

# QD2622G 系列控制系统说明书 V1.0.02

No. 10404052

## ⚠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，必须确定工作电压符合本产品标识中规定的额定电压值。
- 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 操作面板按键功能说明

序号	图标	名称	功能说明
1		功能参数编辑键	①若短按，进入“用户参数设置”界面。 ②若长按，进入“技术员参数设置”界面。 ③同时按住[P]+[S]键开机，进入“高级参数设置”界面。 ④锁屏时，若点击，解锁。
2		参数查看保存键	对所选参数号内容进行查看和保存
3		上键/加速键	①若短按，提高转速； ②若长按，进入速度相关参数设置界面；
4		下键/减速键	①若短按，降低转速； ②若长按，进入速度相关参数设置界面；
5		左键/LED-	①一般模式界面下，若短按，降低 LED 灯亮度； ②参数设置界面下，若短按，查看上一项参数；
6		右键/LED+	①一般模式界面下，若短按，增加 LED 灯亮度； ②参数设置界面下，若短按，查看下一项参数；
7		前剪线键/后剪线键	①一般模式界面下，若短按，进入前剪线设置界面；若长按，进入后剪线设置界面； ②前剪线设置界面，若短按，实现前剪线功能的开启与关闭的循环切换；以及短按上下键调节前剪线开启时机（与 P-27 项同步）。 ③后剪线设置界面，若短按，实现后剪线功能的开启与关闭的循环切换；以及短按上下键调节后剪线开启时机（与 P-28 项同步）。 ④参数界面下，若短按，选择参数值数位；
8		模式选择键/吸气键	①一般模式界面下，若短按，进入模式设置界面；若长按，进入吸气设置界面； ②模式设置界面，若短按，实现 4 种缝纫模式（全人工、自由缝、半自动、全自动）的切换； ③吸气设置界面，若短按，实现 4 种吸气模式（吸气关闭、前吸气开、后吸气开、前后吸气开）的切换。
9		压脚键/电眼键	①一般模式界面下，若短按，进入抬压脚设置界面；若长按，长按进入传感器的实时感应值和当前阈值的查看界面； ②抬压脚设置界面，若长按，实现 4 种抬压脚模式（自动抬压脚关闭、前抬、后抬、前后抬）的切换。 ③参数界面下，若长按，将当前参数值保存为用户默认参数值；
10		一键恢复	在一般模式界面下，用机针插入该孔，长按 3 秒即可恢复出厂设置。

## 2 特殊功能操作说明

序号	功能名称	功能说明
1	上定位调整	第一步：同时按住 P 键+S 键，直接进入 P-70 项； 第二步：调到 P-72 项； 第三步：手轮方向看，顺时针转动手轮转到上定位，按 S 键保存当前数值。
2	下定位调整	第一步：同时按住 P 键+S 键，直接进入 P-70 项； 第二步：调到 P-73 项； 第三步：手轮方向看，顺时针转动手轮转到下定位，按 S 键保存当前数值。
3	布料识别模式 1	第一步：在一般模式界面下同时按加键和减键，可进入传感器灵敏度调试界面；

		第二步：请将布移开传感器之后，按感应键； 第三步：请将布遮住传感器之后，按感应键；设置完成。（界面有提示）
4	布料识别模式 2	在一般模式界面下，同时按住 P 键+电眼键，进入布料识别模式 2，根据提示，选取所需要识别的布料类型，等待布料识别完成回到主界面。
5	计件功能	在一般模式界面下，同时按住前剪线键+压脚键，进入计件界面；
6	一键测试功能	在一般模式界面下，同时按住前剪线键+模式选择键，进入 P-79 项一键测试参数界面。
7	锁屏功能	正常状态下，当面板无操作时间达到 P-93 项(锁屏时间)时自动进入锁屏状态，并在主界面的右方显示一个“锁”图标。锁屏时，若点击 P 键，可解锁。

### 3 系统参数设置说明

用户参数（在一般模式下按[P]键进入）				
序号	项目名称	范围	默认值	参数说明
P-01	缝纫速度（转/分）	100-7000	5000	车缝时的最高转速设定。
P-02	停针定位选择	0-1	0	0: 上停针 1: 下停针
P-03	起缝速度（转/分）	100-6000	4000	有剪线功能时：前传感器触发启动和后传感器信号结束时（剪线前）的速度设置
P-04	启动模式	0-1	1	（全自动模式下有效） 0: 自动模式 1: 脚控模式（前感应+脚踏板前踏启动）
P-05	自动半自动模式	0-1	1	（P-06 开启时） 0: 自动（配合 P-04 使用） 1: 半自动（脚控模式）
P-06	自动感应开关	0-1	1	0: 关闭（全人工模式开启）； 1: 开启（实现自动/半自动模式，与 P-05 项匹配使用）
P-07	自动剪线开关	0-3	3	（P70=横刀机型，此参数项有效） 0: 关闭 1: 前剪（中间传感器接收到信号时剪线） 2: 后剪（后传感器接收信号结束后剪线） 3: 前后剪
	自动松线开关	0-1	1	（P70=侧刀机型，此参数项有效） 0: 关闭 1: 后松线
P-08	自动吸气	0-3	0	0: 关闭 1: 前剪吸气 2: 后剪吸气 3: 前后剪吸气
P-09	自动拉布	0-1	0	（P70=横刀机型，此参数项有效） 0: 关闭 1: 缝中拉布
P-10	自动抬压脚	0-3	0	0: 关闭 1: 前抬（前传感器接收到信号时） 2: 后抬（后传感器信号结束时） 3: 前后抬

