

SOSEN LED Driver, Your Smart Choice

Specifications

SS-1200VP-G Series LED Driver

Model: SS-1200VP-GXX

Description: 1200W LED Driver

Rev.: V00

Release Date: 2023-08-01

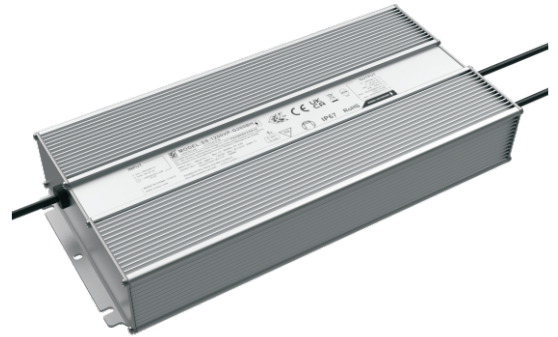
SS-1200VP-G Series LED Driver

SOSEN
LED DRIVER



LED DRIVER

VP-G Series



Features:

- Efficiency up to 95.5%
- Dimming: DALI-2, 0-10V, PWM, Resistor, Timing
- Dim-to-Off
- Surge Protection: CM: 10kV, DM: 6kV
- AUX Power : 12V/0.3A
- Constant Lumen, Life Warning
- External NTC to Protect LED Module
- Standby Power <0.5W
- IP67
- Communication Function With PC
- Type HL, suitable for hazardous locations
- Protections: SCP/OTP/OVP
- Warranty: 5 years
- Warranty: 8 years(Optional)



RoHS IP67

Description:

SS-1200VP-G series product is 1200W constant current LED Driver with wide O/P voltage range and adjustable O/P current by program. LED luminaries manufactures can easily design luminaries and reduce cost.

Applications:

Stadium lighting, High pole lighting, Plant lighting, Fish lighting

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Working Voltage	Iout	Iout (DALI-2)	THD (Typ.)	PF (Typ.)	Eff. (Typ.)	Max.Tc
SS-1200VP-G200*	176-305Vac	1200W	100-200V	150-200V	1.05-8.0A	4.44-8.0A	5%	0.95	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 ;

SS-1200VP-G Series LED Driver

“★” Means Additional Function

“★”	DALI (suffix:D)	AUX 12V (suffix:H)	NTC (suffix:N)	Timing	0-10V/PWM Dim /Resistor (suffix:B)	Remark
BH		✓		✓	✓	
BHN		✓	✓	✓	✓	
DH	✓	✓				
DHN	✓	✓	✓			

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	200Vac		277Vac	
AC Input Range	176Vac		305Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			7.0A	200Vac, Full load
Max Input Power			1300W	200Vac, Full load
Max Inrush Current(220Vac)			20A	Cold start
Standby Power			0.5W	220Vac/60Hz, Dim-off
Power Factor	0.95	0.97		220Vac/60Hz, Full load
	0.90			200-277Vac, 80-100% load
THD		5%	10%	220Vac/60Hz, Full load
			20%	200-277Vac, 80-100% load

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O/P Characteristics(SS-1200VP-G200*):

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	100V		200V	Power derated @100-150V
Rated O/P Voltage	150V		200V	$P_o = V_o \cdot I_o = 1200W$, Full load
Rated O/P Current	6.0A		8.0A	6.0A for 200V, 8.0A for 150V
Adj. O/P Current (AOC) Range	1.05A		8.0A	Adjustable by program
	4.44A		8.0A	DALI-2
No Load Voltage			240V	
Efficiency @220Vac	93.0%	95.0%		O/P 200V/6.0A
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	230Vac, Full load
			0.7S	230Vac, DALI-2
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				Driver will not be damaged
				Driver will not be damaged, Shut down for DALI-2

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
AUX Power	O/P Voltage	11.4V	12V	12.6V	
	O/P Current			300mA	Operate max 15min at 450mA
0-10V Dimming (Optional)	Dim Vmax	0V		12V	Negative dimming by programming
	Dim Range	10%loset		100%loset	DIM+ source current 110uA .
	Rec.Dim Range	0V		10V	Dimming prohibits reverse connection.
PWM Dimming (Optional)	PWM High	9.8V		10.2V	Negative dimming by programming
	PWM Low	0V		0.3V	DIM+ source current 110uA .
	Frequency	1KHz		2KHz	Dimming prohibits reverse connection.
	PWM Duty	0%		100%	
Resistor Dimming (Optional)	Resistance	0Kohm		100Kohm	Negative dimming by programming
	Dim Range	10%lomax		100%loset	DIM+ source current 110uA .
Dim to Off	Dim-off	7%	8%	9%	By DC voltage, PWM, resistance dimming ratio
	Dim-on	8%	9%	10%	By DC voltage, PWM, resistance dimming ratio
DALI Dimming Level		1-170(10%)		254(100%)	Logarithmic dimming curve
Timing Curve(Optional)		By programming			DALI models does not support this function
DALI Dimming(Optional)		Meet DALI-2			
Constant Lumen(Optional)		By programming			DALI models does not support this function
Life Warning(Optional)		By programming			DALI models does not support this function
Life Time(Tc≤75°C)		50,000 hours			80% Load
MTBF		200,000 hours			220Vac, Full load, Ta=25°C (MIL-HDBK-217F)
IP Grade		IP67			
Tc		90°C			
Warranty		5 years			Tc: 75°C
Net Weight		4200g			
Dimension		310mm*144mm*49.5mm			L x W x H

