

YFS 系列（动力 / 照明）应急电源

series (power/lighting) emergency power



产品原理 Principle

1. YFS 系列三相 EPS 智能化应急电源秉承艾默生电气核心技术，采用现代电子变换技术、SPWM、PWM 技术，及最新智能 IPM 模块、CPU 控制的数字化电子产品。
2. 它具有完善的保护功能，可靠性极强，维护简单方便。
3. 该产品为一级负荷和特别重要负荷用电设备及消防设施、消防应急照明等提供第二或第三电源。

1. YFS series three-phase intelligent emergency power supply (EPS) inherits the electric core technology of Emerson, adopts such technology as modern electronic conversion technology, SPWM, PWM, etc. as well as the latest intelligent IPM module and CPU control, it is a digital electronic product.
2. It has the complete protection functions, ultra strong reliability and simple and convenient maintenance.
3. It provides the second or third power supply for powder devices of primary load and extra important loads as well as fire control facilities and fire control emergency lighting.

适用范围 Applicable range

各类建筑、医疗系统、金融系统、交通系统、机关、商场、学校、码头、广场等场所的动力或应急照明。
EPS 应急电源为一级负荷消防设施、消防应急照明或其它负荷等各种 380V/220V 用电电器与设备提供应急供电。
规格范围为 2.2KW ~ 500KW，安装形式：落地式（标准配电柜）。

It is applicable for power or emergency lighting of buildings, medical system, financial system, transport system, department, emporium, school, port, square and so
Specification scope : 2.2KW~500KW, Installation mode :Floor type (standard distribution box)

产品特点 Product features

- | | |
|-----------------------|---|
| 1. 无噪音、无排烟、无公害、无火灾隐患。 | 1.No noise, smoke, environmental protection or hidden danger of fire; |
| 2. 自动切换，可实现无人值守。 | 2. Automatic transfer, no attendance is available. |
| 3. 节能，非应急供电时，基本不耗电。 | 3.Saving energy, no power consumption basically under non emergency power supply; |
| 4. 性能稳定，安全可靠，使用寿命长。 | 4. Stable performance, high reliability and safety, long service life; |
| 5. 与发电机组相比综合造价低，性价比好。 | 5. Compared with generator set, it has low comprehensive construction price and good performance/price ratio. |

型号说明 Model description

YFS - □□ kW



产品优点 Advantages

- | | |
|----------------------------------|---|
| 1. CPU 控制，纯正弦波输出； | 1. CPU control, pure sine wave output; |
| 2. 采用智能 IPM 模块，输出平衡稳定； | 2. Adoption of intelligent IPM module, stable and well balanced output; |
| 3. 适合感性负载和混合负载； | 3. Applicable for inductive load and mixed loads; |
| 4. 可与消防联动、可通过 RS232 实现智能监控、消防控制； | 4. It can be linked with fire-fighting device, it is able to realize intelligent monitoring and fire control through RS232; |
| 5. LCD、LED 显示，故障声光报警，维护方便。 | 5. LCD and LED display, sound and light alarm for faults, convenient maintenance. |

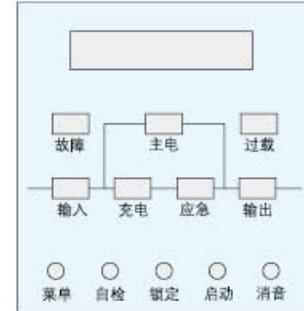
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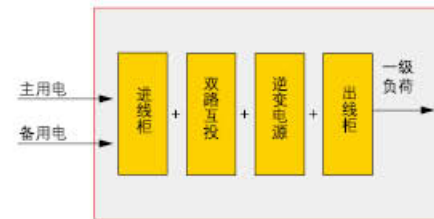


YF 系列 EPS 面板说明 Description for YF series EPS panel

- 1、LCD 液晶显示器：显示主电电压、输出电压、输出电流、电池电压。
- 2、主电指示灯：当市电正常时显示绿灯，表示在正常电网供电状态。
- 3、应急指示灯：当主电电压过低、过高、停电时显示红灯，表示在 EPS 应急供电状态。
- 4、充电指示灯：充电器对蓄电池充电时显示红灯，表示在充电状态。
- 5、过载指示灯：超过容量显示黄灯。
- 6、故障指示灯：当黄灯亮时，有以下原因：
 - A、逆变器温度过高
 - B、输出电路中有开路或短路
 - C、应急控制电路的开路、短路
 - D、充电器故障或输出开路，短路



