SOSEN

SPECIFICATIONS

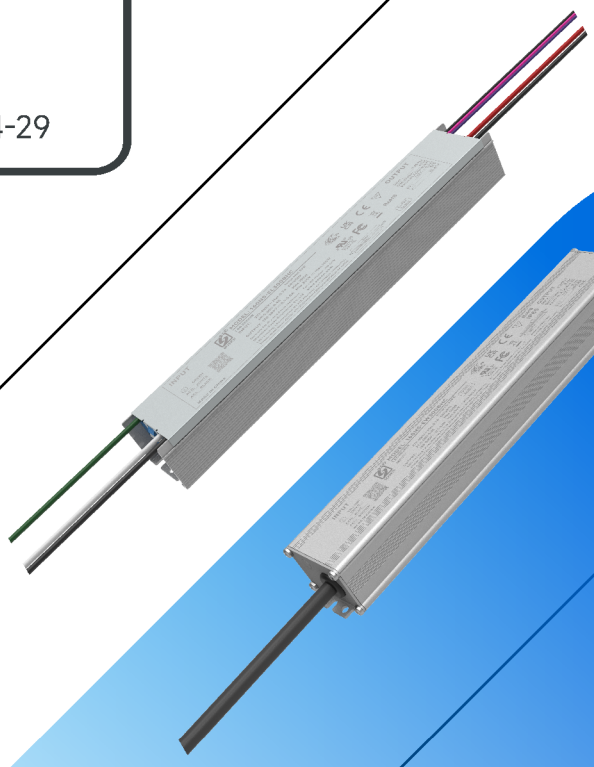
160NS-E*300BHC
CC DRIVER

Model: 160NS-E*300BHC

Power: 160W

Rev.: V00

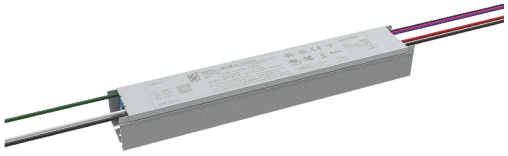
Release date: 2026-04-29



160NS-E*300BHC Series LED Driver

Features:

- Efficiency up to 95%
- Non-isolated power supply design
- Dual-live-wire input off without afterglow
- Isolated dimming: 0-10V,PWM,Resistor
- AUX Power: 12V/0.2A
- Dim-to-Off
- Surge protection: CM: 6kV, DM: 6kV
- Type HL, Suitable for hazardous locations
- Protections: SCP/OTP/UVP
- Programmable
- Warranty: 5 years



160NS-EL300BHC

160NS-EW300BHC

E360758
Type HL

RoHS

Description

160NS-E Series are 160W non-isolated constant current LED Driver with 249-528Vac. It has DIM to Off, high efficiency, isolated auxiliary power supply, compact housing ,fullypotted , high reliability, high cost performance and other advantages.

Applications:

Plant lighting, Wall washers, Linear industrial lamp, Flood lighting, Wall lam.

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
160NS-E*300 BHC	249-528Vac	160W	180-300V	200-300V	0.1-0.8A	8%	0.97	95%	90°C

Note:

1.Default Tested: at 347Vac, 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

"*"	AUX 12V suffix:H)	Dimming off 0-10V/PWM/Resistor	Timing	Dual-live-wire input off	IP65	Remark
L	✓	✓	✓	✓		
W	✓	✓	✓	✓	✓	

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	277Vac		480Vac	
AC Input Range	249Vac		528Vac	Ref. derating curve
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			0.7A	277Vac, Full load
Max Input Power			190W	277Vac, Full load
Max Inrush Current(277Vac)			70A	Cold start
Max Inrush Current(347Vac)			100A	Cold start
Max Inrush Current(480Vac)			120A	Cold start
Standby Power			1.0W	480Vac/60Hz, Dim to off
Power Factor	0.95	0.97		347Vac/60Hz, Full load
	0.90			277-480Vac/60Hz, 70-100% load
THD		8%	10%	347Vac/60Hz, Full load
			20%	277-480Vac/60Hz, 70-100% load

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O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	180V		300V	Power derated @180-200V
Rated O/P Voltage	200V		300V	Po=Vo*Io=160W, Full load
Rated O/P Current	0.53A		0.8A	0.8A for 200V,0.53A for 300V
Adj. O/P Current (AOC)Range	0.1A		0.8A	
No Load Voltage			350V	
Efficiency @277Vac	91.0%	93.0%		Output 300V/0.53A
Efficiency @347Vac	93.0%	95.0%		Output 300V/0.53A
Efficiency @480Vac	93.0%	95.0%		Output 300V/0.53A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		10%	15%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	277-480Vac,Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-5%		+5%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	Tc:0°C~90°C
OTP	90°C	95°C	100°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	Dim Vmax	0V		12V	Negative dimming by programming Dimming prohibits reverse connection. DIM+ source current 110uA .
	Dim Range	10%loset		100%loset	
	Rec.Dim Range	0V		10V	
PWM 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	0%		100%	
Resistor Dimming	Resistance	0Kohm		100Kohm	DIM+ source current 110uA.
	Dim Range	10%loset		100%loset	
Dim to Off	Dim off	0.7V	0.8V	0.9V	Without afterglow
	Dim on	0.8V	0.9V	1.0V	
Timing Curve(Optional)		By programming			Set by program
Constant Lumen(Optional)		By programming			Set by program
Life Warning(Optional)		By programming			Set by program
Life Time(Tc≤75°C)		50,000 hours			80% Load
MTBF		220,000 hours			347Vac,Full load, Ta=25°C (MIL-HDBK-217F)
Tc		90°C			
Warranty		5 years			Tc:75°C
Net Weight		535g			(160NS-EL300BHC)
		650g			(160NS-EW300BHC)
Dimension(L x W x H)		262mm*36mm*30.5mm			(160NS-EL300BHC)
		260mm*42mm*31mm			(160NS-EW300BHC)
IP Grade		IP65			(160NS-EW300BHC)

