KLD SERIES

寶獅牌工業用縫紉機 INDUSTRIAL SEWING MACHINE

MODEL
KLD1000A
KLD1010



ONE-NEEDLE LOCKSTITCH SEWING MACHINE

Coltroller Manual

精機機械廠股份有限公司 CHING CHI MACHINE CO., LTD
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No. 10404098

⚠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。

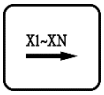
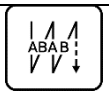
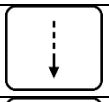
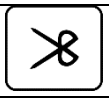
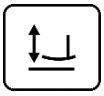
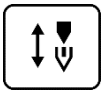
但以下情况于保修期间将收取维修费用：

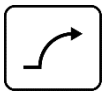
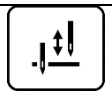
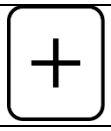
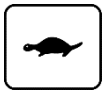
1. 不当使用包括误接高压电源、将产品移做其它用途、自行拆卸、维修、更改、或不依规格范围使用、进水进油及插入异物于本产品。
2. 火灾、地震、闪电、风灾、水灾、盐蚀、潮湿、异常电压及其它天灾或不当场所造成的损害。
3. 客户购买后摔落本产品，或客户自行运输（或托付运输公司）造成的损害。

＊ 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 按键显示及操作说明

1.1 按键说明

名称	按键	注明
针距调整键		若点击，加大或减小针距； 若长按，连续加大或减小针距；
回缝花样键		若点击，设定使用或取消回缝花样功能。 若长按，转换到回缝花样样式编辑界面。
密缝键		若点击，依次切换起始密缝、终止密缝、全开和全关； 若长按，转换到密缝样式编辑界面。
自由缝花样键		若点击，转换到自由缝花样样式选择界面。 若长按，转换到花样样式编辑界面。
定针缝花样键		若点击，依次切换多段定针缝花样模式、四段定针缝花样模式。 若长按，转换到定针缝花样样式编辑界面。
起始回缝键		若点击，依次切换 AB 加固缝→ABAB 加固缝→无加固缝→B 加固缝；
终止回缝键		若点击，依次切换 CD 加固缝→CDCD 加固缝→无加固缝→C 加固缝；
连续回缝键		若点击，设定为连续回缝模式；
自由缝键		若点击，设定为自由缝模式；
M 键		若点击，设定为多段定针缝模式（依次切换为四段缝、七段缝、八段缝、十五段缝模式）；
自动触发键		若点击，设定使用或取消触发自动功能； 若长按，恢复出厂设置。
切线键		若点击，设定使用或取消切线功能。 若长按，转换到计数器界面。
自动抬压脚键		若点击，依次切换关闭自动抬压脚→切完线后压脚自动抬起→车缝中马达停止时压脚自动抬起→切完线后和车缝中马达停止时压脚都自动抬起；
半反踏抬压脚键		若点击，设定使用或取消半反踏抬压脚功能。
停针位选择键		若点击，切换缝制后机针的停止位置（上停针位/下停针位）；

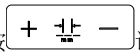
慢速起缝键		若点击，设定使用或取消慢速起缝功能； 在参数值设定界面，若长按，保存当前参数值为出厂参数值。
补针键		若点击，提针或往前补半针。
功能键		若点击，进入或退出用户参数设定界面。 若长按，转换到密码输入界面。输入正确密码，短按 S 键确认，可进入高级参数设定界面。
确认键		若点击，对所选参数号内容进行查看和保存：选择好参数号后按此键可以进行查看和修改操作，修改参数值后按此键则退出并保存参数。 在主界面，若长按，进入调试参数界面。
参数递增键		若点击，增加参数值； 若长按，连续增加参数值；
参数递减键		若点击，减少参数值； 若长按，连续减少参数值；
加速键		若点击，增加速度； 若长按，连续增加速度；
减速键		若点击，减少速度； 若长按，连续减少速度；

1.2 辅助功能

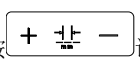
1.2.1 调试模式

在主界面长按 S 键，转换到调试参数项界面。P92 项电机电角度校正、P72 项上定位快捷调整、P129 项倒缝步进电机零点校正、P74 项正缝针距补偿、P75 项倒缝针距补偿参数设置。

1.2.2 密缝样式编辑

在主界面长按密缝键，显示“F-1”（起始密缝），按第 4 列  、切换“F-1”（起始密缝）、“d-2”（终止密缝），短按 S 键确认，转换到编辑界面“01 0 0.5”，按第 1 列或第 2 列、调整 00-12 针数，按第 4 列、调整 0（正缝）-1（倒缝），按  调整针距，设定完成后短按 S 键确认。短按 P 键退出到主界面。

1.2.3 自由缝花样模式

在主界面短按  ，转换到自由缝花样样式选择界面“n1”，按  调整 n1-n9 花样号。

1.2.4 自由缝花样样式编辑

在主界面长按  ，转换花样样式编辑界面“n-01 01”，按第 4 列  、调整 n01-n09 花样号，

短按[+ 针 −]调整 01-10 段号，调整到设定的花样号、段号，短按 S 键确认，转换到对应花样号编辑界面“01 1 3.0”，按第 1 列或第 2 列[+]、[−]调整 00-99 针数，按第 4 列[+]、[−]调整 1-9 重复次数，按[+ 针 −]调整针距，设定完成后短按 S 键确认。短按 P 键退出到主界面。

1.2.5 固缝花样样式编辑

在主界面长按[Patt]，转换花样样式编辑界面“H-01 01”，按第 4 列[+]、[−]调整 H01-H09 花样号，短按[+ 针 −]调整 01-10 段号，调整到设定的花样号、段号，短按 S 键确认，转换到对应花样号编辑界面“01 1 3.0”，按第 1 列或第 2 列[+]、[−]调整 00-99 针数，按第 4 列[+]、[−]调整 1-9 重复次数，按[+ 针 −]调整针距，设定完成后短按 S 键确认。短按 P 键退出到主界面。

1.2.6 定针缝花样样式编辑

多段定针缝模式下，在主界面长按定针缝花样键，转换到定针缝花样样式编辑界面“d-01 3.0”，按第 4 列[+]、[−]，调整 d01-d15 段号，按[+ 针 −]调整当前段号的针距。短按 P 键退出到主界面。

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）	100-4000	3700	车缝时的最高转速设定
P02	加速曲线调整（%）	10-100	100	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	2200	
P05	终止回缝速度（rpm）	200-3200	2200	
P06	连续回缝速度（rpm）	200-3000	2200	
P07	慢速起缝速度（rpm）	200-1500	1500	
P08	慢速起缝针数（针）	1-15	2	
P09	自动定针缝速度（rpm）	200-4000	3700	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。
P12	起始回缝运动模式选择	0-1	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；
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	OFF	

