10-990 | 50 | 前传感器触发时间：数值越小反应越快，数值越大反应越慢 |
| P-37 | 前传感器灵敏度 | 0-700 | 205 | 为适应不同布料设定前传感器的透布强度 |
| P-38 | 中传感器灵敏度 | 0-700 | 215 | 为适应不同布料设定中传感器的透布强度 |
| P-39 | 前抬压脚保持时间（ms） | 100-2000 | 300 | 在全自动/半自动模式下：<br>前触发自动抬压脚后保持时间，数值越大保持时间越长 |
| P-40 | 后抬压脚启动时间（ms） | 0-2000 | 120 | 后自动抬压脚启动时间，数值越小反应越快 |
| P-41 | 压脚全始出力时间（ms） | 10-990 | 100 | 数值越大压脚抬的越高（注：不能太高） |
| P-42 | 压脚出力周期信号(%) | 10-90 | 30 | 压脚动作时，以周期性省电输出，避免电磁铁发烫 |
| P-43 | 压脚下放时间（ms） | 10-990 | 100 | 压脚下放时序的动作时间 |
| P-44 | 压脚保护时间（s） | 1-120 | 5 | 中途停车抬压脚、剪线后停车自动抬压脚、反踏 |

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| | | | | 抬压脚后保持时间到后强制关闭。 |
| P-45 | 剪线时间（ms） | 10-990 | 40 | 时间越长，剪线力度越大 |
| P-48 | 开机找上定位 | 0-1 | 1 | 0：关闭　1：开启 |
| P-49 | 针迹（mm） | 1-7 | 3 | 使用上下键调整到与实际针距相符 |
| P-50 | 上定位调整 | 0-1439 | | 与 P-72 项设置同步 |
| P-51 | 下定位调整 | 0-1439 | | 与 P-73 项设置同步 |
| P-52 | 测试速度（rpm） | 100-7000 | 2000 | 使用上下键调整 |
| P-53 | 测试工作时间（×100ms） | 1-250 | 20 | 使用上下键调整 |
| P-54 | 测试停止时间（×100ms） | 1-250 | 20 | 使用上下键调整 |
| P-55 | A 项测试 | 0-1 | 0 | 持续运行：按上下任意键选择，再按Ⓢ确认保存并执行选择功能<br>0：停止　1:运行 |
| P-56 | B 项测试 | 0-1 | 0 | 含功能运行：按上下任意键选择，再按Ⓢ确认保存并执行选项功能<br>0：停止　1:运行 |
| P-57 | C 项测试 | 0-1 | 0 | 不含功能运行：按上下任意键选择，再按Ⓢ确认保存并执行选项功能<br>0：停止　1:运行 |
| P-58 | 缝台保护开关 | 0-1 | 1 | 0：停用 1：启用 |
| P-59 | 压脚保护开关 | 0-1 | 1 | 0：停用 1：启用 |
| P-60 | 电动/气动 | 0-1 | 0 | 0：电动 1：气动 |
| P-61 | 后踏剪线开关 | 0-7 | 7 | 0：全关；1：全人工开；2：半自动开；3：全自动开；4：全人工和半自动开；5：半自动全自动开；6：全人工全自动开；7：全人工半自动全自动开 |
| P-62 | 电机转动方向 | 0-1 | 0 | 手轮方向看：<br>0：正转(顺时针) 1：反转（逆时针） |
| P-63 | 语言 | 0-1 | 1 | 0：英文 1：中文 |
| P-64 | 前发射管强度 | 0%-100% | 80% | 调节前发射管强度 |
| P-65 | 中发射管强度 | 0%-100% | 80% | 调节中发射管强度 |
| P-66 | 后发射管强度 | 0%-100% | 80% | 调节后发射管强度 |
| P-67 | 后感应灵器敏度 | 0-700 | 150 | 为适应不同布料设定后传感器的透布强度 |
| P-69 | 后感应缓响应时间（ms） | 0-3000 | 0 | 后感应缓响应时间，在缝制网格布的情况下可以调节此项，以达到想要的效果。 |
| 3.3 高级参数设置 | | | | |
| P-70 | 机型选择 | | 1 | 1：横刀机型 |
| P-71 | 最高转速限制（rpm） | 100-7000 | 6000 | 最高转速限制 |
| P-72 | 手动上定位调整 | 0-1439 | | 手轮方向看，顺时针转动手轮转到上定位按 S 保 |

