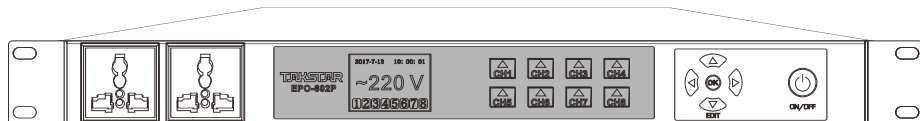


TAKSTAR[®] 得胜

电源时序器 Power Sequencer



使用说明书
User Manual

安全使用事项

在使用本装置之前，请仔细阅读说明书，并遵守有关操作和使用的警言，本说明书要妥善保管以备日后查用。

电源：本装置只能使用说明书所标注的电源种类。

电源线保护：要注意避免电源线被重物压挤，特别要注意电源线的插头、装置上的出线处及方便插座处，切忌拉、抽电源线。

水口湿气：不能放在离水源较近的地方使用，例如：浴缸、洗漱池、厨房水槽、洗手盆潮湿的地下室、游泳池附近等处。

温度：本装置必须远离热源。例如：散热器、加热器、各种炉子及其他发热装置(包括放大器)。

电击：必须注意防止物品或水流掉进内芯。如果掉进金属或其它导电物品，会使装置内部产生电击短路的风险。

盖板拆卸：因机内存有高压，非电子专业技术人员，切勿拆卸机壳，如果内部电子零件被非正常接触。可能发生严重电击事故。此事件本公司概不负责。

清洁：不要使用挥发性溶液。如：酒精、涂料稀释剂、汽油、挥发油等擦拭外壳，使用清洁的干布就行。

异常：当发现异常气味或浓烟时，应立即切断电源并拔出插头，与供货商或最近的维修部门联系，寻求维修服务。

长期闲置时：

A.为安全起见，请切断电源开关，拔掉电源插头。以防发生火灾。

B.防止水、金属、易燃品或其它异物掉进机内，以免发生触电及火灾事故。若发生此类事故时，请立即切断电源，停止使用。并与本公司服务中心或所在购买商店联系，寻求维修服务。

注意：不要把电源插头压在机器下而或夹在其他物品中间；不要把电源设置在人员来往频繁的地方，以免造成因插头破损而发生触电或火灾事故。

环保说明

产品中有毒有害物质或元素的名称及含量标识表

部件名称	有毒有害物质或元素									
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	邻苯二甲酸 二正丁酯 (DBP)	邻苯二甲酸 二异丁酯 (DIBP)	邻苯二甲酸 丁基苄酯 (BBP)	邻苯二甲酸 二(2-乙基)己酯 (DEHP)
塑料部件	○	○	○	○	○	○	○	○	○	○
金属部件	×	○	○	○	○	○	○	○	○	○
电路板组件	×	○	○	○	○	○	○	○	○	○
线缆	×	○	○	○	○	○	○	○	○	○
注1：○：表示该有害物质在该部件所有均质材料中的含量均不超出电器电子产品有害物质限制使用国家标准要求。 ×：表示该有害物质至少在该部件的某一均质材料中的含量超出电器电子产品有害物质限制使用国家标准要求。 注2：以上未列出的部件，表明其有害物质含量均不超出电器电子产品有害物质限制使用国家标准要求。										
此标志为产品的环保使用期限标志， 且此环保使用期限只适用于产品正常工作的温度和湿度等条件。										



前言

尊敬的顾客：

感谢您选用本产品！为了保证阁下和机器的安全，同时令您能充分享受最佳的音响效果，在连接或操作本机之前务必细读本说明书，阅读后请将本说明书妥善保存好以备日后查用。

开箱检查：

拆开包装后，请先确认本机是否有因运输途中造成的损伤，并依照本手册要求接线并测试每项功能，如有问题请立即通知销售部。

- ◆购机时请检查机箱后板上的条形编码是否完整，各随机附件是否齐全等。
- ◆非指定维修部门打开过的机器将不在三包范围之内。
- ◆建议阁下将拆下的包装材料和随机附件等保存好以备日后搬运或维修时使用。

