

⚠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。

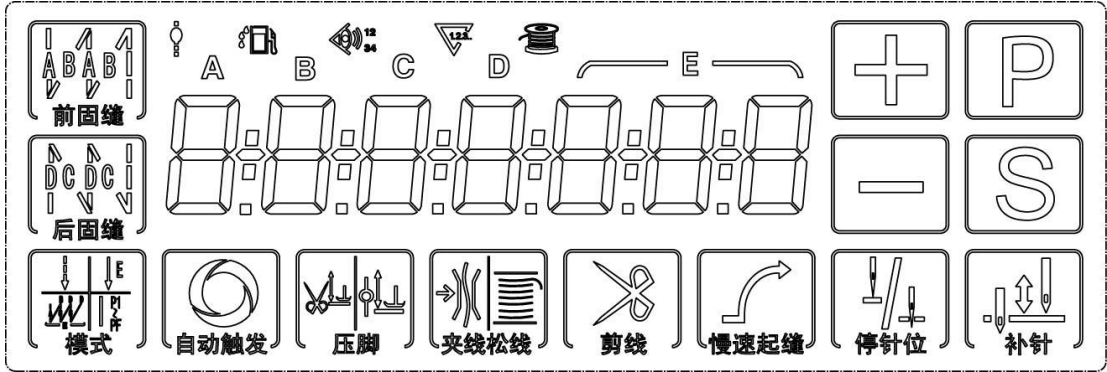
保修内容

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
进入参数区 功能键		一般模式下按【P】键进入用户参数模式
进入和确定 存储保存键		进入参数项及其内容值如经调整变更后，需按下【S】键予以保存确认。
设置数值递 增/参数递增 键		1.A、B、C、D、E、F、G、H 的设定针数增加。 2.参数选择区内当参数递增键。 3.参数内容区内当设定数值递增键。 4.主界面下点击可增大缝纫速度。
设置数值递 减/参数递减 键		1.A、B、C、D、E、F、G、H 的设定针数减少。 2.参数选择区内当参数递减键。 3.参数内容区内当设定数值递减键。 4.主界面下点击可减小缝纫速度。
起始 / 终止 回快捷缝键		若点击，切换执行起始回缝 B 段、执行起始回缝（A、B 段）1 次或 执行起始回缝（A、B 段）2 次； 若长按，增加屏幕背光亮度；
		若点击，切换执行终止回缝 C 段、执行终止回缝（C、D 段）1 次、 执行终止回缝（C、D 段）2 次； 若长按，降低屏幕背光亮度；
自由缝快捷 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。
一段定针缝 快捷键		执行 E 段定针缝功能，当显示屏显示图标时，激活 E 段定针缝功能。
连续回缝快 捷键		1.一旦踏板往前踏下，就自动执行来回的连续回缝动作，来回次数由 E 段设定。∴前踏之后即自动执行此功能到完成切线为止，中途不会停 止车缝，除非将踏板往后踏可解除动作。
多段定针缝 快捷键		多段定针缝功能，当显示屏显示图标时，激活多段定针缝功能。

触发自动键		1.在自由缝的式样中：按下此键无功能。 2.在定针缝的式样中按下此键：当踏板一经往前踏下触发，则自动执行 E, F 段或 G, H 段中所设定的针数，直到段内针数完成后自动停止。再逐一触发踏板，则自动执行下一段所设定的针数直到自动完成切线、扫线等动作为止。相应图标不亮时，表示关闭相应功能。 3. 若长按，可恢复出厂设置；
抬压脚快捷键		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。
夹线功能/抬压脚时松线功能快捷键		1、相应图标亮时，夹线功能打开。 2、相应的图标不亮时，无夹线功能。
切线功能快捷键		1.设定使用或取消切线功能。 2.相应图标不亮时，表示关闭相应功能。
慢速起缝快捷键		1、相应图标亮时，慢速起缝打开。 2、相应的图标不亮时，无慢速起缝功能。
停针位切换键		1:  图标亮了表示停车时在上停针位 2:  图标亮表示停车时在下停针位
补针键		若点击，可进行补针

