



350W单路输出LSC系列开关电源

350W Single Output LSC Series Power Supply

HF350W-LSC-**



工业控制 安防系统 智能家居 轨道交通 网络通信 电力电气 新能源
Industrial Control Security System Smart Home Rail Transportator Network/Telecom Electric Power New Energy

产品特点 Features

- 体积小，结构紧凑，厚度仅为30mm
- 输入交直流两用
- 全球电压宽范围输入：85~264Vac/120~370Vdc
- 关键元器件采用国内外知名品牌
- 不锈钢和铝合金制成的外壳能适用于更恶劣的环境
- 宽范围的工作环境温度：-40°C~+70°C
- 电源散热方式：风冷型
- 内置功率因数校正功能，全系列PF最高可达0.99
- 高效率，全系列Eff最高可达94%
- 低纹波噪声
- 输入与输出间的隔离电压高达4000Vac
- 可承受300Vac输入浪涌电压5S
- 满足5000m海拔应用
- 过电压等级III
- 输出过载保护、过压保护、短路保护、过温保护
- 安全性能和电磁兼容符合国际和中国的最新标准
- 3年质保
- 尺寸：179*99*30mm
- Compact size & low profile with thickness only 30mm
- Suitable for both AC and DC input
- Universal range of input voltage: 85~264Vac/120~370Vdc
- Famous brand components for key parts
- Stainless steel & aluminum alloy enclosure suitable for more critical environments
- Wide range of operating temperature: -40°C~+70°C
- Cooling method: fan
- Built-in power factor correction function, with the highest PF of 0.99 across the entire series
- High efficiency, with a maximum Eff of 94% across the entire series
- Low ripple & noise
- Isolation voltage from input to output up to 4000Vac
- Withstand 300Vac surge input for 5 seconds
- Operating altitude up to 5000m
- Overvoltage level III
- Protections: overload/ over voltage/ short circuit/ over temperature
- Meet the latest international and Chinese safety & EMC standards
- 3 years warranty
- Dimension: 179*99*30mm

产品介绍 Product Introduction

HF350W-LSC系列产品是衡孚为客户实现降本增效、节能环保及良好适应性而精心设计的第三代金属机壳型开关电源。其内置主动式功率因数校正功能，PF值最高可达0.99，具备超薄的体积和全面的安全规范。该系列电源支持交直流两用，具有全球电压宽范围输入、宽广的工作温度范围、高海拔适应能力、低待机功耗与高效能，效率最高可达93.5%，高可靠性以及安全隔离等显著优势，能够有效适配感性和容性负载，产品安全可靠，其电磁兼容性及安全性能符合EN55014-1, 2, EN55032, EN55035, IEC/EN61000-3-2, IEC/EN61000-3-3, IEC/EN61000-4-2, 3, 4, 5, 6, 8, 11, IEC/EN61000-6-2, 4, GB/T9254.1, GB17625.1, IEC/EN60335-1, IEC/EN61558-1, 2-16, IEC/EN62368-1, GB4943.1等国际和中国的最新标准。常规输出电压可提供2.5V /3.3V /4V /5V /7.5V /12V /15V /24V /28V /36V /48V /54V等多种配置以满足不同需求。如有特殊要求，请联系销售人员进行定制。

The HF350W-LSC series are the third-generation metal enclosed switching power supplies which we designed with utmost effort to better satisfy our customers, with the principles of cost optimization, efficiency enhancement, energy saving and better environment adaptability. It features a built-in integrated active PFC function, with PF value up to 0.99. Additionally, they boast an ultra-thin design and comprehensive safety specifications. This series have the advantages including AC/DC input compatibility, wide global input voltage range, wide operating temperature range, high altitude adaptability, low standby power consumption and high efficiency, with an efficiency of up to 93.5%, high

