SOSEN LED DRIVER

SOSEN LED Driver, Your Smart Choice

Specifications

SS-200SN-E Series LED Driver

Model: SS-200SN-EXX

Description: 200W LED Driver

Rev.: V02

Release Date: 2023-11-17

SS-200SN-E Series LED Driver

SOSEN
LED DRIVER

LED DRIVER
—
SN-E Series

Features:

- Efficiency up to 95%
- Isolated dimming: 0-10V,PWM,Resistor
- Dim-to-Off
- Surge protection: CM: 6kV, DM: 6kV
- AUX Power：12V/0.15A
- IP65
- Type HL, Suitable for hazardous locations
- Protections: SCP/OTP/UVP
- Warranty: 5 years

c UL us
E360758

IP65

Description:

SS-200SN-E series are 200W round non-isolated constant current LED Driver. It is specially designed for commercial lightings with isolation dimming function. Ultra high efficiency, compact housing design and fully potted thermally conductive silicon ensure LED Driver cooling and waterproof , high reliability, high cost performance and many more.

Applications:

High bay lighting, High pole 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-200SN-E260BH	108-380Vac	200W	180-260V	200-260V	0.7-1.0A	7%	0.98	95%	90℃

Note:

1.Default Tested: at 277Vac, 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.

3.Suffix BH for model with 3-in-1 dimming (0-10V, PWM, Resistor)+AUX 12V.

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Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	120Vac		347Vac	
AC Input Range	108Vac		380Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			2.0A	120Vac, Full load
Max Input Power			230W	120Vac, Full load
Max Inrush Current(120Vac)			80A	Cold start
Max Inrush Current(220Vac)			100A	Cold start
Max Inrush Current(347Vac)			120A	Cold start
Standby Power			1W	220Vac/50Hz, Dim to off
Power Factor	0.93	0.97		220Vac/50Hz, Full load
	0.90			120-347Vac, 70-100% load
THD		7%	12%	220Vac/50Hz, Full load
			20%	120-347Vac, 100% load

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O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	180V		260V	
Rated O/P Voltage	200V		260V	Po=Vo*Io=200W, Full load
Rated O/P Current	0.77A		1.0A	1.0A for 200V,0.77A for 260V
AdJ. O/P Current (AOC)Range	0.7A		1.0A	
No Load Voltage			310V	
Efficiency @120Vac	90.0%	92.0%		O/P 250V/0.8A
Efficiency @220Vac	92.0%	95.0%		O/P 250V/0.8A
Efficiency @347Vac	92.0%	95.0%		O/P 250V/0.8A
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	1.0S	120Vac, Full load
		0.5S	1.0S	347Vac, Full load
Line Regulation	-3%		+3%	Full load
Load Regulation	-3%		+3%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	Tc:0°C~90°C
OTP	90°C	100°C	110°C	>Tc Typ., Current derating <Tc Min., Current recovery
Short Circuit Protection				Driver will not be damaged, Constant current mode or hiccup mode

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
AUX Power (Optional)	O/P Voltage	10.8V	12V	13.5V	
	O/P Current			150mA	Operate max 15min at 200mA
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	1V		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%Iomax		100%Ioset	
Dim to Off (Optional)	Dim off	0.7V	0.8V	0.95V	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	0.9V	1.1V	1.2V	
Life Time(Tc≤85°C)		50,000 hours			
MTBF		198,000 hours			347Vac,Full load, Ta=25°C (MIL-HDBK-217F)
IP Grade		IP65			
Tc		90°C			
Warranty		5 years			Tc: 85°C
Net Weight		875g			
Dimension		Φ136mm*62.5mm			D x H

NOTE: All the parameters above are tested Ta 25°C 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	✓	
TUV	EN 61347-2-13:2014/A1:2017 EN 61347-1:2015 EN 62493:2015		
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: 6kV,CM: 6kV,Criterion B
	ANSI/C82.77-5-2017	DM: 6kV,CM: 6kV,Criterion B
Ring Wave	IEC/EN 61000-4-12;ANSI/C82.77-5-2017	DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items:

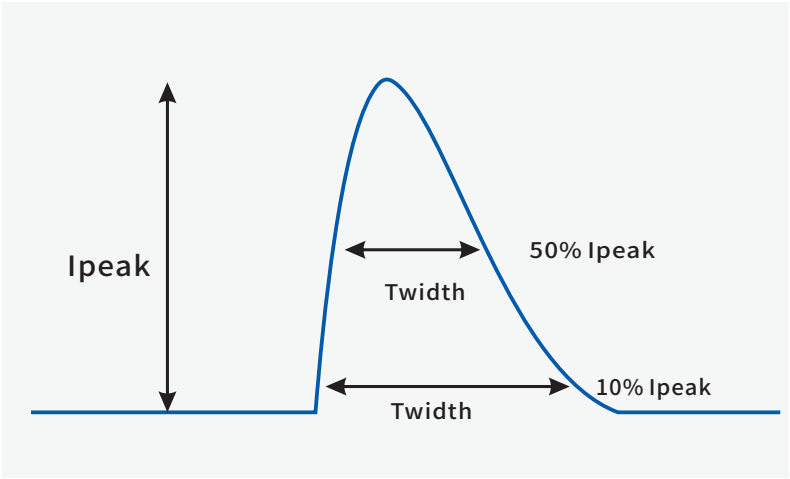
Safety test items	Technical Indicators		Remark
Insulation Requirements	UL Insulation Requirements	TUV Insulation Requirements	
Input-Case	1600Vac	/	Basic insulation
Input-Dim	1600Vac	/	Reinforced insulation
O/P-Dim	1600Vac	/	Reinforced insulation
Dim-Case	500Vac	/	Basic insulation
Insulation Resistance	⩾10MΩ		Input-Dim,Test voltage:500Vdc
Ground Resistance	⩽0.1Ω		25A/1min
Leakage Current	⩽0.75mA		347Vac

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 - and Vaux+ and Vaux-)when Hi-pot test.
3. During the HI-POT, the built-in GDT and the ground connection terminal wire shall be disconnected.

Performance Curves:

Input Inrush Current



Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	80A	542uS	
220Vac	100A		358uS
347Vac	120A	582uS	

