

SOSEN LED Driver, Your Smart Choice

Specifications

SS-100GA Series LED Driver

Model: SS-100GA-56*

Description: 100W LED Driver

Rev.: V05

Release Date: 2021-09-25

SS-100GA Series LED Driver

SOSEN
LED DRIVER



LED DRIVER

GA Series



Features:

- Efficiency up to 91%
- Isolated dimming: 1-10V, 10-0V/5-0V, PWM, Resistor
- IP67
- Protections: SCP/OTP/OVP/OPP
- Surge protection: CM: 10kV, DM: 6kV
- Warranty: 5 years



CB CE IP67

Description:

SS-100GA series are 100W constant current LED Driver wide O/P voltage range and adjustable O/P current. It has automatic O/P power reduction at lower AC input voltage and all-around protections which greatly improves product safety and reliability. LED luminaries manufactures can design luminaries easily and reduce cost.

Applications:

High bay lighting, high mast lighting, stage lighting, street 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-100GA-56*	220-240Vac	100W	22-56V	32-56V	1.6-3.2A	10%	0.96	91%	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.

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“*” Means Additional Function

“*”	DALI (suffix:D)	AUX 12V (suffix:H)	NTC (suffix:N)	Timing	1-10V/PWM Dim /Resistor Or 10-0V (suffix:B)	Remark
B					✓	
No suffix						

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	220Vac		240Vac	
Performance Input Voltage Range	200Vac		305Vac	
AC Input Range	100Vac		305Vac	100-200Vac Survived @48hrs
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			0.7A	220Vac, Full load
Max Input Power			110W	220Vac, Full load
Max Inrush Current(220Vac)			70A	Cold start
Max Inrush Current(277Vac)			75A	Cold start
No Load Power			3W	220Vac/50Hz, No load
Power Factor	0.96	0.98		220Vac/50Hz, Full load
	0.90			220-240Vac/50Hz, 70-100% load
THD		10%	12%	220Vac/50Hz, Full load
			20%	220-240Vac/50Hz, 70-100% load

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Output Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	22V		56V	Power derated @22-32V (1-10V/PWM Dim/Resistor)
O/P Voltage Range	28V		56V	Power derated @28-32V(10-0V)
Rated O/P Voltage	32V		56V	$P_o = V_o \cdot I_o = 100W$, Full load
Rated O/P Current	1.78A		3.2A	3.15A for 32V, 1.78A for 56V
Adj. O/P Current (AOC) Range	1.6A		3.2A	
No Load Voltage			60V	
Efficiency @220Vac	89.0%	90.5%		Output 46V/2.2A
Efficiency @277Vac	89.5%	91.0%		Output 46V/2.2A
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	220Vac, Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
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			10W	Driver will not be damaged, Hiccup mode

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
1-10V Dimming (Optional) (Only For Positive Dimming)	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) (Only For Positive Dimming)	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) (Only For Positive Dimming)	Resistance	10Kohm		100Kohm	DIM+ source current 110uA.
	Dim Range	10%Iomax		100%Ioset	
10-0V Dimming (Optional) (Only For Negative Dimming)	Dim Vmax	0V		10V	DIM+ source current <300uA.
	Dim Range	100%Iomax		10%Ioset	Dimming prohibits reverse connection
	Rec.Dim Range	0V		10V	
5-0V Dimming (Optional) (Only For Negative Dimming)	Dim Vmax	0V		5V	DIM+ source current <300uA.
	Dim Range	100%Iomax		10%Ioset	Dimming prohibits reverse connection
	Rec.Dim Range	0V		5V	
Lifetime(Tc≤77℃)		≥62,000 hours			80% load
MTBF		220,000 hours			220Vac, Full load, Ta=25℃ (MIL-HDBK-217F)
IP Grade		IP67			
Tc		90℃			
Warranty		5 years			Tc : 75℃
Net Weight		640g			
Dimension		171mm*66mm*35.5mm			L x W 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
ENEC	EN 61347-1:2015 EN 61347-2-13:2014 EN 61347-2-13:2014/A1:2017	✓	
RCM	AS/NZS61347.2.13	✓	
KC	K61347-1,K61347-2-13	✓	
CCC	GB 19510.14-2009	✓	
CE	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013	✓	