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)	100-3700	3700	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	1800	前段回缝（起始回缝）时的速度设定
P05	终止回缝速度 (rpm)	200-3200	1800	后段回缝（终止回缝）时的速度设定
P06	连续回缝速度 (rpm)	200-3200	1800	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	3700	定针缝【P34.】设定在 A 状态的速度设定（或选针盒 AUTO 键有按下时的速度设定）
P10	定针缝后自动执行终止回缝功能（不补针功能设定）	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。 注：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才可执行终止回缝或进行补针功能。

参数项	中文说明	范围	初始值	内容值名称说明与备注
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	0-1	1	起始回缝段，倒退电磁线圈动作时机： 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；
P13	起始回缝结束点操作模式选择	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	慢速启动	ON/OFF	ON	ON: 慢速启动功能开启 OFF: 慢速启动功能关闭
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	手动倒缝时最高转速（rpm）	200-3200	2000	手动倒缝时的最高速度设定
P18	起始回缝补偿 1	0-200	131	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	165	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	0-2	1	起始回缝段，倒退电磁线圈动作时机： 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：停顿模式
P21	脚踏板前踏点电压	30-1000	520	
P22	脚踏板中踏点电压	30-1000	480	
P23	脚踏板半反踏点电压	30-1000	240	
P24	脚踏板反踏点电压	30-500	110	
P25	终止回缝补偿 3	0-200	131	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	165	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	N10 背光亮度设置	3	
		N11 背光熄灭时间设置（s）	30	
P28	连续回缝运动模式选择	0-2	1	连续回缝段，倒退电磁线圈动作时机： 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：停顿模式
P29	切线后刹车力度	1-45	20	
P30	厚料加力力度	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	剪线加力力度	0-100	30	数值越大力度越大，调整过大可能会引起电

参数项	中文说明	范围	初始值	内容值名称说明与备注
				机异常。
P32	连续回缝补偿 5	0-200	121	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	165	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
P35	抬压脚时松线出力功能设定	0-1	1	0: 抬压脚时松线出力功能关闭 1: 抬压脚时松线出力功能开启
P36	剪线时松线出力功能设定 (松线器力道设置)	0-11	5	0: 无松线动作 1~11 松线力度逐步变大
P37	拨线/夹线出力功能设定 (夹线器力道设置)	0-11	8	0: 无动作; 1 为拨线动作 2~11 夹线动作, 动作力度逐步变大
P38	切线出力功能设定	ON/OFF	ON	ON: 有切线动作 OFF: 无切线动作
P39	车缝途中停止时, 压脚出力选择	UP/DN	DN	UP: 车缝停止时, 自动抬起压脚 DN: 车缝停止时, 无自动抬压脚 (由踏板后踏控制)
P40	切完线停止时, 压脚出力选择	UP/DN	DN	UP: 切完线后, 自动抬起压脚 DN: 车切完线后, 无自动抬压脚 (由踏板后踏控制)
P41	车缝完成件数显示		0	车缝完成件数显示; 长按减号键可计数清零;
P42	信息显示			N01 电控版本号序列号 N02 选针盒版本号 N03 转速 N04 脚踏板 AD 值 N05 上定位机械角度 N06 下定位机械角度 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 (正反转)	CCW/CW	CCW	CW: 顺时针方向 CCW: 逆时针方向
P44	停车力度	1-45	16	机器停车时的力度选择。
P45	回缝出力的周期信号 (%)	1-50	25	回缝动作时, 以周期性省电输出
P46	切线后, 反转提针角度的功能选择	ON/OFF	OFF	ON: 切完线后, 自动作反转的功能。(角度由【P47.】调整决定); OFF: 无作用
P47	切线后, 反转提针角度的调整	50-200	160	切完线后, 由针上算起以反向运转作提针的角度调整。
P48	低速 (定位速度) (rpm)	100-500	210	定位速度设定
P49	切线速度 (rpm)	100-500	300	调整切线周期时的电机速度
P50	抬压脚全额出力时间 (ms)	10-990	250	压脚提升时序的动作时间
P51	压脚出力的周期信号	1-50	25	压脚动作时, 以周期性省电输出, 避免压脚

