



安徽省友谊电子有限公司  
Anhui Youyi Electronics Co., Ltd.

# SPECIFICATION

## 产品规格书

客户名称 Customer: \_\_\_\_\_

产品名称 Product Name: 开关电源 Switching Power Supply

型号规格 Part Number: YY-D-200-5 V-I2

文件编号 File NO: \_\_\_\_\_

日期 Date: 年 月 日 数量 Quantity: \_\_\_\_\_

	CHECKEN BY 审核	APPROVED BY 批准	Customer Approval 客户确认
		工程 部	

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Please return to us one original of "SPECIFICATION FOR APPROVAL" with your approved signatures

## 安徽省友谊电子有限公司

### Anhui Youyi Electronics CO., LTD.

地址: 安徽省天长市秦栏镇工业园区 1 号

Add: No.1 Industrial Zone, Qinlan, Tianchang City, Anhui, China

Tel: 0550-7811225

<https://www.you-yi.com>





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## 1: 产品概述 Product Overview

本产品为 AC-DC 恒压电源供应器，适用于多数工业直流供电设备，如显示屏等...，具有效率高、体积小、稳定以及高可靠性等特点；电源具有各种完善的保护功能，如输出短路、过温保护...

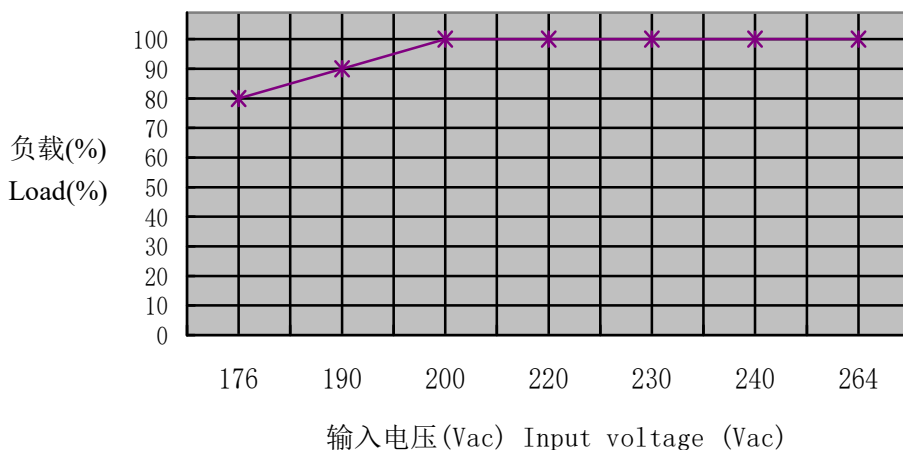
The product is AC-DC constant voltage power supply and it can drive the industrial equipment, like LED display. It have the characteristics of high efficiency, small capacity, a stable output and high reliability. It also have protection function of short circuit protection, over temperature protection and so on.

## 2: 电气规格 Electrical Specification

### 2.1 输入特性 Input Electrical Characteristics

项目 Item	型号 model	YY-D-200-5 V-I2
额定功率 Output Power		200W
输入电压范围 Input Voltage Range		180 Vac ~ 264Vac
频率范围 Frequency Range		47HZ ~ 63HZ
漏电流 Leakage Current		$\leq 2\text{ma @}230\text{Vac}$
最大输入电流 Maximum Input Current		2A @230Vac
浪涌电流 Inrush Current		$\leq 45\text{A @}230\text{Vac}$
效率(满载) Efficiency(full load)		$\geq 89\%$

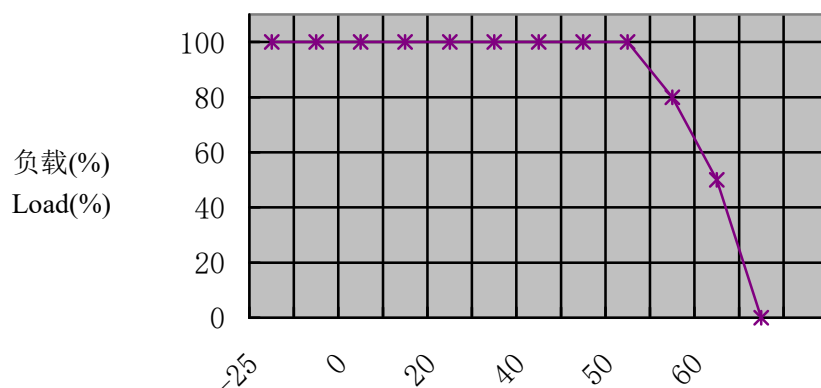
### 2.2 输入电压与负载降额曲线 Operate voltage rating Cuidline.





