SOSEN
LED DRIVER

SOSEN LED Driver, Your Smart Choice

Specifications

SS-150SA Series LED Driver

Model: SS-150SA-XX

Description: 150W LED Driver

Rev.: V09

Release Date: 2023-02-01

SS-150SA Series LED Driver

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LED DRIVER
—
SA Series

Features:

- Efficiency up to 92%
- Dimming: 0-10V,PWM,Resistor
- Dim-to-Off
- Surge Protection: CM: 4kV, DM: 4kV
- AUX Power : 12V/0.3A
- Standby Power<1.5W
- IP65
- Type HL, suitable for hazardous locations
- Protections: SCP/OTP/UVP
- Warranty: 5 years

c UL us LISTED E360758

IP65 Class P

Description:

SS-150SA series are 150W constant current LED Driver with 249-528Vac input and high efficiency.LED luminaries manufactures can easily design luminaries and reduce cost.

Applications:

High bay lighting, Stadium lighting,Square lighting, Fish lighting,Harbor lighting

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-150SA-56*	249-528Vac	151.2W	22-56V	36-56V	2.1-4.2A	10%	0.95	92%	90℃

Note:
1.Default Tested: at 347Vac, 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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"*" Means Additional Function

"*"	DALI (suffix:D)	AUX 12V (suffix:H)	NTC (suffix:N)	Timing	0-10V/PWM Dim /Resistor (suffix:B)	Remark
BH		✓			✓	
No suffix						

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	277Vac		480Vac	
AC Input Range	249Vac		528Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			0.8A	277Vac, Full load
Max Input Power			170W	277Vac, Full load
Max Inrush Current(277Vac)			50A	Cold start
Max Inrush Current(347Vac)			70A	Cold start
Max Inrush Current(480Vac)			90A	Cold start
No Load Power			1.5W	347Vac/60Hz, Dim to off
Power Factor	0.93	0.95		347Vac/60Hz, Full load
	0.90			277-480Vac, 80-100% load
THD		7%	10%	347Vac/60Hz, Full load
			20%	277-480Vac, 80-100% load

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O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	22V		56V	Power derated @22-36V
Rated O/P Voltage	36V		56V	Po=Vo*Io=151.2W, Full load
Rated O/P Current	2.7A		4.2A	4.2A for 36V,2.7A for 56V
Adj. O/P Current (AOC)Range	2.1A		4.2A	
No Load Voltage			60V	
Efficiency @277Vac	90.5%	91.0%		O/P 56V/2.7A
Efficiency @347Vac	91.0%	91.5%		O/P 56V/2.7A
Efficiency @480Vac	91.0%	91.5%		O/P 56V/2.7A
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	1.0S	277Vac,Full load
		0.5S	1.0S	347Vac,Full load
Line Regulation	-1%		+1%	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., Current recovery
Short Circuit Protection				Driver will not be damaged, Constant current mode

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
AUX Power	O/P Voltage	10.8V	12V	13.2V	
	O/P Current	30mA		300mA	Operate max 15min at 400mA
0-10V Dimming (Optional)	Dim Vmax	0V		12V	DIM+ source current 110uA.
	Dim Range	10%Ioset		100%Ioset	Dimming prohibits reverse connection
	Rec.Dim Range	0V		10V	
PWM Dimming (Optional)	PWM High	9.8V		10.2V	DIM+ source current 110uA.
	PWM Low	0V		0.3V	Dimming prohibits reverse connection
	Frequency	1KHz		2KHz	
	PWM Duty	0%		100%	
Resistor Dimming (Optional)	Resistance	0Kohm		100Kohm	DIM+ source current 110uA.
	Dim Range	10%		100%	
Dim to Off	Dim off	0.7V	0.8V	0.9V	When DIM- and Vaux- are shared with single wire output, the dimming off point and dimming on point are tested under no load of the auxiliary power.
	Dim on	0.8V	0.9V	1.0V	
Life Time(Tc≤75℃)		62,000 hours			80% Load, 220Vac
MTBF		198,000 hours			347Vac,Full load, Ta=25℃ (MIL-HDBK-217F)
IP Grade		IP65			
Tc		90℃			
Warranty		5 years			Tc：75℃
Net Weight		1100g			
Dimension		Φ146.2mm*61.8mm			D x H

NOTE: All the parameters above are tested Ta 25℃ and LED load, unless specified.