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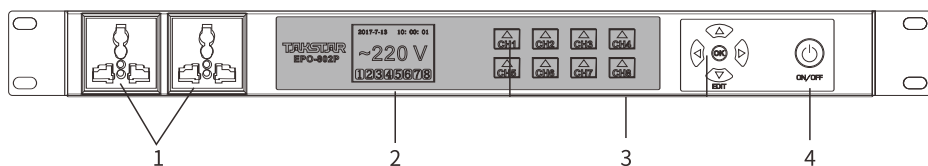
本机特点

本机器是一款以STM32F103RB为处理器的体积紧凑、功能强大的智能时序器；它集多种常规产品的功能于一个仅为1U机架高度的箱体内部。

- ▼2英寸彩色液晶智能显示窗，可实时显示当前电压，日期时间，通道开关状态；
- ▼8路开关通道输出，每路延时开启和关闭时间可自由设置（范围0-999秒，单位为秒）。
- ▼支持面板Lock锁定功能，防止误操作。
- ▼内置时钟芯片，可根据日期时间定时设置自动开关机，不须人为操作。
- ▼支持多台设备级联顺序控制，级联自动检测设置。
- ▼配置232接口，支持外部中控设备控制。
- ▼每台设备自带ID设置和检测，可实现远程集中控制。
- ▼8组设备开关场景数据保存/调用，场景管理应用简单便捷。
- ▼欠压、超压检测及报警。

前后面板名称及其功能介绍

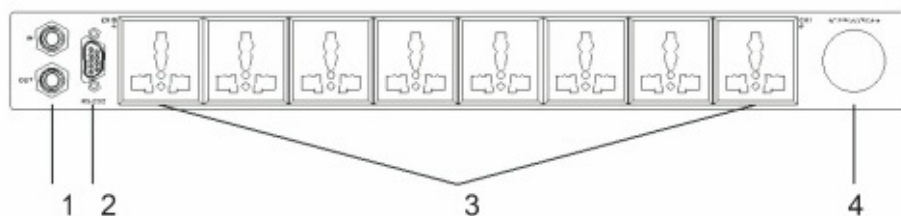
前面板介绍：



- 1、辅助输出电源插口
- 2、2寸液晶显示屏

- 3、数码编辑键、单路开关
- 4、启动开关

后面板介绍：



- 1、级联接口
- 2、RS232中控接口

- 3、8路万能插座
- 4、电源线

注：通过级联接口连接多台机器时，超过2台建议最后一台机器级联输出接口需要返送第一台主机，在级联模式下，所有从机需关闭自动启动功能。

菜单功能说明

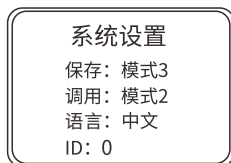
编辑界面及参数说明：

接通电源后，机器屏幕显示为：



当本机连接上电源后，液晶显示屏上自动显示当前电路中实际电压，数值会随着电压的波动而发生变化。屏幕下方显示当前通道状态，绿色显示为接通的，红色显示为没接通的。本机的设置页面，按功能划分为：系统设置、保护设置、时间设置、通道设置。

系统设置： 在待机状态下，轻按下/右方向键：



在系统设置页面下，通过轻按下/右方向键可实现对保存和调用的更改。保存和调用模式下各有8组数据，其中调用模式下还多出一组出厂设置数据。本机内置了中英文界面设置，用户可根据需要随意切换。

当本机在电脑远程中控状态下，可通过ID地址对其它机器进行管理操作。

保护设置： 在待机状态下，轻按下/右方向键：



在保护设置页面下，第一项设置保护功能的打开或关闭然后设置起控点电压。保护选项中分别设有：开、关、自动；自动与开的最大区别在于，当选中自动时，当通道断开后电压回复到设定后，通道会自动恢复，反之设定开的话通道不会自动恢复，通道将一直全部关断，需手动恢复。

时间设置： 在待机状态下，轻按下/右方向键：



在时间设置页面下，可以校对机器当前的实际年月和时间。这一页面同时也设有“上电自启”和“定时开关”两个选项。定时开关中设有3种状态：关闭、循环、非循环。循环：设定每天固定时间打开；非循环：特定时间打开。上电自启即当机器接通电源，自动启动预设好的通道。