### 3: 输出特性 Output Electrical Characteristics

#### 3.1 工作温度曲线 Operate temperature rating Cuidline.



产品工作环境温度(°C)，

Operating environment temperature.

**如产品工作长期处在-40度环境，请特别注明要求。**

**If customer want the product to work at the environment of - 40°C, please indicate special requirement when customer order it.**

#### 3.2 输出电压与电流 Output Voltage And Current Specification

输出电压 Output Voltage	5.0V
额定电流 Rated Current	40A
电流范围 Current Range	0 - 40A
电压调整范围 Voltage Adj. Range	-
电压精度 Voltage Tolerance	±3.0%
线性调整率 Line Regulation	±0.5%
负载调整率 Load Regulation	±2.0%



### 3.3 时序特性 Timing Characteristics

项目 Item	输入 Input	115Vac Input @ Full Load	230Vac Input @ Full Load
	启动时间 Setup Time		-
上升时间 Rise Time		-	≤50ms
保持时间 Hold Up Time		-	≤16ms

### 3.4 输出动态响应 Output Dynamic Response

输出 Output Voltage	变化速率 Change Rate	电压变化范围 Voltage Range	负载变化 Load Change
5.0 Vdc	1~1.5A/uS	≤±5%	从最小值到 50%和从 50%到最大值 @Min.to 50% load and 50% to max load
-	-	-	

### 3.5 输出纹波和噪声 Output Ripple & Noise

输出电压 Output Voltage	纹波和噪声 Ripple & Noise
5.0 Vdc	100mVp-p

#### 测试说明 Measure Methods

A.纹波和噪声测试：纹波和噪声测试带宽设置在 20MHZ.

Ripple & Noise test: Ripple & Noise bandwidth is set to 20mHZ.

B.测试纹波和噪声时要在输出端并联 1 个 0.1UF 瓷片电容和一个 10UF 电解电容

Connect a 0.1uf Ceramic Capacitor with a 10uf Electrolytic Capacitor parallel to output terminals to test Ripple & Noise.

## 4: 保护功能 Protection Function

### 4.1 输出短路保护 Output Short Circuit Protection

输出电压 Output Voltage	描述 Description
5.0 Vdc	短路时关闭输出，故障排除自恢复工作 When a short circuit occurs, the output is turned off; operation automatically resumes once the fault is cleared.



#### 4.2 输出过流保护 Output Over Load Protection

输出电压 Output Voltage	描述 Description
5.0 Vdc	输出电流超过额定值 105~138%，关闭输出，故障排除后自恢复工作 When the output current exceeds 105% to 138% of the rated value, the output is turned off; operation automatically resumes after the fault is cleared.

#### 4.3 输出过压保护 Output Over Voltage Protection

异常输出电压 Output Voltage	描述 Description
6.0 Vdc	因外在因素导致产品异常输出，最高电压不会超过 6.0V，可有效的保护产品的供电设施 Due to external factors causing abnormal output of the product, the maximum voltage will not exceed 6.0V, effectively protecting the product's power supply equipment.

### 5: 绝缘性能 Isolation

#### 5.1 绝缘耐压 Dielectric Strength

输入对输出(Input To Output)	50Hz 3000Vac 交流档测试 1 分钟，漏电流 $\leq 5\text{mA}$ 。 3000Vac 50HZ 1minute $\leq 5\text{mA}$
输入对壳(Input To FG)	50Hz 2000Vac 交流档测试 1 分钟，漏电流 $\leq 5\text{mA}$ 。 2000Vac 50HZ 1minute $\leq 5\text{mA}$
输出对壳(Output To FG)	50Hz 500Vac 交流档测试 1 分钟，漏电流 $\leq 5\text{mA}$ 。 500Vac 50HZ 1minute $\leq 5\text{mA}$

#### 5.2 绝缘阻抗 Insulation Resistance

输入对输出 Input To Output	直流 500V 测试绝缘阻值最小值不能小于 $10\text{M}\Omega$ DC 500V $10\text{M}\Omega$ Min (at room temperature)
输出对壳 Output To FG	直流 500V 测试绝缘阻值最小值不能小于 $10\text{M}\Omega$ DC 500V $10\text{M}\Omega$ Min (at room temperature)
输入对壳 Input To FG	直流 500V 测试绝缘阻值最小值不能小于 $10\text{M}\Omega$ DC 500V $10\text{M}\Omega$ Min (at room temperature)



## 6: 电磁兼容性 EMC

### 6.1 电磁干扰 EMI

电源电磁干扰符合以下标准 The power supply shall comply with the following standard.

