



200W单路输出FSM系列开关电源

200W Single Output FSM Series Power Supply

HF200W-FSM-xx



工业控制
Industrial Control



安防系统
Security System



智能家居
Smart Home



轨道交通
Rail Transportation



网络通信
Network/Telecom



电力电气
Electric Power



新能源
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
- 输入电压范围(通过开关选择)：85~132Vac /170~264Vac (240-370Vdc)
- 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：-30℃~+70℃
- 电源散热方式：自然冷却
- 低纹波噪声
- 高效率
- 输入与输出间的隔离电压高达3000Vac
- 可承受300Vac输入浪涌电压5S
- 满足5000m海拔应用
- 过电压等级II
- 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年有限责任质保
- 尺寸：215*115*30mm

- Compact size & low profile with thickness only 30mm
- Suitable for both AC and DC input
- Universal range of input voltage selectable by switch: 85~132Vac /170~264Vac (240-370Vdc)
- Famous brand components for key parts
- Stainless steel & aluminum alloy enclosure suitable for more critical environments
- Wide range of operating temperature: -30℃~+70℃
- Cooling method: convection
- Low ripple & noise
- high efficiency
- Isolation voltage from input to output up to 3000Vac
- Withstand 300Vac surge input for 5 seconds
- Operating altitude up to 5000m
- Overvoltage level II
- Protections: overload/ over voltage/ short circuit/ over temperature
- Meet the latest international and Chinese safety & EMC standards
- 3 years limited warranty
- Dimension: 215*115*30mm

产品介绍 Product Introduction

HF200W-FSM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二代金属机壳型开关电源，具备超薄尺寸和全面的安全规范。该系列电源支持交直流两用，采用115VAC或230VAC输入(通过开关选择)、-30℃到+70℃的工作温度范围、抗5G振动能力、高海拔适应能力、高效率、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，其电磁兼容性及安全性能符合EN55035、EN61000-3-3、EN61000-4-2, 3, 4, 5, 6, 8, 11、IEC/EN/UL62368-1、GB4943.1等国际和中国的最新标准。常规输出电压可提供 5V /12V /15V /24V /28V /36V /48V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 HF200W-FSM series products are the second generation metal shell type switching power supplies carefully designed by Hengfu to achieve cost reduction, efficiency improvement, energy conservation, environmental protection, and good adaptability for customers. They have ultra-thin dimensions and comprehensive safety regulations. This series of power supplies supports both AC and DC, with 115VAC or 230VAC input (selected through a switch), a working temperature range of -30 °C to +70 °C, resistance to 5G vibration, high-altitude adaptability, high efficiency, high reliability, and safe isolation. It has significant advantages such as effective adaptation to inductive and capacitive loads, and its electromagnetic compatibility and safety performance comply with the latest international and Chinese standards include EN55035, EN61000-3-3, EN61000-4-2, 3, 4, 5, 6, 8, 11, IEC/EN/UL62368-1, GB4943.1, etc. Normal output voltage such as 5V /12V /15V /24V /28V /36V /48V is available, and other special requirements can be customized upon request.



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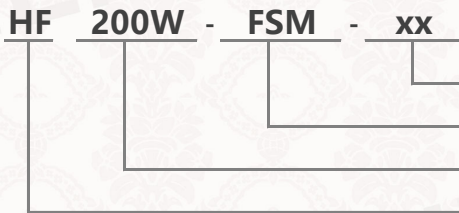
HF200W-FSM-xx

■ 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、新能源汽车、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, new energy vehicles, 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 ⁵ Ripple & Noise	效率 (Typ.) Efficiency
HF200W-FSM-5	5V	40A	0~40A	200W	≤150mVp-p	86%
HF200W-FSM-12	12V	17A	0~17A	204W	≤150mVp-p	87%
HF200W-FSM-15	15V	14A	0~14A	210W	≤150mVp-p	87%
HF200W-FSM-24	24V	8.8A	0~8.8A	211.2W	≤150mVp-p	88%
HF200W-FSM-36	36V	5.9A	0~5.9A	212.4W	≤180mVp-p	89%
HF200W-FSM-48	48V	4.4A	0~4.4A	211.2W	≤200mVp-p	90%