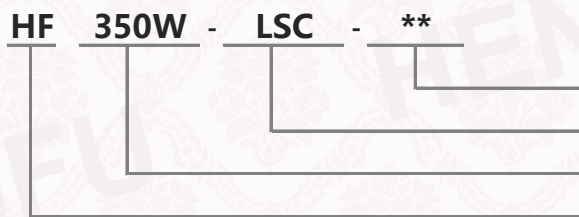
reliability and safe isolation. They can be applied to both inductive and capacitive loads, which comply with the latest international and Chinese EMC & safety standards including EN55014-1, 2, EN55032, EN55035, IEC/EN61000-3-2, IEC/EN61000-3-3, IEC/EN61000-4-2, 3, 4, 5, 6, 8, 11, IEC/EN61000-6-2, 4, GB/T9254.1, GB17625.1, IEC/EN60335-1, IEC/EN61558-1, 2-16, IEC/EN62368-1, GB4943.1. Normal output voltage such as 2.5V /3.3V /4V /5V /7.5V /12V /15V /24V /28V /36V /48V /54V is available, and other special requirements can be customized upon request.

应用领域 Diverse Application

广泛应用于工业控制、自动化机械、农业机械、激光设备、仪器仪表、光伏储能、充电桩、通信设备、医疗器材、智能家居、安防系统、轨道交通、电力电气、LED灯饰、LED显示屏等领域。

It can be widely used in various fields such as industrial control, automation machinery, agricultural machinery, laser equipment, instruments and apparatuses, photovoltaic energy, charging station, telecom equipment, medical equipment, smart home, security system, rail transportation, electric power, LED lighting, LED signs.

型号编码 Model Definition



输出电压 Output voltage
 系列名称 Series name
 系列功率 Series wattage
 衡孚缩写 Abbreviation of company name Hengfu

电气规格 Electrical Specifications

型号 Model No.	额定输出电压 DC Voltage	额定输出电流 Rated Current	输出电流范围 Current Range	额定功率 Rated Power	纹波与噪声 ⁴ Ripple & Noise	效率 (Typ.) Efficiency
HF350W-LSC-12	12V	29A	0-29A	348W	≤150mVp-p	92.0%
HF350W-LSC-24	24V	14.6A	0-14.6A	350.4W	≤200mVp-p	93.5%
HF350W-LSC-48	48V	7.3A	0-7.3A	350.4W	≤240mVp-p	92.5%

输入电气特性 Input Electrical Characteristics ¹		参数 & 测试条件 Parameters & Test Conditions
额定输入电压	Rated input voltage	100-240Vac (140-340Vdc)
输入电压范围	Input voltage range	85~264Vac (120~370Vdc)
额定输入频率	Rated input frequency	50/60Hz
输入频率范围	Input frequency range	47~63Hz
输入电流	Input current	<4.2A/115Vac; <2.5A/230Vac
输入启动冲击电流	Input inrush current	<65A/230Vac, 冷启动 cold start
输入漏电流	Input leakage current	<0.5mA/240Vac
功率因数	Power factor	PF>0.98/115Vac (满载时@ full load); PF>0.95/230Vac (满载时@ full load)

输出电气特性 Output Electrical Characteristics ¹		参数 & 测试条件 Parameters & Test Conditions
输出电压调节范围	Output voltage adjust range	±10%
电网调整率 ²	Line regulation ²	±0.5%
负载调整率 ³	Load regulation ³	±1%
输出电压精度	Output voltage tolerance	±1%
启动时间	Set up time	≤1500ms/115Vac; ≤1000ms/230Vac
上升时间	Rise time	<50ms/115Vac; <50ms/230Vac
保持时间	Hold up time	≥16ms/115Vac; ≥20ms/230Vac

输出过载保护	Output overload protection	110~150% 恒流工作 1S 后关断输出电压 (异常条件移除后可自动恢复) Shut off output voltage after 1S of constant current operation, auto recovery after fault is removed
输出过压保护	Over voltage protection	115~150% 关断输出电压, 1S后可自动恢复 Shut off output voltage, auto recovery after 1S
输出短路保护	Short circuit protection	打嗝模式, 恒流工作1S后关断输出电压10S (异常条件移除后可自动恢复) Hiccup mode, shut off output voltage for 10S after 1S of constant current operation, auto recovery after fault is removed
输出过温度保护	Over temperature protection	关闭输出电压, 温度下降后自动恢复 Shut off output voltage, auto recovery after temperature goes down