- A. 传导干扰度 Conduction Emission: EN55032, CLASS B
- B. 辐射干扰度 Radiation Emission: EN55032, CLASS B

说明: 若是客户需要过电磁兼容测试, 可以配合在客户的整机上进行更改, 达到标准。

Note: If the customer requires, we can cooperate to make modifications on the customer's complete machine to meet the standards.

### 6.2 电磁抗扰 EMS

- A. 静电抗扰度 ESD: EN55035, Level 3
- B. 浪涌 SURGE: EN55035, Level 3

## 7: 工作环境 Environment Requirement

### 7.1 环境温度 Environment Temperature

- A. 工作温度 Working Temperature:  $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

**说明: 产品在 $-40^{\circ}\text{C}$ 低温均能够开机工作; 如需求工作长期处在 $-40^{\circ}\text{C}$ , 请特别注明要求。**

**Note: The product can start up and operate at low temperatures as low as  $-40^{\circ}\text{C}$ . If long-term operation at  $-40^{\circ}\text{C}$  is required, please specify this requirement.**

- B. 存储温度 Storage Temperature:  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$

### 7.2 环境湿度 Humidity

工作湿度 Working Humidity: 从 15RH 到 90RH.

Relative humidity is from 15RH to 90RH.

存储湿度 Storage Humidity: 从 10RH 到 95RH.

Relative humidity is from 15RH to 90RH.

### 7.3 海拔高度 Altitude

Working Altitude: 0 to 3000m

## 8: 耐冲击&振动 Shock & Vibration

- A. 耐冲击 Shock:  $49\text{m/s}^2(5\text{G}), 11\text{ms}$ , once each X, Y and Z axis.
- B. 耐振动 Vibration:  $10\text{-}55\text{Hz}, 19.6\text{m/s}^2(2\text{G}), 20\text{minutes}$  each along X, Y and Z axis.



## 9: 冷却方式 Cooling Method:

空气冷却 Air Cooling

### 特别注意事项 Specific Cautions

A. 产品在安装时，安装面可悬空或安装于金属面上，应避免安装面被塑料或木质等非导热材料接触遮挡。

When installing the product, the mounting surface may be left suspended or attached to a metal surface. The mounting surface should not be in contact with or obstructed by non-heat-conductive materials such as plastic or wood.

B. 产品在安装时，模块间距离应控制在大于 5cm，避免相互间影响散热。

When installing the product, the distance between modules should be kept greater than 5 cm to avoid affecting heat dissipation between them.

## 10: 平均故障间隔时间 MTBF

在满负荷 25℃环境温度的工作情况下，平均故障间隔时间至少 5 万小时。

Under full load at an ambient temperature of 25° C, the mean time between failures (MTBF) is at least 50,000 hours.

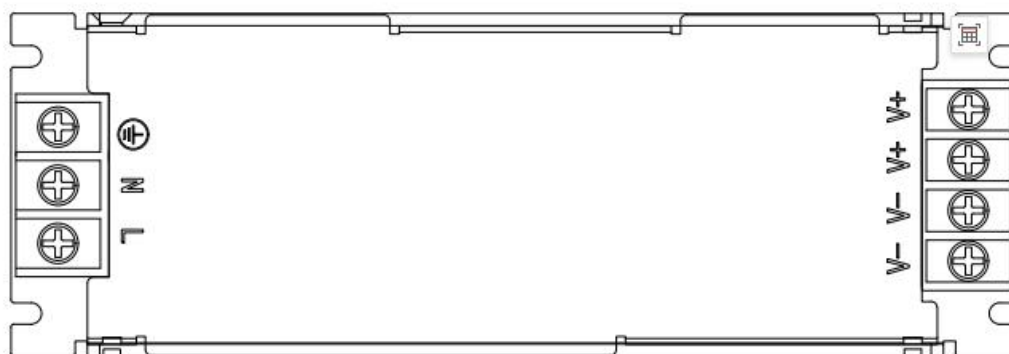
## 11: 产品重量 Weight

重量 Weight: 300g

## 12: 链接端子定义 Pin Connection

下图是产品俯视图，**右边为输出接线端子,左边为输入接线端子**

The figure below is vertical view of product, Output 4 pin terminal block is on the right side and Input 3 pin terminal block is on the left side.



