图13

图14

按动S：键，显示从0—9递增循环，对应于限速范围约为100—900转递增循环，百位的调节。(具体转速与机型有关)

EN

Press “S” button, it shows from “1” to “9” then circulate. The corresponding speed is about 100-900 rpm (specific speed is related to exact model)

4)再按动P键，数码管显示“Y”为停针类型选择界面，图14
按动S键：数码管显示0为下停针（倒踩后为上停针）
数码管显示1为上停针
备注：控制器有自动识别功能，不插传感器控制器会识别是普通，插传感器关闭电源，重新打开电源，控制器会自动识别定位功能。

EN

4)Then press “P” button, LED shows “Y”, that’s interface of choosing needle position, refer to picture 14.
Press “S” button : LED shows “0” means under needle position (after step back on, it alters to up needle position) LED shows “1” means up needle position.
remarks:The controller has the auto recognize function, it’ll be recognized normal if the sensor has not be inserted, insert the sensor then turn off the power, restart the power, the controller will recognizie the position automatically.

5)再按动P键，数码管显示“d”为电机转向设置界面，图15
按动S键：数码管显示0为正转（平缝机工作转向，数码管小数点点亮）图16，数码管显示1为倒转（包缝机工作转向，数码管小数点熄灭）。

EN

5)Then press P button, LED shows “d”, it is set interface of motor steering, refer to picture 15.
Press “S” button: LED shows ‘0’, means forward direction ( lockstitch machine working diversion, the LED decimal point lightened) refer to picture 16, LED shows ‘1’ means inversion (overlock machine working diversion, the LED decimal point extinguished).

图15

图16

## 4 数据保存和复位 Data save and reset

当参数设置好后，按下P键，数码管会分别显示“O”和“K”为数据保存成功，数码管显示“Er”为数据保存失败。若出现数据不能保存问题，请关闭控制器电源，稍后再打开电源，按照步骤过程重新操作一遍。
一级菜单复位功能（恢复到出厂值设定）在数码管显示P的情况下长按S键5秒显示OK表示完成。

EN

After the parameter seted, press “P”, LED will shows “O” and “K”. It’s means data save successfully. LED shows “Er” means data save failed. If can’t save the data, please turn off the power of controller and turn on the power later, follow the steps and do it again.
1 level menu reset function (recover to factory setting): LED shows “P”, then press “S” button for 5 seconds and show “ OK ” means complete.

## 5 故障提示 Disturbance Display

1)过流保护----------
单数码管依次显示E和1；
2)电机堵转保护----------
单数码管依次显示E和2；
3)交流输入掉电保护----------
单数码管依次显示E和3；
4)霍尔信号异常----------
单数码管依次显示E和4；
（此故障提醒同时提示客户电机霍尔信号线连接是否可靠）
5)定位器（针位）信号检测
上停针故障----------
单数码管依次显示E和5；
下停针故障----------
单数码管依次显示E和6；
6)调速器信号异常----------
单数码管依次显示E和7；

EN

1)Over current protection----------
single LED shows E followed 1;
2)Motor rotate block protection ---------- ----------
single LED shows E followed 2;
3)AC input power down protection ----------
single LED shows E followed 3;
4)Hall signal abnormal ----------
single LED shows E followed 4;
(this breakdown will remind the Hall signal connect cable of motor simultaneously, if it is reliable)
5)Positioning machine (needle position) signal detect
Breakdown of up needle position ----------
single LED shows E followed 5;
Breakdown of down needle position ----------
single LED shows E followed 6;
6)Speed adapter signal abnormal ----------
single LED shows E followed 7;



GEMSY
Great at Energy Saving

获行业首家 全国质量奖
GEMSY GAINED CHINA QUALITY AWARD -- THE FIRST ONE TO WIN THIS AWARD IN SEWING MACHINE FIELD
全国服务热线：800-8576-822
SERVICE HOTLINE：800-8576-822

# 工业缝纫机伺服节能单剪线系统
# TRIMMER-ONLY SYSTEM OF ENERGY SAVING MOTOR

使用说明书
Operation Instruction

GEMSY 宝石 中国驰名商标 WELL-KNOWN TRADEMARK 中国名牌产品 CHINA TOP BRAND PRODUCT 中国出口名牌 CHINA EXPORTS TOP BRAND 全国用户满意产品 CONSUMER SATISFACTORY PRODUCTS OF CHINA