P-11	缝中抬压脚	0-1	0	(全人工/半自动模式下有效) 0: 关闭 1: 开启 (停车时自动抬压脚)
P-12	剪线后抬压脚	0-1	1	0: 关闭 1: 开启
P-13	半反踏抬压脚	0-2	0	(全人工/半自动模式下有效) 0: 半反&反踏 1: 不抬 2: 反踏抬
P-14	手动吸气	0-2	0	0: 不吸 1: 后吸 2: 前后吸
P-15	机头灯亮度	0-4	3	0: 熄灭 1→4 亮度等级, 数字越大越亮
P-16	低气压模式	0-1	0	0: 正常模式 1: 低气压模式
P-17	半自动连续缝制	0-1		0: 关闭 1: 前踏连续缝 (P70=横刀机型, 默认: 1; P70=侧刀机型, 默认: 0)
P-18	半自动恒速剪线	0-1	0	0: 关闭 (完成后剪线前不执行 P-03 项的速度) 1: 恒剪线速度 (前后剪线的速度固定为 P-03 项的速度)
P-19	后松线开关选择	0-1	1	(P70=侧刀机型, 此参数项有效) 0: 前感应触发 1: 后感应触发
P-20	剪线后停针位选择	0-1	1	0: 下停针 1: 上停针
P-21	前松线动作时机 (针)	0-50	5	(P70=侧刀机型, 此参数项有效)
P-22	前接收器 E#开关	0-1		0: 开启 (打开前传感器, 传感器信号+脚踏板启动) 1: 关闭 (关闭前传感器, 脚踏板直接启动) (P70=横刀机型, 默认: 0; P70=侧刀机型, 默认: 1)
P-23	间歇吸气吸时间 (×100 毫秒)	1-600	20	数字越大时间越长
P-24	间歇吸气停时间 (×100 毫秒)	0-600	0	0: 为无间歇吸气前吸气关闭时间 (P-46 项设置为“1”时配合使用有效)
P-25	吸风同步 (P16=1) (毫秒)	0-2000	200	布边吸风同步时间 (P-16 设置为“1”时配合使用有效)
P-26	两传感器间针数 (针)	1-600	100	循环周期参数: 在一个周期内后传感器接收到信号后才能连续运行, 否则一个周期停止
P-27	前剪线延迟针数 (针)	0-50	4	(P70=横刀机型, 此参数项有效) 数值越小越提前, 线头预留越长 (中传感器触发)
P-28	后剪线延迟针数 (针)	0-50	4	(P70=横刀机型, 此参数项有效) 数值越小越提前, 结尾线头越短 (后传感器触发)
	后松线开启时机 (针)	0-50	2	(P70=侧刀机型, 此参数项有效)
P-29	前吸气开启针数 (针)	0-50	1	(P70=侧刀机型, 此参数项有效)
P-30	前吸气关闭延时 (毫秒)	100-5000	100	(P70=横刀机型, 此参数项有效) 数值越小, 关闭越快
	前吸气关闭针数 (针)	0-50	25	(P70=侧刀机型, 此参数项有效)
P-31	后吸气关闭延时 (毫秒)	100-5000		数值越小, 关闭越快 (P70=横刀机型, 默认: 300; P70=侧刀机型, 默认: 1000)
P-32	拖布轮开启时机 (针)	0-50	20	(P70=横刀机型, 此参数项有效)
P-33	后吸气开启时机 (针)	0-50	3	(P70=侧刀机型, 此参数项有效)
P-34	全人工剪线保护	0-1	1	(P70=横刀机型, 此参数项有效)

				0: 关闭 1: 开启
P-35	停车延迟针数(针)	1-99		布过完传感器后几针自动停车(后剪线关闭状态有效) (P70=横刀机型, 默认: 1; P70=侧刀机型, 默认: 3)
P-36	前传感器响应时间(毫秒)	10-990	50	前传感器触发时间 (数值越小反应越快, 数值越大反应越慢)
P-37	前传感器灵敏度	0-900	480	为适应不同布料设定前传感器的透布强度
P-38	中间传感器灵敏度	0-900	540	为适应不同布料设定中传感器的透布强度
P-39	前抬压脚保持时间(毫秒)	100-2000	300	(全自动/半自动模式下) 前触发自动抬压脚后保持时间, 数值越大保持时间越长
P-40	后抬压脚启动时间(毫秒)	0-2000	120	后自动抬压脚启动时间, 数值越小反应越快
P-41	压脚全始出力时间(毫秒)	10-990	100	数值越大压脚抬的越高(注: 不能太高)
P-42	压脚出力周期信号(%)	10-90	20	压脚动作时, 以周期性省电输出, 避免电磁铁发烫
P-43	压脚下放时间(毫秒)	10-990	20	压脚下放时序的动作时间
P-44	压脚保护时间(秒)	1-120	5	中途停车抬压脚、剪线后停车自动抬压脚、反踏抬压脚后保持时间到后强制关闭
P-45	剪线时间(毫秒)	10-990	40	(P70=横刀机型, 此参数项有效) 时间越长, 剪线力度越大
	松线时间(毫秒)	0-5000	1000	(P70=侧刀机型, 此参数项有效)
P-46	连续送布吸气	0-2		0: 不吸气 1: 长吸气 2: 同步吸气 (P70=横刀机型, 默认: 0; P70=侧刀机型, 默认: 2)
P-47	已完成件数	0-65535	0	
P-48	开机找上定位	0-1	1	0: 关闭 1: 开启
P-49	针迹(毫米)	1-7	3	使用上下键调整到与实际针距相符
P-50	上定位调整	0-24		与 P-72 项设置同步
P-51	下定位调整	0-24		与 P-73 项设置同步
P-52	测试速度(转/分)	100-6000	5500	使用上下键调整
P-53	测试工作时间 (×100 毫秒)	1-250	50	使用上下键调整
P-54	测试停止时间 (×100 毫秒)	1-250	20	使用上下键调整
P-55	测试 A: 持续运行	0-1	0	0: 停止 1: 运行
P-56	测试 B: 含功能运行	0-1	0	0: 停止 1: 运行
P-57	测试 C: 启停运行	0-1	0	0: 停止 1: 运行
P-58	缝台保护	0-1	1	0: 停用 1: 启用
P-59	压脚保护	0-1	1	0: 停用 1: 启用
P-60	电动/气动	0-1	0	0: 电动 1: 气动
P-61	后踏剪线开关	0-7	0	0: 全关 1: 全人工开 2: 半自动开 3: 全自动开

				4: 全人工和半自动开 5: 半自动全自动开 6: 全人工全自动开 7: 全人工半自动全自动开
P-62	电机转动方向	0-1	0	从手轮方向看: 0: 正转(顺时针) 1: 反转(逆时针)
P-63	语言选择	0-1	1	0: 英文 1: 中文
P-64	前发射管强度	0%-100%	50%	调节前发射管强度
P-65	中发射管强度	0%-100%	50%	调节中发射管强度
P-66	后发射管强度	0%-100%	50%	调节后发射管强度
P-67	后传感器灵敏	0-900	530	为适应不同布料设定后传感器的透布强度
P-68	手动切刀速度(转/分)	100-6500	1000	(P70=侧刀机型, 此参数项有效)
P-69	后感应缓响应时间 (毫秒)	0-3000	0	在缝制网格布的情况下可以调节此项, 以达到想要的效果。
P-70	机型选择	0-1	0	0: 横刀机型 1: 侧刀机型
P-72	手动上定位调整	0-24	4	从手轮方向看, 顺时针转动手轮转到上定位, 按  键保存当前 0-9999 数值。
P-73	手动下定位调整	0-24	14	从手轮方向看, 顺时针转动手轮转到下定位, 按  键保存当前数值。
P-74	参数查看	1-5	1	使用上下键转换; N1: 电控软件版本 N2: 面板软件版本 N3: 转速 N4: 脚踏板 AD N5: 驱动软件版本
P-75	踏板类型选择	0-1	0	0: 普通踏板 1: 三联踏板
P-76	密码设置	0-9999	8012	
P-77	零点角度设置			
P-78	吸风桶类型	0-2	1	0: 有刷 1: 无刷 2: 气阀
P-79	一键测试	0-1	0	0: 关闭 1: 开启
P-80	针杆护罩保护	0-1	0	0: 停用 1: 启用
P-81	电磁铁保护	0-1	1	0: 停用 1: 启用
P-82	报警件数	0-9990	0	
P-83	待机显示件数	0-1	0	0: 关闭 1: 开启
P-84	计件模式选择	0-1	0	0: 增序 1: 减序
P-85	计件剪线次数	0-50	1	
P-86	语音音量	0-4	4	
P-87	语音播报选择	0-3	3	