延时设置： 在待机状态下，按下左右上下键：

延时设置CH2

开延时：2秒

关延时：7秒

在延时设置页面下，可分别设置各通道的开通时间和关闭时间。可设置范围均为0-999S。

通讯协议功能概述			
配置：波特率：19200数据位：8检验位：无停止位：1			
一、中控			
主机遥控请求代码（设备IP地址出厂时默认为00）			
功能	中控代码指令	功能	中控代码指令
CH1开启	5a5a5a0000b20000010001000100aa	CH1关闭	5a5a5a0000b20000010001000000aa
CH2开启	5a5a5a0000b20000020001000100aa	CH2关闭	5a5a5a0000b20000020001000000aa
CH3开启	5a5a5a0000b20000030001000100aa	CH3关闭	5a5a5a0000b20000030001000000aa
CH4开启	5a5a5a0000b20000040001000100aa	CH4关闭	5a5a5a0000b20000040001000000aa
CH5开启	5a5a5a0000b20000050001000100aa	CH5关闭	5a5a5a0000b20000050001000000aa
CH6开启	5a5a5a0000b20000060001000100aa	CH6关闭	5a5a5a0000b20000060001000000aa
CH7开启	5a5a5a0000b20000070001000100aa	CH7关闭	5a5a5a0000b20000070001000000aa
CH8开启	5a5a5a0000b20000080001000100aa	CH8关闭	5a5a5a0000b20000080001000000aa
顺序打开	5a5a5a0000b10000000001000100aa	逆序关闭	5a5a5a0000b10000000001000000aa
同时打开	5a5a5a0000b30000000001000100aa	同时关闭	5a5a5a0000b30000000001000000aa

返回的数据在接收缓冲区的数据为：

前8个BYTE是机器通道(依次为1至8)的状态，开启为01，关闭为00；第9个BYTE开始的数据为机器的参数，第一个参数为通道1的开延时，占用2个BYTE,第二个参数为通道1的关延时，占用2个byte，依次类推第2、3、4、5、6、7、8个通道的开延时和关延时，都占用2个BYTE;接着的是过压和欠压的参数，都是占用2个BYTE;接着的是开机的月日，关机的月日，开机的时分秒，关机的时分秒，保护，机器ID,定时方式，上电自启的参数，占用一个BYTE。

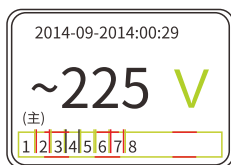
联机说明：

联机示意图如下图示：



主机设置：

同时按下OK键和ON/OFF键，稍等约4S秒显示屏出现（主）黄色字符（如下图示），表示本机设置为主机，其他机器的启动开关自动失效。如果上电检测到有打开了开机自启功能的也将会自动设置为主机。



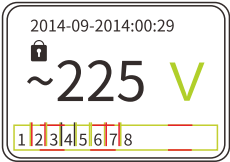
注：联机时，从机需要关闭定时和开机自启功能。本机联机使用6.3mm接口连接线，且系统内所有机器的联机必须组成一个闭合回路。值得注意的是：一个系统内必须且只能设置一台机器为主机。

特别说明：

本机具有自动记提醒忆功能，每次对各路参数进行了修改，数秒后会自动弹出是否保存界面；不操作，如需保存按下OK键，否则轮动到其他页面即取消。

锁定功能：

锁定功能，长按OK键，屏幕出现小锁图标，设置功能被禁闭，反之解锁。如下图示：



规格和性能指标

项目	参数	
额定输出电压	交流220V,50Hz	
可控制电源	8路，外加2路输出辅助通道	
每路动作延时时间	0到999秒	
供电电源	AC220V50/60Hz30A	
状态显示	2" TFT彩色液晶实时显示当前电压、日期、时间，每路开关状态	
单路额定输出电流	13A	
额定总输出电流	30A	
定时器功能	√	
重量	毛重	4千克（KG）
尺寸	包装尺寸	550*253*80毫米（mm）

本公司之产品将紧跟技术的发展而不断改进。规格如有更改，恕不另行通知。

序号	名称	数量
1	机器	1台
2	说明书	1本

Safety Precautions

Read this manual carefully before use and follow all safety warnings. Keep this manual for future reference.

