

IP20 LED Power Supply



CLASS2

Features

- . Universal AC input / (MAX 264VAC)
- . Built-in active PFC function
- . IP20
- . Suitable for dry environment
- . Protections: Short circuit / Over voltage / Over temperature
- . Adopt plastic case
- . Built-in lightning protection device, it can satisfy DM 1kV
- . Comply with the world lighting equipment safety standards
- . 5 years warranty

Description:

The SL60 series is an indoor constant voltage LED driver with the input voltage range of 90-264Vac, whose efficiency is up to 88%, and it's working in the temperature range of - 20 ° C to + 45° C under free air convection. It also has a high power factor, ultra-low total harmonic distortion, low standby power consumption, lightning protection and other comprehensive protective functions, which not only greatly improve the reliability of the product, but also guarantee the product life cycle. This series of products is designed for LED lighting and is used in indoor lighting applications. It is suitable for a wide range of applications in almost every environment where LED luminaires can be installed. It complies with the World Safety standard for lighting equipment and ensure the safety of the user and the luminaire system during installation.

Model	Output voltage	Output current	Max. Output power	Output voltage precision	THD (Typ.)	Power factor (Typ.)	Efficiency (Typ.)
SL60-12VFC(UE)	11.4-12.6V	0-5A	60W	±5%	8%	0.95	88%
SL60-24VFC(UE)	22.8-25.2V	0-2.5A	60W	±5%	8%	0.95	88%

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

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Input

Parameter	Min. value	Typical value	Max. value	Note
Rated input voltage	100 Vac		240Vac	Derating curve is shown in figure
Input voltage	90 Vac		264Vac	
Input frequency	47Hz		63Hz	
Max. Input current			0.85A	100Vac,Full Load
			0.45A	230Vac,Full Load
Input inrush current			75A	264Vac/50Hz,cold start
Power factor	0.9	0.97		230Vac,Full Load
Total harmonic input		8%	15%	230Vac,Full Load
Leakage current			0.75mA	230Vac/50Hz,Full Load
Stand-by power consumption		0.35W	0.5W	230Vac/50Hz,No Load

Output

Parameter	SL60-12VFC(UE)	SL60-24VFC(UE)	Note
Output voltage Range	11.4-12.6VDC	22.8-25.2VDC	Max.Output power should compliance to $P_o=V_o \cdot I_o=60W$
Rated output current	5A	2.5A	
Output current range	0-5A	0-2.5A	
Rated output power	60W	60W	
Rated output efficiency	88%	88%	230Vac
Output voltage precision	±5%		
Output voltage ripple (PK-PK)	±1%		Full load (Test under 20M bandwidth)
Rise time	100mS		230Vac
Startup time	500mS		230Vac
Line regulation	±1%		full load
Load regulation	±2%		