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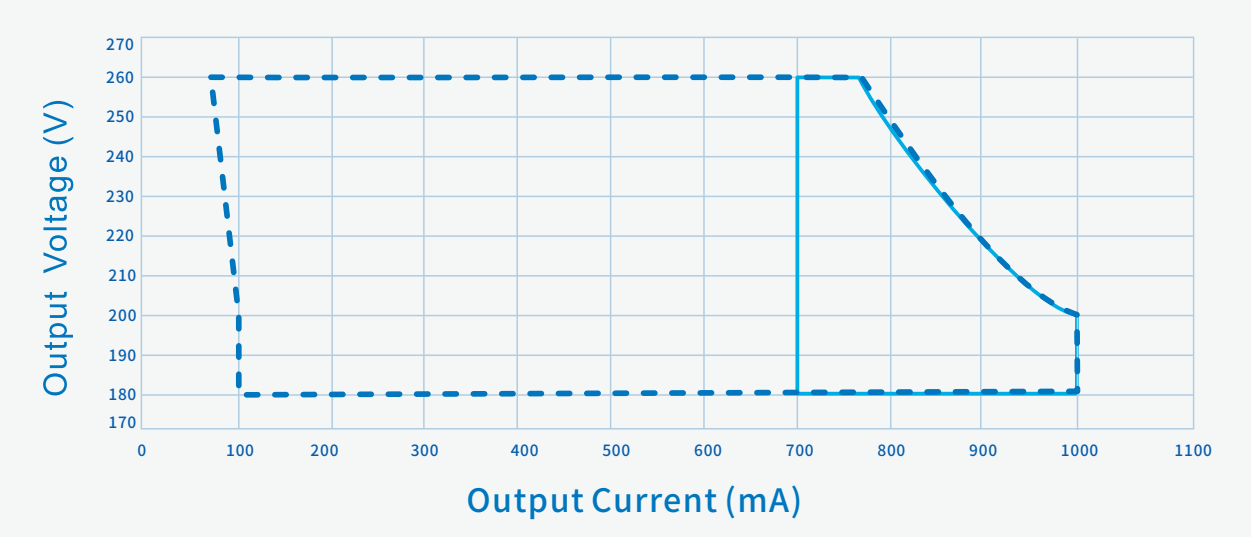
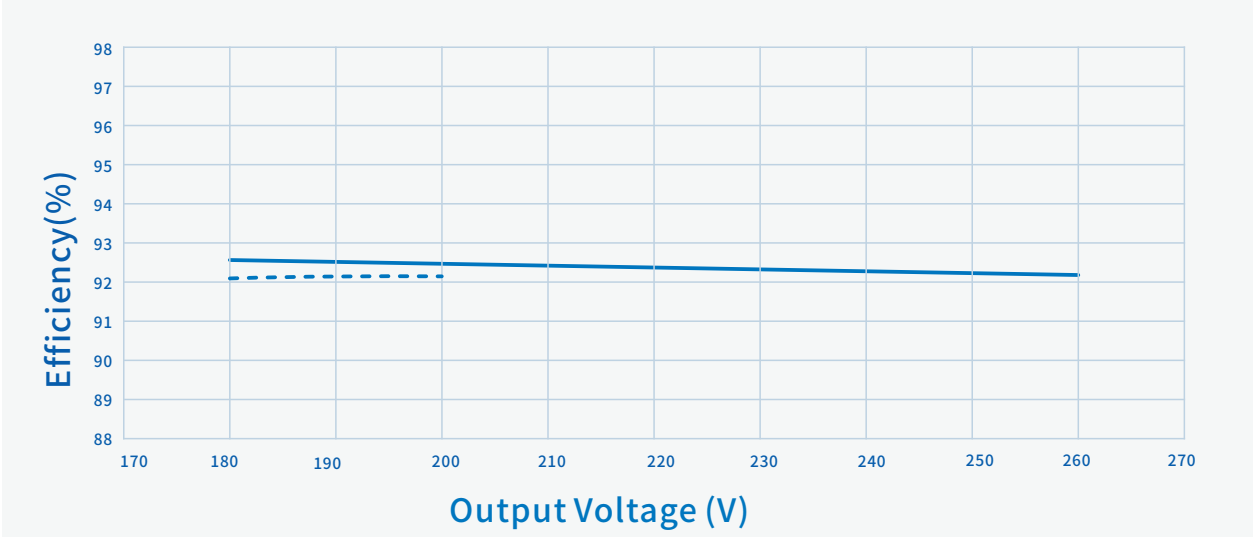
Performance Curves:

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



Dimming Window — AOC Window

Efficiency Vs. Output Voltage (Vin=120Vac)



