

Constant Voltage LED Power Supply

SPG240-12/24/48V



Product description

SPG240-V series is an outdoor waterproof power supply featuring constant voltage output. Its input voltage range is 180-305Vac, with the high efficiency up to 94%, fanless design, working in the temperature range of - 40 ° C to + 90° 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.

Standards

EN61347-1
EN61347-2-13
EN61547
EN55015
EN61000-3-2
EN61000-3-3
EN62384
EN62493

Characteristics

- European AC input (200-277VAC)
- Built-in active PFC function
- Waterproof IP67
- Suitable for indoor and outdoor 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

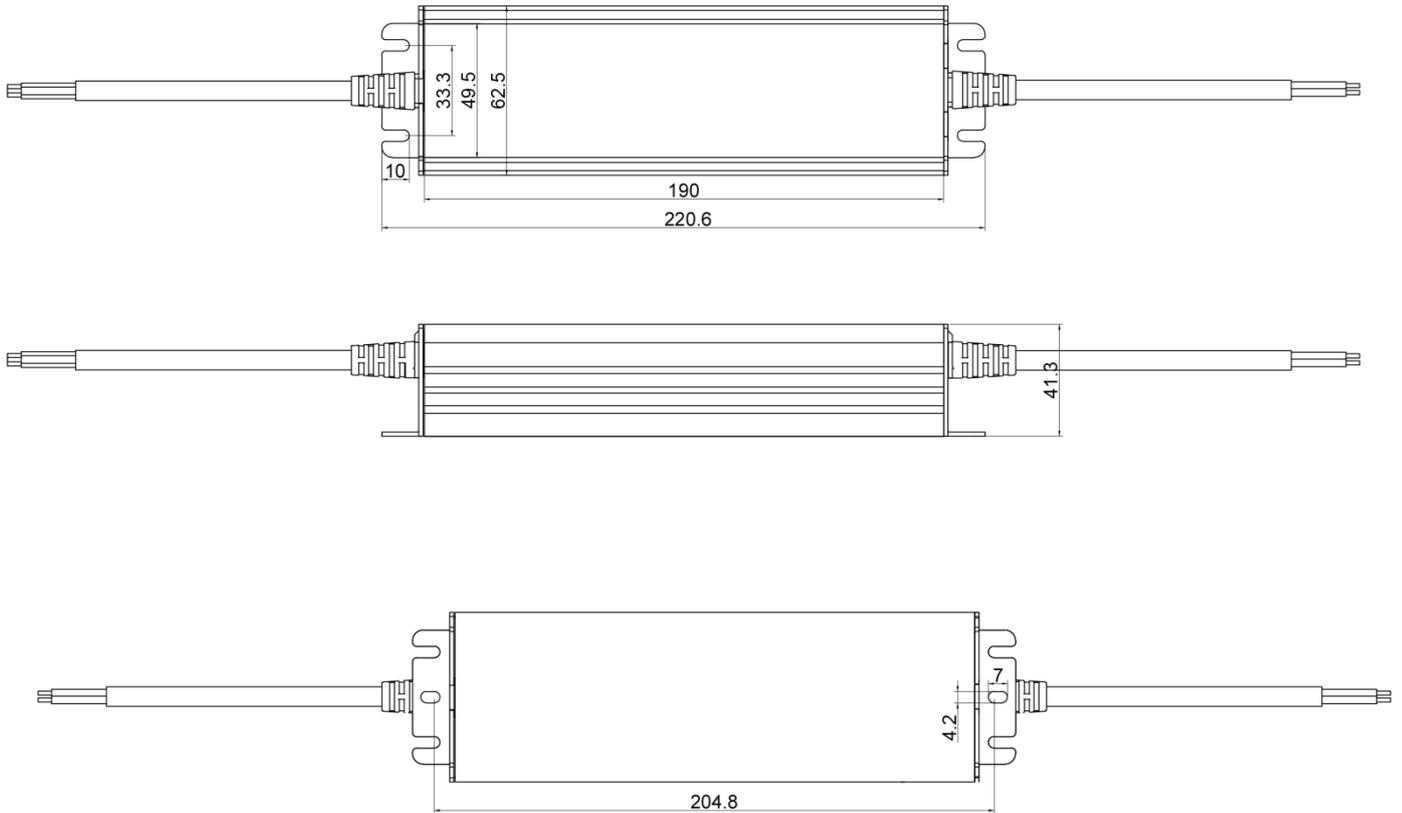
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Specifications