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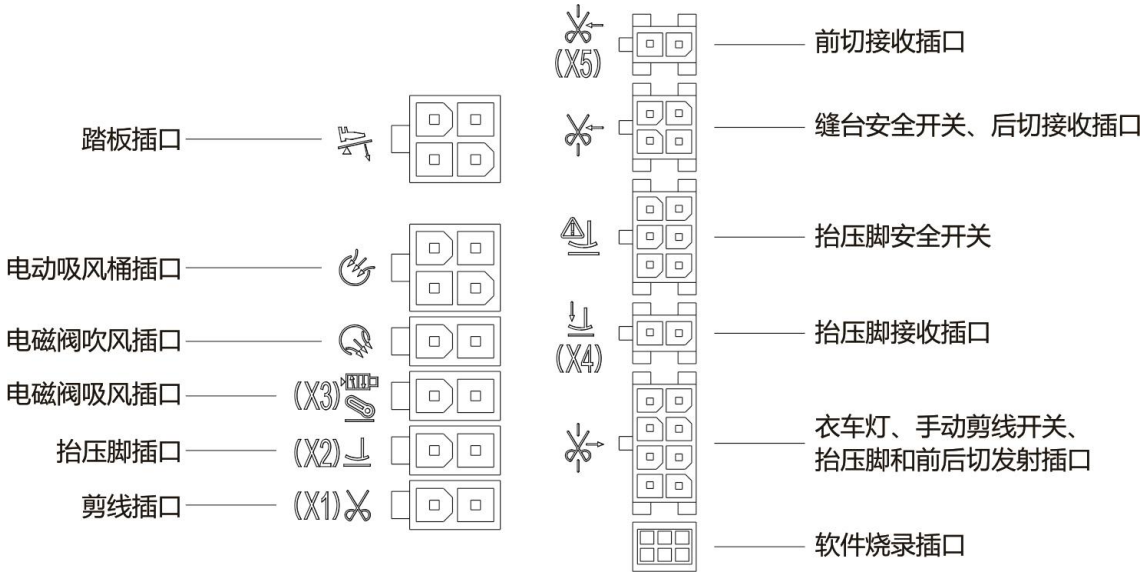
|---|---|---|---|---|
| | | | | 存当前数值。 |
| P-73 | 手动下定位调整 | 0-1439 | | 手轮方向看，顺时针转动手轮转到下定位按 S 保存当前数值。 |
| P-74 | 参数查看<br>实时监控 | 0-4 | | 使用上下键转换：<br>N1：电控软件版本<br>N2：面板软件版本<br>N3：转速<br>N4：脚踏板 AD |
| P-77 | 零点角度设置 | | 520 | 进入 P-48 项关闭开机找上定位，关机，重新按住 P+S 键开机，调至此 P-77 项按 后机器自动找零点，等待机器停止，按 S 保存当前参数值；再调至 P-48 项，打开开机自动找上定位。 |

**4.错误代码表**

| 错误码 | 内容 | 对策 |
| --- | --- | --- |
| E01 | 1）电源 ON 时，主电压检测过高<br>2）供应电源电压过高时 | 关闭系统电源，检测供应电源电压是否正确。(或是否超过使用规定的额定电压)。<br>若正确，请更换控制箱并通知厂方。 |
| E02 | 1）电源 ON 时，主电压检测过低<br>2）供应电源电压过低时 | 关闭系统电源，检测供应电源电压是否正确。(或是否低于使用规定的额定电压)。<br>若正确，请更换控制箱并通知厂方。 |
| E05 | 控速器接触异常 | 关闭系统电源，检查控速器接头是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换控速器并通知厂方。 |
| E07 | a)马达插头配线接触不良导致不转。<br>b)车头机构死锁或马达皮带异物卷入卡死。<br>c)加工物过厚，马达扭力不足无法贯穿。<br>d 模块驱动出力异常。 | 转动机头电机手轮观察是否卡住。如卡住则先排除机头机械故障。<br>如转动正常，检查电机编码器接头和电机电源线接头是否松动。如有松动请修正。<br>如接触良好，检查供应电源电压是否异常或转速设置过高。如有请调整。<br>如正常，请更换控制箱并通知厂方。 |
| E10 | 电磁铁过流保护 | 关闭系统电源，检查电磁铁（电磁阀）连接线或电磁铁（电磁阀）是否损坏。 |
| E09<br>E11 | 定位信号异常 | 关闭系统电源，检查电机编码器接口是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换电机并通知厂方。 |
| E14 | 编码器信号异常 | 关闭系统电源，检查电机编码器接口是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换电机并通知厂方。 |
| E15 | 电力模块不正常过流保护 | 关闭系统电源，再重新开启。若仍不能正常工作，请更换控制箱并通知厂方。 |
| E16 | 抬压脚保护开关没到正确位置 | 检查压脚是否回到正确位置，抬压脚开关是否损坏，插座是否异常。 |
| E17 | 缝台保护开关没到正确位置 | 检查缝台是否打开，缝台安全开关是否损坏，插座是否异常。 |
| E20 | 开机电机启动失败 | 关闭系统电源，检查电机编码器接口和电机电源接口是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换控制箱并通知厂方。 |
| NC | 前面操作盒与 CPU 传输通信异常 | 请检查操作盒信号配线是否异常或故障。 |

**4.端口示意图**


踏板插口
电动吸风桶插口
电磁阀吹风插口
电磁阀吸风插口
(X3)
抬压脚插口
(X2)
剪线插口
(X1)
(X5)
(X4)
前切接收插口
缝台安全开关、后切接收插口
抬压脚安全开关
抬压脚接收插口
衣车灯、手动剪线开关、
抬压脚和前后切发射插口
软件烧录插口

# QD2622 series user manual

## ⚠ Safety Instruction

1）Users are required to read the operation manual completely and carefully before installation or operation.

2） The product should be installed and pre-operated by well trained persons

3） All the instruction marked with sign ⚠，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 is lower than 250V AC and matches the rated voltage indicated on the motor's name plate.

※Attention: If the Control Box is AC 220V system, please don't connect the Control Box to AC 380V power outlet. Otherwise, the error will occur and motor will not work. If that happens, please turn off the power immediately and check the power voltage. Continue supply 380V power over 5 minutes might damage the fuse F2, burst the electrolytic capacitors and the power module U14 of the main board and even might endanger the person safety.

6） Please don't operate in direct sun light, outdoors area and where the room temperature is over 45℃or below 0°C.

7） Please avoid operating near the heater at dew area or at the humidity below 10% or above 95%.

8） Please don't operate in area with heavy dust, corrosive substance or volatile gas.

9） Avoid power cord being applied by heavy objects or excessive force, or over bend.

10）The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.

11）All the moving portions must be prevented to be exposed by the parts provided.