NOTE: 1, All the parameters above are tested Ta 25°C and LED load, unless specified.

2. When using resistor dimming (parallel connection of dimming wires), if the number of parallels is: N, the dimming resistor should be realized 0-100% dimming range, resistance value: 91KΩ/N.

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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
ENEC	EN 61347-1:2015/A1:2021 EN 61347-2-13:2014/A1:2017 EN IEC62384:2020	✓	
UKCA	EN 61347-1:2015/A1:2021 EN 61347-2-13:2014/A1:2017 EN 62493:2015	✓	
RCM	AS/NZS61347.2.13		
CCC	GB19510.1-2009;GB19510.14-2009		
KC	K61347-1,K61347-2-13		
CE	EN 61347-1:2015/A1:2021 EN 61347-2-13:2014/A1:2017 EN 62493:2015	✓	

EMI/EMS	Criterion	Remark
Conduction Emission	EN55015:2013+A1:2015	Class B
Radiation Emission	EN55015:2013+A1:2015	Class B
Harmonic Current Emissions	IEC/EN 61000-3-2	Class C
Surge	IEC/EN 61000-4-5	DM: 6kV,CM: 10kV,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:

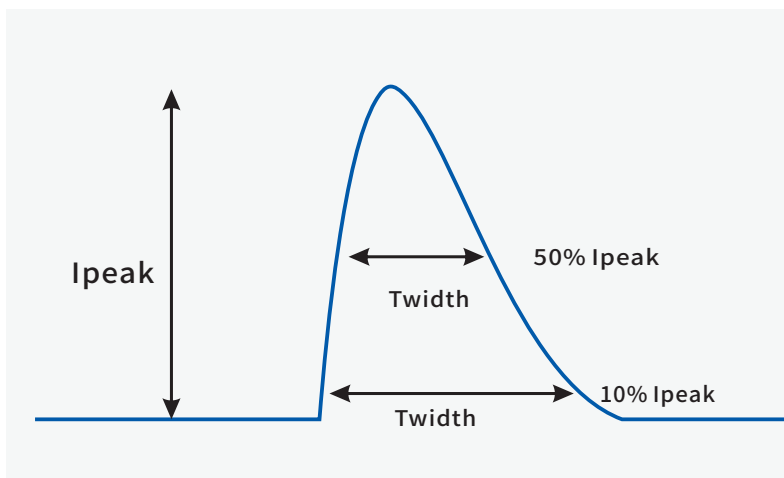
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-O/P	/	3000Vac	3750Vac	Reinforced insulation
Input-Case	/	1500Vac	1875Vac	Basic insulation
Input-Dim	/	3000Vac	3750Vac	Reinforced insulation
O/P-Dim	/	1000Vac	1000Vac	Basic insulation
O/P-Case	/	1000Vac	1000Vac	Basic insulation
Dim-Case	/	500Vac	500Vac	Basic insulation
Insulation Resistance	$\geq 10\text{M}\Omega$			Input-O/P, Test voltage: 220Vdc
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 as component.
2. Please short (ACL and ACN), (V+ and V-), (Dim+ and Dim - and Vaux+) 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