Power: Use only the power source specified in the manual.

Power Cord Protection: Protect the power cord from being pinched, especially at plugs, outlets, and where it exits the apparatus. Do not pull or strain the cord.

Water and Moisture: Do not use this apparatus near water (e.g., bathtubs, washbasins, kitchen sinks, hand basins, damp basements, and areas near swimming pools).

Heat: Keep the apparatus away from heat sources such as radiators, heaters, stoves, and other heat-producing devices (including amplifiers).

Electric Shock: Prevent objects or liquids from falling into the enclosure. Conductive objects inside may cause electric shock or short circuit.

Cover Removal: High voltage inside. No user-serviceable parts inside. Refer servicing to qualified personnel. The manufacturer shall not be liable for any accidents resulting from unauthorized access.

Cleaning: Do not use volatile solvents (alcohol, paint thinner, gasoline, etc.). Clean only with a dry cloth.

Abnormal: If you notice unusual smell or smoke, immediately disconnect the power, unplug the unit, and contact your dealer or nearest service center.

Long-term Idle:

A. Turn off the power switch and unplug the power cord to prevent fire.

B. Prevent water, metal, flammable materials, or other foreign objects from falling inside the unit. If this occurs, immediately disconnect power, stop use, and contact our service center or the store where purchased.

Caution: Do not place the power plug under the apparatus or between other objects. Do not install the cord in a high-traffic area to avoid plug damage that could cause electric shock or fire.

Preface

Dear Customer:

Thank you for purchasing our product. To ensure your safety and optimal performance, read this manual carefully before connecting or operating the unit. Keep it for future reference.

Unpacking Inspection:

After unpacking, please check the unit for any damage incurred during shipping. Connect and test all functions as described in this manual. If any problem is found, notify the sales department immediately.

- ◆ Upon purchase, check that the barcode on the rear panel is intact and that all included accessories are present.
- ◆ Units opened by unauthorized service personnel are not covered by the warranty.
- ◆ It is recommended to keep the removed packaging materials and included accessories for future transport or servicing.

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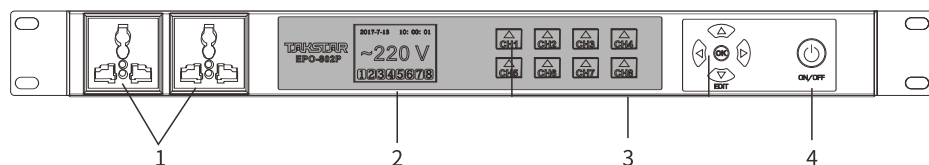
Features

This unit is a compact, powerful intelligent power sequencer based on the STM32F103RB processor. It integrates the functions of multiple conventional products into a single 1U rack-height enclosure.

- ▼ 2-inch color LCD smart display: real-time voltage, date/time, and channel on/off status.
- ▼ 8 switched output channels with individually adjustable turn-on/turn-off delay time (0–999 seconds).
- ▼ Panel lock function to prevent accidental operation.
- ▼ Built-in clock chip for scheduled automatic power on/off based on date/time, no manual operation required.
- ▼ Supports daisy-chain sequential control of multiple units with automatic cascade detection.
- ▼ RS-232 interface for external central control system integration.
- ▼ Individual ID setting and detection for remote centralized control.
- ▼ 8 groups of power on/off scene settings for easy save and recall.
- ▼ Under-voltage and over-voltage detection and alarm.

