绷缝机自动剪线使用说明书

User manual of W1500 Auto-Trimmer servo Motor

前言

Foreword

欢迎使用本公司产品，制衣行的正确投资选择！

Welcome to use our products, it is the right investment choices in garment industry!

本说明书为本公司新研发的"绷缝机自动剪线"产品做对照参考手册，请认真阅读此手册以便更好的运用本公司产品！

The User manual is for our newly developed " W1500 Auto-Trimmer servo Motor system " products Reference Manual, Please read this manual carefully, hope it can give you useful help.

> ⚠️ **阅读本说明前以下要求说明请注意**
> *Before reading the manual, Please note the following*

1、用户使用作业前必须可靠接地，保证人身安全！
   The user must be grounded before operations to ensure safety

2、非专业人士请勿拆卸控制箱
   non-professionals do not disassemble the control box

3、控制箱与电机远离强磁高辐射环境
   The control box and motor away from the magnetic high radiation environment

4、不要在过热环境中作业
   Do not work in hot environments

5、不要在过于潮湿环境中作业
   Do not work in humid environments too

6、用户保证供电电压的稳定（**210V~240V**）
   Users to ensure stable supply voltage (210V ~ 240V)

安全叮嘱：**Safety requirement**

1、电机接通时请不要把脚放在脚踏板上
   Do not put your feet on the pedals when the motor is switched on

2、本产品请专业人士安装调试
   Let professionals to install and debug this product

3、严禁在通电时打开控制箱与电机端盖
   Do not open the control box and the motor cover when energized

4、换针，穿线或更换底线时请关闭电源
   Please turn off the power when changing the needle, threading or replacing the bottom line

5、安装，拆卸维修时请关闭电源
   During installation and removal service, please turn off the power

6、翻抬缝纫机时请关闭电源
   Please turn off the power when turn lift sewing machine

保修策略：**Warranty Policy**

1、本产品自购买起免费保修 **2** 年，终身维护。保修期内除人为损坏外出现任何质量问题可免费修
   Since from the purchase of this product,　we give 2-year warranty for free, Lifetime Maintenance. during the warranty period ,Any quality problems the product will be free repaired, Except artificial damage.

2、未经本公司同意自行拆卸，改装造成损坏将不给于保修.
   without our consent disassemble or modify, the damaged will not give in warranty

3、但凡出现无法解决的问题可以联系本公司
   Whenever find the problem can not be solved, you can contact the company

