SOSEN
LED DRIVER

SOSEN LED Driver, Your Smart Choice

Specifications

SS-400VP-56BHB Series LED Driver

Model: SS-400VP-56BHB

Description: 400W LED Driver

Rev.: V00

Release Date: 2021-08-26

SS-400VP-56BHB Series LED Driver

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—
VP Series

Features:

- Efficiency up to 95%
- Dimming: 0-10V,PWM,Resistor
- Dim-to-Off
- Surge Protection: CM: 10kV, DM: 6kV
- Standby Power＜0.5W
- Communication Function With PC
- Protections: SCP/OTP
- Warranty: 5 years

ENEC 05 CB CE Class P c UL us LISTED E360758

Description:

SS-400VP-56BHB series are 400W constant current LED Driver with wide O/P voltage range and adjustable O/P current by program. LED luminaries manufactures can easily design luminaries and reduce cost.

Application:

Plant light

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vout Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-400VP-56BHB	90-305Vac	400W	28-56V	48-56V	1.05-8.35A	8%	0.95	95%	90℃

Note:

1.Default Tested: at 220Vac, full load, Ta 25℃.

2.The performance of the LED Driver can be guaranteed within the full power Vo range.The voltage lower than full power Vo range, it is need to test the performance with the LED module.

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SS-400VP-56BHB Series LED Driver

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	100Vac		277Vac	<120Vac , Ta:40℃
AC Input Range	90 Vac		305Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			5A	100Vac, full load
Max Input Power			500W	100Vac, full load
Max Inrush Current(120Vac)			20A	Cold Start
Max Inrush Current(220Vac)			30A	Cold Start
Max Inrush Current(277Vac)			35A	Cold Start
Standby Power			0.5W	220Vac/50Hz, Dim to off or Enable STB
Power Factor	0.95	0.97		220Vac/50Hz, full load
	0.90			277Vac/50Hz, 70-100% load
THD		8%	10%	220Vac/50Hz, full load
			20%	277Vac/50Hz, 70-100% load

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O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	28V		56V	Power Derated @28-48V
Rated O/P Voltage	48V		56V	Po=Vo*Io=400W, full load
Rated O/P Current	7.15A		8.35A	8.35A for 48V,7.15A for 56V
Adj. O/P Current (AOC)Range	1.05A		8.35A	By Programming
No Load Voltage			60V	
Efficiency @120Vac	89.5%	91.5%		O/P 50V/8A
Efficiency @220Vac	91.5%	93.5%		O/P 50V/8A
Efficiency @277Vac	92.0%	94.0%		O/P 50V/8A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	120Vac,Full load
			0.5S	220Vac,Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/℃		+0.03%/℃	Tc:0℃~90℃
OTP	90℃	100℃	110℃	>Tc typ., Current Derating <Tc min., Operates Recovery
Short Circuit Protection			10W	Driver not be damaged, Hiccup mode

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
0-10V Dimming (Optional)	Dim Vcc	0V		12V	Negative dimming by programming
	Dim Range	10%Ioset		100%Ioset	DIM+ source current 110uA.
	Rec.Dim Range	0V		10V	Dimming prohibits reverse connection.
PWM Dimming (Optional)	PWM High	9.8V		10.2V	Negative dimming by programming
	PWM Low	0V		0.3V	DIM+ source current 110uA.
	Frequency	1KHz		2KHz	Dimming prohibits reverse connection.
	PWM Duty	0%		100%	
Resistor Dimming (Optional)	Resistance	0K		100K	Negative dimming by programming
	Dim Range	10%		100%	DIM+ source current 110uA.
Knob Dimming (Optional)	Dimming level		0%		Dimming tolerance ±5%
			25%		
			50%		
			75%		
			100%		
Dim to Off (Optional)	Dim off	7%	8%	9%	By DC voltage, PWM, resistance dimming ratio
	Dim on	8%	9%	10%	By DC voltage, PWM, resistance dimming ratio
Life Time(Tc≤65℃)		100,000 hours			80% Load
Life Time(Tc≤75℃)		71,000 hours			80% Load
MTBF		198,200 hours			220Vac,full load, Ta=25℃ (MIL-HDBK-217F)
Tc		90℃			
Warranty		5 years			Tc : 75℃
Net Weight		2000g			
Dimension		263mm*89.5mm*44.5mm 10.35in*3.52in*1.75in			L x W x H

NOTE: 1,All the parameters above are tested Ta 25℃ and LED load, unless specified.
2. When using resistor dimming (parallel connection of dimming wires), if the number of parallels is: N, the dimming resistor should be realized 0-100% dimming range, resistance value: 91KΩ/N.

