

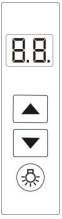
# V30/V130（500D）简易绷缝电控说明书 V1.1

## 一、安全上的注意事项：

使用前请仔细阅读本技术资料与所搭配的缝制机械说明书，配合正确使用。

- 1.1** (1) 电源电压与工作频率：请遵照马达与控制箱铭牌所标之规格。  
(2) 电磁波干扰：请远离高频磁波机器或电波发射器等，以免所产生的电磁波干扰本驱动装置因而发生错误动作。  
(3) 接地：为防止杂讯干扰或漏电事故，请做好接地工程（包括缝纫机、马达、控制箱、定位器）。
- 1.2** 拆卸马达或控制箱时勿带电拔插；控制箱里面有危险高压电，所以关闭电源后要等 1 分钟以上方可打开控制箱盖。
- 1.3** 为保证人身安全，请在维修机械或进行穿针作业时关闭电源。
- 1.4**  这个标示符号表示机器安装时，如有错误恐会伤害到人体或机器会受到损坏。  
所以机器方面有危险性的地方会有此标志。  
 这个标志符号表示有高压电等，电气方面有危险性的地方会有此标志。
- 1.5** 本装置保证在正常工作情况且无人为失误的操作下，保修期为一年。

## 二、操作盒使用说明：

|  | 功能       | 按 键                                                                               | 描 述                             |
|-----------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|---------------------------------|
|                                                                                   | 显示区域     |  | 1、参数状态显示<br>2、运行状态显示            |
|                                                                                   | 加键       |  | 1、参数加<br>2、速度加                  |
|                                                                                   | 减键       |  | 1、参数减<br>2、速度减                  |
|                                                                                   | LED 亮度调节 |  | 短按循环：关闭、亮度 1、亮度 2、亮度 3【默认：亮度 2】 |

### 1、监控界面

- 1) 正常进入缝纫模式后，长按“ ”键”3 秒，进入监控界面，显示“SP”，
- 2) 长按“ ”键”2 秒，进入该监控显示数值，如不退出，一直处于这个界面上
- 3) 再长按“ ”键”2 秒退回上一个界面“SP”，
- 4) 按“ ”键”切换所需要查看监控值，
- 5) 不按任何按键 5 秒后自动退回缝制模式界面

| 显示序号 | 项目名称 | 单位    |  | 显示序号 | 项目名称 | 单位 |
|------|------|-------|--|------|------|----|
| SP   | 速度   | 10rpm |  | HA   | 霍尔   | /  |
| CU   | 电流   | 0.1A  |  | id   | 机型   | /  |
| Ud   | 电压   | V     |  | Fv   | 版本   | /  |
| Pd   | 踏板   | /     |  |      |      |    |

### 2、老化模式

- 1) 按“ ”键”开机，进入拖车参数界面，显示“P.E”，
- 2) 按“ ”键”切换拖车相关参数“P.F\P.G\P.H\P.I，
- 3) 长按“ ”键”2 秒，显示当前参数数值，
- 4) 再长按“ ”键”2 秒，退回到当前参数“P.E”
- 5) 不按任何按键 3 秒后自动退回缝制模式界面

|     |         |                                     |               |      |     |
|-----|---------|-------------------------------------|---------------|------|-----|
| P.E | 拖车功能    | 0：关闭 1：打开自动运行拖车功能 2：电控厂家拖车功能（15 分钟） | 0/1/2         | 0    | 1   |
| P.F | 自动运行速度  | 拖车自动运行速度设定                          | 500~5000(rpm) | 4000 | 100 |
| P.G | 拖车运行总时间 | 拖车运行总时间（单位小时）                       | 0`99          | 1    | 1   |
| P.H | 拖车停车时间  | 自动运行每次停顿间隔时间（单位：秒）                  | 0`99          | 3    | 1   |
| P.I | 拖车运行时间  | 自动运行每次运行的间隔时间（单位：秒）                 | 0`99          | 5    | 1   |