P-88	用户机型		2	
P-89	预留			
P-90	语音芯片选择		1	
P-91	预留			
P-92	预留			
P-93	锁屏时间（秒）	0-300	10	
P-94	薄料透光度	1-800	20	
P-95	普通料透光度	1-800	100	
P-96	网格料透光度	1-800	20	
P-97	特殊料检测针数	0-50	3	
P-98	减速开关	0-1	1	

注：参数初始值仅供参考，实际参数值以实物为准。

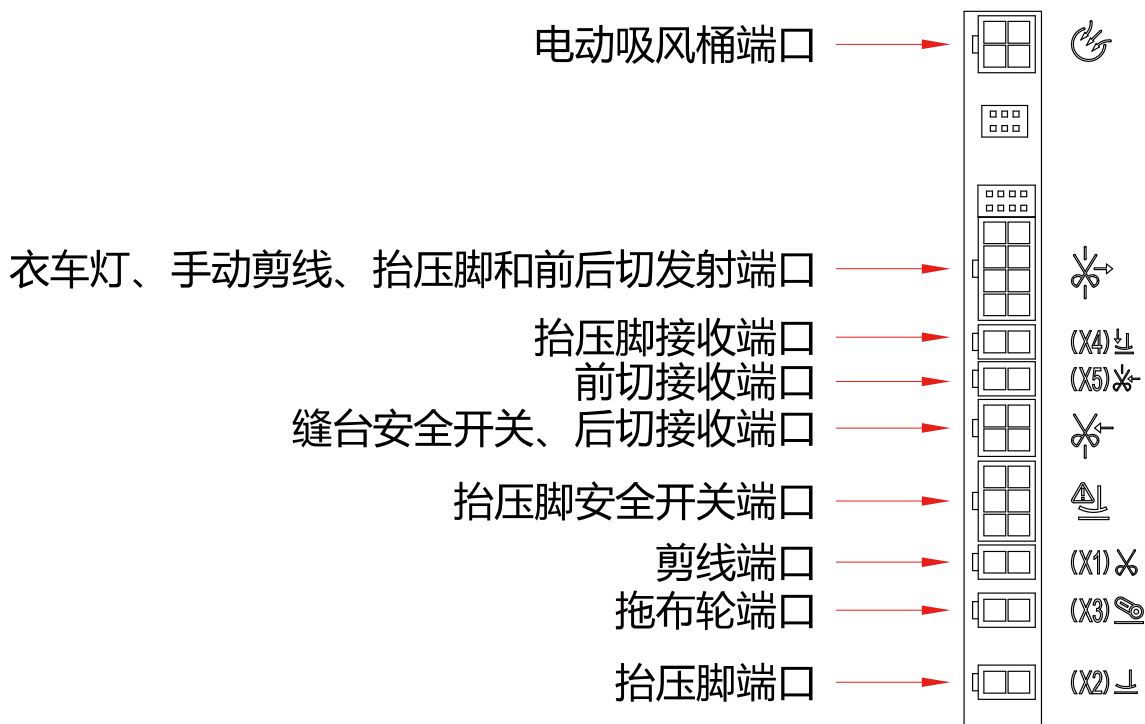
#### 4 错误代码表

错误码	内容	对策
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）。
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）。
E03	主 CPU 与驱动 CPU 通信异常	关闭系统电源，再重新开启。
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。
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。
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。
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。
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。
E15	电力模块不正常过流保护	关闭系统电源，再重新开启。
E16	压脚位置异常	关闭系统电源，检查压脚位置是否正常，压脚检测装置是否损坏，接口是否松动或脱落。
E17	缝台位置异常	关闭系统电源，检查缝台位置是否正常，缝台检测装置是否损坏，接口是否松动或脱落。
E23	手动剪线锁定	短按 P 键可以解除报警，使用剪线功能时，尽可能避免超快速的连接手动剪线键的情况。
NC	面板 CPU 与主 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。