■ 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	100-120Vac (140-170Vdc)/200-240Vac (280-340Vdc)
输入电压范围	Input voltage range	85~132Vac (120-187Vdc)/170~264Vac (240-370Vdc)
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	< 5.0A/115Vac; < 2.5A/230Vac
输入启动冲击电流	Input inrush current	65A/115Vac, 65A/230Vac, 冷启动 cold start
输入漏电流	Input leakage current	< 0.75mA/240Vac

■ 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	±0.5%
输出电压精度	Output voltage tolerance	±1%
待机功耗	Standby power consumption	< 0.5W/230Vac
启动时间	Set up time	≤2000ms/115Vac; ≤2000ms/230Vac
上升时间	Rise time	< 50ms/230Vac
保持时间	Hold up time	≥20ms/115Vac; ≥20ms/230Vac
输出过载保护	Output overload protection	105~150%, 打嗝模式 (异常条件移除后可自动恢复) 105~150%, hiccup mode, auto-recovery after fault is removed



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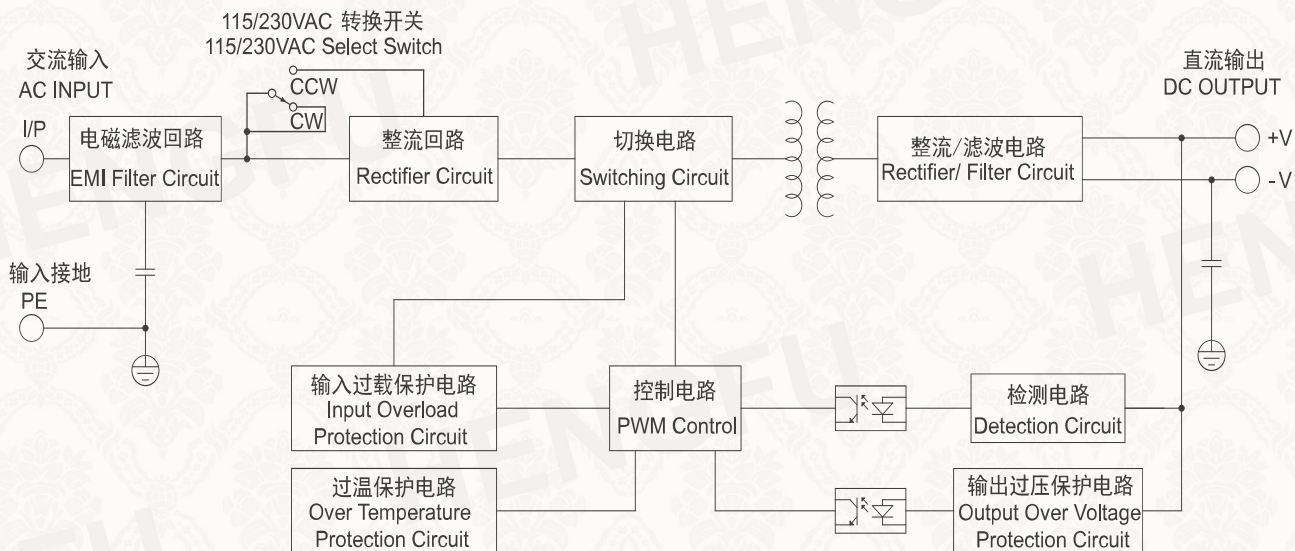
输出过压保护	Over voltage protection	115~150%，打嗝模式（异常条件移除后可自动恢复） 115~150%, hiccup mode, auto-recovery after fault is removed
输出短路保护	Short circuit protection	打嗝模式（异常条件移除后可自动恢复） Hiccup mode, auto-recovery after fault is removed
输出过温度保护	Over temperature protection	关闭输出电压，温度下降后自动恢复 Turn off the output voltage and automatically restore after the temperature drops