地址：中国浙江省台州市东环大道638号 P.C：318000
国内营销部：DOMESTIC SALES DEPARTMENT
TEL：0576-88201401 88202041
FAX：0576-88202667 88203211
Http://www.gemsy.com

ADD：NO.638 DONGHUAN ROAD，TAIZHOU，ZHEJIANG，CHINA
国际贸易部：INTERNATIONAL TRADE DEPARTMENT
TEL：0086-576-88201479 88201471 88207338
FAX：0086-576-88202667 88203211
E-mail：gemsy@gemsy.com

## 注意 CAUTION

使用机器前请详细阅读本用户手册及所配套的缝纫设备说明书，配合正确使用，由接受过专业培训的人员进行安装调试。
本产品仅适用于指定范围的缝纫设备，请勿移做其他用途。

Please read instruction manual and completing instruction manual carefully before operating.
The Installation and operation must be operated under professional trained staff.

## 安全说明 SAFETY INSTRUCTION

1.安装和调试前，请认真仔细阅读本手册。
2.本产品须受过专业培训的人员来安装或操作。
3.严禁用户改动控制器任何部分的结构，否则，由此而产生的一切后果，由用户自己承担全部责任。
4.确保电源安全接地并符合产品铭牌上标示的电压范围及技术要求。
5.接通电源开关时，请把脚移开离机器脚踏板。
6.在进行以下操作时，必须先断开系统电源。
A 安装机器时
B 在控制器上插拔任何连接插头时
C 穿针线、换机针及翻抬机头时
D 机器维修及机器休息不用时
7.设置系统控制参数或进行保养维修工作应由受过相关培训的人员来完成。
8.每次关闭电源后再次启动，应在相隔5秒钟以后。
9.系统接地线必须可靠连接！

1. Please read this manual carefully before installation and adjustment.
2. Installation and operation must be operated under professional trained staff.
3. It is not allowed change the structure of any motor parts, otherwise the customer should take full responsibility
4. Confirm the power connected to the ground safety and keep in accordance with the voltage range and technical requirements in the nameplate.
5. Please leave your feet away from the pedal when power is turned on or off.。
6. You must cut the power off under operation mentioned below:
A.install the machine
B.insert or pull out any plug in the control box;
C.threading, changing needle and rotate the machine head.
D.machine maintenance and machine is in idle state.
7. The setting of control system and maintenance should be operated by trained staff
8. There should be 5 seconds separate during changes of power.
9. The system must be connected to the ground safety

# 1 产品介绍 Product Introduction

1).自动剪线系统的组成　　图1　图2

控制系统+电机+脚踏调试器三部分组成：

EN

1).Auto trimmer system contains

It's consist of control system , electronic motor and pedal debugger.

图1

图2

本控制器主芯片采用美国爱特梅尔公司最新的AVR单片机，该单片机有着丰富的片内资源，通过优化算法编制的软件，精确控制电机的工作状态。电机的功率驱动采用美国仙童公司的智能化功率驱动模块，该模块具有完善的过压、过流、过热等自动保护功能。系统具有超宽的电源电压在90V-270V的情况下能正常工作。另外控制器有单独隔离安全开关和LED 5V输出，能外接 5V LED照明灯，有效解决了在缝制过程中的照明不足。

EN

The chip of this controller using the newest AVR SCM of U.S Atmel Company.

This SCM system owns variety of internal resource, using software compiled with optimizing arithmetic to control the working state of the motor more accurate. The power drive of motor using the intelligent power drive module of U.S Fairchild. This module has auto protection function of over voltage, over current, overheating etc. The system has super wide of power voltage working state between 90V-270V. Besides, the controller has a seclude security switch and output of 5V from LED. It could get an external 5V LED, this effectively solve the lack of lightness at sewing time.