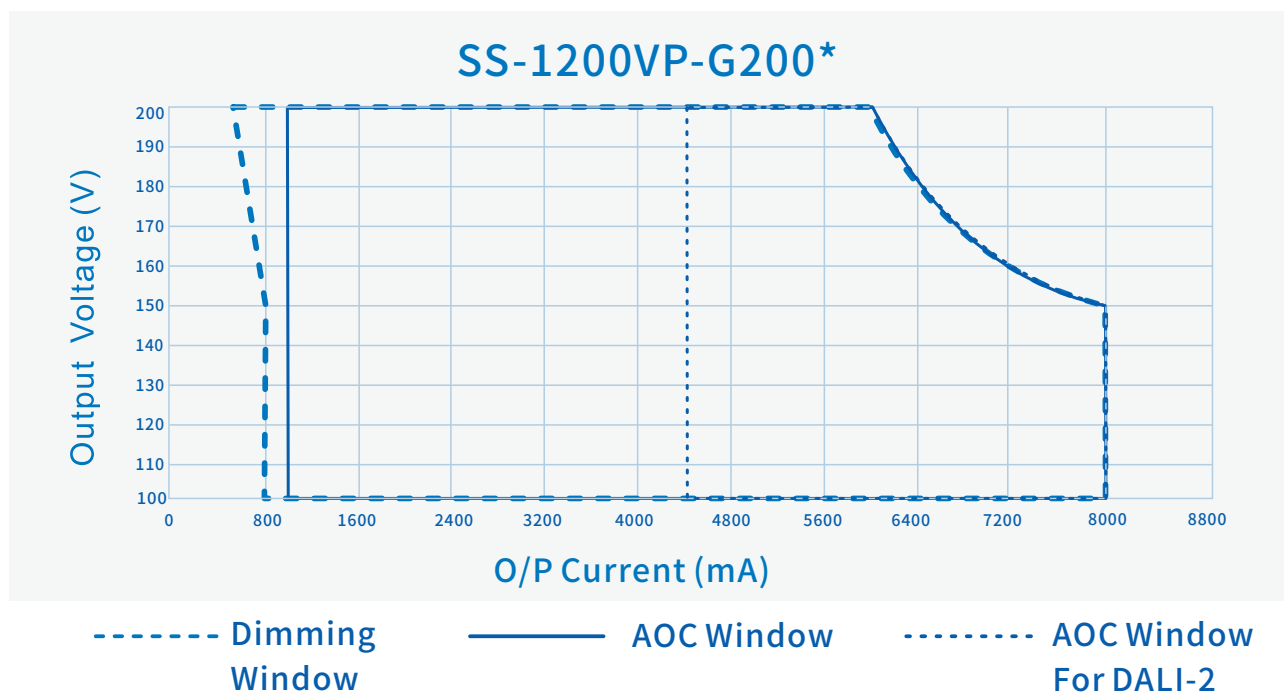


V_{in}	I_{peak}	$T(@10\% \text{ of } I_{peak})$	$T(@50\% \text{ of } I_{peak})$
220Vac	20A	10mS	3mS

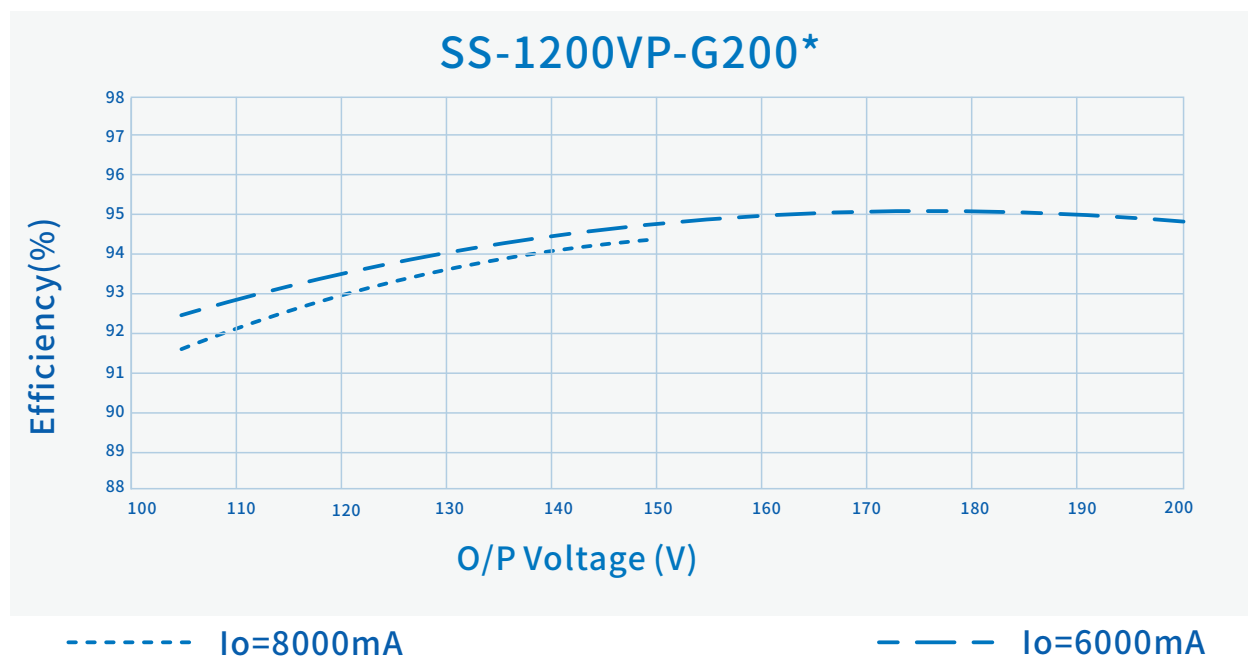
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Performance Curves:

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



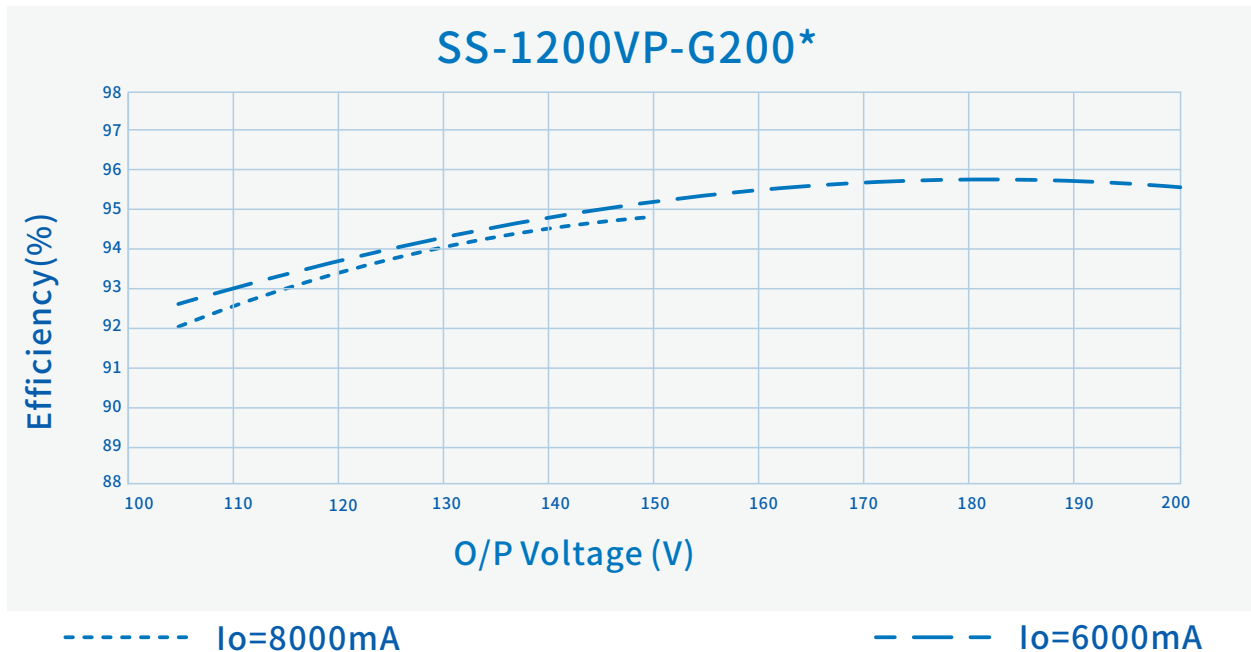
Efficiency Vs. O/P Voltage (Vin=220Vac)



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Performance Curves:

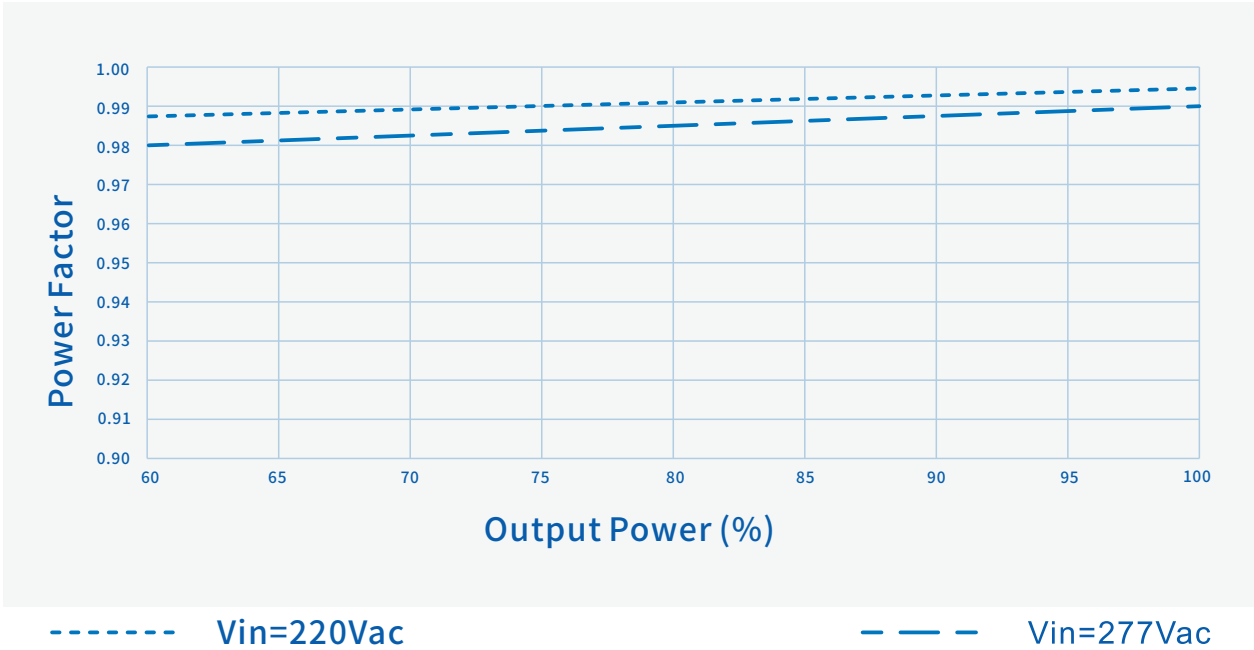
Efficiency Vs. O/P Voltage ($V_{in}=220V_{ac}$)