■ 工作环境 Working Conditions		参数 & 测试条件 Parameters & Test Conditions ¹
工作温度	Operating temperature	-40°C~+70°C (参考减额曲线图 refer to derating curve)
储存温度	Storage temperature	-40°C~+85°C
工作湿度	Operating humidity	20%~90%RH, 无凝露 non-condensing
储存湿度	Storage humidity	10%~95%RH, 无凝露 non-condensing
温度漂移系数	Temperature coefficient	±0.03%
工作海拔 ⁵	Operating altitude ⁵	≤5000m
冷却方式	Cooling method	温控调速风冷 Fan cooling with temperature control and speed regulation
冲击实验	Impact test	半正弦波, 加速度20G, 持续时间11ms, 沿X,Y,Z 轴各进行3次冲击 Half sine wave, acceleration 20G, duration 11ms, 3 cycles each along X,Y,Z axes
振动实验	Vibration test	正弦波, 振动频率10~500Hz, 加速度5G, 每个扫频循环10min, 沿X,Y,Z 轴各进行6个扫频循环 Sine wave, vibration frequency 10-500Hz, acceleration 5G, 10min/cycle, 6 cycles each along X,Y,Z axes

■ 安规和电磁兼容 (Safety & EMC) ⁷		参数 & 测试条件 Parameters & Test Conditions ¹
安全标准	Safety standards	符合 meet IEC/EN60335-1, IEC/EN61558-1, IEC/EN61558-2-16, IEC/EN62368-1, GB4943.1
电磁兼容标准	EMC standards	符合 meet EN55014-1, EN55014-2, EN55032 Class B, EN55035, IEC/EN61000-3-2, IEC/EN61000-3-3, IEC/EN61000-4-2, 3, 4, 5, 6, 8, 11, IEC/EN61000-6-2, 4, GB/T9254.1, GB17625.1
过电压等级	Over voltage category	OVC II (IEC/EN60335-1, 工作海拔 operating altitude ≤2000m); OVC III (IEC/EN61558-1, 工作海拔 operating altitude ≤2000m); OVC III (IEC/EN61558-2-16, 工作海拔 operating altitude ≤2000m); OVC II (IEC/EN62368-1, GB4943.1, 工作海拔 operating altitude ≤5000m);
绝缘强度 (输入-输出)	Withstand voltage (I/P-O/P)	4.0KVac/1min
绝缘强度 (输入-地)	Withstand voltage (I/P-FG)	2.0KVac/1min
绝缘强度 (输出-地)	Withstand voltage (O/P-FG)	1.5KVac/1min
绝缘电阻 (输入-输出)	Isolation resistance (I/P-O/P)	> 100MΩ (测试条件 test condition: 500Vdc)
绝缘电阻 (输入-地)	Isolation resistance (I/P-FG)	> 100MΩ (测试条件 test condition: 500Vdc)
绝缘电阻 (输出-地)	Isolation resistance (O/P-FG)	> 100MΩ (测试条件 test condition: 500Vdc)
认证	Approval	CE



