

IP20 LED Power Supply



Features

- . EU standard input voltage 220-240vac
- . Suitable for leading-edge and trailing-edge triac dimming
- . IP20, high PF
- . Suitable for dry environment
- . Protections: Short circuit / Overload / Open circuit
- . Adopt plastic case and internal glue potting
- . Built in lightning protection device can meet the requirements of 1KV
- . Compliance to worldwide safety regulations for lighting
- . 3 years warranty



Description :

SP50 series is an indoor triac dimmable constant voltage LED power supply. Its input voltage range is 220-240Vac, working in the temperature range of -20°C~+45°C ambient temperature range. This product is not only cost-effective, but also meets the SELV standard of electric shock protection. In order to improve the safety of the product, we add short circuit, overload and open circuit protection. According to new ErP Directive, it meets the low standby power consumption standard. Suitable for almost any indoor location where LED Lighting can be installed in a variety of applications. Comply with the world lighting equipment safety specifications, at the same time to ensure the safety of users and lighting system in the installation process.

Model

| Model | Output voltage | Output current | Max. output power | Power factor (Typ.) | Full load efficiency | Dimming range | Input power |
|--------------|----------------|----------------|-------------------|---------------------|----------------------|---------------|-------------|
| SP50-12VFT-1 | 12V±5% | 1.6-4.16A | 50W | > 0.9 | ≥ 85 % | 20%-90% | < 60W |
| SP50-24VFT-1 | 24V±5% | 0.8-2.08A | 50W | > 0.9 | ≥ 85 % | 20%-90% | < 60W |

Remark: All parameters NOT specially mentioned are measured at 230VAC input, full load and 25 °C of ambient temperature

IP20 LED Power Supply

Input

| Parameter | Min. value | Typical value | Max. value | Note |
|----------------------------|------------|---------------|------------|---|
| Rated input voltage | 220 Vac | 230Vac | 240Vac | The derating curve is shown in the figure |
| Input voltage | 198 Vac | | 264Vac | |
| Input frequency | | 50Hz | | |
| Max. Input current | | | 0.3A | 230Vac , Full Load |
| Input inrush current | | | 75A | 230Vac/50Hz , Cold Start |
| Leakage current | | | 0.7mA | 230Vac/50Hz , Full Load |
| Stand-by power consumption | | 0.4W | 0.5W | 230Vac/50Hz , No Load |

Output

| Parameter | SP50-12VFT-1 | SP50-24VFT-1 | Note |
|---------------------------------|--------------|--------------|--------------------------------------|
| Rated output voltage | 12.0VDC | 24.0VDC | |
| Rated output current | 4.16A | 2.08A | |
| Output current | 1.6-4.16A | 0.8-2.08A | |
| Rated output power | 50W | 50W | |
| Rated output efficiency | ≥ 85% | ≥ 85% | 230Vac |
| Output voltage tolerance | ±5% | | |
| Output voltage ripple (PK-PK) | <20% | | Full load (Test under 20M bandwidth) |
| Line regulation | ±3% | | Full load |
| Load regulation | ±5% | | |

