

⚠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) 在安装完成第一次通电后，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. 按键显示及操作说明











1.1 按键说明

名称	按键	注明
起始回缝键		执行起始回缝 B 段或执行起始回缝 (A、B 段) 1 次 执行起始回缝 (A、B 段) 2 次
终止回缝键		执行终止回缝 C 段或执行终止回缝 (C、D 段) 1 次 执行终止回缝 (C、D 段) 2 次
自由缝键		一旦踏板往前踏下就正常车缝，当踏板回到中立时，立即停止车缝。当踏板往后踏时，就自动完成切线 / 扫线等动作。
连续回缝键		连续回缝功能设定。
一段定针缝键		执行 E 段定针缝
多段定针缝键		连续按键，将循环切换四段缝、七段缝、八段缝、自定义多段缝模式，显示屏显示相应图标。
参数查看保存键		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。
提针 / 补针键		车缝中途停止时，按一下则作提针或往前补半针。
自动触发键		(只在定针缝中有效) 当触发功能打开时，显示屏显示图标。 触发脚踏板，自动走完设定的缝纫过程。
切线开关		设定使用或取消切线功能。
功能参数编辑键		进入或退出功能参数的编辑。
参数递增键		增大参数
参数递减键		减小参数
停针位置选择键		1:  图标亮表示停车时在上停针位 2:  图标亮表示停车时在下停针位
自动抬压脚设定键		1、  图标亮时，切完线后压脚自动抬起。 2、  图标亮时，车缝中马达停止时压脚自动抬起。 3、2 个图标都亮时，切完线后和车缝中马达停止时压脚都自动抬起。 4、当 2 图标都不亮时，无自动抬压脚功能。
慢速起缝键		设定使用或取消慢速起缝功能。
夹线开关		设定使用或取消夹线功能。
速度增减键		加速键：提高运行速度



























	減速键：降低运行速度
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1.2 液晶显示字体与实际字体对照表

数字字体部分：




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

英文字体部分

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

1.3 手动调整定位







按住  键开机，进入P72项上针位校正参数	进入参数内容，将手轮调整至上针位（参数会随着手轮位置而变化），按  键可保存参数（保存后，下针位会自动进行相应调整），若不保存则按  键退出参数。
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1.4 恢复出厂设置




按住左边两个【-】键开机	双击【S】键确认，关机重启
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1.5 电机角度校正

按住  键，同时开启电源，屏幕显示【P-92】，按  键进入参数项，再按  ，然后电机自动运转并计算电机角度，等电机停下来后，参数值将自动变化，按  键保存即可。

