SOSEN LED DRIVER

SOSEN LED Driver, Your Smart Choice

Specifications

SS-150EP-M54BH2 LED Driver

Model: SS-150EP-M54BH2

Description: 150W LED Driver

Rev.: V02

Release Date: 2025-02-27

SS-150EP-M54BH2 LED Driver

SOSEN
LED DRIVER

LED DRIVER
—
EP-M54BH2

Features:

- Efficiency up to 92.5%
- Isolated dimming:0-10V,PWM,Resistor
- Protections: SCP/OTP/OVP/OPP
- Dual outputs with programmable outputs
- ULClass 2
- ULClass P
- AUX Power：12V/0.2A
- Surge protection: CM: 6kV, DM: 6kV
- Warranty: 5 years

Class 2 Class P

RoHS SELV

c UL us
LISTED
E360758

Description:

SS-150EP-M54BH2 are 150W constant current LED Driver with wide O/P voltage and adjustable O/P current. It has high efficiency, compact housing, good cooling, all-around protections. LED luminaries manufactures can easily design luminaries and reduce cost.

Applications:

High Pole lighting, Wall washer lighting,Flood 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-150EP-M54BH2	108-380Vac	75W（CH1）	18-54V	36-54V	0.35-2.1A	1.4A	6%	0.95	92.5%	90℃
		75W（CH2）	18-54V	36-54V	0.35-2.1A	1.4A				

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.Pout=CH1+CH2 =75W+75W=150W.

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Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	120Vac		347Vac	
AC Input Range	108Vac		380Vac	Derating below 120Vac, Ref. derating curve
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			1.65A	120Vac, Full load
Max Input Power			182W	120Vac, Full load
Max Inrush Current(120Vac)			50A	Cold start
Max Inrush Current(277Vac)			100A	Cold start
Max Inrush Current(347Vac)			120A	Cold start
Standby Power			0.5W	277Vac/60Hz, Dim off
Power Factor	0.92	0.95		347Vac/60Hz, Full load
	0.90			120-347Vac/60Hz, 70%-100% load
THD		6%	10%	347Vac/60Hz, Full load
			20%	120-347Vac/60Hz,70%-100% load

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Po1 Po2 O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	18V		54V	Power derated @18-36V
Rated O/P Voltage	36V		54V	CH1=Vo*Io=75W, Full load CH2=Vo*Io=75W, Full load
Rated O/P Current	1.4A		2.1A	2.1A for 36V,1.4A for 54V
Adj. O/P Current (AOC)Range	0.35A		2.1A	
No Load Voltage			60V	
Efficiency @120Vac	88.0%	89.0%		O/P 54V/1.4A
Efficiency @277Vac	91.0%	92.0%		O/P 54V/1.4A
Efficiency @347Vac	91.5%	92.5%		O/P 54V/1.4A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)			10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			1.0S	120Vac, Full load
			0.75S	347Vac, 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	95°C	100°C	105°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	O/P Voltage	10.8V	12V	13.2V	
	O/P Current			200mA	
0-10V 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	0%		100%	
Resistor Dimming (Optional)	Resistance	0Kohm		100Kohm	Not available with negative logic
	Dim Range	10%Iomax		100%Ioset	DIM+ source current 110uA.
Dim to Off (Optional)	Dim off	7%	8%	9%	By DC voltage, PWM, resistance dimming ratio
	Dim on	9%	10%	11%	By DC voltage, PWM, resistance dimming ratio
Lifetime(Tc≤85℃)		≥50,000 hours			80% load
MTBF		205,000 hours			220Vac,Full load, Ta=25℃ (MIL-HDBK-217F)
Tc		90℃			
Warranty		5 years			Tc：85℃
Net Weight		740g			
Dimension		285mm*45.5mm*31mm			L x Wx 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
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	ANSI/C82.77-5-2017	DM: 6kV,CM: 6kV,Criterion B
Ring Wave	ANSI/C82.77-5-2017	DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items:

