

SOSEN LED Driver, Your Smart Choice

Specifications

SS-320CNS-260^{*} Series LED Driver

Model: SS-320CNS-260^{*}

Description: 320W LED Driver

Rev.: V01

Release Date: 2024-06-01

SS-320CNS-260* Series LED Driver

SOSEN
LED DRIVER



LED DRIVER

CNS-260*



Features:

- Efficiency up to 95%
- Isolated dimming: 0-10V, PWM, Resistor
- Dim-to-Off
- Dip Switch to adjust color temperature
- Dip Switch to adjust output power
- Surge protection: CM: 6kV, DM: 6kV
- AUX Power: 12V/0.2A
- IP65
- Type HL, Suitable for hazardous locations
- Protections: SCP/OTP/UVP
- Warranty: 5 years

UL[®]
c US
E360758

IP65

Description:

SS-320CNS-260* Series are 320W round non-isolated constant current LED Driver. Three powers of 320W-240W-200W can be obtained through the DIP switch. 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

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-320CNS-260*	249-528Vac	320W	180-260V	214-260V	0.77-1.5A	7%	0.98	95%	90°C

Note:

1.Default Tested: at 347Vac, full load, Ta 25°C.

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-320CNS-260* Series LED Driver

“★” Means Additional Function

“★”	AUX 12V (suffix:H)	Dimming off 0-10V/PWM/Resistor	Adjust power (Single DIP)	Adjust power/color temperature (Double DIP)	Remark
BHB	✓	✓	✓		
BHD	✓	✓		✓	

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	277Vac		480Vac	
AC Input Range	249Vac		528Vac	Reference Derating Curve
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			1.61A	277Vac, Full load
Max Input Power			360W	277Vac, Full load
Max Inrush Current(277ac)			50A	Cold start
Max Inrush Current(347Vac)			70A	Cold start
Max Inrush Current(480Vac)			90A	Cold start
Standby Power			1.5W	347Vac/60Hz, Dim to off
Power Factor	0.95	0.98		277-480Vac/60Hz, Full load
	0.90			277-480Vac/60Hz, 70-100% load
THD		7%	15%	277-480Vac/60Hz, Full load
			20%	277-480Vac/60Hz, 70-100% load

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Dip Switches:

BHD: Dip Switch to adjust output power
+ Dip Switch to adjust color temperature

A	B	C
320 (W)	240 (W)	200 (W)
		
CW NW WW		

320W(A)-240W(B)-200W(C)

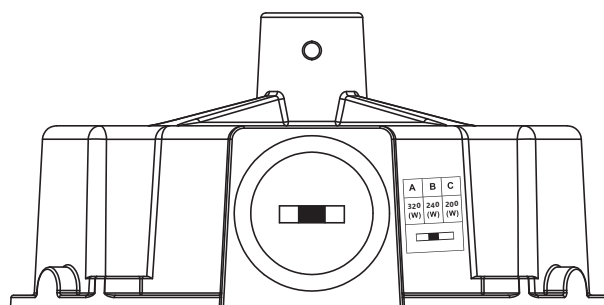
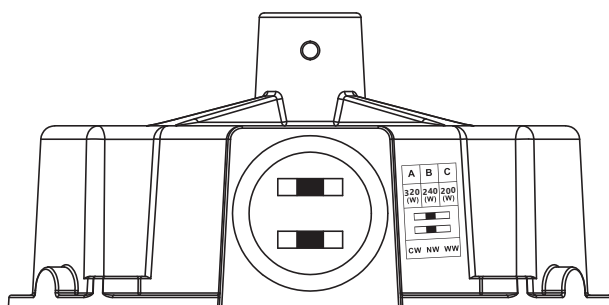
CW: White light NW: Neutral light WW: Warm light

BHB: Dip Switch to adjust output power

A	B	C
320 (W)	240 (W)	200 (W)
		

320W(A)-240W(B)-200W(C)

CW NW WW No special meaning



Note: To adjust the output power and color temperature, you need to operate after AC OFF.

