

Part Name : Switching Mode Power Supply
品 名 : 开关电源
Customer Part No.:
客 户 型 号 :
THMC Part No.: M600A048S
惠 高 型 号 :

SPECIFICATIONS

产 品 规 格 书

| Received Signature Column 签 收 栏 |
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2025-08-14

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天津光电惠高电子有限公司

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1. Features 产品特点:

- 1.1. Universal AC input / Full range.
国际通用全电压范围输入
- 1.2. Built-in active PFC function
内置主动 PFC 功能
- 1.3. High efficiency up to 95%
效率高达 95%
- 1.4. Protections: Short circuit / Overload / Over voltage / Over temperature
保护种类: 短路/过负载/过电压/过温度
- 1.5. Cooling: Convection cooled or force cooling
冷却方式: 自然冷却或强制风冷
- 1.6. Isolated output
隔离输出
- 1.7. High withstand voltage/High power density
高耐压/高功率密度
- 1.8. Outline Shape: 1U /Compact type
外形结构紧凑, 小型化
- 1.9. Safety standards: IEC62368-1, EN62368-1, Design conformity IEC60601-1, EN60601-1
安全标准: IEC62368-1, EN62368-1, 设计符合 IEC60601-1, EN60601-1
- 1.10. Application area: Industrial/ Medical treatment.
应用领域: 工业/医疗

2. Electrical specifications 电气规格:

2.1. Input requirement 输入要求:

| | |
|---|---|
| 2.1.1. Input voltage 输入电压 | AC 90V~264V |
| 2.1.2. Input frequency 输入频率 | 50/60Hz |
| 2.1.3. Power factor (Typical) 功率因数(典型) | 0.98 / 115VAC; 0.95 / 230VAC |
| 2.1.4. No load input Power 空载功率 | 0.5W / 230VAC Remote off, Standby power no load Remote 关闭, 辅电空载 |
| 2.1.5. Efficiency (Typical) 效率(典型) | 95%/230VAC Standby power no load, fanless 辅电空载, 无风扇 |
| 2.1.6. Input current (Typical) 输入电流(典型) | 5.8A / 115VAC; 2.8A / 230VAC |
| 2.1.7. Max inrush current 最大浪涌电流 | 20A / 115VAC, 40A / 230VAC Cold start 冷启动 |
| 2.1.8. Max leakage current 最大漏电流 | 0.1mA / 264VAC |

2.2. Output characteristics 输出特性:

| | | |
|---|---------|---|
| 2.2.1. Output voltage(Typical) 输出电压(典型) | Main | 48VDC |
| | Standby | 12VDC |
| 2.2.2. Rated current 额定电流 | Main | 12.5A |
| | Standby | 0.2A |
| 2.2.3. Rated power 额定功率 | 600W | |
| 2.2.4. Line regulation 输入调整率 | 1% | |
| 2.2.5. Load Regulation 负载调整率 | 1% | |
| 2.2.6. Over/Undershoot 过冲 | 5% max | |
| 2.2.7. Max ripple & noise 最大纹波和噪声 | Main | 1% Vpk-pk, 20 MHz bandwidth, 测试线挂接 4.7uF 电解电容+104 独石电容 |
| | Standby | 2% Vpk-pk, 20 MHz bandwidth, 测试线挂接 4.7uF 电解电容+104 独石电容 |

| | |
|---------------------------------------|----------------------------------|
| 2.2.8.Set up time(Typical) 启动时间(典型) | 0.5S at full load 满载 |
| 2.2.9.Rise time(Typical) 上升时间(典型) | 15mS at full load 满载 |
| 2.2.10.Hold up time(Typical) 保持时间(典型) | 15mS at full load 满载 输出电压跌落至 90% |
| 2.2.11.Remote voltage range 遥控电压范围 | 0-1V Remote off, 3-15V Remote on |