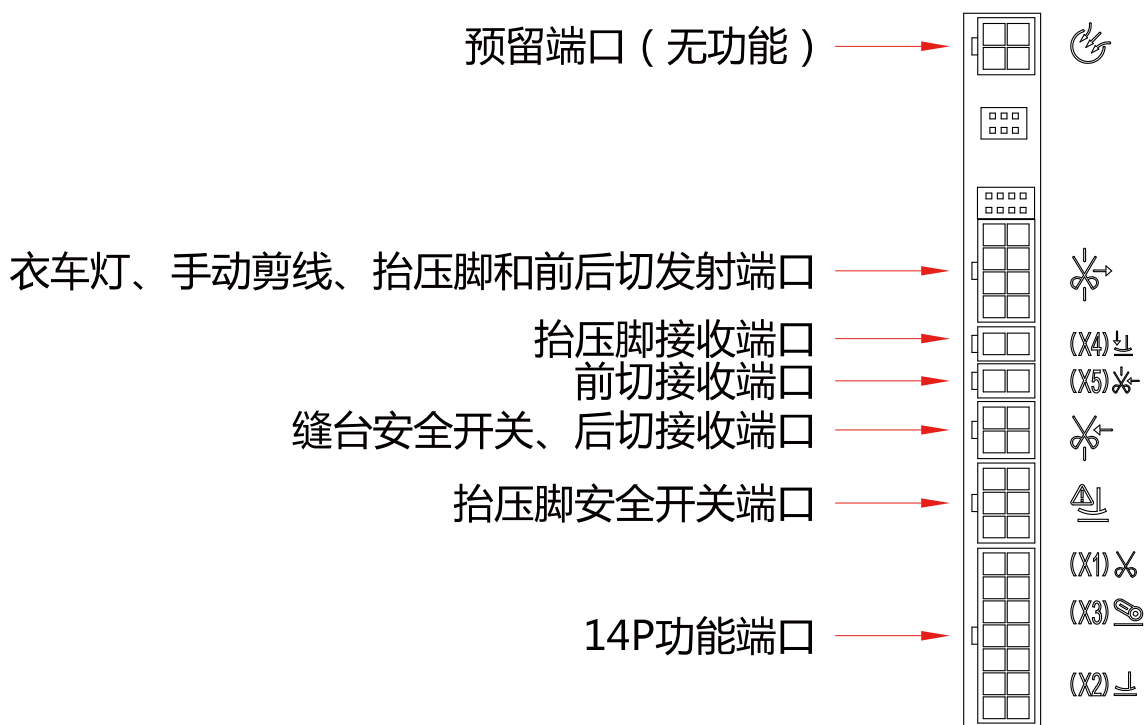


## 5 端口示意图

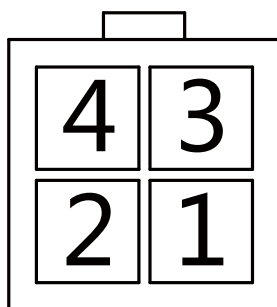
### 5.1 电动款机型端口



### 5.2 气动款/侧刀款机型端口

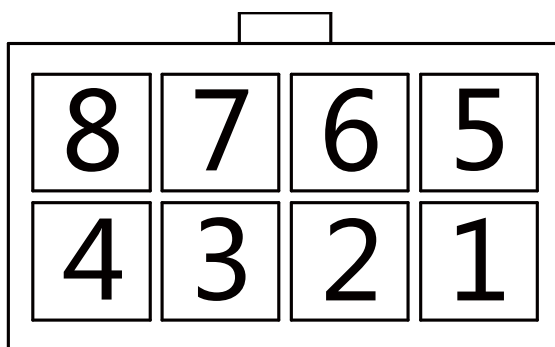


### 5.3 4P 电动吸风桶端口对应表



电动吸风桶：2 (N 线)、3 (GND)、4 (L 线)

### 5.4 8P 端口对应表



前切发射：1 (-)、3 (+)

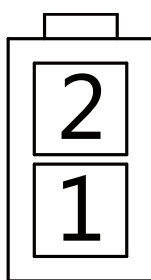
压脚发射：2 (-)、3 (+)

后切发射：3 (+)、4 (-)

衣车灯：5 (+)、6 (-)

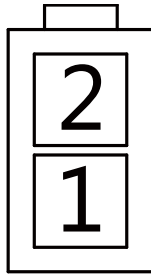
手动剪线：3 (+5V)、7 (信号)、8 (GND)

### 5.5 压脚接收端口对应表



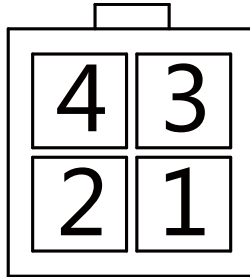
压脚接收：1 (+)、2 (-)

### 5.6 前切接收端口对应表



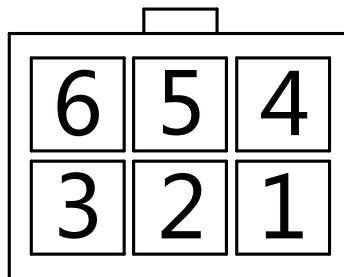
前切接收: 1 (+)、2 (-)

### 5.7 4P 端口对应表



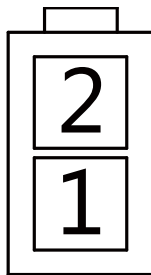
缝台安全开关: 1 (信号)、2 (GND)、4 (+5V)  
后切接收: 2 (-)、3 (+)

### 5.8 6P 端口对应表



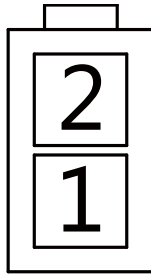
压脚安全开关: 1 (+5V)、2 (GND)、3 (信号)

### 5.9 剪线端口对应表



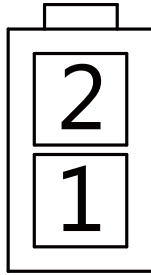
剪线: 1、2 (+32V)

### 5.10 拖布轮端口对应表



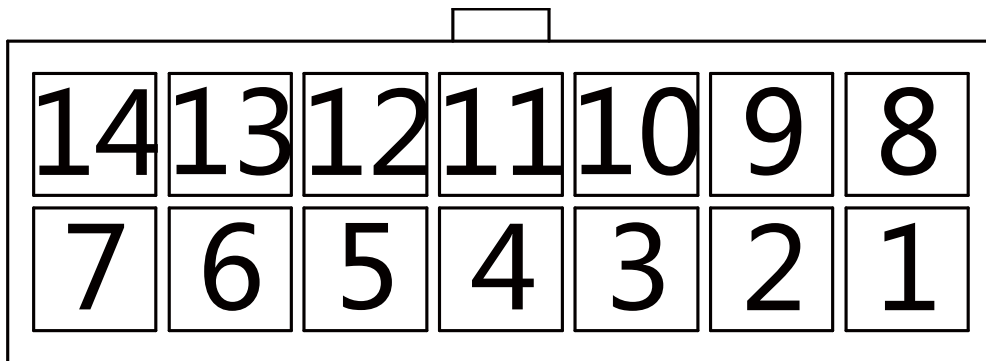
拖布轮: 1、2 (+32V)

5.11 压脚端口对应表




压脚: 1、2 (+32V)

5.12 14P 功能端口对应表



剪线: 1(-)、8(+)  
 后吸: 2(-)、9(+)  
 拖布轮: 3(-)、10(+)  
 压脚: 6(-)、13(+)  
 前吸: 7(-)、14(+)

### 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 matches the rated voltage indicated on the motor's name plate.
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.
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

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 Operation Panel for Each Key Name and Function Definition

No.	Icon	Description	Remarks
1		Function key	<p>①In the normal mode hold [P] key enter to User parameter setting mode. .</p> <p>②In the shut-off condition, hold [P] key turn on machine enter to technician parameter setting mode.</p> <p>③In the shut-off condition, Hold [P] key and [S] key turn on the machine enter to the senior parameter setting mode.</p> <p>④Under the parameter setting interface, Press [P] key to return but not save the parameter.</p>
2		Save key	Under the parameter setting interface, press [S] key to save.
3		Up key / Speed increase	<p>①In the normal mode, press this key can increase speed, long-press for 3s can enter to speed setting interface.</p> <p>②Under the parameter setting interface, press this key can increase the parameter.</p>
4		Down key / Speed decrease	<p>①In the normal mode, press this key can decrease speed, long-press for 3s can enter to speed setting interface.</p> <p>②Under the parameter setting interface, press this key can decrease the parameter.</p>
5		Left key / LED-	<p>①In the normal mode, press this key can increase brightness.</p> <p>②Under the parameter setting interface, press this key can check last parameter</p>
6		Right key / LED+	<p>①In the normal mode, press this key can decrease brightness.</p> <p>②Under the parameter setting interface, press this key can check next parameter</p>
7		Forward trimming / Backward trimming	<p>①In the normal mode, press this key can execute the cycle shift of forward trimming ON, forward trimming OFF. Press up and down key it can adjustment forward trimming action times. (same as P-27)</p> <p>②In the normal mode, long-press this key for 3s can enter to trimming setting interface.</p> <p>③In the normal mode, press this key can execute the cycle shift of backward trimming ON, backward trimming OFF. Press up and down key it can adjustment backward trimming action times. (same as P-28)</p> <p>④In the normal mode, long-press this key for 3s can enter to trimming setting interface.</p>
8		Mode selection / Auto-suction mode	<p>①In the normal mode, press this key to enter to mode selection setting. Long-press this key to enter to auto-suction setting.</p> <p>②In the normal mode, press this key can execute the cycle shift of the following four modes:</p> <ol style="list-style-type: none"> <li>1. Full automatic: start-up according full sensor signal.</li> <li>2. Free sewing.</li> <li>3. Semi- automatic: start-up according to front sensor signal + pedal completion (same as P-05).</li> <li>4. Full manual: start-up according to the pedal completion.</li> </ol> <p>③Press this key it can execute the cycle shift of suction off, forward suction on, backward suction on, suction on.</p>