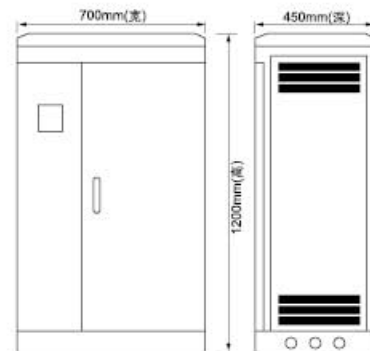
1. LCD: Display the main voltage, output voltage, output current, battery voltage.
2. Main power indicator lamp: When the utility power is normal, it brightens in green, this means the power is supplied by the normal power grid.
3. Emergency indicator lamp: When the main supply voltage is too low or too high, it brightens in red when power is cut off, this means the power is supplied by emergency power supply (EPS).
4. Charging indicator lamp: When the battery is charged by the charger, it brightens in red, this means the battery is in the charging state.
5. Overload indicator lamp: It brightens in yellow if the capacity is excessive.
6. Fault indicator lamp: If it brightens in yellow, this means there are faults occurring caused by the following reasons:
 - A. Over high temperature of inverter
 - B. The output circuit is open or short.
 - C. The emergency control circuit is open or short.
 - D. The charger has trouble or the output circuit is open or short.



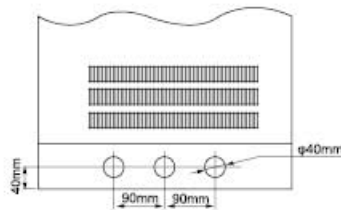
DYS系列EPS三相应急电源(四合一)

集中供电式应急电源 (落地式) YFS series EPS three-phase emergency power(tetrad)

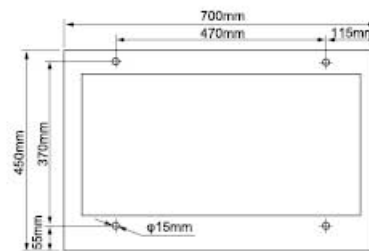
YFS-2.2kW



尺寸示意图 Dimension diagram



右侧出线敲落孔示意图
Diagram of right outlet knocking hole

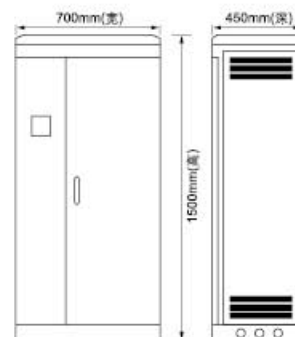


底部固定孔示意图
Diagram of bottom fixed hole

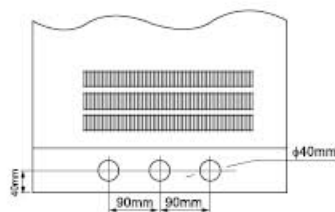
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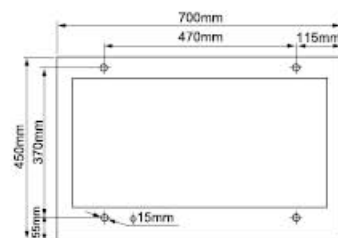
YFS-3.7kW/5.5kW