■ 工作环境 Working Conditions		参数 & 测试条件 Parameters & Test Conditions ¹
工作温度	Operating temperature	-30°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 ⁶	Operating altitude ⁶	≤5000m
冷却方式	Cooling method	自然冷却 convection
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

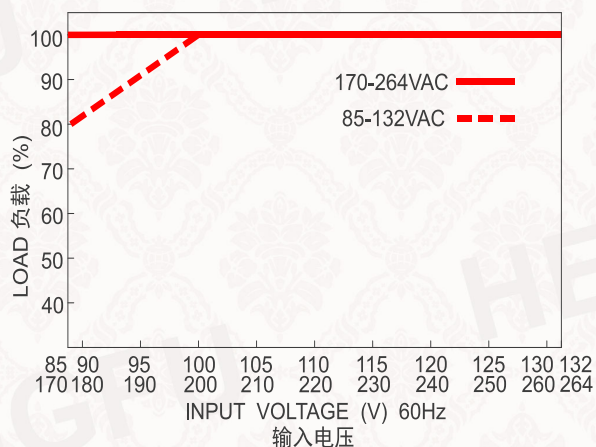
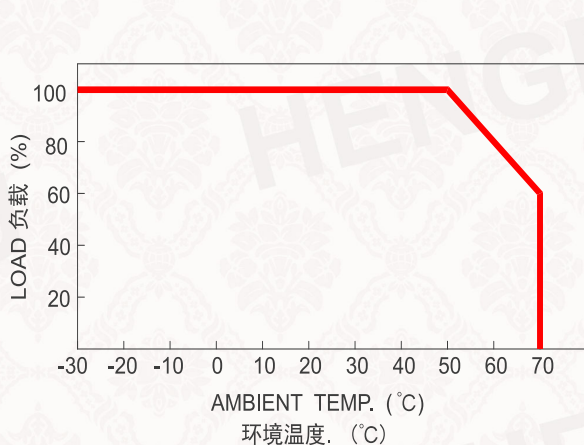
■ 安规和电磁兼容 (Safety & EMC) ⁷		参数 & 测试条件 Parameters & Test Conditions ¹
安全标准	Safety standards	符合 meet IEC/EN62368-1, UL62368-1, GB4943.1
电磁兼容标准	EMC standards	符合 meet EN55035、EN61000-3-3、EN61000-4-2, 3, 4, 5, 6, 8, 11
绝缘强度（输入-输出）	Withstand voltage (I/P-O/P)	3.0KVac/1min
绝缘强度（输入-地）	Withstand voltage (I/P-FG)	2.0KVac/1min
绝缘强度（输出-地）	Withstand voltage (O/P-FG)	0.5KVac/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 CB UL
绿色节能	Green & energy saving	绿色节能 ECO

■ 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（长*宽*高）	Dimension (L*W*H)	215*115*30mm
输入接线端子	Input terminal block	9.5mm-9P
适用线径	Wire	22-12AWG
端子螺丝/扭矩	Terminal screw/ torque	M4/1.2N·m
重量（kg/台）	Weight (kg/pcs)	0.59
最小包装量	Packing (MPQ)	24pcs, 16.0kg/CTN