2).性能及指标参数 Performance And Parameter

表一：

| | |
|---|---|
| 机型<br>Model | 8801D1 |
| 控制器型号<br>Model | MXP-130系列 |
| 电机类型<br>Motor type | 永磁无刷伺服节能电机<br>Ever magnetic energy saving no brush servo motor |
| 电源供电电压<br>Power voltage range(please confirm the supply voltage) | AC 110V--220V±10%<br>50/60 Hz |
| 输出功率<br>Motor output | 550W |
| 最大扭矩<br>Maximum torque | 2.5N.m |
| 电机转速(出厂设置)<br>Speed | 3700rpm |
| 电机额定转速<br>Motor rated speed | 550W / 4200 rpm<br>550W rated 4200rpm |
| 剪线电磁阀<br>Cutting Solenoid valve | 24V |
| 光电<br>Photoelectric | 5V |
| LED照明<br>LED light | 5V |
| 水银安全开关<br>Mercury save switch | 5V |
| 过载保护<br>Transistor protection | 有　Yes |

# 2 直驱电机安装与调试

# Installation and debug of direct drive motor

1)电机安装(图3) Motor installation

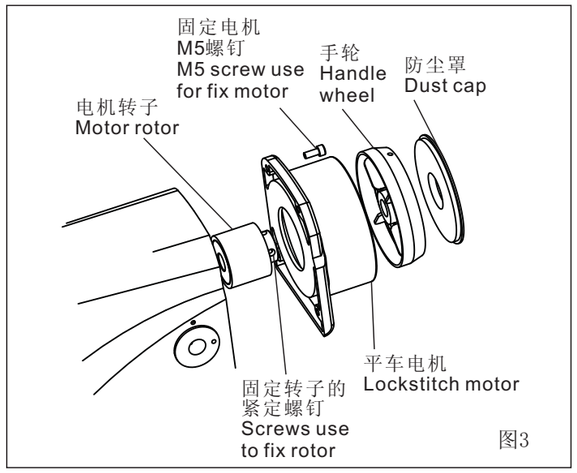



图3

2)控制箱的安装

在台板右前下方，用Φ3钻头钻两个深2厘米的孔，孔距195mm，然后用随机附带的自攻螺丝，将控制箱固定拧紧，将电机、调速器、同步器，四孔航插，三孔航插，两孔航插,LED，手动开关的插头正确插入相应的插座，并将电缆线扎好，固定在台板下。见图4图5

EN

2) Control box installation

Under the right forehead of the platen, using Φ3 drill to drill a hole of 2 cm deep. Distance between two holes is 195 mm. Then using self tapping screw of random attach. Screw the control box tightly. Insert the switch of the motor, speed adjuster, synchronizer, 4 holes insert, 3 holes insert, 2 holes insert, LED, hand switch to the corresponding socket. Tie the cable, fix under the platen. Refer to picture 4 and picture 5.

图4

图5

3)脚踏板的安装　见图6

安装调速器拉杆应保证拉杆位置垂直于踏板。调整拉杆前高后低的角度，使踏板的倾斜角度相对于地平面15度为宜如图6所示效果。

EN

3) Installation of pedal

Installation of speed adjuster draw rod should make sure the draw rod is perpendicular to the pedal. Adjust the draw rod the angle of front and back and make the angle of the inclination 15° above the ground. Refer to picture 6.

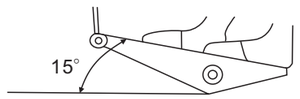



图6

4)系统接线　见图7

将控制器电源线接入规定的供电系统，用户供电系统必须有独立的接地装置，控制器箱体必须可靠接地！将控制箱固定拧紧，将电机、调速器、同步器，四孔航插，三孔航插，两孔航插,LED，手动开关的插头正确插入相应的插座，并将电缆线扎好，调整塑料护套的位置，使塑料护套完全包裹住插头。

EN

4) Wire connecting  Refer to picture 7

Insert the power joint of the controller into the specified power supply system. The power supply system should has its own grounding device.Controller box has to be connected to the ground. Screw the control box tightly. Insert the switch of the motor, speed adjuster, synchronizer, 4 holes insert, 3 holes insert, 2 holes insert, LED, hand switch to the corresponding socket. Tie the cable, fix under the platen. Refer to picture 4 and picture 5.Tie the cable,adjust the position of plastic sheath to make the plastic sheath wrap the plug.