Characteristic curve

Fig. 1 Output load-Temperature curve

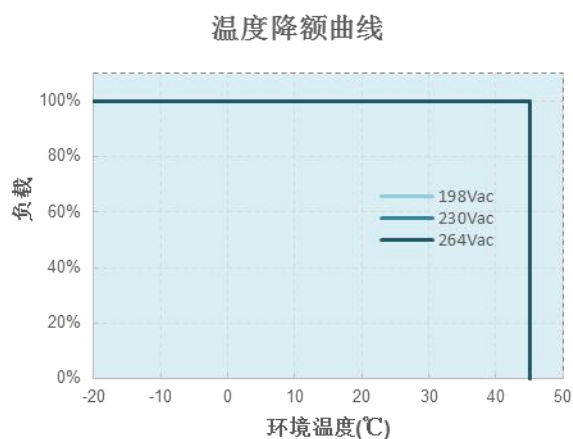


Fig. 2 Input derating curve

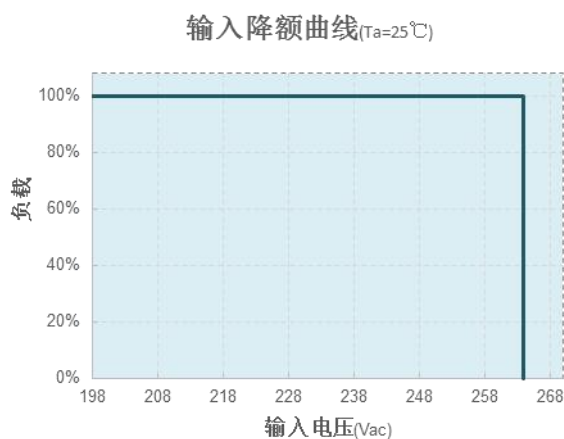


Fig. 3 I-V curve

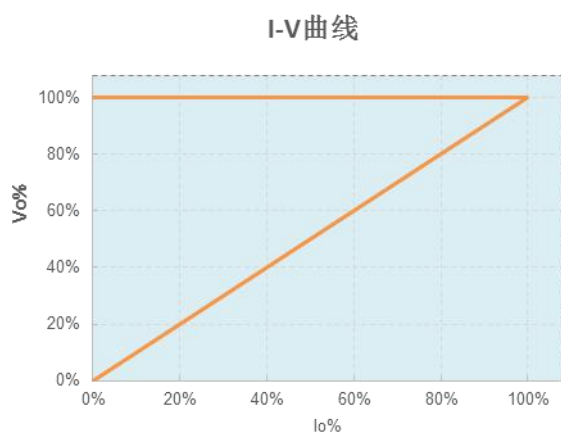


Fig. 4 Power factor characteristic curve

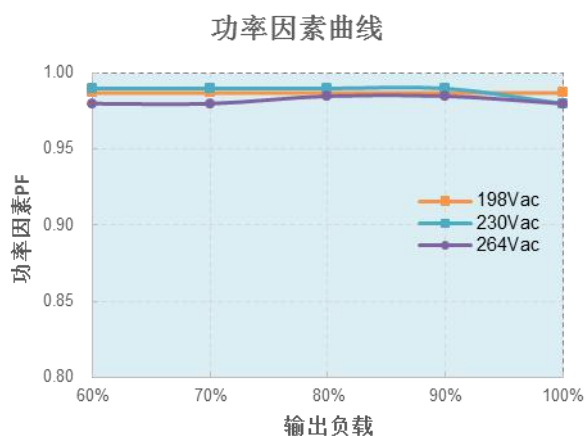


Fig.5 Total harmonic distortion curve (THD)

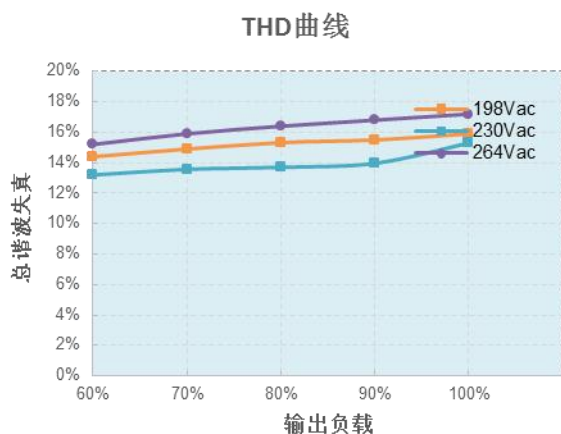
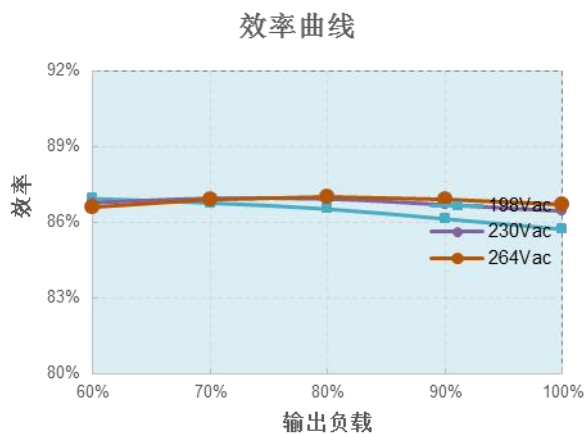


Fig.6 Efficiency-Load curve



IP20 LED Power Supply

Protection

| Parameter | | Conditions | Note |
|------------|---------------|--|--|
| Protection | Over load | Ta, 0.94-1.06 times of input voltage and 1.2 times of rated output power | auto-recovery when overload removed |
| | Short circuit | Hiccup mode | Hiccup mode, auto-recovery after short circuit removed |
| | Over voltage | Ta, 0.94-1.06 times of input voltage and 1.5 times of rated output power | auto-recovery when over voltage removed |
| | Open circuit | Ta, Rated input voltage, output without load | Hiccup mode |

Environment Requirement

| Parameter | Min. | Typ. | Max. | Note |
|------------------|-----------------|------|-------|------|
| Working temp. | -20°C | 25°C | +45°C | |
| Storage temp. | -40°C | 25°C | +85°C | |
| Working humidity | 10%RH | | 90%RH | |
| Storage humidity | 5%RH | | 95%RH | |
| IP grade | | | IP20 | |
| Cooling mode | Natural cooling | | | |

Remark: All parameters NOT specially mentioned are typical values measured at 25 °C of ambient temperature