2.3. Functional characteristics 功能特性:

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|--|--|
| 2.3.1.Over voltage protection 过电压保护 | 115-135% Vnom Self-locking, recycle input to reset 自锁, 断开输入复位 |
| 2.3.2.Over current protection 过电流保护 | Main ≥105% trigger Continuous trip and restart(hiccup mode) 连续跳闸和重启(打嗝模式) |
| | Standby ≥120% trigger Continuous trip and restart(hiccup mode) 连续跳闸和重启(打嗝模式) |
| 2.3.3.Short circuit protection 短路保护 | Continuous trip and restart(hiccup mode) 连续跳闸和重启(打嗝模式) |
| 2.3.4.Over temperature protection 过温保护 | Self-recovery 自恢复 |
| 2.3.5.Remote control 遥控 | Possible 可以实现 |

3. Safety & EMC安全和电磁兼容

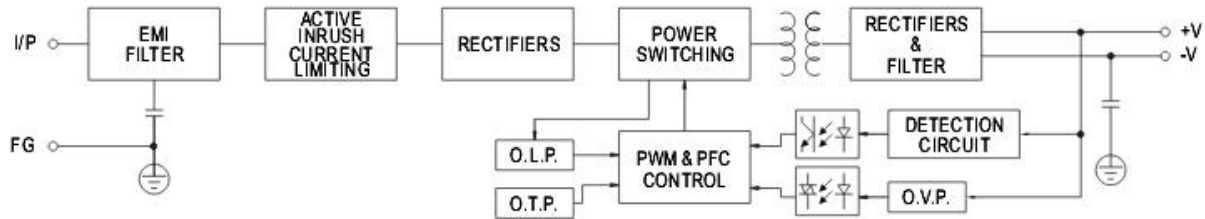
| | | |
|----------------------------------|---|--|
| 3.1. Safety standards 安全标准 | CB Rept | IEC62368-1:2018 |
| | EN | EN62368-1:2014/A11:2017 |
| | cTUVus | UL62368-1 & CAN/CSA C22.2 No. 62368-1 |
| | CE | LVD & EMC |
| | Equipment Protection Class | Class I & Class II |
| 3.2. Withstand voltage 耐电压 | Input 输入-FG 外壳地/PE 大地: 1.5kVAC 1Min 分钟 Input 输入-Output 输出: 4.0kV AC 1Min 分钟 Output 输出-FG 外壳地/PE 大地: 1.5kVAC 1Min 分钟 | |
| 3.3. Insulation resistance 绝缘电阻 | Output 输出-FG 外壳地/PE 大地: 100MΩ Min @DC500V | |
| 3.4. EMI 电磁干扰 | Conducted | EN55011/EN55032 Class B |
| | Radiated | EN55011/EN55032 Class B |
| 3.5. Harmonic current 谐波电流 | EN61000-3-2 Class A | |
| 3.6. Voltage flicker 电压闪烁测试 | EN61000-3-3 Class A | |
| 3.7. ESD immunity 静电放电抗扰度 | EN61000-4-2, Level 4, Criteria A | |
| 3.8. Radiated immunity 辐射抗扰度 | EN61000-4-3, Level 3, Criteria A | |
| 3.9. EFT/Burst 脉冲群抗扰度 | EN61000-4-4, Level 4, Criteria A | |
| 3.10. Surge 浪涌 | EN61000-4-5, Level 3, Criteria A | |
| 3.11. Conducted immunity 传导抗扰度 | EN61000-4-6, Level 3, Criteria A | |
| 3.12. Dips & interruptions 瞬跌与中断 | EN61000-4-11 0% 0.5cycle Perf Criteria A (600W load) 0% 1cycle Perf Criteria A (300W load) | |