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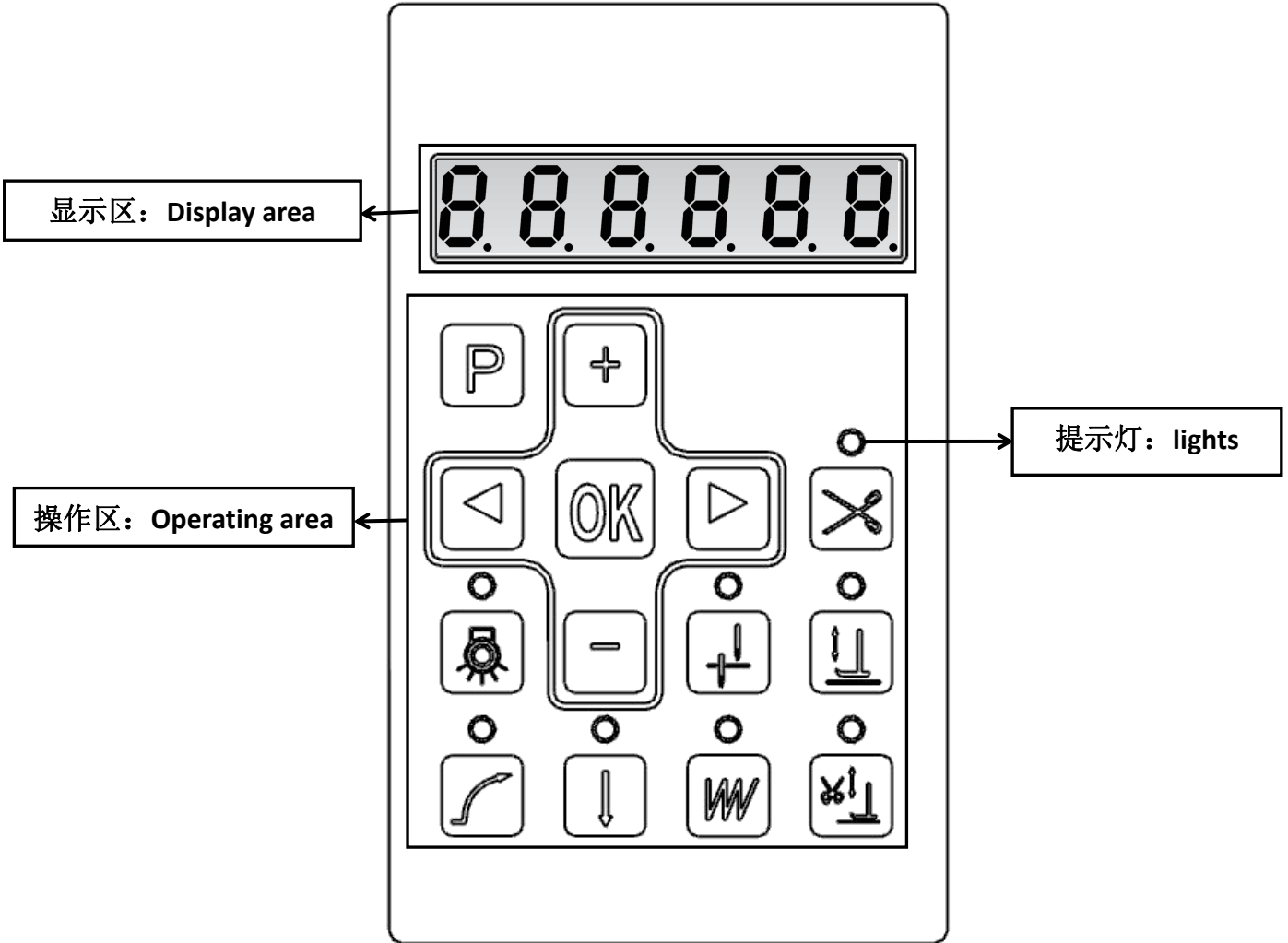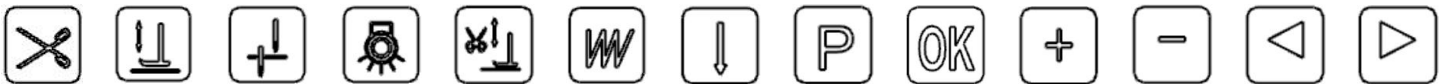# 五：错误代码解析

Error code analysis

一：显示屏常用操作介绍

Introduction of display screen common Operation

1、显示屏介绍如下：**The display screen is described as follows**

显示区：**Display area**

提示灯：**lights**

操作区：**Operating area**

2.功能介绍：**Function introduction**

序号 Serial No.	按键图标 Button Icons	功 能 说 明 Function Description	快捷说明 Quick description
1	✕	剪刀功能开启和关闭键 ※：功能开启时按键上方的 **LED** 将亮起，功能关闭时按键上方的 **LED** 将熄灭。 Auto-trimmer function On or Off key ※：when the function is open, the upper key led light is on; when function off, the upper key led light is off.	长按进入剪刀功能模块 Long press enter into Auto-trimmer Function modules

