

■ 特性 Features:

- 输入电压范围: 85 - 264VAC 或 120 - 370VDC  
The input voltage range : 85-264Vac/120-370Vdc
- 工作温度高达 70℃  
Operating temperature up to 70℃
- 输出低纹波噪声  
Low ripple & noise output
- 空载功率损耗: <0.75W  
No-load power loss: <0.75W
- 电源输出 LED 指示灯, 并有 DC OK 功能  
PSU output LED indicator with DC OK function
- 输出电压值可调  
The output voltage is adjustable
- Class I 耐电压强度  
Class I Voltage Endurance Strength
- 短路、过流、过压、过温保护功能  
With OSP、OCP、OVP、OTP functions
- 满足 5000M 海拔应用 (备注 3)  
Meet 5000M altitude application (Note 3)
- 符合 IEC/EN/BS EN62368、EN/EN61558 等认证标准  
Meet IEC/EN/BS EN62368、EN/EN61558 Etc.certification standards
- 安装导轨: TS-35/7.5 或 TS-35/15  
Can be installed on the rail frame: TS-35/7.5 or TS-35/15
- 自然风冷  
Convection cooling
- 高可靠性, 基板三防漆工艺(可选)  
High reliability, conformal coating process for substrates



■ 应用 Applications:

- 工业控制或自动化装置  
Industrial control or automation devices
- 电子仪器, 设备和装置  
Electronic instruments, equipment and devices
- 机械和电气设备  
Mechanical and electrical equipment
- 老化设备  
Burn-in equipment

## ■ 描述 Description:

DR60M 是一款薄型高性价比、标准导轨式安装的导轨型电源供应器, 适合安装在 TS-35/7.5 或 TS-35/15 的轨道上, 在允许节约空间橱柜内本体被设计为 40 毫米宽度, 具有 DC-OK 继电器触点。整个系列采用从 85Vac 到 264Vac 全范围交流输入, 提供 5V、12V、24V、48V 单路输出, 输出总功率 60W。通过 CB/CE/CQC 认证, 符合欧盟 RoHS2.0 指令。

The DR60M series of products is a thin and cost-effective rail PSU that conforms to the standard rail mounted rail, which is suitable for installation in the orbit of TS-35/7.5 or TS-35/7.5, and designed to save the inner body of the space cabinet by 40 mm width. The entire series features a DC-OK relay contact and adopts a full range of AC input from 85Vac to 264Vac, providing single output of 5V/12V/24V/48V, with a total output power of 60W, which has passed the CE/CQC/CB certification and the Eu RoHS2.0 instruction.

## 选型规格 Model Selection

| 功率段<br>POWER | 产品型号<br>MODEL | 输出功率<br>Pout | 输入电压<br>Vin              | 输出电压<br>Vout | 输出电流<br>Iout | 效率 (%)<br>EFF. | 安规认证<br>SAFETY |
|--------------|---------------|--------------|--------------------------|--------------|--------------|----------------|----------------|
| 60W          | GW-DR60M-5    | 50W          | 85-264Vac/<br>120-370Vdc | 5V           | 10A          | 78.0           | CE/CQC/CB      |
|              | GW-DR60M-12   | 60W          |                          | 12V          | 5A           | 85.0           |                |
|              | GW-DR60M-24   | 60W          |                          | 24V          | 2.5A         | 88.0           |                |
|              | GW-DR60M-48   | 60W          |                          | 48V          | 1.25A        | 88.5           |                |

\*其它安规需求认证中 Other safety requirements are pending certification.

## 通用参数 General Specification

| 型号 MODEL     |                               | DR60M-5 | DR60M-12 | DR60M-24 | DR60M-48 |
|--------------|-------------------------------|---------|----------|----------|----------|
| 输出<br>Output | 输出电压 Output Voltage           | 5V      | 12V      | 24V      | 48V      |
|              | 额定电流 Output Current           | 10A     | 5A       | 2.5A     | 1.25A    |
|              | 电流范围 Current Range            | 0~10A   | 0~5A     | 0~2.5A   | 0~1.25A  |
|              | 额定功率 Output Power             | 50.0W   | 60.0W    | 60.0W    | 60.0W    |
|              | 纹波与噪声 Ripple and Noise (备注 5) | 80mV    | 100mV    | 150mV    | 170mV    |
|              | 电压调整范围 Adj-voltage range      | 5~6V    | 12~15V   | 24~30V   | 48~56V   |
|              | 稳压精度 Voltage stability (备注 2) | ±2%     | ±1%      | ±1%      | ±1%      |
|              | 线性调整率 Line regulation         | ±1%     | ±1%      | ±1%      | ±1%      |
|              | 负载调整率 Load regulation         | ±1%     | ±1%      | ±1%      | ±1%      |