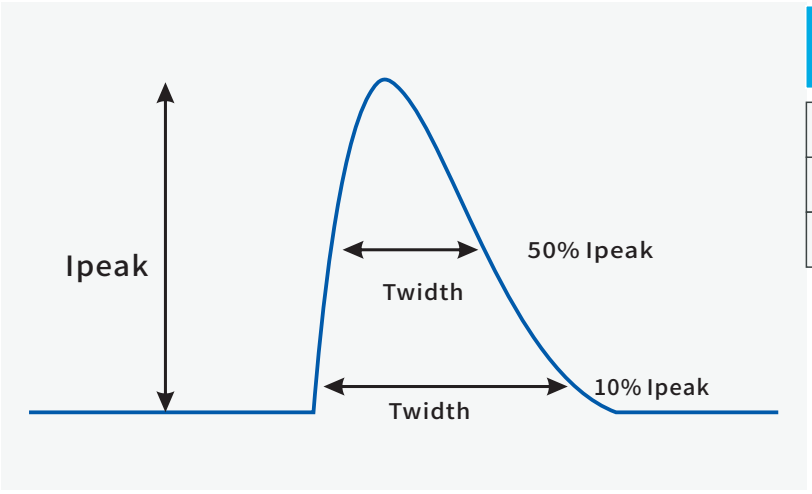
Safety Test Items	Technical Indicators	Remark
Insulation Requirements	UL Insulation Requirements	
Input-Case	2U+1000	
Input-Dim	2U+1000	
Dim-Case	500Vac	
Insulation Resistance	⩾10MΩ	Input-O/P,Test voltage:500Vdc
Ground Resistance	⩽0.1Ω	25A/1min
Leakage Current	⩽0.75mA	347Vac

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.

Performance Curves:

Input Inrush Current



Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	50A	800uS	550uS
277Vac	100A	700uS	500uS
347Vac	120A	800uS	400uS

