

SOSEN LED Driver, Your Smart Choice

Specifications

SS-240CNL-G Series LED Driver

Model: SS-240CNL-G260*

Description: 240W LED Driver

Rev.: V02

Release Date: 2023-09-05

SS-240CNL-G Series LED Driver

SOSEN
LED DRIVER



LED DRIVER

CNL-G Series



Features:

- Efficiency up to 95%
- Isolated dimming: 0-10V, PWM, Resistor
- Optional aux : 12V/0.2A
- Dim to off
- Protections: SCP/OTP/OVP
- IP65
- Surge protection: CM: 6kV, DM: 6kV
- Warranty: 5 years



CE IP65

Description:

SS-240CNL-G Series are 240W 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	Default Current	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-240CNL-G260*	180-264Vac	240W	180-260V	200V-260V	0.84-1.2A	1.2A	7%	0.97	95.5%	90°C

Note:

1.Default Tested: at 220Vac, 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.

1/13

SS-240CNL-G Series LED Driver

“★” Means Additional Function

“★”	DALI (suffix:D)	AUX 12V (suffix:H)	Dimming off 0-10V/PWM/Resistor	1-10V/PWM /Resistor (suffix:B)	Remark
No Suffix					
B				✓	
BH		✓	✓		

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	220Vac		240Vac	
AC Input Range	180Vac		264Vac	Reference derating curve
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			1.42A	198Vac, Full load
Max Input Power			255W	198Vac, Full load
Max Inrush Current(220Vac)			100A	Cold start
Max Inrush Current(240Vac)			130A	Cold start
Standby Power			0.5W	220Vac/50Hz, Dim to off, For BH model
Power Factor	0.95	0.97		220Vac/50Hz, Full load
	0.90			220-240Vac/50Hz, 70%-100% load
THD		7%	12%	220Vac/50Hz, Full load
			20%	220-240Vac/50Hz, 70%-100% load

SS-240CNL-G Series LED Driver

Output Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Output Voltage Range	180V		260V	Power Derated @180-200V
Rated Output Voltage	200V		260V	$P_o = V_o \cdot I_o = 240W$, Full load
Rated Output Current	0.92A		1.2A	1.2A for 200V, 0.92A for 260V
Adj. O/P Current (AOC) Range	0.84A		1.2A	
No Load Voltage			310V	
Efficiency @198Vac	93.0%	93.5%		Output 260V/0.92A
Efficiency @220Vac	93.0%	94.5%		Output 260V/0.92A
Efficiency @264Vac	94.0%	95.0%		Output 260V/0.92A
Output Current Tolerance	-5%		+5%	
Output Current Ripple(PK-AV)		5%	10%	
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	220Vac, Full load
Line Regulation	-2.5%		+2.5%	Full load
Load Regulation	-6%		+6%	
Temperature Coefficient	-0.1%/°C		+0.1%/°C	$T_c: 0^{\circ}C \sim 90^{\circ}C$
OTP	90°C	100°C	110°C	> T_c Typ., Current derating < T_c Min., Current recovery
Short Circuit Protection				Driver will not be damaged

SS-240CNL-G Series LED Driver

Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
Aux Power (Optional)	O/P Voltage	10.8V	12V	13.8V	
	O/P Current			200mA	
0-10V Dimming (Optional)	Dim Vmax	0V		12V	DIM+ source current 100uA.
	Dim Range	10%Iomax		100%Ioset	Dimming prohibits reverse connection
	Rec.Dim Range	0V		10V	
PWM Dimming (Optional)	PWM High	9.8V		10.2V	DIM+ source current 100uA.
	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 100uA.
	Dim Range	10%Iomax		100%Ioset	
Dim to Off (BH Type)	Dim off	0.7V	0.8V	0.95V	Afterglow(Standard)
	Dim on	0.95V	1.1V	1.2V	Without afterglow(Optional)
Lifetime(Tc≤85°C)		≥50,000 hours			80% load,220Vac
MTBF		200,000 hours			220Vac,Full load, Ta=25°C (MIL-HDBK-217F)
IP		IP65			
Tc		90°C			
Warranty		5 years			Tc: 85°C
Net Weight		735g			
Dimension		Φ128mm*62.5mm			D x H