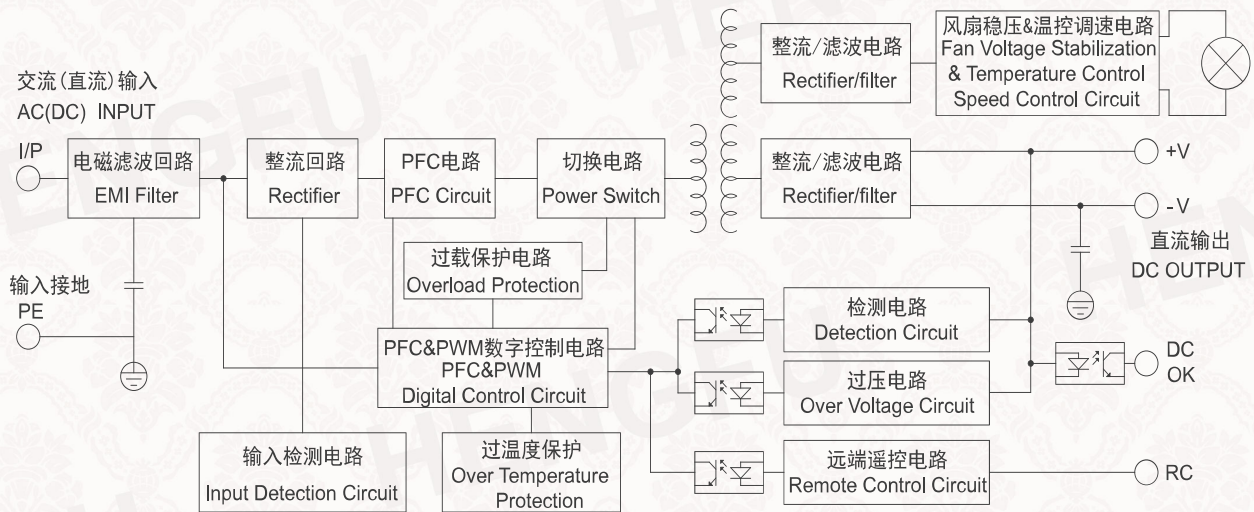
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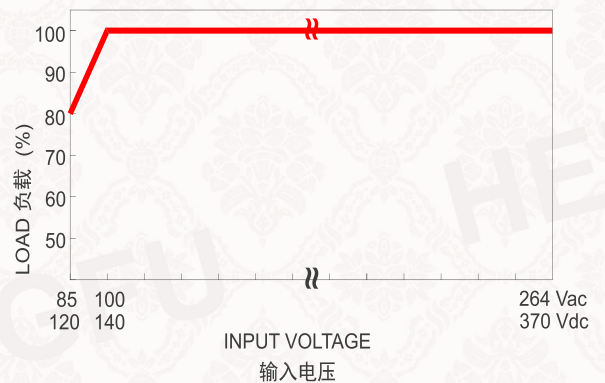
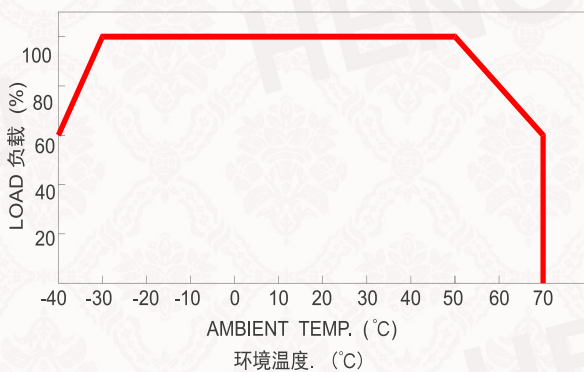
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外观特性 Appearance Characteristics		参数 Parameters
安装方式	Installation method	机壳型 Enclosed type
外壳材质	Enclosure material	不锈钢与铝合金制成的外壳 Stainless steel & aluminum alloy enclosure
外形尺寸	Dimension	179*99*30mm
输入和输出接线端子	Input & output terminal block	9.5mm-7P
端子适用线径	Applicable wire diameter for terminal	22-12AWG
端子螺丝/扭矩	Terminal screw/ torque	M4/1.2N·m
重量	Weight	0.61kg
最小包装量	Packing (MPQ)	24pcs, 16.3kg/CTN