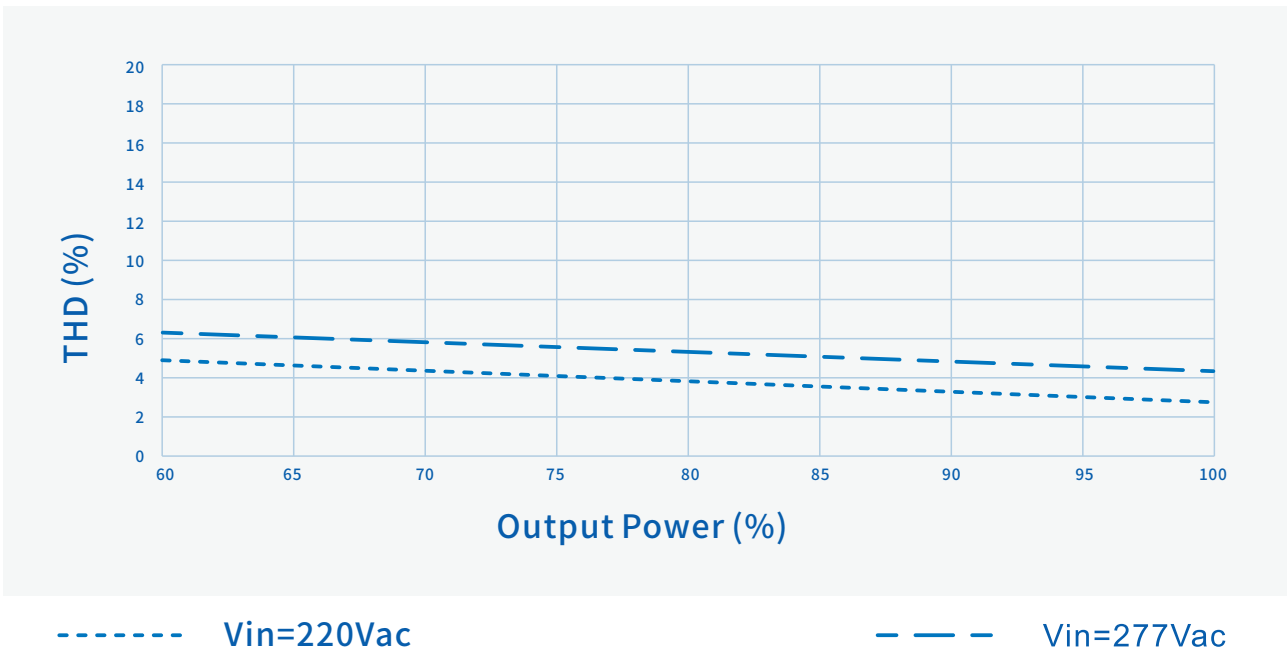
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Performance Curves:

Power Factor Vs. O/P Power



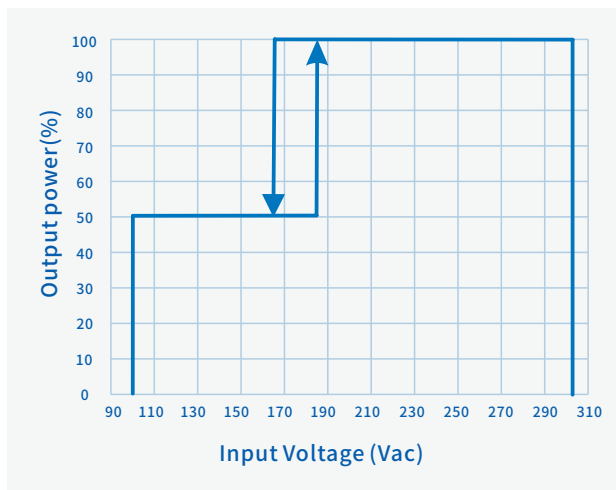
THD Vs. O/P Power



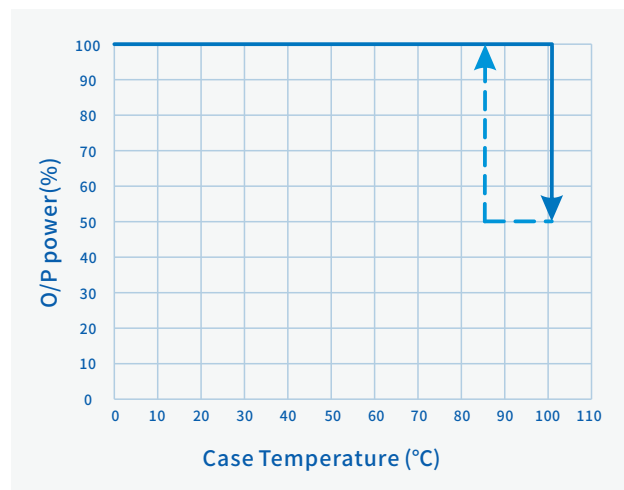
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Performance Curves:

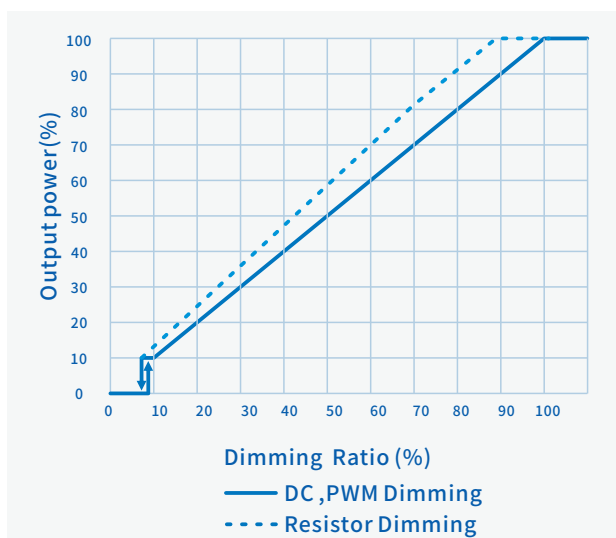
O/P Power Vs. Input Voltage



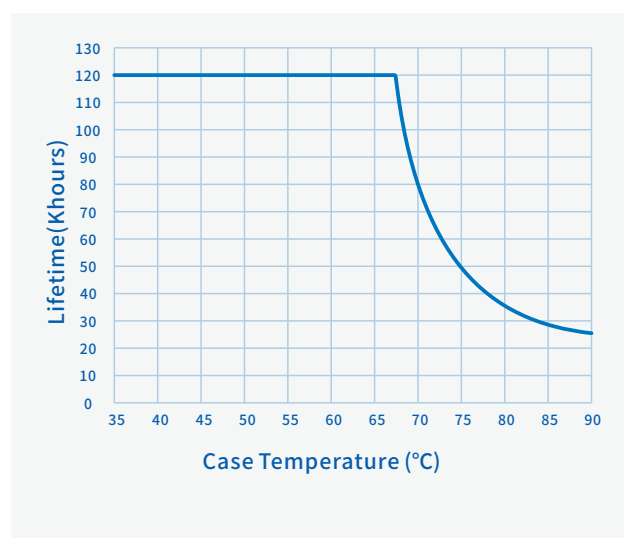
O/P Power Vs. Case Temperature



O/P Power Vs. Dimming



Lifetime Vs. Case Temperature



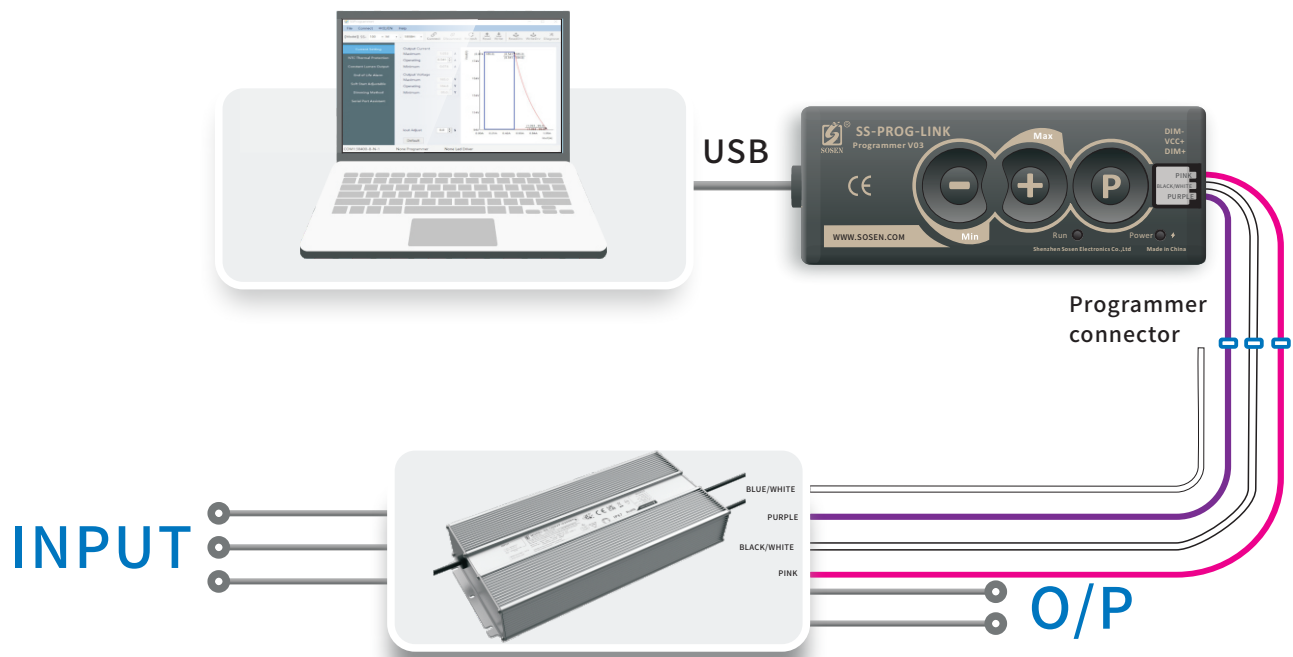
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Programming connection diagram:

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.



Constant Lumen Output

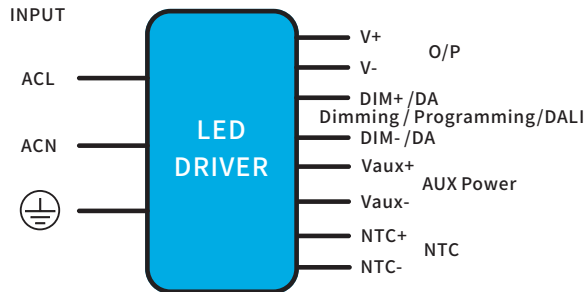
Constant Lumen Output are design to maintain fixture's stable output lumen by increasing driver's output current within driver's life span to counteract LED lumen degradation.

Note:

1. Programming could be completed by off-line mode either without turn on the driver nor without PC, other than the traditional on-line mode.
2. The DALI-2 models only support setting the rated output current through SS-DALI-PUSH and does not support programming through SS-PROG-LINK with PC.

SS-1200VP-G Series LED Driver

Mechanical Characteristics



AC Input Cable(Exposed Length $450 \pm 10\text{mm}$):

Global model: SJOW,3*17AWG,O.D: 8.2mm,Brown:L,Blue:N,Yellow/Green: $\oplus$

DC O/P Cable(Exposed Length $250 \pm 10\text{mm}$):

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

BH/DH Model:

DIM/AUX Power/Programming Cable

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

UL model: 21996, 4*22AWG , O.D: 5.6mm, Purple: DIM+, Pink: DIM-, Black/White: Vaux+, Blue/White: Vaux-

DHN Model:

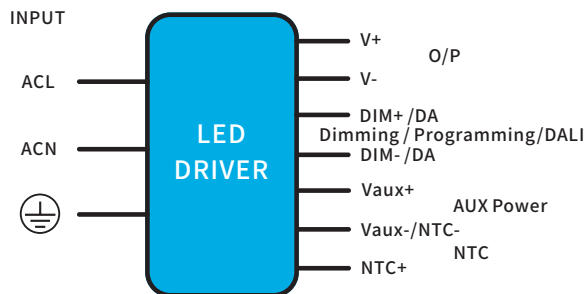
DIM/AUX Power/Programming Cable

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

UL model: 21996, 4*22AWG , O.D: 5.6mm, Purple: DIM+, Pink: DIM-, Black/White: Vaux+, Blue/White: Vaux-