12）Turing on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.

13）Turn off the power before the following operation：

1. Connecting or disconnecting any connectors on the control box or motor.
2. Threading needle.
3. Raising the machine arm.
4. Repairing or doing any mechanical adjustment.
5. Machine is out of work.

14）Repairing and high level maintenance work should only be done by electronic technicians with appropriate training.

15）All the spare parts for repairing work must be provided or approved by the manufacturer.

16）Don't use any objects 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 all a failsafe device. ( Such as residual current breaker).

**1. Operation Panel for each key name and function definition**

| NO. | ICON | DESCRIPTION | REMARKS |
|---|---|---|---|
| 1 | | Function key | ①In the normal mode hold [P] key enter to User parameter setting mode.。<br>②In the shut-off condition, hold [P] key turn on machine enter to technician parameter setting mode.<br>③In the shut-off condition, Hold [P] key and [S] key turn on the machine enter to the senior parameter setting mode.<br>④Under the parameter setting interface, Press [P] key to return but not save the parameter. |
| 2 | | Up key | Parameter value increase setting or function shift |
| 3 | | Down key | Parameter value decrease setting or function shift |
| 4 | | Left key | Parameter item and parameter contents decrease |
| 5 | | Right key | Parameter item and parameter contents increase |
| 6 | | Parameter check and save key / Language Shift key | ①Under the parameter setting interface, press [S] key to save.<br>②Under the normal mode interface, shift the Chinese and English language. |
| 7 | | Forward trimming | Short-press this key enter to enter forward trimming setting:<br>①Press left and right key it can execute the cycle shift of forward trimming ON, forward trimming OFF.<br>②Press up and down key it can adjustment forward trimming action times. (same as P-27) |
| 8 | | Backward trimming | Short-press this key enter to backward trimming setting:<br>①Press left and right key it can execute the cycle shift of backward trimming ON, backward trimming OFF.<br>②Press up and down key it can adjustment backward trimming action times. (same as P-28) |
| 9 | | Auto-suction mode shortcut key | Short-press this key once enter to P-08 auto-suction mode, press up and down key it can execute the cycle shift of forward trimming suction, backward trimming suction, forward backward timming suction, long suction, close.<br>Short-press this key twice enter to P-46 continuous feeding suction setting, press up and down key it can execute the cycle shift of no suction, long suction, synchinizer suction. |
| 10 | | Mode selection shortcut key | ①Full automatic : start-up according full sensor signal<br>②Semi- automatic : start-up according to front sensor signal + pedal completion (same as P-05)<br>③Full manual: start-up according to the pedal completion. |
| 11 | | Presser Foot Lifting Mode shortcut key | Press this key it can execute the cycle shift of Front foot lifting, Rear foot lifting, front and rear foot lifting, close, valid after setting press S |

| | | | |
|---|---|---|---|
| | | | key to save (same as P-10) |
| 12 | | Cloth feed mode shortcut key | |
| 13 | | Neddle up down position key | Short-press this key it can execute the cycle shift of up needle position, down needle position. |
| 14 | | Sensor situation check shortcut Key | ①Short-press this key can check sensor sensitivity real value of front sensor, mid-sensor, back-sensor.<br>②Long-press this key can enter sensor sensitivity setting interface, please according to the display interface operation. |
| 15 | | Maximum sewing speed increase key | Short-press this key it can execute maximum sewing speed increasement, the speed not more than P-71 maximum sewing speed. |
| 16 | | Maximum sewing speed decrease key | Short-press this key it can execute maximum sewing speed decreasement, the minimum speed is 100 r/min. |
| 17 | | LED brightness adjustment shortcut key | Press this key to adjust LED brightness(same as the P-15) |
| 18 | Indicator | ①F-SENSOR<br>②M-SENSOR<br>③B-SENSOR<br>④SAFE<br>⑤STATE | ①When the front sensor receive with cloth, the F-SENSOR LED will be lighted; without cloth the LED OFF.<br>②When the Mid-sensor receive with cloth, the M-sensor LED will be lighted; without cloth the LED OFF.<br>③When the back sensor receive with cloth, the B-SENSOR receive with cloth, the B-SENSOR LED will be lighted; without cloth the LED OFF.<br>④Machine table or foot-lifting safe switch abnormal, SAFE LED will be lighted, normal is OFF.<br>⑤The normal will flashing green LED, if the error will alarm red LED. |

**2. Special function operation definition**

| No. | Function name | Function Description |
|---|---|---|
| 1 | Restore factory setting | ①Under the shutdown state, press ◁ and ▷ two key at the same time to turn on machine,display screen show P-26， press [S] key confirm.<br>②Shortcut Mode : Use needle insert RESET hole, after long-press 3 sec after beep then restore factory setting. |
| 2 | UP position adjustment by manual | 1. Under the shutdown state, press [P] +[S] key at the same time to turn on machine, display P-70;<br>2. Adjust parameter P-72;<br>3. From hand-wheel direction, clockwise turn hand-wheel to up position, press [S] key to save current value. |
| 3 | Down position adjustment | 1. Under the shutdown state, press [P] +[S] key at the same time to turn on machine, display P-70;<br>2. Adjust parameter P-73;<br>3. From hand-wheel direction, clockwise turn hand-wheel to down position, press [S] |

| | | |
|---|---|---|
| | | key to save current value. |
| 4 | Sensor sensitivity adjustment | 1. Under the normal mode interface long-press key, it can direct access sensor sensitivity adjustment interface:<br>2. Please remove cloth after Three-sensor, press [S] key;<br>3. Please cover cloth after three-sensor, press [S] key，finished setting. |
| 5 | Piecework function | Under the normal mode interface press and key at the same time，press or key it can increase or decrease operation to the totoal piece manually；<br>piecework other corresponding parameter setting:<br>Press Pand Skeys at the same time to turn on the machine, press key to find P-75 setting pieces of alarm, find P-76 setting alarm pieces plus minus sequence. |