2	⏷	中途抬压脚与半后踏抬压脚功能键，相应的功能将可视化 ※：（屏幕显示 **01**：表示半后踏抬压脚功能开启、按键上方的提示灯会亮起；**00** 表示半后踏抬压脚功能关闭、按键上方的提示灯会熄灭） **Middle foot lifter and half-back step foot lifter function key, the related function will be Visualization** ※：**(the display screen shows 01: means half-back step foot lifter function open、 the upper key led light will be on; screen shows 00 means half-back step foot lifter function is off、 the upper key led light will be off.)**	长按进入压脚功能模块 Long press enter into Auto-foot lifter Function modules
3	⊥	上下停针位切换键，相应功能将可视化 ※：（屏幕显示 **up**：表示上停针功能开启）（屏幕显示 **dn**:表示下停针功能开启）（屏幕显示 **no**:表示停针功能关闭）屏幕显示 **up** 时按键上方的 **LED** 将亮起，屏幕显示 **dn** 与 **no** 时按键上方的 **LED** 将熄灭。 **Up or down needle position transfer key, the related function will be Visualization** ※：**(the display screen show up: means the upper needle stop position is open)(the display screen show dn: means the down needle stop position is open)(the display screen shows no : means the needle stop position function is closed) the display screen shows up, the upper key led light will on; when the display screen shows dn and no, the upper key led light will off.**	
4	🔦	机头 **LED** 灯开关键 ※：功能开启时按键上方的 **LED** 将亮起，功能关闭时按键上方的 **LED** 将熄灭， Machine head LED light On or Off key ※：**when the function is open, the upper key led light is on; when the function off, the upper key led light is off.**	
5	✂⏷	点动将开启剪线自动抬压脚模式（剪线后自动抬起压脚） ※：功能开启时按键上方的 **LED** 将会亮起，功能关闭时按键上方的 **LED** 将会熄灭。 **Touch this open Auto- trimmer and auto-foot lifter function(after auto-trimmer, the foot lifter automatically)** ※：**when the function is open, the upper key led light is on; when the function off, the upper key led light is off**	
		点动开启多段缝模式 ※：开启后按键上方的 **LED** 灯将亮起，并且屏幕会出现闪烁的数字，数字大小将可以用（ ➕ ）（ ➖ ）直接调节大小，调节完毕后必须按（ OK ）键进行保存，保存完毕后屏幕将不会闪烁，说明功能已经调节	

6	[WW]	完毕并开启。当需关闭此功能时按（[↓]）键将退出此功能进入自由缝纫模式。

※：When the key is turned on, the LED light above the key will light up, and a flashing number will appear on the screen. The size of the number can be adjusted directly by [+] [−] . After the adjustment, the key ([OK]) must be pressed to save. After saving, the screen will not flash, that means the function is already well done and open. When you need to turn off this function, press ([↓]) to exit this function into free sewing mode.

7	[↓]	点动一下将进入自由缝纫模式 当开启后按键上方的 **LED** 将亮起，此键配合多段缝功能键使用，自由缝与多段缝只能其中一个起作用（可以看做多段缝关闭键） Touch it into free sewing mode When open, the upper key led light will be on, This key is used in conjunction with the multi-sewing function key, and only one of the free and multi-sewing keys will work (can be regarded as the multi-sewing close key)	长按进入扫线器功能模块 Long press into Thread wiper function module

8	[⌒]	慢启动功能键 ※：功能开启时按键上方的 **LED** 将亮起，功能关闭时按键上方的 **LED** 将熄灭。 Slow start function keys ※： when the function is open, the upper key led light is on; when the function off, the upper key led light is off.

9	[P]	进入参数调整辅助键，可与（[+]）（[−]）键配合使用，不同配合将进入不同参数列表

		Enter parameter adjustment Secondary key, together with（ ＋ ） or（ － ） using, different Combination into different Parameter List
10	OK	参数确定保存键 **Parameter determines the Save button**
11	＋	"+" 键（修改参数时加） **"+" button (modify the parameters plus)**
12	－	"-" 键（修改参数时减） **"-" button (modify the parameters minus)**
13	◁	向左键（在参数列表中用来返回上一页面用） **Left key (In the parameter list to return to the previous page)**
14	▷	向右键（在参数列表中进入参数调整用） **Tight key (In the parameter list to enter the parameter for adjustment)**

二、如何进入参数与如何修改参数

How to enter parameters and how to modify the parameters

系统参数进入解析：

1.按住（ P ）键加上（ － ）键将进入"系统参数"列表（需要密码.2014 进入调整，按 OK 进入）。

2.按住（ P ）键加上（ ＋ ）键将进入"用户参数"列表（无须密码） 进入后可看见系统参数编号，此时可以用（ ＋ ）（ － ）键，切换参数编号，在需要修改的编号前按（ ▷ ）键，将进入当前参数进行调整，可按（ ＋ ）（ － ）键对当前参数进行加减操作。

3.修改完毕参数后需要按（ OK ）键保存参数并退出系统参数调节 。或按（ ◁ ）键退回上一个页面进行其他参数修改。操作方法和上面一样。 操作完毕后必须按（ OK ）键进行保存，否则修改的参数将会是无效。

注： 以上是进入方法，具体参数号代表的参数意思详情如下 "3.操作参数说明表"

System parameters entering analysis:

1.Together touch ⌨P and ⌨− enter into "System parameters" list (need code: type 2014 enter into adjustment, press ⌨OK)

2.Together touch ⌨P and ⌨+ enter into "User parameters" list (No need password).