### 3、参数界面进入及更改方式

- 1) 正常进入缝纫模式后，长按“ ”键”2 秒，进入参数界面“P.1”，
- 2) 显示“P.1”状态下，长按“ ”键”2 秒，显示当前参数数值“3”代表 300
- 3) 按“ ”键”更改数值，长按“ ”键”2 秒确认并退回到“P.1”界面
- 4) 按“ ”键”切换参数“P.1`P.A”
- 5) 不按任何按键 3 秒后自动退回缝制模式界面

备注：按“ ”键”开机，显示“P.b”，按“ ”键”可切换参数“P.1`P.Z”

### 4、恢复出厂设置

按住“ ”键”开机，直接进行恢复出厂设置，恢复完成后直接显示“P.1”

### 5、速度调节

正常进入缝纫模式后，按“ ”键”显示“ ”代表 5000，再按“ ”键”加减速速度，不按任何按键 3 秒后自动退回缝制模式界面。

备注：参数实时保存

### 6、缝制界面显示

- 1、设定为上针位时显示“ ”
- 2、设定为下针位时显示“ ”
- 3、无停针位时，机针只有停，显示“ ”

注：调整上下针位要进入 来调整。

### 7、运行状态显示

正常进入缝纫模式后，待机状态下显示“ ”，如踩踏板运行主轴，显示“速度”

## 三、7 段字体对照表：

| 阿拉伯数字 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-------|---|---|---|---|---|---|---|---|---|---|
| 英文字母  | A | B | C | D | E | F | G | H | I | J |
|       | K | L | M | N | O | P | Q | R | S | T |
|       | U | V | W | X | Y | Z |   |   |   |   |

## 四、系统参数表：

| 参数  | 项目        | 内容                                  | 设定范围           | 默认值  | 步距  |
|-----|-----------|-------------------------------------|----------------|------|-----|
| P.1 | 最低速度      | 最低缝纫速度                              | 100~1200 (rpm) | 300  | 100 |
| P.2 | 运行速度      | 缝制最高转速设定                            | 200~5000 (rpm) | 5000 | 100 |
| P.3 | 停针位选择     | 0：自由缝（自由停） 1：上停针 2：下停针              | 0/1/2          | 1    | 1   |
| P.5 | 翻抬开关      | 0：禁止保护 1：常开 2：常闭                    | 0/1/2          | 1    | 1   |
| P.6 | 加速时间      | 踏板调速功能调整 0：正常 1：加速慢 2：加速快           | 0/1/2          | 2    | 1   |
| P.7 | 减速时间      | 刹车时间                                | 0              | 0    |     |
| P.9 | 上针位调整     | 上针位角度调整                             | 0`23           | 2    | 1   |
| P.A | 下针位调整     | 下针位角度调整                             | 0`23           | 6    | 1   |
| P.b | 电机正反转选择   | 0：正转 1：反转                           | 0/1            | 1    | 1   |
| P.C | 提针功能选择    | 0：无后踏提针功能 1：后踏提针                    | 0/1            | 0    | 1   |
| P.E | 拖车功能      | 0：关闭 1：打开自动运行拖车功能 2：电控厂家拖车功能（15 分钟） | 0/1/2          | 0    | 1   |
| P.F | 自动运行速度    | 拖车自动运行速度设定                          | 500~5000 (rpm) | 4000 | 100 |
| P.G | 拖车运行总时间   | 拖车运行总时间（单位小时）                       | 0`99           | 1    | 1   |
| P.H | 拖车停车时间    | 自动运行每次停顿间隔时间（单位：秒）                  | 0`99           | 3    | 1   |
| P.I | 拖车运行时间    | 自动运行每次运行的间隔时间（单位：秒）                 | 0`99           | 5    | 1   |
| P.K | 电机极对数     | 1：四极 2：六极 3 和 4：八极                  | 1`4            | 3    | 1   |
| P.L | 踏板中立电压    | 踏板中立位置微调                            | 1`15           | 15   | 1   |
| P.M | 最高转速限制    | 最高限速限制速度范围                          | 300~5000 (rpm) | 5000 | 100 |
| P.N | 版本号       |                                     |                | 10   |     |
| P.O | 开始运行的踏板行程 | 开始运行的踏板位置（相对于踏板中立时的行程）              | 10`95(0.01 度)  | 24   | 1   |
| P.P | 开始加速的踏板行程 | 开始加速运行的踏板位置（相对于踏板中立时的行程）            | 10`95(0.01 度)  | 30   | 1   |
| P.Q | 运行高速的踏板行程 | 运行到最高速的踏板位置（相对于踏板中立时的行程）            | 10`95(0.01 度)  | 36   | 1   |
| P.R | 剪线动作的踏板行程 | 1 无抬压脚功能时，开始剪线的踏板位置（相对于踏板中立时的行程）    | 10`95(0.01 度)  | 15   | 1   |
| P.S | 衣车灯亮度     | 0：关闭； 1-3 代表不同的亮度等级                 | 0`3            | 2    | 1   |
| P.T | 最大输出电流限制  | （单位：A）                              | 3`15           | 10   | 1   |
| P.V | 电机加速时间调整  |                                     | 0`2            | 0    | 1   |