注：Driver is compliant per NEMA 410-2015

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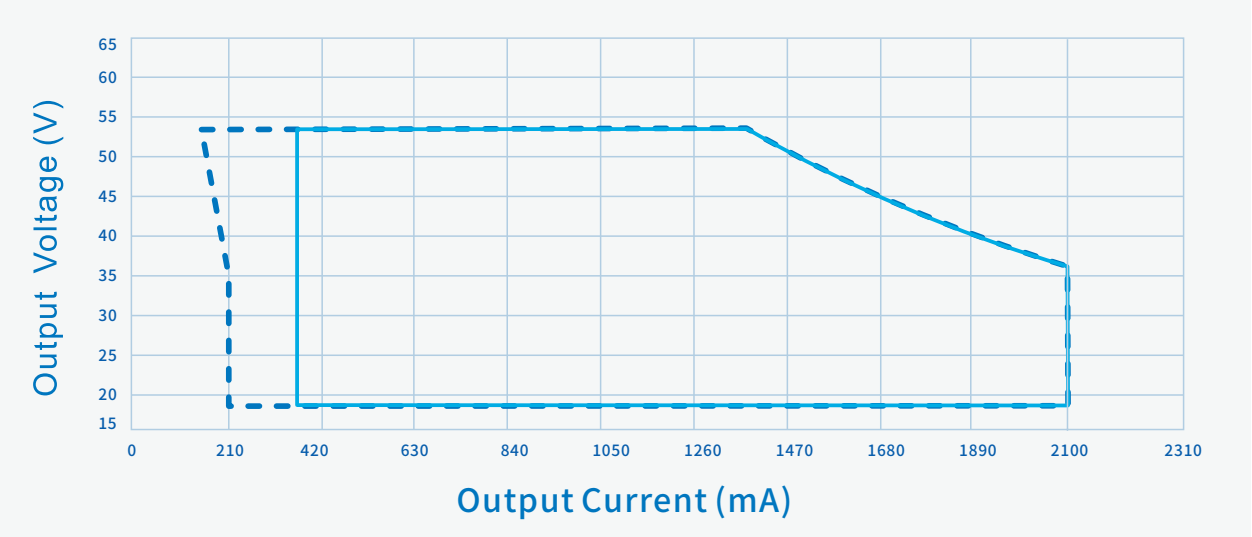
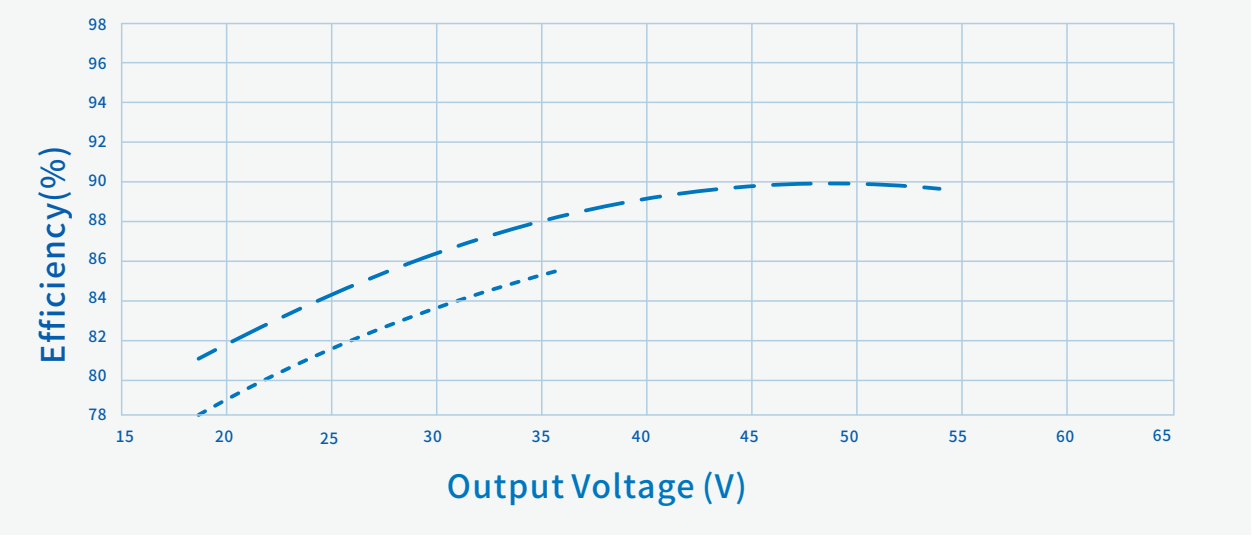
Performance Curves:

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



Dimming Window AOC Window

Efficiency Vs. O/P Voltage (Vin=120Vac)