EMI/EMS	Criterion	Remark
Conduction Emission	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: 6kV,CM: 10kV,Criterion B
Ring Wave	IEC/EN 61000-4-12	DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items:

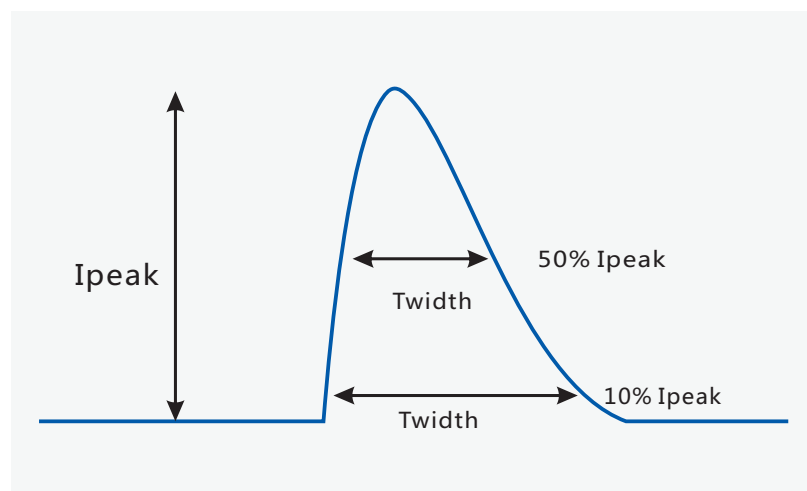
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-Output	1600Vac	3000Vac	3750Vac	Reinforced insulation
Input-Case	1600Vac	1500Vac	1875Vac	Basic insulation
Input-Dim	1600Vac	3000Vac	3750Vac	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	$\geq 10\text{M}\Omega$			Input-Output, Test voltage: 500Vdc
Ground Resistance	$\leq 0.1\Omega$			25A/1min
Leakage Current	$\leq 0.75\text{mA}$			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

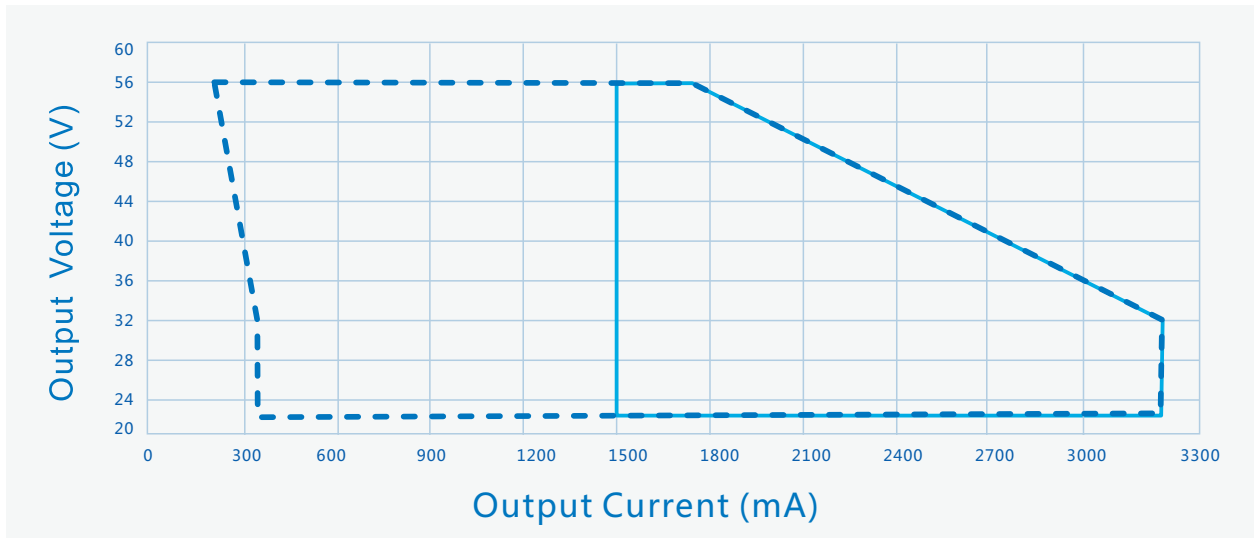


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	70A		200uS
277Vac	75A	500uS	