## 五、故障代码

| 错误码 | 故障内容     | 故障原因                                       | 检查项目、处理                                                                                         |
|-----|----------|--------------------------------------------|-------------------------------------------------------------------------------------------------|
| E.1 | 硬件过流     | 硬件过流                                       | 系统电流检测回路是否工作正常 驱动器件是否损坏                                                                         |
| E.2 | 软件过流     | 软件过流                                       | 系统电流检测回路是否工作正常 驱动器件是否损坏                                                                         |
| E.3 | 系统电压过高   | 实际电压偏高；制动回路故障<br>电压检测有误                    | 系统进线电压是否过高；制动电阻是否工作正常<br>系统电压检测回路是否工作正常                                                         |
| E.4 | 系统电压过低   | 实际电压偏低；电压检测有误                              | 系统进线电压是否过低；系统电压检测回路是否工作正常                                                                       |
| E.5 | 编码器信号异常  | 电机传感器信号故障；电机电源线损坏                          | 电机编码器接口是否接触良好；电机接口是否接触良好                                                                        |
| E.6 | 踏板 ID 故障 | 踏板辨识故障                                     | 踏板接头松动                                                                                          |
| E.7 | 电机堵转     | 电机堵转                                       | 电机插头是否接触良好；机头或剪线机构是否卡死<br>是否缝制规格厚度以上布料；电流检测信号是否正常                                               |
| E.8 | 电机超负荷    | 电机超负荷                                      | 电机插头是否接触良好；机头或剪线机构是否卡死<br>是否缝制规格厚度以上布料；电流检测信号是否正常                                               |
| E.9 | OZ 回路故障  | OZ 回路检测异常                                  | 检查 OZ 回路是否正常                                                                                    |
| E.A | 找不到停针位   | 手轮靠的不够近间隙在5mm内；六针插头接触不良<br>电机霍尔损坏；手轮上的磁铁掉落 | 手轮与电机之间的间隙是否合适；六针插头接触是否良好<br>电机霍尔是否良好；手轮磁铁是否掉落                                                  |
| E.B | 老化拖车异常   | 老化拖车异常                                     | 检查机械是否正常                                                                                        |
| E.E | 翻抬开关     | 翻抬开关                                       | 按  键或者放平机头 |

# V30/V130 (500D) direct driver interlock machine instruction manual V1.1

## I. Safety instruction

Please read the operation manual and related sewing machinery datasheet carefully before correct use.