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O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	180V		260V	
Rated O/P Voltage	200V		260V	$P_o = V_o \cdot I_o = 320W$, Full load
Rated O/P Current	1.23A		1.5A	1.5A for 214V, 1.23A for 260V
AdJ. O/P Current Range	1.1A		1.5A	A
	0.84A		1.2A	B
	0.77A		1.05A	C
No Load Voltage			310V	Can not be used without load
Efficiency @277Vac	93.0%	95.0%		O/P 260V/1.23A
Efficiency @347Vac	93.0%	95.0%		O/P 260V/1.23A
Efficiency @480Vac	94.0%	96.0%		O/P 260V/1.23A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		10%	15%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.75S	277Vac, Full load
			0.5S	480Vac, 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	93°C	96°C	99°C	Drop current when OTP, and it can be automatically restored after the abnormality is removed.
Short Circuit Protection				Driver will not be damaged

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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			200mA	
0-10V Dimming (Optional)	Dim Vmax	0V		12V	DIM+ source current 110uA.
	Dim Range	10%loset		100%loset	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%lomax		100%loset	
Dim to Off (Optional)	Dim off	0.7V	0.8V	0.9V	Without afterglow
	Dim on	0.8V	0.9V	1.0V	
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		1040g			
Dimension		Φ146mm*61.8mm			D x H

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

SS-320CNS-260* Series LED Driver

Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40°C	25°C	+90°C	
Storage Temperature	-40°C	25°C	+90°C	
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 EN61347-1:2015 EN62493:2015		
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 B; ANSI 63.4:2014	Class A 4dB
Radiation Emission	FCC Part15: Subpart B; ANSI 63.4:2014	Class A 4dB
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:

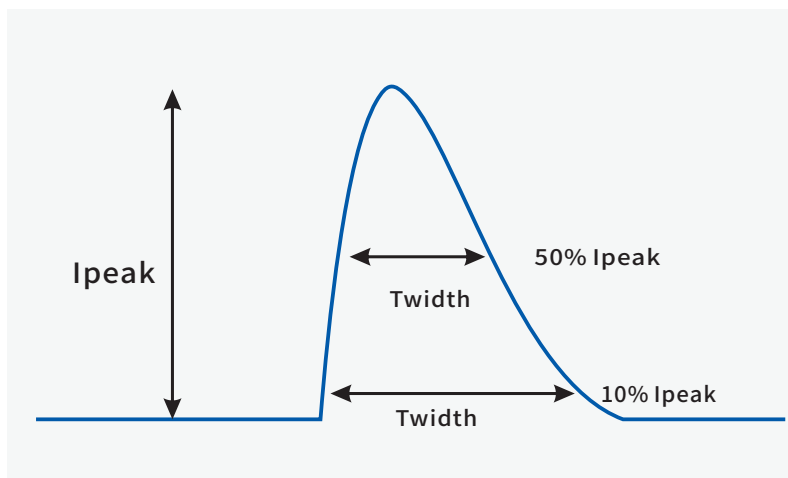
Safety test items	Technical Indicators		Remark
Insulation Requirements	UL Insulation Requirements	TUV Insulation Requirements	
Input-Case	1960Vac	/	
Input-Dim	1960Vac	/	
O/P-Dim	1960Vac	/	
Dim-Case	500Vac	/	
Insulation Resistance	$\geq 10M\Omega$		Input-Dim,Test voltage:500Vdc
Ground Resistance	$\leq 0.1\Omega$		25A/1min
Leakage Current	$\leq 0.75mA$		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 - and Vaux+ and Vaux-)when Hi-pot test.