参数项	中文说明	范围	初始值	内容值名称说明与备注
P15	手动按键 A	0-6	5	0：功能关闭 1：补半针 2：补一针 3：连续补半针 4：连续补一针 5：在车缝中或中途停止时具有倒缝动作 6：密缝功能
P16	手动倒缝限速	0-3200	0	数值小于 100 时功能关闭
P17-N06	自动计件功能	0-50	1	0 关闭；1-50 剪线计件次数设置；
P17-N12	开机显示计数器界面选择	0-1	0	0：关闭；1：开启
P17-N13	自动计件模式选择	0-1	0	0：增计件模式，1：减计件模式
P18	起始回缝线迹补偿 1	0-200	160	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	起始回缝线迹补偿 2	0-200	160	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
P21	踏板加速位置	30-1000	520	
P22	踏板回中位置	30-1000	420	
P23	踏板抬压脚位置	30-1000	270	
P24	踏板切线位置	30-500	130	
P25	终止回缝线迹补偿 3	0-200	160	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	终止回缝线迹补偿 4	0-200	160	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
P29	切线停车力度	1-45	20	
P32	连续回缝线迹补偿 5	0-200	160	连续回缝 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	连续回缝线迹补偿 6	0-200	160	连续回缝 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	抬压脚时松线功能设置	0-2	1	0：关闭；1：抬压脚时松线出力功能开启，中途停车时松线出力功能关闭；2：抬压脚时松线出力功能和中途停车时松线出力功能开启
P36	松线功能设定	0-1	1	0：关闭；1：松线；
P37	拨线/夹线功能设定	0-11	8	0：关闭；1：拔线功能；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	
P39	中途停车自动抬压脚设定	UP/DN	DN	
P40	切线自动抬压脚设定	UP/DN	DN	
P41	切线计数器显示	0-9999	0	车缝完成件数显示；长按减号键可计数清零；

参数项	中文说明	范围	初始值	内容值名称说明与备注
P42-N01	电控版本号			
P42-N02	选针盒版本号			
P42-N03	转速			
P42-N04	脚踏板 AD 值			
P42-N05	机械角度（上定位）			
P42-N07	母线电压 AD 值			
P42-N15	步进版本号			
P42-N16	针数计数器显示（每缝 10 针，数值变化 1）			
P42-N17	维护运行针数（万针）*10			
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	中途停车时刹车力度	1-45	16	
P45	花样自由缝运动模式选择	0-1	0	0：受脚踏板控制，可任意停止与启动； 1：轻触脚踏板，即自动执行一个花样的缝纫动作；
P46	切线后，反转提针功能选择	ON/OFF	OFF	
P47	切线后，反转提针角度的调整（度）	10-50	40	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	300	调整切线周期时的电机速度
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，以配合自动抬压脚放下的确认
P53	半后踏抬压脚功能取消	0-2	1	0：关闭； 1：反踏和半反踏都有抬压脚； 2：半反踏无抬压脚，反踏有抬压脚；
P54	切线动作时间（ms）	10-990	200	
P55	拨线动作时间	10-990	50	
P56	开电后自动找上定位	0-1	0	0：始终不找上定位；1：始终找上定位；
P57	松线电磁铁保护时间（s）	1-60	2	保持时间后强制关闭，防止电磁铁长时间吸合而发烫
P58	上定位调整	0-359	200	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	0-359	10	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	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	0-1	1	0：不检测；1：检测零信号；
P69	自由缝花样速度	100-3000	2000	

参数项	中文说明	范围	初始值	内容值名称说明与备注
P70	机型选择		28	
P71	手动按键 A 的补针针距	0-5.0	0	
P72	上定位快捷调整	0-359		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	0-359		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	正缝针距补偿	-100～100	0	
P75	倒缝针距补偿	-100～100	-3	
P77	自由缝快速后加固的倒缝时机点	0-200	125	
P78	夹线器起夹角度	5-359	100	
P79	夹线器结束角度	5-359	270	
P80	切线第一次进刀角度	0-359	35	
P82	切线第二次进刀角度	0-359	160	
P83	切线后停车力度	10-100	20	
P86	上下定位距离	15-345	170	上下定位距离角度（每 4 个数值为 1 度）
P87	拨线回程延迟时间	10-990	50	确保拨线机构回到原位
P88	中途停车刹车距离	10-100	30	
P89	交流过压值设定	500-1023	880	
P90	慢速起缝第一针速度	200-1500	400	
P91	慢速起缝第二针速度	200-1500	1000	
P92	电机电角度校正			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	半反踏功能起效时间（ms）	10-900	100	
P99	起始密缝针距	0-6.0	0.5	
P100	起始密缝方向	0-1	0	
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）
P103	松线力度	1-80	30	
P105	自由缝花样样式选择	0-9	0	0：关闭； 1-9：自由缝花样样式；
P107	起始密缝速度	100-3000	1800	
P108	起始密缝针数	0-12	0	
P109	拨线前延迟时间	5-990	5	找到上定位后进入拨线动作前的间隔时间
P110	切线回程时间（ms）	60-990	100	确保切线机构回到原位
P111	无鸟巢模式开关	0-1	0	
P112	无鸟巢钩线前延时	0-990	60	
P113	无鸟巢钩线动作时间	0-990	70	
P114	无鸟巢钩线返程时间	0-990	30	
P115	无鸟巢钩线占空比	0-100	70	

参数项	中文说明	范围	初始值	内容值名称说明与备注
P116	无鸟巢吸气时间	0-5000	500	
P117	无鸟巢挺线占空比	0-100	70	
P118	花样缝模式手动倒缝按键的功能选择	0-1	0	0：一直按住按键可以实现倒着缝纫花样。 1：点击按键则清除当前正进行的花样针数并重新开始，用于转角缝纫时避免突出一针；
P122	膝靠启动 AD 值	0-1023	600	
P125	中途抬压脚高度补偿	0-1023		以 80 为 0 补偿，往大调为正补偿，压脚高度升高，往小调为负补偿，压脚高度降低
P126	电子膝靠最高压脚高度	0-150	80	
P127	膝靠功能选择	0-2	1	0：关闭：1：主轴电机停止时有效；2：主轴电机运行和停止时都有效；
P129	倒缝步进电机零点校正	-500～500	0	
P131	正常针距	0-6.0	4.0	
P132	手动密缝针距	0-6.0	2.0	
P134	第二次切线距离	0-200	105	
P135	电子膝靠最低压脚高度	0-150	45	
P136	最高压脚高度	0-150	110	
P137	第一次切线距离	0-200	60	
P140	切线步进回程速度	20-400	250	
P141	第二次切线速度	20-400	100	
P142	第一次切线速度	20-400	200	
P143	密缝模式选择	0-3	0	0：关闭；1：起始密缝开启；2：终止密缝开启；3：起缝密缝、终止密缝开启；
P144	高速正缝针距补偿	-100～100	-5	
P145	高速倒缝针距补偿	-100～100	-18	
P146	抬压脚速度	20-300	250	
P148	主轴电机运行时，电子膝靠最高压脚高度	0-150	100	
P153	终止密缝针距	0-5.0	0.5	
P154	终止密缝速度	100-3000	1800	
P159	终止密缝方向	0-1	0	0：正缝；1：倒缝
P160	终止密缝针数	0-12	2	
P165	针数计数器模式选择	0-4	0	0：不计数；1.递增循环计数；2.递减循环计数；3.递增计数，计数满后报警，需由清除键来启动重新计数；4.递减计数，计数满后报警，需由清除键来启动重新计数
P166	针数计数器上限值（针）*10	0-9999	500	
P167	维护针数上限值（万针）*10	0-9999	9000	
P170	手动按键 B 的补针针距	0-6.0	0	
P171	手动按键 C 的补针针距	0-6.0	1.8	