Io=1000mA — Io=770mA

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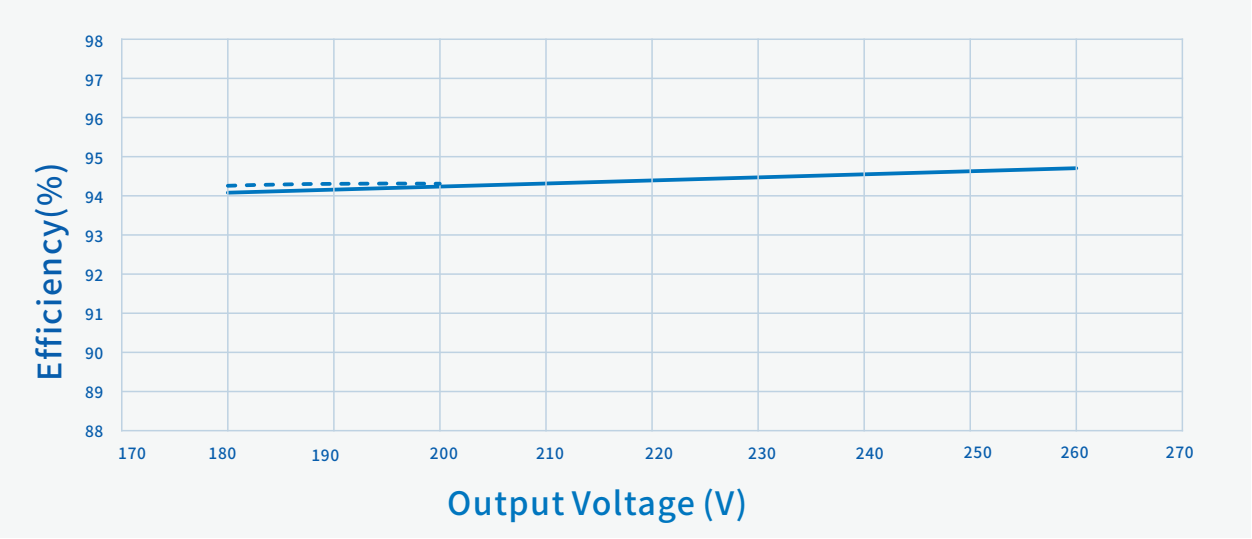
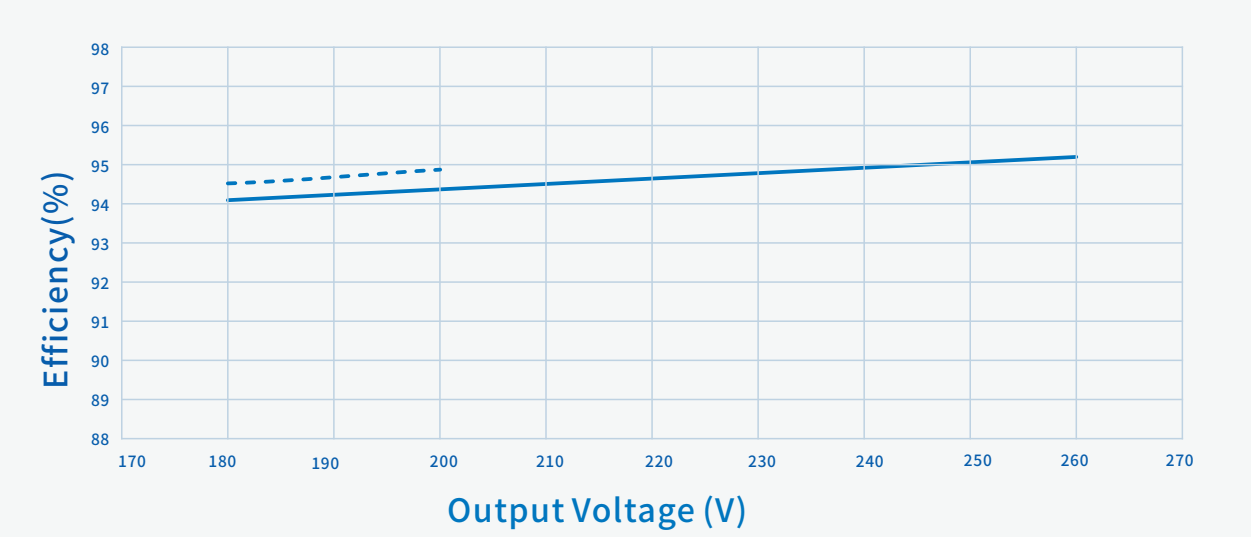
Performance Curves:

Efficiency Vs. Output Voltage (Vin=220Vac)



------- Io=1000mA ——— Io=770mA

Efficiency Vs. Output Voltage (Vin=347Vac)