1.6 计数器显示

在一般缝纫模式下，长按  ，显示屏将显示计数器。每一次缝纫周期结束，记为完成一件加工件。

2. 参数表

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 (rpm)	100-3500	3500	车缝时的最高转速设定
P02	加速曲线调整 (%)	10-100	80	控速器爬升斜率设定 斜率值愈大, 速度愈陡; 斜率值愈小, 速度愈慢
P03	针停定位选择	UP/DN	DN	UP: 上停针; DN: 下停针
P04	起始回缝速度 (rpm)	200-3200	2000	前段回缝 (起始回缝) 时的速度设定
P05	终止回缝速度 (rpm)	200-3200	2000	后段回缝 (终止回缝) 时的速度设定
P06	连续回缝速度 (rpm)	200-3200	2000	连续回缝时的速度设定
P07	慢速起缝速度 (rpm)	200-1500	400	慢速起缝时的速度设定
P08	慢速起缝针数	0-99	2	慢速起缝时的针数设定
P09	自动定针缝速度 (rpm)	200-4000	3500	触发自动功能键按下时的速度设定
P10	定针缝后自动执行终止回缝功能	ON/OFF	ON	ON: 在执行完最后一段定针缝后, 将自动执行终止回缝动作。即在任何缝制模式下, 终止回缝前不能作补针功能。 OFF: 在执行完最后一段定针缝后, 将无法自动执行终止回缝功能, 必须重新再作前或全后踏动作时始可。
P11	手按回缝时功能模式选择	J/B	J	J: JUKI 方式 (在车缝中和中途停止时均执行倒缝) B: BROTHER 方式 (即在车缝中执行倒缝动作, 在停止时执行补针动作)
P12	起始回缝运动模式选择	0-3	1	0: 受踏板控制, 可任意停止与启动; 1: 轻触踏板, 自动执行回缝动作; 2: 停顿, 装饰缝模式
P13	起始回缝结束模式选择	CON/STP	CON	CON: 起始回缝段完成后, 自动连续下一段功能 STP: 起始回缝段针数完成后自动停止
P14	慢速起缝功能设定	ON/OFF	ON	
P15	补针方式	0-4	2	0: 半针; 1: 一针; 2: 连续补半针; 3: 连续补一针; 4: 连续补针, 快速停车
P16	手动倒缝限速	0-3200	3000	数值为 0 时功能关闭
P17	自动计件选择	0-1	0	0: P41 项计数器递增自动计数 1: P41 项计数器不自动计数
P18	起始回缝补偿 1	0-200	101	起始回缝 A 段针迹补偿, 0~200 动作逐步滞后; 数值越大, A 短最后一针越长, B 段第一针越短
P19	起始回缝补偿 2	0-200	155	起始回缝 B 段针迹补偿, 0~200 动作逐步滞后; 数值越大, B 段最后一针越长
P20	终止回缝运动模式选择	0-3	1	0: 受踏板控制, 可任意停止与启动; 1: 轻触踏板, 自动执行回缝动作; 2: 停顿, 装饰缝模式
P21	踏板前踩运行位置	30-1000	520	
P22	踏板回中位置	30-1000	418	
P23	踏板抬压脚位置	30-1000	270	
P24	踏板剪线位置	30-500	130	
P25	终止回缝补偿 3	0-200	101	终止回缝 C 段针迹补偿, 0~200 动作逐步滞后; 数值越大, C 段第一针越短
P26	终止回缝补偿 4	0-200	151	终止回缝 D 段针迹补偿, 0~200 动作逐步滞后; 数值越大, C 段最后一针越长, D 段第一针越短
P27	辅助功能设置			N06 计数器切线次数 N12 开机显示计数器界面选择 (0: 关闭 1: 开启) N13 计数器模式选择 (0: 加数缝制计数器 1: 减数缝制计数器)
P28	连续回缝运动模式选择	0-3	1	0: 受踏板控制, 可任意停止与启动; 1: 轻触踏板, 自动执行回缝动作; 2: 停顿, 装饰缝模式
P29	切线停车力度	1-45	20	
P30	过厚力度	0-100	0	数值越大力度越大, 调整过大可能会引起电机异常。
P31	剪线力度	0-100	30	数值越大力度越大, 调整过大可能会引起电机异常。