参数项	中文说明	范围	初始值	内容值名称说明与备注
P172	最高压脚高度限制	0-300	150	
P173	手动按键 D 的补针针距	0-6.0	0.8	
P174	手动按键 B	0-6	3	0：功能关闭 1：补半针 2：补一针 3：连续补半针 4：连续补一针 5：在车缝中或中途停止时具有倒缝动作 6：密缝功能
P175	手动按键 C	0-6	1	0：功能关闭 1：补半针 2：补一针 3：连续补半针 4：连续补一针 5：在车缝中或中途停止时具有倒缝动作 6：密缝功能
P176	手动按键 D	0-6	1	0：功能关闭 1：补半针 2：补一针 3：连续补半针 4：连续补一针 5：在车缝中或中途停止时具有倒缝动作 6：密缝功能
P177	正向 1mm 针距基准值	0-2000		
P178	反向 1mm 针距基准值	0-2000		
P179	正向 2mm 针距基准值	0-2000		
P180	反向 2mm 针距基准值	0-2000		
P181	正向 3mm 针距基准值	0-2000		
P182	反向 3mm 针距基准值	0-2000		
P183	正向 4mm 针距基准值	0-2000		
P184	反向 4mm 针距基准值	0-2000		
P185	正向 5mm 针距基准值	0-2000		
P186	反向 5mm 针距基准值	0-2000		
P187	正向 6mm 针距基准值	0-2000		
P188	反向 6mm 针距基准值	0-2000		
P189	正向 7mm 针距基准值	0-2000		
P190	反向 7mm 针距基准值	0-2000		
P235	花样缝补偿 1	0-200	160	
P236	花样缝补偿 2	0-200	160	

注：参数初始值仅供参考，实际参数值以实物为准。

3 错误代码表

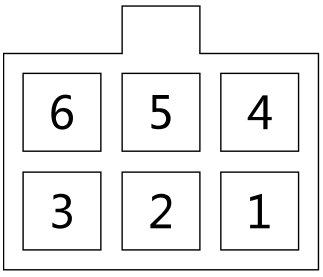
错误码	内容	对策
E01	电压高	1、电网电压是否高于 AC260V； 2、如果是自行发电供电，请降低发电机功率； 3、若仍不能正常工作，请更换控制箱并通知售后服务。
E02	电压低	1、是否插入低电压； 2、恢复出厂设置； 3、若仍不能正常工作，请更换控制箱并通知售后服务。
E03	主 CPU 与面板 CPU 通信异常	1、关闭系统电源，检测显示屏的连线是否松动或脱落，将其恢复正常后重启系统。 2、关闭系统电源，拆下电控箱只插电源线通电，是否报警 E05，如还是报警 E03，更换控制箱并通知售后服务。
E05	控速器信号异常	1、检查控速器接头是否松动或脱落，将其恢复正常后重启系统。 2、若仍不能正常工作，请更换控制箱或控速器并通知售后服务。
E07	主轴电机堵转	1、关闭电源，检查手轮是否可以顺畅转动（手转手轮），如果无法转动请排查机械； 2、关闭电源，检查电机电源接口是否松动，插好后重启； 3、检查上停针位是否正确，如果不正确请调整上定位位置； 4、若仍不能正常工作，请更换控制箱或主轴电机并通知售后服务。
E10	电磁铁过流保护	1、拔除电磁铁接口，如报警 E10，更换控制箱并通知售后服务。 2、如果拔除电磁铁接口后不再报警，请插回接口。 1）前踏踏板让缝纫机进行夹线和加固缝，如果报警，请关闭前加固和后加固，重启电控，再进行前踏，如果报警，请关闭夹线功能重启电控，再次前踏，如果不报警，请更换夹线器。 2）前踏踏板让缝纫机进行夹线和加固缝，如果报警，请关闭前加固和后加固，重启电控，再进行前踏，如果不报警，请关闭夹线功能重启电控，并打开前加固缝功能，再次前踏，如果报警，请更换倒缝电磁铁。 3）前踏踏板让缝纫机进行夹线和加固缝，如果不报警，请半反踏进行抬压脚，如果报警请更换压脚电磁铁； 4）前踏踏板让缝纫机进行夹线和加固缝，半反踏抬压脚，如果不报警，请全反踏剪线，如果报警请更换剪线电磁铁；
E09 E11	主轴电机编码器定位信号异常	1、关闭系统电源，检查主轴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。 2、检查电机零点校正设置是否正确；重新设置电机零点校正，编码器码盘是否有油，如果有请清理干净； 3、若仍不能正常工作，请更换控制箱或主轴电机并通知售后服务。
E14	主轴电机编码器信号异常	1、关闭系统电源，检查主轴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。 2、检查光栅安装是否正确（光栅螺丝有没有固紧，光栅是不是在编码器头居中位置）； 3、检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； 4、若仍不能正常工作，请更换控制箱或主轴电机并通知售后服务。
E15	主轴电机驱动过流	1、请检查电机电源线有没有接触不良； 2、请检查电机电源线有没有被压破；

		3、请更换控制箱或主轴电机并通知售后服务。
E17	机头翻倒	1、关闭系统电源，检查机头是否翻倒； 2、检查机头保护开关检测设置是否正确； 3、若仍不能正常工作，请更换控制箱或面板并通知售后服务
E20	主轴电机启动失败	1、关闭系统电源，检查主轴电机电源线接口、编码器接口是否松动或脱落，将其恢复正常后重启系统。 2、检查电机零点校正设置是否正确；重新设置电机零点校正 3、若仍不能正常工作，请更换控制箱或主轴电机并通知售后服务。
E28	维护保养警告	请进行维护保养。（报警时，按 S 键进行清除并重新计数。）
E80	主 CPU 与步进驱动 CPU 通信异常	请更换控制箱并通知售后服务。
E82	倒缝步进电机过流	1、关闭系统电源，观察倒缝步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查倒缝步进电机接口是否松动或脱落，将其恢复正常后重启系统。 2、若仍不能正常工作，请更换控制箱或倒缝步进电机并通知售后服务。
E84	倒缝步进电机编码器定位信号异常	1、关闭系统电源，观察倒缝步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查倒缝步进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。 2、检查光栅安装是否正确（光栅螺丝有没有固紧，光栅是不是在编码器头居中位置）； 3、检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； 4、若仍不能正常工作，请更换控制箱或倒缝步进电机并通知售后服务。
E85	倒缝步进电机编码器信号异常	1、关闭系统电源，检查倒缝步进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。 2、检查光栅安装是否正确（光栅螺丝有没有固紧，光栅是不是在编码器头居中位置）； 3、检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； 4、若仍不能正常工作，请更换控制箱或倒缝步进电机并通知售后服务。
E86	倒缝步进电机启动失败	1、关闭系统电源，检查倒缝步进电机电源线接口、编码器接口是否松动或脱落，将其恢复正常后重启系统。 2、检查光栅安装是否正确（光栅螺丝有没有固紧，光栅是不是在编码器头居中位置）； 3、检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； 4、若仍不能正常工作，请更换控制箱或倒缝步进电机并通知售后服务。
E87	倒缝步进电机堵转	1、关闭系统电源，观察倒缝步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查倒缝步进电机电源线接口、编码器接口是否松动或脱落，将其恢复正常后重启系统。

