

Description

The N7L-(II) series is specifically designed for industrial lighting applications, non-isolated design, operating in constant current with high power factor and a universal input voltage range of 90~305Vac. The compact housing and high efficiency allow the drivers to operate with high reliability, while featuring input surge, output over voltage, short circuit and over temperature protection.



Product Features

- Universal input voltage:90~305Vac;
- Non-isolated constant current design, Efficiency up to 97%;
- Surge protection: DM: 6KV, CM: 6KV;
- Protection: SCP/OVP/OTP/UVP;
- Warranty: 5years.

Application

Industrial lighting
 Road lighting
 Landscape lighting

Models

Model	Input Voltage (Vac)	MAXOutput Power (W)	Output Voltage (Vdc)	Output Current Adjustable Range (A)	Default Current(A)	Eff.(Typ.)	PF(Typ.)	THD(Typ.)
N7L-320V300 (II)	90~305	320	180~300	1.0~1.5	1.28	97%	0.97	8%

Notes:

[1].All specifications are measured at 25°C ambient temperature, input voltage 230Vac, and the typical value tested at full load, if no specific note.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage Range	90Vac	-	305Vac	
Rated Input Voltage	100Vac	-	277Vac	Refer to Output Power vs. Input Voltage Curve
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	3.2A	120Vac&100%load
Max Input Power	-	-	360W	120Vac&100%load

Leakage Current	-	-	0.70mA	IEC 60598-1;240Vac/50Hz
Leakage Current			0.75mIU	UL 8750; 277Vac/60Hz
Inrush Current	-	-	110A	230Vac,cold start
Standby Power Consumption	-	-	0.5W	230Vac, dimming off, no load on auxiliary power supply
Power Factor	0.95	0.97	-	230Vac,50/60Hz,70%-100% load
	0.90	-	-	120-277Vac,50/60Hz,70%-100% load
THD	-	8%	10%	230Vac, 50/60Hz, 100% load
	-	10%	20%	120-277Vac, 50/60Hz, 70%-100% load
MCB(B16)	-	5	-	230Vac

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Range	180Vdc	-	300Vdc	
Open Circuit Voltage	-	-	350Vdc	
Output Current Adjustable Range	1.0A	-	1.5A	
Current Accuracy	-5%	-	+5%	
Total Output Current Ripple (pk- pk)	-	10%	15%	20MHz BW full load&LED load the LED load ripple is slightly different for different LEDs
Startup Overshoot Current	-	-	10%	120-277Vac full load condition, LED load
Line Regulation	-5%	-	+5%	25°C±10°C ambient temperature, input voltage changes from 120Vac to 277Vac
Load Regulation	-5%	-	+5%	25°C±10°C ambient temperature, 230Vac input, load changes from 70% to 100%
Turn-on Delay Time	-	-	1.0s	120-277Vac, 100% load

General Specification

Parameter	Min.	Typ.	Max.	Notes
Efficiency@120Vac	92%	94%	-	1.07A,300Vdc;25°C ambient temperature, no load of auxiliary source
Efficiency@230Vac	94%	96.5%	-	1.07A, 300Vdc;25°C ambient temperature, no load of auxiliary source
Efficiency@277Vac	95%	97%	-	1.07A, 300Vdc;25°C ambient temperature, no load of auxiliary source
MTBF	-	200Khours	-	25°C±10°C ambient temperature,230Vac,80% load (MIL-HDBK-217/SR-332)
Lifetime	-	50Khours	-	230Vac& 100% load,Tc 85°C, refer to lifetime vs. case temperature curve
Operating Temperature Ta	-40°C	-	+60°C	120-200VAC Ta:45°C 200-277VAC Ta:60°C
Operating Case Temperature for Safety Tc_s	-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+80°C	5 years warranty shell temperature Humidity: 10%-90% RH
Storage Temperature Ta	-40°C	-	+85°C	Humidity:5%-95% RH
Altitude	-60m	-	4000m	
Over Temperature Protection Tc	90°C	95°C	100°C	Decreases output current, returning to normal after over temperature is removed
Short Circuit				Hiccupmode. The output shall return to normal when the fault condition is removed.
Input Under voltage Protection				Under-voltage will automatically reduce the output voltage.
Dimensions (L*W*H)mm	177*55*33			
Net Weight	500±50g/PCS			
Package (L*W*H)	460*300*215mm; 18PCS/Ctn, Gross Weight: 9Kg			

Safety Specifications

Parameter	UL	CE/CCC	Note
Dielectric Strength (Input-Ground)	1600	1500Vac	60s, Current not exceeding 5mA input L/N short-circuit
Grounding Resistance	$\leq 0.1\Omega$		25°C±10°C Ambient Temperature, pass 30A Current, 120s. (UL) 25°C±10°C Ambient Temperature, pass 25A Current, 60s (CE) .
Insulation Resistance	$\geq 10M\Omega$		Input-PE, 500Vdc/60s/25°C

Notes: The voltage resistance requirement of aluminum substrate is greater than 2KVac.