P32	连续回缝补偿 5	0-200	95	起始回缝 A (C) 段针迹补偿, 0~200 动作逐步滞后; 数值越大, A (C) 段最后一针越长; B (D) 段第一针越短
P33	连续回缝补偿 6	0-200	155	起始回缝 B (D) 段针迹补偿, 0~200 动作逐步滞后; 数值越大, B (D) 段最后一针越长, C 段第一针越短
P34	定针缝运动模式选择	A/M	A	A: 轻触脚踏板, 即自动执行定针缝动作 M: 受脚踏板控制, 可任意停止与启动
P36	松线功能设定	0-11	5	0: 关闭 1~11: 松线力度逐步变大
P37	自动拨线/夹线功能设定	0-11	8	0: 关闭 1: 拨线功能 2~11: 夹线功能, 数值越大动作力度越大
P38	自动切线功能设定	ON/OFF	ON	ON: 打开 OFF: 关闭
P39	中途停车自动抬压脚设定	UP/DN	DN	UP: 开启 DN: 关闭
P40	切线自动抬压脚设定	UP/DN	DN	UP: 开启 DN: 关闭
P41	计数器显示	0-9999		车缝完成件数显示; 长按减号键可计数清零;
P42	信息显示			N01 电控版本号 N02 选针盒版本号 N03 转速 N04 脚踏板 AD 值 N05 机械角度 (上定位) N06 机械角度 (下定位) N07 母线电压 AD 值 N12 膝靠位置感应器 AD 值
P43	马达转动方向设定	CCW/CW	CCW	CW: 顺时针方向 CCW: 逆时针方向
P44	正常停车力度	1-45	16	
P45	回缝出力的周期信号 (%)	1-50	30	回缝动作时, 以周期性省电输出, 避免电磁铁发烫
P46	切线后, 反转提针功能选择	ON/OFF	OFF	ON: 开启 OFF: 关闭
P47	切线后, 反转提针角度的调整	50-200	160	切完线后, 由上针位算起, 以反向运转作提针的角度调整。
P48	最低速度 (定位速度) (rpm)	100-500	210	最低速度限制调整
P49	切线速度 (rpm)	100-500	240	调整切线周期时的电机速度
P50	抬压脚全额输出的工作时间 (ms)	10-990	150	
P51	压脚出力的周期信号 (%)	1-50	20	压脚动作时, 以周期性省电输出, 避免电磁铁发烫
P52	延迟马达启动, 保护压脚下放时间 (ms)	10-990	120	踩下时延迟启动时间, 以配合自动抬压脚下放的确认
P53	半后踏抬压脚功能取消	ON/OFF	OFF	ON: 半后踏时, 无抬压脚 OFF: 半后踏时, 有抬压脚
P54	切线动作时间 (ms)	10-990	200	切线时序所需的动作时间
P55	拨 / 扫线动作时间/	10-990	30	拨 / 扫时序的动作时间
P56	开电后自动找上定位	0-2	1	0: 始终不找上定位 1: 始终找上定位 2: 若电机已经处于上定位时不再找上定位
P57	抬压脚保护时间 (s)	1-120	10	抬压脚保持时间后强制关闭
P58	上定位调整	0-1439	1120	上定位调整, 数值减少时会提前停针, 数值增加时会延

				迟停针
P59	下定位调整	0-1439	360	下定位调整，数值减少时会提前停针，数值增加时会延迟停针
P60	测试速度 (rpm)	100-3500	3500	设置测试速度
P61	A 项测试	ON/OFF	OFF	持续运行测试模式
P62	B 项测试	ON/OFF	OFF	全功能启停测试模式
P63	C 项测试	ON/OFF	OFF	无定位、无功能启停测试模式
P64	测试时测试运行时间	1-250	30	
P65	测试时测试停止时间	1-250	10	
P66	机头保护开关	0-2	1	0: 不检测 1: 检测零信号 2: 检测正信号
P67	剪线保护开关	ON/OFF	OFF	OFF: 不检测 ON: 检测
P70	出厂机型选择		21	
P71	压脚释放缓冲占空比(%)	0-50	2	压脚下放时的力度调整
P72	上定位快捷调整	0-1439		调整上停针位，显示的数值会随手轮位置变化而变化，按“S”键可保存当前位置（数值）为上停针位
P73	下定位快捷调整	0-1439		调整下停针位，显示的数值会随手轮位置变化而变化，按“S”键可保存当前位置（数值）为下停针位
P76	倒缝全额出力时间(ms)	10-990	250	倒缝开始动作时，全额出力的动作时间
P78	夹线器起夹角度	5-359	100	
P79	夹线器结束角度	5-359	270	
P80	剪线进刀角度	5-359	18	剪线进刀角度设置（下定位为 0° 计算）
P81	剪线开始加力角度	5-359	140	剪线加力角度设置（下定位为 0° 计算，需大于 P80 项参数值）
P82	剪线退刀角度	5-359	172	剪线退刀角度设置（下定位为 0° 计算，需大于 P81 项参数值）
P84	过厚开始加力角度	0-359	9	
P85	过厚结束加力角度	0-359	57	
P92	电机电角度校正		160	查看说明书 1.5 章节 读取编码器起始角度，出厂已设置，请勿随意更改（参数值不可手动更改，随意更改会导致控制箱、电机出现异常或损坏）
P93	半反踏功能延迟时间	10-900	300	
P99	终止回缝补偿 C1	0-250	120	剪线后防脱线头模式下，终止回缝结束为 C 段时回缝一针的补偿
P100	终止回缝补偿 D1	0-250	175	剪线后防脱线头模式下，终止回缝结束为 D 段时回缝一针的补偿
P101	松线开始角度	1-359	30	松线开始角度（下定位为 0° 计算）
P102	松线结束角度	1-359	180	松线结束角度（下定位为 0° 计算，需大于 P101 项参数值）
P117	压脚释放缓冲延迟时间 (ms)	0-990	12	
P119	电磁铁过流保护选择	0-1	1	0: 不检测 1: 检测