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Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40℃	25℃	+90℃	
Storage Temperature	-40℃	25℃	+90℃	
Operation Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
Altitude	-65m		4000m	

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
UL/cUL	UL8750	✓	
ENEC	EN 61347-1:2015 EN 61347-2-13:2014 EN 61347-2-13:2014/A1:2017	✓	
RCM	AS/NZS61347.2.13		
BIS	IS15885:2012 Part 2 Sec 13		
CCC	GB 19510.14-2009		
CE	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013	✓	

EMI/EMS	Criterion	Remark
Conduction Emission	EN55015:2013+A1:2015 FCC Part 15 Subpart B; ANSI C63.4:2014	Class B
Radiation Emission	EN55015:2013+A1:2015 FCC Part 15 Subpart B; ANSI C63.4:2014	Class B
Harmonic Current Emissions	IEC/EN 61000-3-2	Class C
Surge	IEC/EN 61000-4-5	DM: 6kV,CM: 10kV,Criterion B
Ring Wave	IEC/EN 61000-4-12	DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items:

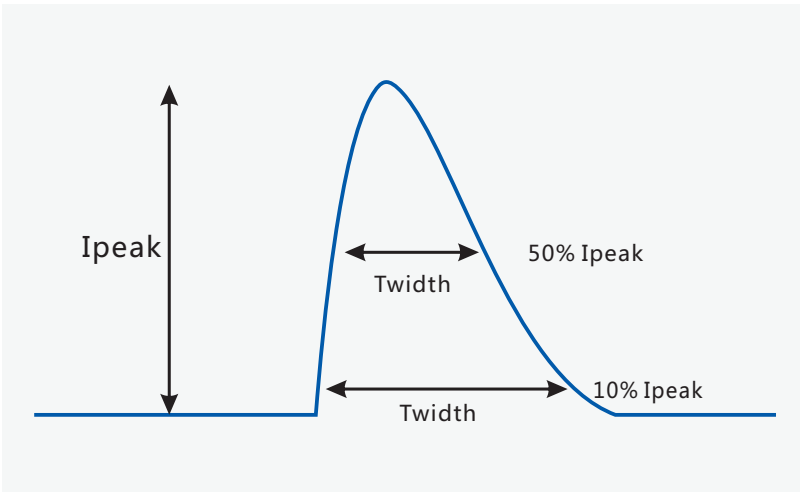
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-Output	1600Vac	3000Vac	/	Reinforced insulation
Input-Case	1600Vac	1500Vac	/	Basic insulation
Input-Dim	1600Vac	3000Vac	/	Reinforced insulation
Output-Dim	1600Vac	1000Vac	/	Basic insulation
Output-Case	1600Vac	1000Vac	/	Basic insulation
Dim-Case	500Vac	500Vac	/	Basic insulation
Insulation Resistance	≥10MΩ			Input-Output,Test voltage:500Vdc
Ground Resistance	≤0.1Ω			25A/1min
Leakage Current	≤0.75mA			277Vac

NOTE:

1. SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference as component.
2. Please short (ACL and ACN), (V+ and V-) when Hi-pot test.
3. The CCC withstand voltage test needs to disconnect the built-in lightning protection tube.According to the IEC 60598-1:14 standard section 10.2, the "built-in lightning protection tube" can be marked on the nameplate to disconnect the discharge tube on testing.

Performance Curves:

Input Inrush Current



Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	20A	3600uS	
220Vac	30A		1500uS
277Vac	35A	3000uS	