Safety Compliance

Safety Category	Safety normative standards	Certification	Notes
CCC	GB19510.1,GB19510.14	√	
CE	EN61347-1, EN61347-2-13, EN62493	√	
ENEC	EN61347-1, EN61347-2-13, EN62384	√	
CB	IEC61347-1,IEC61347-2-13	√	
BIS	IS 15885(PART 2/SEC 13)		
UL	UL 8750	√	
CUL	CSA C22.2 No.250.13	√	
KC	K61347-1, K61347-2-13		
PSE	J61347-1, J61347-2-13		
SAA	AS/NZS IEC 61347.2.13	√	
SAA	AS/NZS 61347.1	√	

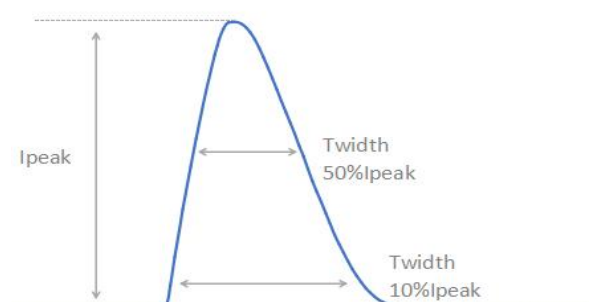
EMC Compliance

EMC Category	Standards	Approved	Notes
CCC	GB/T 17743, GB 17625.1	√	
CE	EN 55015	√	
CE	EN 61000-3-2, EN 61000-3-3	√	
CE	EN61000-4-2,3,4,5,6,11	√	
CE	EN 61547	√	
KC	K61547		
KC	K00015		
PSE	J55015		
FCC	FCC part 15	√	Class B
Surge Shock Immunity	ANSI/C82.77-5-2017		
	IEC/EN 61000-4-5	√	
Ringing Wave	IEC/EN 61000-4-12		
	ANSI/IEEE C62.41.2		
EAC	ГОСТ IEC 62493,СТБ EH 55015 ГОСТ IEC 61547	√	
EAC	ГОСТ 30804.3.3 (IEC 61000-3-3)	√	

RoHS

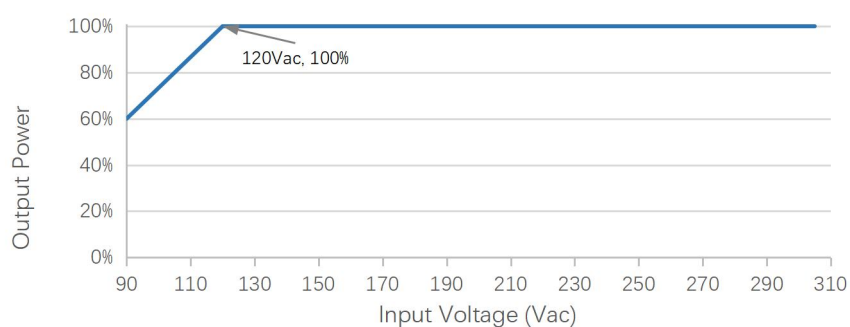
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Inrush Current Waveform

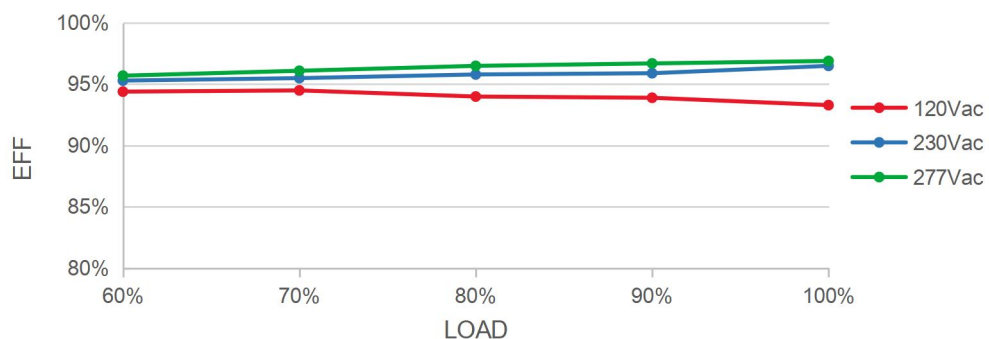


V_{in}	I_{peak}	$T(@10\% \text{ of } I_{peak})$	$T(@50\% \text{ of } I_{peak})$
120Vac	79A	400 μ s	200 μ s
230Vac	142A	372 μ s	172 μ s
277 Vac	150A	414 μ s	200 μ s