尺寸示意图 Dimension diagram

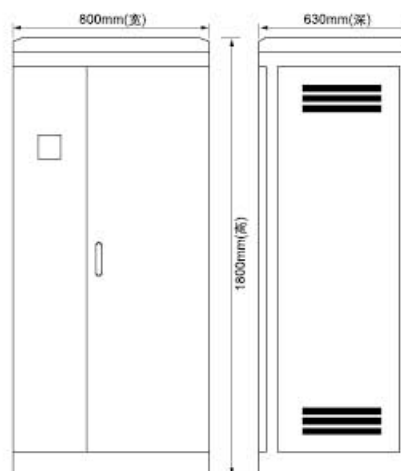


右侧出线敲落孔示意图
Diagram of right outlet knocking hole



底部固定孔示意图
Diagram of bottom fixed hole

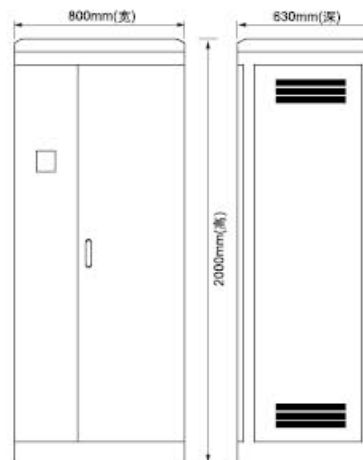
YFS-7.5kW



尺寸示意图 Dimension diagram



YFS-11kW-200kW



尺寸示意图 Dimension diagram

YFS 系列 EPS 产品技术参数 Technical parameters of YFS series EPS product

型号 Model	YFS-2.2~500kW	
输入 Input	电压 Voltage	380VAC \pm 25%
	相数 Phase number	三相四线 + 地线 Three-phase four-wire + Earthing wire
	频率 Frequency	50Hz \pm 5%
输出 Output	容量 Capacity	2.2kw~500kw
	电压 Voltage	380VAC \pm 3%
	波形 Waveform	正弦波 Sine wave (THD \leq 3%)
	频率 Frequency	50Hz \pm 5%
过载能力 Overload capacity	120% 正常工作 at normal operation; 150% for 10s	
电池 Battery	密封式免加水 Seal type, water free	
备用时间 Standby time	90min (depending on the requirements) 按需而定	
转换时间 Transfer time	<5s (特殊 \leq 0.25s under special conditions)	
保护 Protection function	欠压保护, 过压保护, 过流保护, 短路保护 Protections against under voltage, over voltage, over current and short circuit;	
显示 Display	LCD and LED	
效率 Efficiency	应急供电时 Under emergency: 92%; 正常时 under normality: 98%	
工作环境 Working environment	噪音 (1m 距离) Noise (1m distance)	市电时无噪音 Under utility power supply: no noise; 应急时 under emergency: 55dB; 75kW above: 68dB
	湿度 Humidity	0-90% no condensation 不结露
	温度 Temp.	-20 $^{\circ}$ C -40 $^{\circ}$ C
	海拔高度 Altitude	\leq 2500m
适用负载 Applicable load	适用感性负载和感性混合负载 Applicable for inductive loads and mix loads of inductance and capacitance	
尺寸 / 重量 Size/weight	见表 See the mentioned table	
开门方式和进线方式 Door opening mode and inlet mode	前门双开, 底部进出线 (标准型) Double opening mode for fore door, bottom inlet and outlet (standard type)	

注: 技术参数如有变更, 恕不另行通知, 以最新数据为准。

Note: If the technical parameters are subject to change, no notice will be made separately, and they are based on the latest data.

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YFS 系列 EPS 主要设计参数 YFS series EPS main design parameters

型号 Model	输出功率 (kW) Output power	应急时间 (min) Emergency time	主机尺寸 (mm) 宽 × 深 × 高 Main machine size (mm) W × D × H	配置电池柜 (个) Applicable battery cabinet (pcs.)	重量 (kg) Weight	输出回路 Output circuit	安装方式 Installation mode
YFS-2.2kW	2.2	90	700 × 450 × 1200	1	180	3	落地式 Floor type
YFS-3.7kW	3.7		700 × 450 × 1500	1	360		
YFS-5.5kW	5.5		700 × 450 × 1500	1	720		
YFS-7.5kW	7.5		800 × 600 × 1800	1	860		
YFS-11kW	11		800 × 600 × 2000	1	1030		
YFS-15kW	15		800 × 600 × 2000	1	1350		
YFS-18.5kW	18.5		800 × 600 × 2000	1	1380		
YFS-22kW	22		800 × 600 × 2000	1	1860		
YFS-30kW	30		800 × 600 × 2000	1	1900		
YFS-37kW	37		800 × 600 × 2000	2	3620		
YFS-45kW	45		800 × 600 × 2000	2	3570		
YFS-55kW	55		800 × 600 × 2000	3	3630		
YFS-75kW	75		800 × 600 × 2000	4	5340		
YFS-93kW	93		800 × 600 × 2000	4	7220		
YFS-110kW	110		800 × 600 × 2000	5	7320		
YFS-132kW	132		800 × 800 × 2000	6	9100		
YFS-160kW	160		800 × 800 × 2000	7	10780		
YFS-187kW	187		800 × 800 × 2000	7	12380		
YFS-200kW	200		800 × 800 × 2000	7	12410		
YFS-220kW	220		1000 × 800 × 2200	8	14180		
YFS-250kW	250		1000 × 800 × 2200	8	15790		
YFS-280kW	280		1000 × 800 × 2200 × 2	10	17760		
YS-315kW	315		1000 × 800 × 2200 × 2	12	21165		
YS-400kW	400		1000 × 800 × 2200 × 2	13	23340		
YS-500kW	500		1000 × 800 × 2200 × 2	20	29600		