■ 方框图 Block Diagram



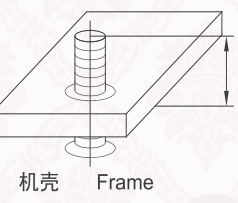
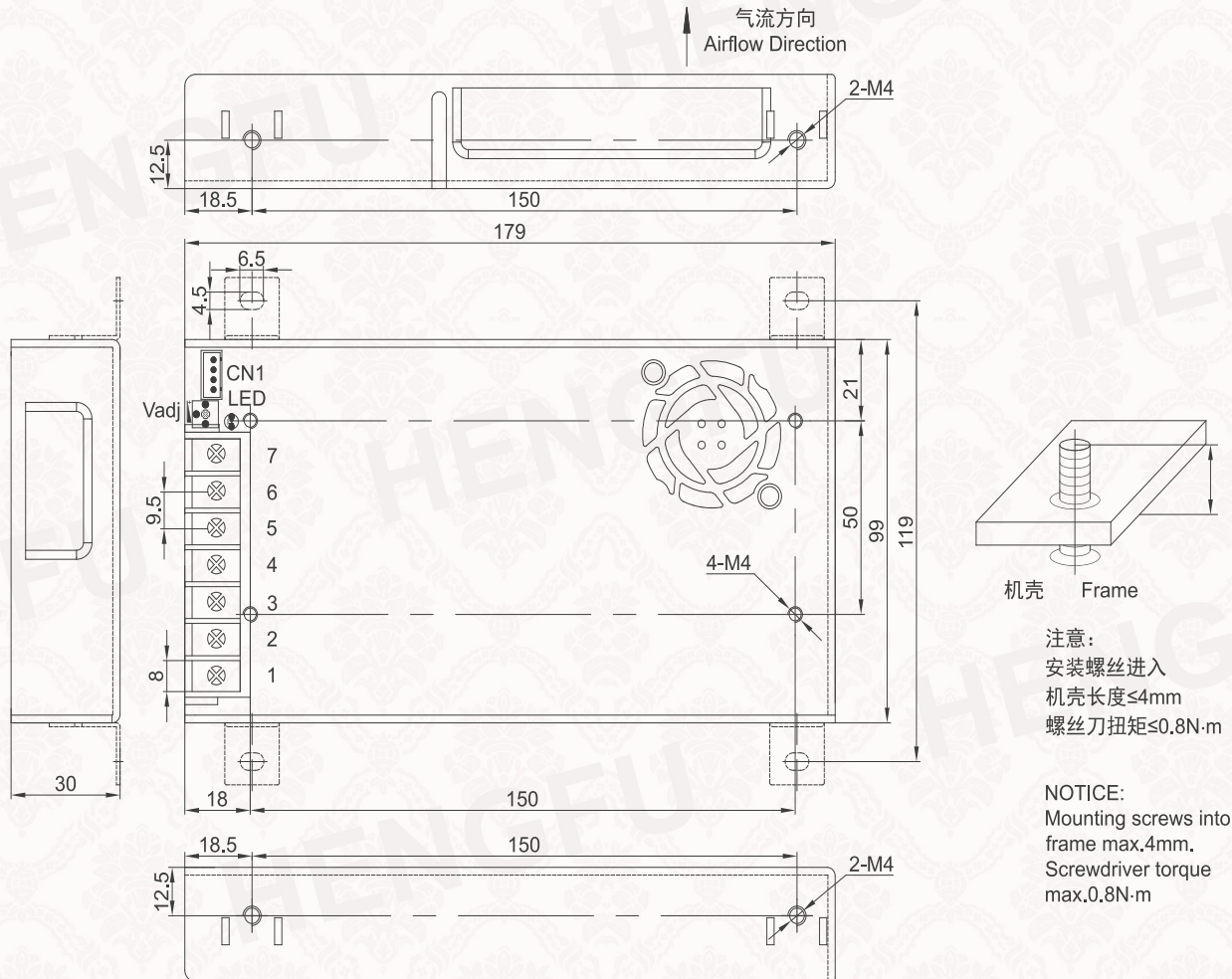
■ 减额曲线图 Derating Curve