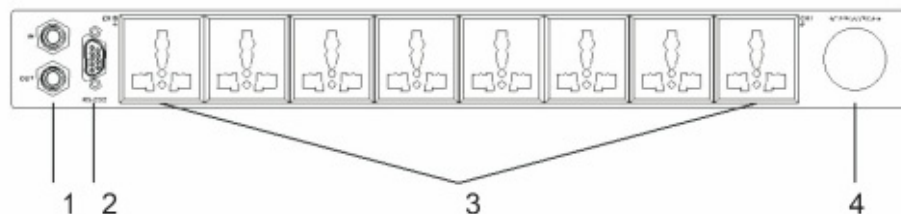
Front/Rear Panel Overview

Front Panel



1. AUX Power Outlets
2. 2-inch LCD Display
3. Digital Edit Keys/Single Channel Switches
4. Power Switch

Rear Panel

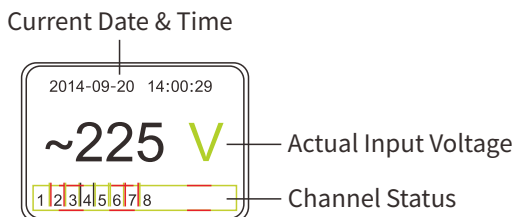


1. Cascade Interface
2. RS232 Central Control Interface
3. 8-Channel Universal Power Sockets
4. Power Cord

Note: When cascading multiple units, if more than 2 units are connected, it is recommended to loop the cascade output of the last unit back to the first master unit. In cascade mode, disable the auto-start function on all slave units.

Menu Functions

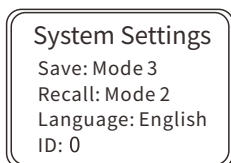
Edit Interface & Parameters: Upon power-on, the screen displays:



After connection, the LCD automatically shows the real-time line voltage; the value changes as voltage fluctuates. The channel status is displayed below the screen, green for ON, red for OFF.

The setup pages are organized into: System Settings, Protection Settings, Time Settings, and Channel Settings.

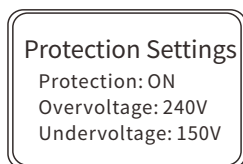
System Settings: In standby mode, press the Down/Right arrow key:



On the System Settings page, use the Down/Right key to change the Save and Recall options. Both Save and Recall modes have 8 data groups; Recall mode additionally includes one factory default group. The unit features a built-in Chinese/English interface, allowing users to switch freely.

When the unit is under remote PC control, other machines can be managed via their ID addresses.

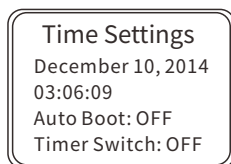
Protection Settings: In standby mode, briefly press the Down/Right arrow key:



In Protection Settings, first enable/disable the protection function, then set the trigger voltages.

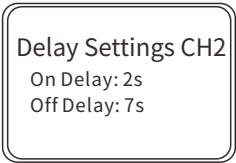
Protection options: ON, OFF, AUTO. In AUTO mode, channels automatically restore when voltage returns to normal. In ON mode, all channels remain off after protection triggers and require manual reset.

Time Settings: In standby mode, press the Down/Right arrow key:



In the Time Settings page, you can calibrate the unit's current date and time. This page also includes Auto Boot and Timer Switch options. The Timer Switch has 3 modes: OFF, Cycle (activates at a fixed daily time) and Non-cycle (activates at a specific one-time schedule). Auto Boot automatically activates preset channels when the unit is connected to power.

Delay Settings: In standby mode, press the Up/Down/Left/Right arrow keys:



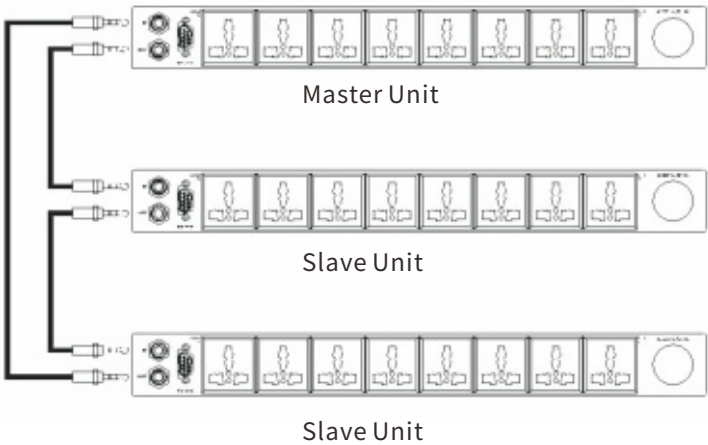
In Delay Settings, you can set the turn-on and turn-off delay time for each channel individually. The adjustable range is 0-999s.