参数项	中文说明	范围	初始值	内容值名称说明与备注
	(%)			发烫
P52	压脚下放时间 (ms)	10-990	120	延迟马达启动, 确保压脚放下
P53	半后踏取消抬压脚功能	ON/OFF	OFF	ON: 半后踏时, 无抬压脚出力 OFF: 半后踏时, 有抬压脚出力
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 (仅限于有磁钢电机)
P57	抬压脚保护时间 (s)	1-60	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)	100-3700	2000	设置测试速度
P61	A 项测试	ON/OFF	OFF	A 项测试选项, 设定后将按【P60.】所设定之速度持续运行
P62	B 项测试	ON/OFF	OFF	B 项测试选项, 设定后将按【P60.】所设定之速度执行启动-车缝-停车-剪线的循环
P63	C 项测试	ON/OFF	OFF	C 项测试选项, 设定后将按【P60.】所设定之速度执行无定位动能的启动-车缝-停车的循环
P64	测试 B、C 导通时间	1-250	20	B、C 项测试中, 设置导通时间
P65	测试 B、C 停车时间	1-250	20	B、C 项测试中, 设置停车时间
P66	机头保护开关检测	0-2	1	0: 不检测 1: 检测零信号 2: 检测正信号
P67	剪线保护开关检测	ON/OFF	OFF	OFF: 不检测 ON: 检测
P70	出厂机型选择		20	
P71	压脚释放缓冲占空比 (%)	0-50	2	压脚下放时的力度调整
P72	上停针位校正	0-1439	0	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	下停针位校正	0-1439	0	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
P74	机器编码 1			
P75	机器编码 2			
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
P77	自由缝连终止回缝停顿时间(ms)	20-200	75	

参数项	中文说明	范围	初始值	内容值名称说明与备注
P78	夹线器起夹角度	10-150	100	
P79	夹线器结束角度	160-359	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	厚料开始加力角度	0-330	9	
P85	厚料结束加力角度	0-330	57	
P92	编码器绝对位置校正		160	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）
P99	终止回缝补偿 C1	0-200	165	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	0-200	185	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	
P120	油位报警开关检测	0-1	0	0：不检测 1：检测
P121	剪线模式选针	0-3	2	0：普通模式 1：剪短线头模式 2：剪线后防脱线头模式
P122	剪线后防脱线头模式，剪线前倒缝动作的时机	0-1439	1000	参数值越大剪线前一针的针距越大
P123	剪短线头模式，剪线过程中倒缝动作的时机	0-100	0	
P125	膝靠感应器 AD 值 1	0-1023	25	影响压脚抬升效果

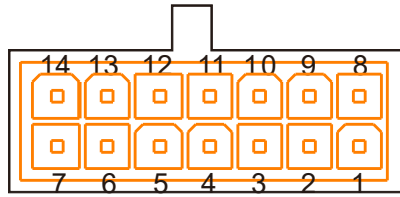
3.错误代码表

错误码	内容	对策
E01	1) 电源 ON 时，主电压检测过高 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）。 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 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）。 若正确，请更换控制箱并通知厂方。
E03	控制面板于 CPU 传输通信异常	关闭系统电源，检查控制面板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 b)车头机构死锁或马达皮带异物卷入卡死。 c)加工物过厚，马达扭力不足无法贯穿。 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。 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。 如正常，请更换控制箱并通知厂方。
E08	连续手动倒缝超过 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）连接线或电磁铁（电磁阀）是否损坏。
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。
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	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。
oil	缝纫机油量过低	关闭电源，检查缝纫机油盘油量是否过低，将油量加满后重启系统。若仍不能正常工作，请更换油位感应器并通知厂方。

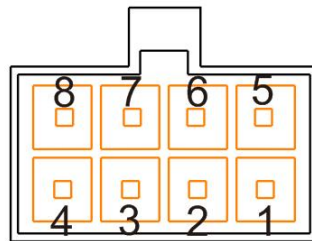
4.端口示意图

4.1: 14P 功能端口对应表



- ① 剪线电磁铁：1、8
- ② 拨线/夹线电磁铁：2、9
- ③ 松线电磁铁：3、10
- ④ 衣车灯：4（信号地）11（+5V）
- ⑤ 手动倒缝：5（感应开关）、12（信号地）
- ⑥ 倒缝电磁铁：6、13
- ⑦ 手动补针：7（感应信号）、14（信号地）

