NINGBO SNAPPY OPTOELECTRONICS CO.,LTD.

Waterproof LED Power Supply

Features:

. Universal AC input / Full range(Max 305VAC)

. Built-in active PFC function

. IP65/ IP67, Metal Case

. Suitable for dry, humid and rainy environment

.Protections: Short circuit / Over voltage / Over temperature

. Adopt metal shell and internal glue potting, can be used in dangerous situations

. Built in lightning protection device can meet the requirements of DM 4KV / CM 6kV

.Compliance to worldwide safety regulations for lighting

. 5 years warranty

Description:

SPG200 series is an outdoor waterproof CV&CC power supply. Its input voltage range is 100-305Vac, with the high efficiency up to 94%, fan-less design, working in the temperature range of - 40 ° C to + 60 ° C under free air convection. It has ultra-high power factor, ultra-low total harmonic distortion, low standby power consumption, with all-round protection functions such as lightning protection and waterproof function, which not only greatly improves the reliability of the product, but also ensures the life cycle of product. This series are designed for LED lighting such as road lighting, floodlights, stage lighting and advertising lights etc, suitable in almost all kinds of applications where LED lamps can be installed. The product designed completely in accordance with world's lighting equipment safety regulations to ensure the safety of both user and luminaire system during installation.

Model:

Model	Output Voltage ADJ. range	Output Current ADJ. range	Min. Output voltage CC mode	Max. output power	Current tolerance	Total harmonic distortion (Typ.)	Power factor (Typ.)	Efficiency (Typ.)
SPG200-12A/UV	10.5-13.5V	8-16A	7.2V	192W	±5%	4%	0.98	93%
SPG200-24A/UV	22-26V	4.2-8.3A	14.4V	200W	±5%	4%	0.98	94%

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

Model	Function	IP Grade

Waterproof LED Power Supply

SPG200-A	Output current and voltage adjustable	IP65
SPG200-UV	Output current and voltage fixed	IP67

Input

Parameter	Min. value	Typical value	Max value	Note
Rated Input voltage	100 Vac		277Vac	The derating curve is shown in the figure
Input voltage	90 Vac		305Vac	
Input frequency	47Hz		63Hz	
Max. Input current			2A	110Vac , Full Load
			1A	230Vac , Full Load
Input Inrush current			65A	230Vac/50Hz , Cold Start
Power factor	0.97	0.98		230Vac , Full Load
Total harmonic input		4%	5%	230Vac , Full Load
Leakage current			0.7mA	230Vac/50Hz , Full Load
Stand-by power consumption		0.35W	0.5W	230Vac/50Hz , No Load

Output

Parameter	SPG200-12A/UV	SPG200-24A/UV	Note
Output voltage ADJ. range	10.5~13.5VDC	22~26VDC	Max. Output power should compliance to Po=Vo*Io=200W
The min. output voltage (CC mode)	7.2V	14.4V	
Rated output current	16A	8.3A	
Output current ADJ. range	8-16A	4.2-8.3A	
Rated output power	192W	200W	
Rated output efficiency	93%	94%	230Vac
Output current tolerance	±5%		
Output voltage ripple (PK-PK)	±2%		Full load (Test under 20M bandwidth)
Output current ripple (PK-PK)	±5%		
Rise time	100mS		230Vac
Startup time	300mS		230Vac
Line regulation	±1%		Full load
Load regulation	±1%		

Characteristic curve:

Fig. 1 Output load-Temperature curve

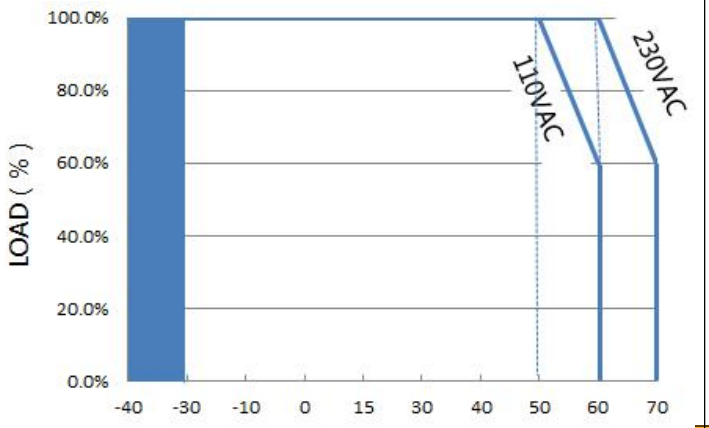


Fig. 2 Static characteristic curve

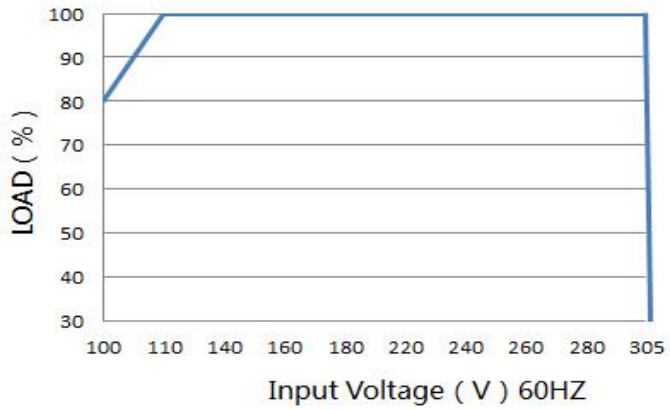


Fig. 3 I-V curve

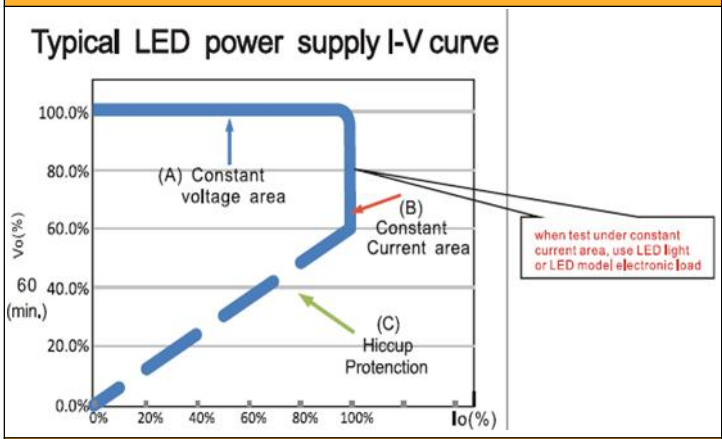


Fig. 4 Power factor characteristic curve

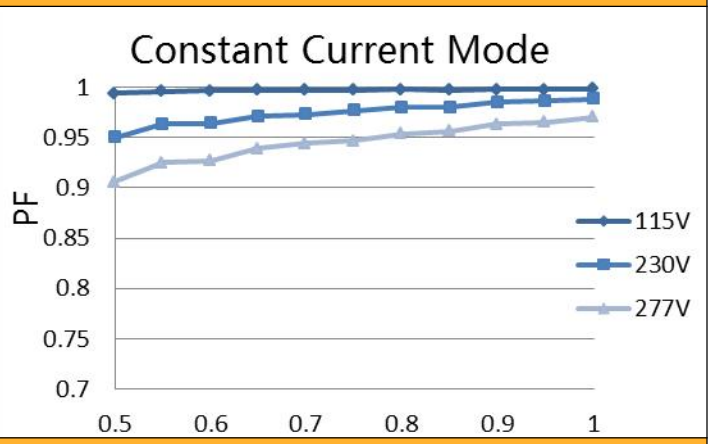


Fig.5 Total harmonic distortion curve (THD)