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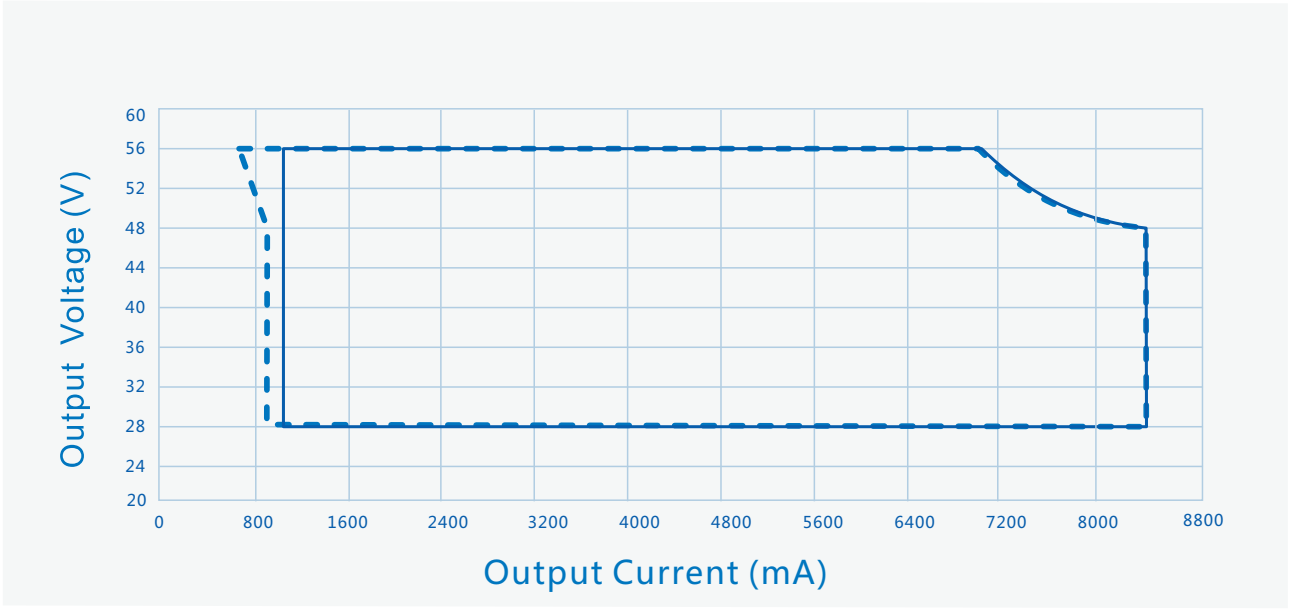
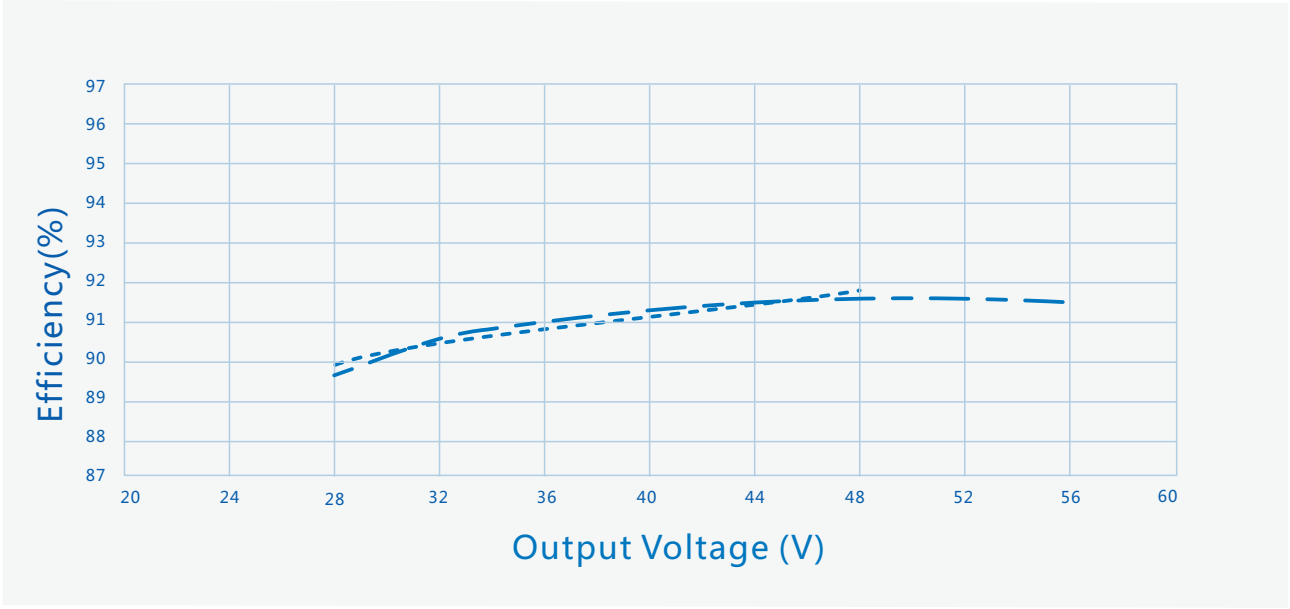
Performance Curves:

O/P Voltage Vs. O/P Current(DIM/AOC Window)



Dimming Window — AOC Window

Efficiency Vs. O/P Voltage (Vin=120Vac)