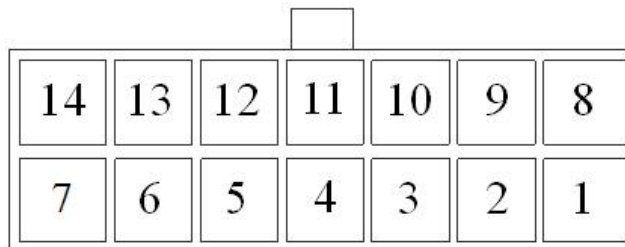
3.错误代码表

错误码	问题描述	解决措施
E01	超电压	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）。 若正确，请更换控制箱并通知售后服务。
E02	低电压	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）。 若正确，请更换控制箱并通知售后服务。
E03	CPU 通信异常	关闭系统电源，检查控制面板的连线是否松动或脱落，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售后服务。
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售后服务。

E07	电机堵转	转动机头手轮观察是否卡住。如卡住则先排除机械故障。 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。 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。 若仍不能正常工作，请更换控制箱并通知售后服务。
E08	手动倒缝动作时间超过 15 秒	倒缝电磁铁吸合时间过长，重启产品即可。 若重启产品后还是报 E-08，请检查手动倒缝开关是否损坏。
E10	电磁铁过流保护	关闭系统电源，检查电磁铁（电磁阀）是否损坏或短路。
E09 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，请更换电机并通知售后服务。
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，请更换电机并通知售后服务。
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售后服务。
E17	机头保护开关没到正确位置	关闭系统电源，检查机头是否掀开，控制箱内滚珠开关是否移位或损坏。
E20	电机启动失败（电角度错误）	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售后服务。

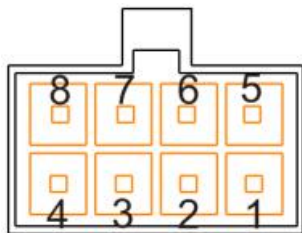
4.端口示意图

4.1: 14P 功能端口说明



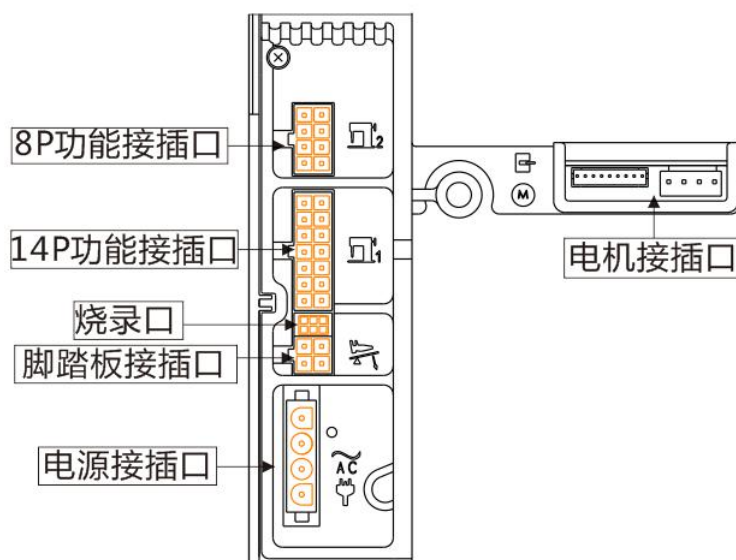
1. 剪线电磁铁：1、8（+32V）
2. 夹线（扫线）电磁铁：2、9（+32V）
3. 松线电磁铁：3、10（+32V）
4. LED灯：4（DGND）、11（+5V）
5. 倒缝按键：5（信号）
6. 倒缝电磁铁：6、13（+32V）
7. 补针按键：7（信号）
8. 风扇：12（DGND）、14（+5V）

8P 功能端口说明



1. 油位感应: 5 (+5V)、6 (DGND)、2 (信号)
2. 压脚位置感应: 1 (+5V)、7 (DGND)、3 (信号)
3. 压脚电磁铁: 4、8 (+32V)

4.2 端口说明



⚠ Safety Instruction

1. Users are required to read the operation manual completely and carefully before installation or operation.
2. All the instruction marked with sign ⚠ must be observed or executed; otherwise, bodily injuries might occur.
3. The product should be installed and pre-operated by well trained persons.
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 250 VAC 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.
6. Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 5°C.