NOTE: All the parameters above are tested Ta 25°C 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	UL8750		
CUL	CAN/CSA C22.2 No.250.13		
ENEC	EN 61347-1 EN 61347-2-13 EN IEC 62384		
RCM	AS/NZS61347.2.13		
CCC	GB/T 19510.1 GB/T 19510.213		
CE	EN 61347-1 EN 61347-2-13 EN 62493		
	EN 301 489-1 EN 301 489-3 EN 300 330 EN 62479/EN 50663/EN 50665/EN 50364		For NFC wireless products

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Safety and EMI/EMS Standards

EMI/EMS	Standard	Status	Remark
Conduction Emission	EN IEC 55015		400Vac
	GB/T 17743		
	FCC Part 15 Subpart B;ANSI C63.4		277Vac/480Vac:Class A
Radiation Emission	EN IEC 55015		400Vac
	GB/T 17743		
	FCC Part 15 Subpart B;ANSI C63.4		277Vac/480Vac:Class A
Harmonic Current Emissions	EN IEC 61000-3-2		ClassC
	GB 17625.1		ClassC
Surge	IEC/EN61000-4-5 ANSI/C82.77-5		DM: 6kV,CM: 6kV,Criterion B
Ring Wave	IEC/EN 61000-4-12 ANSI/C82.77-5		DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items:

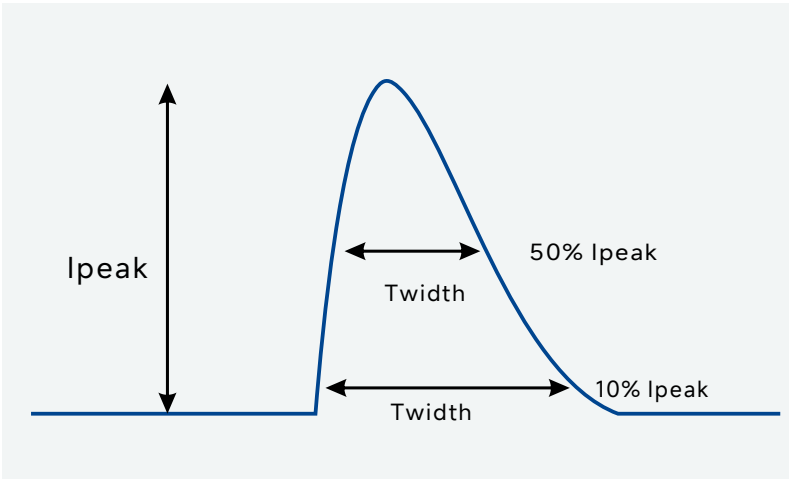
Safety Test Items	Technical Indicators		Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	
Input-Case	2U+1000Vac	2U+1000Vac	Basic insulation
Input-Dim	2U+1000Vac	4U+2000Vac	UL Basic insulation ENEC Reinforced insulation
Dim-Case	500Vac	500Vac	Reinforced insulation
Insulation Resistance	≥10MΩ		Input-Dim,Test voltage:500Vdc
Ground Resistance	≤0.1Ω		25A/1min
Leakage Current	≤0.75mA		480Vac

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)
277Vac	70A	330uS	180uS
347Vac	100A	370uS	210uS
480Vac	120A	560uS	320uS