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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		
CCC	GB 19510.14-2009		
CE	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013		

EMI/EMS	Criterion	Remark
Conduction Emission	FCC Part15: Subpart A ANSI 63.4:2014	Class A
Radiation Emission	FCC Part15: Subpart A ANSI 63.4:2014	Class A
Harmonic Current Emissions	IEC/EN 61000-3-2	Class C
Surge	IEC/EN61000-4-5	DM: 4kV,CM: 4kV,Criterion B
Ring Wave	IEC/EN 61000-4-12	DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items:

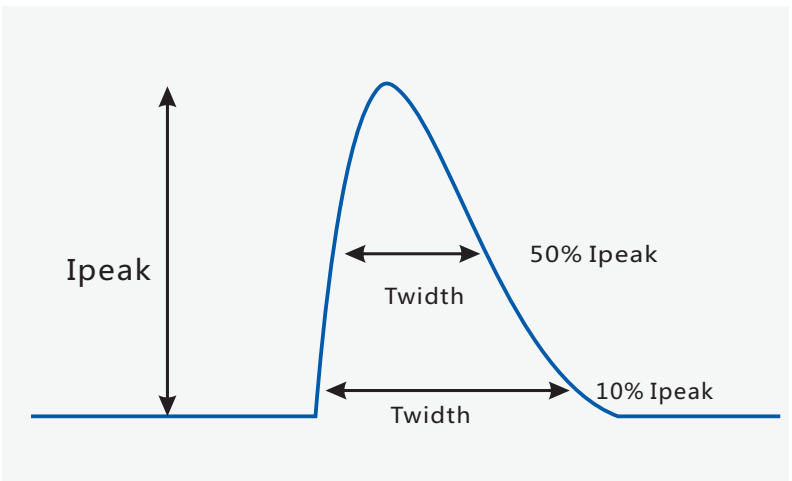
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	TUV Insulation Requirements	CCC Insulation Requirements	
Input-O/P	2U+1000	/	/	Reinforced insulation
Input-Case	2U+1000	/	/	Basic insulation
Input-Dim	2U+1000	/	/	Reinforced insulation
O/P-Dim	2U+1000	/	/	Basic insulation
O/P-Case	2U+1000	/	/	Basic insulation
Dim-Case	500	/	/	Basic insulation
Insulation Resistance	≥10MΩ			Input-O/P,Test voltage:500Vdc
Ground Resistance	≤0.1Ω			25A/1min
Leakage Current	≤0.75mA			480Vac

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 of components.
2. Please short (ACL and ACN), (V+ and V-), (Dim+ and Dim)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.
4. " U" means the maximum working voltage between testing terminals.

Performance Curves:

Input Inrush Current



Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
277Vac	50A	542uS	
347Vac	70A	564uS	
480Vac	90A	582uS	