7. Please avoid operating near the heater at dew area or at the humidity below 30% or above 95%.
8. Don't operate in area with heavy dust, corrosive substance or volatile gas.
9. Avoid power cord being applied by heavy objects or excessive force, or over bend.
10. The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.
11. All the moving portions must be prevented to be exposed by the parts provided.
12. Turing on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
13. Turn off the power before the following operation:
 - a) Connecting or disconnecting any connectors on the control box or motor.
 - b) Threading needle.
 - c) Raising the machine head.
 - d) Repairing or doing any mechanical adjustment.
 - e) Machines idling.
14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
14. All the spare parts for repair must be provided or approved by the manufacturer.
15. Don't use any objects or force to hit or ram the product.

Guarantee Time

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

Warranty Detail:






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























1. Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product.
2. Damage by fire, Earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.
3. Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency

Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefore the grounding system of operate area must guarantee the good earth and it's also recommended to install a failsafe device. (Such as residual current breaker)

1 Button Displays and operating instructions











1.1.Key Description

Name	key	Indicate
Start Back-Tacking Sewing		Execution starting back seam B segment or execution starting back seam (A, B segment) 1 Execution starting back seam (A, B segment) 2 times.
End Back-Tacking Sewing		Execution terminates back seam C segment or execution terminates back seam (C, D segment) 1 Execution terminates back seam (C, D segment) 2 time.
Free Sewing		As the treadle is toed down, machine will start sewing. Once the treadle returns to neutral, machine will stop immediately. As the treadle is heeled back, machine will automatically start trimming cycle.
Consecutive Reverse Sewing		Set consecutive reverse sewing function.
Constant Stitch Sewing		Execute section E constant stitch sewing.



























Multi-section Sewing		Continuous press the key,the function will in four section sewing,seven section sewing,eight section sewing and user-defined multi-section sewing between the switch.
Setting Parameter Check And Save		After setting the function code,press this key to check the preset parameter and then can edit the parameter accordingly;When the parameter is fixed,press key to save the setting and quit.
Lift Or Fill Up Needle		When sewing stop,press this key to actuate lift or fill up needle function.
Auto Function		Automatic function for constant stitch sewing.
Thread trimming		Set used or cancelled thread trimming function.
Function parameter Edit		Press this key to enter or exit function parameter edit mode.
Parameter Increase		Increase the parameter.
Parameter Decrease		Decrease the parameter.
Needle Stop Position Selection		<ol style="list-style-type: none"> The needle stop position is up position when  icon is lighting. The needle stop position is down position when  icon is lighting.
Automatic Presser Foot Lifting Setting		<ol style="list-style-type: none"> Automatic presser foot lifting after trimming function when  icon is lighting. Automatic presser foot lifting after pause function when  icon is lighting. Automatic presser foot lifting after pause function or trimming function when  icon and  icon are lighting. Presser Foot is inactive when  icon and  icon are not lighting.
Slow Launch Setting		Set used or cancelled slow launch function.
Clamp Function Setting		Set used or cancelled clamp function.
Speed Increase/Decrease		Increase the sewing speed.
		Decrease the sewing speed.

1. 2.Comparison Table of LCD Display Fonts and Actual Fonts

Arabic Numerals:

Actual	0	1	2	3	4	5	6	7	8	9
Display										

English Alphabet:

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

1.3Manually adjust the positioning

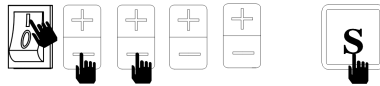


Press and hold the **[S]** key to boot into the needle position P72 term correction parameters



Enter the parameter content, the hand wheel adjustment supreme needle position (parameter will change with the hand wheel position), the **[S]** key to save the parameters (after saving, under the needle position will be automatically adjusted accordingly), the key **[P]** to exit without saving the parameters.

