



<https://en.zeroerr.cn>

# ePower 电源用户手册

## ePower User Manual



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# 第一章 电源相关参数说明

## Chapter 1 Parameters of ePower

### 1.1 描述

#### About ePower

ePower 系列是一款可手提式机箱电源，将交流电压转换成直流电输出。内置制动模块，检测到电压异常升高会限制电压的爬升直至异常消除，非常适合伺服电机这一类会给电源反向充电的负载类型。

ePower series is a portable chassis power designed and developed to help user use ZeroErr actuators. It can convert AC voltage into actuator usable DC output. The built-in brake is able to detect an abnormal voltage increase and will limit the voltage rise until the abnormality is eliminated, which is suitable for actuators and other payload types that will reverse charge the power supply.

### 1.2 特性

#### Features

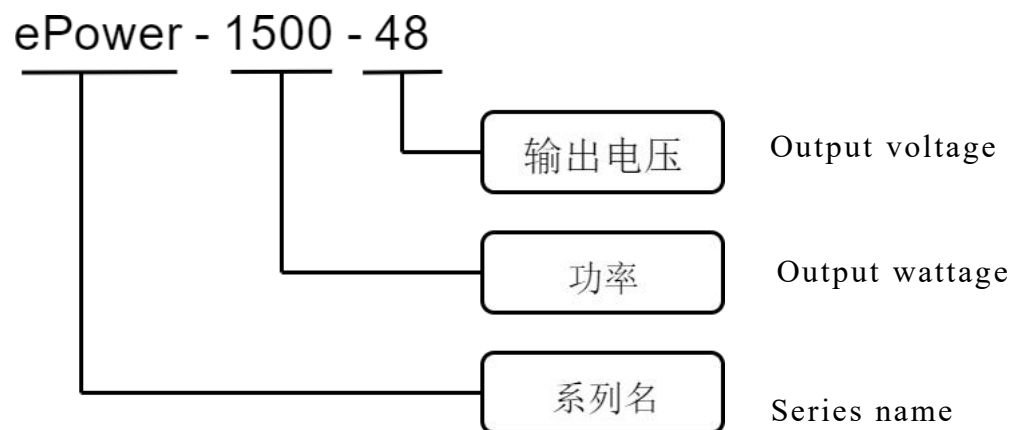
- (1) 国际通用全范围交流输入，可承受300VAC浪涌输入5秒
- (2) 内置主动式PFC功能
- (3) 效率高达91%
- (4) 保护种类：短路/过负载/过电压/过温度
- (5) 内置风冷散热
- (6) 内置电源制动装置可防止电压过高
- (7) 仅适用于海拔2000米以下地区和非热带气候条件下安全使用



- (1) Universal AC input/full range; withstand 300VAC surge input for 5 seconds
- (2) Built-in active PFC function
- (3) High efficiency up to 91%
- (4) Protection type: short circuit/ overload/ over-voltage/ over-temperature
- (5) Built-in cooling fan for heat dissipation
- (6) Built-in power brake prevents excessive voltage
- (7) Only suitable for safe use at altitudes below 2000m and in non-tropical climates