Performance Curves:

Input Inrush Current

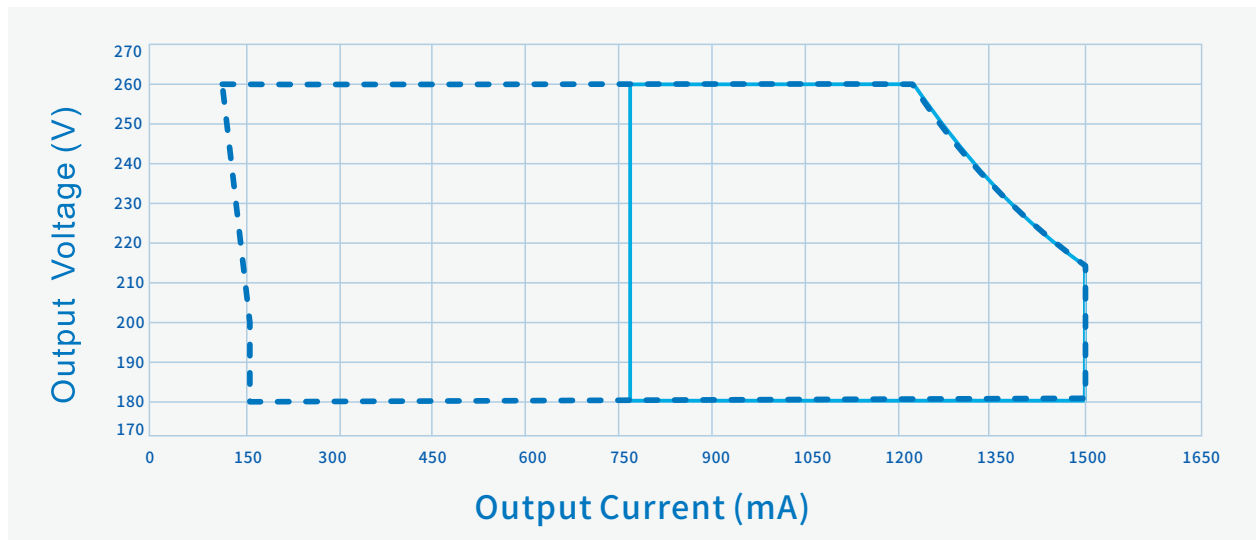


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
277Vac	50A	760uS	
347Vac	70A		310uS
480Vac	90A	560uS	

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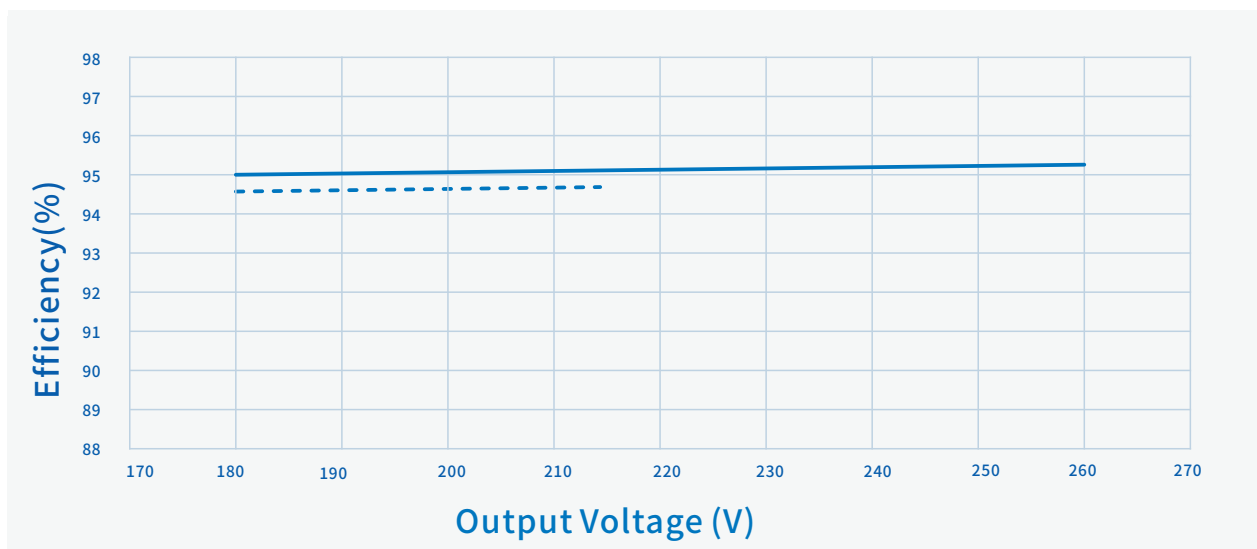
Performance Curves:

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



----- Dimming Window ————— AOC Window

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

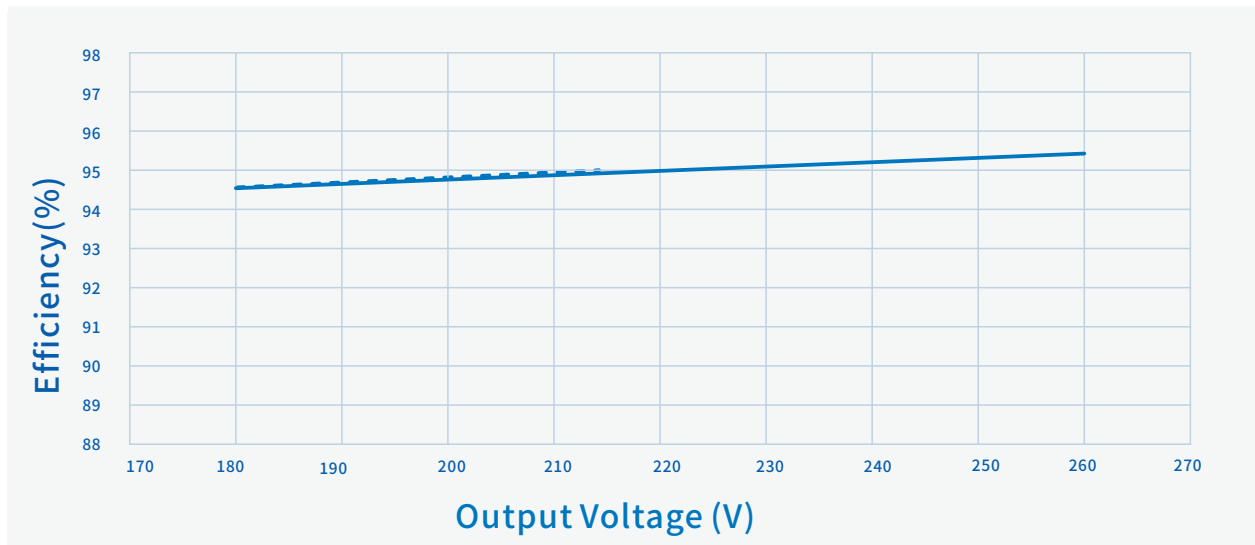


----- Io=1500mA ————— Io=1230mA

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Performance Curves:

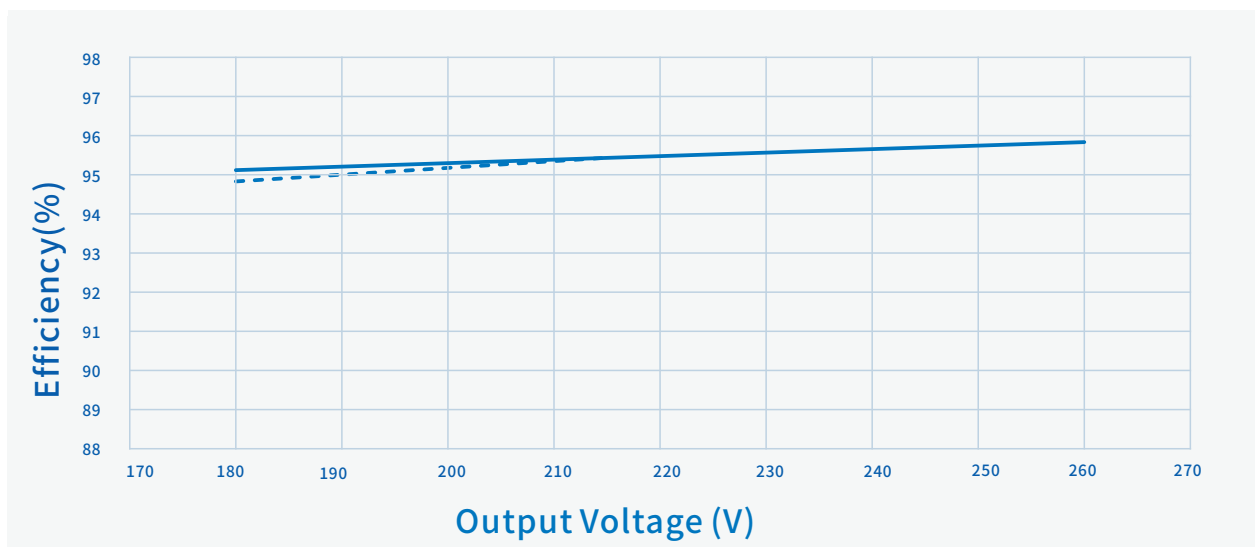
Efficiency Vs. O/P Voltage ($V_{in}=347V_{ac}$)



----- $I_o=1500mA$

————— $I_o=1230mA$

Efficiency Vs. O/P Voltage ($V_{in}=480V_{ac}$)