		2、若仍不能正常工作，请更换控制箱或倒缝步进电机并通知售后服务。
E92	剪线(压脚)步进电机过流	1、关闭系统电源，观察剪线(压脚)步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查剪线(压脚)步进电机接口是否松动或脱落，将其恢复正常后重启系统。 2、若仍不能正常工作，请更换控制箱或剪线(压脚)步进电机并通知售后服务。
E94	剪线(压脚)步进电机编码器定位信号异常	1、关闭系统电源，观察剪线(压脚)步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查剪线(压脚)步进电机编码器接口是否松动或脱落，编码器码盘是否有油，如果有请清理干净，将其恢复正常后重启系统。 2、若仍不能正常工作，请更换控制箱或剪线(压脚)步进电机并通知售后服务。
E95	剪线(压脚)步进电机编码器信号异常	1、关闭系统电源，检查剪线(压脚)步进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。 2、若仍不能正常工作，请更换控制箱或剪线(压脚)步进电机并通知售后服务。
E96	剪线(压脚)步进电机启动失败	1、关闭系统电源，检查剪线(压脚)步进电机电源线接口、编码器接口是否松动或脱落，将其恢复正常后重启系统。 2、若仍不能正常工作，请更换控制箱或剪线(压脚)步进电机并通知售后服务。
E97	剪线(压脚)步进电机堵转	1、关闭系统电源，观察剪线(压脚)步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查剪线(压脚)步进电机电源线接口、编码器接口是否松动或脱落，将其恢复正常后重启系统。 2、若仍不能正常工作，请更换控制箱或剪线(压脚)步进电机并通知售后服务。

4 端口示意图

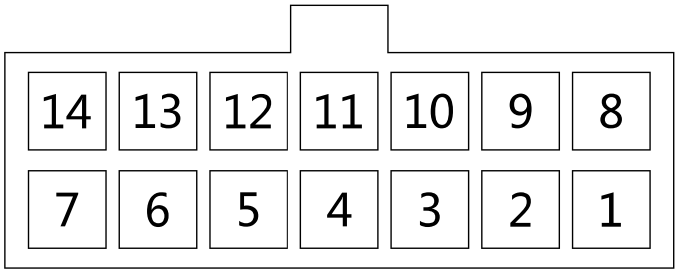
6P 端口示意图



1.无鸟巢吸风：3（+32V）、6

2.无鸟巢钩线：2（+32V）、5

14P 端口示意图



1.夹线：2、9（+32V）

2.松线：3、10（+32V）

3.衣车灯：4（DGND）、11（S5V）

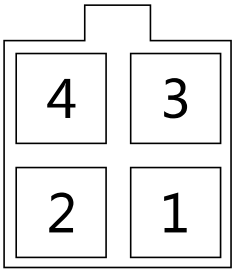
4.手动倒缝：5

5.手动补针：7

6.手动补针 1/2：14

7.手动补针 1/4：12

4P 端口示意图



1.压脚高度感应：1、3（DGND）、4（S5V）

⚠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. All power supplies must be turned off during the installation work, remember not to operate with power on.
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 the power cord, it must be determined that the operating voltage conforms to the rated voltage value specified in the product identification.
6. Don′t operate in direct sun light，outdoors area and where the room temperature is over 45℃ or below 0℃.
7. Please avoid operating near the heater at dew area or at the humidity below 10% or above 90%.
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:
    1. Connecting or disconnecting any connectors on the control box or motor.
    2. Threading needle.
    3. Raising the machine head.
    4. Repairing or doing any mechanical adjustment.
    5. Machines idling.
14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
15. All the spare parts for repair must be provided or approved by the manufacturer.
16. 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.

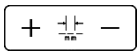
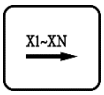
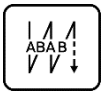
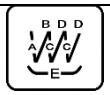
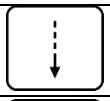
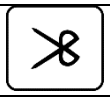
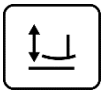
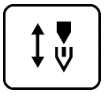
2. Damage by fire, Earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.

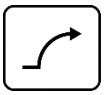
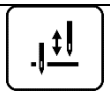
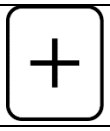
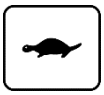
3. Dropping after purchasing or damage in transportation by customer himself or by customer’s shipping agency

* 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
Stitch length setting		If click, increase or decrease stitch length. If long-press, continuously increase or decrease stitch length.
Pattern backing-tacking setting		If click, set used or cancelled pattern backing-tacking function. If long-press, switch to pattern backing-tacking mode editing interface.
Tight seam setting		If click, switch starting tight seam, ending tight seam, full function and function off successively. If long-press, switch to tight seam mode editing interface.
Pattern freedom sewing setting		If click, switch to pattern freedom sewing mode selection interface. If long-press, switch to pattern freedom sewing mode editing interface.
Pattern constant-stitch sewing setting		If click, switch multi-segment sewing mode or four segments sewing mode. If long-press, switch to pattern constant-stitch sewing mode editing interface.
Start back-tacking sewing		If click, switch AB start back-tacking→ABAB start back-tacking→function off→B start back-tacking successively
End back-tacking sewing		If click, switch CD end back-tacking→CDCD end back-tacking→function off→C end back-tacking successively.
Consecutive reverse sewing		If click, set to consecutive reverse sewing mode.
Free sewing		If click, set to free sewing mode.
M key		If click, set to multi-segment sewing mode (switch to four-segment sewing, seven-segment sewing, eight-segment sewing, and fifteen-segment sewing in sequence).
Auto function		1. If click, set used or cancelled auto function. 2. If long-press, it can restore factory setting.
Thread trimming		1. If click, set used or cancelled trimming function. 2. If long-press, enter counter interface.
Automatic presser foot lifting setting		If click, switch function off→automatic presser foot lifting after trimming→automatic presser foot lifting after pause→full function successively.
Half anti-side trample foot lifting		If click, set used or cancelled half anti-side trample foot lifting function.
Needle stop position selection		If click, the needle stop position after shift the sewing mode (up position / down position).