**3．System Parameter Setting Definition**

**3.1 Electric /air-powered machine type parameter setting**

| User Parameter ( Under the normal mode press [P] key to access) | | | | |
|---|---|---|---|---|
| No | Function parameters | Range | Default | Description |
| P-01 | Maximum Sewing Speed （r/min） | 100-6000 | 5000 | Maximum sewing speed setting |
| P-02 | Needle stop positioning selection | 0-1 | 0 | 0:Up needle position<br>1: Down Needle position |
| P-03 | Start sewing speed（r/min） | 100-6000 | 4000 | With trimming function: the speed setting for front sensor trigger start-up and Back sensor signal finish (before trimming) |
| P-04 | Start-up mode | 0-1 | 1 | （Valid for full-automatic mode）<br>0：Automatic mode （start-up）<br>1：Foot control mode（Start-up by Front sensor + toe down the pedal） |
| P -05 | Automatic/semi-automatic mode selection | 0-1 | 1 | （P-06 is turn on）<br>0：Semi-automatic<br>1： Automatic |
| P -06 | Auto sensing switch | 0-1 | 1 | 0：OFF（Full manual mode is turn on）<br>1：ON（It can execute automatic/ semi-automatic mode also match with P-05 use） |
| P -07 | Auto trimming switch | 0-3 | 3 | 0：OFF<br>1：Front trimming（Mid-sensor receive signal then trimming）<br>2：Rear trimming （Back-sensor receive signal after finished trimming）<br>3：First and later trimming |

| | | | | |
|---|---|---|---|---|
| P -08 | Auto suction | 0-3 | 3 | 0：OFF<br>1：Front trimming suction<br>2：Rear trimming suction<br>3: Front and rear trimming suction |
| P-09 | Automatic cloth feeding | 0-1 | 1 | 0：OFF　　1：ON |
| P-10 | Auto presser foot lifting | 0-3 | 1 | 0：OFF<br>1：Front foot-lifting（Front sensor receive signal）<br>2：Rear foot-lifting（Rear sensor signal after finish）<br>3：Front and Rear foot-lifting |
| P-11 | Presser foot lifting when stop on the sewing | 0-1 | 0 | (Valid for full-manual and semi-automatic mode）<br>0：OFF<br>1：ON（when stop on the sewing the presser foot lifting automatically） |
| P-12 | Presser foot lifting after trimming | 0-1 | 1 | 0：OFF　　1：ON |
| P-13 | Presser foot lifting when half back treadle | 0-2 | 0 | （Valid for full-manual / semi-automatic mode）<br>0：　Presser foot lifting when half back step/ back step<br>1：Lay down<br>2：　Reverse step up presser foot |
| P-14 | Manual trimming suction | 0-2 | 1 | 0：No suction　　1：Rear suction<br>2：Front suction and rear suction |
| P-15 | Machine head lamp brightness | 0-4 | 3 | 0：OFF；1→4 the brightness grade, the more value the more brightness. |
| P-16 | Low air pressure mode | 0-1 | 0 | 0: Normal mode　　1：Low pressure mode |
| P-17 | Semi automatic continuous sewing | 0-1 | 1 | 1：OFF<br>0：Continuous sewing when toe down the treadle |
| P-18 | Semi automatic constant rate trimming | 0-1 | 0 | 0：OFF　（after finish before trimming not execute P-03 speed）<br>1：Constant trimming speed the back sensor speed is fixed with P-03 |
| P-20 | Stop position after trimming selection | 0-1 | 1 | 0：Down position　　1：Up position |
| P-22 | Front Receiver E# switch | 0-1 | 0 | 0：ON（turn on the front sensor, sensor signal + pedal）<br>1：OFF (Close front sensor, pedal direct turn on) |
| P-23 | Intermittent suction opening time（×100ms） | 1-600 | 20 | The more value the more time |
| P-24 | Intermittent air suction off time (×100ms) | 0-600 | 0 | 0：for no intermittent air suction<br>Front suction off time (valid when P-46 function setting is 1) |
| P-25 | Low pressure mode, selvage suction synchronization time（P16=1） | 0-2000 | 200 | Valid for P-16 setting is 1. |