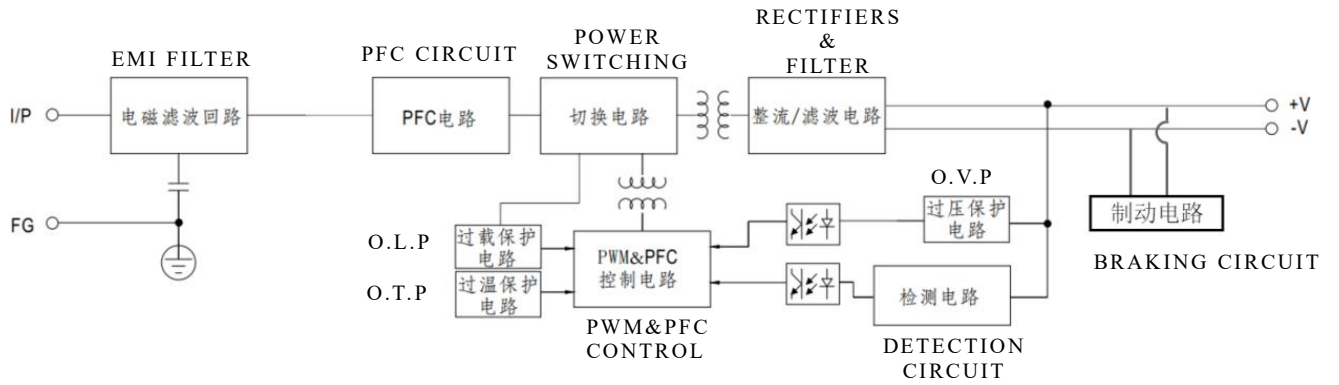
### 1.3 型号编码

#### Model encoding



## 1.4 方框图

### Block diagram





## 1.5 电气参数

### Electrical parameters

型号 Model	ePower-400-48	ePower-800-48	ePower-1500-48
输入交流电压 Input AC voltage	100 ~ 240 V		
输出直流电压 Output DC voltage	48V		
输出额定电流 Output rated current	8.3A	16.7A	31.25A
输出功率 Output power	400W	800W	1500W
制动打开电压 Brake turn-on voltage	53V		
制动关闭电压 Brake turn-off voltage	51V		
工作温度 Operating temperature	-20~60°C(请参考“减额曲线”) -20~60°C (Please refer to Derating Curve)		
过负载保护模式 Overload protection mode	恒流限制模式，负载异常条件移除后可自动恢复 Constant current limiting mode, which can automatically return to normal operation after the abnormal load condition is removed		
短路保护模式 Short circuit protection mode	恒流限制模式，负载异常条件移除后可自动恢复 Constant current limiting mode, which can automatically return to normal operation after the abnormal load condition is removed		
过电压保护阈值 Over-voltage protection threshold	55.2 ~ 64.8V		
过电压保护模式 Over-voltage protection mode	关断输出电压，重启恢复 Turn off the output voltage, restart and recovery		
过温保护模式 Over-temperature protection mode	关断输出电压，温度下降后可自动恢复 Turn off the output voltage, automatic recovery after the temperature drops.		



## 单个模组最大消耗表

**Maximum consumption of an actuator**

模组型号 Model	eRob70	eRob80	eRob90	eRob110	eRob142
最大消耗 (单位:A) Maximum consumption (unit:A)	3.5	5.5	12	16.5	23

## 机器人整机消耗电流表

**Current consumption of the whole robot**

负载 Load	3kg
最大消耗电流(单位:A) Maximum Current consumption (unit: A)	8
电源选型推荐 Recommended ePower	ePower-400-48
模组组合参考 Actuator combination reference	轴 1、2、3 为 eRob80, 速比 100, 轴 4、5、6 为 eRob70, 速比为 100。 Axis 1,2,3 are eRob80, Gear ratio 100. Axis 4,5,6 are eRob70, Gear ratio 100.
测试工况 Condition	测试数据是以臂长 0.6 米,3 公斤负载下得出。 Payload 3kg, Reach 600mm

负载 Load	5kg
最大消耗电流(单位:A) Maximum Current consumption (unit: A)	15
电源选型推荐 Recommended ePower	ePower-800-48

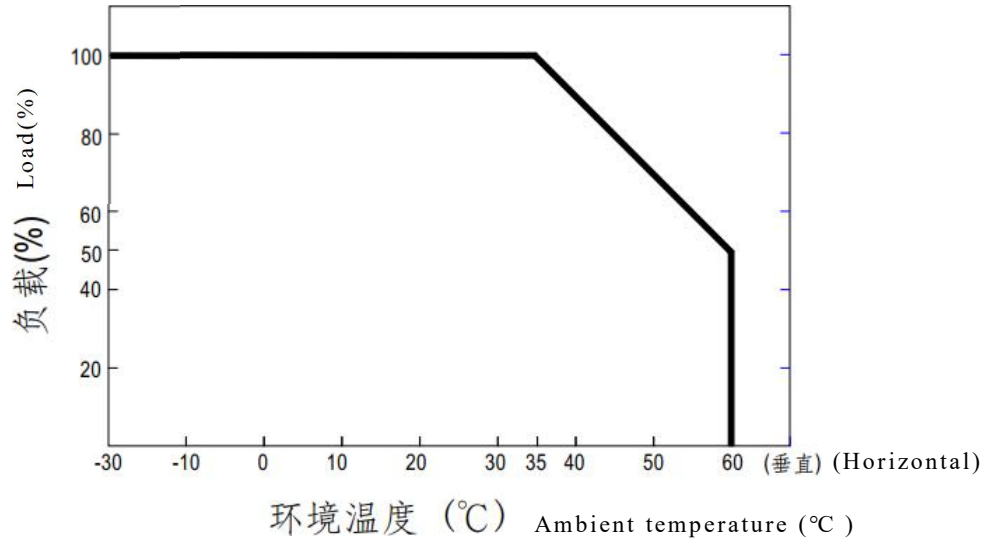


模组组合参考 Actuator combination reference	轴 1、2、3 为 eRob110，速比 120，轴 4、5、6 为 eRob70，速比为 100。 Axis 1,2,3 are eRob110, Gear ratio 120. Axis 4,5,6 are eRob70, Gear ratio 100.
测试工况 Condition	测试数据是以臂长 0.9 米,5 公斤负载下得出。 Payload 5kg, Reach 900mm

负载 Load	10kg
最大消耗电流(单位:A) Maximum Current consumption (unit: A)	26.6
电源选型推荐 Recommended ePower	ePower-1500-48
模组组合参考 Actuator combination reference	轴 1、2 为 eRob142，速比 120，轴 3 为 eRob110，速比为 120，轴 4、5、6 为 eRob80，速比为 100。 Axis 1,2 are eRob142, Gear ratio 120. Axis 3 is eRob110, Gear ratio 120. Axis 4,5,6 are eRob80, Gear ratio 100.
测试工况 Condition	测试数据是以臂长 1.3 米,10 公斤负载下得出。 Payload 10kg, Reach 1300mm