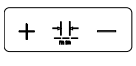
Slow launch setting		1. If click, set used or cancelled slow launch function. 2. In the parameter setting interface, if long-press, save the current parameter value as factory parameter value.
Lift or fill up needle		If click, lift or fill up half a needle.
Function parameter edit		If click, enter or exit the user parameter setting interface. If long-press, it will switch to the password input interface. Enter the correct password, press S key to confirm, you can enter the advanced parameter setting interface.
Setting parameter check and save		For the content of the selected parameters check and save: after select parameter press this key to check and modify operation, after modified parameter value press this key to exit and save the parameter. On the main interface, long press to enter the debugging parameter interface.
Parameter increase		If click, increase the parameter. If long-press, continuously increase the parameter.
Parameter decrease		If click, decrease the parameter. If long-press, continuously decrease the parameter.
Speed increase		If click, increase the sewing speed. If long-press, continuously increase the sewing speed.
Speed decrease		If click, decrease the sewing speed. If long-press, continuously decrease the sewing speed.

1.2 Auxiliary function

1.2.1 Debugging mode

On the main interface, long-press S key to enter to the debugging parameter interface. P92 correct the electrical angle of motor, P72 up needle position adjustment, P129 back-tacking stepping motor zero-point correction, P74 tacking stitch length compensation and P75 back-tacking stitch length compensation parameter setting.

1.2.2 Tight seam mode editing

On the main interface, long-press tight seam key to display "F-1" (start back-tacking), and press the 4th column  to switch between "F-1" (start back-tacking) and "d-2" (end back-tacking), press S to confirm, switch to the editing interface "01 0 0.5", press the 1st or 2nd column  to adjust the number of stitches of 00-12, press the 4th column  to adjust 0 (Normal sewing) -1 (reverse sewing). Press  to adjust the stitch length. After the setting is completed, press S key to confirm. Click P key to exit to the main interface.

1.2.3 Pattern freedom sewing mode

On the main interface short-press Patt to shift pattern freedom sewing mode selection interface "n1", press + ⊣⊢ − to adjust n1-n9.

1.2.4 Pattern freedom sewing editing

On the main interface long-press Patt to shift pattern freedom sewing mode editing interface “n-01 01”, short-press the 4th column + , − to adjust n01-n09, short-press + ⊣⊢ − adjust 01-10 segment number, adjust to setting pattern number, segment number, short-press S key to confirm, shift to corresponding pattern number editing interface “01 1 3.0”, short press 1st column or 2nd column + , − to adjust 00-99 stitches, short-press 4th column + , − 1-9 repeat times, short-press + ⊣⊢ − to adjust stitch length, after finished setting short-press S key to confirm. Press P key can exit to interface.

1.2.5 Pattern backing-tacking sewing editing

On the main interface, long press Patt to switch the pattern style editing interface "H-01 01", press the 4th column + , − to adjust the H01-H09 pattern number, and short press + ⊣⊢ − to adjust the 01-10 segment number, segment number, short press S key to confirm, switch to the corresponding pattern number editing interface "01 1 3.0", press the 1st or 2nd column + , − to adjust the number of 00-99 stitches, press the 4th column + , − to adjust Repeat 1-9 times, press + ⊣⊢ − to adjust the stitch length. After the setting is completed, press the S key to confirm. Short press P key to exit to the main interface.

1.2.6 Pattern constant-stitch sewing editing

In the multi-segment sewing mode, long-press pattern constant-stitch sewing key on the main interface to switch to pattern constant-stitch sewing editing interface "d-01 3.0", press the fourth column + , − to adjust the d01-d15 segment number, and press + ⊣⊢ − to adjust the current segment stitch length. Short press P key to exit to the main interface.

2 User parameter

No.	Items	Range	Default	Description
P01	Maximum sewing speed (rpm)	100-4000	3700	Maximum speed of machine sewing
P02	Set accelerated curve (%)	10-100	100	Set the acceleration slope The greater the slope value, the steeper the speed; the smaller the slope value, the slower the speed
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	2200	
P05	End back-tacking speed (rpm)	200-3200	2200	
P06	Bar-tacking speed (rpm)	200-3000	2200	

No.	Items	Range	Default	Description
P07	Soft start speed (rpm)	200-1500	1500	
P08	Stitch numbers for soft start	1-15	2	
P09	Automatic constant-stitch sewing speed (rpm)	200-4000	3700	Speed adjustment for automatic constant-stitch sewing
P10	Automatic end back-tacking sewing after constant-stitch sewing	ON/OFF	ON	ON: After executing the constant-stitch sewing, the back-tacking sewing will be executed automatically. In any sewing mode, mending stitch function cannot be used. OFF: After executing the last constant-stitch sewing, the back-tacking sewing function will not be automatically executed, and the front step or full back step must be performed again.
P12	Start back-tacking running mode selection	0-1	1	0: Controlled by foot pedal, can be stopped and started at will 1: Touch the foot pedal to automatically execute back-tacking action
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	OFF	
P15	Manual Switch A	0-6	5	0: OFF 1: Half stitch 2: One stitch 3: Continuous half stitch 4: Continuous one stitch 5: Back-tacking when machine stop or pause 6: Tight seam function
P16	Speed limit of manual back-tacking	0-3200	0	The function is disabled when the value is less than 100.
P17-N06	Automatic piece counting function	0-50	1	0: OFF 1-50: Trimming counting times setting
P17-N12	Boot counter interface selection	0-1	0	0: OFF 1: ON
P17-N13	Automatic piece counting mode selection	0-1	0	0: Incremental piecework mode 1: Diminishing piecework mode
P18	Start back-tacking compensation 1	0-200	160	Stitch compensation for start back-tacking A section, 0~200 action gradually delay; The large value, the longer of the A section last stitch, and the shorter of the B section first stitch.
P19	Start back-tacking compensation 2	0-200	160	Stitch compensation for start back-tacking A section, 0~200 action gradually delay; The large value, the longer of the B section last stitch.
P21	The position of the pedal for accelerating	30-1000	520	
P22	The position of the pedal for the stop	30-1000	420	
P23	The position of the pedal for presser foot lifting	30-1000	270	
P24	The position of the pedal for thread trimming	30-500	130	
P25	End back-tacking compensation 3	0-200	160	Stitch compensation for end back-tacking C section, 0~200 action gradually delay; The large value, the shorter of the C section first stitch.
P26	End back-tacking compensation 4	0-200	160	Stitch compensation for end back-tacking D section,0~200 action gradually delay; the large value, the longer of the C section last stitch, and the shorter of the D section first stitch.

