SOSEN LED DRIVER

SOSEN LED Driver, Your Smart Choice

Specifications

SS-240CP Series LED Driver

Model: SS-240CP-54*

Description: 240W LED Driver

Rev.: V08

Release Date: 2023-02-01

SS-240CP Series LED Driver

SOSEN
LED DRIVER

LED DRIVER
—
CP Series

Features:

- Efficiency up to 92%
- Isolated dimming:1-10V,PWM,Resistor
- IP65
- Protections: SCP/OTP/OVP/OPP
- Surge protection: CM: 4kV, DM: 4kV
- Warranty: 5 years

c UL us E360758

IP65

IS15885(Part 2/Sec 13)
R-41041440
www.bis.gov.in

Description:

SS-240CP series are constant current waterproof LED Driver in round shape with 108-305Vac and high efficiency, supporting multiple dimming modes,suitable for industrial and High bay lights, plant lights and other lighting occasions.

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-240CP-54*	108-305Vac	240W	28-54V	36-54V	3.3-6.7A	7%	0.98	92%	85℃

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.
3. "*" Optional B or space in the place of * means additional function.
- Space is the base model without any optional function;
- Suffix B for model with 3-in-1 dimming (1-10V, PWM, Resistor);

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Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	120Vac		277Vac	
AC Input Range	108Vac		305Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			3.0A	108Vac, Full load
Max Input Power			280W	108Vac, Full load
Max Inrush Current(120Vac)			50A	Cold start
Max Inrush Current(220Vac)			95A	Cold start
Max Inrush Current(277Vac)			125A	Cold start
No Load Power			5W	220Vac/50Hz, No load
Power Factor	0.95	0.98		220Vac/50Hz, Full load
	0.90			120-277Vac/50Hz, 70-100% load
THD		7%	10%	220Vac/50Hz, Full load
			20%	120-277Vac/50Hz, 70-100% load

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Output Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	28V		54V	Power derated @28-36V
Rated O/P Voltage	36V		54V	Po=Vo*Io=240W, Full load
Rated O/P Current	4.4A		6.7A	6.7A for 36V,4.4A for 54V
Adj. O/P Current (AOC)Range	3.3A		6.7A	
No Load Voltage			60V	
Efficiency @120Vac	89.0%	90.0%		Output 43V/5.55A
Efficiency @220Vac	91.0%	92.0%		Output 43V/5.55A
Efficiency @277Vac	91.0%	92.0%		Output 43V/5.55A
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℃~85℃
OTP	90℃	100℃	110℃	>Tc Typ., Current derating <Tc Min., Current recovery
Short Circuit Protection			10W	Driver will not be damaged, Hiccup mode

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
1-10V Dimming (Optional)	Dim Vmax	0V		12V	DIM+ source current 110uA.
	Dim Range	10%Iomax		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	10%		100%	
Resistor Dimming (Optional)	Resistance	10Kohm		100Kohm	DIM+ source current 110uA.
	Dim Range	10%Iomax		100%Ioset	
Lifetime(Tc≤65℃)		100,000 hours			80% load
Lifetime(Tc≤77℃)		55,000 hours			80% load
MTBF		205,000 hours			220Vac,Full load, Ta=25℃ (MIL-HDBK-217F)
IP Grade		IP65			
Tc		85℃			
Warranty		5 years			Tc：75℃
Net Weight		1950g			
Dimension		Φ182mm*71.5mm			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℃	+85℃	
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 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	EN55015:2013+A1:2015	
Radiation Emission	EN55015:2013+A1:2015	
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:

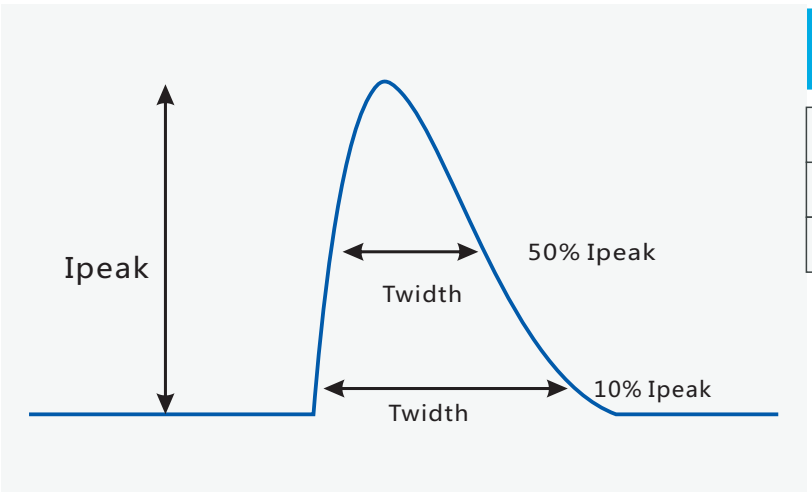
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-Output	1600Vac	3000Vac	3750Vac	Reinforced insulation
Input-Case	1600Vac	1500Vac	1875Vac	Basic insulation
Input-Dim	1600Vac	3000Vac	3750Vac	Reinforced insulation
Output-Dim	1600Vac	1000Vac	1000Vac	Basic insulation
Output-Case	500Vac	1000Vac	1000Vac	Basic insulation
