

Specification for Approval

Product Name: 150W Linear Non-isolated Driver

Product Model: N7L-150M300A12 (II)

Rev. A.0

Address: Xi Li Song bai Road 1061, Nanshan District, Shenzhen City, Guangdong Province, P.R. China

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

Prepared By	Checked By	Approved By

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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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ECN History

A.0	First edition	2025-04-15

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. With 0-10V/PWM/ resistance dimming. 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%;
- 3 in 1 dimmable: 0-10Vdc/PWM/Resistor;
- The out current and photocontrol are programmable;
- Output and dimming signal isolating;
- Standby Power Consumption:<0.5W;
- 12V/0.2A auxiliary power supply;
- Surge protection: DM: 6KV, CM: 6KV;
- Protection: SCP/OVP/OTP;
- Ingress protection rating: IP65;
- Warranty: 5 years.

Application

Industrial lighting

Road lighting

Landscape lighting

Models

Model	Input Voltage (Vac)	MAX Output Power (W)	Output Voltage (Vdc)	Output Current Adjustable Range (A)	Default Current (A)	Eff. (Typ.)	PF(Typ.)	THD(Typ.)
N7L-150M300A12 (II)	90~305	150	180~300	0.15~0.74	0.6	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	-	-	1.8A	120Vac & 100% load
Max Input Power	-	-	180W	120Vac & 100% load
Leakage Current	-	-	0.70mA	IEC 60598-1; 240Vac/50Hz
Leakage Current			0.75mA	UL 8750; 277Vac/60Hz
Inrush Current	-	-	120A	230Vac, 100% load
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; 100% load

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Range	180Vdc	-	300Vdc	
Open Circuit Voltage	-	-	350Vdc	
Output Current Adjustable Range	0.15A	-	0.74A	The current range can be set via PC software
Full Power Current Range	0.50A	-	0.74A	202-300Vdc
Photocontrol Turn-off Voltage	0V	1V	2V	Set via PC software
Photocontrol Turn-on Voltage	3V	4V	5V	
Current Accuracy	-8%	-	+8%	
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
Auxiliary Source output voltage	10.8V	12V	13.8V	
Auxiliary Source output current	-	-	200mA	
Line Regulation	-5%	-	+5%	25°C±10°C ambient temperature, input voltage changes from 120Vac to 277Vac
Load Regulation	-8%	-	+8%	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%	-	0.50A, 300Vdc; 25°C ambient temperature, no load of auxiliary source
Efficiency @230Vac	94%	96%	-	0.50A, 300Vdc; 25°C ambient temperature, no load of auxiliary source
Efficiency @277Vac	95%	97%	-	0.50A, 300Vdc; 25°C ambient temperature, no load of auxiliary source
MTBF	-	200Khours	-	25°C±10 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:50°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	-	+85°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 Protection	-	-	15W	Constant current mode. The output shall return to normal when the fault condition is removed.
Output Over Voltage Protection	-	-	5W	When the output voltage of the product exceeds the limit range, it will enter the protection state. When the fault is removed, the product will automatically return to normal.
Dimensions (L*W*H)mm	125*55*33			
Net Weight	340±50g/PCS			
Package (L*W*H)	125*370*169 mm; 10PCS/Ctn., GW:8.2Kg			

Dimming

Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage	-	10V	15V	On the Vdim (+) Pin
Source Current on Vdim (+)Pin	-	100uA	200uA	
Dimming Range	10% I _{o max}	-	100% I _{set}	I _{set} =0.15~0.74
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on voltage	0.8V	-	1.1V	
Turn-off voltage	0.6V	-	0.9V	
PWM in High Level	9.7V	-	10.3V	
PWM in Low Level	0V	-	0.3V	
PWM in Frequency Range	1KHz	-	2KHz	
PWM in Duty Cycle	1%	-	99%	
Turn-on duty cycle	8%	-	11%	
Turn-off duty cycle	6%	-	9%	
Resistor Range	0	-	100KΩ	

Safety Specifications

Parameter	CE	Note
Dielectric Strength (Input-Ground)	1500Vac	60s, Current not exceeding 5mA input L/N short-circuit
Grounding Resistance	$\leq 0.1\Omega$	25°C $\pm$ 10°C Ambient Temperature, pass 25A Current, 60s.
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	√	