温度: -40度 60% < 30 + 50度 100% > 70度 60%

85V / 80% 100V / 100% < 264V - 100% (空载) + DC输入 >

■ 安装图纸 Drawing



注意：
安装螺丝进入
机壳长度≤4mm
螺丝刀扭矩≤0.8N·m

NOTICE:
Mounting screws into
frame max.4mm.
Screwdriver torque
max.0.8N·m

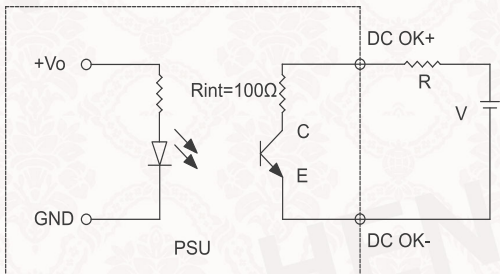
接线端子排布 Terminal Pin No. Assignment

位号 No.	功能 Function	引脚定义	Pin Definition
1	AC(L) DC(+)	输入AC(L)接线端口 输入DC正极接线端口	AC Input terminal for live line DC Input terminal for positive pole
2	AC(N) DC(-)	输入AC(N)接线端口 输入DC负极接线端口	AC Input terminal for neutral line DC Input terminal for negative pole
3	PE	输入接地端口 (与外壳相通)	Protective earth (enclosure is linked to ground)
4	-V	输出负极接线端口	DC output terminal for negative pole
5	-V	输出负极接线端口	DC output terminal for negative pole
6	+V	输出正极接线端口	DC output terminal for positive pole
7	+V	输出正极接线端口	DC Output terminal for positive pole
Vadj	Vadj	输出电压微调电位器	Trimmer for output voltage adjustment
LED	LED	绿色指示灯点亮表示电源工作状态正常	Green LED light on indicates the power supply is in normal operation

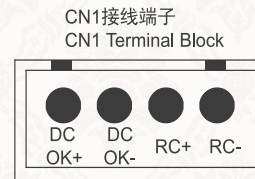
■ 接线图 Wiring Diagram

1. DC OK 信号 DC OK Signal

DC OK 是一个集电极短路信号，它在电源内部使用一个光电耦合器，用来指示电源的输出状态，如下列示意图：
DC OK is a collector short-circuit signal. It utilizes an optocoupler within the power supply to indicate the output status, as illustrated in the following diagram:



外部辅助电源(V)和电阻(R)
External Auxiliary Power(V) and Resistor(R)

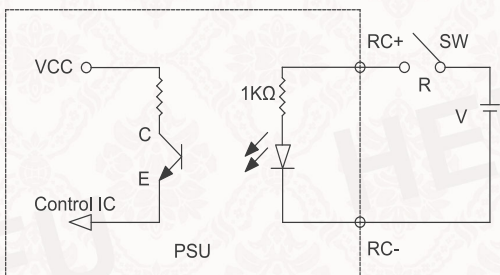


功能 Function	PSU工作状态 PSU Operating Status	光耦 Photo Transistor
DC OK	电源开启 Power On	导通(低阻抗) Conduction (Low Impedance)
	电源关闭 Power Off	开路(高阻抗) Open Circuit (High Impedance)

光耦规格(最大) 15Vdc/10mA阻性负载
Optocoupler Specifications(Max):
15Vdc/10mA Resistive Load

2. 遥控开关 Remote Switch

通过外部开关与辅助电源实现电源(PSU)的远程开关控制功能
Remote on/off control functionality of the Power Supply Unit (PSU) is achieved through an external switch and auxiliary power supply.



外部辅助电源3.3~10Vdc/10mA max.
External Auxiliary Power 3.3~10Vdc/10mA max.