9		Presser foot lifting mode / Sensor situation check	<p>①In the normal mode, long-press this key for 3s to enter to presser foot lifting mode setting. Long-press this key for 3s to enter to sensor sensitivity setting interface.</p> <p>②In the normal mode, Press this key it can execute the cycle shift of close, front foot lifting, Rear foot lifting, front and rear foot lifting, close (same as P-10).</p> <p>③ In the normal mode, Short-press this key can check sensor real-time sensor value and current threshold value.</p>
10		Reset	In the normal mode interface, insert the needle into the hole and press it for 3 seconds to restore the factory settings.

## 2 Special Function Operation Definition

No.	Function name	Function Description
1	UP position adjustment	<ol style="list-style-type: none"> <li>Under the shutdown state, press P + S key at the same time to turn on machine, display P-70;</li> <li>Adjust parameter P-72;</li> <li>From hand-wheel direction, clockwise turn hand-wheel to up position, press S key to save current value.</li> </ol>
2	Down position adjustment	<ol style="list-style-type: none"> <li>Under the shutdown state, press P + S key at the same time to turn on machine, display P-70;</li> <li>Adjust parameter P-73;</li> <li>From hand-wheel direction, clockwise turn hand-wheel to down position, press S key to save current value.</li> </ol>
3	Fabric recognition mode 1	<ol style="list-style-type: none"> <li>Under the normal mode interface, press Up key and Down key at the same time to enter sensor sensitivity adjustment interface.</li> <li>Please remove cloth after Three-sensor, press Sensor situation check key;</li> <li>Please cover cloth after three-sensor, press Sensor situation check key, finished setting.</li> </ol>
4	Fabric recognition mode 2	Under the normal mode interface, press P key + Sensor situation check key at the same time to enter fabric recognition mode 2, select the type of fabric to be recognized according to the prompts, and wait for the completion of fabric recognition to return to the main interface..
5	Piecework function	Under the normal mode interface, press Forward trimming key + Mode selection key at the same time to enter piecework interface.
6	One-key test function	Under the normal mode interface, press and hold the Forward trimming key + Mode selection key to enter the P-79 one-key test parameter interface.
7	Lock screen function	Under normal state, the panel will automatically enter the lock screen state when no operation time reaches P-93 (lock screen time), and a "lock" icon will be displayed on the right side of the main interface. When locking the screen, click P key to unlock it.

## 3 System Parameter Setting Definition

User Parameter ( Under the normal mode press [P] key to access)				
No	Function parameters	Range	Default	Description
P-01	Sewing Speed(r/min)	100-7000	5000	Maximum sewing speed setting
P-02	Needle stop positioning selection	0-1	0	0:Up needle position 1: Down Needle position

P-03	Start sewing speed(r/min)	100-6000	4000	With trimming function: the speed setting for front sensor trigger start-up and Back sensor signal finish (before trimming)
P-04	Start-up mode	0-1	1	(Valid for full-automatic mode) 0: Automatic mode 1: Foot control mode(Start-up by Front sensor + toe down the pedal)
P-05	Automatic/semi-automatic mode selection	0-1	1	(P-06 is turn on) 0: Semi-automatic (Match with P-04 use) 1: Automatic (Foot control mode)
P-06	Auto sensing switch	0-1	1	0: OFF (Full manual mode is turn on) 1: ON (It can execute automatic/ semi-automatic mode also match with P-05 use)
P-07	Auto trimming switch	0-3	3	(P-70= Horizontal knife type, this parameter is valid) 0: OFF 1: Front trimming (Mid-sensor receive signal then trimming) 2: Rear trimming (Back-sensor receive signal after finished trimming) 3: First and later trimming
	Automatic thread tension release switch	0-1	1	(P-70=Side knife type, this parameter is valid) 0: OFF 1: Backward thread tension release
P-08	Auto suction	0-3	0	0: OFF 1: Front trimming suction 2: Rear trimming suction 3: Front and rear trimming suction
P-09	Automatic cloth feeding	0-1	0	(P-70= Horizontal knife type, this parameter is valid) 0: OFF 1: ON
P-10	Auto presser foot lifting	0-3	0	0: OFF 1: Front foot-lifting(Front sensor receive signal) 2: Rear foot-lifting(Rear sensor signal after finish) 3: Front and Rear foot-lifting
P-11	Presser foot lifting when stop on the sewing	0-1	0	(Valid for full-manual and semi-automatic mode) 0: OFF 1: ON (when stop on the sewing the presser foot lifting automatically)
P-12	Presser foot lifting after trimming	0-1	1	0: OFF 1: ON
P-13	Presser foot lifting when half back treadle	0-2	0	(Valid for full-manual / semi-automatic mode) 0: Presser foot lifting when half back step/ back step 1: Lay down 2: Reverse step up presser foot
P-14	Manual trimming suction	0-2	0	0: No suction 1: Rear suction 2: Front suction and rear suction
P-15	Machine head lamp brightness	0-4	3	0: OFF 1→4 the brightness grade, the more value the more