Io=8350mA — Io=7150mA

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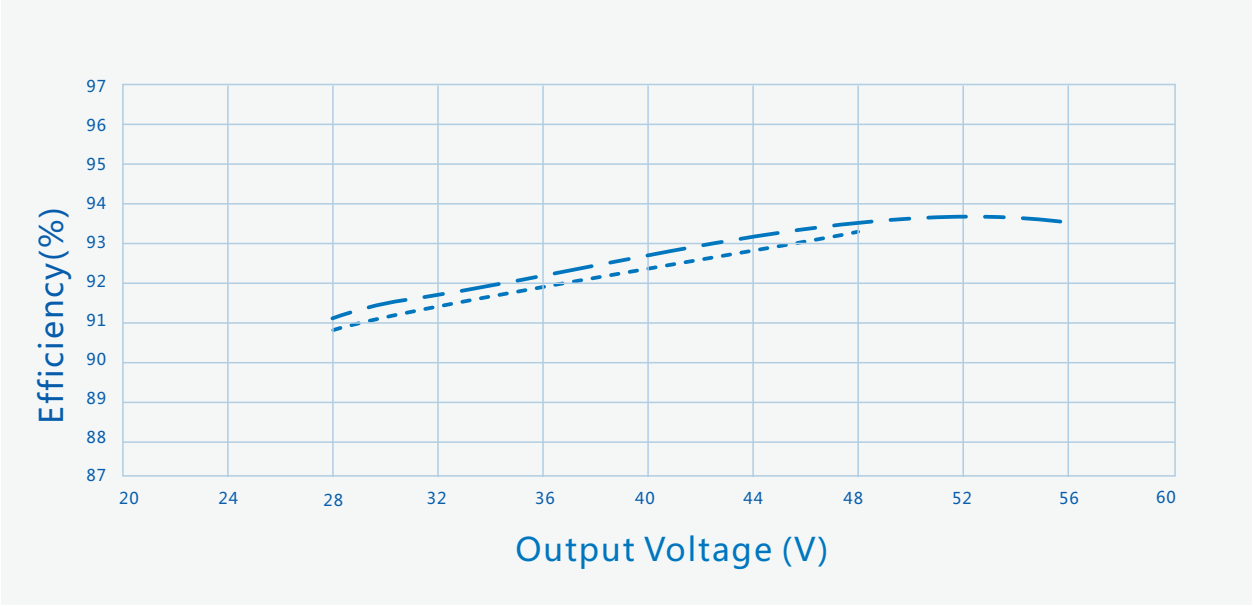
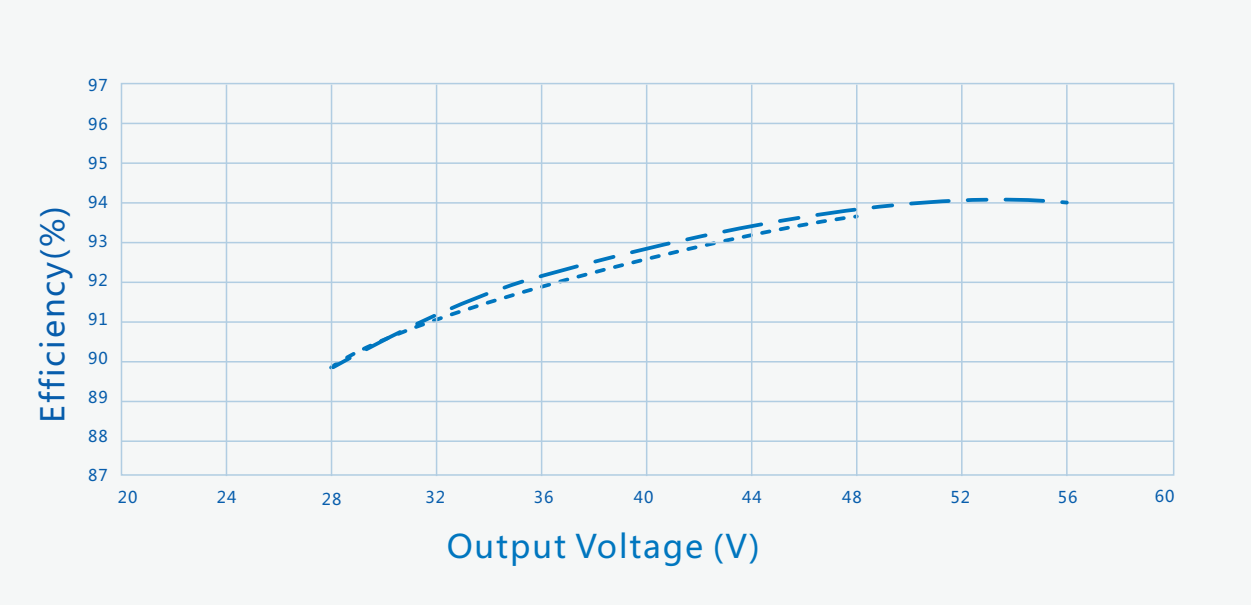
Performance Curves:

Efficiency Vs. O/P Voltage (Vin=220Vac)



------- Io=8350mA — — — Io=7150mA

Efficiency Vs. O/P Voltage (Vin=277Vac)