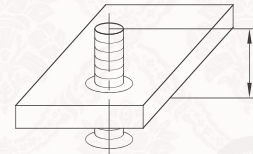
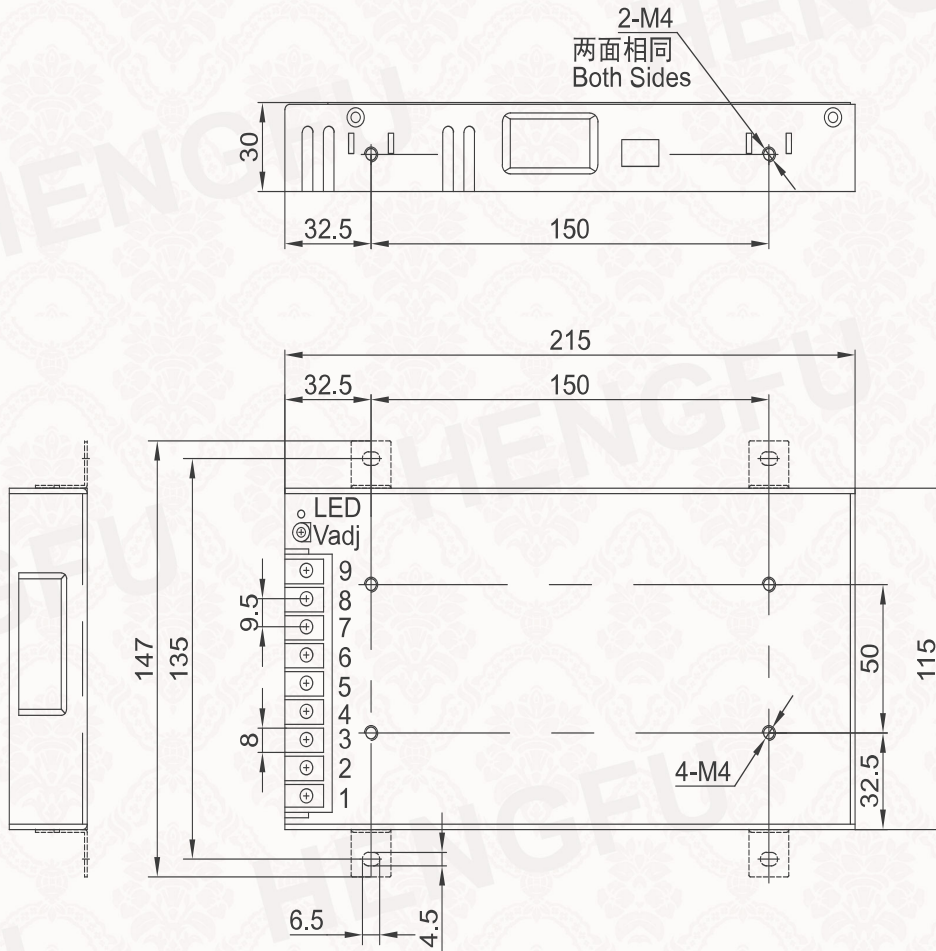
■ 方框图 Block Diagram



■ 减额曲线图 Derating Curve



■ 安装图纸 Drawing



机壳 Frame

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
1	AC(L) DC(+)	输入AC(L)接线端口 输入DC正极接线端口
2	AC(N) DC(-)	输入AC(N)接线端口 输入DC负极接线端口
3	PE	输入接地端口 (与外壳相通)
4	-V	输出负极接线端口
5	-V	输出负极接线端口
6	-V	输出负极接线端口
7	+V	输出正极接线端口
8	+V	输出正极接线端口
9	+V	输出正极接线端口
Vadj	Vadj	输出电压微调电位器
LED	LED	绿色LED指示灯点亮表示电源工作状态正常

Pin Definition

AC Input terminal for live line or DC Input terminal for positive pole
AC Input terminal for neutral line DC Input terminal for negative pole
Protective earth (enclosure is linked to ground)
DC output terminal for negative pole
DC output terminal for negative pole
DC output terminal for negative pole
DC output terminal for positive pole
DC output terminal for positive pole
DC output terminal for positive pole
Trimmer for output voltage adjustment
Green LED light on indicates the power supply is in normal operation



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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.
- 负载交叉调整率（平衡负载）是指主路和辅路负载同时从20%到100%变化时，主路和辅路输出电压的变化率。
Load cross adjustment rate (balanced load) refers to the change rate of output voltage of main and auxiliary circuits when the load of main and auxiliary circuits changes from 20% to 100% at the same time.
- 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，操作温度须调降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.
- 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.hengfu.com。
For more information, please visit www.hengfu.com.

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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