Model		SPG240-12V	SPG240-24V	SPG240-48V
Output	output power(W)	216	240	240
	output voltage range(V)	12	24	48
	output voltage tolerance	$\leq\pm 3\%$	$\leq\pm 2\%$	$\leq\pm 1\%$
	ripple voltage(mV)	150	240	480
	Line Regulation	1%	1%	1%
	Load Regulation	2%	1%	1%
	working current range(A)	0-18	0-10	0-5
	SVM		0.1	
	Pst		0.1	
	turn on time(S)		<0.5	
Input	rated DC supply voltage(Vdc)		254-431	
	rated supply voltage(Vac)		200-277	
	voltage range(Vac)		180-305	
	line frequency(Hz)		50/60	
	input current(A)		1.2@230V	
	efficiency (TYPE)	93%@full load	94%@full load	92%@full load
	average efficiency(TYPE) ³	91%	92%	90%
	no load power consumption(W)		$\leq 0.5W$	
	power factor		0.98@full load	
	Displacement factor		0.98	
	THD(typ.)		<10%@full load 230V	
	inrush current(Ipk)		65A@twidth=500us	
	Leakage current (mA)		0.75@277Vac	
Protection	short circuit protection	hiccup mode, restart automatically after fault correction.		
	over load protection	exceed maximum rated load times 1.6~1.8 hiccup mode, restart automatically after fault correction.		
	Over voltage protection	hiccup mode, restart automatically after fault correction		
	Over temperature protection	hiccup mode, restart automatically after fault correction		
	surge capacity	L-N: 4KV L N-GND:6KV		
	Withstand voltage	Input-Output: 3000V/5mA/1min Input-gnd:1500V/5mA/1min		
	Ta(C)	-40...70 (refer to the curve)		

Ambient and Life	Tc max.(C)	max.90
	Storage Temperature(C)	-40...85
	ambient humidity range	5%...85%RH, Not condensing
	nominal life-time(hrs)	50'000@TC 80
Other	dimensions (L×W×H)(mm)	220.6mm*62.5mm*41.3mm
	weight(g)	980g
	casing material	metal
	housing colour	Aluminum
	type of protection	IP67
	protection class	class I
	certificate	
Note	<p>1.Tolerance:includes set up tolerance, line regulation and load regulation. 2.Tested at full load,230Vac.Refer to"Power Factor" and "EFFICIENT"curve graphs. 3.Calculate the model's average efficiency for each test voltage by testing at 100%, 75%, 50%, and 25% of rated current and then computing the simple arithmetic average of these four values. 4.All parameters NOT specially mentioned are measured at nominal voltage input, rated load and 25 of ambient temperature. 5.The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</p>	

Dimensions(mm)



Wiring Diagram



AC INPUT CABLE	VDE, H05RN-F 105°C 3G*1.0mm ² , L=300mm+SR Yellow&green: PE, brown:L, blue:N
DC OUTPUT CABLE	12V: SJTW, 2*14AWG/ 2*2.08mm ² 105°C , L=300mm+SR White: V+, black: V-
	24V: SJTW, 2*16AWG/ 2*1.31mm ² 105°C , L=300mm+SR White: V+, black: V-
	48V: SJTW, 2*16AWG/ 2*1.31mm ² 105°C , L=300mm+SR White: V+, black: V-