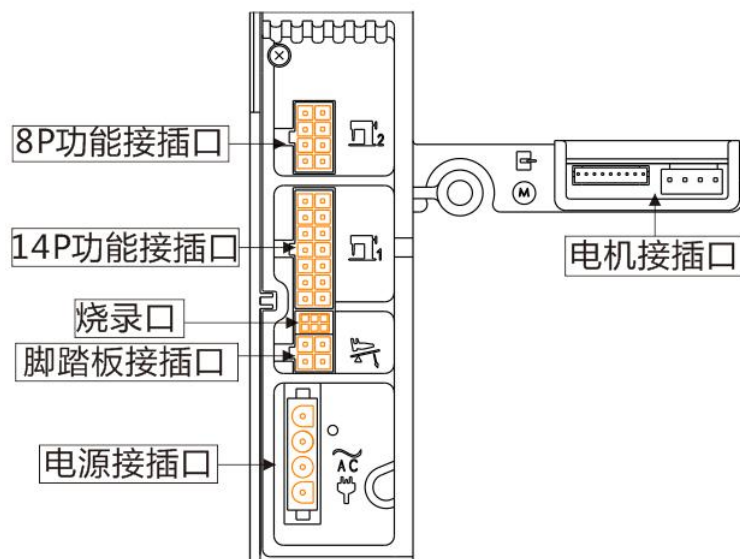
8P 功能端口对应表



8P功能接插口

- ① 油位感应：5（+5V）、6（信号地）、2（感应信号）
- ② 压脚感应：1（+5V）、7（信号地）、3（感应信号）
- ③ 压脚电磁铁：4、8

4.2 端口名称



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.

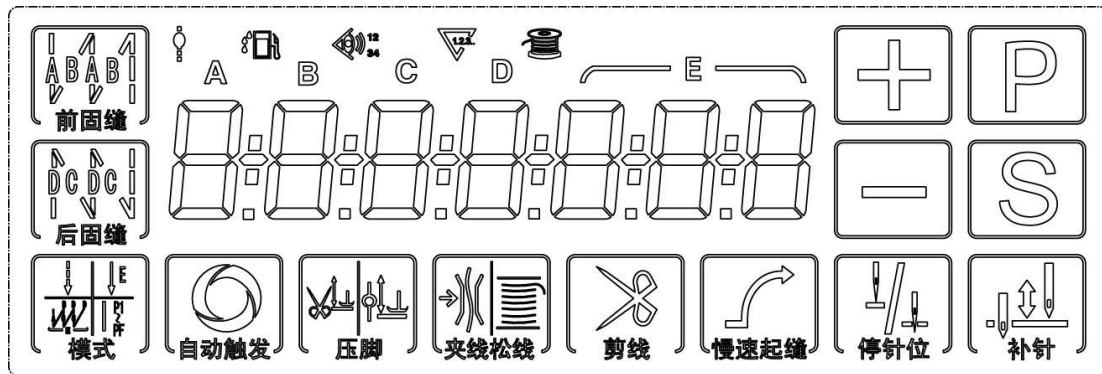
Warranty Detail:

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

名称	按键	注明
Function key enter parameter area		Under normal mode, press the [P] key to enter the user parameter mode
Enter and determine \ save button		Enter parameter values such items and their contents change after adjustment, need to press the [S] key to save the confirmation.
Set value increment / parameter increment key		1. A、B、C、D、E、F、G、H section, increase the number of setting stitch . 2. Increase the parameter in Parameter selection. 3. Increase the setting value in Parameter value.
Set value decrement / decrement key parameters		1. A、B、C、D、E、F、G、H decrease the number of setting stitch 2. Decrease the parameter in Parameter selection. 3. Decrease the setting value in Parameter value.
Start/End Back-Tacking Selection		Execution starting back seam B segment or execution starting back seam (A, B segment) 1Execution starting back seam (A, B segment) 2 times
		Execution terminates back seam C segment or execution terminates back seam (C, D segment) 1 Execution terminates back seam (C, D segment) 2 times
Freedom sewing shortcuts		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.
Some fixed stitch shortcuts		The implementation of paragraph E set needle function, when the display shows the icon, activate the E section of the needle function.
Continuous back seam shortcuts		Once the treadle is toed down, all the seams of Bar-Tacking will be completed with D times, and then the thread will automatically be trimmed. Note: When the Bar-Tacking Sewing starts, will not stop until the trimming cycle finished, except for the treadle heeled back to cancel the action.

Multi-section set needle shortcuts		Line multi-section stitching function, when the display shows the icon, the activation of multi-section needle stitch function.
Automatically trigger button		1. In Free sewing: One touch of this key makes beep sound without any function also LED does not light up. 2. In Constant-Stitch Sewing: One shot to the pedal, stitches number of E, F, G or H will be automatically performed. Toe down the pedal again and again to finish the rest sections until it finish pattern.
Press the lift foot shortcuts		1、 When the icon is on, the presser foot is automatically lifted after cutting. 2、 When the icon is on, the presser foot automatically lifts when the motor stops in the sewing. 3、When both icons are on, the presser foot is automatically lifted when the motor is stopped and the thread is cut. 4、When the 2 icon is off, there is no automatic presser foot function.
Thread clamping function / lifting the foot when the loose line function shortcut keys		1, the corresponding icon is on, the thread clamp function is turned on. 2, the corresponding icon does not shine, no clamp function.
Shortcut function		1. Set the use or cancel tangent function. 2. When the corresponding icon is off, it means that the corresponding function is disabled.
Slow play seam shortcuts		1. The corresponding icon lights, slow starting sewing open. 2. The corresponding icon is not lit, no slow-starting sewing function.
Stop the needle position switch key		1:  The icon lights up to indicate the stop position at stop 2:  The icon indicates that the needle stops at the next stop
Fill the needle button		If you click, you can make a needle

2 User Parameter & Technician Parameter

Parameter	Parameter Function	Range	Default	Description
P01	Maximum Sewing Speed (rpm)	100-3700	3700	Maximum speed of machine sewing
P02	Speed Curve Adjustment (%)	10-100	80	The Lager the value, the faster to increase speed
P03	Needle UP/ DOWN	UP/DN	DN	UP: Needle Stops at Up Position DN: Needle Stops at Down Position

Parameter	Parameter Function	Range	Default	Description
P04	Start Back-Tacking Speed (rpm)	200-3200	1800	Start Back-Tacking Speed Adjustment
P05	End Back-Tacking Speed (rpm)	200-3200	1800	End Back-Tacking Speed Adjustment
P06	Bar-Tacking Speed (rpm)	200-3200	1800	Repeat Bar-Tacking Speed Adjustment
P07	Soft Start Speed (rpm)	200-1500	400	Soft Start Speed Adjustment
P08	Stitch Numbers for Soft Start	0-99	2	Soft Start Stitches Setting (one unit = half stitch)
P09	Automatic Constant-Stitch Sewing Speed (rpm)	200-4000	3700	Constant-Stitch sewing speed【034.SMP】 is set at A(or when one shot signal is active)
P10	Automatic End Back-Tacking Sewing(Can invalidate the stitch correction function)	ON/OFF	ON	The Stitch-Correction is valid in sewing stop. Note: Valid only when the【0.11.RVM】must set on B ON: Invalid (Constant-Stitch sewing, it can automatic continue action as CD function) OFF: Valid (Can't continue execute CD function)
P11	Back-Tacking Mode Selection	J/B	J	J: JUKI Mode (In the middle of the car to stop the middle of the time to stop when the inverted seam) B: BROTHER Mode (That is, in the vehicle to perform the reverse operation of the seam, in the end of the time to stop the needle)
P12	Start Back-Tacking Mode Selection	0-1	1	A: One shot to pedal, it will automatic execute Start Back-Tacking. M: Pedal-controlled and motor can stop arbitrarily
P13	Mode Selection at the end of Start Back-Tacking	CON/STP	CON	CON: At the end of Start Back-Tacking, machine continues sewing if pedal pressed or START signal on (standing operation) STP: At the end of Start Back-Tacking, machine stops
P14	Soft Start	ON/OFF	ON	ON: Slow start feature is turned on. OFF: Slow start function off.
P15	Make up pin mode	0-4	2	0: Semi-pin; 1: a pin 2: Continuous filling half needle 3: Continuous injection
P18	Stitch Balance for Start Back-Tacking 1	0-200	131	A starting back seam segment stitches compensation 0-200 movement gradually lag; the larger the value, A short last longer needle, B section of the first needle is shorter
P19	Stitch Balance for Start Back-Tacking 2	0-200	165	Starting back seam B segment stitches compensation 0-200 movement gradually lag; the larger the value, paragraph B last longer needle
P20	Mode Selection for End Back-Tacking	0-2	1	A: Pedal full heeling ,it will automatic execute end Back-Tacking
P24	Foot pedal reverse voltage	30-500	110	
P25	Stitch Balance for End Back-Tacking 3	0-200	131	Starting back seam segment stitches compensation C, 0-200 movement gradually lag; the larger the value, the shorter the C section of the first pin