				brightness.
P-16	Low air pressure mode	0-1	0	0: Normal mode 1: Low pressure mode
P-17	Semi-automatic continuous sewing	0-1		1: OFF 0: Continuous sewing when toe down the treadle (P-70= Horizontal knife type, Default: 1) (P-70= Side knife type, Default: 0)
P-18	Semi-automatic constant rate trimming	0-1	0	0: OFF (after finish before trimming not execute P-03 speed) 1: Constant trimming speed the back sensor speed is fixed with P-03
P-19	Backward thread tension release switch selection	0-1	1	(P-70=Side knife type, this parameter is valid) 0: Front sensor trigger 1: Rear sensor trigger
P-20	Stop position after trimming selection	0-1	1	0: Down position 1: Up position
P-21	Front thread action time(stitches)	0-50	5	(P-70=Side knife type, this parameter is valid)
P-22	Front Receiver E# switch	0-1		0: ON (turn on the front sensor, sensor signal + pedal) 1: OFF (Close front sensor, pedal direct turn on) (P-70= Horizontal knife type, Default: 0) (P-70= Side knife type, Default: 1)
P-23	Intermittent suction opening time(×100ms)	1-600	20	The more value the more time
P-24	Intermittent air suction off time (×100ms)	0-600	0	0: for no intermittent air suction Front suction off time (valid when P-46 function setting is 1)
P-25	Low pressure mode, selvage suction synchronization time (P16=1)	0-2000	200	Valid for P-16 setting is 1.
P-26	The stitches number between two sensors	1-600	100	Cycle period parameter. In a circle the rear sensor receive signal then can continue running, otherwise a cycle stop.
P-27	The delayed stitches number of front trimming	0-50	4	(P-70= Horizontal knife type, this parameter is valid) The smaller value the more in advance, thread will retain longer. (Mid-sensor trigger )
P-28	The delayed stitches number of rear trimming	0-50	4	(P-70= Horizontal knife type, this parameter is valid) The small value the more in advance, the short of end-thread (Back-sensor trigger)
	The starting time for rear thread	0-50	2	(P-70= Side knife type, this parameter is valid)
P-29	The starting stitches for front suction(stitches)	0-50	1	(P-70= Side knife type, this parameter is valid)
P-30	The delayed time of front suction off (ms)	100-5000	100	(P-70= Horizontal knife type, this parameter is valid)
	Number of stitches when forward suction OFF (stitches)	0-50	25	(P-70= Side knife type, this parameter is valid)
P-31	The delayed time after trimming suction (ms)	100-5000		The small value the close is fast. (P-70= Horizontal knife type, Default: 300)

				(P-70= Side knife type, Default: 1000)
P-32	The times when cloth-pulling ON	0-50	20	(P-70= Horizontal knife type, this parameter is valid)
P-33	Times of Backward suction ON (stitches)	0-50	3	(P-70= Side knife type, this parameter is valid)
P-34	Trimming protection by manually	0-1	1	(P-70= Horizontal knife type, this parameter is valid) 0: OFF 1: ON
P-35	The delayed stitches number before the machine stops (Stitches)	1-99		After through cloth back-sensor how many stitches will stop the machine automatically. (Valid for Back-sensor OFF condition) (P-70= Horizontal knife type, Default: 1) (P-70= Side knife type, Default: 3)
P-36	The response time of front sensor (ms)	10-990	50	Front sensor trigger time: the small value the response is fast, the large value the response is slow.
P-37	The sensitivity of front sensor	0-900	480	In order to adapt different cloth material setting front sensor receive strength.
P-38	The sensitivity of middle sensor	0-900	540	In order to adapt different cloth material setting mid-sensor receive strength.
P-39	The delaying time of front presser foot lifter (ms)	100-2000	300	(Under the full automatic/ semi-automatic) Front trigger retention time after auto-foot-lifting, the larger value the longer retention time.
P-40	Starting time for rear presser foot lifter(ms)	0-2000	120	The starting time of rear presser foot lifting, the smaller value the faster of response.
P-41	Full-on time setting for presser foot(ms)	10-990	100	The larger value the higher of foot-lifting (Noted: Not too high)
P-42	Duty-cycle time setting for presser foot (%)	10-90	20	Adjustment for duty-cycle of AFL. Fine tuning can reduce the over- heating.
P-43	The time for the presser foot laying down (ms)	10-990	20	The action time of presser foot laying down sequence.
P-44	Presser foot protection(s)	1-120	5	Stop on the sewing the presser foot lifting, stop after trimming presser foot lifting, positive closing after heeling pedal for retention time.
P-45	Trimming time (ms)	10-990	40	(P-70= Horizontal knife type, this parameter is valid) the longer time, the greater trimming pressure
	Tension release times (ms)	0-5000	1000	(P-70= Side knife type, this parameter is valid)
P-46	Suction when continuous feeding	0-2		0: No suction 1: Long suction 2: Synchronizer suction (P-70= Horizontal knife type, Default: 0) (P-70= Side knife type, Default: 2)
P-47	Total pieces	0-65535	0	
P-48	Needle goes up as power on	0-1	1	0: OFF 1: ON
P-49	Stitch(mm)	1-7	3	Adjustment same as actual needle distance by up and down key.

P-50	Up needle position adjustment	0-24		Same as P-72
P-51	Down position adjustment	0-24		Same as P-73
P-52	Test speed(r/min)	100-6000	5500	Adjustment by up and down key
P-53	Test working time (×100ms)	1-250	50	Adjustment by up and down key
P-54	Test stop time (×100ms)	1-250	20	Adjustment by up and down key
P-55	Item A testing: Continuous running	0-1	0	0: STOP 1: RUN
P-56	Item B testing: With function running	0-1	0	0: STOP 1: RUN
P-57	Item C testing: Without function running	0-1	0	0: STOP 1: RUN
P-58	Machine plate protection switch	0-1	1	0: OFF 1: ON
P-59	Presser foot protection switch	0-1	1	0: OFF 1: ON
P-60	Electric /Air-powered	0-1	0	0: Electric 1: Air-powered
P-61	Trimming switch by heeling pedal	0-7	0	0: All OFF 1: All ON by manually 2: Semi-auto ON 3: Auto ON 4: Manual and semi-auto ON 5: Semi-auto and auto ON 6: Manual and auto ON 7: Manual and semi-auto and auto ON
P-62	Rotate direction	0-1	0	Through Hand-wheel direction: 0: Corotation (Clockwise) 1: Reversal (Counter clockwise)
P-63	Language	0-1	1	0: English 1: Chinese
P-64	The strength of front sensor	0%-100%	50%	Adjustment front sensor strength
P-65	The strength of mid-sensor	0%-100%	50%	Adjustment mid-sensor strength
P-66	The strength of back sensor	0%-100%	50%	Adjustment back sensor strength
P-67	The sensitivity of back sensor	0-900	530	In order to adapt different cloth material setting back-sensor receive strength.
P-68	Cutter speed by manually (r/min)	100-6500	1000	(P-70= Side knife type, this parameter is valid)
P-69	Response time of back sensor(ms)	0-3000	0	Response time of back-sensor, when sewing such as mesh cloth can adjust this item, then can achieve you want effects.
P-70	Model selection	0-1	0	0: Horizontal knife type 1: Side knife type
P-72	Manually up positioning adjustment	0-24	4	Through hand-wheel direction, clockwise turn hand-wheel to up position press [S] to save the current value.
P-73	Manually down positioning adjustment	0-24	14	Through hand-wheel direction, clockwise turn hand-wheel to down position then press [S] to save current value.