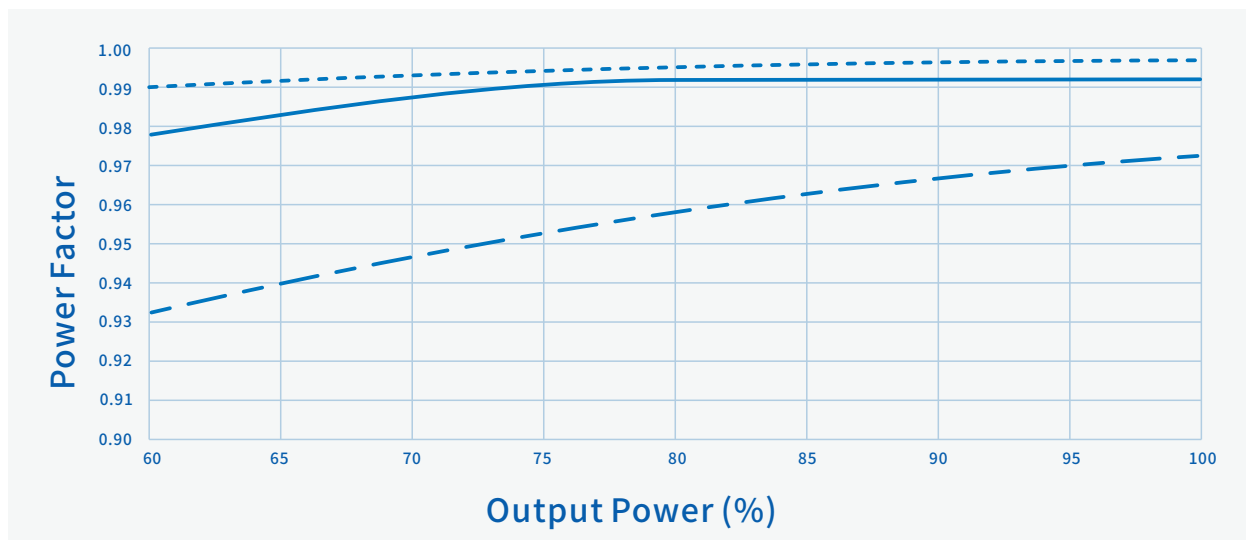
----- $I_o=1500mA$

————— $I_o=1230mA$

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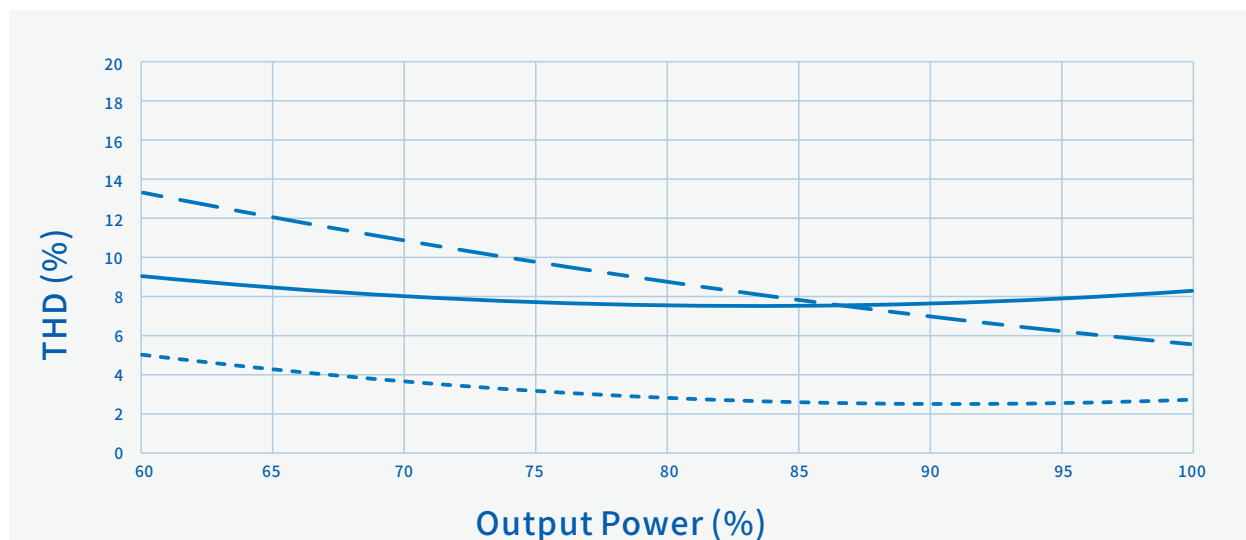
Performance Curves:

Power Factor Vs. O/P Power



----- Vin=277Vac ————— Vin=347Vac - . - . Vin=480Vac

THD Vs. O/P Power

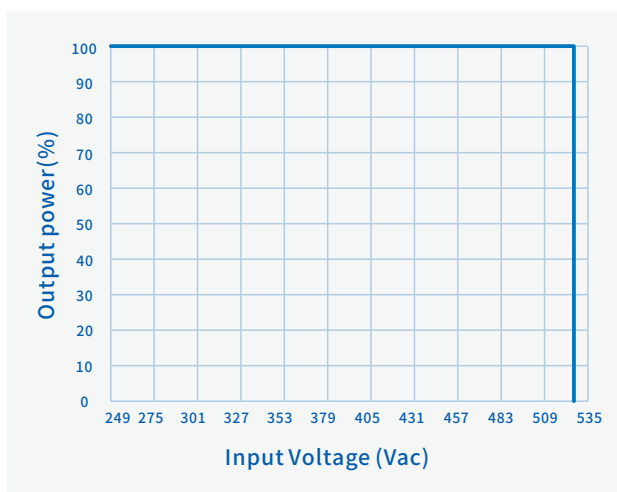


----- Vin=277Vac ————— Vin=347Vac - . - . Vin=480Vac

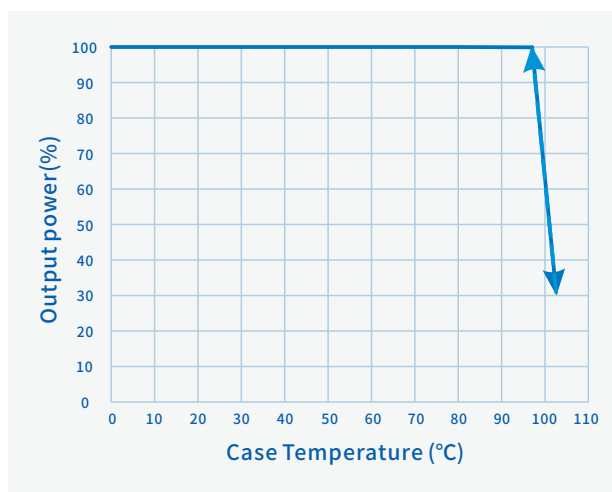
SS-320CNS-260* Series LED Driver

Performance Curves:

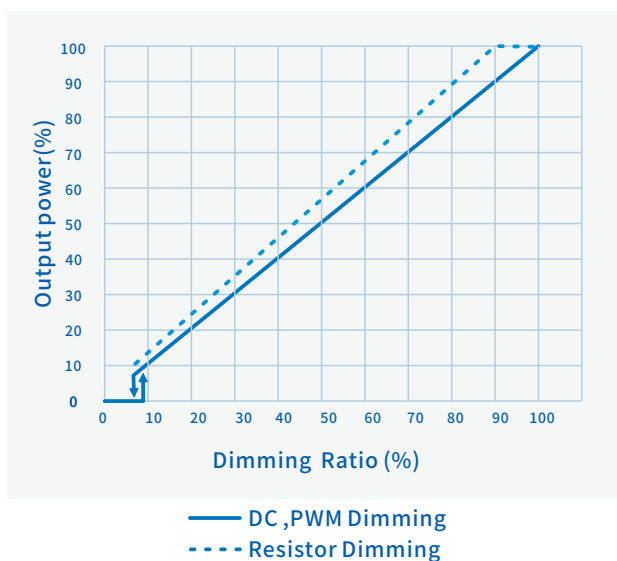
O/P power Vs. Input Voltage



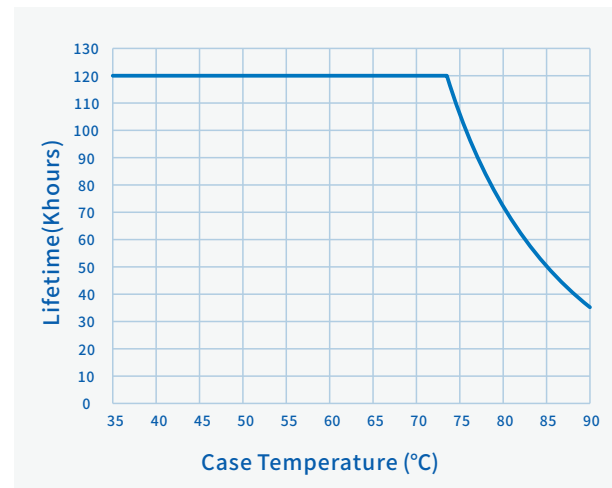
O/P power Vs. Case Temperature



O/P Power Vs. Dimming

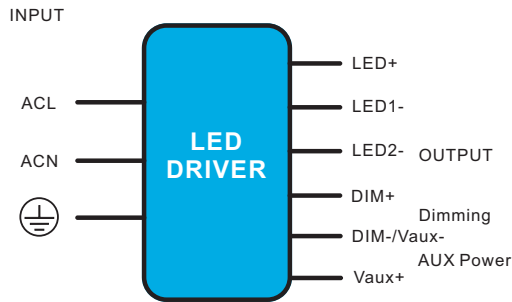


Lifetime Vs. Case Temperature



SS-320CNS-260* Series LED Driver

Mechanical Characteristics:



AC Input Cable(Exposed Length $300 \pm 10\text{mm}$):