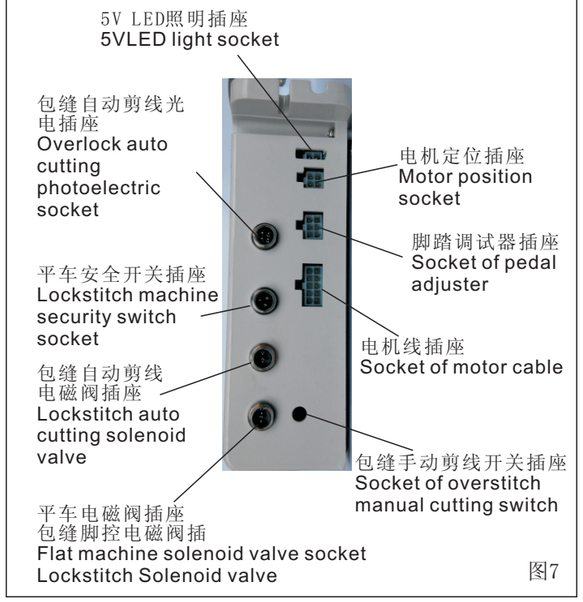



图7

5)调试

停针位的调整：

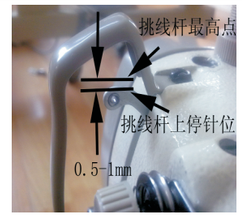
插上电机定位插头，控制器自动检测定位，不插电机定位插头控制器默认普通模式。将手轮的旋转方向的第二颗螺钉对准上轴平面拧紧，然后再拧紧另外一颗螺钉。此时开机，向前踩脚踏板，然后放开，机器应处于下停针的位置，再向后踩脚踏板，机器应处于上停针位置。机器停针位不准可能导致不能剪线或使用的情况。

EN

5) Debugging

Adjustment of needle position:

Insert the location socket of motor, controller detect the position automatically. The pattern of controller without insert of motor position socket is default to be normal. The second screw of the sense of the rotation from the handle wheel, set it tight to the upper plane, then set the other screw. Then starting up, step forward on the pedal, then release, the machine should be the under needle position, then step back on the pedal, the machine should be the upper position. If the machine needle position is not accurate, it may not be cutting or not working.




标准上停针位置
Correct up needle position

图8

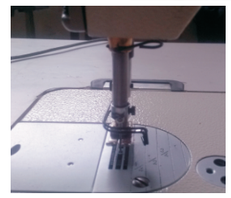


图9

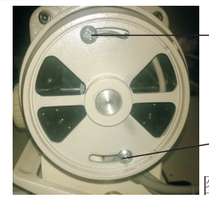



图10

标准下停针位置
Correct under needle position

上停针位置时手轮位置
Handle wheel position when up needle position

机器上停止位置为挑线杆未到最高点0.5-1mm左右，调整时松开螺钉1，移动磁铁进行调整。机器下停止位置为针杆最低点位置上升3-5mm，调整时松开螺钉2，移动磁铁进行调整，调好后拧紧螺钉。

EN

When the wheel stops,the take-up-lever is 0.5-1mm to the highest position, loosen the screw 1 when need to be adjusted, move the magnet.The under stop position is the lowest position up to 3-5mm,loosen screw 2,move magnet, then set the screw.

# 3 操作面板设置说明

# Operation panel set instruction

1)开机显示为工作界面，数码管显示“P”　图11

2)按动P键，数码管显示大“U”为转速千位设置界面，图12

EN

1) Starting up appears working interface, LED shows “P”, refer to Picture 11

2) Press “P” button, LED shows “U”, that's the speed of thousand of set interface, refer to picture 12.

图11

图12

按动S：键，显示从1—5递增循环，对应于限速范围约为1000—5000转/分千位的调节。(具体转速与机型有关)

EN

Press “S” button, it shows from “1” to “5”, then circulate. The corresponding speed is about 1000-5000 rpm (specific speed is related to exact model).

3)按动P键，数码管显示小“U”为转速百位设置界面，图13

EN

3)Press “P” button, LED shows “u”, that's the speed of hundred of set interface, refer to picture 13.