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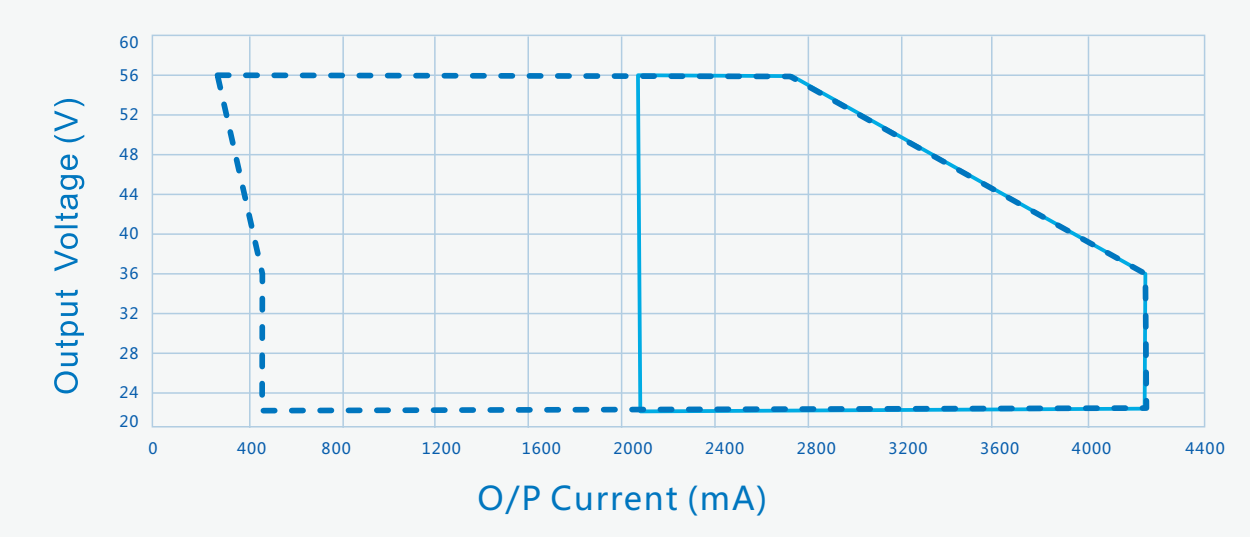
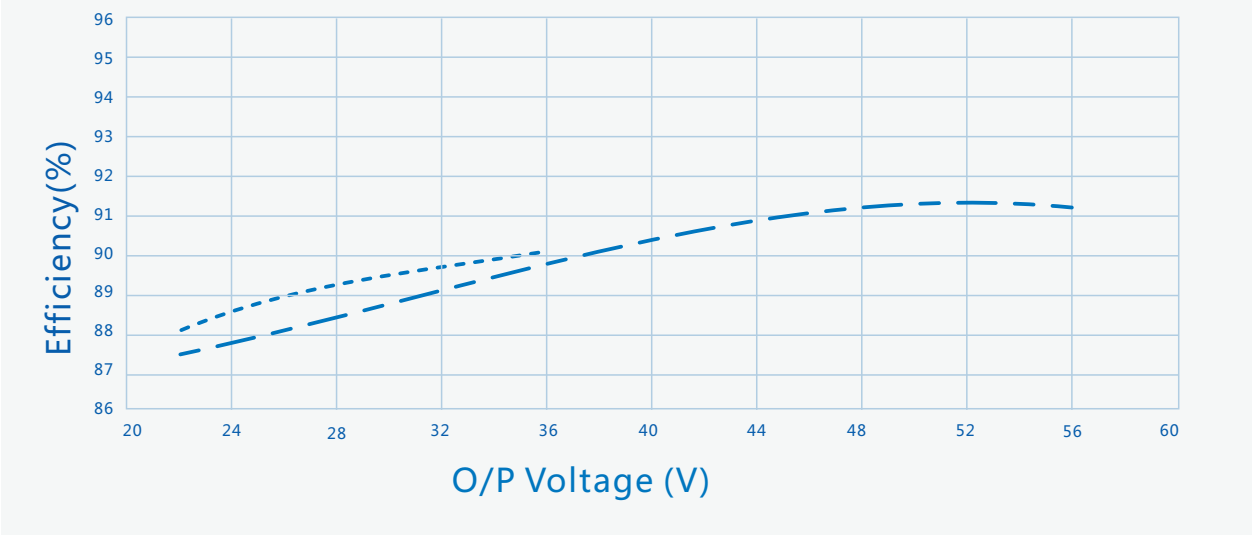
Performance Curves:

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



Dimming Window — AOC Window

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



Io=4200mA — Io=2700mA

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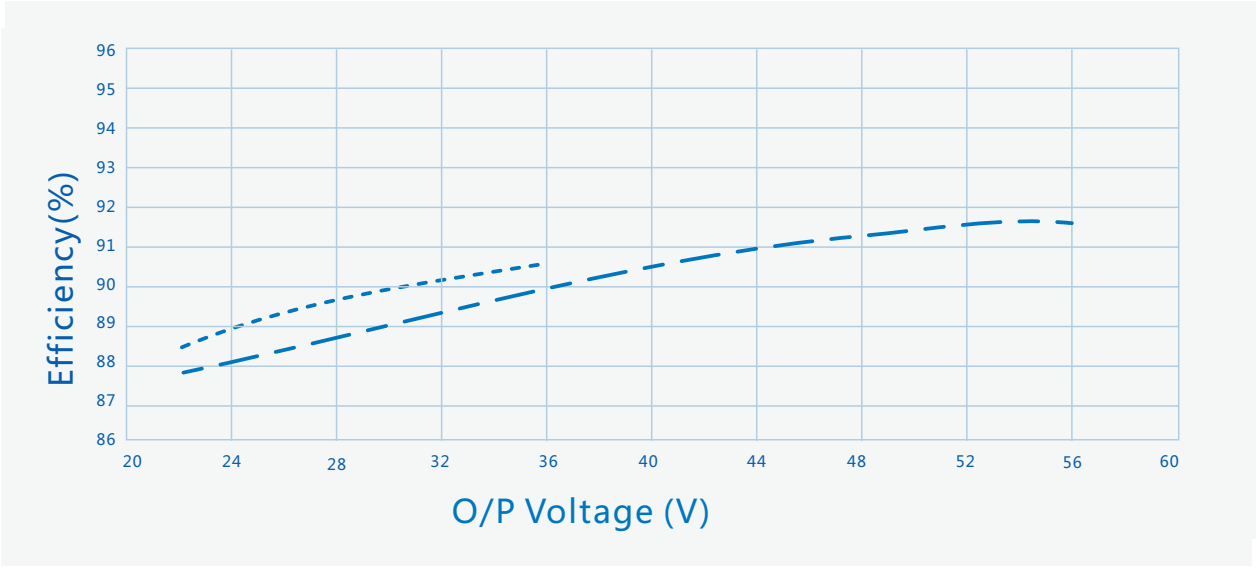
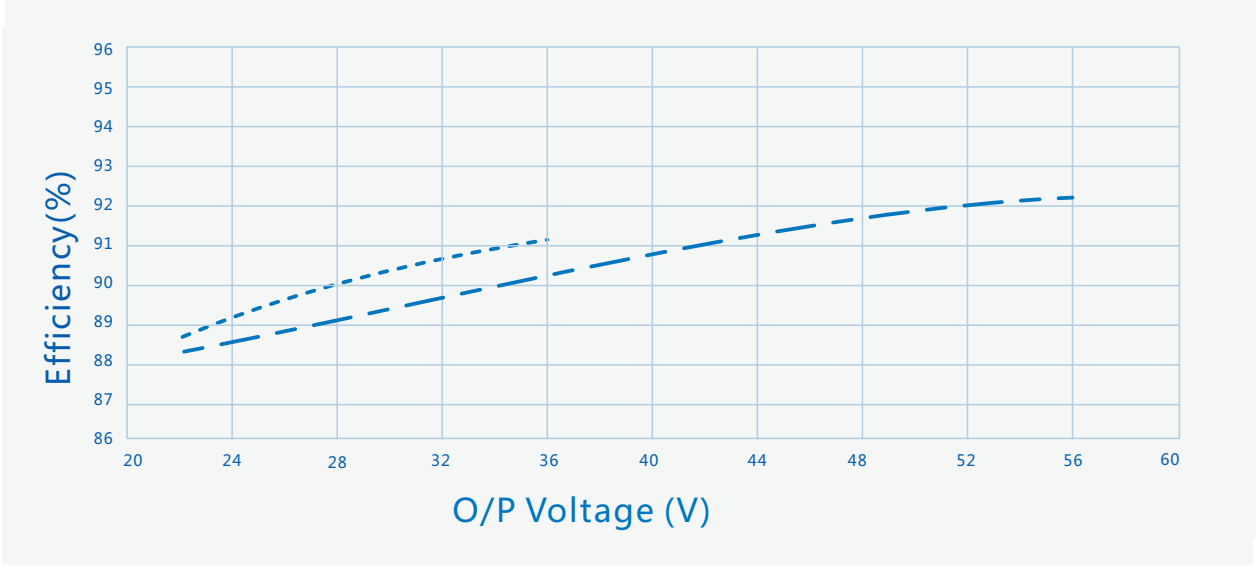
Performance Curves:

Efficiency Vs. O/P Voltage (Vin=347Vac)



------- Io=4200mA — — — Io=2700mA

Efficiency Vs. O/P Voltage (Vin=480Vac)