注: 1. 技术参数如有变更, 恕不另行通知, 以最新数据为准。

2. 电池柜向主机柜尺寸一致。

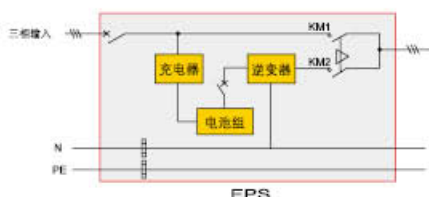
Note: 1. If the technical parameters are subject to change, no notice will be made separately, and they are based on the latest data.

2. The battery cabinet is the same with the main machine cabinet in the size.

YFS 系列 EPS 产品工作原理图 Working principle diagram of YFS series EPS product

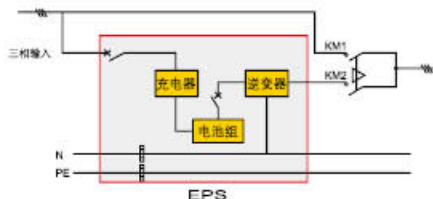
单电源原理图 (1)

Schematic diagram of single power supply (1)



做第二路电源双回路原理图 (2)

Dual-circuit schematic diagram when it serves as the second circuit power supply (2)



说明: KM1、KM2 为电气机械互锁, 在 EPS 内

Instruction: KM1 and KM2 represent the electrical and mechanical interlocking devices, mounted in EPS.

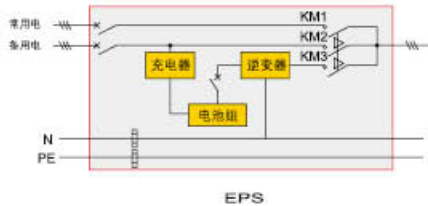
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双电源原理图 (3)

Schematic diagram of double power supply (3)

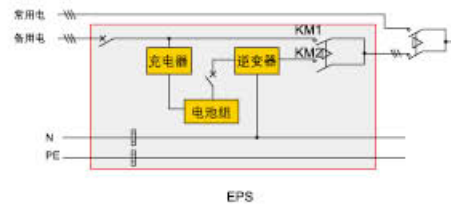


说明：

- a、KM1、KM2、KM3 为机械电气互锁，在 EPS 内
- b、充电器可接在备用或常用电上
- c、无常用电时，备用电源若投入大于 0.25 秒，EPS 先投入，备用电源后再退出

双电源原理图 (4)

Schematic diagram of double power supply (4)



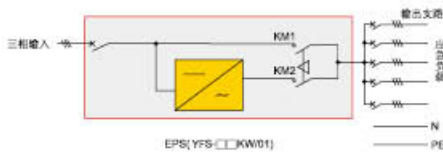
Instruction:

- a. KM1, KM2 and KM3 represent the electrical and mechanical interlocking devices, mounted in EPS.
- b. The charger may be connected to normal power or reserve power.
- c. When the normal power is cut off, if the reserve power is switched in for more than 0.25s, EPS shall be switched in first, then, it exits after the reserve power is switched on.

YFS 系列 EPS 产品接线示意图 Connection diagram of YFS series EPS product

单电源接线示意图 (1)

Single-power supply connection diagram (1)



说明：

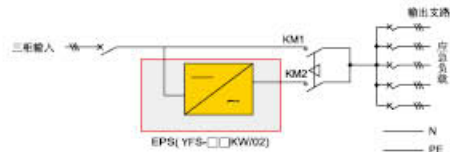
- a、KM1、KM2、KM3 为电气机械互锁，在 EPS 内
- b、输出支路可在 EPS 内，属可选件

Instruction:

- a. KM1, KM2 and KM3 represent the electrical and mechanical interlocking devices, mounted in EPS.
- b. The output branch circuit may be mounted in EPS, belonging to the optional part.

做第二路电源双回路接线示意图 (2)

Double-circuit connection diagram when it serves as the second circuit power supply diagram (2)



说明：

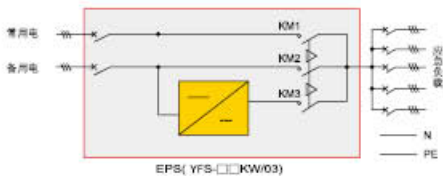
此种情况的 EPS 的逆变器在关机状态，无市电时，立即 (0.25 秒内) 投入，互投装置在 EPS 之外。

Instruction:

Under such condition, EPS inverter is in shutdown state, when the utility power is cut off, it shall be switched in immediately (within 0.25s), the switching device is not contained in EPS.