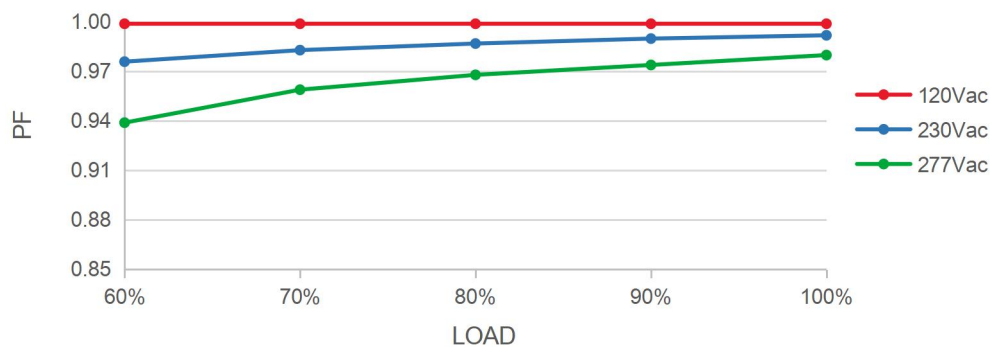
Output Power vs. Input Voltage



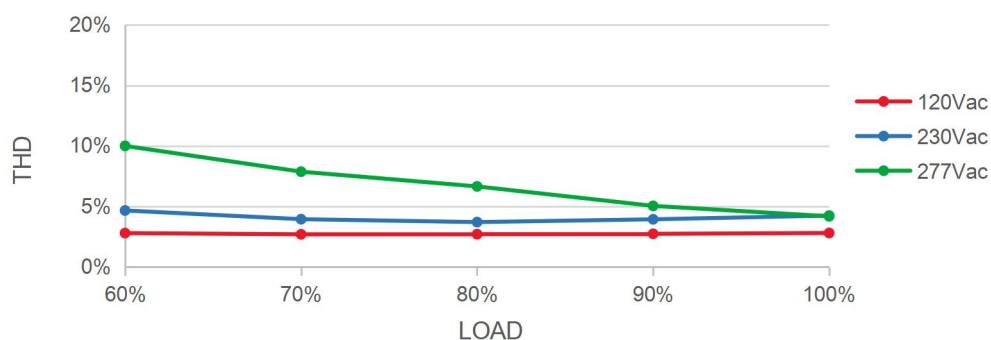
Efficiency vs. Load



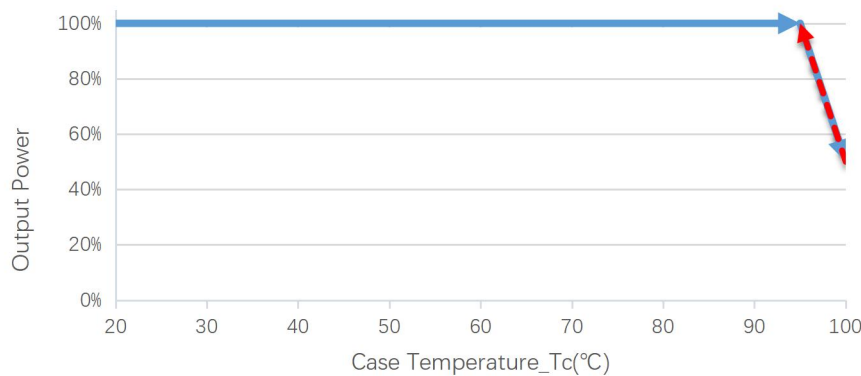
PF vs. Load



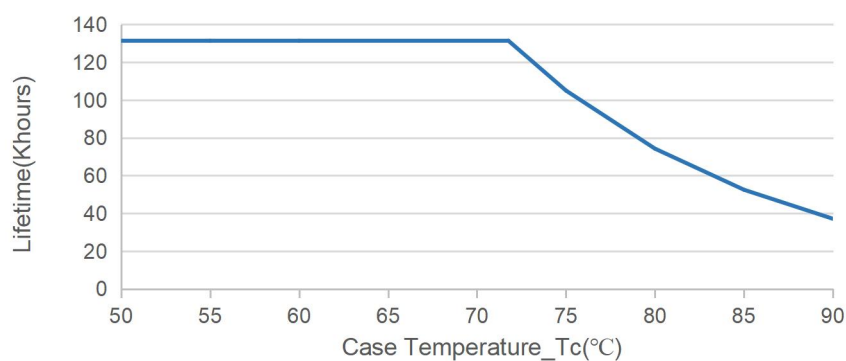
THD vs. Load



Output Power vs. Case Temperature

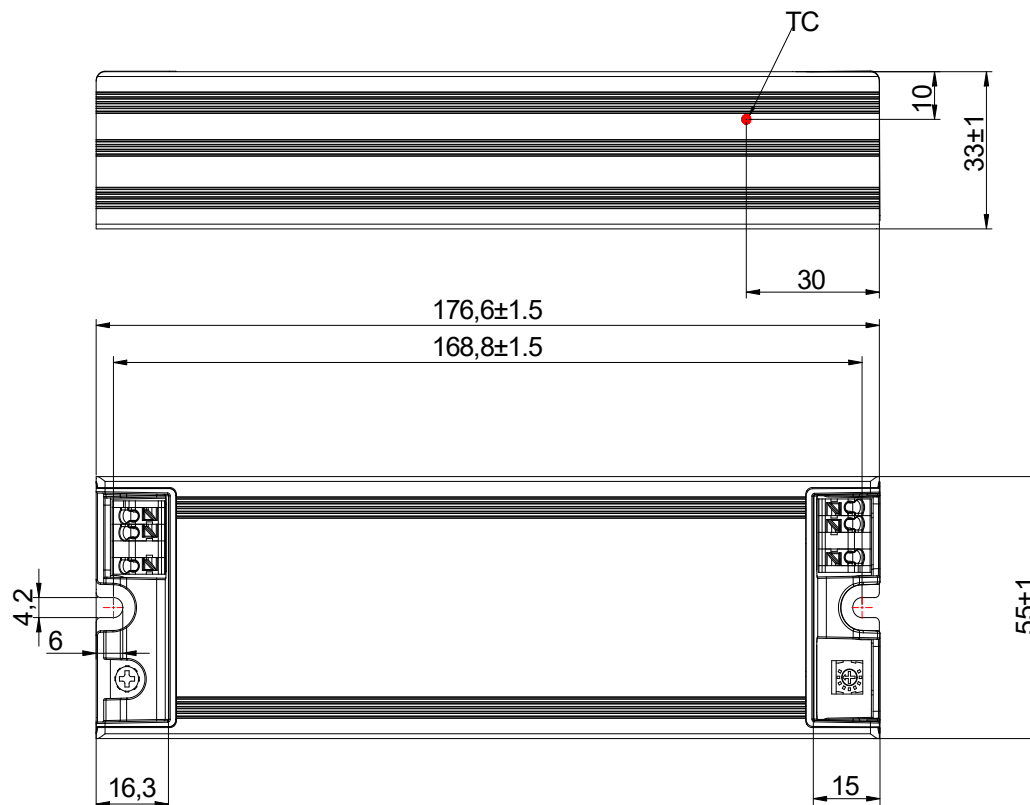


Lifetime vs. Case Temperature



0-10V/PWM/Resistor Dimming

Mechanical Outline



Label

L N G	MOSO® N7L-320V300 (II) Constant current type LED DRIVER Integrated SPD (内置防雷管)		 	 	 RoHS	LED+ LED-
	INPUT (输入)	100-277V~ 50/60Hz, 3.8A Max. PF:0.9C. 370W				
	OUTPUT (输出)	180-300V=, 0.75-1.50A Uout (最大电压) ≈ 350V= Max.Power (最大功率): 320W				
	tc:	90°C				
深圳茂硕电子科技有限公司/深圳市南山区西丽松白路1061号 SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD No.1061, Songbai Road, Xili Town, Nanshan District, Shenzhen, CHINA						
MADE IN CHINA Suitable for Dry, Damp locations						

Version

A.1	First release	2025-11-04

Specification for Approval

Product Name: 320W Linear Non-isolated Driver

Product Model: N7L-320V300 (II)

Rev. A.1

Address: XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong Province, P.R.China

Post Code: 518108

TEL: 0755-27657000

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E-mail: info@mosopower.com

Web site: <http://www.mosopower.com>

Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 320W Linear Non-isolated Driver

Product Model: N7L-320V300 (II)

Rev. A.1

CUSTOMER AUTHORIZED SIGNATURE		
Tested By	Checked By	Approved By
(Company seal)Return one copy to MOSO with approved signature and company seal		

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