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

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



AC Input Cable(Exposed Length $450 \pm 10\text{mm}$):

Global model: SJOW,3*17AWG,O.D: 8.2mm,Brown:L,Blue:N,Yellow/Green: $\oplus$

DC O/P Cable(Exposed Length $250 \pm 10\text{mm}$):

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

BHN Model:

DIM/AUX Power/Programming/NTC Cable

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

UL model: 21996, 5*22AWG , O.D: 6.0mm, Purple: DIM+, Pink: DIM-, Black/White: Vaux+, Blue/White: Vaux-/NTC-, Red/White: NTC+

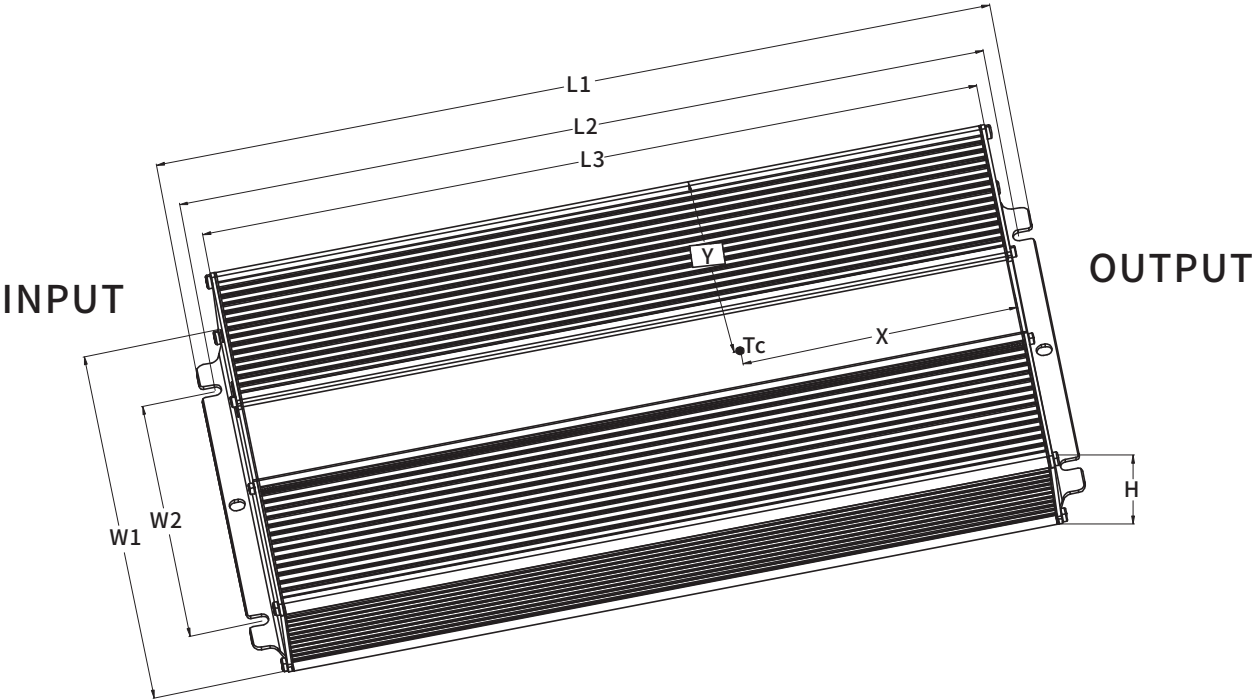
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Mechanical Characteristics

Name Description	Standard Code	mm(In.)
Overall Length	L1	310(12.2)
Mounting Hole Length	L2	299(11.77)
Case Length	L3	288(11.34)
Case Height	H	49.5(1.95)

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 ± 5 mm,
Tinned length of wire: 10 ± 2 mm

Name Description	Standard Code	mm(In.)
Case Width	W1	144(5.67)
Mounting Hole Width	W2	97(3.82)
TC Point Position	X	144(5.67)
TC Point Position	Y	72(2.83)



SS-1200VP-G Series LED Driver



Assembly Tips

1. Please take isolation and waterproof measures if the dimming cable is not in use.
2. In order to meet the requirements of the power derating and temperature performance, an auxiliary heat sink must be added. It is recommended that the heat sink has a heat dissipation area of 1450cm^2 and volume of 435cm^3 . Thermal grease should be applied between led driver and the auxiliary heat sink to ensure the bottom of housing is in close contact with the heat sink.

Package

- Outside carton dimension: $L \times W \times H = 495\text{mm} \times 385\text{mm} \times 162\text{mm}$;
- 4PCS/Carton;
- Net weight/Piece: 4.2kg; Gross weight/Carton: 18.3kg;
- 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	2023/08/01	