|                     |                            |                                                                                        |           |            |            |
|---------------------|----------------------------|----------------------------------------------------------------------------------------|-----------|------------|------------|
|                     | 保持时间 Hold-up time          | 20ms (115Vac/100%load), 50ms(230Vac/100% load)                                         |           |            |            |
|                     | 启动时间 Startup time          | ≤1s (230Vac/100% load)                                                                 |           |            |            |
| 输入<br>Input         | 电压范围 Voltage Range         | 85~264Vac                                                                              |           |            |            |
|                     | 频率范围 Frequency Range       | 47~63Hz                                                                                |           |            |            |
|                     | 输入电流 Input Current         | 1.8A/115Vac, 1A/230Vac                                                                 |           |            |            |
|                     | 浪涌电流 Inrush Current        | 30A / 115Vac, 60A / 230Vac (Cold start)                                                |           |            |            |
|                     | 效率 Efficiency              | 78%                                                                                    | 85%       | 88%        | 88.5%      |
| 保护<br>Protections   | 过电压 OVP                    | 6.25-7.25V                                                                             | 15.5~ 20V | 30.5 ~ 35V | 56.5 ~ 63V |
|                     | 过负载 OCP                    | 12~13A                                                                                 | 6~7A      | 3~4A       | 1.5~ 2.5A  |
|                     | 过温度 OTP                    | 打嗝模式，异常条件移除后可自动恢复 Hiccup mode, The PSU can be Auto-recovered when the fault is removed |           |            |            |
|                     | 短路 OSP                     | 打嗝模式，异常条件移除后可自动恢复 Hiccup mode, The PSU can be Auto-recovered when the fault is removed |           |            |            |
| 环境<br>Environmental | 工作温度 Operating Temperature | -20 ~ +70°C 请参考降额曲线 Refer to the derating curve                                        |           |            |            |
|                     | 工作湿度 Operating Humidity    | 20% ~ 90% RH, 无冷凝 Non-condensing                                                       |           |            |            |
|                     | 存储温度 Storage Temperature   | -40 ~ +85°C                                                                            |           |            |            |
|                     | 存储湿度 Storage humidity      | 10% ~ 95% RH, 无冷凝 Non-condensing                                                       |           |            |            |
| 安规<br>Safety        | 安全规范 safety standards      | IEC/UL/EN/BS EN62368、EN61558、GB4943、BIS IS13252、EN62477                                |           |            |            |
|                     | 耐压 Hi-pot                  | I/P - O/P: 3000Vac/4242Vdc; I/P - FG: 1500Vac/2500Vdc; O/P - FG: 500Vac/707Vdc         |           |            |            |
|                     | 绝缘阻抗 Insulating resistance | ≥100Mohm (500VDC / 25°C / 65% RH)                                                      |           |            |            |
|                     | 静电放电 ESD                   | IEC/EN61000-4-2, CLASS A; Contact1±8KV / Air ±15KV ;                                   |           |            |            |
|                     | 电磁兼容 EMC                   | CISPR32 / EN55032, CLASS B                                                             |           |            |            |
|                     | 谐波 harmonic                | IEC61000-3-2, CLASS A                                                                  |           |            |            |
| 其它<br>Others        | 质保期 Warranty               | 3Years                                                                                 |           |            |            |
|                     | MTBF                       | MIL-HDBK-217F @25°C, ≥100K hrs                                                         |           |            |            |
|                     | 尺寸 SIZE                    | 90.0mm*100.0mm*40mm(L * W * H)                                                         |           |            |            |
|                     | 包装 Packing                 | 0.3KG                                                                                  |           |            |            |

备注  
Remark

1. 如未特别说明,所有规格参数均在输入为 230Vac, 额定负载, 25°C环境温度下进行测量, 详见测试报告。

Unless otherwise specified, all spec. are measured at 230Vac, rated load,  $T_a=25^{\circ}\text{C}$ , Please refer to the test report.

2. 输出电压的精度包含设定误差、线性调整率和负载调整率

The voltage stability includes setting error, linear regulation and load regulation

3. 当产品工作于海拔 2000m 以上时, 环境温度需降额  $5^{\circ}\text{C}/1000\text{m}$

When the power supply is working above an altitude of 2000m, the  $T_a$  must be derated by  $5^{\circ}\text{C}/1000\text{m}$

4. 产品在任何稳态工作条件下, 总功率不应超出标示的额定功率且输出电流不应超出额定输出电流。

Under any operating conditions, the total power should not exceed the rated power indicated and the output current should not exceed the rated output current.