- (1) Power voltage and frequency: please refer to motor and control box nameplate.
- (2) Interference from electromagnetic wave: please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to misoperation.
- (3) Grounding: to avoid the noise obstructions or leakage of electricity accident(including sewing machine,motor,control box and positioner) .
- 1.2 Please make sure power off at least 1min and then can open control box cover, because there are dangerous high voltage.
- 1.3 Please turn off the power while repairing or wearing needle in order to protect operator 's safety.
- 1.4⚠Used where potential dangers exist.
- ⚠Used where high voltage and electric danger exist.

## II.Operation box instructions

|  | Function                  | button | describe                                                                                 |
|--|---------------------------|--------|------------------------------------------------------------------------------------------|
|  | Display area              |        | 1、Parameter status display<br>2、Display of operation status                              |
|  | Add keys                  |        | 1、Parameters added<br>2、Speed increase                                                   |
|  | Reduce key                |        | 1、Parameter reduction<br>2、Speed reduction                                               |
|  | LED brightness adjustment |        | Short press cycle: off, brightness 1, brightness 2, brightness 3 [Default: brightness 2] |

### 1.Monitoring interface

- 1) After entering sewing mode normally, press the "⊗" for 3 seconds to enter the monitoring interface
- 2) Press and hold the "↵" for 2 seconds to enter the monitoring display value. If you do not exit, you will be on this interface.
- 3) Press and hold the "↵" again for 2 seconds to return to the previous interface
- 4) Press the "↵" to switch the monitoring value you need to view.
- 5) Automatically return to the sewing mode interface without pressing any key for 5 seconds

| Show serial number | Project name | unit  | Show serial number | Project name | unit |
|--------------------|--------------|-------|--------------------|--------------|------|
| SP                 | speed        | 10rpm | HA                 | Hall         | /    |
| CU                 | Current      | 0.1A  | id                 | model        | /    |
| Ud                 | Voltage      | V     | Fv                 | Version      | /    |
| Pd                 | pedal        | /     |                    |              |      |

### 2Automatic running

- 1) Press the "⊗" to turn on the power, enter the automatic running parameter interface, and display "P.E"
- 2) Press the "↵" for 2 seconds to switch the trailer-related parameters "P.F/P.G/P.H/P.I,
- 3) Press and hold "↵" for 2 seconds to display the current parameter value.
- 4) Press and hold "↵" for 2 seconds to return to the current parameter "P.E".
- 5) Automatically return to the sewing mode interface without pressing any key for 5 seconds

|     |                                  |                                                                                                       |                |      |     |
|-----|----------------------------------|-------------------------------------------------------------------------------------------------------|----------------|------|-----|
| P.E | Automatic running function       | 0: Close 1: Turn on the automatic running function<br>2:automatic running function (only 15 minutes ) | 0/1/2          | 0    | 1   |
| P.F | Automatic running speed          | Automatic running speed setting of automatic running                                                  | 500~5000 (rpm) | 4000 | 100 |
| P.G | Total time for Automatic running | Total time for automatic running (unit hour)                                                          | 0~99           | 1    | 1   |
| P.H | Automatic running parking time   | Automatically run each pause interval (unit: seconds)                                                 | 0~99           | 3    | 1   |
| P.I | Automatic running running time   | Automatically run interval time (unit: seconds)                                                       | 0~99           | 5    | 1   |

### 3.Parameter interface entry and change method

- 1)After entering sewing mode normally, press and hold "↵" for 2 seconds to enter the parameter interface "P.1"
- 2)When the "P.1" is displayed, press and hold "↵" for 2 seconds to display the current parameter value "30"
- 3)Press "↵" to change the value, press and hold "↵" for 2 seconds to confirm and return to the "P.1" interface
- 4)Press the "↵" to switch the parameters "P.1~P.A"

- 5)Automatically return to the sewing mode interface without pressing any key for 5 seconds

Note: Press and hold the "↵"then power on, display "P.1". Press the "↵" to switch the parameters "P.1~P.Z"

### 4.Factory reset

Press and hold the "↵" then power on, directly restore the factory settings, and directly display "P.1" after the recovery is completed.