------- Io=8350mA — — — Io=7150mA

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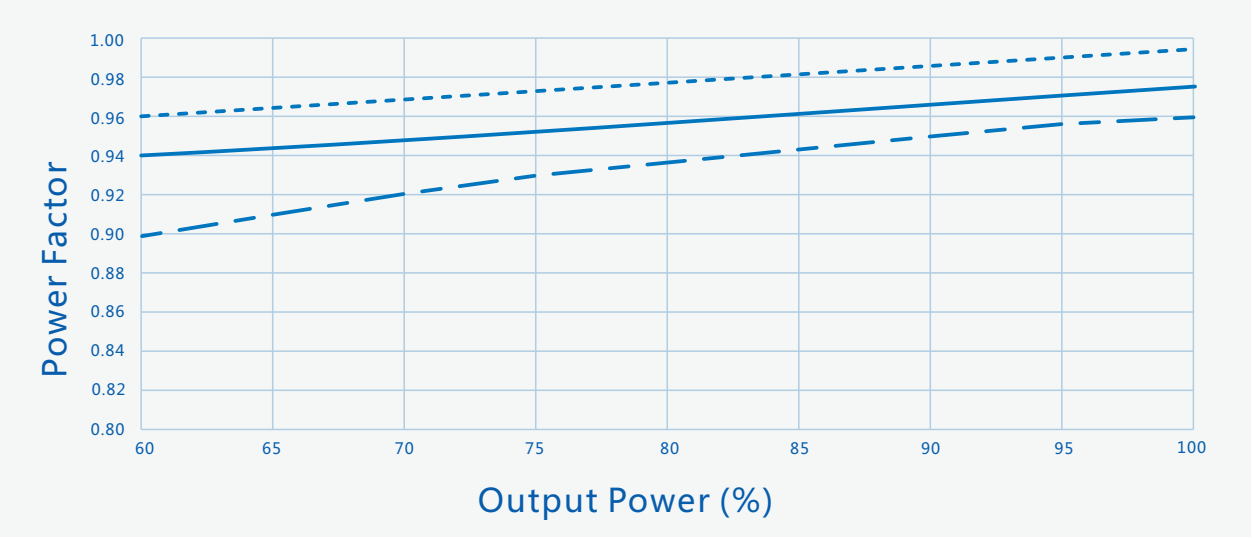
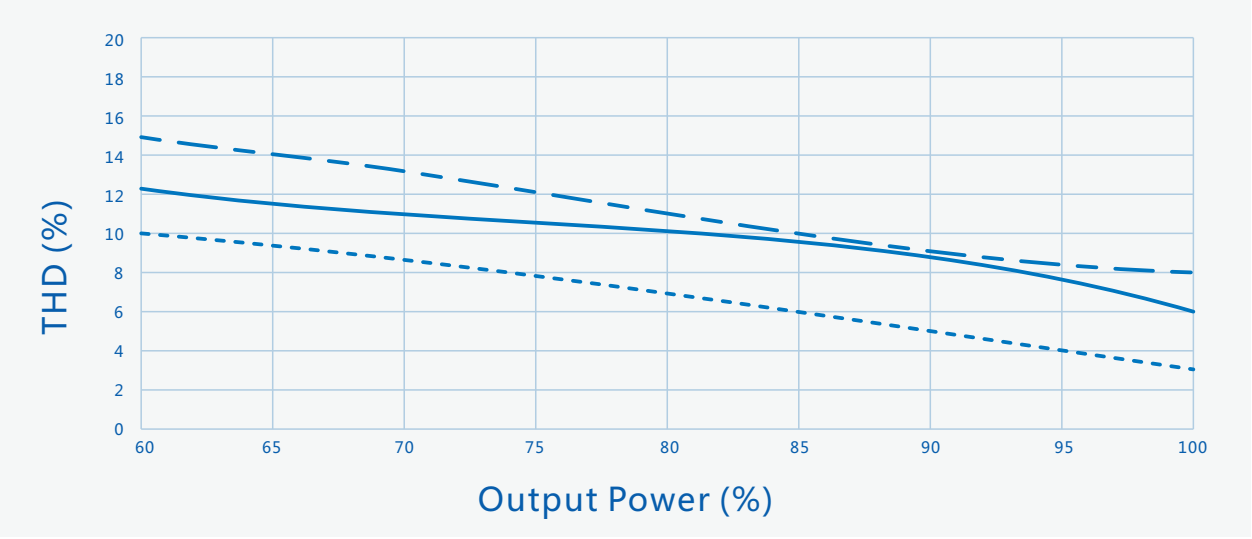
Performance Curves:

Power Factor Vs. O/P Power



THD Vs. O/P Power



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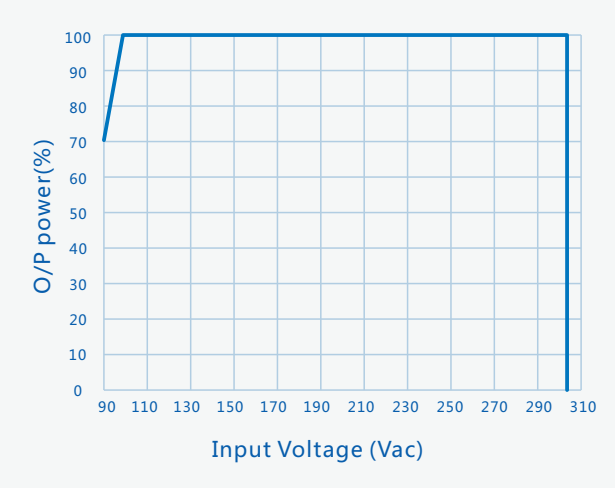
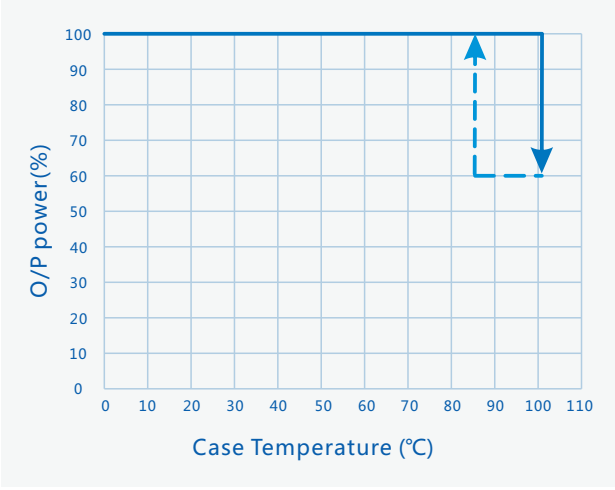
Performance Curves:

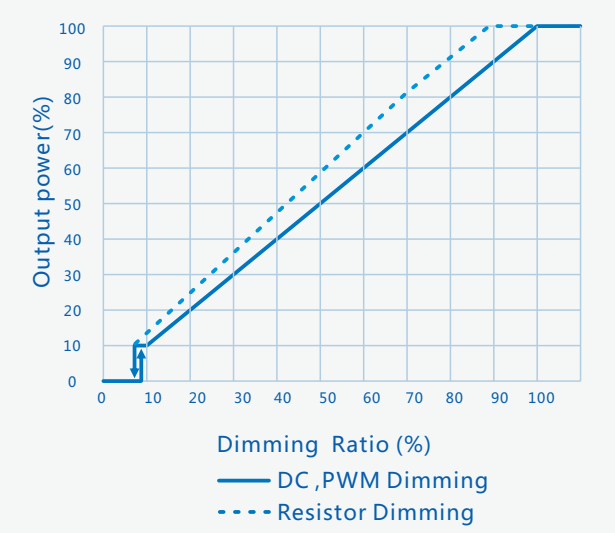
O/P Power Vs. Input Voltage



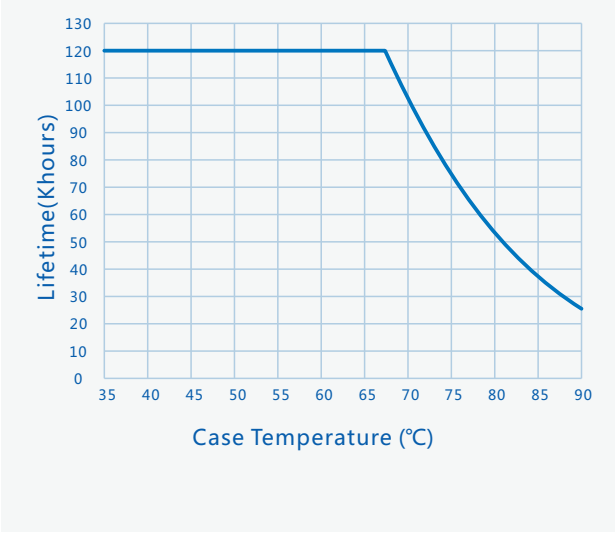
O/P Power Vs. Case Temperature



O/P Power Vs. Dimming



Life Time Vs. Case Temperature



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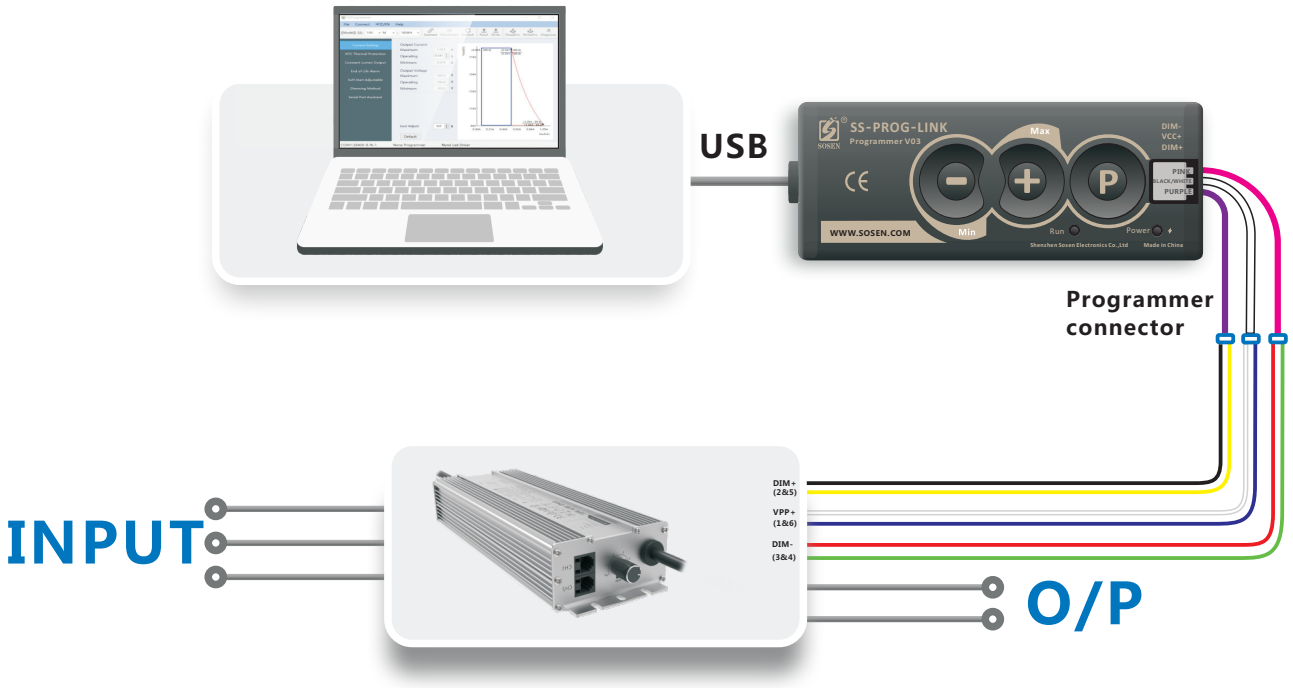
Programming Connection Diagram :

Programming could be completed by off-line mode either without turn on the Driver nor without PC, other than the traditional on-line mode.



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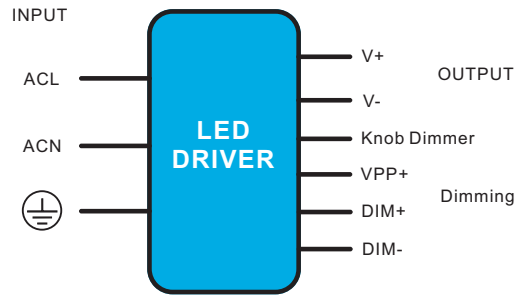
Mechanical Characteristics



AC Input Cable(Exposed Length 450±10mm):

Global model: SJOW,3*17AWG,O.D: 8.0mm,Brown:L,Blue:N,Yellow/Green:⏚
UL model: SJTW,3*18AWG,O.D: 7.8mm,Black:L,White:N,Green:⏚

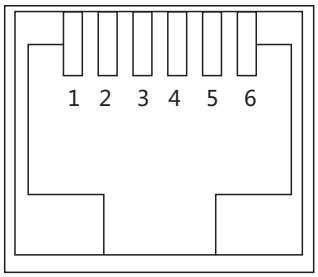
DC O/P Cable(Exposed Length 250±10mm):

Global model: SJOW,2*14AWG,O.D: 8.8mm,Brown:V+ , Blue:V-
UL model: SJTW,2*14AWG,O.D: 9.0mm,Red: V+ , Black: V-

DIM/AUX Power/Programming Cable:

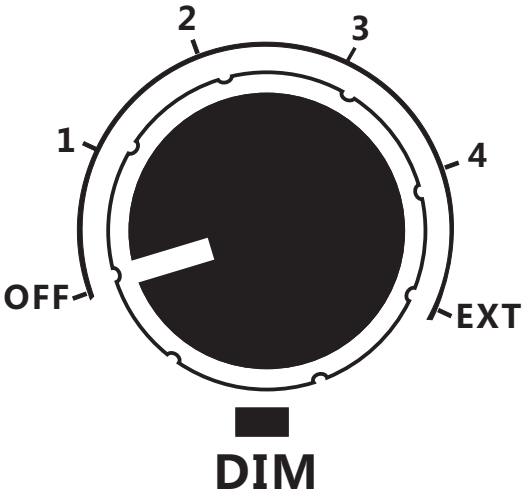
Knob Dimmer, RJ25 port

PLUG



JACK

RJ25 PIN	Definition
1&6	VPP+
2&5	DIM+
3&4	DIM-



Switch	Definition
OFF	Dim to off
1	25%Ioset
2	50%Ioset
3	75%Ioset
4	100%Ioset
EXT	External Dimming