------- Io=1000mA ——— Io=770mA

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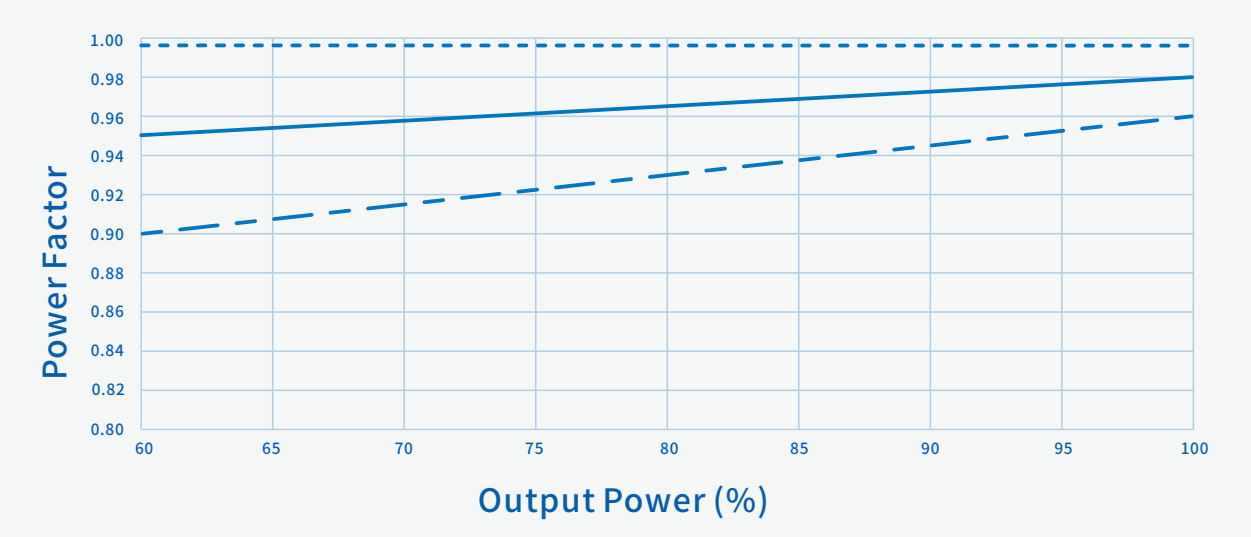
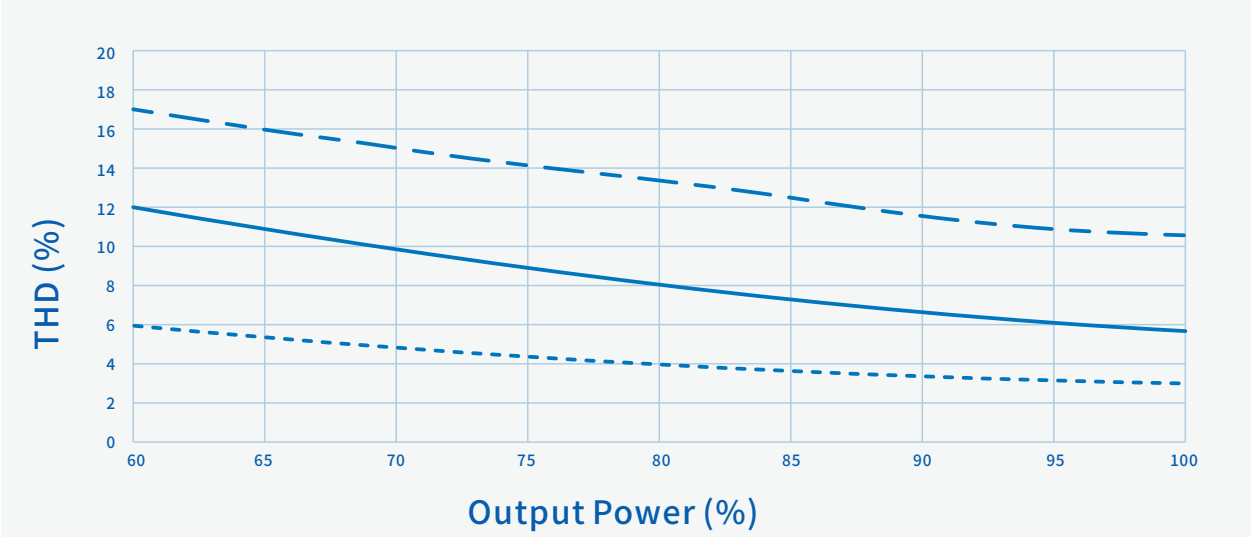
Performance Curves:

Power Factor Vs. O/P Power



Vin=120Vac Vin=220Vac Vin=347Vac

THD Vs. O/P Power



Vin=120Vac Vin=220Vac Vin=347Vac

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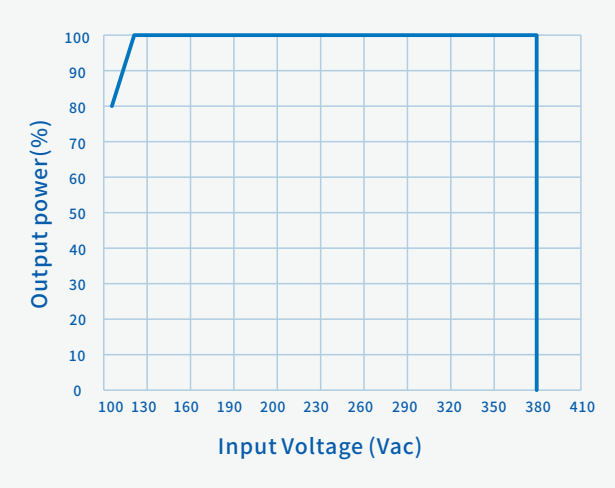
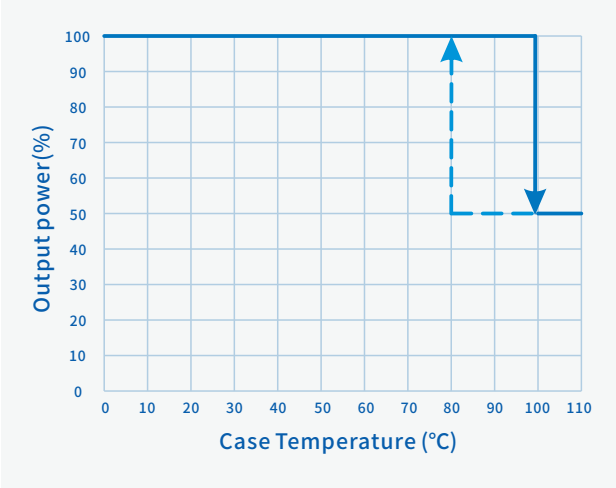
Performance Curves:

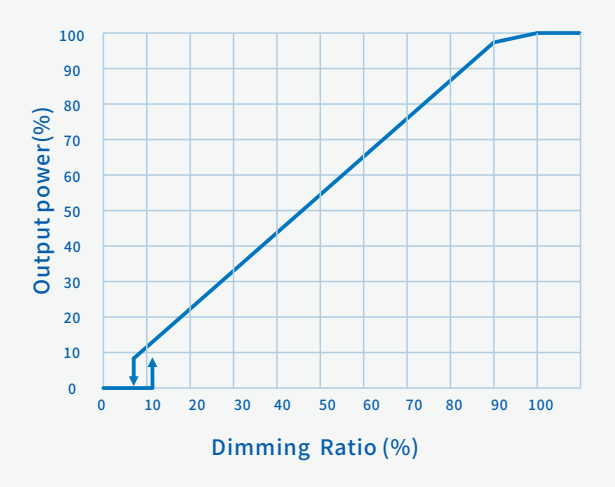
O/P power Vs. Input Voltage



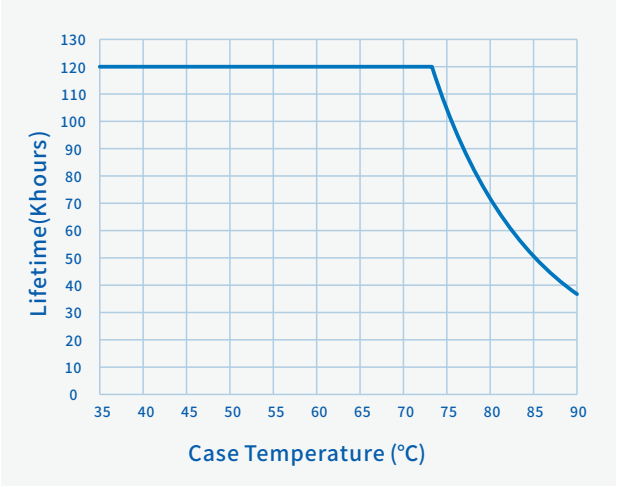
O/P power Vs. Case Temperature



O/P Power Vs. Dimming



Lifetime Vs. Case Temperature



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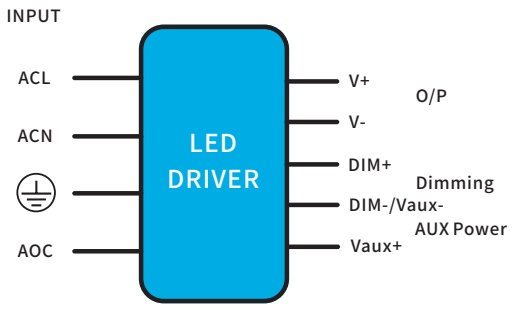
SS-200SN-E Series LED Driver

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):

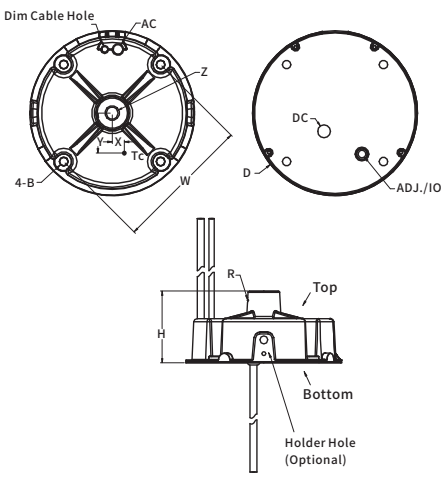
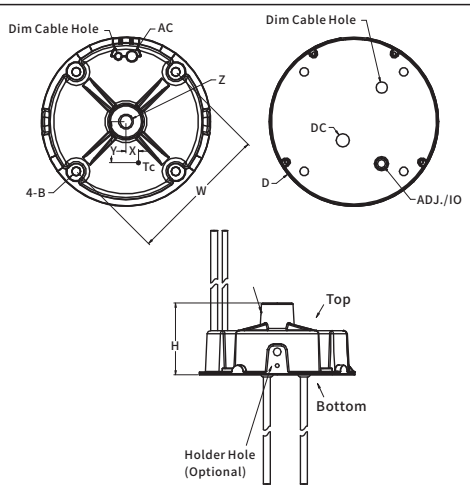
UL model: SJTW,2*18AWG,O.D: 7.3mm,Red:V+, Black:V-

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

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

Name Description	Standard code	mm(In.)
Input line hole	A	13(0.51)
Mounting Screw Diameter	4-B	Φ7.0(0.28)
Case Diameter	D	Φ136(5.35)
Height	H	62.5(2.46)
Ring Hole	Z	M10*1.5(Depth 18mm) G1/2(Depth 18mm)
Ring Fixed Hole	R	M4*0.7
Mount Size	W	113(4.45)
TC Point Position	X	10(0.39)
TC Point Position	Y	33(1.3)

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

DIM cable from the top	DIM cable from the bottom and top
	

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SS-200SN-E Series LED Driver

Assembly Tips

1. Highly recommended to seal the adjustable hole with silicon glue(#704 preferred) after adjusting the Driver's output current. Avoid permanent damage to adjust the potentiometer with suitable strength.
2. Dimming or AUX Power tinned connectors should be capped if not used to avoid dimming or AUX Power parts damage from external signals.
3. Safety space between aluminum base and LED coppers >5mm.
4. Safety space/coppers between LED+ and LED- >1.8mm.
5. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
6. It is recommended to design LED beads in parllel first and then in series.
7. The insulation level of LED light panels should meet the reliability design requirements.
8. For other precautions, please refer to the "LED Driver User Manual".

Package

- Outside carton dimension: L×W×H =495mm×385mm×162mm;
- 9PCS/Carton;
- Net weight/Piece: 0.875kg;Gross weight/Carton: 9.11kg;
- 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	2023/02/01	
V01	Update Assembly Tips	2023/04/14	
V02	Update Lifetime	2023/11/17	

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