

IP20 LED Power Supply



Features

- Suitable for leading-edge and trailing-edge triac dimming
- EU standard input voltage 220-240vac
- IP20, high PF
- Suitable for dry environment
- Protections: Open circuit Short circuit Overload
- 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
- 5 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

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Input :

Parameter	Min. value	Typical value	Max. value	Note
Rated input voltage	220 Vac	230Vac	240Vac	
Input voltage	198Vac		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%		
Load regulation	±5%		

Characteristic curve

Fig.1 Total harmonic distortion curve (THD)

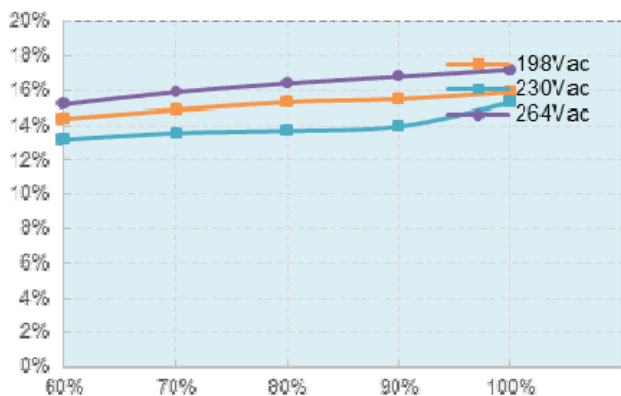


Fig.2 Power factor characteristic curve

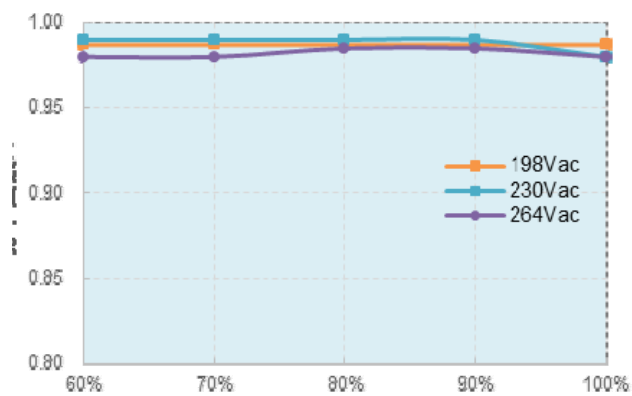


Fig. 3 Input derating curve

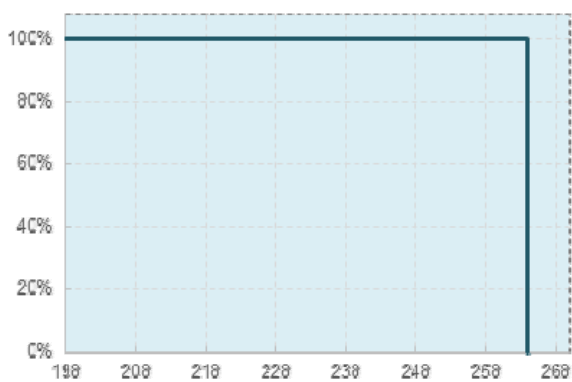


Fig. 4 I-V curve

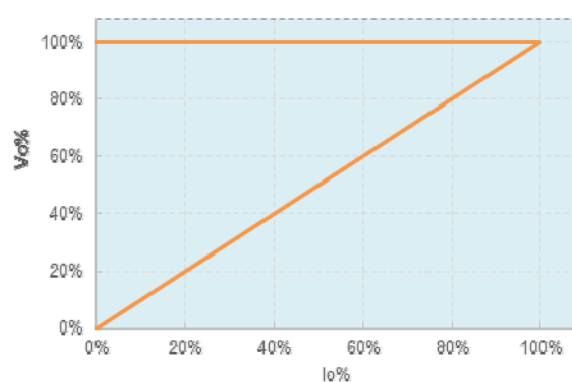


Fig.5 Efficiency-Load curve

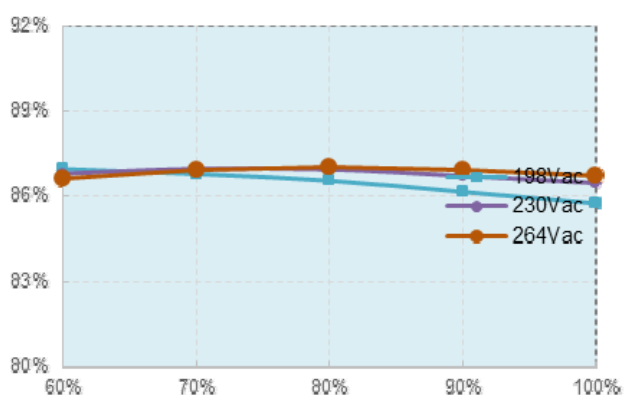