Io=2100mA Io=1400mA

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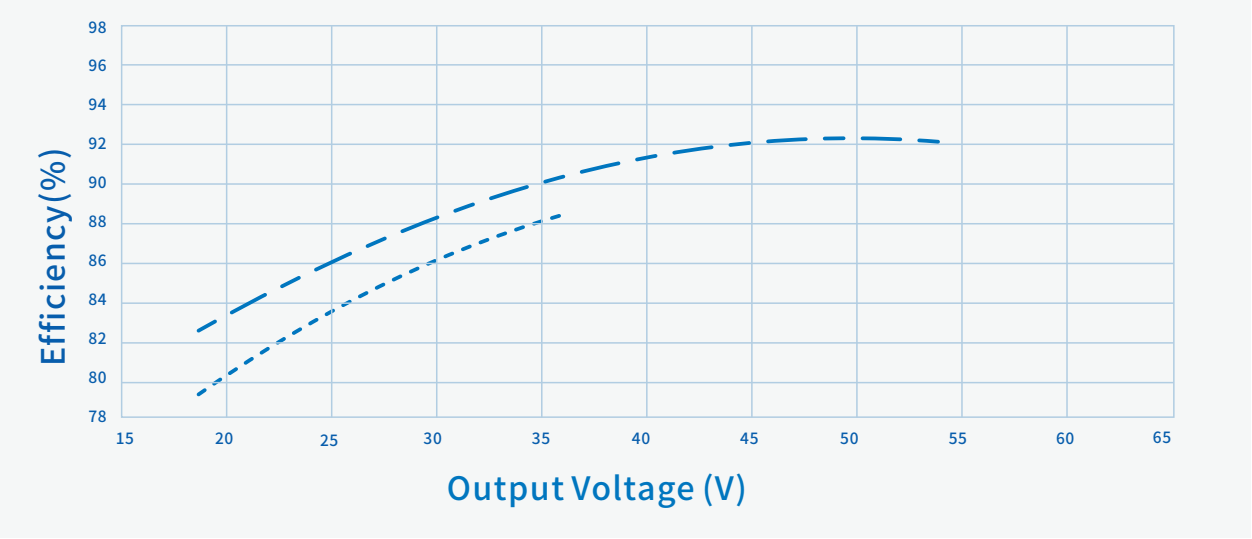
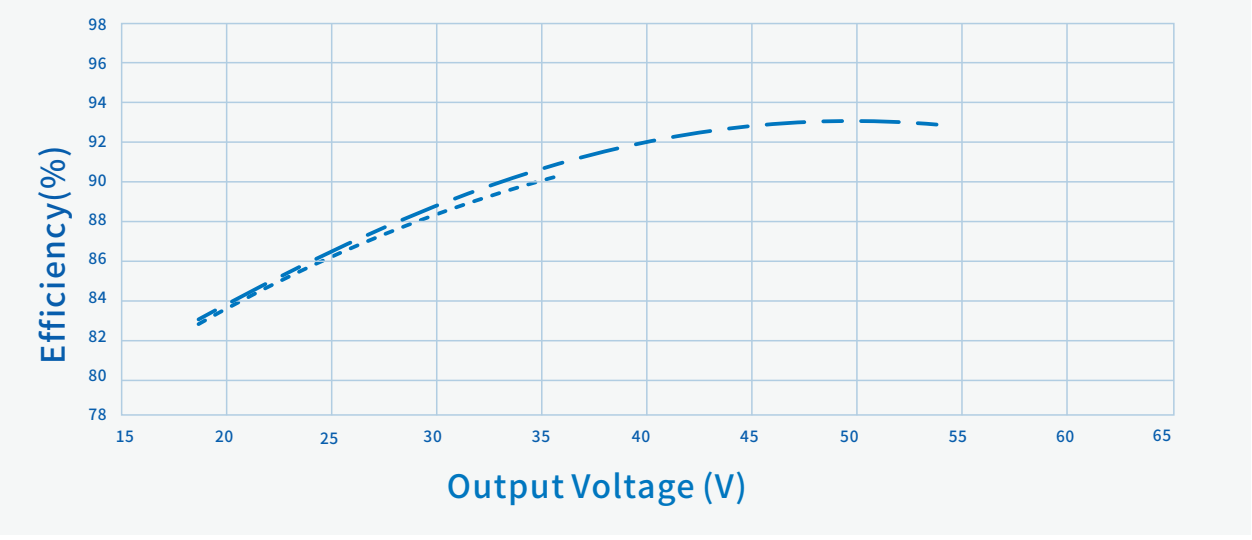
Performance Curves:

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



------- Io=2100mA — — — Io=1400mA

Efficiency Vs. O/P Voltage (Vin=347Vac)



