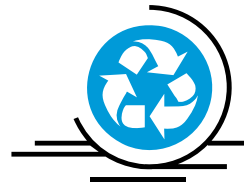


# Power-Saving Controller 衣车节电器

For Sewing Machine Motor

Comparison Study 比较案例

平均节省率高达 **30%-40%** Average Power Saving



### Parameters\*研究设定\*:

- Using single-phase 220V sewing machine, power consumption is 250W 使用220V单相衣车,耗电量250瓦 Watt
- 10 working hrs per day 衣车每天操作10小时
- 3/5 of the time is UNLOADED (pedal is not pressed down) or 6 out of 10 hrs is unloaded time. 其中五分三时间是空载 (即没有踩着衣车脚踏), 每天约有6小时为空载。
- 2/5 of the time is LOADED (pedal is pressed down) or 4 out of 10 hrs is loaded time. 其中五分二时间是负载 (即有踩着衣车脚踏), 每天约有4小时为负载。
- Electricity rate is calculated to be RMB 0.9 per unit (kwh). 每度电电费约为¥0.9元 (人民币)。

### Comparison 实验比较:

#### Before use 使用节能器前:

- Each machine consumes 250W/hr. It means it consumes 2,500 watt /day or electricity rate is RMB2.25 / day. 每台衣车每小时耗电量为250瓦,即每天耗电量为2,500瓦,电费即为¥2.25。
- Since electricity consumption rate is the same in both unloaded and loaded condition for normal sewing machine. 由于在空载或负载的情况下,衣车的耗电量仍是一样的。
- Therefore, each machine consumes 2,500 watt per day or electricity rate is RMB2.25 per day. 所以,如果每天操作十小时的话,耗电量便是2,500w,每台衣车电费即是¥2.25 (=2.5 kwh x ¥0.90)。

#### After use 使用节能器后:

- When unloaded, power consumption will be 40% less. Even when loaded, it saves 10% of electricity. 每台衣车在空载的情况下能节省40%。并且,在负载的情况下亦能节省10%。
- Therefore, each machine when unloaded will only consume 960w instead of 1,600w. 900w will be saved. When loaded, it will consume 900w instead of 1000w. 那么,每台衣车的耗电量在空载时便由原来的1600w减少至960w而已。而且,每台衣车的耗电量在负载时亦由原来的1000w减少至900w而已。
- In conclusion, each machine will now consume only 1,860w per day instead of 2,500w. Electricity rate is now only RMB 1.674 instead of RMB2.25 per day. 那就是说,一台衣车一天的耗电量便是1,860w,每台衣车电费即是¥1.674。

### Results 实验结果:

- Before use, each machine consumes RMB2.25 使用节能器前的每台衣车耗电量¥2.25
- After use, each machine consumes RMB 1.674 使用节能器后的每台衣车耗电量¥1.674
- Each machine saves RMB 0.576 per day 每台衣车每天实质节省¥0.576
- Average Saving is 25% 平均节省率25.6%

### Product Inquiry 产品查询

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## Specification 规格:

92x60x28mm / 110g N.W. / 220V / 50Hz



### Power consumption BEFORE:

使用前的耗电量:

**2,500 watt**

### Electricity rate BEFORE:

使用前的电费:

**¥2.25**

### Power consumption AFTER:

使用后的耗电量:

**1,860 watt** ↓

### Electricity rate AFTER:

使用后的电费:

**¥1.67** ↓

**Power saving 电能节省**

**26%**

**Daily Saving 电费节省**

**¥0.58**

## Power-Saving Controller for sewing machine motor

## 電動衣車節電器



### 一、基本原理：

工業電動衣車均配有離合器，當衣車加工工件時，電機通過離合器皮帶帶動機頭做功；未加工工件時，離合器與電機分離，電動機一直保持空轉，此時電機整體運行效率很低。節電器通過檢測電機運行的負荷大小來調整輸入電機的電壓和功率，實現“所供即所需”的自動高效運行。綜合節電率可達 30%-50%。

### 二、產品的特點

- 微電子控制，智慧省電，節電率可達 30%-50%；
- 模組化設計，進口核心部件，性能穩定可靠；
- 內置旁路裝置，使用安全性極高；
- 安裝節電器前後機器性能一致，不影響其工作效率；
- 具備軟啟動功能，延長電機使用壽命；
- 低速分離結合技術，延長離合片與馬達壽命；
- 具過流、過壓、欠壓保護，保證電機安全運行；
- 改善功率因素，降低電機運行溫度和噪音；
- 體積小巧 92x60x28mm / 110 克，安裝方便；

### 三、技術參數

工作電壓 單相：交流 220V (±15%) 頻率 50Hz

### 四、適用範圍

制衣廠、手袋廠、皮鞋廠、玩具廠、皮具廠等所使用電動針車，鎖邊機等電機設備。

### 五、節電器安裝方法

節電器有紅藍兩根連接綫。直接串入電機供電的火綫即可，紅色綫連接電源側，藍色綫連接電機側。不需調節。

### 1. Basic principle

Industrial sewing machines are all equipped with a clutch. The motor movement is powered by the transmission belt driven by the clutch. During idle position, the clutch and the motor are separated from each other, but still the motor keeps running. As the result, the overall efficiency performance is relatively low. But now, with the power-saving controller, it monitors the loading status of the motor so as to adjust its power consumption and rated output to achieve an automatic high efficiency level, i.e., “it consumes what it needs”. Average power saving can be up to 30%-50%.

### 2. Product attributes

- Micro circuit control unit, artificial intelligent power saver, up to 30%-50%
- Modular design using imported processing unit resulting in high stability
- Using built-in circuit board, safety level is extremely high
- The power-saving controller will not affect the performance of the sewing machine motor at all.
- Soft boot feature can prolong the life-span of the motor.
- Low speed separating clutch and motor can protect the clutch and motor from damage.
- Equipped with overload and under-load protection. It safeguards the functionality of the motor.
- Improved rated output can reduce the heat and the noise generated by the motor.
- Compact size 92x60x28mm / 110g and easy to install.

### 3. Specification

Power supply: 220VAC (±15%) Single Phase. 50Hz.

### 4. Application / Usage

Suitable for use of sewing machine and lockstitch machine in garment factory, handbag factory, footwear factory, toys factory, leather goods factory, etc.

### 5. Installation procedure

The power-saving controller itself has a red and blue cable. Connect the red cable with the Live cable from the mains. Then connect the blue cable with the Live cable from the motor. No further adjustment is needed.