After entering the system parameters number can be seen, then you can use (⌨+) (⌨−) key to transfer the parameter number, when you find the needed modify number, then touch （⌨▷） key to enter into the current parameters, touch (⌨+)(⌨−) to adjust it.

3. After finish modification then touch (⌨OK) to save the modification and exit. Or you can touch (⌨◁) to return back page system parameters number to modify. Method of operation is the same of above. After change finish, should be touch (⌨OK) to save the modification, otherwise modify the parameters will be invalid.

Note: the upper is entry method, specific parameters No. on behalf of the parameters meaning as follows:"三：Operating Parameter Description Table"
"

三：操作参数说明表： Operating Parameter Description Table

W1500 系统参数列表：W1500 System parameter list

菜单号	功能说明	功能参数默认值	功能参数范围	参数说明

System parameter list	Function Description	Function parameter default values	Function parameter ranges	Parameter Description
P1	最大缝纫速度 MAX Sewing speed	3800	200～6500	转 / 分钟 Round / Minute
P2	起缝速度 Start sewing speed	200	150～800	转 / 分钟 Round / Minute
P3	踏板加速曲线 Pedal acceleration curve	85	10 一100 %	
P11	慢启动选择 Slow Start Selection	0	0 — 1	0：禁用 1：启用 0: Disable 1: Enabled
P12	慢启动针数 Slow start Stitches number	2	1 — 30	针数 Stitch number
P13	慢启动速度 Slow start speed	350	200 — 800	转 / 分钟 Round / Minute
P22	电机驱动方向 Motor drive orientation	1	0 — 1	0：逆时针 1：顺时针 0: Counterclockwise 1: Clockwise
P23	显示当前速度 Displays the current speed	0		显示当前的电机转速 Displays the current motor speed
P24	显示调速器电压 Display foot controller voltage	0		显示调速器输出电压 Display foot controller output voltage
P25	自动磨合运行 Automatic running-in operation	0	0 — 1	0：关闭 1：启动 0：OFF 1: ON
P34	上停针角度 The angle of upper needle stop position	0		
P35	下停针角度 The angle of down needle stop position	180		
P36	剪刀动作延时启动时间 Delayed start time for knife action	005	0 — 2000	毫秒 Millisecond
P37	剪刀动作时间（全功率+维持功率） Knife action time (full power + maintain power)	110	10 — 2000	毫秒 Millisecond
P38	剪刀动作全功率时间 Full power scissors action time	260	10 — 990	毫秒 Millisecond
P40	剪刀动作维持功率调整 maintain power adjustment for knife action	50	1 — 100	百分比 Percentage
P41	剪刀动作释放保护时间 Knife action release the protection time	35	20 — 800	毫秒 Millisecond
P43	剪刀动作复位开关使能 Scissors action reset switch	1	0 — 1	0：禁用 1：启用 0: Disable 1: Enabled

	enable			
p44	下剪刀手动动作模式	1	0-1	0：禁用（缝制过程中结束或者用手转动机器后，后踏不剪线） 1：启用（缝制过程中结束或者用手转动机器后，后踏可以剪线） 0: Disable 1: Enabled
P46	拨线动作延时启动时间 Wiper action delayed start time	40	0 — 2000	毫秒 Millisecond
P47	拨线动作时间（全功率+维持功率） Wiper action time (full power + maintain power)	70	10 — 2000	毫秒 Millisecond
P48	拨线动作全功率时间 Wiper action time at full power time	35	10 — 990	毫秒 Millisecond
P50	拨线动作维持功率调整 Wiper action time at maintain power adjustment	50	1 — 100	百分比 Percentage
P51	拨线动作释放保护时间 Wiper action release the protection time	50	20 — 800	毫秒 Millisecond
P55	吹气模式 Blow mode	000	0-4	0：普通扫线 normal Sweep thread 1：剪一次吹一次 cut one time blow one time 2：每次抬压脚都吹 Blow for each foot lifter 3：长吹 Long blowing 4：断吹 break blow
P56	压脚动作延时启动时间 Foot-lifter action delayed start time	110	0 — 2000	毫秒 Millisecond
P57	压脚动作时间（全功率+维持功率） Foot-lifter action time (full power + maintain power)	260	100 — 2000	毫秒 Millisecond
P58	压脚动作全功率时间 Foot-lifter action time at full power time	160	10 — 990	毫秒 Millisecond
P60	压脚动作维持功率调整 Foot-lifter action time at maintain power adjustment	20	1 — 90	百分比 Percentage
P61	压脚动作释放保护时间 Foot-lifter action release the protection time	80	20 — 800	毫秒 Millisecond
P62	压脚抬起后自动放下时间 Automatic presser foot lifter down time	10	1 — 120	秒 Second