No.	Items	Range	Default	Description
P29	The strength of thread trimming stop	1-45	20	
P32	Bar-tacking compensation 5	0-200	160	Stitch compensation for bar-tacking A (C) section, 0~200 action gradually delay; the large value, the longer of the A (C) section last stitch; the shorter of the B (D) section first stitch.
P33	Bar-tacking compensation 6	0-200	160	Stitch compensation for bar-tacking B (D) section, 0~200 action gradually delay; the large value, the longer of the B (D) section last stitch; the shorter of the C section first stitch.
P34	Constant-stitch sewing running mode selection	A/M	A	A: Touch the foot pedal to automatically execute constant-stitch sewing action M: Controlled by foot pedal, can be stopped and started at will
P35	Thread tension releasing function setting when presser foot lifting action	0-2	1	0: OFF 1: Thread tension releasing output function ON when presser foot lifting, thread tension releasing output function OFF when stopover 2: Full function
P36	Thread tension releasing function selection	0-1	1	0: OFF 1: ON
P37	Thread wiping function / Thread clamping function selection	0-11	8	0 : OFF 1: Thread wiping function. 2-11: 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	
P40	Automatic presser foot lifting after trimming function selection	UP/DN	DN	
P41	Thread trimming counter display	0-9999	0	Display the quantity of finished sewing piece. Long-press “-” key to clear the count
P42-N01	The control system version number			
P42-N02	The panel version number			
P42-N03	Speed			
P42-N04	The pedal AD			
P42-N05	The mechanical angle(up position)			
P42-N07	Bus bar voltage AD			
P42-N15	Stepping drive version number			
P42-N16	Stitch counter display (every 10 stitches, the value changes by 1)			
P42-N17	Number of needles for maintenance operation (10,000 needles) *10			
P43	Motor rotation direction setting	CCW/CW	CCW	CW: Clockwise CCW: Counter clock wise
P44	Brake strength during stopover	1-45	16	
P45	Pattern freedom sewing mode	0-1	0	0: Controlled by foot pedal, can be stopped and started at will

No.	Items	Range	Default	Description
	selection			1: Touch the foot pedal to automatically execute a pattern sewing action
P46	Motor stop with a reverse angle after trimming function	ON/OFF	OFF	
P47	Adjust the reverse angle when motor stop after trimming	10-50	40	Start from the upper needle position and adjust the angle of the needle lift in reverse operation after trimming.
P48	The minimum speed (positioning speed) (rpm)	100-500	210	Adjust the minimum speed
P49	Thread trimming speed (rpm)	100-250	300	Adjust thread trimming speed
P52	Delay the start of the motor to protect the lowering time of presser foot (ms)	10-990	120	Delay the start time, with automatic presser foot down.
P53	Half back pedaling lifting presser foot function to cancel	0-2	1	0: OFF 1: Back pedaling and half back pedaling with lifting presser foot 2: Half back pedaling without lifting presser foot, back pedaling with lifting presser foot
P54	Thread trimming action time (ms)	10-990	200	
P55	Thread wiping action time (ms)	10-990	50	
P56	Power on and positioning	0-1	0	0: Always not to find the up needle position 1: Always to find the up needle position
P57	Presser foot solenoid protection time (s)	1-60	2	Forced shutdown after hold time to prevent the electromagnet from being hot for a long time
P58	Up needle position adjustment	0-359	200	Up position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P59	Down needle position adjustment	0-359	10	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	3500	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	Test run time	1-250	30	
P65	Test stop time	1-250	10	
P66	Machine protection switch selection	0-1	1	0: Disable 1: Testing zero signal
P69	Pattern freedom sewing speed	100-3000	2000	
P70	Type		28	
P71	Correction stitches distance of manual button A	0-5.0	0	
P72	Up needle position adjustment	0-359		Adjust up needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current position (value) as up needle position.
P73	Down needle position adjustment	0-359		Adjust down needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current

No.	Items	Range	Default	Description
				position (value) as down needle position.
P74	Tacking stitch length compensation	-100~100	0	
P75	Back-tacking stitch length compensation	-100~100	-3	
P77	Opportunity point of back-tacking for end back-tacking in high speed in free sewing mode	0-200	125	
P78	The start angle of thread clamping	5-359	100	
P79	The stop angle of thread clamping	5-359	270	
P80	The angle of trimming first engage	0-359	35	
P82	The angle of trimming second engage	0-359	160	
P83	Stopping strength after trimming	10-100	20	
P86	Up and down needle position distance	15-345	170	Up and down positioning distance angle (1 degree for every 4 values)
P87	Wiping thread return delay time	10-990	50	Make sure the wiper returns to its original position
P88	Stopover distance	10-100	30	
P89	AC overvoltage setting	500-1023	880	
P90	Soft start first stitch speed	200-1500	400	
P91	Soft start second stitch speed	200-1500	1000	
P92	Correct the electrical angle of motor			Reading the initial Angle of encoder, the factory default was set, please do not change the values (parameter value cannot be changed manually, random change it will result the control box and motor abnormal or damaged).
P93	The starting time of the half back pedaling function (ms)	10-900	100	
P99	Starting tight seam stitch length	0-6.0	0.5	
P100	Direction of starting tight seam	0-1	0	
P101	The start angle of thread tension releasing	1-359	30	Thread tension releasing start angle (defined as 0 ٩under calculation)
P102	The stop angle of thread tension releasing	1-359	180	Thread tension releasing end angle (defined as 0 ٩under calculation, must be greater than P101 parameter value)
P103	Thread tension releasing strength	1-80	30	

No.	Items	Range	Default	Description
P105	Pattern freedom sewing mode selection	0-9	0	0: OFF 1-9: Pattern freedom sewing mode
P107	Starting tight seam speed	100-3000	1800	
P108	Starting tight seam stitch number	0-12	0	
P109	The delay time before thread wiping	5-990	5	Interval time before entering thread wiping action after finding the upper positioning
P110	Trimming back time (ms)	60-990	100	Make sure the thread trimming device returns to its original position
P111	Clamp function without any thrum switch	0-1	0	
P112	The delay time before hook thread with clamp function without any thrum	0-990	60	
P113	The hook thread action time with clamp function without any thrum	0-990	70	
P114	The return back time of hook thread with clamp function without any thrum	0-990	30	
P115	Duty cycle for hook thread with clamp function without any thrum	0-100	70	
P116	The suction time for clamp function without any thrum	0-5000	500	
P117	Duty cycle for pull thread with clamp function without any thrum	0-100	70	
P118	Function selection of manual back-tacking button in pattern mode	0-1	0	0: If you press it for a long time, you can sew the pattern backwards. 1: If click, it will clear the current number of pattern stitches and restart. It is used for corner sewing to avoid protruding one stitch.
P122	Kneeling device starting AD value	0-1023	600	
P125	The height compensation of the presser foot lifting in the middle	0-1023		Set 80 as 0 compensation, go to the major adjustment for positive compensation, the height of the presser foot will increase, go to the minor adjustment for the negative compensation, the height of the presser foot will decrease.
P126	The highest presser foot lift height of electric knee-control	0-150	80	
P127	Knee-control function selection	0-2	1	0: OFF 1: Valid when the main shaft motor is stopped 2: Valid when the main shaft motor is running and stopped