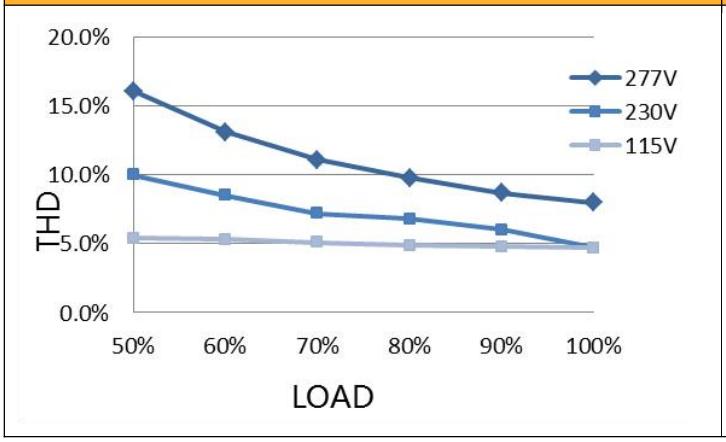
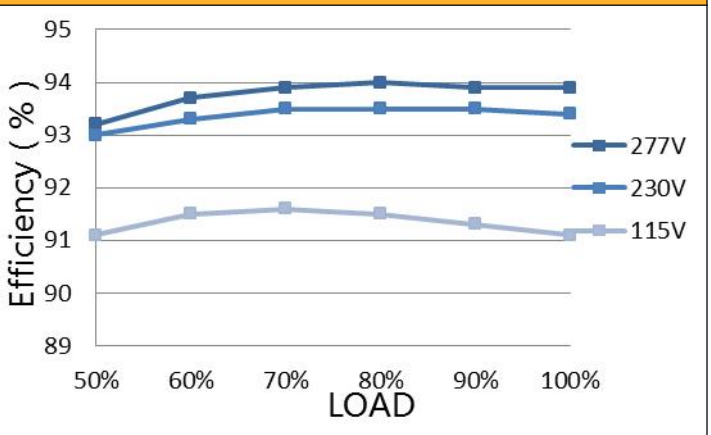


Fig.6 Efficiency-Load curve



Protection

Parameter		Conditions	Note
Protection	Overload	1.1~1.6 times of rated load	Auto-recovery after overload removed
	Short circuit	Short circuit power≤0.5W	Hiccup mode, auto-recovery after short circuit removed
	Over voltage	1.5 times of rated output voltage	Turn off the input voltage, can be restored after restart
	Over temperature	110℃	Turn off the input voltage, can be restored after the temperature returns to normal level

Environment Requirement

Parameter	Min value	typical value	Max value	note
Working temp.	-40℃	25°C	+60℃	See Fig. 2
Storage temp.	-40℃	25°C	+85℃	
Working humidity	10%RH		90%RH	
Storage humidity	5%RH		95%RH	
IP grade			IP67	
Cooling mode	Natural cooling			