Parameter	Parameter Function	Range	Default	Description
P26	Stitch Balance for End Back-Tacking 4	0-200	165	D starting back seam segment stitches compensation 0-200 movement gradually lag; the larger the value, C section last a longer needle, the first needle is shorter segment D
P28	Mode Selection for Bar-Tacking	0-2	1	Continuous back seam segment, rewind solenoid operation timing: 0: controlled by the pedal can be arbitrarily stopping and starting; 1: Touch the pedal, automatically performs back-tacking action; 2: pause mode
P29	Tangent after braking force	1-45	20	
P30	Thick material angle	0-100	0	The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities.
P31	Cutting angle	0-100	30	The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities.
P32	Stitch Balance for Bar-Tacking 5	0-200	121	Start back-tacking A (C) paragraph stitch compensation, 0-200 movement gradually lag; the larger the value, A (C) the last paragraph of a needle longer; B (D) of the first paragraph, the shorter pin
P33	Stitch Balance for Bar-Tacking 6	0-200	165	Starting back seam B (D) segment stitch compensation, 0-200 movement gradually lag; the larger the value, B (D) last paragraph a longer needle, C section of the first needle is shorter
P34	Mode Selection for Constant-Stitch Sewing	A/M	A	A: One shot to pedal, it will automatic execute Constant-Stitch M: Pedal-controlled and motor can stop arbitrarily
P36	Slack line output function setting(loose line power set)	0-11	5	0: no loose wire operation 1 to 11 and gradually increases the intensity of loose wire
P37	Wiper Function Selection or Thread Clamp Pressure Setting	0-11	8	0 : No Action 1: Wiper Action 2-11: Thread Clamp action and the pressure gradually increased)
P38	Trimmer Function Selection	ON/OFF	ON	ON: Trimmer Valid OFF: Trimmer Invalid
P39	Presser Foot UP / Down at intermediate stop	UP/DN	DN	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P40	Presser Foot UP / Down after Trimming	UP/DN	DN	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P41	Display the sewing finished quantity		0	Counting the finished-sewing quantity