| Technician parameter (Press [P] key and power on to enter) | | | | |
|---|---|---|---|---|
| P-26 | The stitches number between two sensors | 1-600 | 100 | Cycle period parameter. In a circle the rear sensor receive signal then can continue running, otherwise a cycle stop. |
| P-27 | The delayed stitches number of front trimming | 0-50 | 30 | the smaller value the more in advance, thread will retain more longer. (Mid-sensor trigger ) |
| P-28 | The delayed stitches number of Rear trimming | 0-50 | 4 | The small value the more in advance, the short of end-thread (Back-sensor trigger) |
| P-30 | The delayed time of front suction off（ms） | 100-5000 | 100 | The small value the close is fast. |
| P-31 | The delayed time after trimming suction. (ms) | 100-5000 | 300 | The small value the close is fast. |
| P-32 | The times when cloth-pulling ON | 0-50 | 20 | |
| P-34 | Trimming protection by manually | 0-1 | 1 | 0：OFF 1：ON |
| P-35 | The delayed stitches number before the machine stops (Stitches) | 1-99 | 1 | (Valid for Back-sensor OFF condition）<br>After through cloth back-sensor how many stitches will stop the machine automatically. |
| P-36 | The response time of front sensor (ms) | 10-990 | 50 | Front sensor trigger time: the small value the response is fast, the large value the response is slow. |
| P-37 | The sensitivity of front sensor | 0-700 | 380 | In order to adapt different cloth material setting front sensor receive strength. |
| P-38 | The sensitivity of middle sensor | 0-700 | 440 | In order to adapt different cloth material setting mid-sensor receive strength. |
| P-39 | The delaying time of front presser foot lifter（ms） | 100-2000 | 300 | （Under the full automatic/ semi-automatic）<br>Front trigger retention time after auto-foot-lifting, the larger value the longer retention time. |
| P-40 | Starting time for rear presser foot lifter（ms） | 0-2000 | 120 | The starting time of rear presser foot lifting, the smaller value the faster of response. |
| P-41 | Full-on time setting for presser foot（ms） | 10-990 | 100 | The larger value the higher of foot-lifting (Noted: Not too high) |
| P-42 | Duty-cycle time setting for presser foot（%） | 10-90 | 20 | Adjustment for duty-cycle of AFL. Fine tuning can reduce the over- heating. |
| P-43 | The time for the presser foot laying down（ms） | 10-990 | 100 | The action time of presser foot laying down sequence. |
| P-44 | Presser foot protection(s) | 1-120 | 5 | Stop on the sewing the presser foot lifting, stop after trimming presser foot lifting, positive closing after heeling pedal for retention time. |
| P-45 | Trimming time（ms） | 10-990 | 40 | the longer time, the greater trimming pressure |
| P-46 | Suction when continuous feeding | 0-2 | 0 | 0：No suction 1：Long suction<br>2：Synchronizer suction |
| P-47 | Total pieces | 0-65535 | 0 | |

| | | | | |
|---|---|---|---|---|
| P-48 | Needle goes up as power on | 0-1 | 1 | 0：OFF 1：ON |
| P-49 | Stitch（mm） | 1-7 | 3 | Adjustment same as actual needle distance by up and down key. |
| P-50 | Up needle position adjustment | 0-1439 | | Same as P-72 |
| P-51 | Down position adjustment | 0-1439 | | Same as P-73 |
| P-52 | Test speed（r/min） | 100-6000 | 5500 | Adjustment by up and down key |
| P-53 | Test working time（×100ms） | 1-250 | 50 | Adjustment by up and down key |
| P-54 | Test stop time（×100ms） | 1-250 | 20 | Adjustment by up and down key |
| P-55 | Item A testing：Continuous running | 0-1 | 0 | 0：STOP 1：RUN |
| P-56 | Item B testing：With function running | 0-1 | 0 | 0：STOP 1：RUN |
| P-57 | Item C testing：Without function running | 0-1 | 0 | 0：STOP 1：RUN |
| P-58 | Machine plate protection switch | 0-1 | 1 | 0：OFF 1：ON |
| P-59 | Presser foot protection switch | 0-1 | 1 | 0：OFF 1：ON |
| P-60 | Electric /Air-powered | 0-1 | | （Electric machine type the default is 0, air-powered machine type the default is 1）<br>0：Electric 1：Air-powered |
| P-61 | Trimming switch by heeling pedal | 0-7 | 7 | 0：All OFF 1：All ON by manually<br>2：Semi-auto ON 3：Auto ON<br>4：Manual and semi-auto ON<br>5：Semi-auto and auto ON<br>6：Manual and auto ON<br>7：Manual and semi-auto and auto ON |
| P-62 | Rotate direction | 0-1 | 0 | Through Hand-wheel direction：<br>0：Corotation (Clockwise)<br>1：Reversal (Counter clockwise) |
| P-63 | Language | 0-1 | 1 | 0：English 1：Chinese |
| P-64 | The strength of front sensor | 0%-100% | 80% | Adjustment front sensor strength |
| P-65 | The strength of mid-sensor | 0%-100% | 80% | Adjustment mid-sensor strength |
| P-66 | The strength of back sensor | 0%-100% | 80% | Adjustment back sensor strength |
| P-67 | The sensitivity of back sensor | 0-700 | 440 | In order to adapt different cloth material setting back-sensor receive strength. |
| P-69 | Response time of back sensor（ms） | 0-3000 | 0 | Response time of back-sensor, when sewing such as mesh cloth can adjust this item, then can achieve you |

| | | | | |
|---|---|---|---|---|
| | | | | want effects. |
| Senior parameter setting ( press P + S key at the same time to turn on the machine access) | | | | |
| P-70 | Model selection | 0-1 | 0 | 0：Horizontal knife type 1：Side knife type |
| P-71 | Maximum sewing speed limitation（r/min） | 100-8000 | 6000 | Maximum sewing speed limitation |
| P-72 | Manually up positioning adjustment | 0-1439 | | Through hand-wheel direction, clockwise turn hand-wheel to up position press [S] to save the current value. |
| P-73 | Manually down positioning adjustment | 0-1439 | | Through hand-wheel direction, clockwise turn hand-wheel to down position then press [S] to save current value. |
| P-74 | Parameter reference | 0-4 | 1 | Use up and down key shift:<br>N1：Control box software version<br>N2：Panel software version<br>N3：Rotation<br>N4：Pedal AD |
| P-75 | Alarm pieces | 0-9990 | 0 | |
| P-76 | Alarm pieces plus minus sequence | 0-1 | 0 | 0：minus 1：plus |
| P-77 | Zero-point angle setting | | | Firstly to enter P-48 close the needle goes up as power on, turn off the machine then restart the machine, enter this item press automatic to find zero-point, till machine stops, press S key to save, then enter to P-48, turn on the needle goes up as power on. |
| P-78 | Suction bucket type | 0-2 | 1 | 0：with brush 1: without brush 2：valve |