1.4 Restore factory settings



Hold down the left two **[-]** key to boot

Double-click the **[S]** key to confirm it, shutdown restart

1.5 Correct the electrical angle of motor

Press the key, in the same time turn on the power, screen display **【P-92】**, press key **S** into the parameter, press the key, then the motor will automatic running to calculate the electrical angle of motor. After the motor stops, the parameter will automatic change. Press key **S** to save.

1.6 Counter display

Under sewing mode, long press , the display will show the counter.

2 User Parameter

No.	Items	Range	Default	Description
P01	Maximum Sewing Speed (rpm)	100-3500	3500	Maximum speed of machine sewing
P02	Set accelerated curve (%)	10-100	80	Set the acceleration slope
P03	Needle UP/ DOWN	UP/DN	DN	UP: Needle Stops at Up Position DN: Needle Stops at Down Position
P04	Start Back-Tacking Speed (rpm)	200-3200	2000	Set Start Back-Tacking Speed
P05	End Back-Tacking Speed (rpm)	200-3200	2000	Set End Back-Tacking Speed
P06	Bar-Tacking Speed (rpm)	200-3200	2000	Set Repeat Bar-Tacking Speed
P07	Soft Start Speed (rpm)	200-1500	400	Set Soft Start Speed
P08	Stitch Numbers for Soft Start	0-99	2	Soft Start Stitches Setting
P09	Automatic Constant-Stitch Sewing Speed (rpm)	200-4000	3500	Speed adjustment for automatic constant-stitch sewing
P10	Automatic End Back-Tacking Sewing	ON/OFF	ON	ON: After last seam of constant stitch sewing, it will automatic execute the End Back-Tacking sewing function. When turn on, the Stitch-Correction is invalid. OFF: Automatic End Back-Tacking will not execute after last seam, but can be done by pedal manually.
P11	Back-Tacking Mode Selection	J/B	J	J: JUKI Mode (Press TB switch will activate reverse solenoid when either machine is stopped or running). B: BROTHER Mode (Press TB switch will activate reverse solenoid only when machine is running).
P12	Start Back-Tacking running mode selection	0-3	1	0: Could be arbitrarily stop and start 1: Automatically perform actions

No.	Items	Range	Default	Description
				2:Pause mode
P13	Ending mode of Start Back-Tacking	CON/STP	CON	CON: Start Back-Tacking is completed automatically continued for next action. STP: After the number of stitches is completed,stop automatically.
P14	Slow start function selection	ON/OFF	ON	
P15	Mending stitch mode	0-4	2	0:half stitch; 1:one stitch; 2:continuous half stitch; 3:continuous one stitch; 4:continuous one stitch,quick stop.
P16	Back-Tacking speed limit	0-3200	3000	When the parameter is 0,the speed limit function is OFF.
P18	Start Back-Tacking compensation 1	0-200	131	Compensation for A part of Start Back-Tacking.
P19	Start Back-Tacking compensation 2	0-200	165	Compensation for B part of Start Back-Tacking.
P20	End Back-Tacking running mode selection	1-3	1	1:Automatically perform actions 2:Pause mode
P21	The position of the pedal for running	30-1000	520	
P22	The position of the pedal for the stop	30-1000	418	
P23	The position of the pedal for lifting presser foot	30-1000	270	
P24	The position of the pedal for thread trimming	30-500	130	
P25	End Back-Tacking compensation 3	0-200	101	Compensation for C part of End Back-Tacking.
P26	End Back-Tacking compensation 4	0-200	151	Compensation for D part of End Back-Tacking.
P28	Bar-Tacking running mode selection	0-3	1	0:Could be arbitrarily stop and start 1:Automatically perform actions 2:Pause mode
P29	The rate of thread trimming stop	1-45	20	
P30	The strength of the motor torque when sewing	0-100	0	
P31	The strength of the motor torque when thread trimming	0-100	30	
P32	Bar-Tacking compensation 5	0-200	95	Compensation for A,C part of Bar-Tacking.
P33	Bar-Tacking compensation 6	0-200	155	Compensation for B,D part of Bar-Tacking.
P34	Constant-Stitch Sewing running mode selection	A/M	A	A: Automatically perform actions M: Could be arbitrarily stop and start
P36	Thread slacking function selection	0-11	5	0: OFF 1-11:The strength of thread slacking
P37	Automatic thread wiping function / Automatic thread clamping function selection	0-11	8	0 : OFF 1: Automatic thread wiping Function 2-11: Automatic thread clamping Function and the strength of automatic thread clamping.
P38	Automatic thread trimming function selection	ON/OFF	ON	
P39	Automatic presser foot lifting when pause function selection	UP/DN	DN	UP: ON DN: OFF
P40	Automatic presser foot lifting after trimming function selection	UP/DN	DN	UP: ON DN: OFF
P41	Counter display	0-9999		Display the quantity of finished sewing piece.