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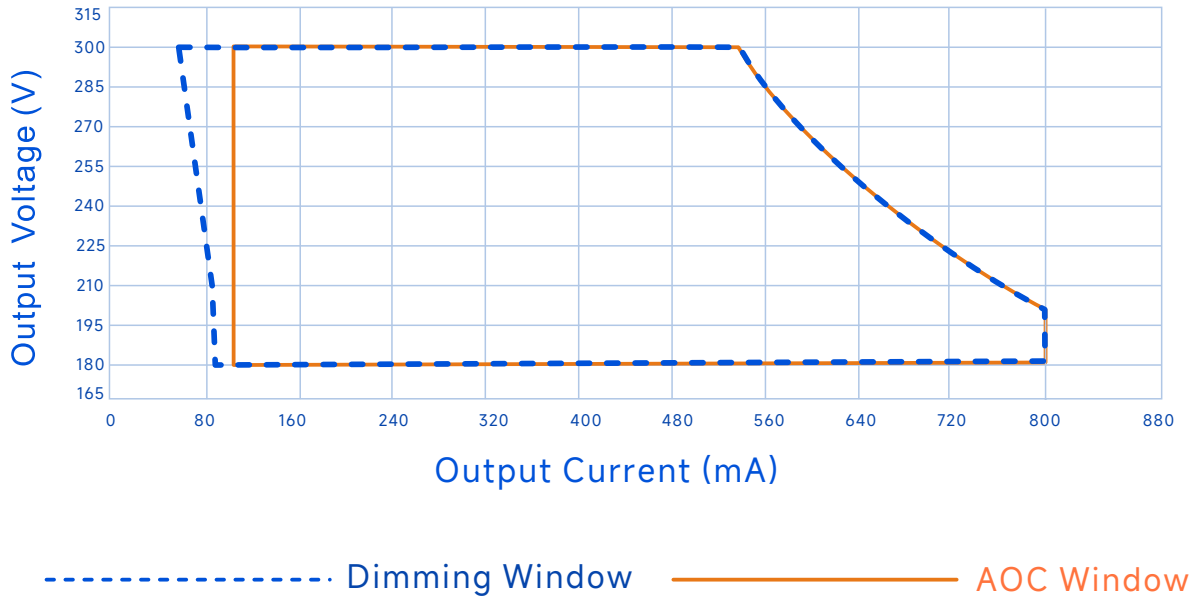
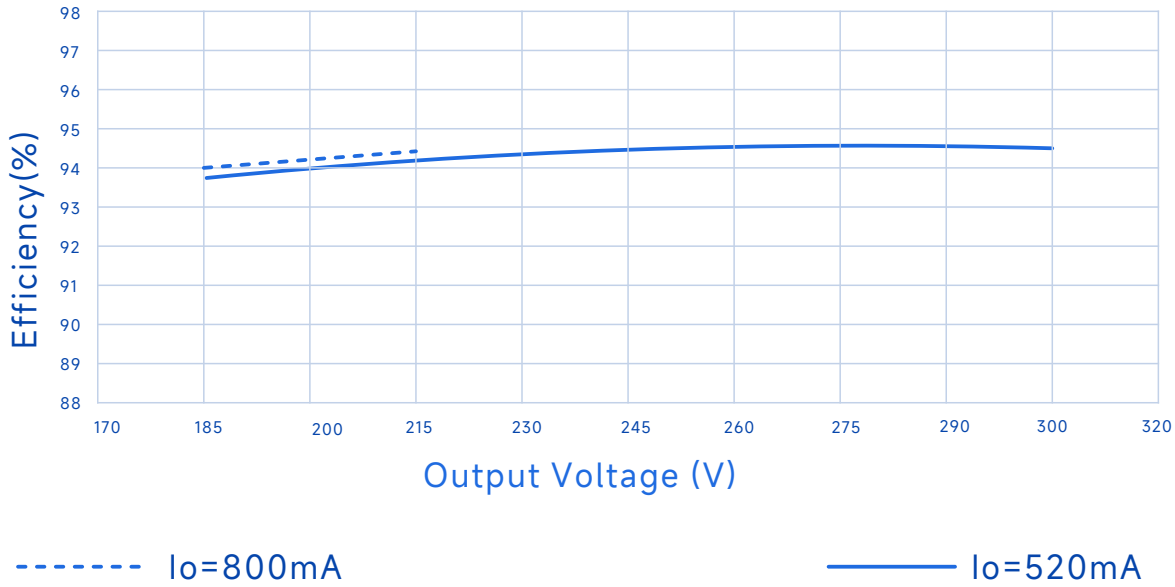
Performance Curves:

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



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



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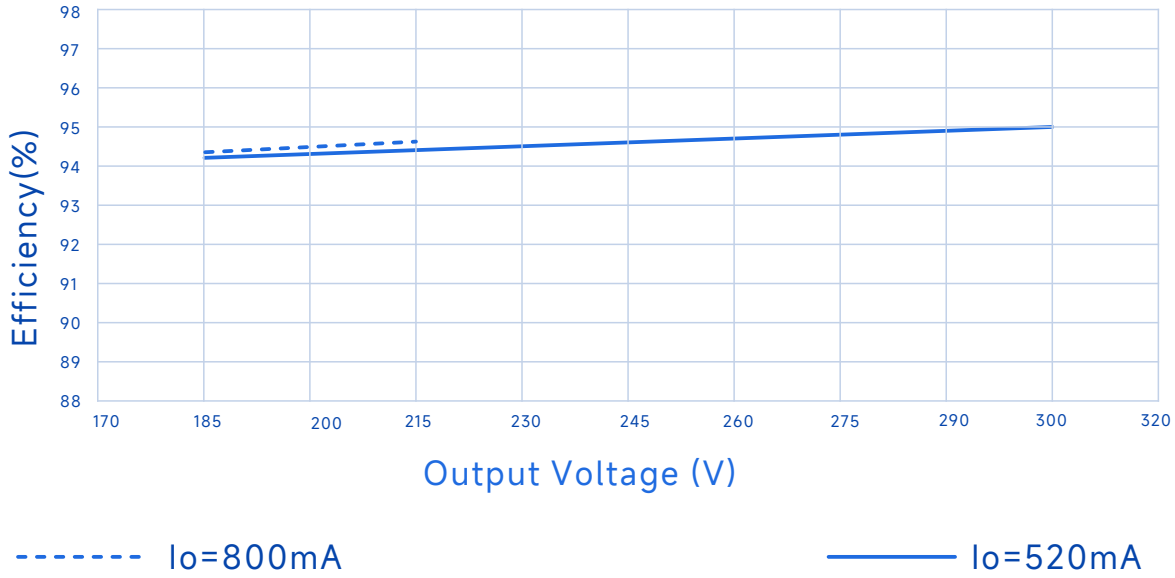
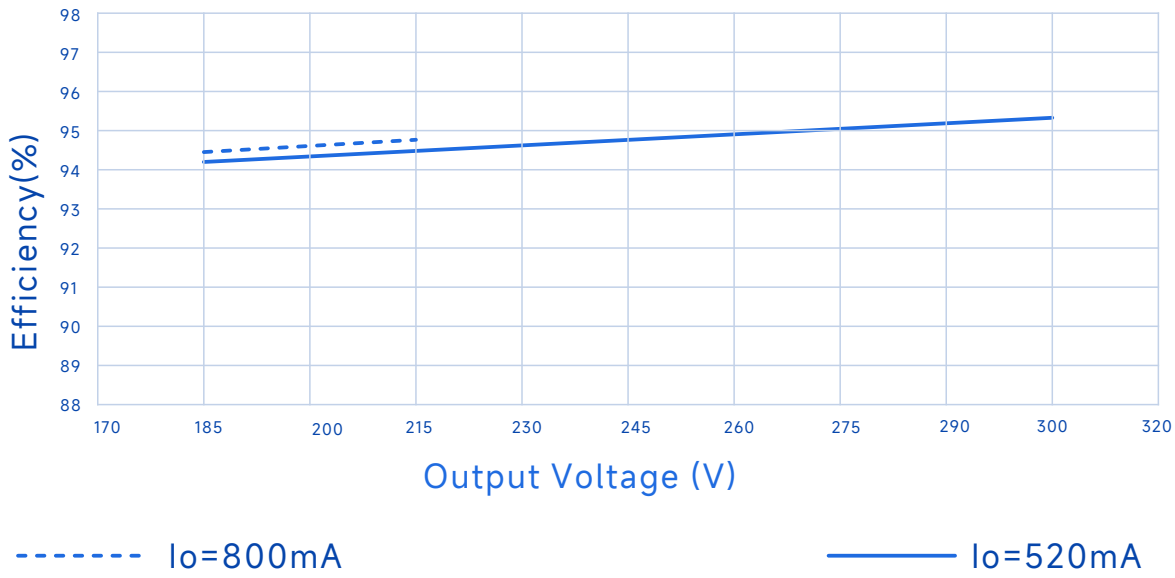
Performance Curves:

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



Efficiency Vs. O/P Voltage (Vin=480Vac)



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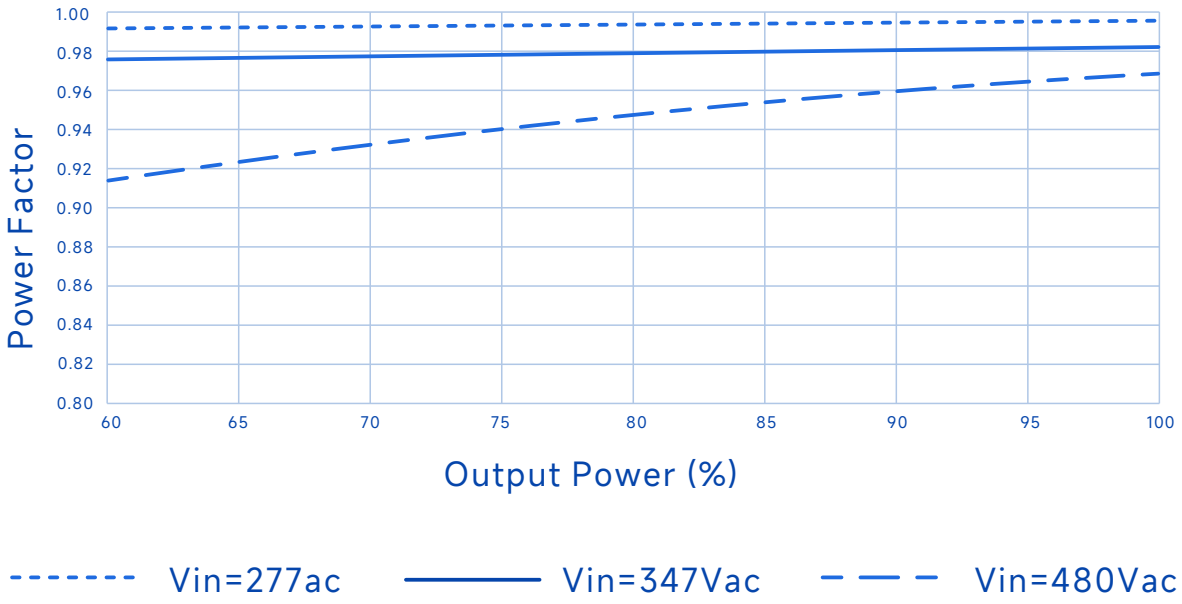
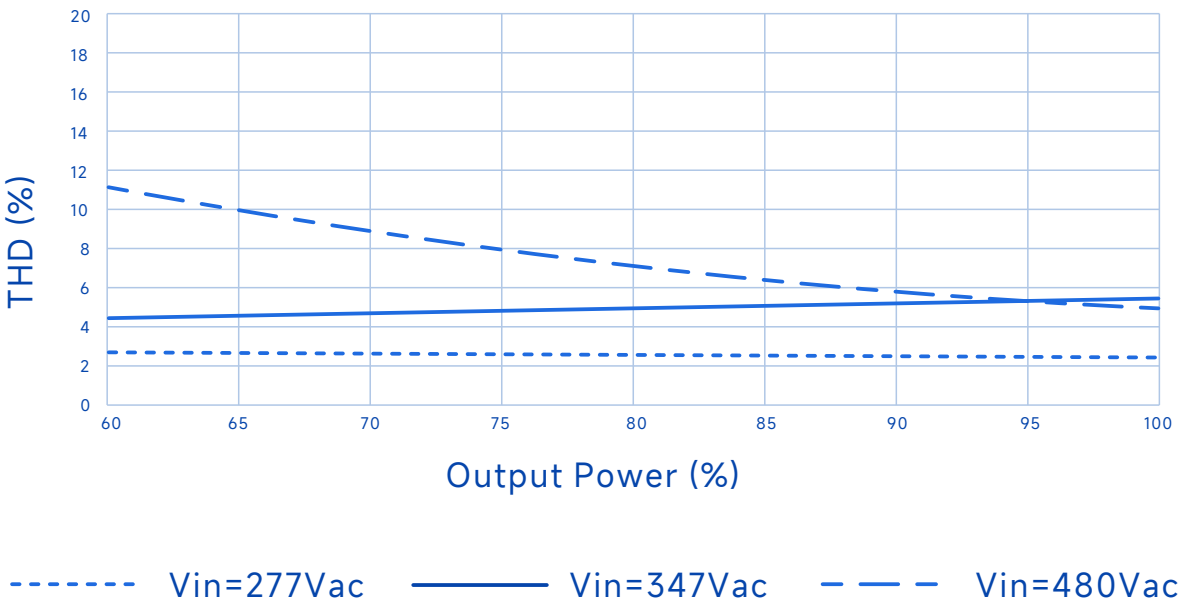
Performance Curves:

Power Factor Vs. O/P Power



THD Vs. O/P Power



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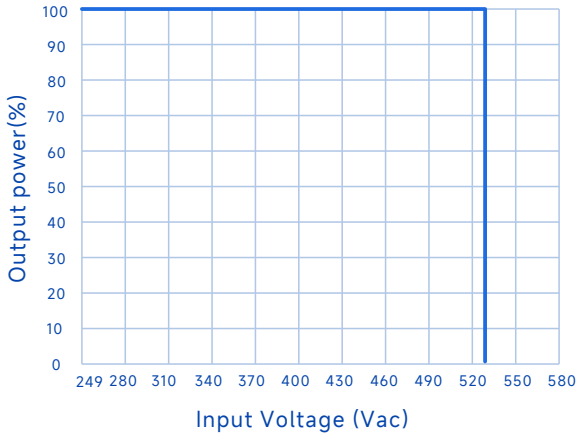
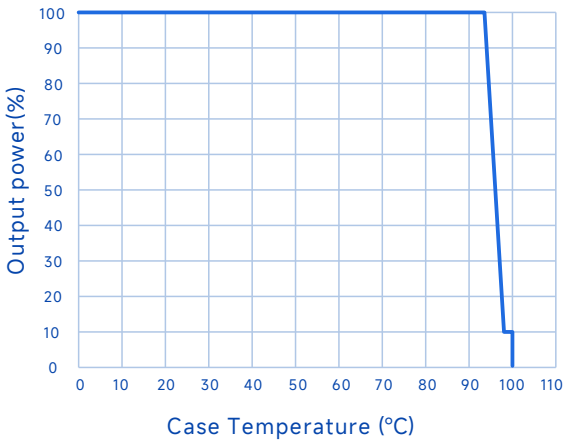
Performance Curves:

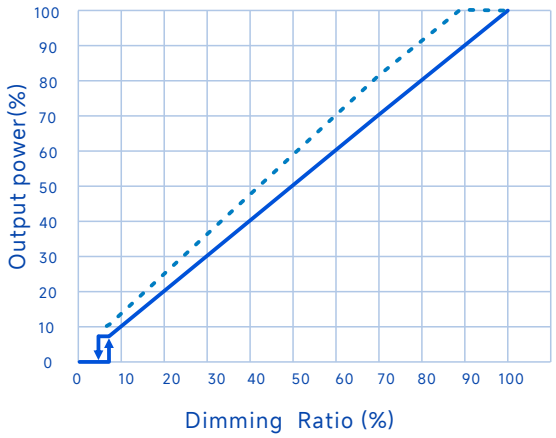
O/P power Vs. Input Voltage



O/P power Vs. Case Temperature



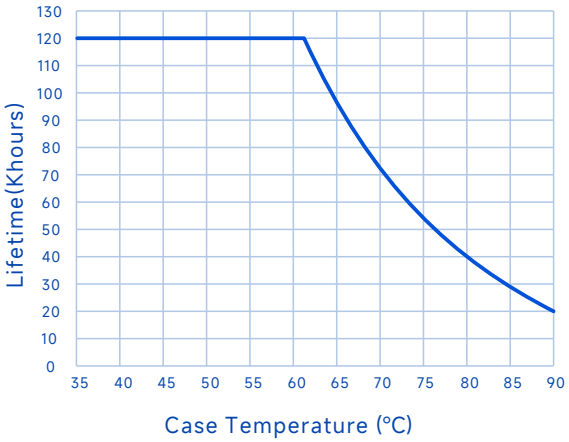
O/P Power Vs. Dimming



0-10V,PWM

Resistor Dimming

Lifetime Vs. Case Temperature



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Software TOP function

The software OTP is an optional feature, and the OTP parameters can be set through the software page.