4. Environmental requirement 环境要求:

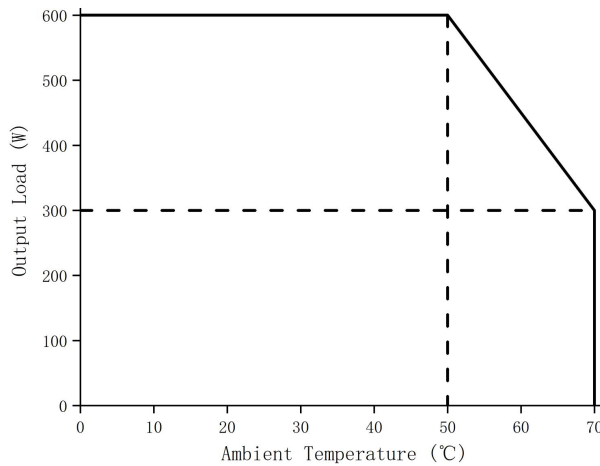
| | |
|---------------------------------|--|
| 4.1. Operating temperature 工作温度 | -20~+70℃ See derating curve for details 详见降额曲线 |
| 4.2. Storage temperature 保存温度 | -40~+85℃ |
| 4.3. Operating humidity 工作湿度 | 20-90% RH, Non-condensing 无冷凝 |
| 4.4. Storage humidity 保存湿度 | 10-95% RH, Non-condensing 无冷凝 |
| 4.5. Cooling 冷却方式 | Convection cooled or force cooling 自然冷却或风冷 |

| | |
|--------------------------------|---|
| 4.6. Operating Altitude 工作海拔要求 | 2000m |
| 4.7.Shock (In package)冲击 (包装) | 30g Peak, half-sine, 6 axis |
| 4.8. Vibration 耐震性 | At no operating,10-55Hz(Sweep for 1min) 19.6m/s ² Constant,X,Y,Z 1hour each 在不工作时, 10-55Hz(扫描 1 分钟) 固定加速度 19.6m/s ² , X,Y,Z 三个方向各 1 小时 |