------- Io=2100mA — — — Io=1400mA

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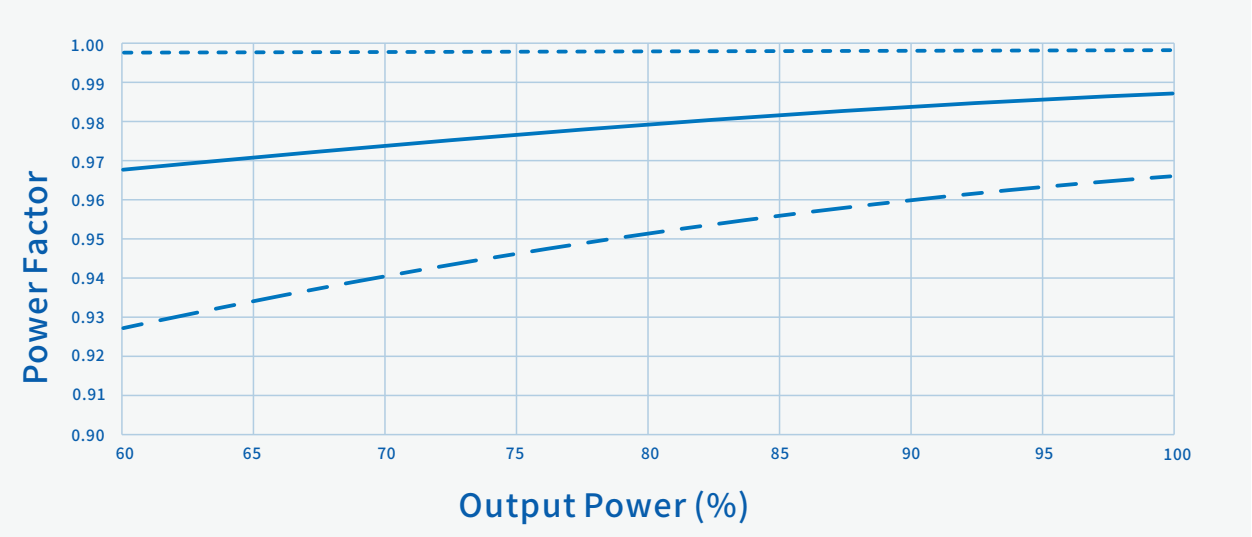
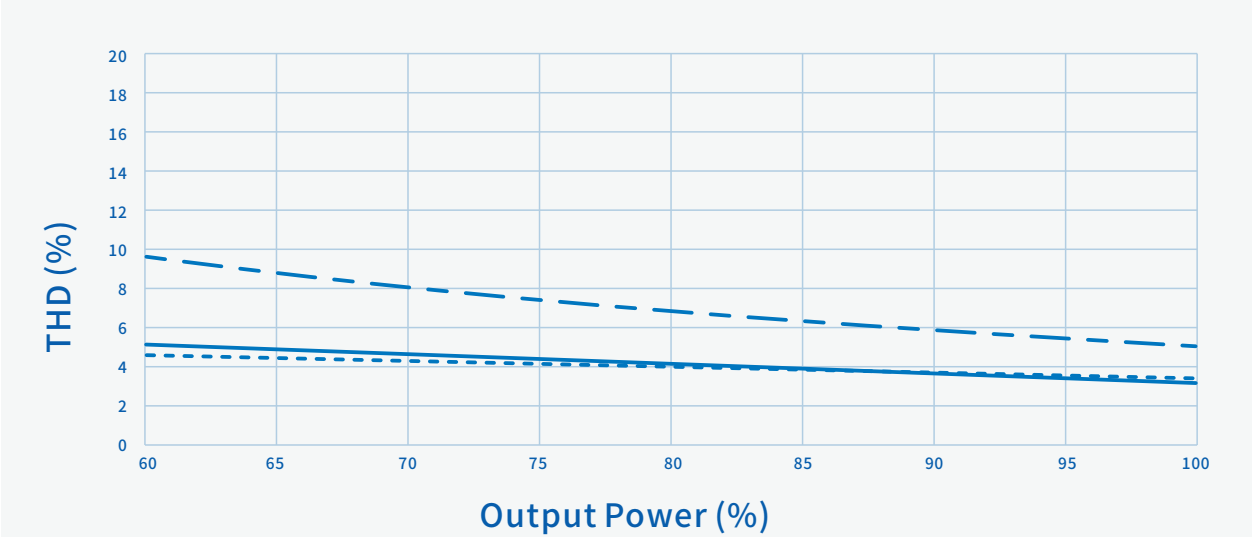
Performance Curves:

Power Factor Vs. O/P Power



Vin=120Vac Vin=277Vac Vin=347Vac

THD Vs. O/P Power



Vin=120Vac Vin=277Vac Vin=347Vac

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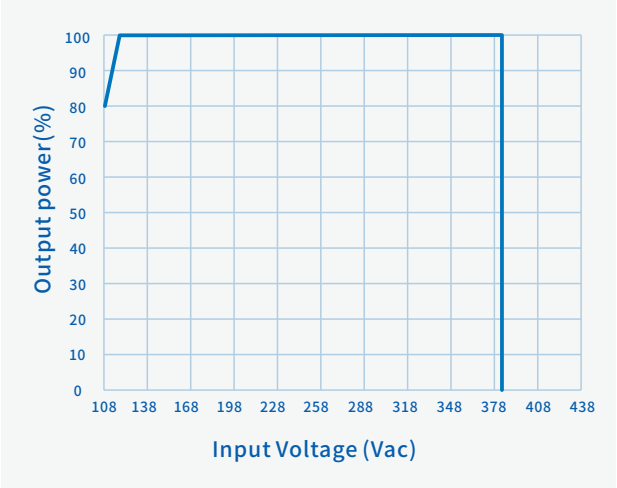
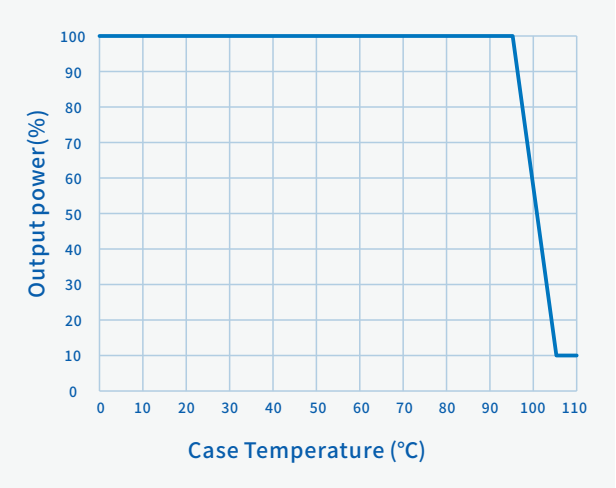
Performance Curves:

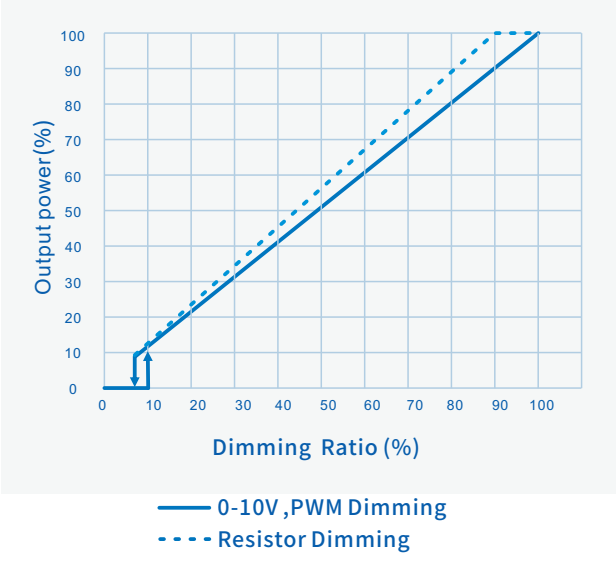
O/P Power Vs. Input Voltage(Ta=55℃)