Communication Protocol Overview			
Configuration: Baud Rate: 19200, Data Bits: 8, Parity: None, Stop Bits: 1			
1. Central Control			
Host remote request code (default device ID address: 00)			
Function	Central Control Code Command	Function	Central Control Code Command
CH1 ON	5a5a5a0000b20000010001000100aa	CH1 OFF	5a5a5a0000b20000010001000000aa
CH2 ON	5a5a5a0000b20000020001000100aa	CH2 OFF	5a5a5a0000b20000020001000000aa
CH3 ON	5a5a5a0000b20000030001000100aa	CH3 OFF	5a5a5a0000b20000030001000000aa
CH4 ON	5a5a5a0000b20000040001000100aa	CH4 OFF	5a5a5a0000b20000040001000000aa
CH5 ON	5a5a5a0000b20000050001000100aa	CH5 OFF	5a5a5a0000b20000050001000000aa
CH6 ON	5a5a5a0000b20000060001000100aa	CH6 OFF	5a5a5a0000b20000060001000000aa
CH7 ON	5a5a5a0000b20000070001000100aa	CH7 OFF	5a5a5a0000b20000070001000000aa
CH8 ON	5a5a5a0000b20000080001000100aa	CH8 OFF	5a5a5a0000b20000080001000000aa
Sequential ON	5a5a5a0000b10000000001000100aa	Reverse OFF	5a5a5a0000b10000000001000000aa
Simultaneous ON	5a5a5a0000b30000000001000100aa	Simultaneous OFF	5a5a5a0000b30000000001000000aa

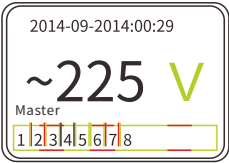
Data received in the receive buffer: The first 8 BYTES represent the status of machine channels 1 to 8, 01 for ON and 00 for OFF; data starting from the 9th BYTE are machine parameters, including Channel 1 ON Delay (2 BYTES) and Channel 1 OFF Delay (2 BYTES), followed by ON and OFF delays for Channels 2 to 8 with each delay occupying 2 BYTES, then overvoltage and undervoltage parameters each taking 2 BYTES, and subsequently power-on month/day, power-off month/day, power-on hour/min/sec, power-off hour/min/sec, Protection flag,

Connection Instructions:

Connection diagram as shown below:



Master Setup:
Press and hold OK and ON/OFF simultaneously. After about 4s, a yellow "Master" icon appears on the display. The unit is now set as master, and the power switches of other units are automatically disabled. If auto boot is detected on any unit, it will also be automatically set as master.



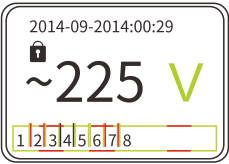
Note: When connecting, slaves must disable timer and auto power-on; use a 6.3mm cable and ensure all units are connected in a closed loop. Importantly, one and only one unit can be set as master in the system.

Special Note:

The unit features an auto-memory reminder. After modifying any channel parameters, a save prompt will appear for a few seconds. Press OK to save, or switch to another page to cancel.

Lock Function:

Press and hold OK to lock (lock icon appears, settings disabled). Press and hold again to unlock. As shown below:



Specifications

Item	Parameter	
Rated Output Voltage	AC 220V, 50Hz	
Controllable Power Outlets	8 channels + 2 auxiliary output channels	
Per Channel Delay Time	0-999s	
Power Supply	AC 220V 50/60Hz 30A	
Status Display	2" TFT color LCD, real-time display of voltage, date, time and each channel status	
Rated Output Current Per Channel	13A	
Total Rated Output Current	30A	
Timer Function	✓	
Weight	Gross Weight	4kg
Dimensions	Package Dimensions	550x253x80mm

Specifications are subject to change without notice due to continuous product improvement.

No.	Item	Quantity
1	Main Unit	1 pc
2	User Manual	1 pc

产品售后服务保证书

- 姓名：_____ 电话：_____ 地址：_____
- 商品：_____ 型号：_____ 购买日期：_____ 年 ____ 月 ____ 日

[illegible]



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