Parameter	Parameter Function	Range	Default	Description
P42	Information Display			NO1 Electrically controlled version serial numbers NO2 Selected needle cassette version NO3 Speed NO4 Pedals AD, NO5 Positioning angle NO6 Under the positioning angle NO7 Bus voltage AD N12 Knee position sensor AD
P43	Setting Direction of Motor Rotation	CCW/CW	CCW	CW: Clockwise CCW: Counter Clockwise
P44	Parking efforts	1-45	16	Efforts to stop the machine when selecting
P45	Back-seam operation duty cycle (%)	1-50	25	Back-seam action to periodic power output
P46	Motor stops with a reverse angle after trimming	ON/OFF	OFF	ON: It will automatic as reverse function after trimming (angle adjustment according to the parameter 【047.TR8】 OFF: No Function
P47	Adjustment of reverse angles after trimming	50-200	160	Adjusting at reverse direction after trimming
P48	Low (Positioning) Speed (rpm)	100-500	210	Setting Positioning Speed
P49	Trimming Speed (rpm)	100-500	300	Adjusting trimming speed
P50	The time of Foot lifting	10-990	250	Adjustment of foot lifting action
P51	Lift foot full force time (%)	1-50	25	Adjustment for Duty-Cycle of Foot Lifter / Back-Tacking (Fine tuning can reduce the over-heating)
P52	The time of Foot down	10-990	120	Delay starting motor, ensure that the foot is put down.
P53	Cancel Foot Lifting when Half-Heeling the Pedal	ON/OFF	OFF	ON: Pedal half heeling without foot lifting function. OFF: Pedal half heeling with foot lifting function
P54	Trimming Time (ms)	10-990	200	Trimming sequence time setting
P55	Setting Wiper Timing	10-990	30	Wiper sequence setting
P56	Needles Goes Up Automatically as Power turned on	0-2	1	0: always not to find a position 1: : always looking for positioning 2: If the motor is positioned on the no longer find location (only with magnet motor)
P57	Protection time for foot lifter(s)	1-60	10	It will automatic come down when foot lifter keep lift over the setting time.
P58	Up Position Adjustment	0-1439	1120	Up Position Adjustment The needle will advance stop when the value decreased. The needle will delay stop when the value increased.
P59	Down Position Adjustment	0-1439	360	Down Position Adjustment The needle will advance stop when the value decreased. The needle will delay stop when the value increased.
P60	Testing Speed (rpm)	100-3700	2000	Setting testing speed.

Parameter	Parameter Function	Range	Default	Description
P61	Testing A	ON/OFF	OFF	Option of Testing A, after setting press 【060. TV】 to set the speed keep running.
P62	Testing B	ON/OFF	OFF	Option of Testing B, after setting press 【060. TV】to set the speed execute the cycle of Start – Sewing –Stop - Trimming
P63	Testing C	ON/OFF	OFF	Option of Testing C, after setting press 【060. TV】to set the speed execute the cycle of Start – Sewing –Stop without positioning function
P64	Running Time of Testing B and C	1-250	20	Setting running time of testing B and C
P65	Stop Time of Testing B and C	1-250	20	Setting stop time of testing B and C
P66	Machine Protection Switch Testing	0-2	1	0: Disable, 1: Testing zero signal, 2: Testing positive signal
P67	Trimming Protection Switch Testing	ON/OFF	OFF	OFF: Disable ON: Enable
P70	The factory Type Selection		20	
P71	Presser foot release buffer duty cycle (%)	0-50	2	Efforts to ease foot pressure release time
P72	The needle position correction	0-1439	0	Hand rotation manual to the appropriate position, press S key to save
P73	Under needle position correction	0-1439	0	Hand rotation manual to the appropriate position, press S key to save
P76	Backstitch output of full time (ms)	10-990	250	
P77	Freedom sew back seam even terminate pause time (ms)	20-200	75	
P78	The Thread Clamp release angle	10-150	100	The positioning angle of starting clamp
P79	Clamp start action angle	160-359	270	The positioning angle of release
P80	Shear line infeed is angle	5-359	18	Shear line infeed is angle setting (under defined as 0 °)
P81	Cut the line start angle	5-359	140	Afterburner trimming angle setting
P82	Retract angle cut line	5-359	172	Afterburner trimming angle setting
P84	Thick start angle	0-330	9	
P85	The thick end angle	0-330	57	
P92	Encoder start angle		160	
P101	Loose line starting angle	1-359	30	Song line start angle (defined as 0 ° under calculation)
P102	Loose end angle	1-359	180	Loose wire end angle (defined as 0 ° under calculation)
P117	Release the presser foot buffer delay time (ms)	0-990	12	
P120	Oil alarm switch detects	0-1	0	0: Not detected 1: detected
P121	Trimming needle selection mode	0-3	2	0: Normal mode 1: cut thread mode