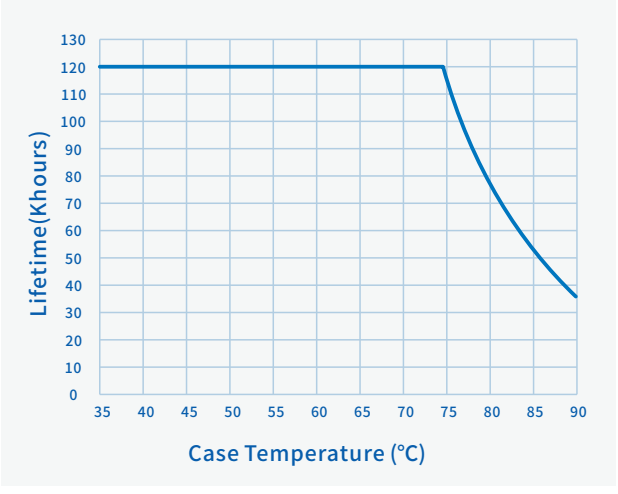
O/P Power Vs. Case Temperature



O/P Power Vs. Dimming



Lifetime Vs. Case Temperature



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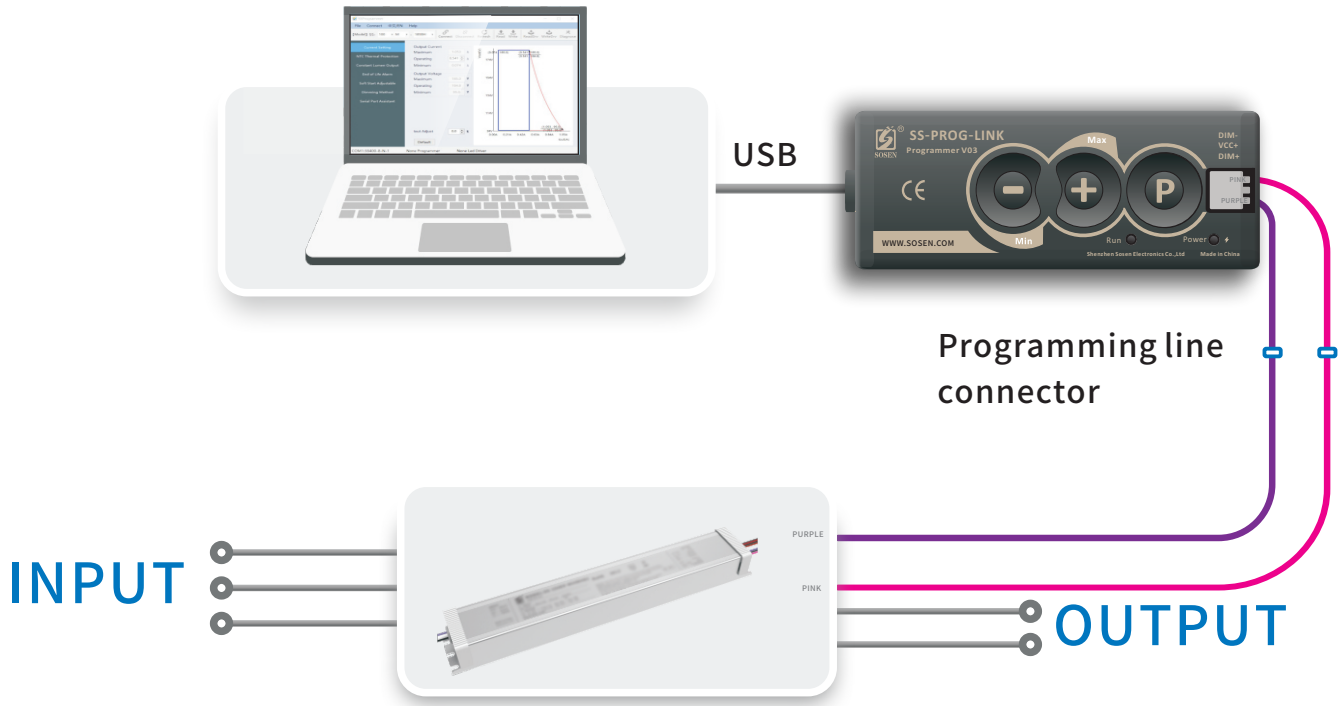
Programming Connection Diagram:

Legacy Timer: Driver's O/P follows the pre-programmed timing curve after turn-on.

Auto-Adjust by Percentage: Driver's O/P will be adjusted by automatically changed dimming curve by the period percentage based on the latest 5 dimming curve.

Auto-Adjust by Mid-point: Driver's O/P will be adjusted by automatically changed dimming curve by mid-point based on the latest 5 dimming curve.



Note:

Programming could be completed by off-line mode either without turn on the Driver nor without PC, other than the traditional on-line mode.