**3.2 Side knife type system parameter setting**

| User Parameter ( Under the normal mode press P key to access) | | | | |
|---|---|---|---|---|
| No | Function parameters | Range | Default | Description |
| P-01 | Maximum Sewing Speed（r/min） | 100-6000 | 5000 | Maximum sewing speed setting |
| P-02 | Needle stop positioning selection | 0-1 | 0 | 0：Up needle position<br>1：Down Needle position |
| P-03 | Start sewing speed（r/min） | 100-6000 | 4000 | With trimming function: the speed setting for front sensor trigger start-up and Back sensor signal finish (before trimming) |
| P-04 | Start-up mode | 0-1 | 1 | (Valid for full-automatic mode)<br>0：Automatic mode （start-up）<br>1：Foot control mode（Start-up by Front sensor + toe down the pedal） |

| | | | | |
|---|---|---|---|---|
| P -05 | Automatic/semi-automatic mode selection | 0-1 | 1 | (P-06 is turn on)<br>0：Semi-automatic<br>1：Automatic） |
| P -06 | Auto sensing switch | 0-1 | 1 | 0：OFF（Full manual mode is turn on）<br>1：ON（It can execute automatic/ semi-automatic mode also match with P-05 use） |
| P -07 | Automatic thread tension release switch | 0-1 | 1 | 0：OFF　　1：Backward thread tension release |
| P -08 | Auto suction | 0-4 | 3 | 0：OFF　　1：Front trimming suction<br>2：Rear trimming suction<br>3：Front and rear trimming suction |
| P-10 | Auto presser foot lifting | 0-3 | 1 | 0：OFF<br>1：Front foot-lifting（Front sensor receive signal）<br>2：Rear foot-lifting（Rear sensor signal after finish）<br>3：Front and Rear foot-lifting |
| P-11 | Presser foot lifting when stop on the sewing | 0-1 | 0 | (Valid for full-manual and semi-automatic mode）<br>0：OFF<br>1：ON（when stop on the sewing the presser foot lifting automatically） |
| P-12 | Presser foot lifting after trimming | 0-1 | 1 | 0：OFF　　1：ON |
| P-13 | Presser foot lifting when half back treadle | 0-2 | 0 | （Valid for full-manual / semi-automatic mode）<br>0：Presser foot lifting when half back step/ back step<br>1：Lay down<br>2：Reverse step up presser foot |
| P-14 | Manual trimming suction | 0-2 | 1 | 0：No suction　　1：Rear suction<br>2：Front suction and rear suction |
| P-15 | Machine head lamp brightness | 0-4 | 3 | 0：OFF；1→4 the brightness grade, the more value the more brightness. |
| P-16 | Low air pressure mode | 0-1 | 0 | 0：Normal mode<br>1：Low pressure mode |
| P-17 | Semi automatic continuous sewing | 0-1 | 0 | 1：OFF<br>0：Continuous sewing when toe down the treadle |
| P-18 | Semi automatic constant rate trimming | 0-1 | 0 | 0：OFF（after finish before trimming not execute P-03 speed）<br>1：Constant trimming speed the back sensor speed is fixed with P-03 |
| P-19 | Backward thread tension release switch selection | 0-1 | 1 | 0：Front sensor trigger　　1：Rear sensor trigger |
| P-20 | Stop position after trimming selection | 0-1 | 1 | 0：Down position　　1：Up position |
| P-22 | Front Receiver E# switch | 0-1 | 1 | 0：ON（turn on the front sensor, sensor signal + pedal）<br>1：OFF (Close front sensor, pedal direct turn on) |
| P-23 | Intermittent suction opening time（×100ms） | 1-600 | 20 | The more value the more time |

| | | | | |
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| P-24 | Intermittent air suction off time (×100ms) | 0-600 | 0 | 0：for no intermittent air suction<br>Front suction off time (valid when P-46 function setting is 1) |
| P-25 | Low pressure mode, selvage suction synchronization time （P16=1） | 0-2000 | 200 | Valid for P-16 setting is 1 |
| Technician parameter (Press [P] key and power on to enter) | | | | |
| P-26 | The stitches number between two sensors | 1-600 | 100 | Cycle period parameter. In a circle the rear sensor receive signal then can continue running, otherwise a cycle stop. |
| P-28 | Times of Backward tension release ON(stitches) | 0-50 | 5 | The small value the open is fast. |
| P-29 | Number of stitches when forward suction ON (stitches) | 1-50 | 1 | The small value the open is fast. |
| P-30 | Numer of stitches when forward suction OFF (stitches) | 0-50 | 5 | The small value the close is fast. |
| P-31 | The delayed time after trimming suction. (ms) | 100-5000 | 200 | The small value the close is fast. |
| P-33 | Times of Backward suction ON (stitches) | 0-50 | 3 | The small value the open is fast. |
| P-35 | The delayed stitches number before the machine stops (Stitches) | 1-3 | 3 | (Valid for Back-sensor OFF condition）<br>After through cloth back-sensor how many stitches will stop the machine automatically. |
| P-36 | The response time of front sensor (ms) | 10-990 | 50 | Front sensor trigger time: the small value the response is fast, the large value the response is slow. |
| P-37 | The sensitivity of front sensor | 0-700 | 380 | In order to adapt different cloth material setting front sensor receive strength. |
| P-38 | The sensitivity of middle sensor | 0-700 | 440 | In order to adapt different cloth material setting mid-sensor receive strength. |
| P-39 | The delaying time of front presser foot lifter（ms） | 100-2000 | 300 | Under the full automatic/ semi-automatic：<br>Front trigger retention time after auto-foot-lifting, the larger value the longer retention time. |
| P-40 | Starting time for rear presser foot lifter（ms） | 0-2000 | 120 | The starting time of rear presser foot lifting, the smaller value the faster of response. |
| P-41 | Full-on time setting for presser foot（ms） | 10-990 | 100 | The larger value the higher of foot-lifting (Noted: Not too high) |
| P-42 | Duty-cycle time setting for presser foot（%） | 10-90 | 20 | Adjustment for duty-cycle of AFL. Fine tuning can reduce the over- heating. |
| P-43 | The time for the presser foot laying down（ms） | 10-990 | 100 | The action time of presser foot laying down sequence. |