------- Io=4200mA — — — Io=2700mA

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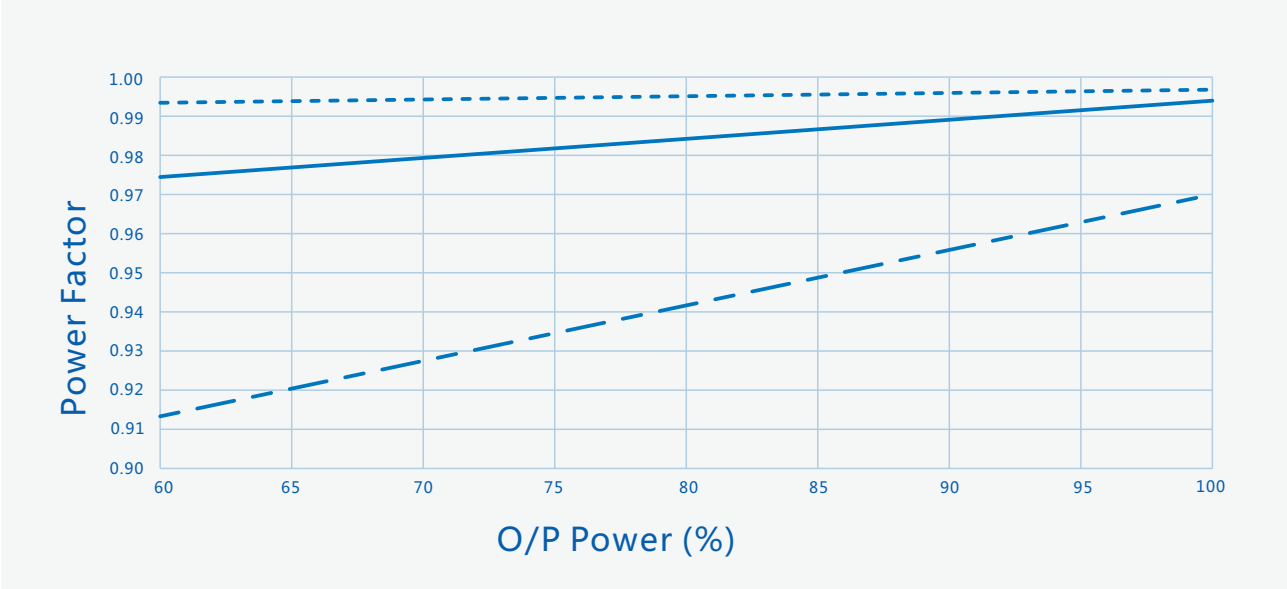
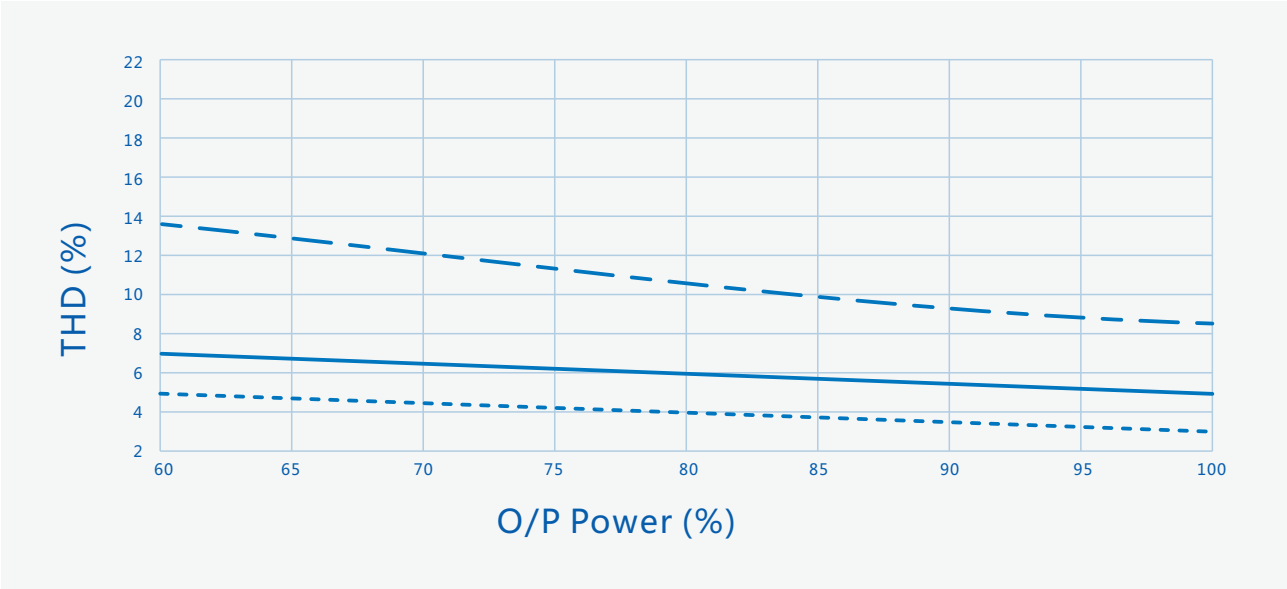
Performance Curves:

Power Factor Vs. O/P Power



Vin=277Vac Vin=347Vac Vin=480Vac

THD Vs. O/P Power



Vin=277Vac Vin=347Vac Vin=480Vac

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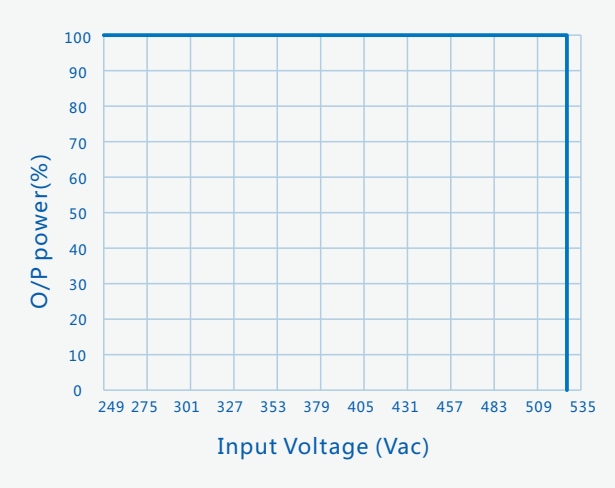
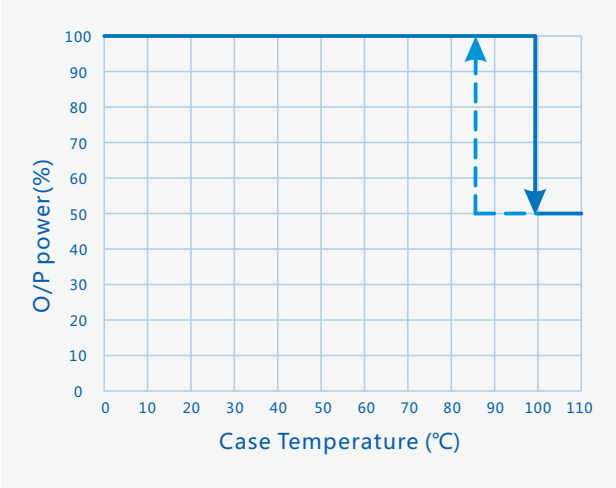
Performance Curves:

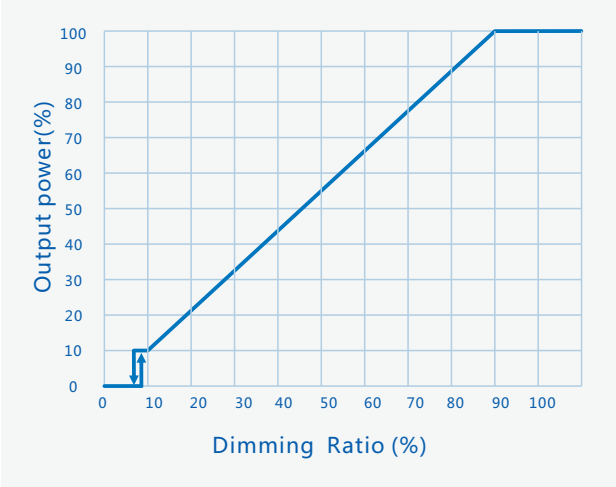
O/P power Vs. Input Voltage (Ta Max.60℃)