Dim-Case	500Vac	250Vac	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 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.

Performance Curves:

Input Inrush Current



Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	50A	600uS	
220Vac	95A		370uS
277Vac	125A	500uS	

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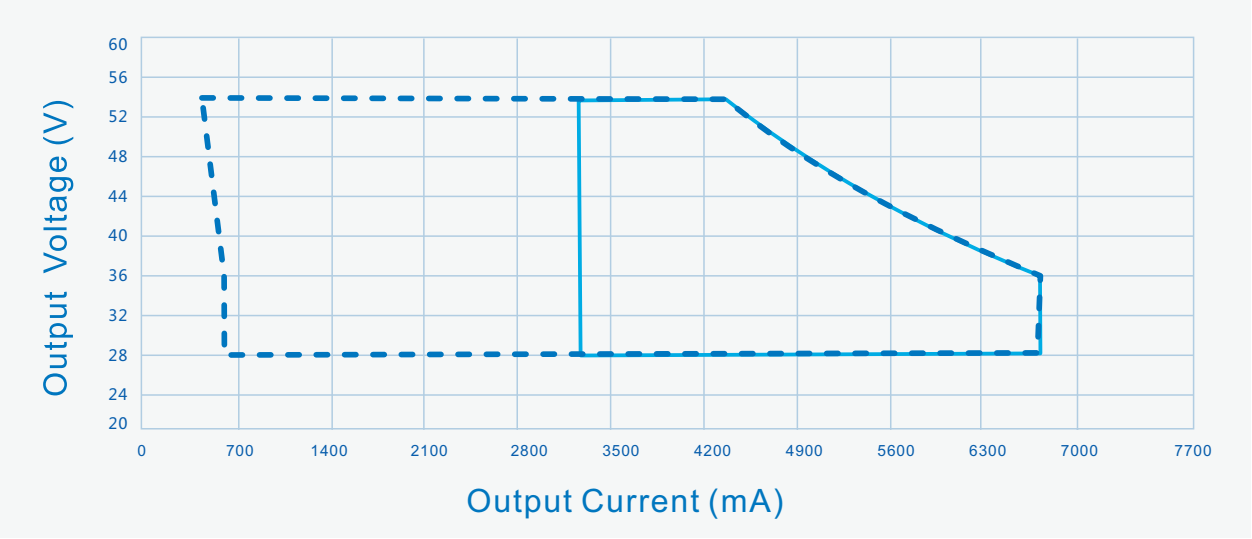
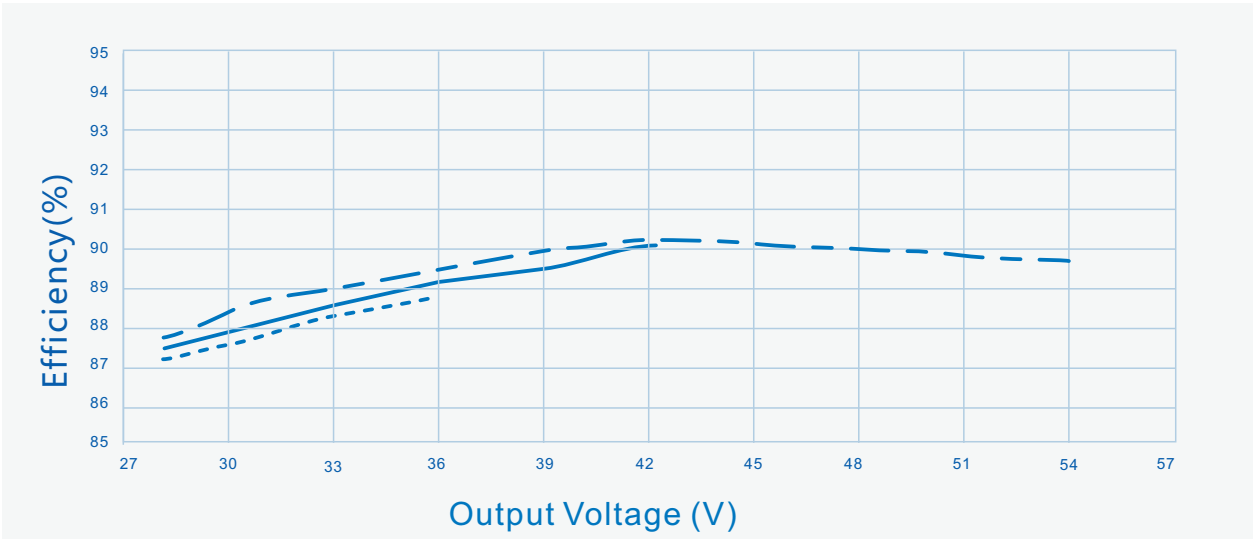
Performance Curves:

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



Dimming Window AOC Window

Efficiency Vs. Output Voltage (Vin=120Vac)



Io=6700mA Io=5550mA Io=4400mA

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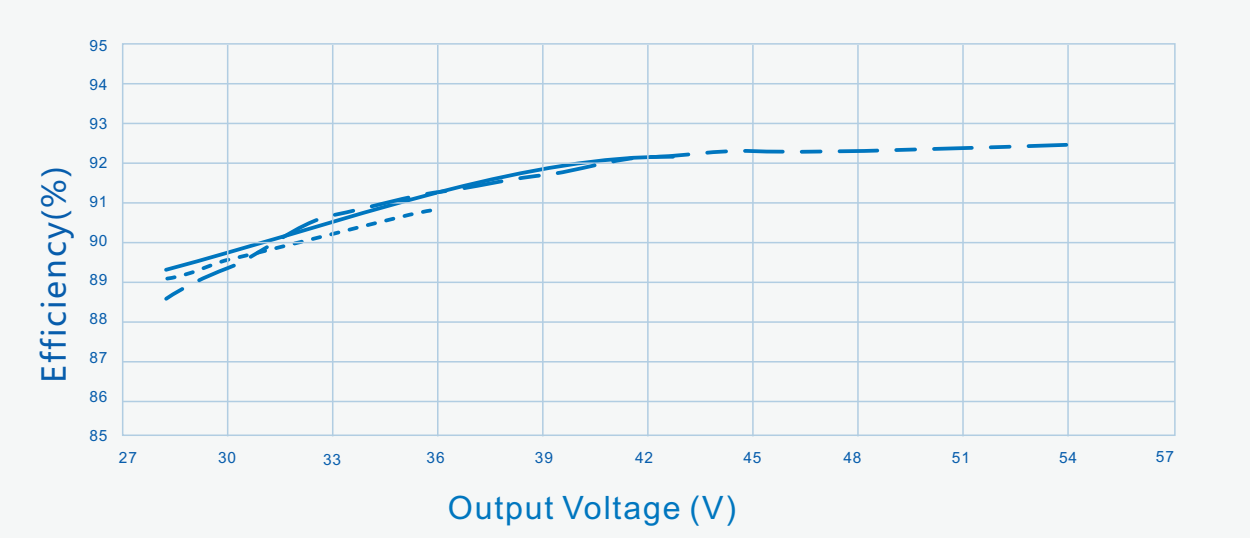
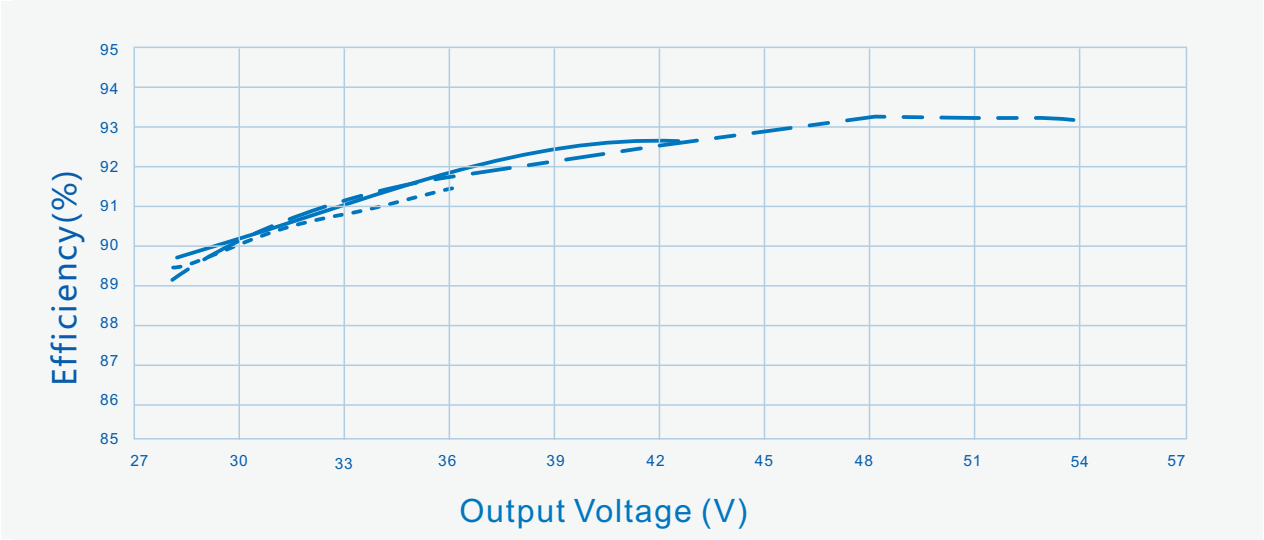
Performance Curves:

Efficiency Vs. Output Voltage (Vin=220Vac)



Io=6700mA Io=5550mA Io=4400mA

Efficiency Vs. Output Voltage (Vin=277Vac)