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| P-44 | Presser foot protection（s） | 1-120 | 5 | Stop on the sewing the presser foot lifting, stop after trimming presser foot lifting, positive closing after heeling pedal for retention time. |
| P-45 | Tension release times（ms） | 0-500 | 300 | |
| P-46 | Suction when continuous feeding | 0-2 | 0 | 0：No suction 1：Long suction<br>2：Synchronizer suction |
| P-47 | Total pieces | 0-65535 | 0 | |
| P-48 | Needle goes up as power on | 0-1 | 1 | 0：OFF 1：ON |
| P-49 | Stitch（mm） | 1-7 | 3 | Adjustment same as actual needle distance by up and down key. |
| P-50 | Up needle position adjustment | 0-1439 | | Same as P-72 |
| P-51 | Down position adjustment | 0-1439 | | Same as P-73 |
| P-52 | Test speed（r/min） | 100-6000 | 5500 | Adjustment by up and down key |
| P-53 | Test working time（×100ms） | 1-250 | 50 | Adjustment by up and down key |
| P-54 | Test stop time（×100ms） | 1-250 | 20 | Adjustment by up and down key |
| P-55 | Item A testing：Continuous running | 0-1 | 0 | 0：STOP 1：RUN |
| P-56 | Item A testing：With function running | 0-1 | 0 | 0：STOP 1：RUN |
| P-57 | Item A testing：Without function running | 0-1 | 0 | 0：STOP 1：RUN |
| P-58 | Machine plate protection switch | 0-1 | 1 | 0：OFF 1：ON |
| P-59 | Presser foot protection switch | 0-1 | 1 | 0：OFF 1：ON |
| P-60 | Electric /Air-powered | 0-1 | 1 | 0：Electric 1：Air-powered |
| P-61 | Trimming switch by heeling pedal | 0-7 | 7 | 0：All OFF 1：All ON by manually<br>2：Semi-auto ON 3：Auto ON<br>4：Manual and semi-auto ON<br>5：Semi-auto and auto ON<br>6：Manual and auto ON<br>7：Manual and semi-auto and auto ON |
| P-62 | Rotate direction | 0-1 | 0 | Through Hand-wheel direction：<br>0：Corotation (Clockwise)<br>1：Reversal (Counter clockwise) |
| P-63 | Language | 0-1 | 1 | 0：English 1：Chinese |
| P-64 | The strength of front sensor | 0%-100% | 80% | Adjustment front sensor strength |

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| P-65 | The strength of mid-sensor | 0%-100% | 80% | Adjustment mid-sensor strength |
| P-66 | The strength of back sensor | 0%-100% | 80% | Adjustment back sensor strength |
| P-67 | The sensitivity of back sensor | 0-700 | 440 | In order to adapt different cloth material setting back-sensor receive strength. |
| P-68 | Cutter speed by manually （r/min） | 100-6500 | 1000 | |
| P-69 | Response time of back sensor（ms） | 0-3000 | 0 | Response time of back-sensor, when sewing such as mesh cloth can adjust this item, then can achieve you want effects. |
| Senior parameter setting ( press P + S key at the same time to turn on the machine access) | | | | |
| P-70 | Model selection | 0-1 | 1 | 0：Horizontal knife type 1：Side knife type |
| P-71 | Maximum sewing speed limitation（r/min） | 100-8000 | 6000 | Maximum sewing speed limitation |
| P-72 | Manually up positioning adjustment | 0-1439 | | Through hand-wheel direction, clockwise turn hand-wheel to up position press S to save the current value. |
| P-73 | Manually down positioning adjustment | 0-1439 | | Through hand-wheel direction, clockwise turn hand-wheel to down position then press S to save current value. |
| P-74 | Parameter reference | 0-4 | 1 | Use up and down key shift：<br>N1：Control box software version<br>N2：Panel software version<br>N3：Rotation<br>N4：Pedal AD |
| P-75 | Alarm pieces | 0-9990 | 0 | |
| P-76 | Alarm pieces plus minus sequence | 0-1 | 0 | 0：minus 1：plus |
| P-77 | Zero-point angle setting | | | Firstly to enter P-48 close the needle goes up as power on, turn off the machine then restart the machine, enter this item press automatic to find zero-point, till machine stops, press S key to save, then enter to P-48, turn on the needle goes up as power on. |
| P-78 | Suction bucket type | 0-2 | 1 | 0：with brush 1: without brush 2：valve |