No.	Items	Range	Default	Description
P42	Information Display			N01 The control system version number N02 The panel version number N03 Speed N04 The pedal AD N05 The mechanical angle(up position) N06 The mechanical angle(down position) N07 Busbar voltage AD N12 Kneeling device position sensor AD
P43	Direction of Motor Rotation	CCW/CW	CCW	CW:Clockwise CCW:Counter Clockwise
P44	The rate of normal stop	1-45	16	
P45	Back-tacking operation duty cycle (%)	1-50	30	Back-tacking operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P46	Motor stop with a reverse angle after trimming function	ON/OFF	OFF	
P47	Adjust the reverse angle when motor stop after trimming	50-200	160	
P48	The minimum speed Limit (rpm)	100-500	210	Adjust the minimum speed
P49	Thread trimming speed (rpm)	100-500	240	Adjust thread trimming speed
P50	Toot lifter operation time to full output (ms)	10-990	150	
P51	Presser foot lifter operation duty cycle (%)	1-50	20	Presser foot lifter operate in duty cycle to save electricity and protect the electromagnet from over-heat.
P52	Motor starting delay time (ms)	10-990	120	Delay the start time, with automatic presser foot down.
P53	Half back pedaling lifting presser foot function to cancel	ON/OFF	OFF	ON:Function to cancel OFF:Half back pedaling lifting presser foot
P54	Thread trimming action time (ms)	10-990	200	Completion of the thread trimming action required time.
P55	Thread wiping action time (ms)	10-990	30	Completion of the thread wiping action required time.
P56	Power on and positioning	0-2	1	0: always not to find the up needle position 1: always to find the up needle position 2:If the motor is not into the up needle position,it will find the up needle position
P57	Hold time of presser foot lifter (s)	1-120	10	Forced shut-down after hold time.
P58	Up needle position adjustment	0-1439	1120	
P59	Down needle position adjustment	0-1439	360	
P60	Testing Speed (rpm)	100-3500	2000	Setting testing speed.
P61	Testing A	ON/OFF	OFF	Continuous running testing.
P62	Testing B	ON/OFF	OFF	Start and stop testing with all functions.
P63	Testing C	ON/OFF	OFF	Start and stop testing without all function.
P64	Running Time of Testing B and C	1-250	30	
P65	Stop Time of Testing B and C	1-250	10	
P66	Machine protection switch selection	0-2	1	0: Disable 1: Testing zero signal 2: Testing positive signal
P67	Thread trimming protection switch selection	ON/OFF	OFF	OFF: Disable ON: Enable
P70	The factory Type Selection		21	
P71	Presser foot release operation duty cycle (%)	0-50	2	The buffer force of presser foot release operation.
P72	Up needle position adjustment	0-1439	0	Hand rotation manual to the appropriate position, press S