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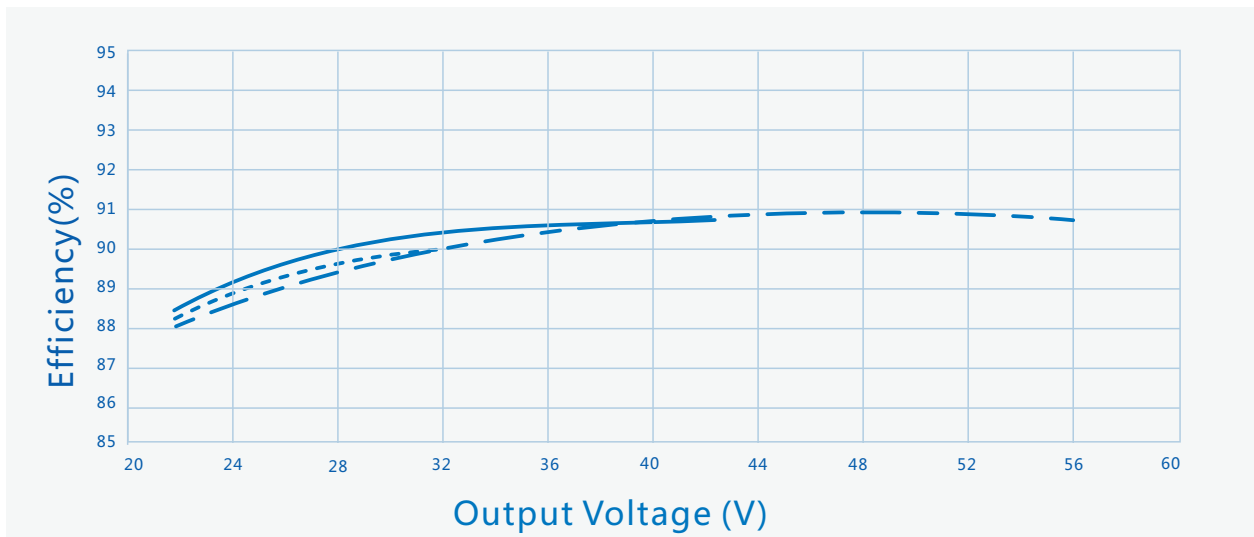
Performance Curves:

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



----- Dimming Window ————— AOC Window

Efficiency Vs. Output Voltage (Vin=220Vac)