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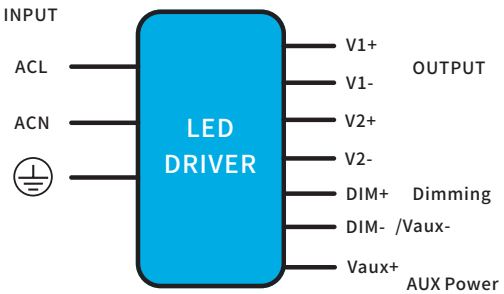
Mechanical Characteristics



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

UL model: UL1050, 18AWG 105℃ 600V O.D: 2.77mm,Black:ACL,White:ACN,Green:

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

UL model: UL1569, 18AWG, Φ1.85-2.05, 300V, 105℃, Red:V1+

UL1569, 18AWG, Φ1.85-2.05, 300V, 105℃, Red:V2+

UL1569, 18AWG, Φ1.85-2.05, 300V, 105℃, Black:V1-

UL1569, 18AWG, Φ1.85-2.05, 300V, 105℃, Black:V2-

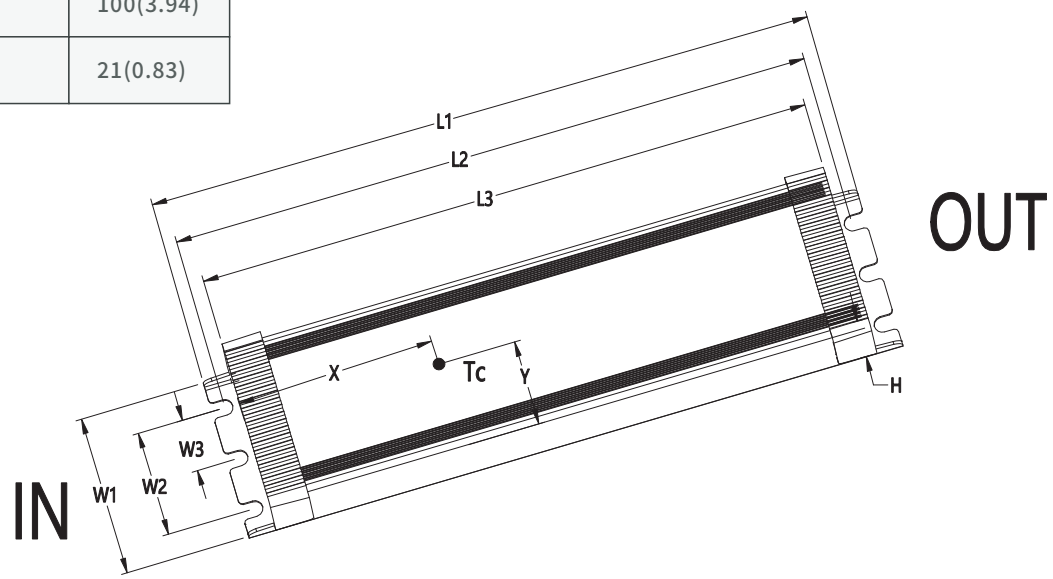
DIM/AUX Power Cable(Twisted wire, Exposed Length 220±10mm):

UL model: UL1569, 22AWG, Φ1.42-1.625, 300V, 105℃, Purple: DIM+

UL1569, 22AWG, Φ1.42-1.625, 300V, 105℃, Pink: DIM-/Vaux-

UL1569, 22AWG, Φ1.42-1.625, 300V, 105℃, Black/White: Vaux+

Name Description	Standard Code	mm(In.)
Case Width	W1	45.5(1.79)
Mounting Hole Width	W2	28(1.1)
Mounting Hole Width	W2	14(0.55)
Overall Length	L1	285(10.63)
Mounting Hole Length	L2	277(10.31)
Case Length	L3	271(10.08)
Case Height	H	31(1.22)
TC Point Position	X	100(3.94)
TC Point Position	Y	21(0.83)



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Assembly Tips

1. 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;
- 10PCS/Carton;
- Net weight/Piece: 0.74kg;Gross weight/Carton: 9.1kg;
- 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	2024/07/17	
V01	Updated standby power consumption and derating curves	2025/01/09	
V02	Updated structural dimensional characteristics	2025/02/27	

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