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

SS-240CNL-G 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		
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	EN IEC 55015:2019+A11:2020	
Radiation Emission	EN IEC 55015:2019+A11:2020	
Harmonic Current Emissions	IEC/EN 61000-3-2:2019+A1:2021	Class C
Surge	IEC/EN 61000-4-5	DM: 6kV,CM: 6kV,Criterion B

SS-240CNL-G Series LED Driver

Safety Test Items:

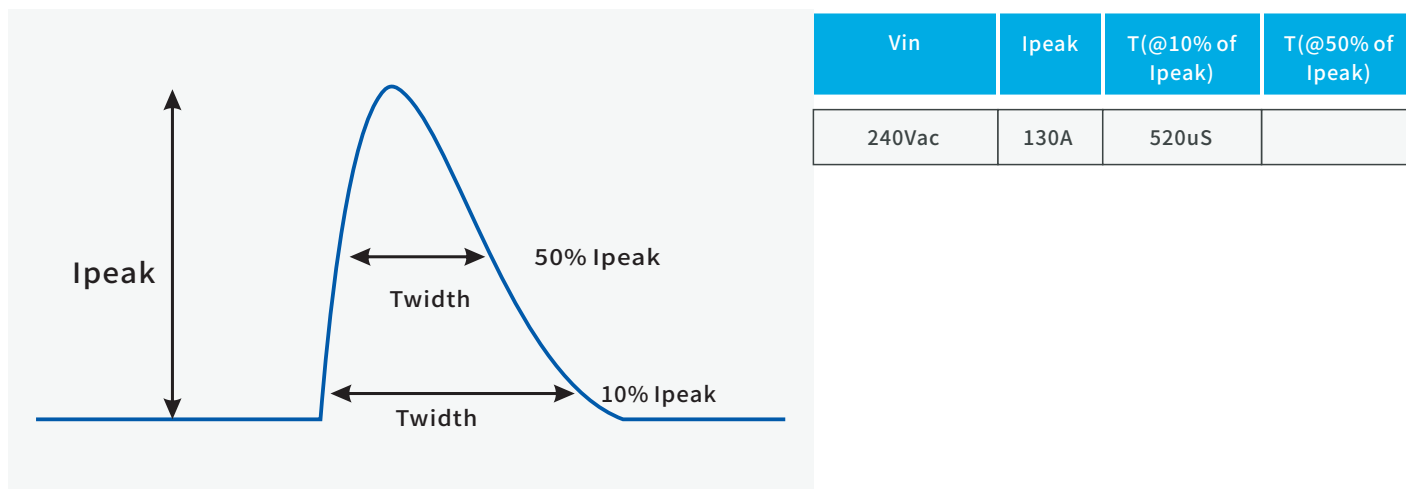
Safety test items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	TUV Insulation Requirements	CCC Insulation Requirements	
Input-Case	/	1500Vac	/	Basic insulation
Input-Dim	/	3000Vac	/	Reinforced insulation
O/P-Dim	/	3000Vac	/	Reinforced insulation
Dim-Case	/	500Vac	/	Basic insulation
Insulation Resistance	$\geq 10M\Omega$			Input-Dim, Test voltage: 500Vdc
Ground Resistance	$\leq 0.1\Omega$			25A/1min
Leakage Current	$\leq 0.75mA$			240Vac

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:

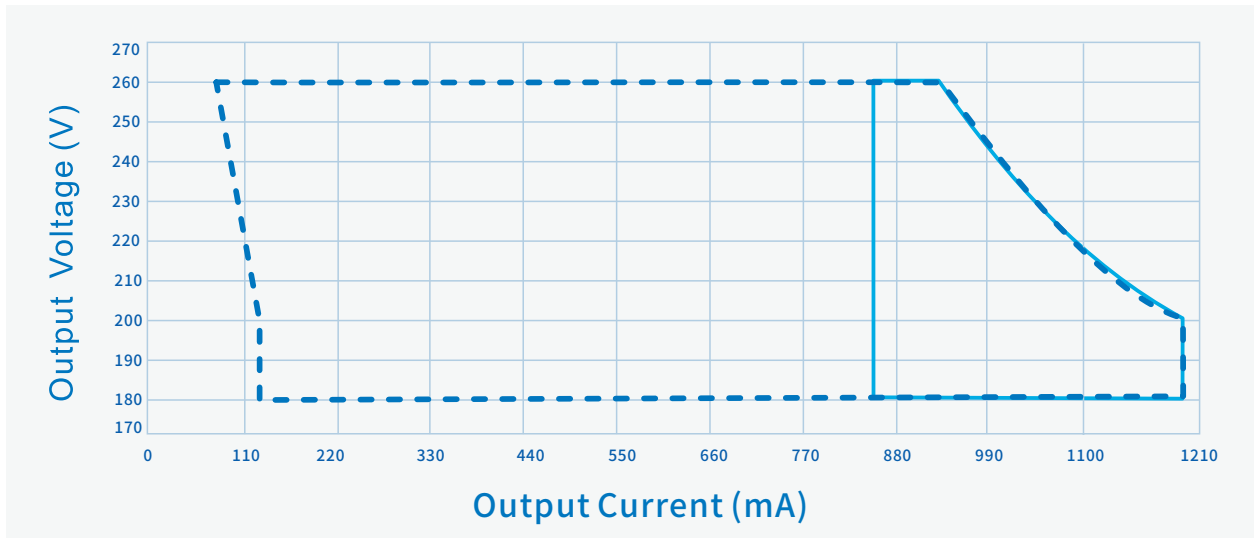
Input Inrush Current



SS-240CNL-G Series LED Driver

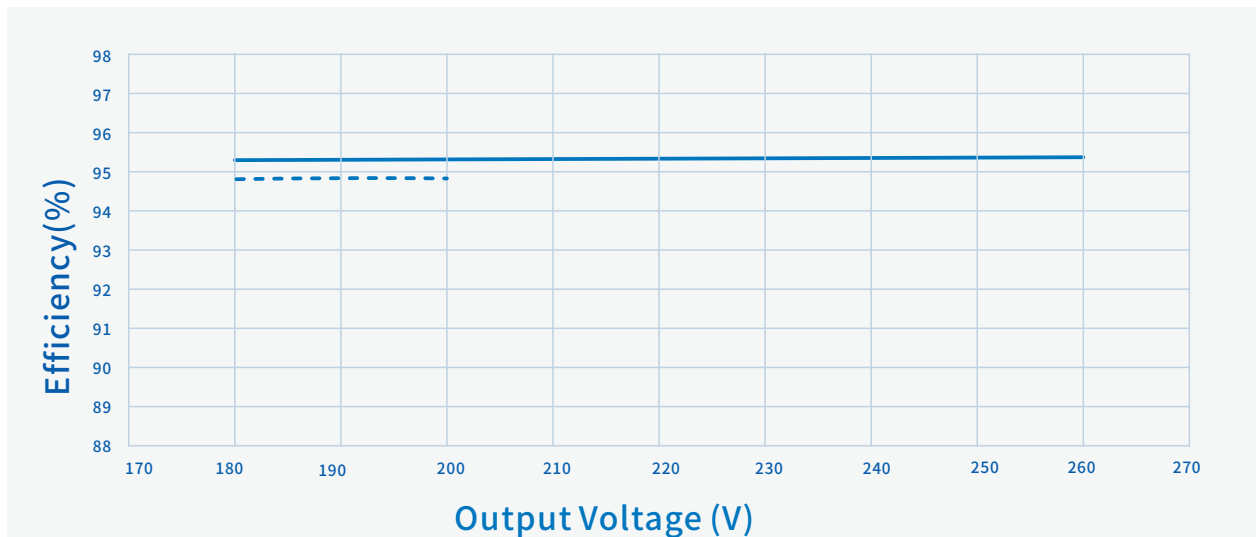
Performance Curves:

Output Voltage Vs. Output Current(Dim/AOC Window)



----- Dimming Window ————— AOC Window

Efficiency Vs. Output Voltage (Vin=198Vac)

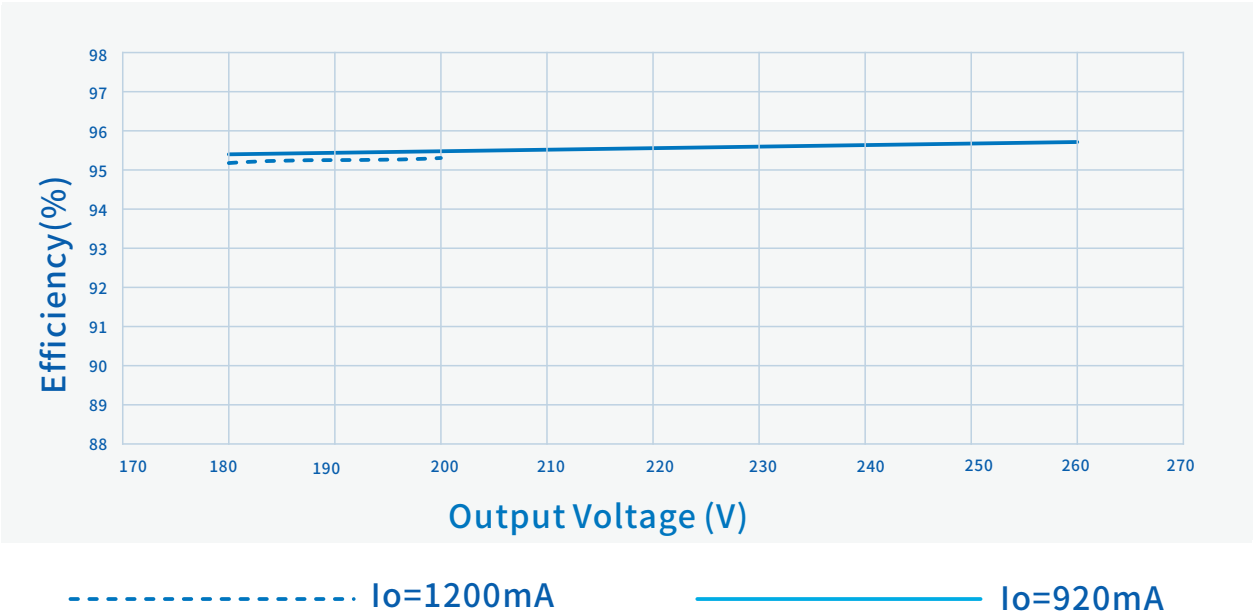


----- Io=1200mA ————— Io=920mA