No.	Items	Range	Default	Description
				key to save
P73	Down needle position adjustment	0-1439	0	Hand rotation manual to the appropriate position, press S key to save
P76	Back-tacking operation time to full output (ms)	10-990	250	
P78	The start angle of thread clamping	5-359	100	
P79	The stop angle of thread clamping	5-359	270	
P80	The start angle of thread trimming	5-359	18	
P81	The angle of the motor start to increase torque when thread trimming	5-359	140	
P82	The stop angle of thread trimming	5-359	172	
P84	The angle of the motor start to increase torque when sewing	0-359	9	
P85	The angle of the motor stop to increase torque when sewing	0-359	57	
P92	Correct the electrical angle of motor		160	See the specification chapter 1.5
P93	The delay time of the half back pedaling function	10-900	300	
P99	End Back-Tacking compensation C1	0-250	120	Prevent taking off the thread after thread trimming mode, compensation for C part of End Back-Tacking.
P100	End Back-Tacking compensation D1	0-250	175	Prevent taking off the thread after thread trimming mode, compensation for D part of End Back-Tacking.
P101	The start angle of thread slacking	1-359	30	
P102	The stop angle of thread slacking	1-359	180	
P117	The delay time of the presser foot release damping force (ms)	0-990	12	
P119	Electromagnet overcurrent protection selection	0-1	1	0: OFF 1: ON

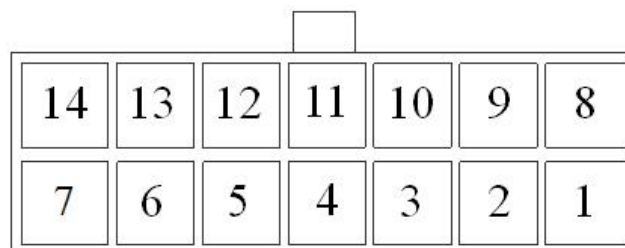
3 Error Code List

Error Code	Problem description	Measure
E1	Over-voltage	Turn off the machine,check the power supply voltage.(Or whether exceed the rated voltage of use). If there are still errors,please replace the control box and call for customer service.
E2	Low-voltage	Turn off the machine,check the power supply voltage.(Or whether under the rated voltage of use).

		If there are still errors, please replace the control box and call for customer service.
E3	CPU communication error	Turn off the machine, please check if the operation panel in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E5	Pedal connection error	Turn off the machine, please check if the pedal in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E7	Motor locked-rotor error	Turn the machine handwheel, check if it is stuck. If it is stuck, you have to rule out the mechanical failure. If turn normal, check if the encoder and motor in bad connection or is too loose. If yes, please correct. If connection well, check if the power supply voltage is abnormal or sewing speed is too high. If yes, please adjust. If there are still errors, please replace the control box and call for customer service.
E8	Manual reverse feeding operation more than 15 seconds	Back-Tacking electromagnet response time is too long, you have only to restart the machine. If there are still errors E-08 after restart the machine, check if the manual reverse feeding switch is damaged.
E09 E11	Positioning signal error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E10	Solenoid over-current	Turn off the machine, please check the related circuit is shorted or damaged.
E14	Encoder error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E15	Power supply module abnormal over-current	Turn off the machine, then turn on again. If there are still errors, please replace the control box and call for customer service.
E17	Machine protection switch is not in the correct position	Turn off the machine, check if the machine is turn over, or the Mercury Switch is shifted or damaged.
E20	Motor failed to start(Electrical angle error)	Turn off the machine, please check if the encoder and motor in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.

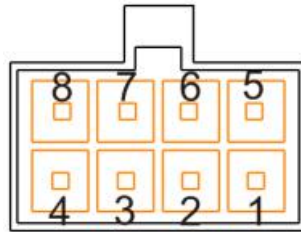
4 Port Diagram

4.1 14P function port description



- 1.Thread trimming electromagnet: 1、8 (+32V)
- 2.Thread wiping/ thread clamping electromagnet: 2、9 (+32V)
- 3.Thread slacking electromagnet: 3、10 (+32V)
- 4.LED Light: 4 (DGND) 、11 (+5V)
- 5.Reverse stitch key: 5 (signal)
- 6.Back-tacking electromagnet: 6、13 (+32V)
- 7.Mending stitch key: 7 (signal)
- 8.Fan: 12 (DGND) 、14 (+32V)

8P function port description



- 1.Oil level sensor: 5 (+5V) 、6 (DGND) 、2 (signal)
- 2.Presser foot position sensor: 1 (+5V) 、7 (DGND) 、3 (signal)
- 3.Presser foot electromagnet: 4、8 (+32V)

4.2 Port Description