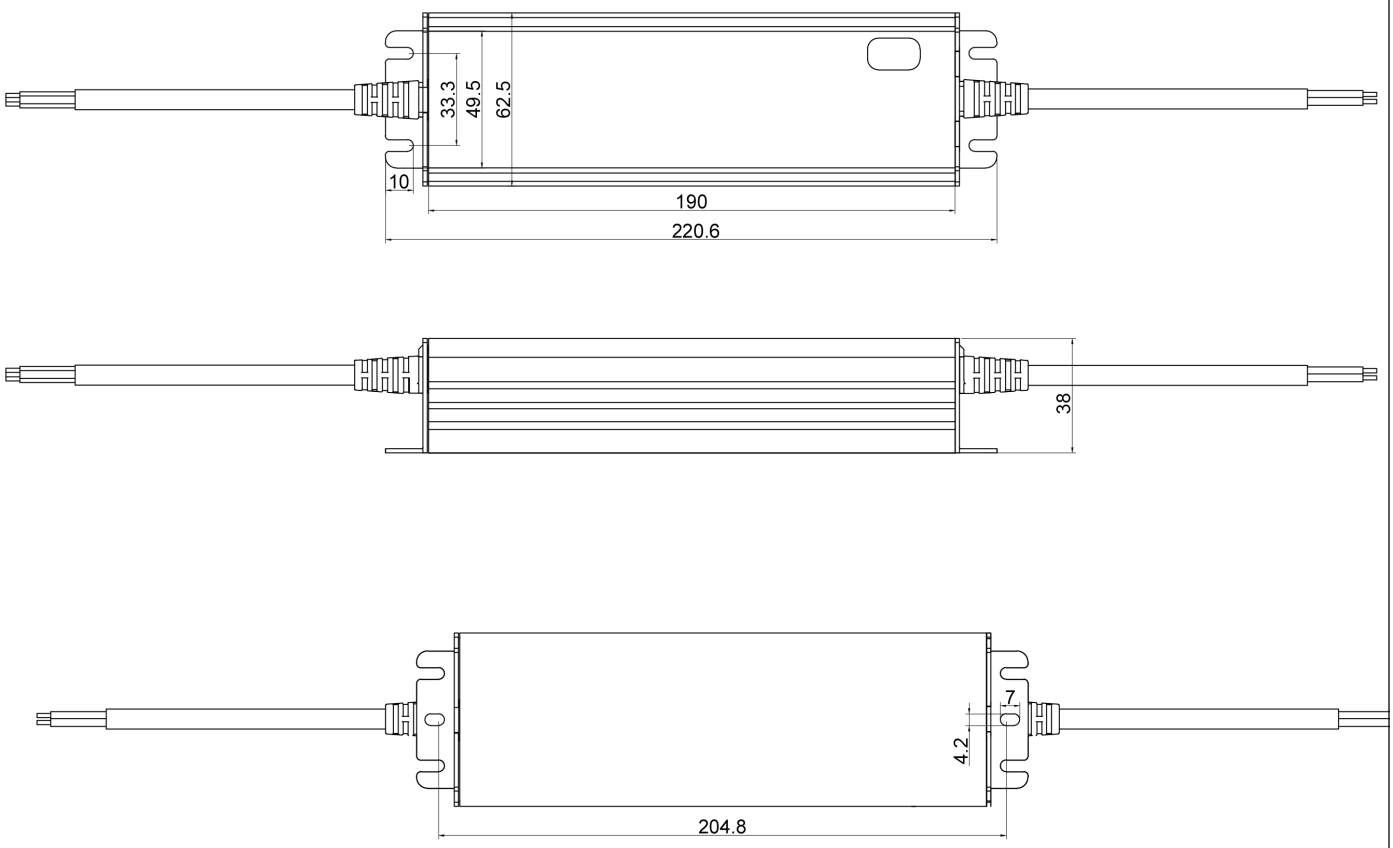
Safety & EMC standard

Certificate		Safety standard	Certification	Note
UL/CUL		UL8750		
TUV		EN61347-1:2015 EN 61347-2-13:2014+A1 EN62493:2015		
SAA		AS/NZS 61347.2.13		
CCC		GB 19510.14-2009		
CE		EN 61347-2-13:2014 +A1 EN61347-1:2015		
Safety test		**Technical indexes**	**Note**	
Dielectric strength	Input-Output	3200Vac/5mA Max/60s	Reinforced insulation，no breakdown, no flashover	
	Primary to safety (ground AC TO FG)	1600Vac/5mA Max/60s	Basic insulation，no breakdown, no flashover	
	Secondary to safety (ground DC TO FG)	1000Vac/5mA Max/60s	Functional insulation，no breakdown, no flashover	
Insulation resistance	Input-Output	≥10MΩ	Test voltage：500Vdc	
Ground resistance		≤0.1Ω	25A/1min	
Leakage current		≤0.75mA	277Vac	
EMI/EMS		**Standard**	**Criterion**	
Conduction CE		EN55015		
Radiation RE		EN55015		
Harmonics		EN IEC 61000-3-2	Class C	

Others

Parameter	Condition	note
Lifetime	55,000 hours	230Vac, full load, Tc 75℃
MTBF	200,000hours	230Vac, full load, Ta 25℃ (MIL-HDBK-217F)
TC	90℃	
Warranty	5 years	Tc：75℃
Weight	850g	
Dimensions	220.6mm*62.5mm*38mm	L x W x H

Mechanical Specification (Unit : mm)



Remark :	
AC input cable	VDE , H05RN-F 105℃ 3G*1.0mm^2, L=300mm+SR yellow/green colour: PE , brown:L , blue:N
DC output cable	12V: SJTW , 2*14AWG/ 2*2.08mm^2 105℃ , L=300mm+SR white : V+ , black : V-
	24V: SJTW , 2*16AWG/ 2*1.31mm^2 105℃ , L=300mm+SR white : V+ , black : V-