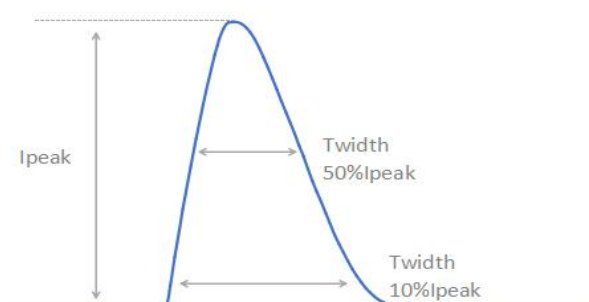
EMC Compliance

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		

RoHS

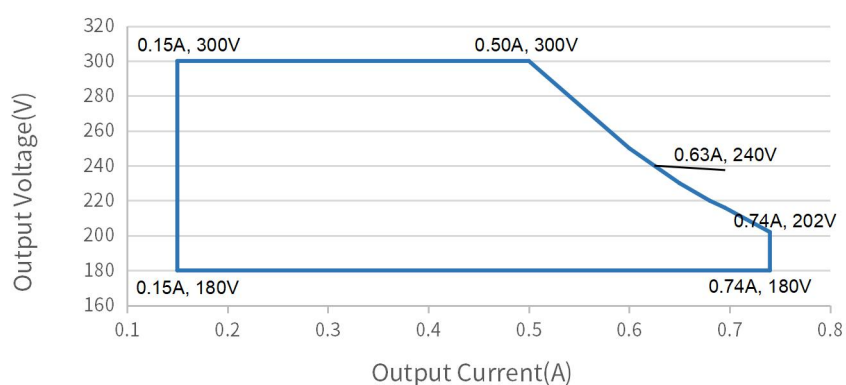
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Inrush Current Waveform

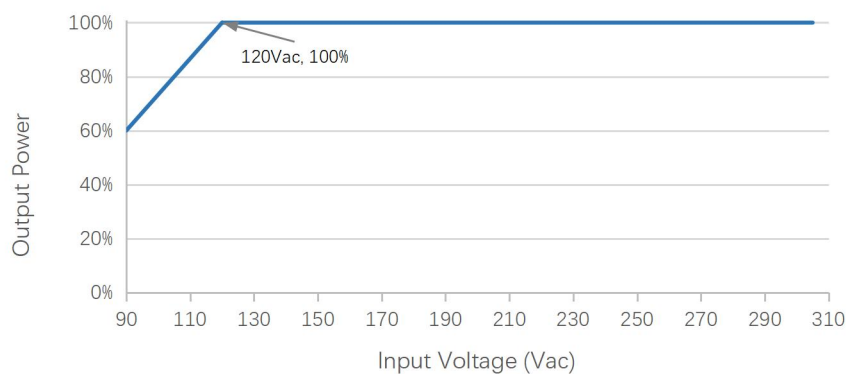


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	60A	-	150μs
230Vac	120A	-	150μs
277 Vac	150A	-	150μs