P-74	Parameter reference	1-5	1	Use up and down key shift: N1: Control box software version N2: Panel software version N3: Rotation N4: Pedal AD N5: Driver software version
P-75	Pedal type	0-1	0	0: Normal pedal 1: Stand type pedal
P-76	Password Setting	0-9999	8012	
P-77	Zero-point angle setting			
P-78	Suction bucket type	0-2	1	0: With brush    1: Without brush    2: Valve
P-79	One key test	0-1	0	0: OFF    1: ON
P-80	The needle bar shield protection switch	0-1	0	0: OFF    1: ON
P-81	Electromagnet protection	0-1	1	0: OFF    1: ON
P-82	Alarm pieces	0-9990	0	
P-83	The number of standby display pieces	0-1	0	0: OFF    1: ON
P-84	Piecework mode selection	0-1	0	0: Ascending    1: Descending
P-85	Piece trimming times	0-50	1	
P-86	Voice volume	0-4	4	
P-87	Voice broadcast selection	0-3	3	
P-88	User model		2	
P-89	Reserved			
P-90	Voice chip selection		1	
P-91	Reserved			
P-92	Reserved			
P-93	Lock screen time (s)	0-300	10	
P-94	Thin light transmission	1-800	20	
P-95	Normal material light transmission	1-800	100	
P-96	Grid material light transmission	1-800	20	
P-97	Number of special material detection needles	0-50	3	
P-98	Slow-down switch	0-1	1	

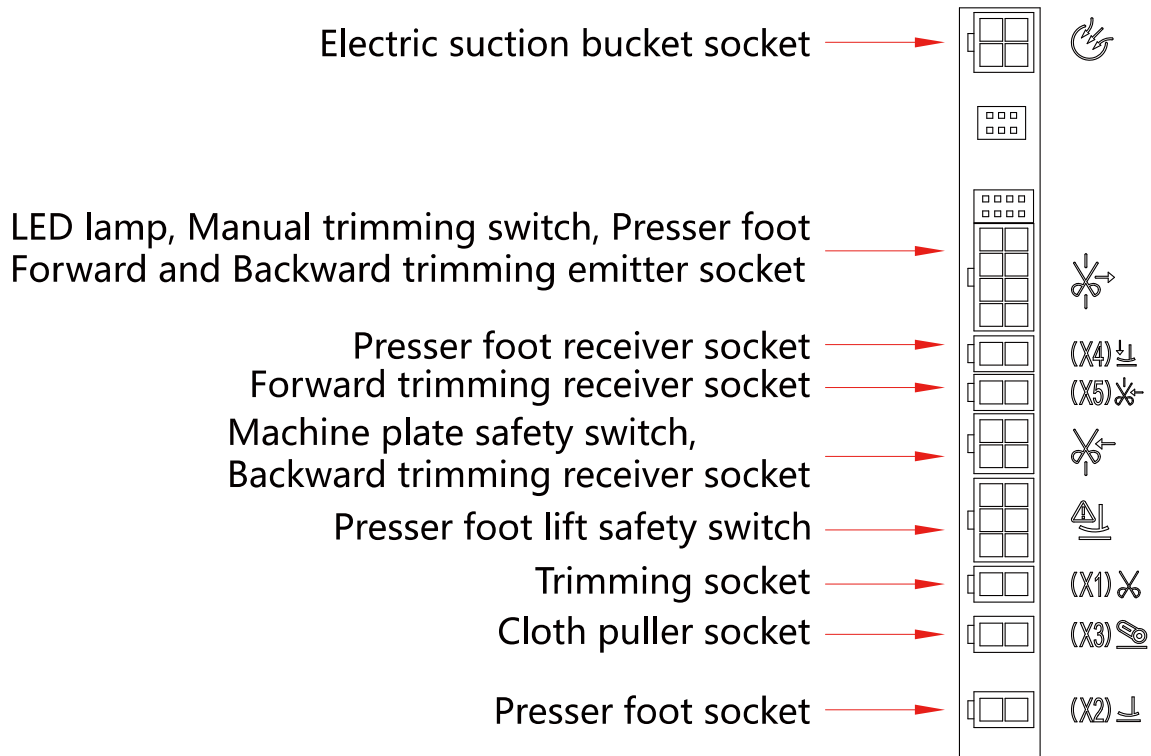
Note: the initial value of parameters is for reference only, and the actual value of parameters is subject to the real object.

#### 4 Error Code List

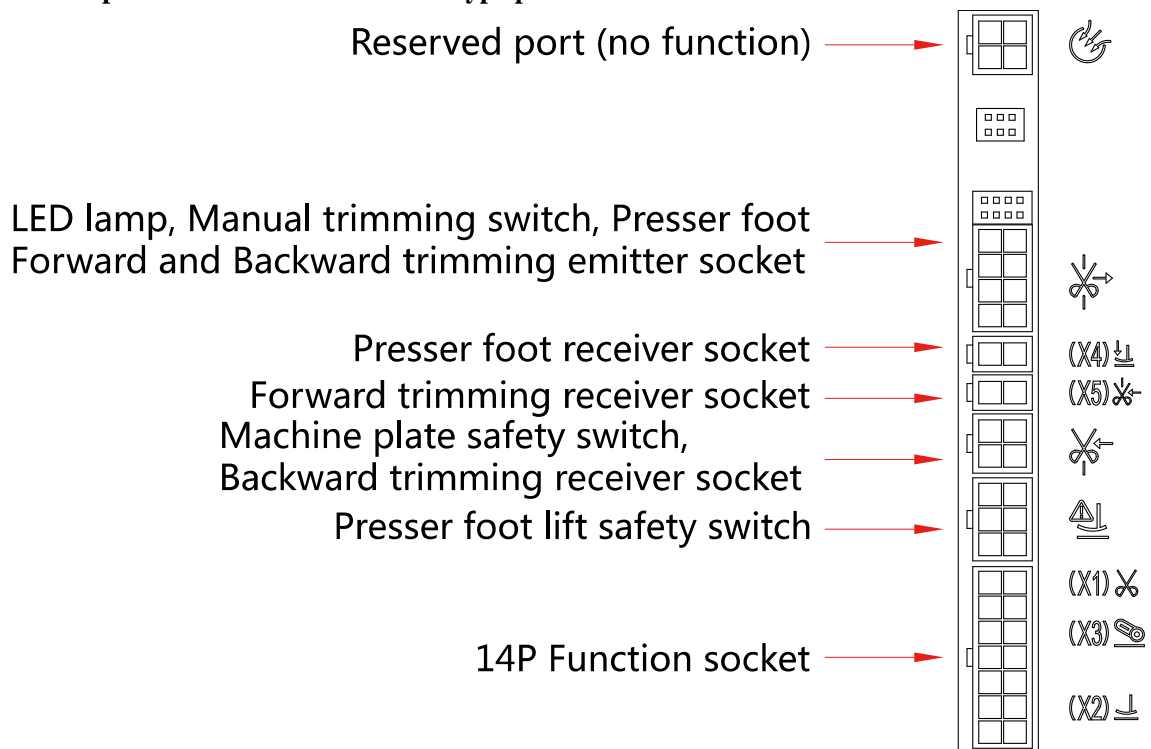
Error Code	Problem	Status / Measurement
E01	Over-voltage	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage) If correct, please replace the control box and inform the factory
E02	Low-voltage	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage specified in use ) If correct, please replace the control box and inform the factory
E03	Abnormal communication between the main CPU and the driver CPU	Turn off the machine and turn it back on.
E05	Speed control unit connection is abnormal	Turn off the system power supply, please check the speed control unit connector if loose or fall off, Will resume normal after the restart system If you still cannot work normally, please replace the speed control unit and notify the manufacturer.
E07	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.
E10	Solenoid over-current protection	Turn off the system power supply, please check the solenoid (solenoid valve) connector or solenoid (solenoid valve) is broken or not.
E11	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.
E14	Encoder signal error.	Turn off the system power supply, please check motor encoder connector if loose or fall off, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture.
E15	Power module abnormal over current protection	Turn off the system power supply, and then restart the machine. If still not work, please replace the control box and notify the manufacture.
E16	Trimming step motor abnormal	Please check trimming mechanism return correct position or not; please check trimming setting correct or not.
E17	The sewing table safety switch is not in the correct position	Turn off the system power supply, please check machine head is open or not, the machine head switch is damage or not.
E23	Manual thread cutting lock	Press the P key to cancel the alarm. When using the thread cutting function, try to avoid the ultra-fast continuous press of the manual thread cutting key.
NC	Front operation panel linked to CPU interface had communication error.	Turn off the machine, check if the operation box if loose or fall off. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.