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Characteristic curve

Fig. 1 Output load-Temperature curve

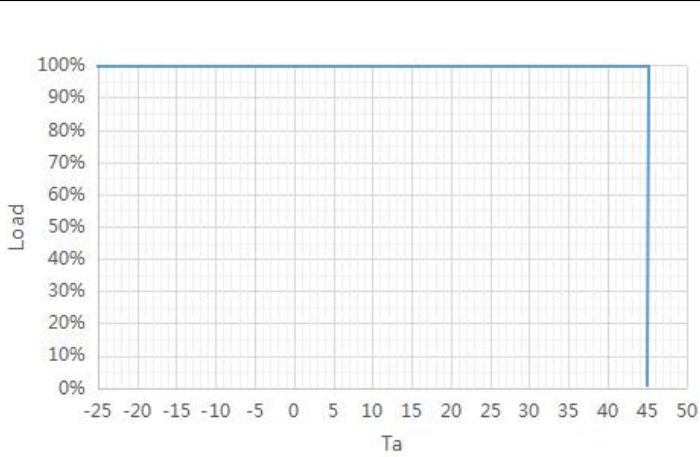


Fig. 2 Static characteristic curve

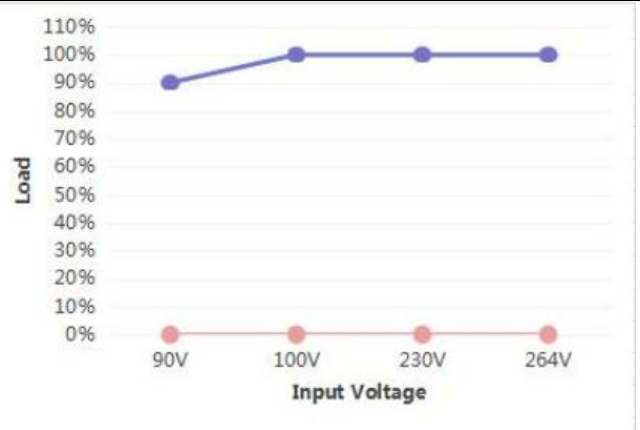


Fig. 3 PF curve

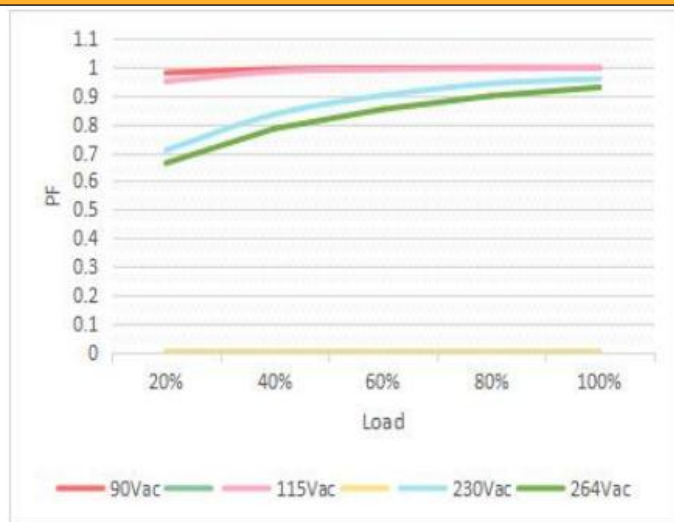


Fig. 4 THD curve

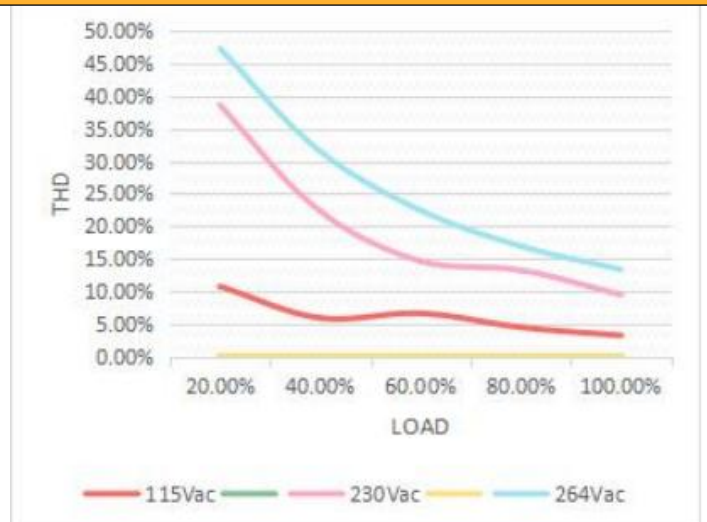
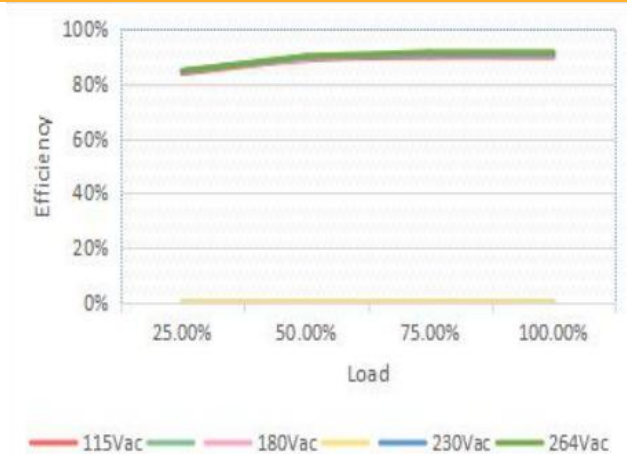


Fig.5 Efficiency-Load curve



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Protection

Parameter		Conditions	Note
Protection	Over load	1.1 ~ 1.6 times rated load	Auto-recovery after overload removed
	Short circuit	Short circuit power $\leq 1W$	Hiccup mode, auto-recovery after short circuit removed
	Over voltage	≤ 1.5 times of rated output voltage	Remove over voltage fault, power on again and recover automatically
	Over temperature	$65 \pm 5^{\circ}C$	Remove over temperature fault, power on again and recover automatically