Io=6700mA Io=5550mA Io=4400mA

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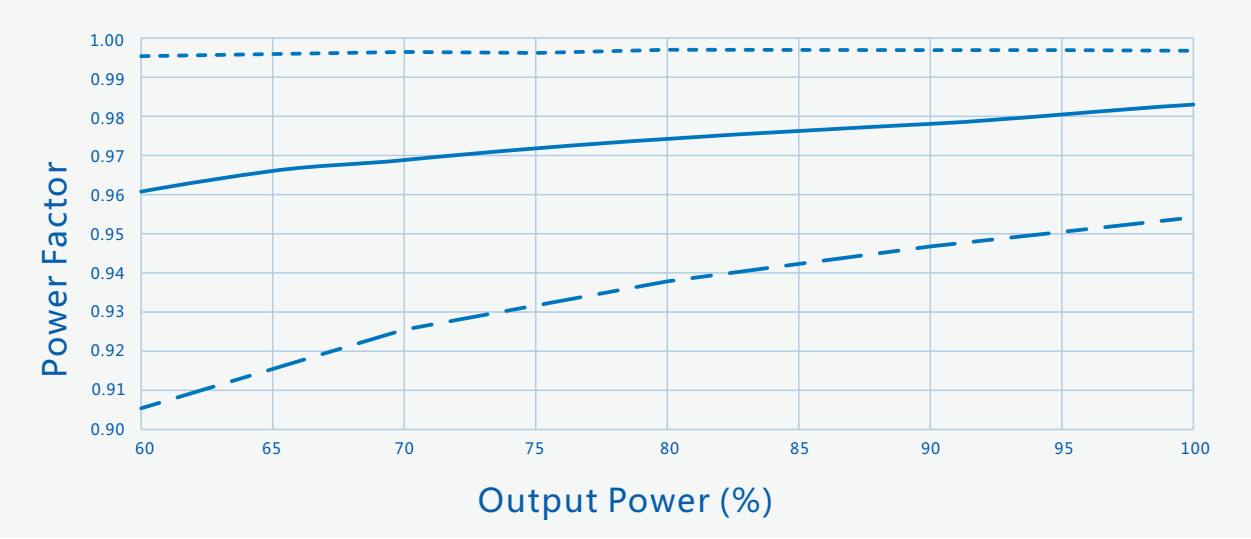
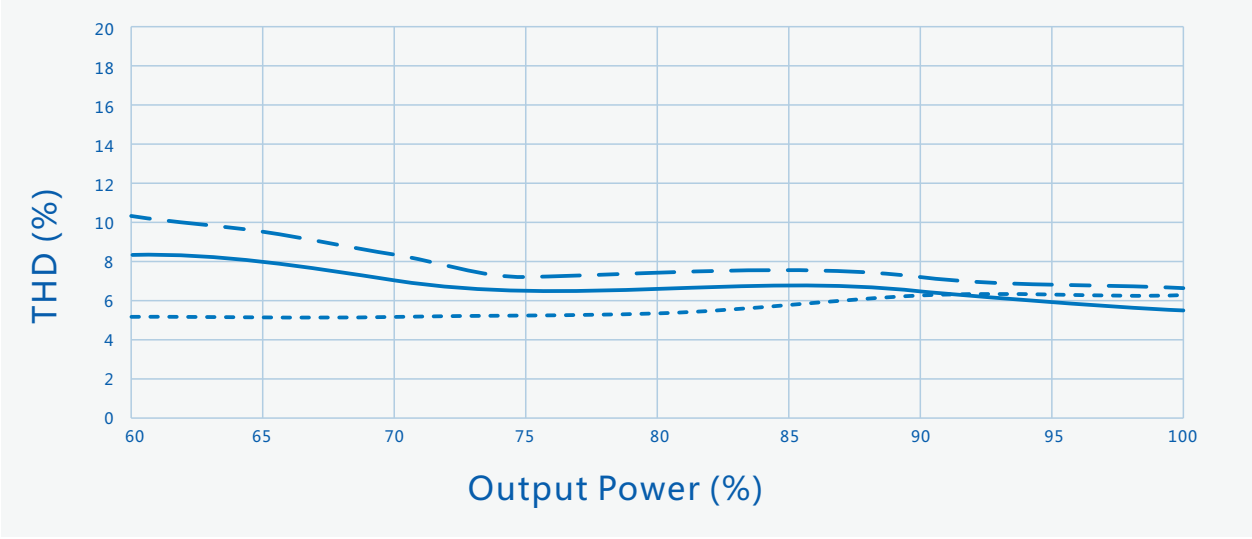
Performance Curves:

Power Factor Vs. Output Power



Vin=120Vac Vin=220Vac Vin=277Vac

THD Vs. Output Power



Vin=120Vac Vin=220Vac Vin=277Vac

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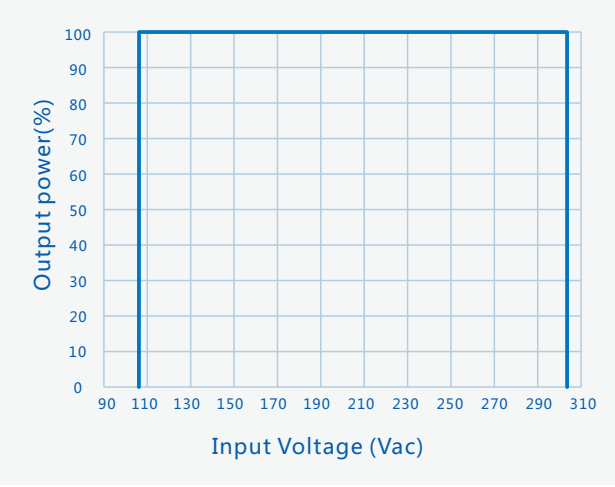
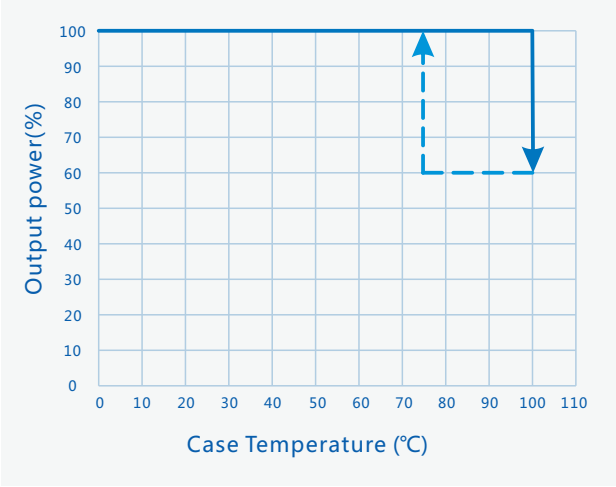
Performance Curves:

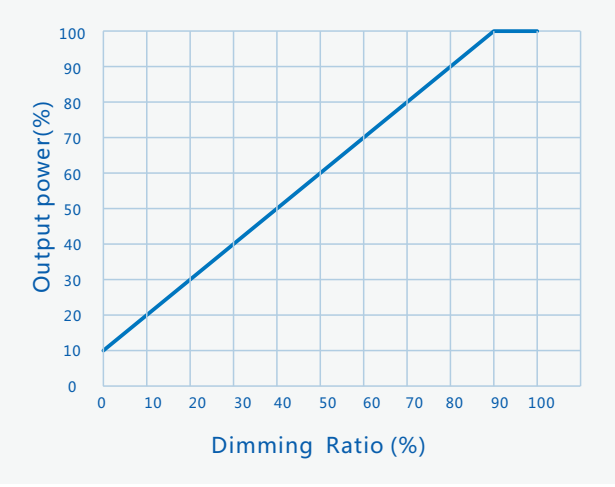
Output power Vs. Input Voltage (Ta Max.60℃)



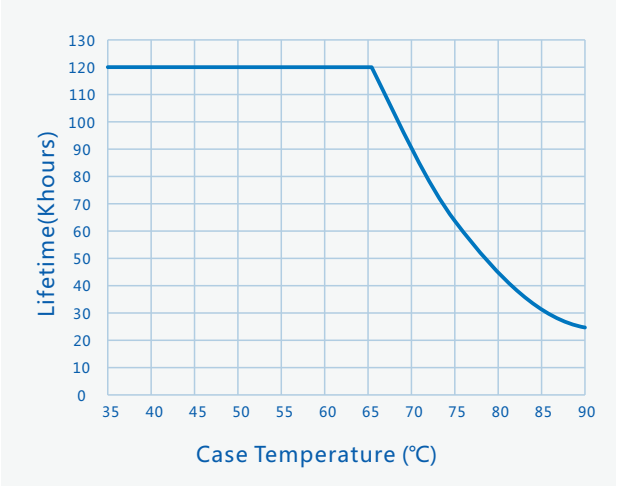
Output power Vs. Case Temperature



Output Power Vs. Dimming



Lifetime Vs. Case Temperature



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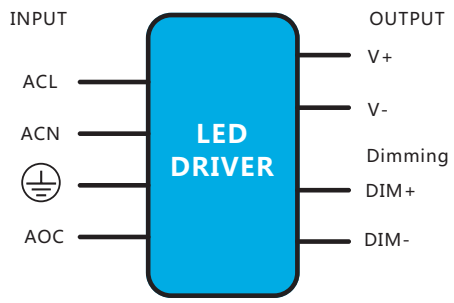
Mechanical Characteristics



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

UL model: SJTW,3*18AWG,O.D: 7.8mm,Black:L,White:N,Green: ⏚
EU model: H05RN-F,3*1.0mm², O.D:7.3mm,Brown:L, Blue:N,Yellow/Green: ⏚
Global model: SJOW,3*17AWG ,O.D:8.0mm,Brown:L, Blue:N,Yellow/Green: ⏚
BIS model: IS:9968,3*1.0mm² ,O.D:7.4mm,Red:L, Black:N,Green: ⏚