Unit:mm



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表 1 为交流输入接线端 3 PIN (PIN 距 9.5mm)

Table 1 : Input 3 pin terminal block (pitch 9.5mm)


名称 Name	功能 Function
L	交流输入 L 线 The AC Input Line L
N	交流输入 N 线 The AC Input Line N
	接地线 Earth Line

表 2 为直流输出接线端 4 PIN (PIN 距 8.25mm)

Table 2 : Output 4 pin terminal block (pitch 8.25mm)

**说明：输出每对端子，其通过最大电流为 25A,切勿超载测试和使用，否则会因过流发热，损坏该端子！**

**Note: Each pair of output terminals has a maximum current rating of 20A. Do not exceed this rating during testing or use; otherwise, overheating caused by overcurrent may damage the terminals.**

名称 Name	功能 Function
V+ V+	直流输出正极 Output DC positive pole
V- V-	直流输出负极 Output DC negative pole

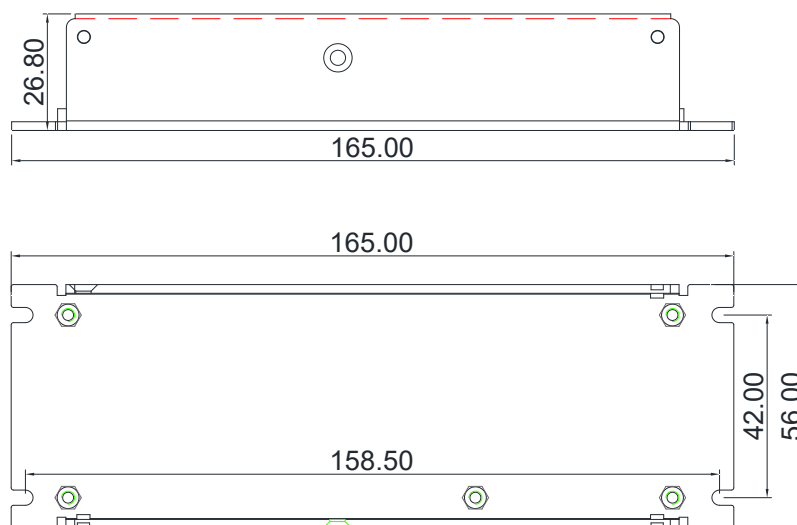
### 13: 电源安装尺寸 Power Supply Mounting Dimension

外形尺寸：长×宽×高=165×56×27mm

Outside dimension : L\*W\*H = 165\*56\*27mm

下图为产品安装孔位图

The figure below is mounting hole position





Unit:mm

提示:

方式 1. 底壳上 4 个 U 槽应用 M3 螺丝锁在安装架上。

Method 1. M3 screws lock in the mounting rack of 4 U grooves under the cabinet.

安装时, 在拧螺丝时, 不可太用力, 以免滑丝。

make sure that exert not much strength to avoid damaging the screw.

#### 14: 使用注意事项 **Precautions for Use**

电源使用须注安全绝缘, 各连接线头需要绝缘处理; 产品要良好接地, 避免用手接触机壳, 以免烫伤。

When using the power supply, ensure safety insulation is in place; the ends of all connecting wires must be properly insulated. The product must be well grounded, and avoid touching the enclosure with hands to prevent burns.

#### 15: 包装、运输、贮存 **Packing, Transport, Storage**

包装: 包装箱上有产品名称、型号、厂家标识、厂家质量部门的检验合格证、制造日期等; 包装箱内有附件清单。

Packaging: The packaging box bears the product name, model, manufacturer's identification, inspection certificate from the manufacturer's quality department, date of manufacture, etc. The packaging box contains an accessory list.

运输: 应于车、船、飞机运输, 运输中应遮篷、防晒、防水、文明装卸。

Transportation: Suitable for transportation by truck, ship, or aircraft. During transit, it must be protected from sun and rain with a canopy, kept waterproof, and handled with care.

贮存: 产品未使用时应存放在包装箱内, 仓库环境温度为  $-10^{\circ}\text{C}$ — $+80^{\circ}\text{C}$ , 相对湿度为  $\leq 80\%RH$ , 避免存放在具有腐蚀性气体, 并且无强烈的机械振动, 冲击和强磁场的的环境下, 包装箱应垫离地至少 25cm 高, 在本规定条件下的贮存期一般为 2 年, 超过 2 年后应重新检验。

Storage: It will be better that the product store in the environment temperature between  $-10^{\circ}\text{C}$  and  $+80^{\circ}\text{C}$  as well as the humidity less than  $80\%RH$ . Make sure that there is no corrosive gases in the storage environment. Besides, the surrounding must not have the strong mechanical vibration and high-intensity magnetic field. And the case have to be block up at least 25cm away from the earth. The time of storage regulation should be 2 years, power supply need to be tested after storing more than 2 years.