No.	Items	Range	Default	Description
P129	Back-tacking stepping motor zero-point correction	-500~500	0	
P131	Normal stitch length	0-6.0	4.0	
P132	Manual close stitches distance	0-6.0	2.0	
P134	Second trimming distance	0-200	105	
P135	The lowest presser foot lift height of electric knee-control	0-150	45	
P136	The highest of presses foot lift highness	0-150	110	
P137	First trimming distance	0-200	60	
P140	Trimming step return speed	20-400	250	
P141	Trimming second section speed	20-400	100	
P142	Trimming first section speed	20-400	200	
P143	Tight seam mode selection	0-3	0	0: OFF 1: Starting tight seam 2: Ending tight seam 3: Full function
P144	Tacking stitch length compensation in high speed	-100～100	-5	
P145	Back-tacking stitch length compensation in high speed	-100～100	-18	
P146	Presser foot speed	20-300	250	
P148	When the main shaft motor is running, the highest presser foot lift height of electric knee-control	0-150	100	
P153	Ending tight seam stitch length	0-5.0	0.5	
P154	Ending tight seam speed	100-3000	1800	
P159	Direction of ending tight seam	0-1	0	0: Forward 1: Backward
P160	Ending tight seam stitch number	0-12	2	
P165	Stitch counter mode selection	0-4	0	0: Do not count 1. Increase cycle count 2. Decrease cycle count 3. Increase count, alarm after the count is full, need to press the clear key to start recounting 4. Decrease count, alarm after the count is full, need to press the clear key to start recounting
P166	Upper limit of stitch counter (stitch) *10	0-9999	500	
P167	Upper limit of maintenance stitch number (10000 stitch)	0-9999	9000	

No.	Items	Range	Default	Description
	*10			
P170	Correction stitches distance of manual button B	0-6.0	0	
P171	Correction stitches distance of manual button C	0-6.0	1.8	
P172	The highest of presser foot lift highness limit	0-300	150	
P173	Correction stitches distance of manual button D	0-6.0	0.8	
P174	Manual Switch B	0-6	3	0: OFF 1: Half stitch 2: One stitch 3: Continuous half stitch 4: Continuous one stitch 5: Back-tacking when machine stop or pause 6: Tight seam function
P175	Manual Switch C	0-6	1	0: OFF 1: Half stitch 2: One stitch 3: Continuous half stitch 4: Continuous one stitch 5: Back-tacking when machine stop or pause 6: Tight seam function
P176	Manual Switch D	0-6	1	0: OFF 1: Half stitch 2: One stitch 3: Continuous half stitch 4: Continuous one stitch 5: Back-tacking when machine stop or pause 6: Tight seam function
P177	1mm forward stitch length reference value setting	0-2000		
P178	1mm backward stitch length reference value setting	0-2000		
P179	2mm forward stitch length reference value setting	0-2000		
P180	2mm backward stitch length reference value setting	0-2000		
P181	3mm forward stitch length reference value setting	0-2000		
P182	3mm backward stitch length reference value setting	0-2000		
P183	4mm forward stitch length	0-2000		

No.	Items	Range	Default	Description
	reference value setting			
P184	4mm backward stitch length reference value setting	0-2000		
P185	5mm forward stitch length reference value setting	0-2000		
P186	5mm backward stitch length reference value setting	0-2000		
P187	6mm forward stitch length reference value setting	0-2000		
P188	6mm backward stitch length reference value setting	0-2000		
P189	7mm forward stitch length reference value setting	0-2000		
P190	7mm backward stitch length reference value setting	0-2000		
P235	Pattern sewing compensation 1	0-200	160	
P236	Pattern sewing compensation 2	0-200	160	

Note: the initial value of parameters is for reference only, and the actual value of parameters is subject to the real object.

3 Error code list

Error Code	Problem description	Solutions
E01	High voltage	1. Whether the grid voltage is higher than AC260V; 2. If it is self-generated power supply, please reduce the generator power; 3. If it still does not work normally, please replace the control box and notify the after-sales service.
E02	Low voltage	1. Whether to connect to low voltage; 2. Reset; 3. If it still does not work normally, please replace the control box and notify the after-sales service.
E03	CPU communication abnormal	1. Turn off the system power and check whether the connection of the display screen is loose or disconnected, restart the system after returning it to normal. 2. Turn off the system power, remove the control box and only plug in the power cord to power on, whether alarm E05, if it still alarms E03, replace the control box and notify the after-sales service.
E05	Pedal signal abnormal	1. Check whether the pedal connector is loose or fall off, and restart the system after returning it to normal. 2. If it still does not work normally, please replace the control box or speed controller and notify the after-sales service.
E07	Main shaft motor locked-rotor	1. Turn off the power and check whether the handwheel can be turned smoothly (turn the handwheel by hand), if it cannot be turned, please check the machine; 2. Turn off the power, check whether the motor power connector is loose, plug it in and restart it;

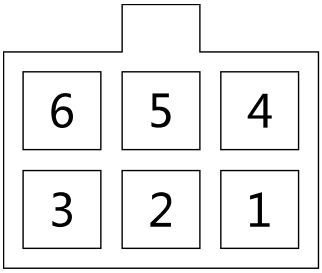
		3. Check whether the upper needle stop position is correct, if not, please adjust the upper positioning position; 4. If it still does not work normally, please replace the control box or spindle motor and notify the after-sales service.
E10	Electromagnet overcurrent	1. Unplug the solenoid connector, if alarm E10, replace the control box and notify the after-sales service. 2. If there is no alarm after removing the solenoid connector, please plug it back in 1) Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If alarms, please turn off start back-tacking and end back-tacking, restart the control box, and then step forward. If alarms, please turn off the thread clamping function and restart the electronic control, and step forward again. If there is no alarm, replace the clamper. 2) Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If it alarms, please turn off start back-tacking and end back-tacking, restart the control box, and then step forward. If there is no alarm, please turn off the thread clamping function and restart the control box, and open start back-tacking function, step forward again, if it alarms, please replace the back-tacking solenoid. 3) Step on the front pedal to let the sewing machine perform thread clamping and back-tacking. If there is no alarm, please step back halfway to raise the presser foot. If it alarms, please replace the presser foot solenoid. 4) Step on the front pedal to let the sewing machine perform thread clamping, back-tacking and half anti-side trample. If there is no alarm, please back step pedal to trim. If it alarms, please replace the thread trimming solenoid.
E09 E11	The positioning signal of main shaft motor encoder is abnormal	1. Turn off the system power, check whether main shaft motor encoder connector is loose or fall off, restore it to normal and restart the system. 2. Check whether the motor zero point correction setting is correct; Reset the motor zero point correction; Whether there is oil on the encoder code plate, please clean it if there is any; 3. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service.
E14	Main shaft motor encoder signal is abnormal	1. Turn off the system power, check whether the main shaft motor encoder connector is loose or fall off, restore it to normal and restart the system. 2. Check whether the grating is installed correctly (whether the grating screws are tightened and whether the grating is in the center of the encoder). 3. Check whether there is oil on the encoder code plate, if there is, please clean it up, and restart the system after recovery. 4. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service.
E15	Main shaft motor drive overcurrent	1. Please check whether the motor power cord has bad contact; 2. Please check whether the motor power cord is crushed; 3. Please replace the control box or main shaft motor and notify the after-sales service.