功能 Function	PSU工作状态 PSU Operating Status	RC-(5脚)和RC+(6脚)之间电压 Voltage Between RC-(Pin 5) And RC(Pin 6)
遥控开关 Remote Switch	电源开启 Power On	保持0~0.8Vdc或开路 Maintain 0~0.8Vdc or Open Circuit
	电源关闭 Power Off	外部辅助电源供电 3.3~10Vdc External Auxiliary Power Supply 3.3~10Vdc



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■ 备注 Notes

- 除特殊说明外，上述所有参数的测试条件都在室温=25℃，湿度 < 75%RH，输入230Vac和额定负载时测得。
Unless specially mentioned, all above parameters are measured at ambient temperature 25℃, humidity <75%RH, 230Vac input and rated load.
- 电网调整率是在额定负载条件下从低电网到高电网的输出电压变化率。
Line regulation is the output voltage change rate from low line to high line at rated load.
- 负载调整率是负载电流从额定负载的10%到100%变化时的输出电压变化率。
Load regulation is the output voltage change rate from 10% to 100% rated load.
- 纹波和噪声的检测是用20MHz带宽示波器，从被测电源的端口连接一根长30cm的20AWG (0.5mm²) 屏蔽双绞线，且在绞线末端并接上0.1uF高频电容和47uF电解电容后测得。
Ripple & noise are measured by an oscilloscope at 20MHz of bandwidth, using a 30cm 20AWG (0.5mm²) twisted pair-wire connected to the power supply, terminated with a 0.1uF high-frequency & 47uF electrolytic parallel capacitor.
- 当工作海拔高于2000米时，工作温度须降温5℃/1000米。
The ambient temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m.
- 开关电源被视为用户整机的一个部件，整机是否符合EMC指令还需重新测试并验证。
The power supply is regarded as a component which will be installed into the final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
- 开关电源作为用户设备的部件，用户在选择开关电源时须注意，应选择符合设备应用场景和标准的开关电源。如在中国境内对于有3C强制认证要求的应用，应选择有3C认证的开关电源；当在其他国家和地区使用时，也应根据当地的法律法规要求，选择符合相应法律法规标准认证的开关电源。若用户不了解如何选择，可告知我们其设备应用场景和要求，我们可协助用户进行选型。
As switching power is a component of an equipment or device, during their applications, the final users should select a proper model in according with the real application's circumstances and criteria. For instance, in Chinese Mainland for the applications which have compulsory request on CCC approval, the final users have to select CCC certified models. On the other hands, for the applications in other countries or regions, the final users have to select a proper safety certified model which complies with both the local laws and industrial regulations. When users have confusions or have no idea in model selection, you are welcome to send your inquiry. We will recommend you the matching models based on your specified requests and application fields.
- 关于产品的安装使用说明及售后政策，请扫描下方二维码《产品使用说明及服务承诺》获取详细内容。
For installation, usage instructions and after-sales policies of the product, please scan the QR code below "Product Instruction Manual and Service Commitment" to learn more details.
- 如需了解更多信息，请浏览衡孚官网 www.hengfuchina.com。
For more information, please visit www.hengfu.com.

上海衡孚电子科技有限公司（总部）

Hengfu Corporation (Headquarter)

上海市松江区新加路258号，邮编：201611

No. 258 Xinjia Road, Songjiang District, Shanghai 201611, China

服务热线 Hot Line: 400-889-1788

上海衡孚实业有限公司（工厂）

Shanghai Hengfu Corporation (Factory)

上海市松江区新加路258号，邮编：201611

No. 258 Xinjia Road, Songjiang District, Shanghai 201611, China

电话 Tel: 0086 21 64950078

安徽衡孚电子科技有限公司（工厂）

Anhui Hengfu Corporation (Factory)

安徽省宣城市绕城路8号，邮编：242099

No. 8 Raocheng Road, Xuancheng 242099, Anhui Province, China

电话 Tel: 0086 563 2020388



衡孚官网
Hengfu Official Website



微信公众号
WeChat Official Account



天猫旗舰店
Tmall Flagship Store



京东旗舰店
JD Flagship Store



官方抖音号
Official Tiktok Account



产品使用说明及服务承诺
Product Instruction Manual
and Service Commitment