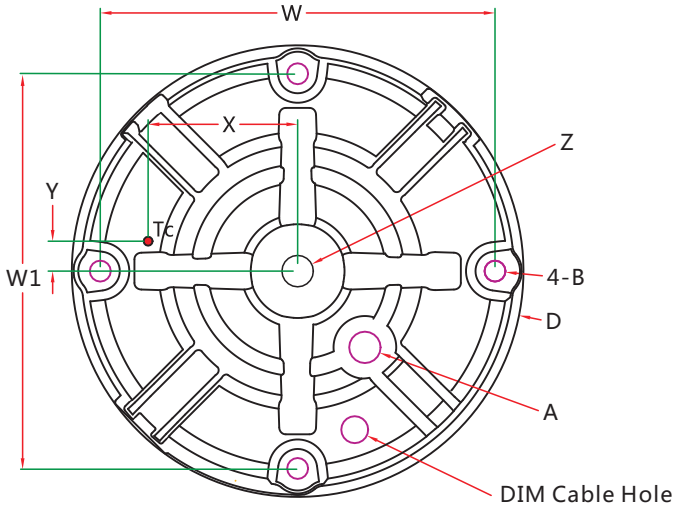
DC Output Cable(Exposed Length 300±10mm):

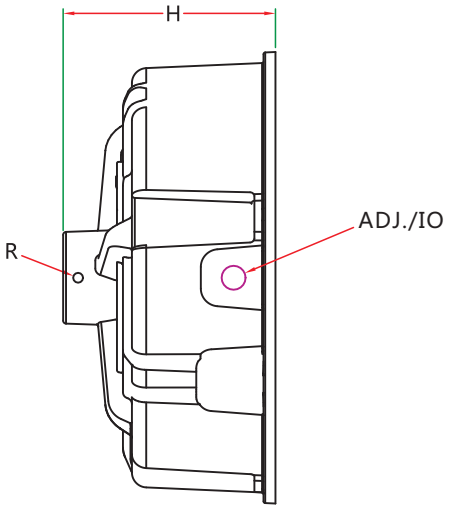
UL model: SJTW,2*14AWG,O.D: 9.0mm,Red:V+ , Black:V-
EU/BIS model: H05RN-F,2*1.5mm², O.D:8.7mm, Brown:V+, Blue:V-
Global model: SJOW,2*14AWG, O.D:8.8mm, Brown:V+, Blue:V-

DIM Cable(Exposed Length 220±10mm):

UL/EU/Global/BIS model: UL 2733, 2*22AWG , O.D: 5.7mm , Purple : DIM+, Pink: DIM-

Name Description	Standard Code	mm(In.)
PG Size	A	M12*1.5
Mounting Screw Diameter	4-B	Φ8.5(0.33)
Case Diameter	D	Φ182.0(7.17)
Height	H	71.5(2.82)
Ring Hole	Z	M12*1.75(Depth 18mm) G1/2(Depth 17mm)
Ring Fixed Hole	R	M4*0.7
Mount Size	W	162.0(6.38)
Mount Size	W1	162.0(6.38)
TC Point Position	X	37.0(1.46)
TC Point Position	Y	8.0(0.31)





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. 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 tinned connectors should be capped if not used to avoid dimming parts damage from external signals.

Package

- Outside carton dimension: L×W×H =580mm×433mm×210mm;
- 8PCS/Carton;
- Net weight/Piece: 1.95kg;Gross weight/Carton: 17kg;
- 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	2018/10/18	
V01	Update Structure Diagram	2019/04/25	
V02	Update Dtructure Diagram	2019/06/17	
V03	Update Cable Description	2019/09/09	
V04	Increase BIS Cable	2020/03/05	
V05	Update Cable Length	2020/05/09	
V06	Update Tinned Length Of Wire	2021/07/02	
V07	Update DIM Cable Color	2021/09/02	
V08	Add Page Number	2023/02/01	

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