Parameter	Parameter Function	Range	Default	Description
				2: off thread trimming defense mode 3: Reserved
P122	Timing off thread trimming defense mode, before trimming back tack action	0-1439	1000	A needle before the needle parameter values greater the distance the greater the cut line
P123	Cut the thread mode, trimming back tack during operation timing	0-100	0	
P125	Knee by inductor value AD 1	0-1023	25	Effect lifter effect

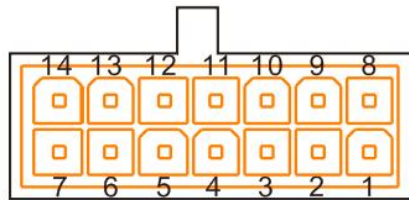
3 Error Code List

Error Code	Problem	Strategies
E1	Power Module is faulty. Abnormal over current or voltage. Resistor is damaged or F1 fuse is blown.	System will be shut down until the power resets on. Please check the power board in detail.
E2	1) When power on, detected main voltage too low 2) Connect the wrong voltage, too low.	Moto and machine will be shutting down. Please check the AC power. (Too low) Please check the main pc board.
E3	Operation Box linked to CPU interface had communication error.	Motor and machine will be shutting down. Please check the operation box.
E5	The connection of the Foot Pedal error	Motor and machine will be shutting down. Please check the connection of the Foot Pedal or the problem of it
E7	a) Bad connection at the motor connector. b) Machine locked or object stuck in the motor pulley. c) Sewing material is too thick. d) Module output is abnormal.	Head rotation motor handwheel see if stuck. As the first rule nose stuck mechanical failure. As normal rotation, check the motor and motor encoder connector power cord connector is loose. Please correct if loose. As good contact, check the power supply voltage is abnormal or speed is set too high. If yes, please adjust. As normal, replace the control box and inform the manufacturer.
E8	Manual Back-Tacking lasts for 15 sec.	Reverse stitching solenoid pull too long, you can restart the product. If the product or reported after the restart E-08, check the manual back tack switch is damaged.
E09 E11	Positioning signal error	Power off the system, check the motor encoder interface is loose or fall off, it was back to normal after restarting the system. If it still does not work, replace the motor and inform the manufacturer
E14	Encoder signal error	Power off the system, check the motor encoder interface is loose or fall off, it was back to normal after restarting the system. If it still does not work, replace the motor and inform the manufacturer.
E15	Power module abnormal over-current protection	Power off the system, then on again. If it still does not work, replace the control box and inform the manufacturer.

E17	Head protection switch is not in the correct position	Power off the system and check whether the nose open, ball switch control box whether displaced or damaged.
E20	Power motor failed to start	Power off the system, check the motor encoder interface and motor power connector is loose or fall off, it was back to normal after restarting the system. If it still does not work, replace the control box and inform the manufacturer.
oil	Sewing machine oil is too low	Turn off the power and check the oil pan sewing machine oil is too low, after the oil fill reboot the system. If it still does not work, replace the oil level sensor and inform the manufacturer.

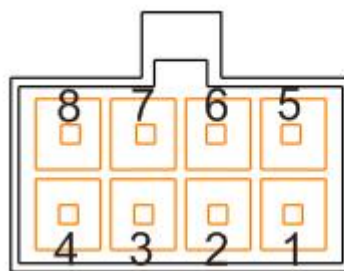
4. Port Outline Diagram

4.1 14P function port table illustration



- ① Trimming electromagnet: 1、8
- ② Wiper/clamp solenoid: 2、9
- ③ Loose wire electromagnet: 3、10
- ④ 5V sewing machine lamp: 4、11
- ⑤ Manual backstitch: 5、12
- ⑥ Backstich solenoid: 6、13
- ⑦ Needle switch: 7、14

8P function port table illustration



- ① The level of induction: 5(+5V)、6 (signal ground)、2 (Induction signal)
- ② Foot pressure sensing: 1(+5V)、7 (signal ground)、3 (Induction signal)
- ③ Foot pressure electromagnet: 4、8

4.2 Port Name