5. Block diagram 方框图

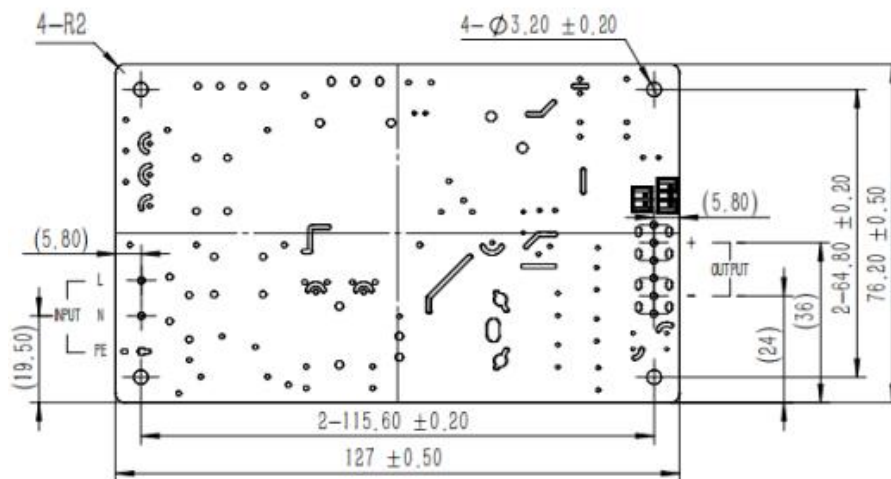


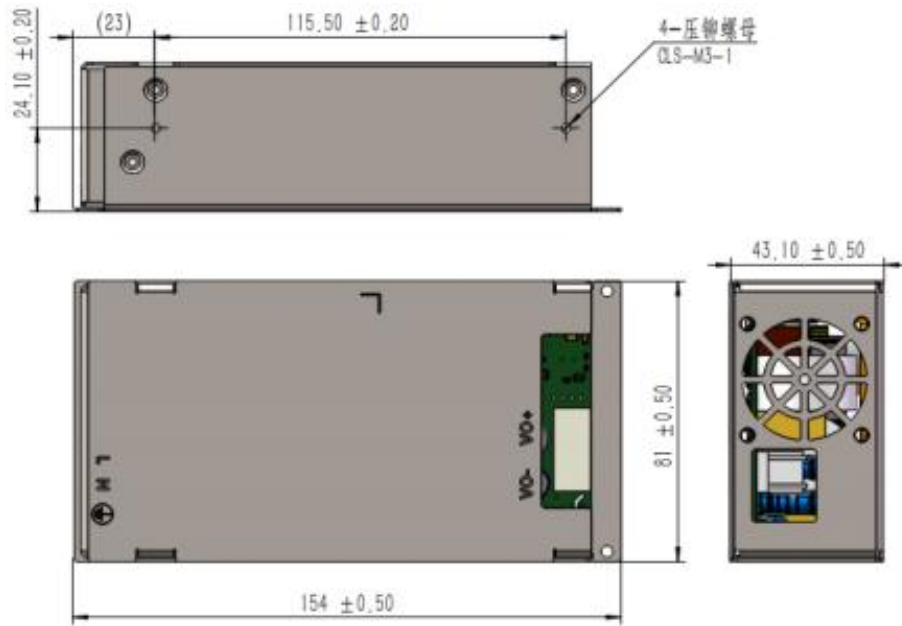
6. Derating curve 降额曲线



7. Mechanical Specification 机械尺寸:

7.1 Outline dimensions 外形尺寸(Unit 单位: mm)





7.2. Input logic connector pinouts 端口说明

| INPUT CONNECTOR J1 | |
|--------------------|---------|
| 1 | LINE |
| 2 | NEUTRAL |

| FAN CONNECTOR J3 | |
|------------------|------|
| 1 | FAN+ |
| 2 | FAN- |

| OUTPUT CONNECTOR J2 | |
|---------------------|------|
| 1 | OUT+ |
| 2 | OUT- |

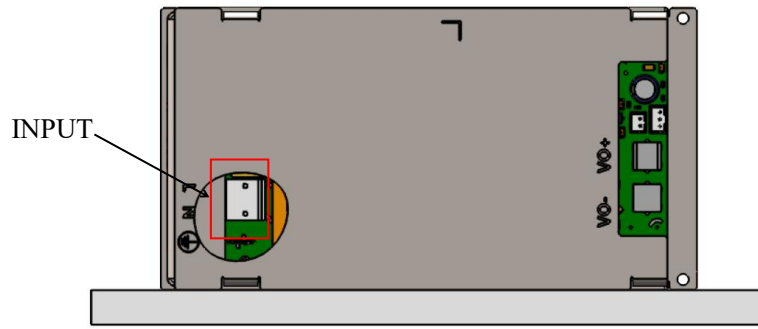
| FAN CONNECTOR J4 | |
|------------------|----------|
| 1 | Remote |
| 2 | Standby+ |
| 3 | Standby- |

9. Standard Mounting method 标准安装方法:

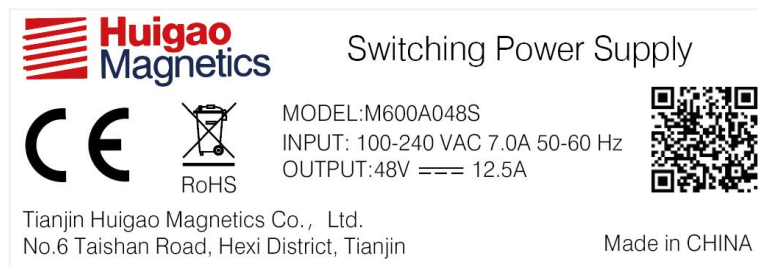
9.1 Mounting method1 安装方法 1:



9.2 Mounting method1 安装方法 2:



10.Name Plate 标识和铭牌:



11.Packing methods 包装方法:

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Approved 批准: 刘晓莉