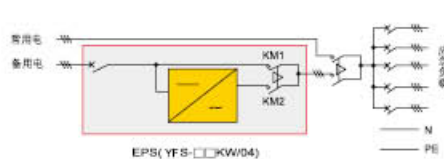
双电源接线示意图 (3)

Double power supply connection diagram (3)



双电源接线示意图 (4)

Double power supply connection diagram (4)



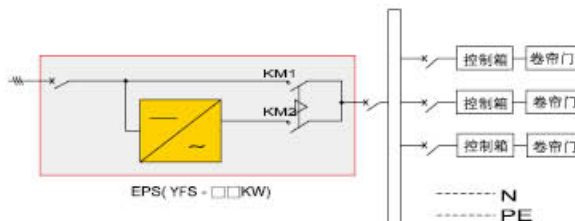
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多台卷帘门（或多台电梯）接线图

Diagram of connection with multi roller shutter doors (or multi elevators)



说明:

本 EPS 只是在电路中做为一路电源，在无市电时提供应急输出。

与多台卷帘门相连接:

- 高层建筑中卷帘门不是同时启动，EPS 的容量应不小于同时启动的卷帘门电机容量总和的 5 倍。
- 由于卷帘门的动作用电量很少，所以若仅带卷帘门时，其电池配置可相应减少。一般可选 EPS 容量的 20 分钟备用时间。

与多台电梯相连接:

- 电梯拖动电机应具有变频功能
- EPS 的容量应为电梯总容量的 1:1
- 电梯只能使用 DYS 系列的 EPS 来带

Instruction:

This EPS is only used as the circuit-I power supply at the circuit, it provides the emergency output if the utility power is cut off.

Connection with multi roller shutter doors:

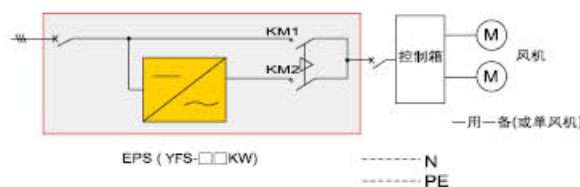
- The roller shutter door for high building doesn't start at the same time, and the EPS capacity shall not be less than 5 times of capacity sum of motor that starts the roller shutter door at the same time.
- Because low electricity for roller shutter door action is needed, if the equipment is only connected with roller shutter door, the battery shall be reduced correspondingly, in general, 20min standby time of EPS can be provided.

Connection with multi elevators

- The elevator motor shall have the inversion function.
- EPS capacity shall be the scale 1:1 of total capacity of elevator.
- The elevator only uses DYS series EPS.

一用一备水泵（或风机）接线图

Diagram of connection with one-service one-standby water pump (or fan)



说明:

- 若水泵（风机）无任何变频、星三角降压启动等措施，则 EPS 的容量应为同时工作的电机容量的 5 倍以上
- 若水泵（风机）有变频启动，则 EPS 的容量为同时工作的电机总容量的 1:1
- 若星三角降压启动，则 EPS 的容量为同时工作的总容量的 3 倍
- 上述可为规格较小的消防水泵、喷淋泵、供水泵（排风机、进风机）等。若规格较大时，建议采用 DYS/P 系列 EPS
- 当用一台 EPS 带一台或一用一备水泵，放置在末端时，除有第二电源作用，还具有双路互投作用，不需另外加互投装置

Instruction:

- If the water pump (or fan) has not been provided with frequency conversion or star delta voltage reduction, EPS capacity shall be more than 5 times of that of motor that works with EPS at the same time.
- If the water pump (or fan) starts through frequency conversion, EPS capacity ratio to that of the motor which works with EPS at the same time is 1:1.
- If the water pump starts through star delta voltage reduction, EPS capacity shall be more than 3 times of total capacity of motor that works with EPS at the same time.
- Above-mentioned water pumps can be these with small specifications, such as the fire pump, spraying pump, water-supply pump and so on, if the water pump with large specifications runs, we recommend DYS/P series EPS should be used.
- When one water pump or one-service one-standby water pump is connected with the end of an EPS, the EPS will have the function of that serves as the second power supply and double-circuit switching, it needn't another switching units.