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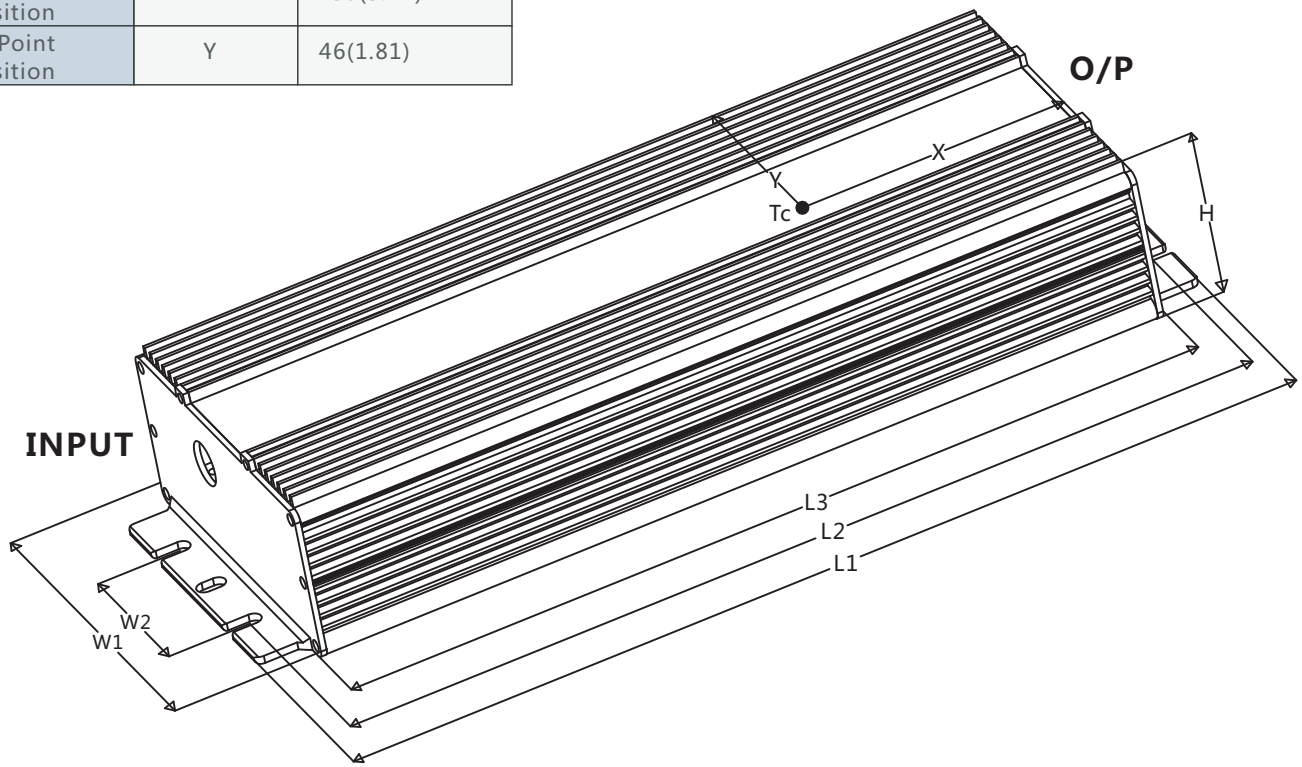
Mechanical Characteristics

Name Description	Standard Code	mm(In.)
Case Length	L3	236(9.29)
Case Width	W1	89.5(3.52)
Case Height	H	44.5(1.75)
Overall Length	L1	263(10.35)
Mounting Hole Length	L2	249.3(9.81)
Mounting Hole Width	W2	40(1.57)
TC Point Position	X	130(5.12)
TC Point Position	Y	46(1.81)

Note :
1,Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.
2,AC Input Cable,DC O/P Cable:
Peeled length of cable:43±5mm, Tinned length of wire:10±2mm



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Assembly Tips

1. The RJ25 port is non-waterproof, please pay attention to the damp and wet environment and avoid water entering into the LED driver affecting the normal operation.

Package

- Outside carton dimension: L×W×H =493mm×385mm×116mm;
- 7PCS/Carton;
- Net weight/Piece: 2kg;Gross weight/Carton: 15.5kg;
- Please refer to the product name, model number, manufacturer identification, QC PASS, manufacturing date on the package.

Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be avoided direct sunlight and rain, loaded/unloaded with caution.

Storage

The product storage meets the standard of the GB 3873 - 83.

Products should be rechecked if stored for over 1 year before assembly.

RoHS

Products comply with RoHS Directive (2011/65/EU) and amendment 2015/863/EU.

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Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2021/08/26	

Shenzhen SOSEN Electronics Co Ltd
Controlled chapter
DCC