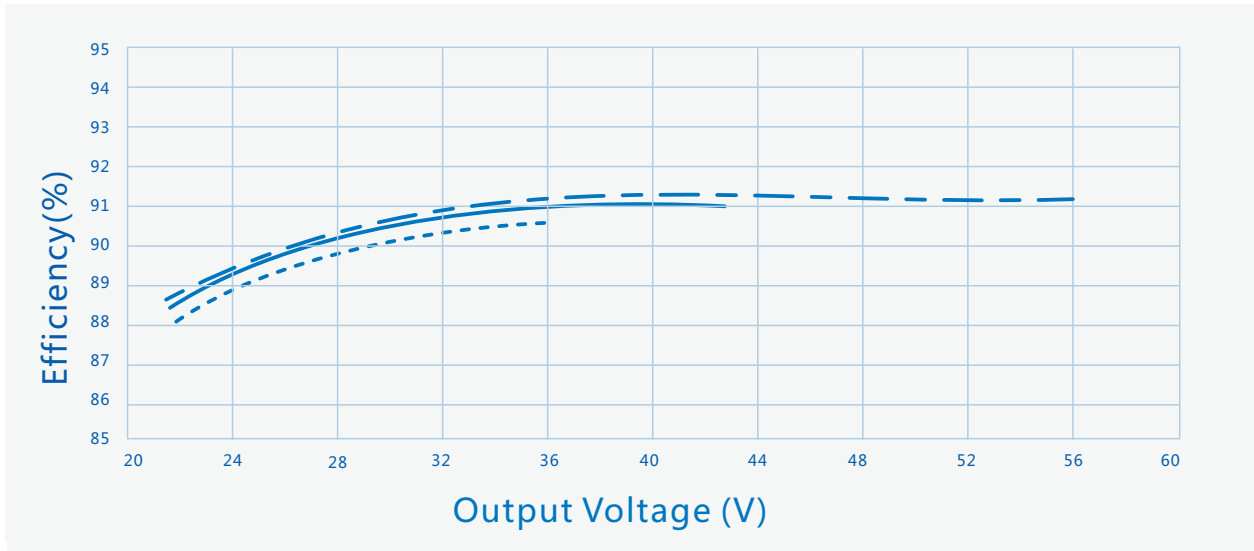


----- Io=3200mA ————— Io=2400mA - - - Io=1780mA

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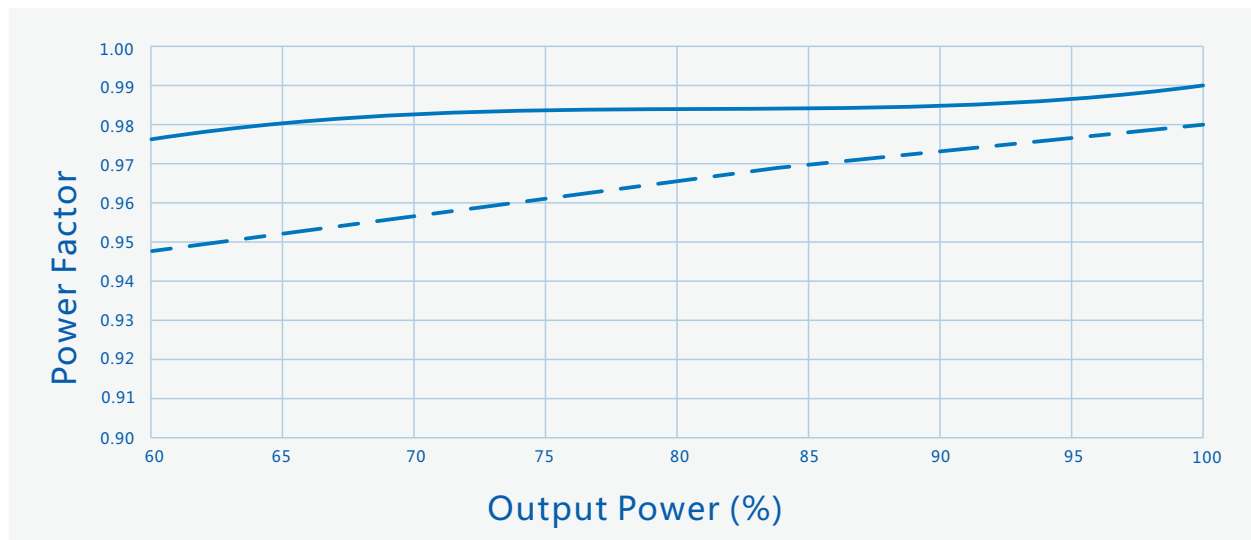
Performance Curves:

Efficiency Vs. Output Voltage ($V_{in}=277V_{ac}$)