UL model: STW, 3*18AWG, O.D: 9.4mm, Black: ACL, White: ACN, Green: Terminate

DC Output Cable(Exposed Length $300 \pm 10\text{mm}$):

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

UL model(BHD model): SJTW, 3*18AWG, O.D: 7.8mm, Red: LED+, Blue: Warm light(LED1-), Black: White light(LED2-)

DIM/AUX Cable(Exposed Length $220 \pm 10\text{mm}$):

UL/EU/Global Model:

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

Black/White: Vaux+

UL 21996 2*22AWG, O.D: 4.7mm, Purple: DIM+, Pink: DIM-

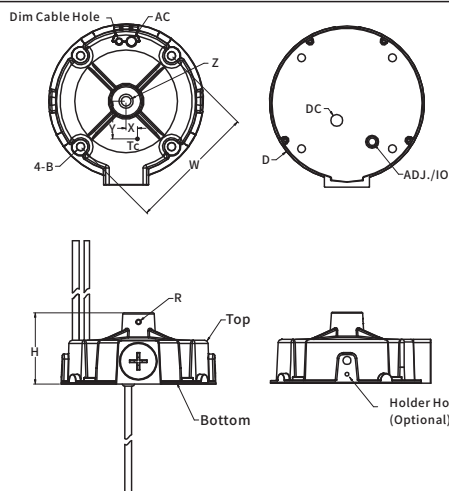
Name Description	Standard code	mm(In.)
Input line hole	A	13(0.51)
Mounting Screw Diameter	4-B	$\Phi 7.0(0.28)$
Case Diameter	D	$\Phi 146(5.75)$
Height	H	61.8(2.43)
Ring Hole	Z	M10*1.5(Depth 18mm) G1/2(Depth 17mm)
Ring Fixed Hole	R	M4*0.7
Mount Size	W	132(5.2)
TC Point Position	X	10(0.39)
TC Point Position	Y	33(1.3)

Note:

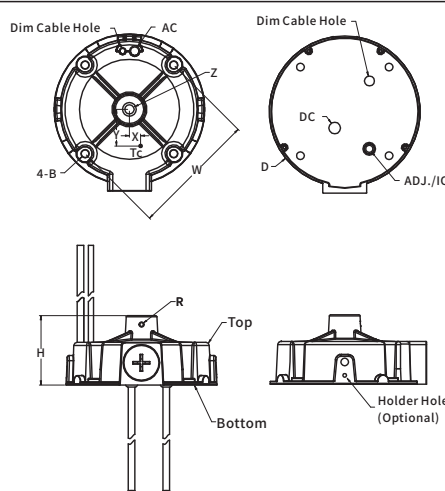
1, Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.

2, AC Input Cable, DC O/P Cable, DIM/AUX Power/Programming Cable: Peeled length of cable: $43 \pm 5\text{mm}$, Tinned length of wire: $10 \pm 2\text{mm}$

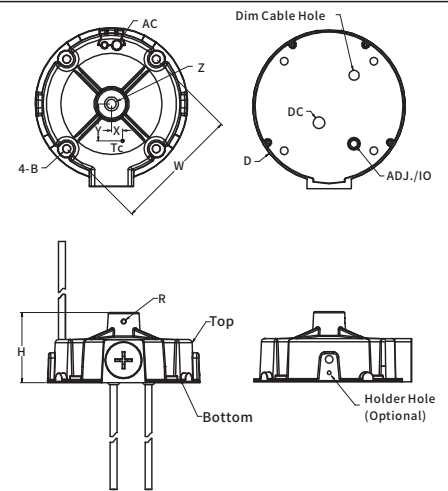
DIM cable from the top



DIM cable from the bottom and top



DIM cable from the bottom



SS-320CNS-260* 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 parallel 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: 1.04kg;Gross weight/Carton: 10.77kg;
- 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.

Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2023/10/17	
V01	Update dimming current	2024/6/01	