Timer Dimming

Automatic conversion between DST and Standard Time.Traditional Timer Dimming, Self-Adapt-Midnight Timer, Self-Adapt-Percentage Timer. The time dimming percentage can be set by setting 8 curves.

Traditional timer: After power-on, it works according to the set timing curve Increasing fade time allows for slow changes between different dimming levels, preventing sudden changes in brightness and causing dazzle)

Self Adapting-Midnight: Automatically save power-on times and use 2 valid timers to assume that the center point of the dimming curve is local midnight time.

Self Adapting-Percentage: Runs the initially set dimming curve according to an automatically calculated adaptive cycle time.

CLO Constant Lumen Output

Light failure compensation function, in the Luminaire life cycle, by gradually increasing the output current, to achieve a constant output of LED luminous flux, the overall luminous effect remains unchanged.

ELA End-of-Life Alert

By presetting a LED driver life time, such as 50KH, after the luminaire has accumulated 50KH of light-up time, every time the luminaire is powered on, it will blink 5 times to remind the user to replace the LED driver.

SSA software startup

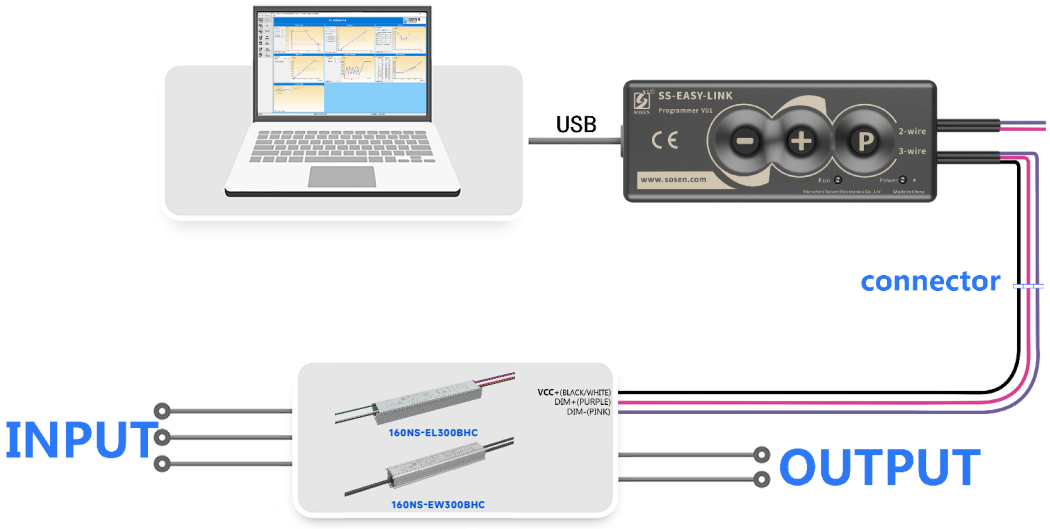
By setting the soft start time, the lamp gradually lights up slowly within the set time, thus achieving the purpose of protecting the lamp.

Programming connection diagram

1.During programming, the driver does not need to be powered on to achieve all programming functions.

2.For a driver that is powered on and in use, all programming functions can be performed without needing to disconnect the power.

3.It can operate independently of a PC to achieve offline programming.