----- $I_o=3200mA$ ————— $I_o=2400mA$ - - - $I_o=1780mA$

Power Factor Vs. Output Power

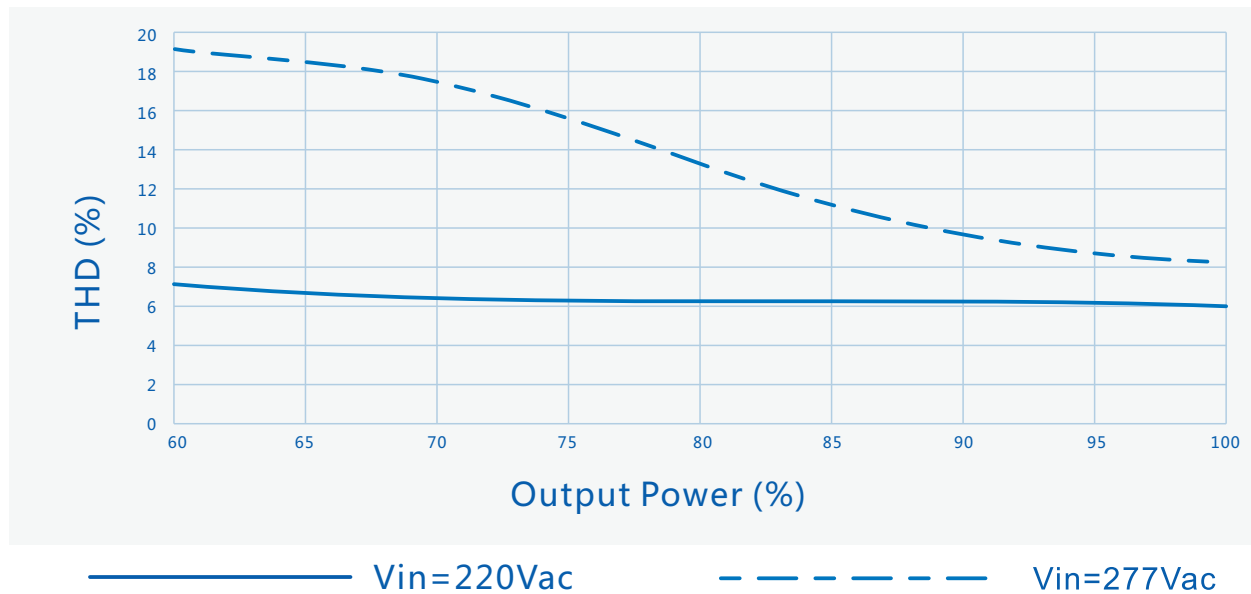


————— $V_{in}=220Vac$ - - - $V_{in}=277Vac$

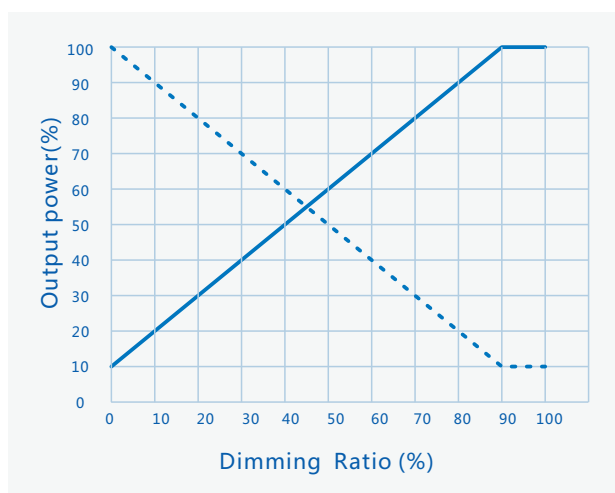
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Performance Curves:

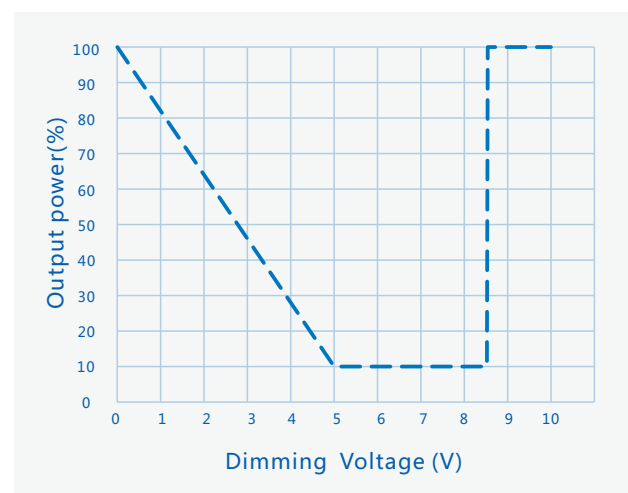
THD Vs. Output Power



Output Power Vs. Dimming



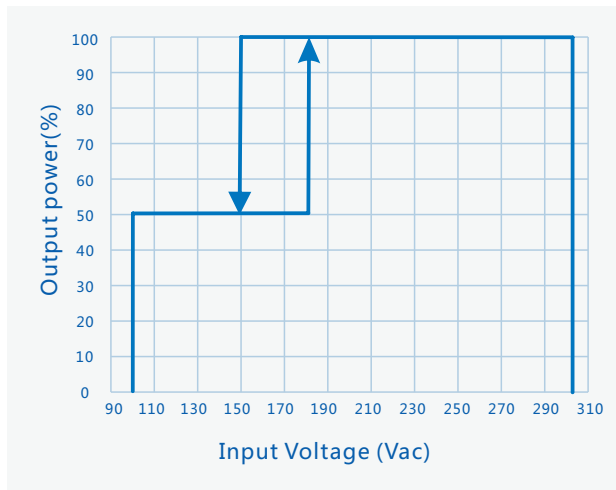
Output Power Vs. Dimming(5-0V)



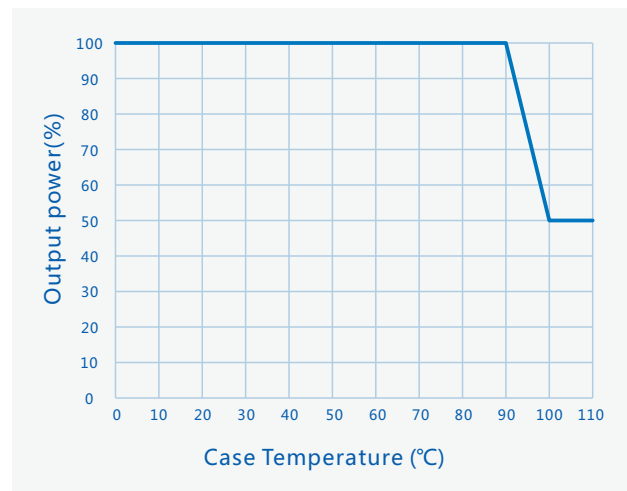
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Performance Curves:

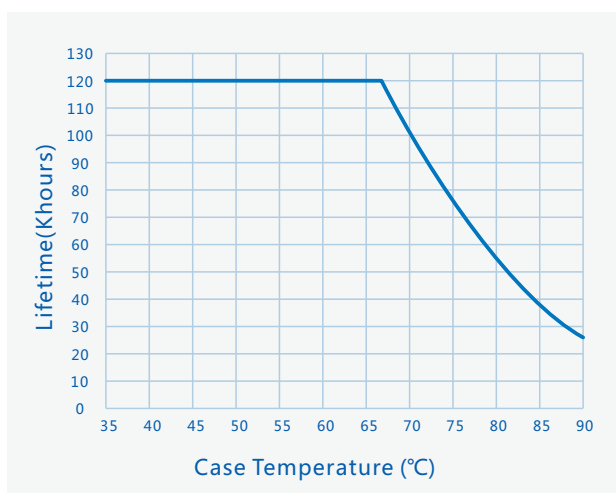
Output power Vs. Input Voltage
(Ta Max.60°C)



Output power Vs. Case Temperature

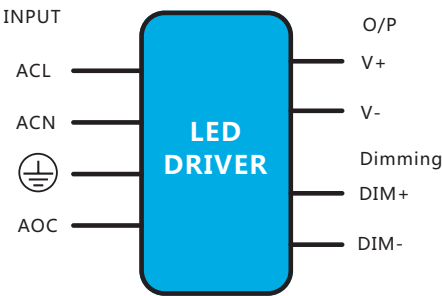


Lifetime Vs. Case Temperature



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Mechanical Characteristics



AC Input Cable(Exposed Length 450±10mm):