P65	半后踏抬压脚延时启动时间 Half-back step pedal foot lifter delay start time	120	0 — 2000	毫秒 Millisecond	
P70	电机最大电流限制 Motor max electric current	350	50 — 600		
P71	最高速度锁定 Maximum speed lock	4200	200 — 6500	转 / 分钟 Round / Minute	
P72	系统密码 System Password	2014			

四：控制箱端口说明

The control box Port Description
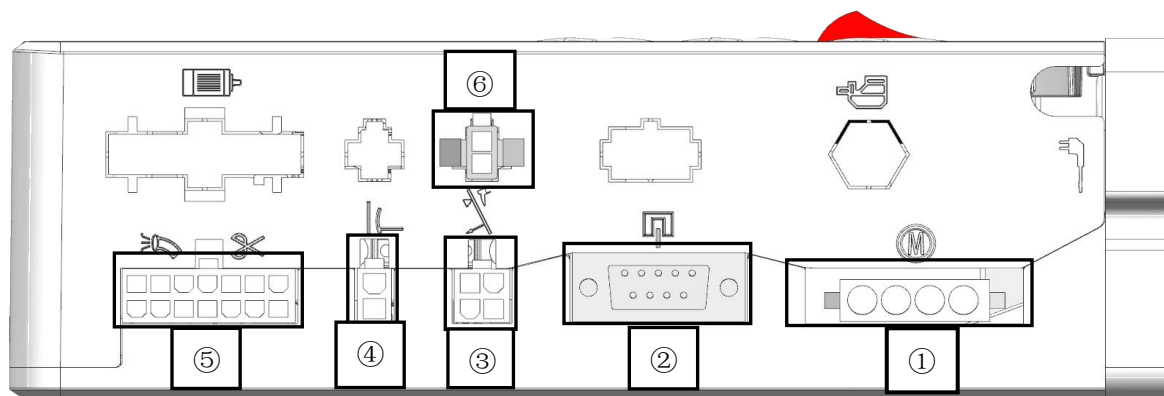
端口序号 The port number	端口连接的器件名称 Port device name for the connection	端口说明 Port instruction		
①	连接电机 4 线驱动线 connect motor 4P drive line			
②	连接电机相位信号线 Connect the motor phase signal line			
③	脚踏板端口，连接调速器 Foot pedals port , connect foot controller		1:2:3:4	1:GND　　2:GND 3:信号 Signal 4:5V
④	抬压脚控制端口，连接压脚电磁铁或电磁阀 Presser foot control port, connect the presser foot solenoid or solenoid valve		2:1	2:GND　　　1:34V
⑤	14P 多功能端口 14p multi function port		1:8	1:34V 8:剪刀输出:Scissors output
			2:9	2:34V　9:拨线输出:Suction output
			3:6:13	3:5V　6:信号 Signal　　13:GND
			4:7:14	4:5V　7:信号 Signal　　14:GND
			5:12	5:34V　12:压脚输出：Presser foot output
			10	大地 Ground
⑥	LED 机头灯插孔 head LED socket		2:1	2:5V　　1:GND