**4. Error Code List**

| Error Code | Problem | STATUS / MEASUREMENT |
|---|---|---|
| E01 | 1) When power ON, detected main voltage too high | Turn off the system power supply, and detect whether the supply voltage is correct. (Or |

| | | |
|---|---|---|
| | 2) When the supply voltage is too high | exceed the rated voltage. )<br>If correct, please replace the control box and inform the factory |
| E02 | 1) When power ON, detected main voltage too low.<br>2) When the supply voltage is too low. | Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage)<br>If correct, please replace the control box and inform the factory |
| E05 | Speed control unit connection is abnormal | Turn off the system power supply, please check the speed control unit connector if loose or fall off, Will resume normal after the restart system<br>If you still can not work normally, please replace the speed control unit and notify the manufacturer. |
| E07 | a) Bad connection at the motor connector.<br>b) Machine locked or object stuck in the motor pulley<br>c) Sewing material is too thick.<br>d) Module output is abnormal. | Please check the machine head to see if objects stuck in the motor pulley. If stuck it is not the machine head machinery fault.<br>If normal running, please check the encoder connector and motor power cord connector if loose. If loose please tight connection.<br>If connection well, please check supply voltage whether abnormal or setting speed too high. If have please modify.<br>If normal, please replace the control box and notify the<br>manufacturer. |
| E10 | Solenoid over-current protection | Turn off the system power supply, please check the solenoid (solenoid valve) connector or solenoid (solenoid valve) is broken or not. |
| E11 | Synchronizer signal error. | Turn off the system power supply, please check motor encoder connector if loose or fall off, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture. |
| E14 | Encoder signal error. | Turn off the system power supply, please check motor encoder connector if loose or fall off, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture. |
| E15 | Abnormal over current protection for Power Module. | Turn off the system power supply, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture. |

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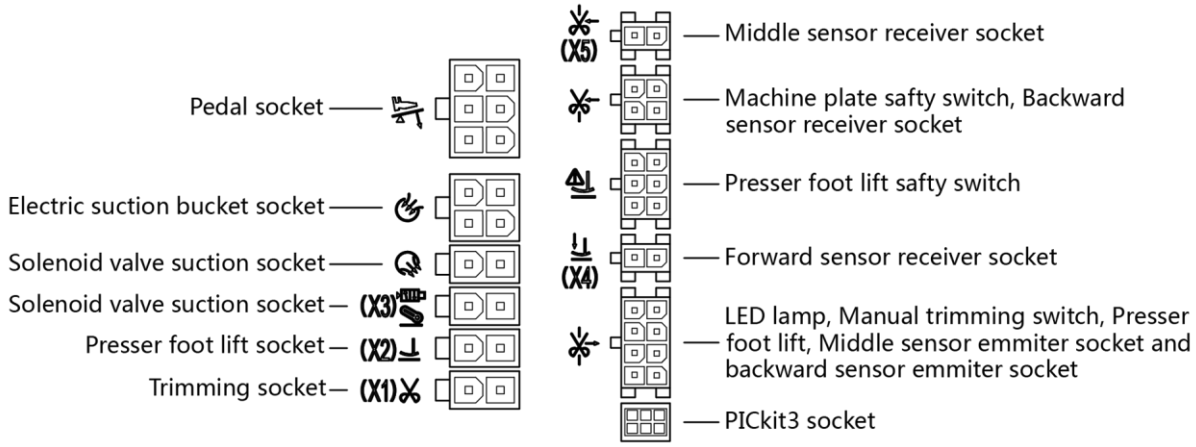
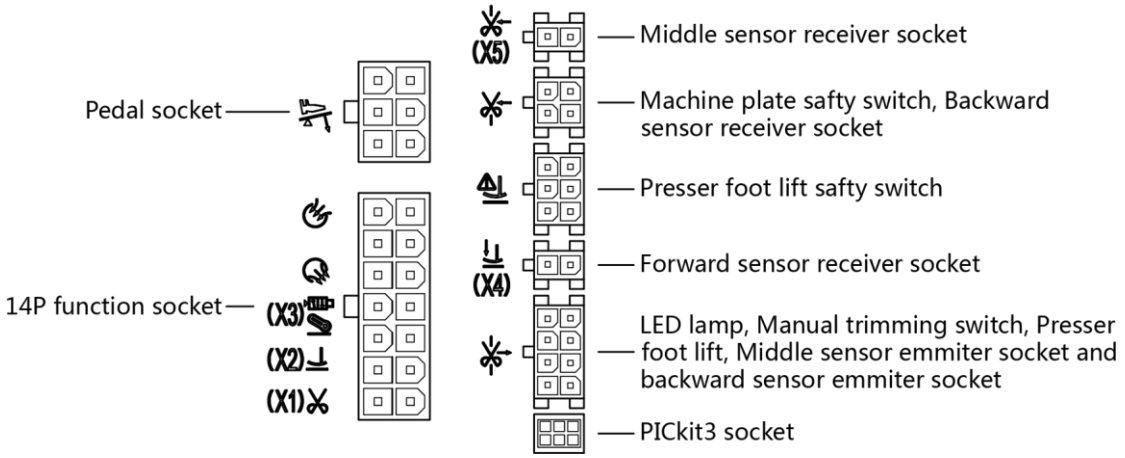
|---|---|---|
| E16 | Foot pressure safety switch is not in the correct position | Please check presser foot whether to return to correct position, the presser foot switch is damage or not, or socket is abnormal. |
| E17 | The sewing table safety switch is not in the correct position | Please check sewing table is open or not, the sewing table safety switch is damage or not, the socket is abnormal or not. |
| NC | Front operation panel linked to CPU interface had communication error. | Please check the operation box and its connection. |

**5. Rear panel connector port outline diagram**

**5.1 Electric machine type port**




**5.2Air-powered / side knife machine type port**