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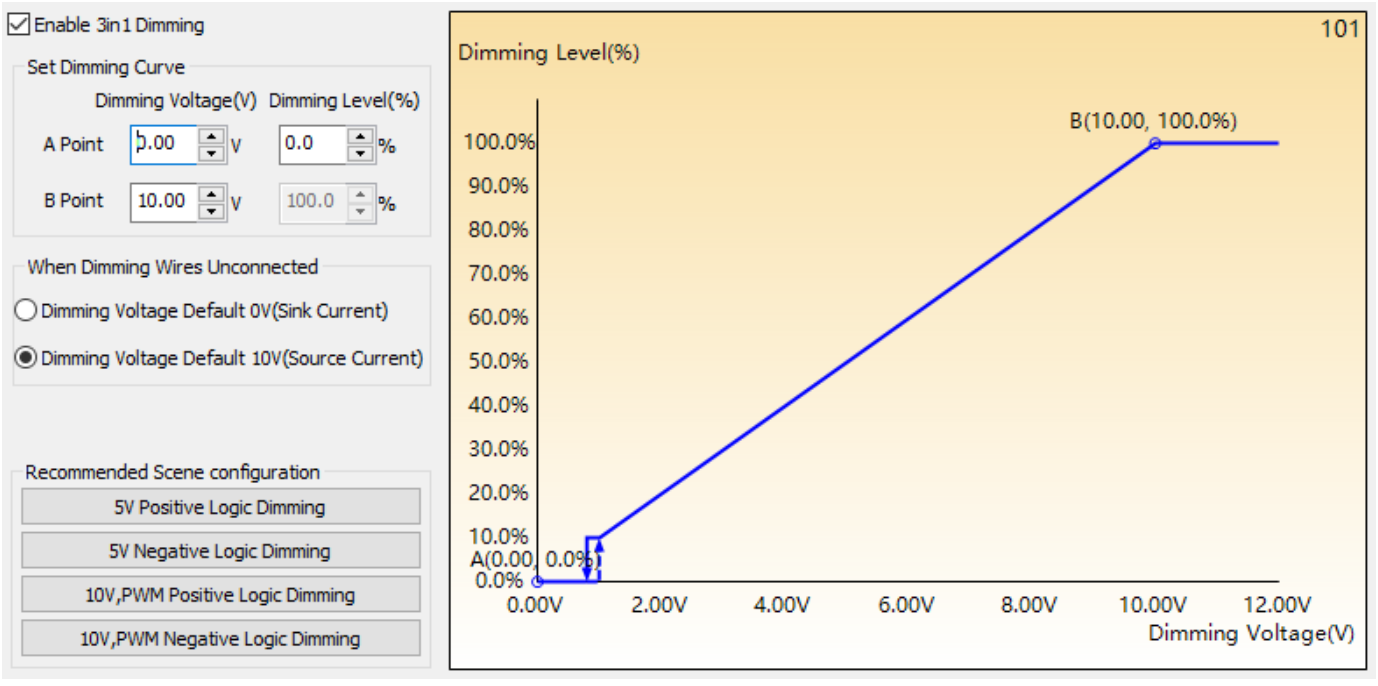
Parameter			Remark
Default setting	Positive logic dimming (0-10V)	Dimming voltage default 10V (source current)	Factory Default Model
Dimming optional function	Positive logic dimming (0-10V) Turn off the Constant current source	Dimming voltage default 0V (sink current) Resistance dimming not available	When the dimming wire is not connected, the LED driver output is in the DIMOFF state

Note:
Select "Dimming voltage defaults to 10V (source current)" / "Dimming voltage defaults to 0V (sink current)", which needs to be set according to the dimmer used by the end user.

Settings Interface



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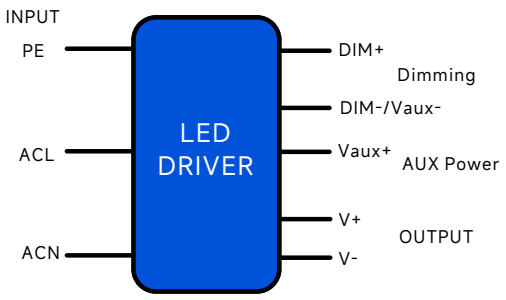
Mechanical Characteristics(160NS-EL300BHC)



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

UL/EU model 18AWG 105°C 600V,O.D: 2.77mm,Black:ACL,White:ACN,Green: ⏚

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

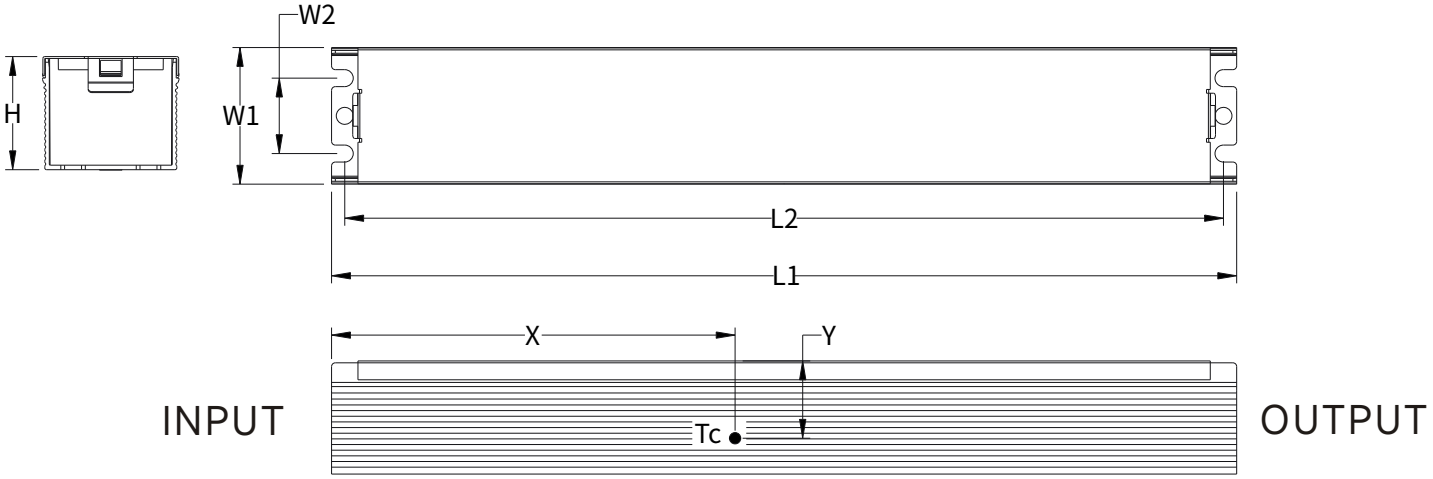
UL/EU model 18AWG 105°C 600V,O.D: 2.77mm,Red:V+,Black:V-