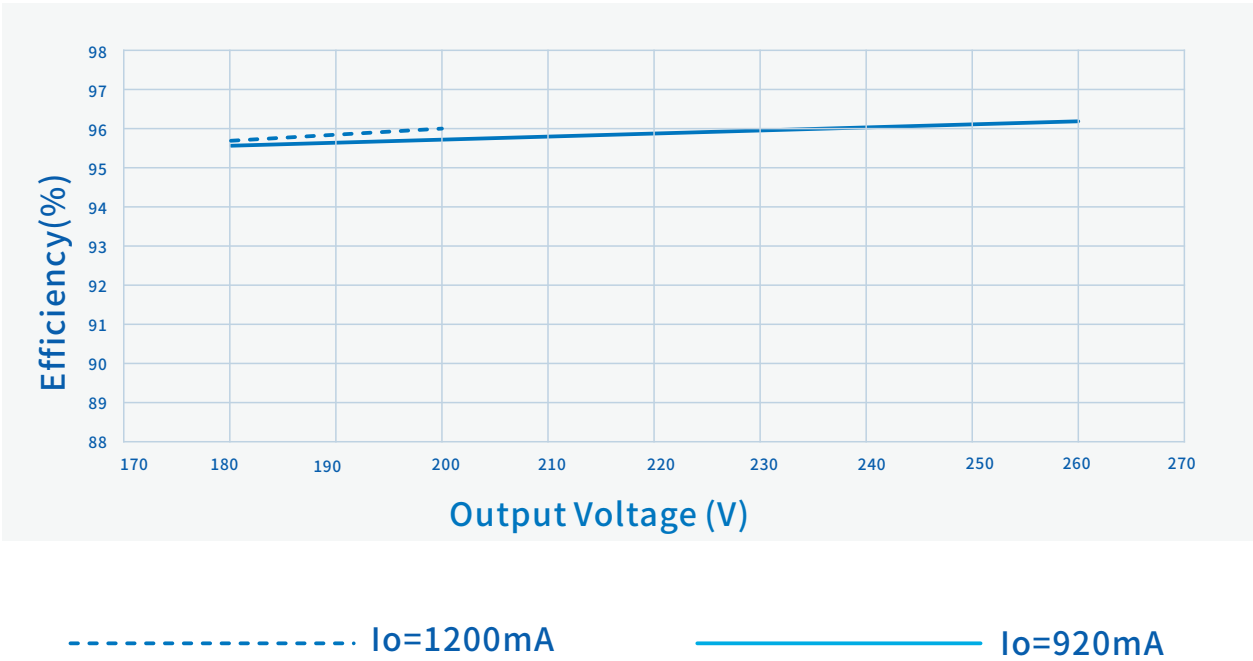
SS-240CNL-G Series LED Driver

Performance Curves:

Efficiency Vs. Output Voltage (Vin=220Vac)



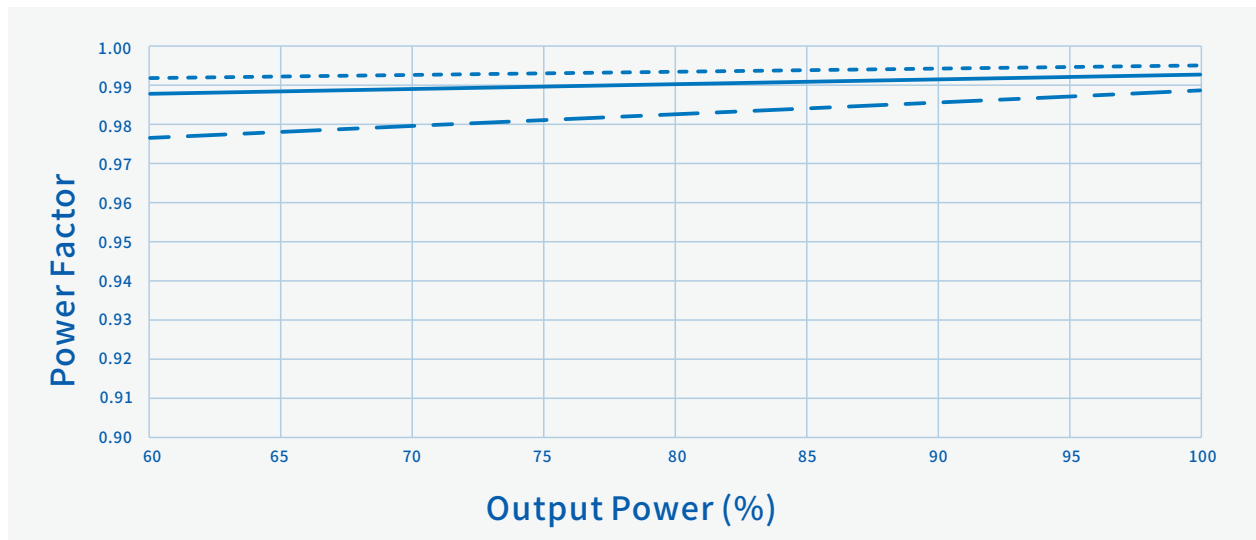
Efficiency Vs. Output Voltage (Vin=264Vac)