EU model: H05RN-F,3*1.0mm², O.D:7.3mm,Brown:L, Blue:N,Yellow/Green:⏏

DC Output Cable(Exposed Length 250±10mm):

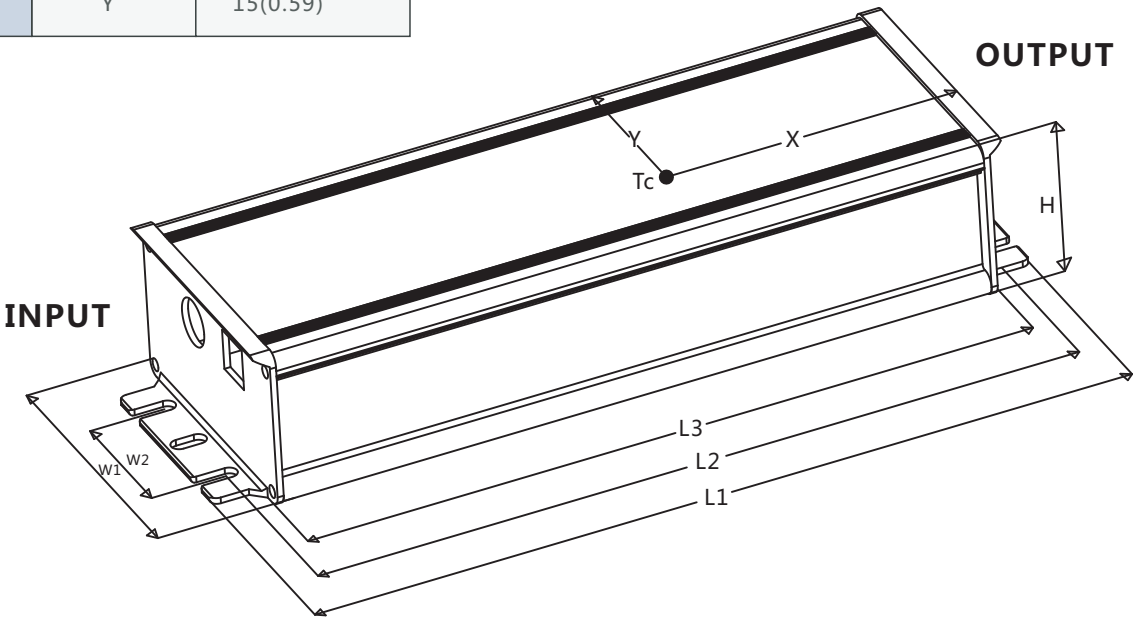
EU model: H05RN-F,2*1.0mm², O.D:7.0mm, Brown:V+, Blue:V-

DIM Cable(Exposed Length 220±10mm):

EU model: H05RN-F,2*0.75mm², O.D: 6.4mm, Brown : DIM+, Blue: DIM-

Name Description	Standard Code	mm(In.)
Case Length	L3	147(5.79)
Case Width	W1	66(2.6)
Case Height	H	35.5(1.4)
Overall Length	L1	171(6.73)
Mounting Hole Length	L2	156(6.14)
Mounting Hole Width	W2	32(1.26)
TC Point Position	X	30(1.18)
TC Point Position	Y	15(0.59)

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 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 O/P 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 =495mm×385mm×162mm;
- 14PCS/Carton;
- Net weight/Piece: 0.64kg;Gross weight/Carton: 10kg;
- 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 installation.

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	2018/10/18	
V01	Update The Input Cable Length To 450mm	2019/07/20	
V02	Update Lifetime Curve	2020/06/02	
V03	Increase 10-0V Dim	2020/11/10	
V04	Update Tinned Length Of Wire	2021/07/02	
V05	Increase 5-0V Dim	2021/09/25	