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

UL/EU model 22AWG 105°C 300V,O.D: 1.52mm,Purple DIM+, Pink: DIM-/Vaux-, Black/White: Vaux+

Name Description	Standard Code	mm(in.)
Overall Length	L1	262(10.31)
Mounting Hole Length	L2	251(9.88)
Case Width	W1	36(1.42)
Mounting Hole Width	W2	20(0.79)
Case Height	H	30.5(1.20)
TC Point Position	X	107(4.21)
TC Point Position	Y	18(0.71)

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:
Tinned length of wire:10±2mm



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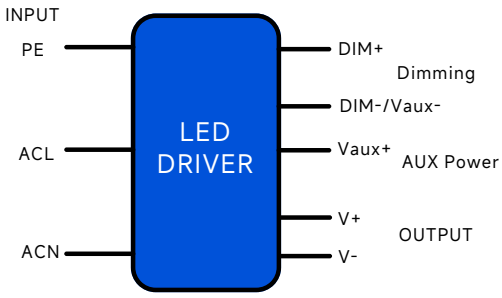
Mechanical Characteristics(160NS-EW300BHC)



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

Global model SJOW,3*17AWG,O.D: 9.8mm,Brown:ACL,Blue:ACN, Yellow/Green: ⏚

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

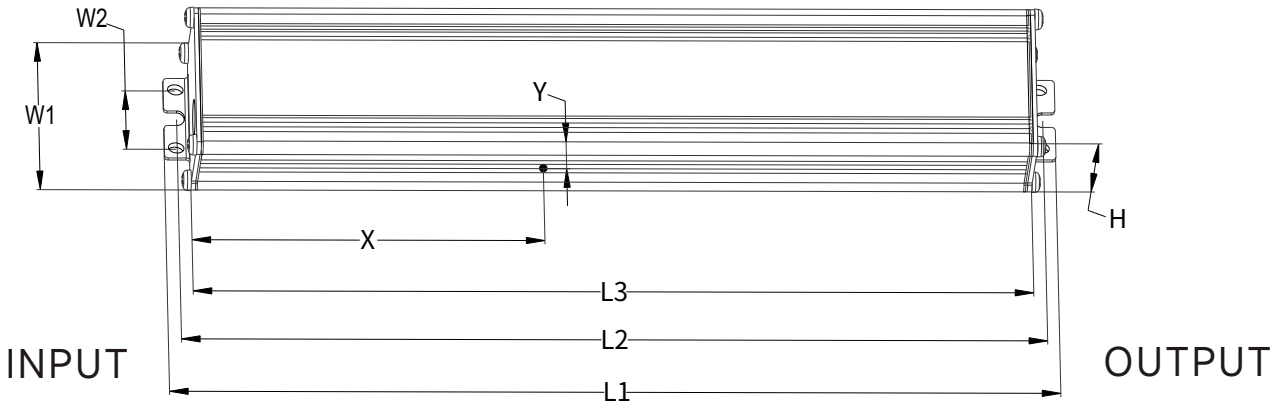
Global model SJOW,2*17AWG,O.D: 7.7mm,Brown:V+,Blue:V-

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

UL model PVC,UL21996,3x22AWG,O.D: 4.9mm,Purple DIM+, Pink: DIM-/Vaux-,Black/White: Vaux+

Name Description	Standard Code	mm(in.)
Overall Length	L1	260(10.24)
Mounting Hole Length	L2	253(9.96)
Case Length	L3	246.4(9.70)
Case Width	W1	42(1.65)
Mounting Hole Width	W2	18.5(0.73)
Case Height	H	31(1.22)
TC Point Position	X	105(4.13)
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. Dimming or AUX Power tinned connectors should be capped if not used to avoid dimming or AUX Power parts damage from external signals.
2. The trace routing on aluminum substrates is designed in compliance with creepage distance requirements specified by relevant certification regulations.
3. The creepage distance between LED+ and LED- on the aluminum substrate is designed in compliance with the relevant certification regulations.
4. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
5. It is recommended to design LED beads in parllel first and then in series.
6. The insulation level of LED light panels should meet the reliability design requirements.
7. For other precautions, please refer to the "LED Driver User Manual".
8. SOSEN reserves the right of final interpretation of the above parameters.

Warning

Insufficient or compromised insulation voltage resistance in LED light panels may cause breakdown and short circuits to earth, resulting in damage to the luminaire and LED driver, and posing significant safety hazards. It is recommended to install a residual current device (RCD) during application.

Package

- Outside carton dimension: L×W×H =495mm×385mm×162mm;
- 16PCS/Carton;(160NS-EL300BHC)
- 14PCS/Carton;(160NS-EW300BHC)
- Net weight/Piece: 0.535kg;Gross weight/Carton: 10.0kg;(160NS-EL300BHC)
- Net weight/Piece: 0.650kg;Gross weight/Carton: 11.5kg;(160NS-EW300BHC)
- 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.

SHENZHEN SOSEN ELECTRONICS CO.,LTD.
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Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2026/04/29	

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