5. 纹波和噪声的测试方法采用双绞线连接, 输出并联 47 $\mu\text{F}$  低 ESR 电容和 0.1 $\mu\text{F}$  陶瓷电容, 在 20MHZ 带宽下进行量测。

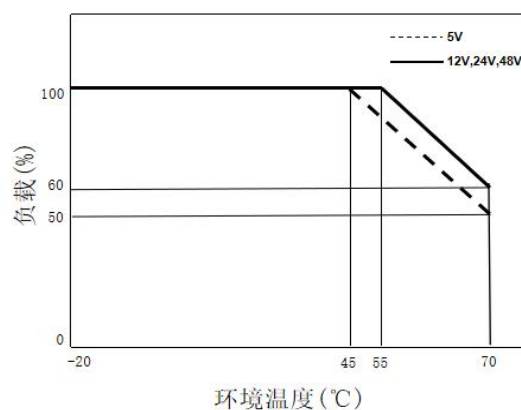
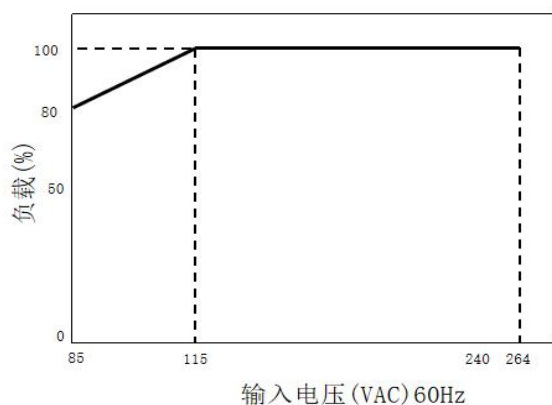
The test method of ripple and noise is connected by twisted pair, the output is in parallel with 47 $\mu\text{F}$  low ESR capacitor and 0.1 $\mu\text{F}$  ceramic capacitor, and the measurement is carried out at 20MHZ bandwidth.

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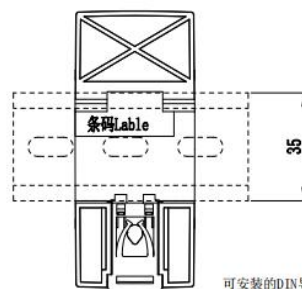
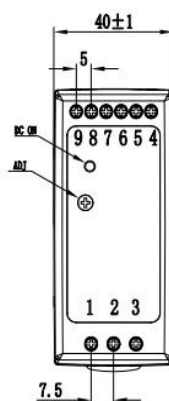
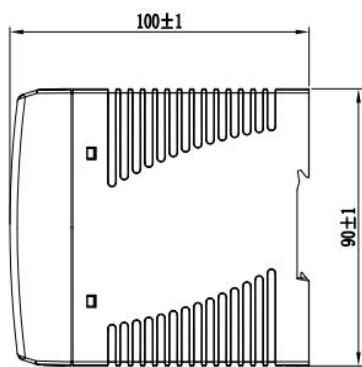
Details please refer to <https://www.gwpst.com>

## ■ 降额曲线 Derating Curve



## 结构参数 Mechanical Overview

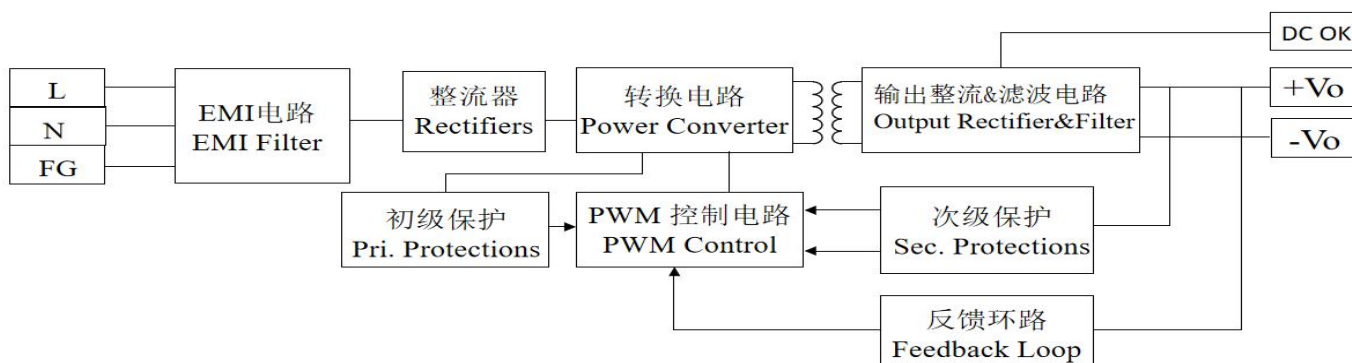
### ■ 结构尺寸 Shape Size



可安装的DIN导轨: TS35/7.5或TS35/15  
(仅供参考, 不包含在电源中)

| 引脚   | 功能     |
|------|--------|
| 1    | ⊥      |
| 2    | AC (N) |
| 3    | AC (L) |
| 4    | DC OK- |
| 5    | DC OK+ |
| 6, 7 | -Vo    |
| 8, 9 | +Vo    |

### ■ 方框图 Block Diagram



\* 安装手册请查阅网址: <https://www.gwpst.com>

\* Installation manual, please refer to web.: <https://www.gwpst.com>