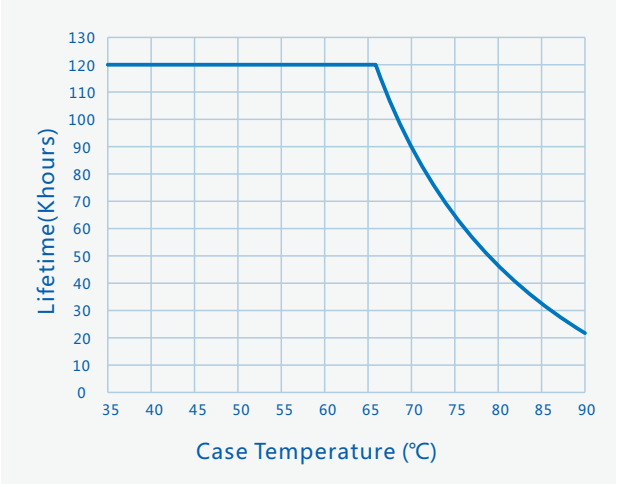
O/P power Vs. Case Temperature



O/P Power Vs. Dimming



Lifetime Vs. Case Temperature



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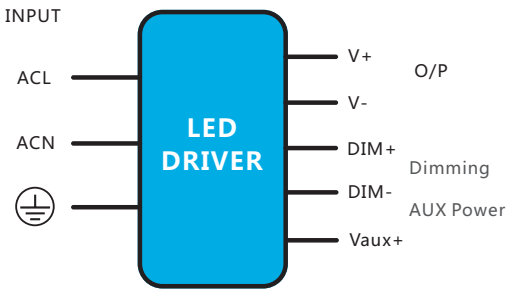
Mechanical Characteristics



AC Input Cable(Exposed Length 300±10mm):

UL model: STW,3*18AWG,O.D: 9.4mm,Black:L,White:N,Green:⏚

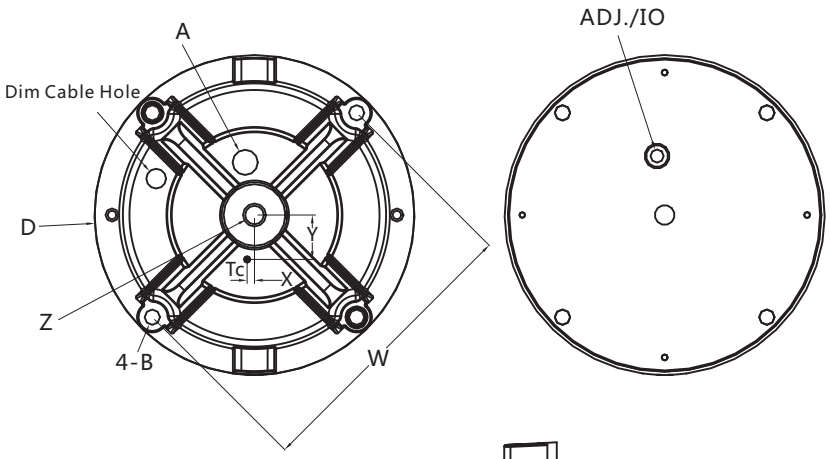
DC O/P Cable(Exposed Length 300±10mm):

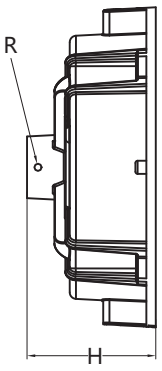
UL model: SJTW,2*18AWG,O.D: 7.3mm,Red:V+ , Black:V-

DIM /AUX Cable(Exposed Length 220±10mm):

UL model: UL 21996, 3*22AWG, O.D: 4.9mm , Purple : DIM+,Pink: DIM-, Black/White:Vaux+

Name Description	Standard Code	mm(In.)
Input Cable Hole	A	13(0.51)
Mounting Screw Diameter	4-B	Φ7.0(0.28)
Case Diameter	D	Φ146(5.75)
Height	H	61.8(2.43)
Ring Hole	Z	M12*1.75(Depth 20mm) G1/2(Depth 17mm)
Ring Fixed Hole	R	M4*0.7
Mount Size	W	132(5.2)
Mount Size	W1	132(5.2)
TC Point Position	X	3.4(0.13)
TC Point Position	Y	20.3(0.8)





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,DIM/AUX Power/Programming Cable: Peeled length of cable:43±5mm, Tinned length of wire:10±2mm

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Assembly Tips

1. Dimming or AUX Power tinned connectors should be capped if not used to avoid dimming or AUX Power parts damage from external signals.

Package

- Outside carton dimension: L×W×H =495mm×385mm×162mm;
- 9PCS/Carton;
- Net weight/Piece: 1.1kg;Gross weight/Carton: 11.4kg;
- 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	2019/08/20	
V01	Update Size	2019/12/05	
V02	Update Structure Dimension Characteristics	2020/04/02	
V03	Update Structure Dimension Characteristics	2020/04/07	
V04	Update Cable Length	2020/06/02	
V05	Update Dim to Off Point	2020/12/25	
V06	Update Tinned Length Of Wire	2021/07/02	
V07	Update DIM Cable Color	2021/09/02	
V08	Increase Note About Dim To Off	2021/11/11	
V09	Add Page Number	2023/02/01	

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