■ 减额曲线

Derating curve

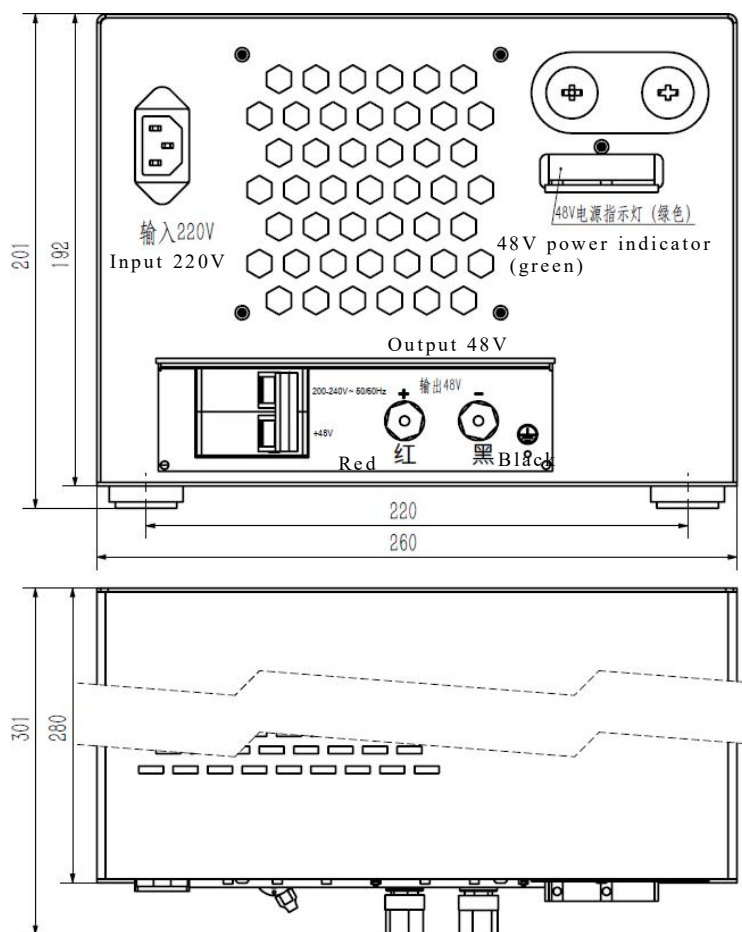


## 第二章 电源安装和放置

### Chapter 2 Installation and Placement of ePower

#### 2.1 电源外形图

Dimension drawing of ePower



外形尺寸: 301\*260\*201mm (L\*W\*H)

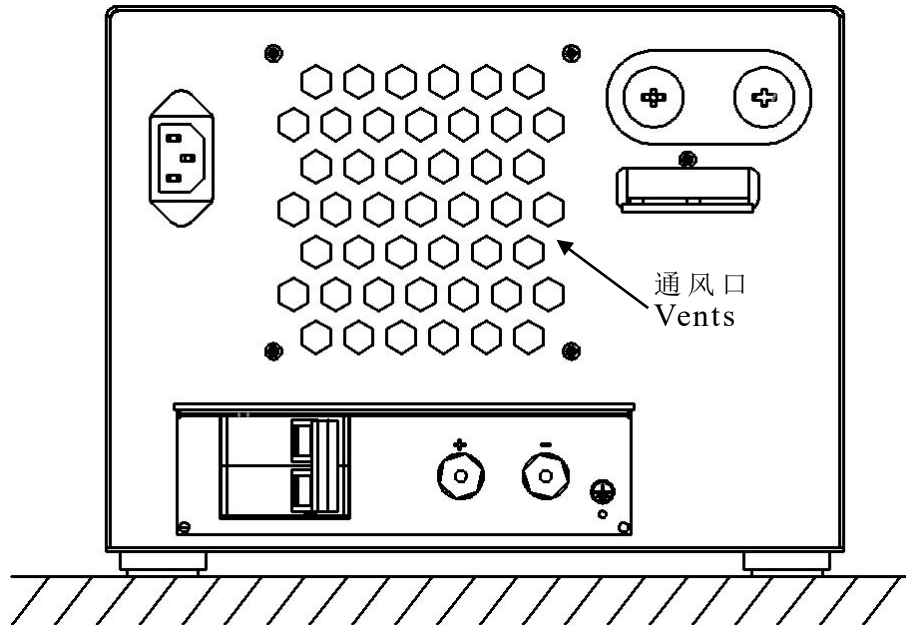
重量: 8.6Kg

Dimension: 301\*260\*201mm (L\*W\*H)

Weight: 8.6Kg

## 2.2 电源安装放置

### Installation and placement



电源应水平放置，且机箱外壳上的通风口不能遮盖,以保证良好的散热。

Place the ePower horizontally, and do not cover the vents on the case to ensure good heat dissipation.