### 5.Speed adjustment

After entering sewing mode normally, press "↵" to display "Ⓢ", then press "↵" to increase or decrease speed. If you do not press any keys for 5 seconds, you will automatically return to the sewing mode interface. Note: Save parameters in real time

### 6.Sewing interface display

- 1.When setting to the upper needle position, "Ⓢ" is displayed
- 2.Display "Ⓢ" when set to down needle position

- 3.When there is no stopping needle position, the needle only stops, and the display of "Ⓢ"

Note: When adjusting the upper and down needle positions, you need to enter "Ⓢ" the to adjust.

### 7.Running status display

After entering sewing mode normally, "Ⓢ" is displayed in standby state, if the pedal is pressed to run the machine,, "speed" is displayed

## III.7-segment font comparison table

|       |   |   |   |   |   |   |   |   |   |   |
|-------|---|---|---|---|---|---|---|---|---|---|
| 阿拉伯数字 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 英文字母  | A | B | C | D | E | F | G | H | I | J |
|       | K | L | M | N | O | P | Q | R | S | T |
|       | U | V | W | X | Y | Z |   |   |   |   |

## IV.System parameter table

| parameter | project                                          | content                                                                                                                              | Setting range | default value | Step distance |
|-----------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|
| P.1       | Minimum speed                                    | Minimum sewing speed                                                                                                                 | 100~1200(rpm) | 300           | 100           |
| P.2       | Running speed                                    | Sewing maximum speed setting                                                                                                         | 200~5000(rpm) | 5000          | 100           |
| P.3       | Selection of needle stop position                | 0: Free stitching (free stop) 1: Stop the needle on the upper side 2: Stop the needle on the down side                               | 0/1/2         | 1             | 1             |
| P.5       | Safety switch                                    | 0: forbid a protection 1: always open 2:always close                                                                                 | 0/1/2         | 1             | 1             |
| P.6       | Acceleration time                                | Adjustment of pedal speed regulation function<br>0: Normal 1: Slow acceleration 2: Fast acceleration                                 | 0/1/2         | 2             | 1             |
| P.7       | Deceleration time                                | Braking time                                                                                                                         | 0             | 0             |               |
| P.9       | Up-needle position adjustment                    | Adjust the angle of the upper needle position                                                                                        | 0~23          | 2             | 1             |
| P.A       | Adjustment of down needle position               | Adjust the angle of the down needle position                                                                                         | 0~23          | 6             | 1             |
| P.b       | Motor rotation direction                         | 0: Forward 1: Reversal                                                                                                               | 0/1           | 1             | 1             |
| P.C       | Selection of needle up and down lifting function | 0:pedal lifting needle function off<br>1:pedal lifting needle function on                                                            | 0/1           | 0             | 1             |
| P.E       | Automatic running function                       | 0: Close 1: Turn on the automatic running function<br>2:automatic running function (only 15 minutes )                                | 0/1/2         | 0             | 1             |
| P.F       | Automatic running speed                          | Automatic running speed setting of automatic running                                                                                 | 500~5000(rpm) | 4000          | 100           |
| P.G       | Total time for Automatic running                 | Total time for automatic running (unit hour)                                                                                         | 0~99          | 1             | 1             |
| P.H       | Automatic running parking time                   | Automatically run each pause interval (unit: seconds)                                                                                | 0~99          | 3             | 1             |
| P.I       | Automatic running running time                   | Automatically run interval time (unit: seconds)                                                                                      | 0~99          | 5             | 1             |
| P.K       | Motor pole number                                | 1: Four poles 2: Six poles 3 and 4: Eight poles                                                                                      | 1~4           | 3             | 1             |
| P.L       | Pedal original voltage                           | Fine adjustment of the original position of the pedal                                                                                | 1~15          | 15            | 1             |
| P.M       | Maximum speed limit                              | Maximum speed limit speed range                                                                                                      | 300~5000(rpm) | 5000          | 100           |
| P.N       | Software Version number                          |                                                                                                                                      |               | 10            |               |
| P.O       | Starting pedal stroke                            | The pedal position to start running<br>Stroke when neutral with respect to pedal                                                     | 10~95(0.01°)  | 24            | 1             |
| P.P       | Starting the acceleration pedal stroke           | The pedal position that starts to accelerate<br>Stroke when neutral with respect to pedal                                            | 10~95(0.01°)  | 30            | 1             |
| P.Q       | Run high-speed pedal stroke                      | Run to the highest speed pedal position<br>Stroke when neutral with respect to pedal                                                 | 10~95(0.01°)  | 36            | 1             |
| P.R       | pedal stroke 1 for thread cutting action         | When there is no presser foot function, the pedal position of the thread cutting starts<br>Stroke when neutral with respect to pedal | 10~95(0.01°)  | 15            | 1             |
| P.S       | Brightness of the car lights                     | 0: Close; 1-3 represents different brightness levels                                                                                 | 0~3           | 2             | 1             |
| P.T       | Maximum output current limit                     | (Unit: A)                                                                                                                            | 3~15          | 10            | 1             |
| P.V       | Motor acceleration time adjustment               |                                                                                                                                      | 0~2           | 0             | 1             |