IP20 LED Power Supply

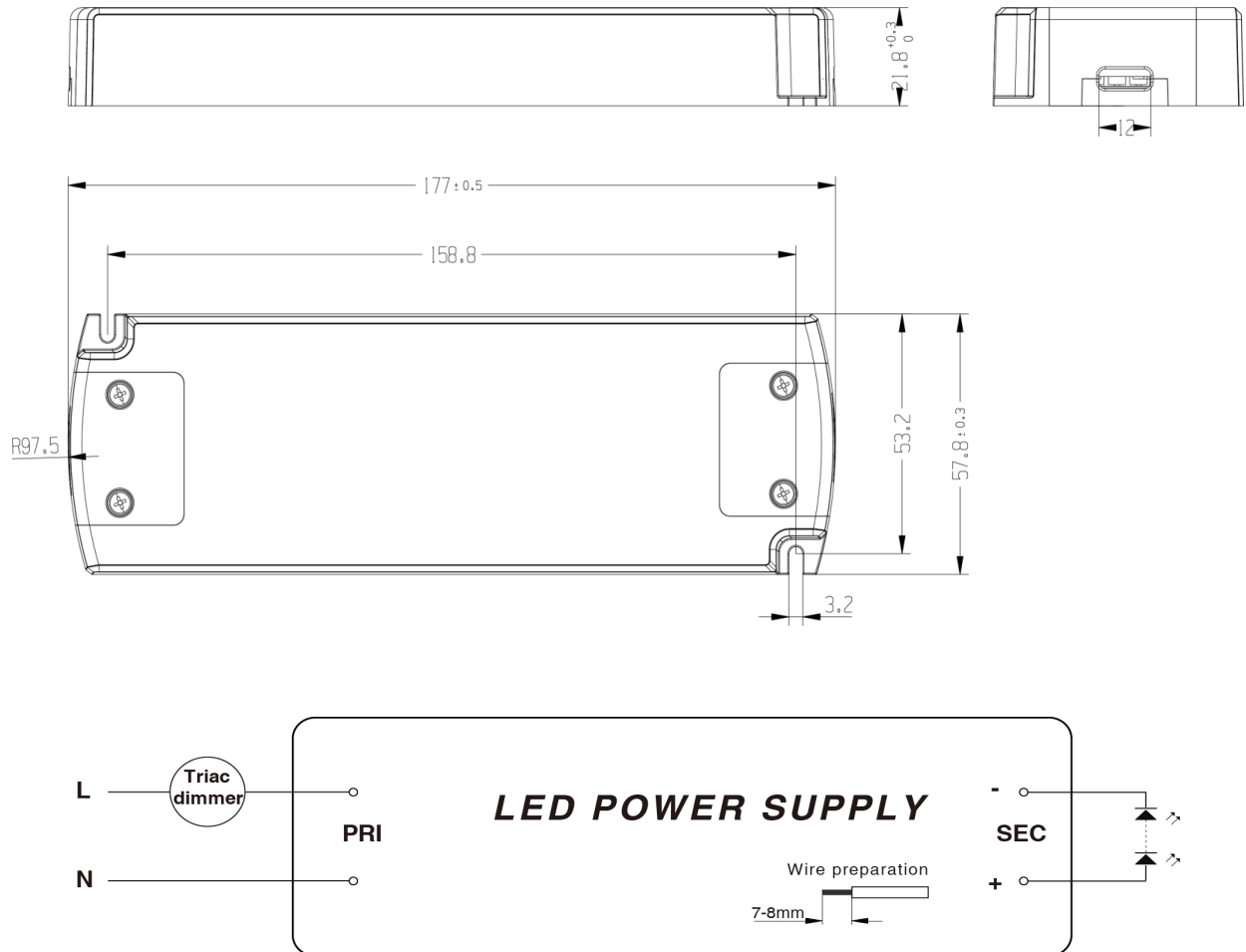
Safety&EMC Standard

| Certificate | | Safety standards | Certification | Note |
|-----------------------|---------------------|---|---|------|
| UL/CUL | | ----- | | |
| TUV | | EN61347-1:2015 EN 61347-2-13:2014+A1 EN62493:2015 | | |
| SAA | | AS/NZS 61347.2.13 | | |
| CCC | | ----- | | |
| CE | | EN 61347-2-13:2014 +A1 EN61347-1:2015 | | |
| Safety test | | Technical indexes | Note | |
| Dielectric strength | Input to output | 3750Vac/5mA Max/60s | Reinforced insulation, no breakdown, no flashover | |
| | Primary to ground | --- | Basic insulation, no breakdown, no flashover | |
| | Secondary to ground | --- | Functional insulation, no breakdown, no flashover | |
| Insulation resistance | Input to output | ≥10MΩ | Test voltage : 500Vdc | |
| Grounding resistance | | --- | 25A/1min | |
| Leakage current | | ≤0.75mA | 264Vac | |
| EMI/EMS item | | Standards | Basis | |
| Conduction CE | | EN55015 | | |
| Radiation RE | | EN55015 | | |
| Harmonics | | EN IEC 61000-3-2 | Class C | |

Others

| Parameters | Condition | Note |
|------------|-------------------------|------------------------------|
| Lifetime | 30,000 hours | 230Vac , Full load, TC. 75°C |
| TC | 85°C | |
| Warranty | 3 years | |
| Weight | 520g | |
| Dimensions | 177mm * 57.8mm * 21.8mm | L x W x H |

Mechanical Specification (Unit : mm)



Remark :

| | |
|-----------------|--|
| AC input cable | Terminal , H03VVH2-F 2×0.75mm ² |
| DC output cable | Terminal , H03VVH2-F 2×0.75mm ² |