五：错误代码解析 ： Error code analysis

显示的错误码 Display error code	错误码意思 Error code meaning	错误的产生 Various possible for the erro	解决错误 Solution
ER-01	找不到停针位 Not find needle position	1:手轮和电机靠的不够近 2：手轮上磁钢脱落 3：手轮磁铁极性装反 4：九针端子头接触不良 5：电机霍尔损坏，跟换电机 1：Hand wheel and motor 2：Hand wheel magnet off 3：Hand wheel magnet polarity reversal 4：Nine-pin terminal head Poor contact 5：Motor hall damaged, with the change motor	1：检查电机信号线有无松动 2：更换手轮 3：更换电机 1: check whether the motor signal line is loose 2:replace the wheel 3: replace the motor
ER-02	脚踏板信号错误 Foot controller signal error	1：开机时没插调速器 2：调速器插反 3：调速器线断开 4：调速器损坏 1：Not plugged foot controller into control box 2: foot controller inserted upside 3: foot control box line broken 4: foot controller damage	1：检查调速器信号线 2：更换调速器 3：更换控制器 1: check the foot controller signal line 2: change the foot controller 3: replace the foot controller
ER-03	电机相位信号错误 Motor phase signal error	1：九针插头接触不良 2：电机安装时霍尔和转子存在大偏差 3：电机霍尔坏 1: Nine-pin terminal plug Poor connect 2: Hall and rotor has large deviations when the motor is mounted 3: Motor hall damage	1：打开电机上的橡皮盖通过孔看电机转子与定子是否在同一平面保障误差不超过1MM 2：更换电机 3：更换控制器 1: open the rubber cover on the motor through the hole to see whether the motor rotor and stator in the same surface to ensure the error is not more than 1MM 2:replace the motor 3: replace the control box
ER-04	电机堵转保护 Motor stall protection	1：缝纫机过重或堵死 2：电机过载 3：电机4线驱动线没连接好或插反 1: Sewing machine overweight or blocked 2: Motor overload 3: 4-wire motor drive cable is not connected or inserted upside	1：检查电机4P线 2：检查缝纫机是否过重 3：更换控制器 1: check motor 4P line 2: check whether the sewing machine is too heavy 3: replace the controller
ER-05	硬件过流保护 Hardware over current	1：缝纫机过重或堵死 2：电机过载 3：电机相位信号线没连接好 4.功率管损坏 1: Sewing machine overweight or blocked	

		2: Motor overload 3: Motor phase signal line is not connected 4: Power tube damage	
ER-07	串口通讯超时 Serial communication timeout	1：显示屏连接主板线连接不良 2：主板芯片损坏 1: Display bad cable connection Motherboard 2: Motherboard chip damage	1：检查显示屏与控制器连接线 2：检查控制器是否还可运行，如不能运行就是控制器损坏 3：检查机器旁是否有高频机器干扰 4：更换显示屏 1:Check the connection line between the display screen and the control box. 2: check whether the controller run well, if not, controller damage 3: check whether there is a high frequency machine near the machine interference 4: change the display panel
ER-09	存储器不良 Poor memory	1:主板存储器损坏或不良 1: Motherboard memory corruption or bad	1：控制器损坏 1: control box damage
ER-12	剪刀没有复位报警 Knife is not reset the alarm	1：复位检测器坏了 2：剪刀卡住没复位 1: Reset the detector is broken 2: knife stuck not reset	1：检查霍尔是否损坏 2：检查感应磁铁是否没有感应到 3：检查感应磁铁磁极是否装反 4. 更换电控 1： check the hall is damage or not 2:check whether the induction magnet is detected or not 3: check induction magnet pole is installed in reverse or not 4. change the control box
ER-16	过压 Over load	1.电机驱动电源电压过高，220V 电源电压超过限定值（AC310V），或负载惯性过大导至再生电压超过限定值(DC440V),或电压检测回路故障。（110V 控制系统电源电压超过限定值（AC155V），或负载惯性过大导至再生电压超过限定值(DC220V)。 1. The motor drive power supply voltage is too high, the 220V power supply voltage exceeds the limit value(AC310V), or the load inertia is too large to the regenerative voltage exceeds the limit value(DC440V), or the voltage detection circuit fails.Note:(110V control system power supply voltage exceeds limit value(AC155V), or load inertia is too large to regeneration voltage exceeds limit value(DC220V).	
ER-20	欠压故障 Under voltage error	1.电机驱动电源电压过低，220V 电源电压低于限定值（AC91V），或电机驱动电源电压低于限定值（DC130V),或电压检测回路故障。 注：（110V 电源电压低于限定值（AC45.5V）， 或电机驱动电源电压低于限定值（DC65V）） 1. The motor drive power supply voltage is too low, the 220V power supply voltage is lower than the limit value(AC91V), or the motor drive power supply voltage is lower than the limit value(DC130V), or the voltage detection circuit fails. Note:(110 V power supply voltage is below the limit(AC45.5 V), or motor drive power supply voltage is below the limit(DC 65V))	