Environment Requirement

Parameter	Min.	Typ.	Max.	Note
Working temp.	$-20^{\circ}C$	$25^{\circ}C$	$+45^{\circ}C$	See Fig.1
Storage temp.	$-40^{\circ}C$	$25^{\circ}C$	$+85^{\circ}C$	
Working humidity	45%RH		85%RH	
Storage humidity	5%RH		95%RH	
IP grade			IP20	
Cooling mode	Natural cooling			

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Safety&EMC Standard

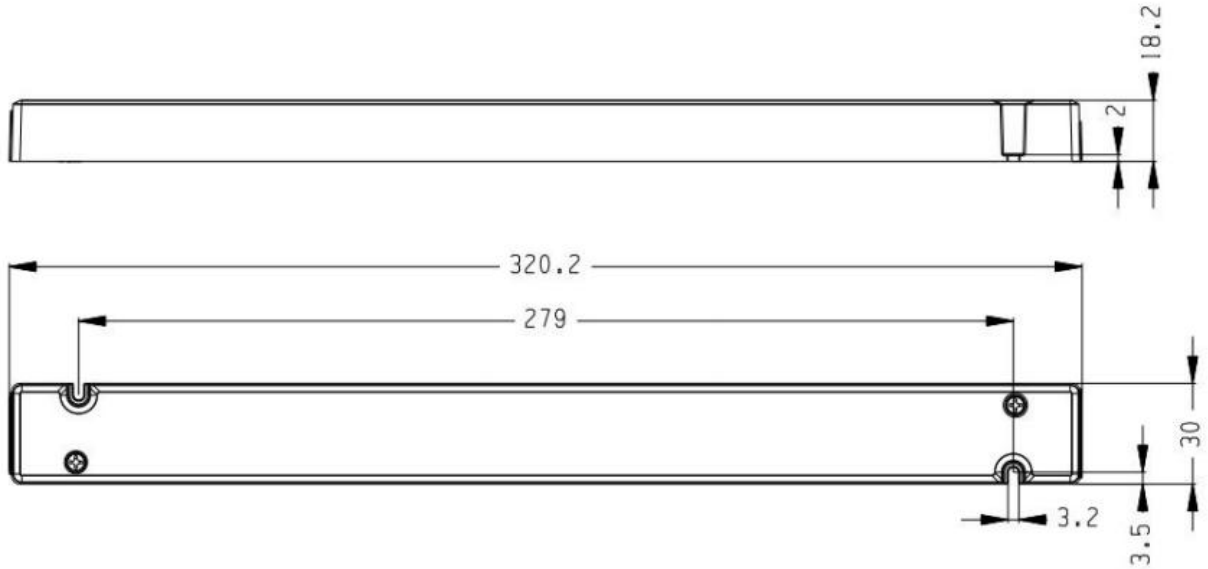
Certificate		Safety standards	Certification	Note
UL/CUL		UL8750		
TUV		EN61347-1:2015 EN 61347-2-13:2014+A1 EN62493:2015		
SAA		AS/NZS 61347.2.13		
CCC		GB 19510.14-2009		
CE		EN 61347-2-13:2014 +A1 EN61347-1:2015		
Safety test		Qualification	Note	
Dielectric strength	Input to output	3750Vac/5mA Max/60s	Reinforced insulation , no breakdown, no flashover	
Insulation resistance	Input to output	$\geq 50M\Omega$	Test voltage : 500Vdc	
Leakage current		$\leq 0.75mA$	240Vac	
EMI/EMS item		Standard/Level	Data	
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 85°C
MTBF	200,000 hours	230Vac,full load, TA 25°C (MIL-HDBK-217F)
TC	90°C	TA: 45°C
Warranty	5 years	TC: 85°C
Weight	182g	$\pm 5g$
Dimension	320.2mm * 30mm * 18.2mm	L x Wx H

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Mechanical Specification (Units : mm)



Remark :

AC	C8 AC socket, 2PIN, 2.5A/250Vac, black.
DC	12V: LED-2AW 3-position pin holder, 3A/48V, contact resistance ≤ 0.02 Ohm, black
	24V: LED-2AW 3-position pin holder, 3A/48V, contact resistance ≤ 0.02 Ohm, black