Electrical curves

Fig. 1 Output load-Temperature curve

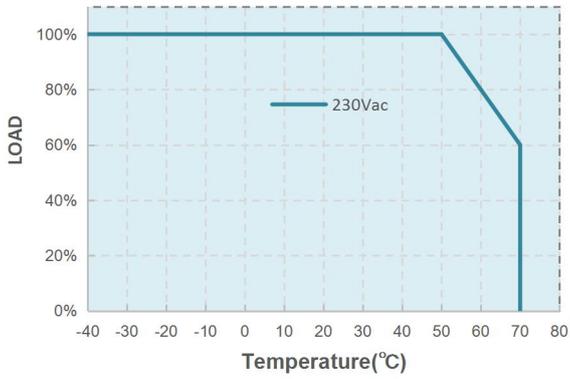


Fig. 2 Static characteristic curve

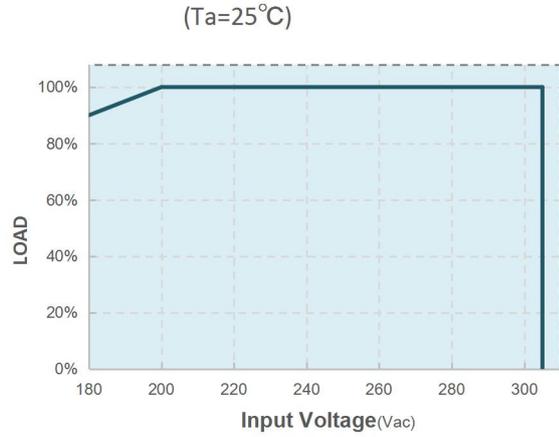


Fig. 3 I-V curve

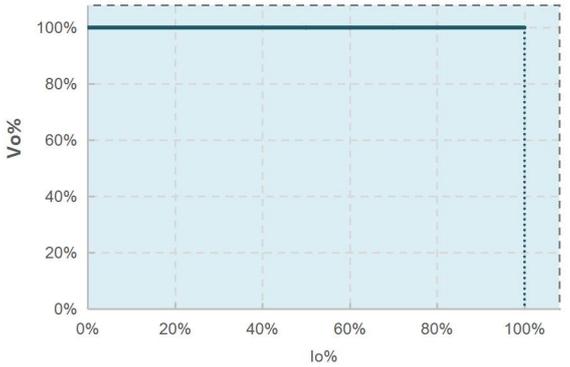


Fig. 4 Power factor characteristic curve

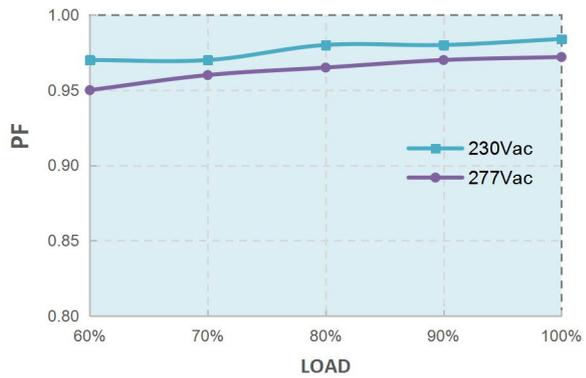


Fig.5 Total harmonic distortion curve (THD)

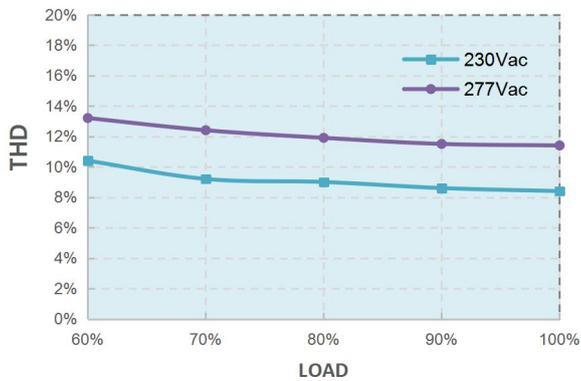
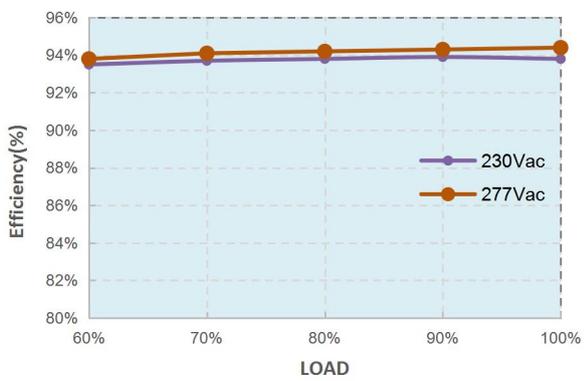


Fig.6 Efficiency-Load curve



MCBS

MCBS Model	B10	B13	B16	B20	C10	C13	C16	C20
SPG240-12V	1	2	3	3	4	5	6	8
SPG240-24V	1	2	3	3	4	5	6	8
SPG240-48V	1	2	3	3	4	5	6	8

Package

Model	Carton quantity(pcs)	Carton dimension(mm)	G.W./CTN(kg)
SPG240-12V			
SPG240-24V			
SPG240-48V			

Revision history

Date	Rev.	Remark
2023.4.10	A0	Initial release.
2023.5.31	A1	Updated.