E17	Machine overturned	1. Turn off the system power and check if the machine is overturned. 2. Check whether the machine protection switch detection setting is correct. 3. If it still does not work normally, please replace the control box or panel and notify the after-sales service.
E20	Main shaft motor failed to start	1. Turn off the system power, check whether main shaft motor power cord connector and encoder connector are loose or fall off, restore them to normal and restart the system. 2. Check whether the motor zero point correction setting is correct, reset the motor zero point correction 3. If it still does not work normally, please replace the control box or main shaft motor and notify the after-sales service.
E28	Maintenance warning	Please perform maintenance. (When an alarm occurs, press the S key to clear and re-count.)
E80	Abnormal communication between main chip and drive chip	Please replace the control box and notify the after-sales service.
E82	Back-tacking stepping motor overcurrent	1. Turn off the system power and observe whether back-tacking stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether connector of back-tacking stepping motor is loose or fall off, restore it to normal and restart the system. 2. If it still does not work normally, please replace the control box or back-tacking stepping motor and notify the after-sales service.
E84	The positioning signal of back-tacking stepping motor encoder is abnormal	1. Turn off the system power and observe whether back-tacking stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether the encoder connector of back-tacking stepping motor is loose or fall off, and restart the system after returning it to normal. 2. Check whether the grating is installed correctly (whether the grating screws are fastened and whether the grating is in the center of the encoder); 3. Check if there is oil on the grating code plate, if so, please clean it up, and restart the system after restoration; 4. If it still does not work normally, please replace the control box or back-tacking stepping motor and notify the after-sales service.
E85	Back-tacking motor encoder signal is abnormal	1. Turn off the power of the system, check whether the encoder connector of back-tacking stepping motor is loose or fall off, restore it to normal and restart the system. 2. Check whether the grating is installed correctly (whether the grating screws are fastened and whether the grating is in the center of the encoder); 3. Check if there is oil on the grating code plate, if so, please clean it up, and restart the system after restoration; 4. If it still does not work normally, please replace the control box or back-tacking stepping motor and notify the after-sales service.
E86	Back-tacking stepping motor	1. Turn off the power of the system, check whether the power cord

	failed to start	connector of back-tacking stepping motor and the encoder connector are loose or fall off, restore them to normal and restart the system. 2. Check whether the grating is installed correctly (whether the grating screws are fastened and whether the grating is in the center of the encoder); 3. Check if there is oil on the grating code plate, if so, please clean it up, and restart the system after restoration; 4. If it still does not work normally, please replace the control box or back-tacking stepping motor and notify the after-sales service.
E87	Back-tacking stepping motor locked-rotor	1. Turn off the system power and observe whether back-tacking stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether the power cord connector of back-tacking motor and the encoder connector are loose or fall off, restore them to normal and restart the system. 2. If it still does not work normally, please replace the control box or back-tacking stepping motor and notify the after-sales service.
E92	Thread trimming (presser foot) stepping motor overcurrent	1. Turn off the system power and observe whether trimming (presser foot) stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check if trimming (presser foot) stepping motor connector is loose or fall off, restore it to normal and restart the system. 2. If it still does not work normally, please replace the control box or trimming (presser foot) stepping motor and notify the after-sales service.
E94	Thread trimming (presser foot) stepping motor can’t find zero-point	1. Turn off the system power and observe whether trimming (presser foot) stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether trimming (presser foot) stepping motor encoder connector is loose or falling off, and whether there is oil on the encoder code plate. If there is, please clean it up, restore it to normal and restart the system. 2. If it still does not work normally, please replace the control box or trimming (presser foot) stepping motor and notify the after-sales service.
E95	Thread trimming (presser foot) stepping motor encoder signal is abnormal	1. Turn off the system power, check if the thread trimming (presser foot) stepping motor encoder connector is loose or fall off, restore it to normal and restart the system. 2. If it still does not work normally, please replace the control box or the thread trimming (presser foot) stepping motor and notify the after-sales service.
E96	Thread trimming (presser foot) stepping motor failed to start	1. Turn off the power of the system, check whether the thread trimming (presser foot) stepping motor power cord connector and encoder connector are loose or fall off, and restart the system after returning it to normal. 2. If it still does not work normally, please replace the control box or the thread trimming (presser foot) stepping motor and notify the after-sales service.
E97	Thread trimming (presser foot) stepping motor stalling	1. Turn off the system power and observe whether the thread trimmer (presser foot) stepping motor is stuck. If it is stuck, remove the mechanical failure of the machine first. If it is normal, check whether the thread trimming (presser foot) stepping motor power cord connector and encoder connector are loose or fall off, restore them to normal and restart the system. 2. If it still does not work normally, please replace the control box or the thread trimming (presser foot) stepping motor and notify the after-sales service.

4 Port diagram

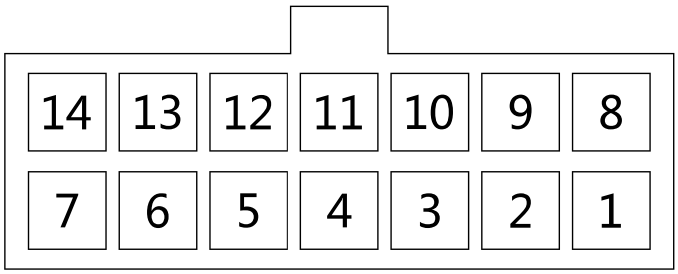
6P function port description



1. Suction with clamp function without any thrum: 3 (+32V), 6

2. Hook thread with clamp function without any thrum: 2 (+32V), 5

12P function port description



1. Thread clamping: 2, 9 (+32V)

2. Thread tension releasing: 3, 10 (+32V)

3. LED Light: 4 (DGND), 11 (S5V)

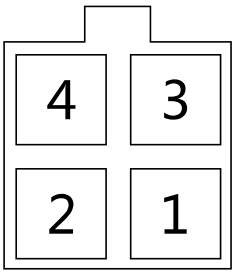
4. Manual back-tacking: 5

5. Mending stitch: 7

6. 1/2 mending stitch: 14

7. 1/4 mending stitch: 12

4P function port description



1. Presser foot height sensor 1, 3(DGND), 4(S5V)



NTD7701
4-Needle, 6-Thread Flat-Seamer,
Feed-Off-The-Arm Machine



MT4506P-064
6-Needle Double Chain Stitch Machine



UHU9304/TR025
Automatic chain cutter device direct-drive
cylinder bed top feed overlock fitted with
labor-saving rib folder



CXM2085-0-356M
Attaching Pre-Closed Flat Knit Elastic Band
Onto Waists Of Tubular Goods
(With Right Knife, Rear Puller & Chips Suction Pipe)

精機機械廠股份有限公司
CHING CHI MACHINE CO., LTD.

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