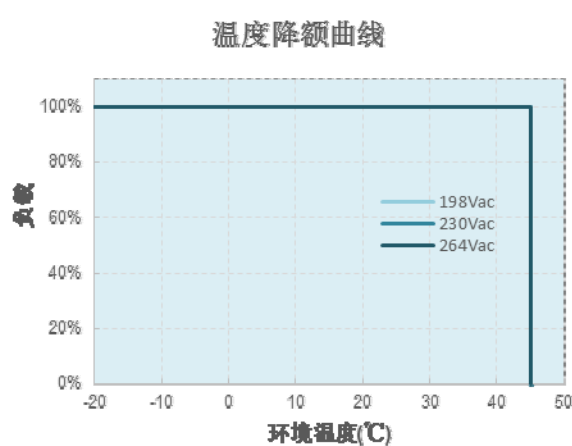


Fig.6 Temperature derating curve



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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 voltage	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			

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		

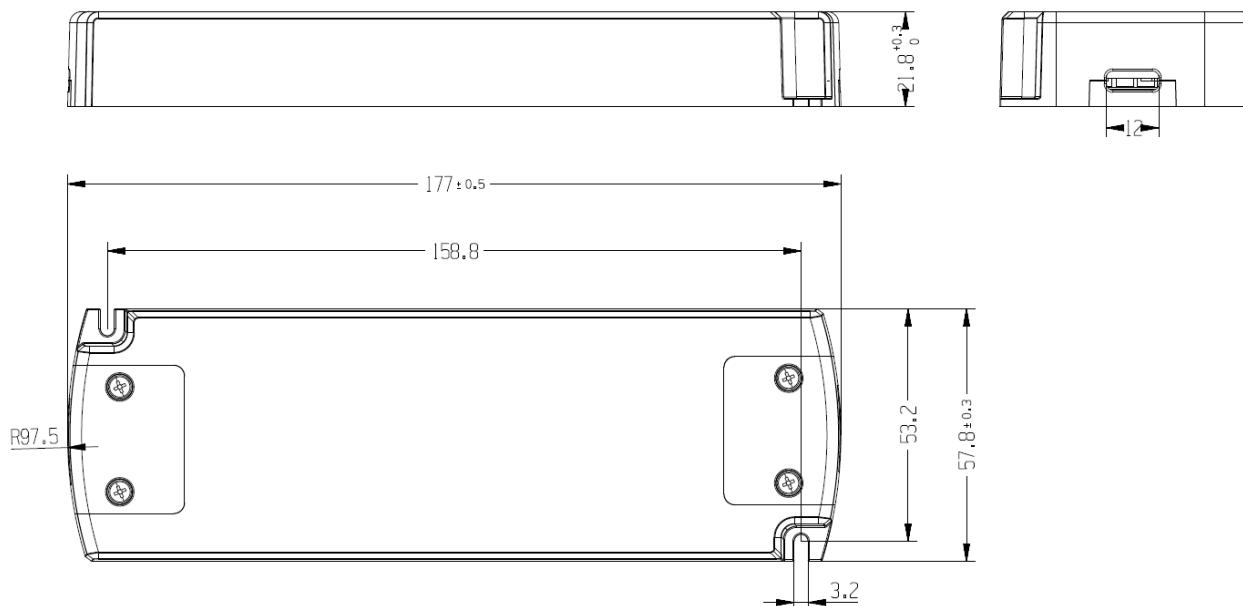
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Safety test		Technical indexes	Note
Dielectric strength	Input to output	3750Vac/5mA Max/60s	Reinforced insulation, no breakdown, no flashover
	Primary to ground	---	Basic insulation, no breakdown, no flashover
	Secondary to ground	---	Functional insulation, no breakdown, no flashover
Insulation resistance	Input to output	$\geq 10M\Omega$	Test voltage : 500Vdc
Grounding resistance		---	25A/1min
Leakage current		$\leq 0.75mA$	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℃
TC	85℃	
Warranty	5 years	---
Weight	250g	
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