## 5 Port Diagram

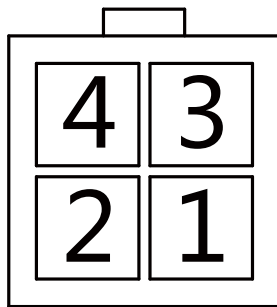
### 5.1 Electric machine type port



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

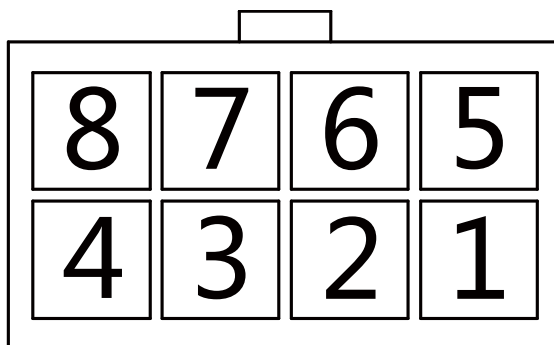


### 5.3 4P electric suction bucket port description



Electric suction bucket: 2 (N line)、3 (GND)、4 (L line)

#### 5.4 8P function port description



Forward trimming: 1 (-)、3 (+)

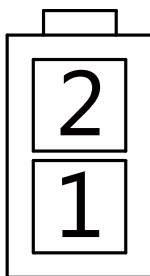
Presser foot emitter: 2 (-)、3 (+)

Backward trimming emitter: 3 (+)、4 (-)

LED lamp: 5 (+)、6 (-)

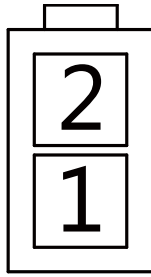
Manual trimming: 3 (+5V)、7 (signal)、8 (GND)

#### 5.5 Presser foot receiver port description



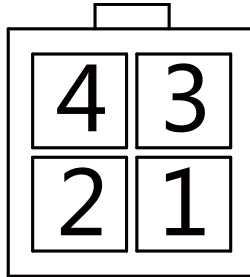
Presser foot receiver: 1 (+)、2 (-)

#### 5.6 Forward trimming emitter socket port description



Forward trimming receiver: 1 (+), 2 (-)

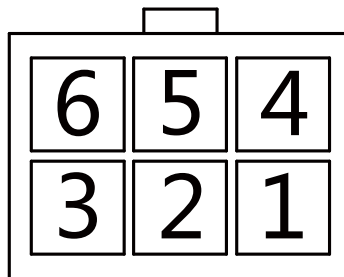
**5.7 4P function port description**



Machine plate safety switch: 1 (signal), 2 (GND), 4 (+5V)

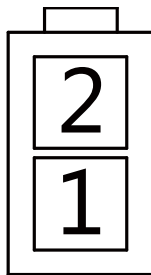
Backward trimming receiver: 2 (-), 3 (+)

**5.8 6P function port description**



Presser foot lift safety switch: 1 (+5V), 2 (GND), 3 (signal)

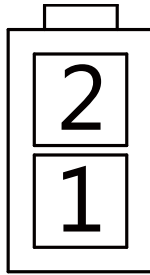
**5.9 Trimming port description**



Trimming: 1, 2 (+32V)

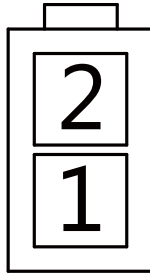
**5.10 Cloth puller port description**





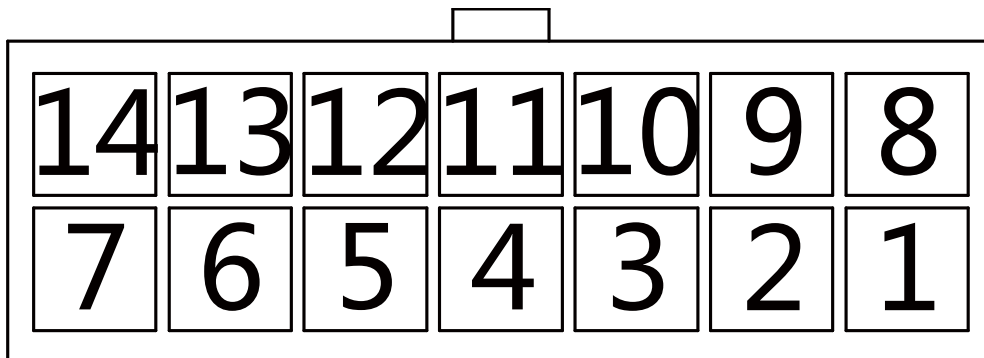
Cloth puller: 1、 2 (+32V)

**5.11 Presser foot port description**



Presser foot: 1、 2 (+32V)

**5.12 14P function port description**



- Trimming: 1(-)、 8(+)
- Backward suction: 2(-)、 9(+)
- Cloth puller: 3(-)、 10(+)
- Presser foot: 6(-)、 13(+)
- Forward suction: 7(-)、 14(+)