SS-240CNL-G Series LED Driver

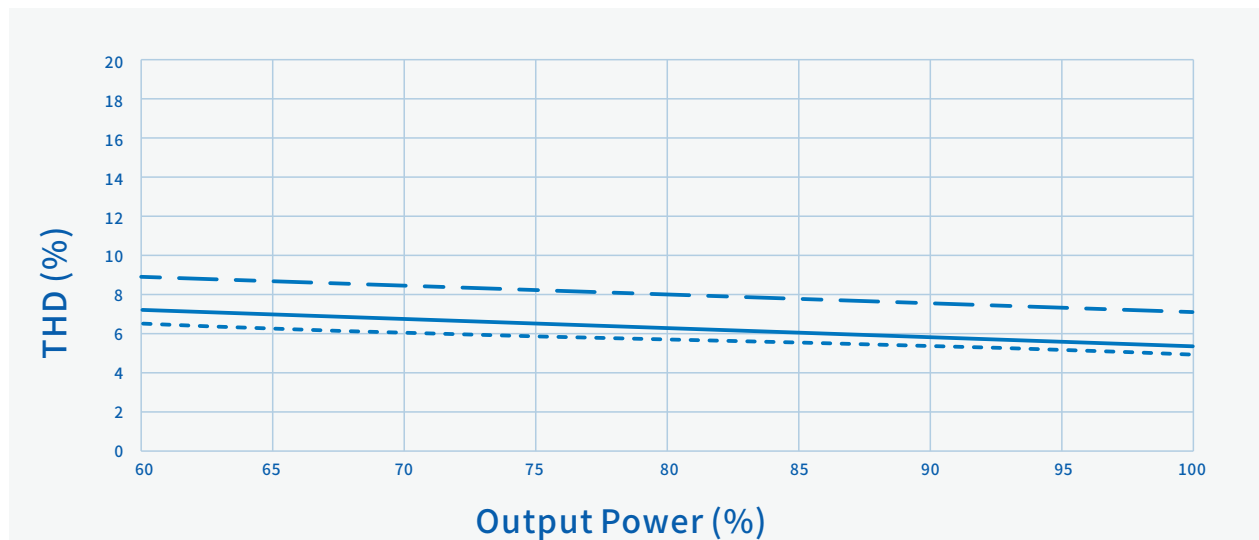
Performance Curves:

Power Factor Vs. Output Power



----- Vin=198Vac ————— Vin=220Vac - . - . Vin=264Vac

THD Vs. Output Power

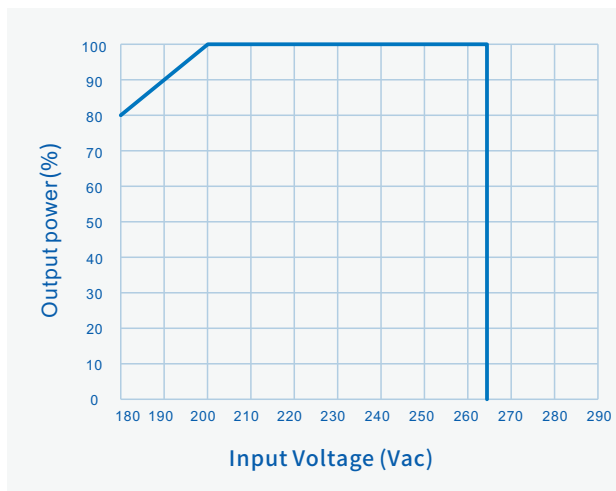


----- Vin=198Vac ————— Vin=220Vac - . - . Vin=264Vac

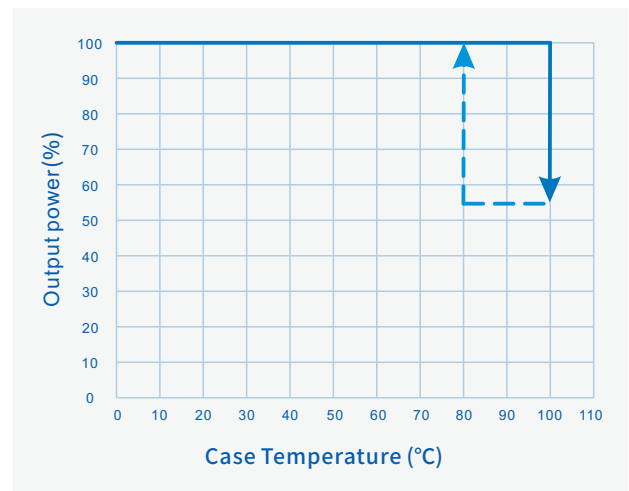
SS-240CNL-G Series LED Driver

Performance Curves:

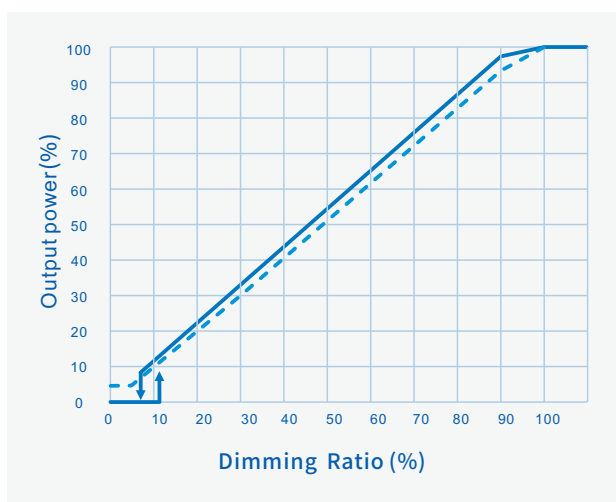
Output power Vs. Input Voltage



Output power Vs. Case Temperature



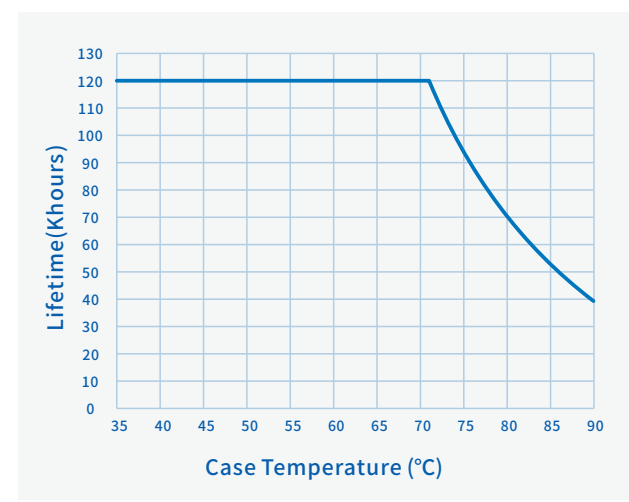
Output Power Vs. Dimming



—— BH Type

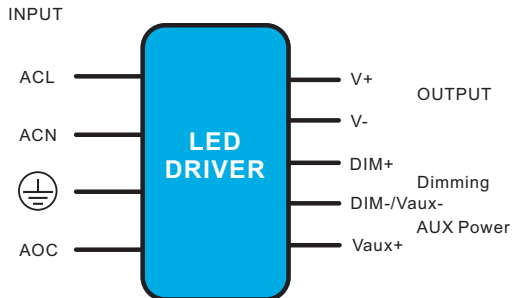
----- B Type

Lifetime Vs. Case Temperature



SS-240CNL-G Series LED Driver

Mechanical Characteristics:



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

Global model: SJOW, 3*17AWG, O.D:8.0mm, Brown:ACL, Blue:ACN, Yellow/Green:⏏

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

Global model: SJOW, 2*17AWG, O.D:7.7mm, Brown:V+, Blue:V-

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

UL/EU/Global Model:

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

UL/EU/Global Model:

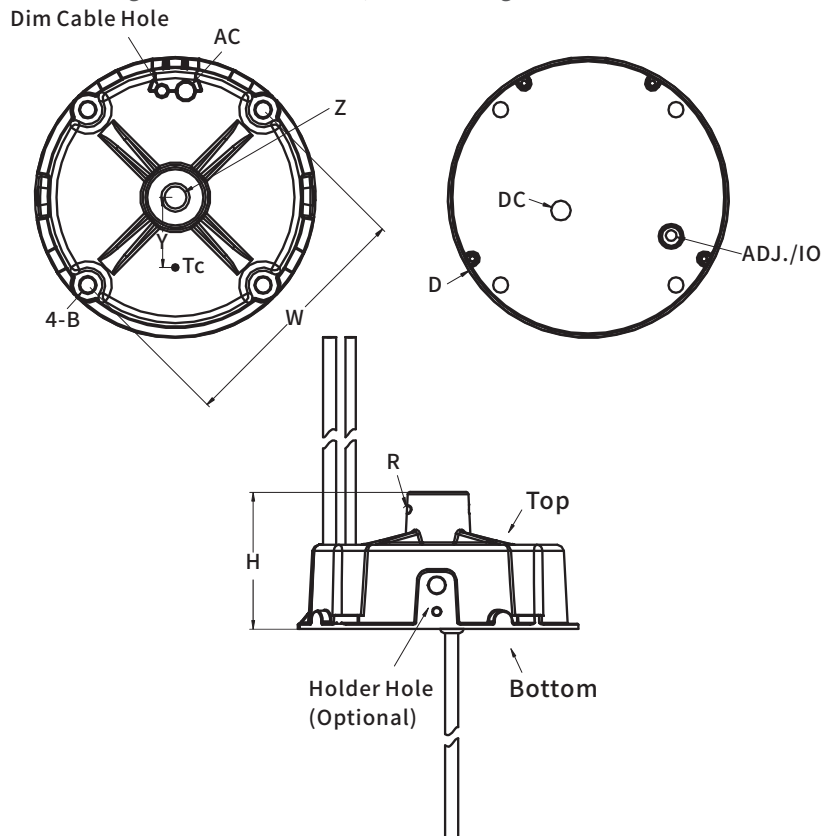
UL 21996 3*22AWG, O.D:4.9mm, Purple: DIM+, Pink: DIM-/Vaux-, Black/White: Vaux+

Name Description	Standard code	mm(In.)
Fixed Screw Diameter	4-B	$\Phi 7.0(0.28)$
Case Diameter	D	$\Phi 128(5.04)$
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
Fixed Size	W	113(4.45)
TC Point Position	Y	32(1.26)

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: $10\pm 2\text{mm}$



SS-240CNL-G 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: $L \times W \times H = 495\text{mm} \times 385\text{mm} \times 162\text{mm}$;
- 9PCS/Carton;
- Net weight/Piece: 0.735kg;Gross weight/Carton: 7.9kg;
- 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	2023/01/10	
V01	Update Assembly Tips	2023/04/14	
V02	Update AC Input Range	2023/09/05	