## V.Fault Code

| Error code | Fault content                        | Cause of failure                                                                                                                               | Check items and handle them                                                                                                                                                                   |
|------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E.1        | Hardware overcurrent                 | Hardware overcurrent                                                                                                                           | Whether the system current detection circuit is working properly;<br>Is the driver damaged?                                                                                                   |
| E.2        | Software overcurrent                 | Software overcurrent                                                                                                                           | Whether the system current detection circuit is working properly;<br>Is the driver damaged?                                                                                                   |
| E.3        | The system voltage is too high       | The actual voltage is too high;<br>the brake circuit is faulty;<br>the voltage detection is incorrect                                          | Is the system inlet voltage too high?<br>Is the brake resistor working normally?<br>Is the system voltage detection circuit working normally?                                                 |
| E.4        | The system voltage is too low        | The actual voltage is low;<br>Voltage detection is incorrect                                                                                   | Is the system inlet voltage too low?<br>Is the system voltage detection loop working normally?                                                                                                |
| E.5        | Encoder signal abnormality           | Motor sensor signal failure;<br>The motor power cord is damaged                                                                                | Whether the motor encoder interface is in good contact;<br>Is the motor interface good contact?                                                                                               |
| E.6        | Pedal ID failure                     | Pedal identification fault                                                                                                                     | Loose pedal joint                                                                                                                                                                             |
| E.7        | Motor stuck                          | Motor stuck                                                                                                                                    | Is the motor plug in good contact?<br>Is the head or wire cutting mechanism stuck?<br>Is the fabric above the specifications and thickness sewing?<br>Is the current detection signal normal? |
| E.8        | Motor overload                       | Motor overload                                                                                                                                 | Is the motor plug in good contact?<br>Is the head or wire cutting mechanism stuck?<br>Is the fabric above the specifications and thickness sewing?<br>Is the current detection signal normal? |
| E.9        | OZ Loop Fault                        | OZ loop detection abnormality                                                                                                                  | Check if the OZ loop is normal                                                                                                                                                                |
| E.A        | Cannot find the needle stop position | The handwheel is not close enough to be within 5mm<br>Poor contact with six-pin plug<br>Motor Hall is damaged<br>Magnets on the handwheel fall | Is the gap between the handwheel and the motor suitable?<br>Is the six-pin plug contact good?<br>Is the motor hall good?<br>Is the handwheel magnet falling?                                  |
| E.B        | Abnormal Automatic running           | Abnormal Automatic running                                                                                                                     | Check if the machine mechanical is normal                                                                                                                                                     |
| E.E        | Safety switch                        | Safety switch                                                                                                                                  | Press the ⊗ or place the head of the machine                                                                                                                                                  |