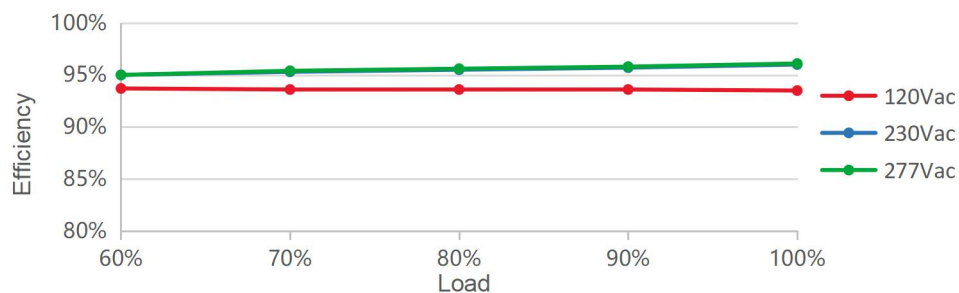
Output Voltage vs. Output Current



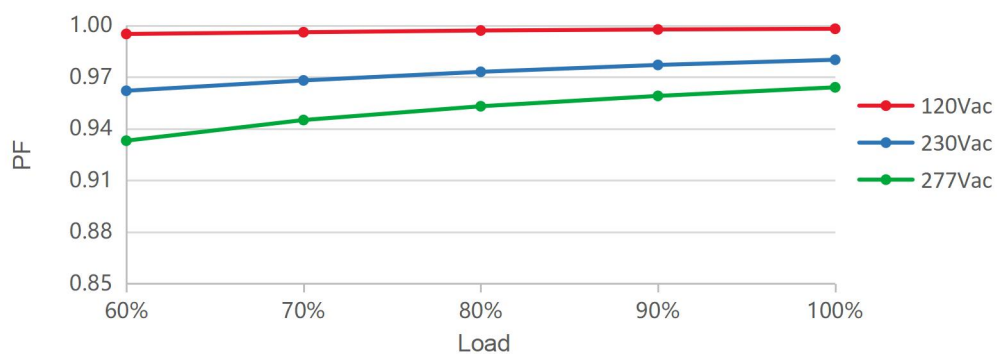
Output Power vs. Input Voltage



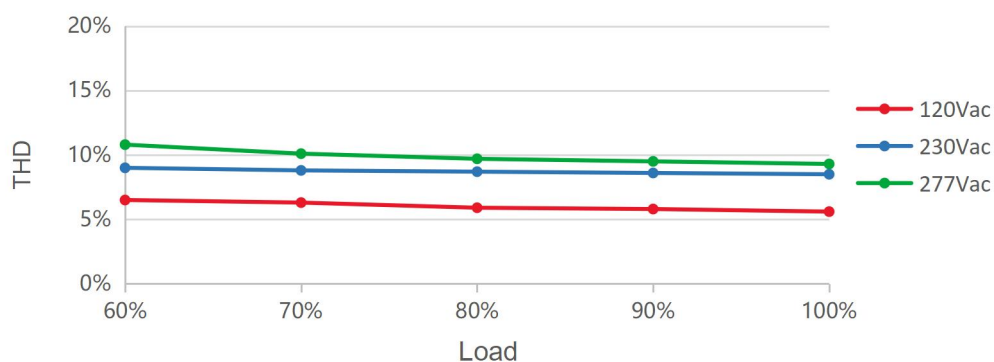
Efficiency vs. Load



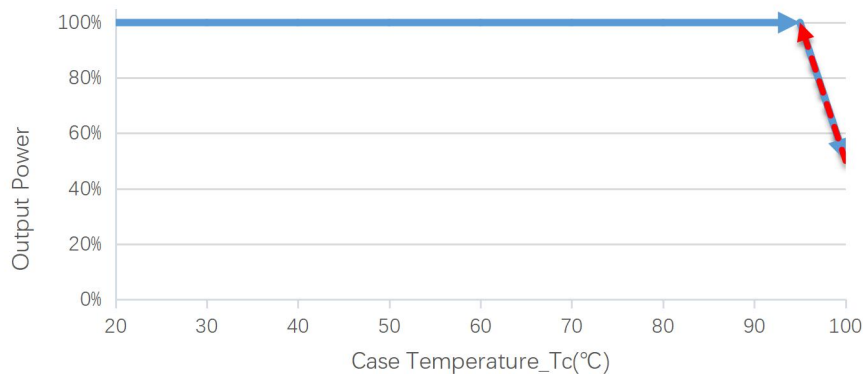
PF vs. Load



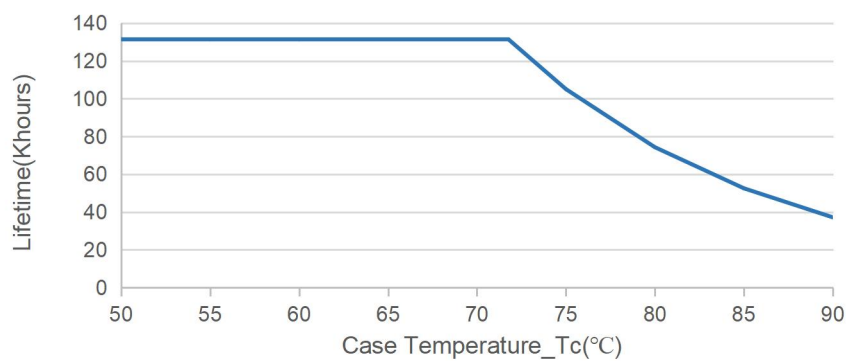
THD vs. Load



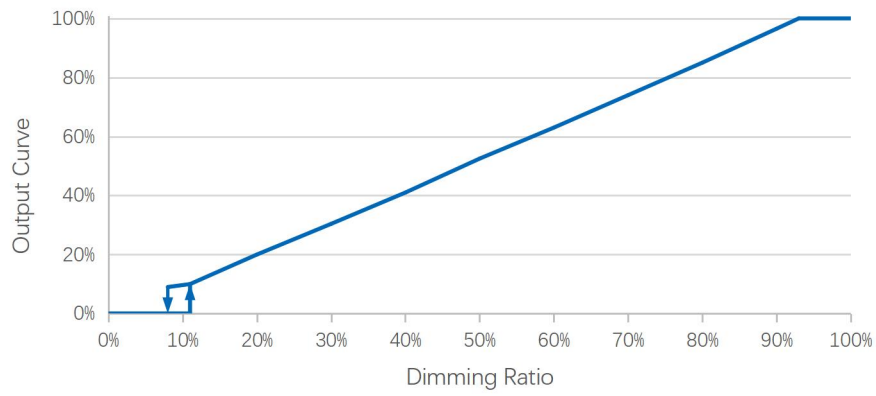
Output Power vs. Case Temperature



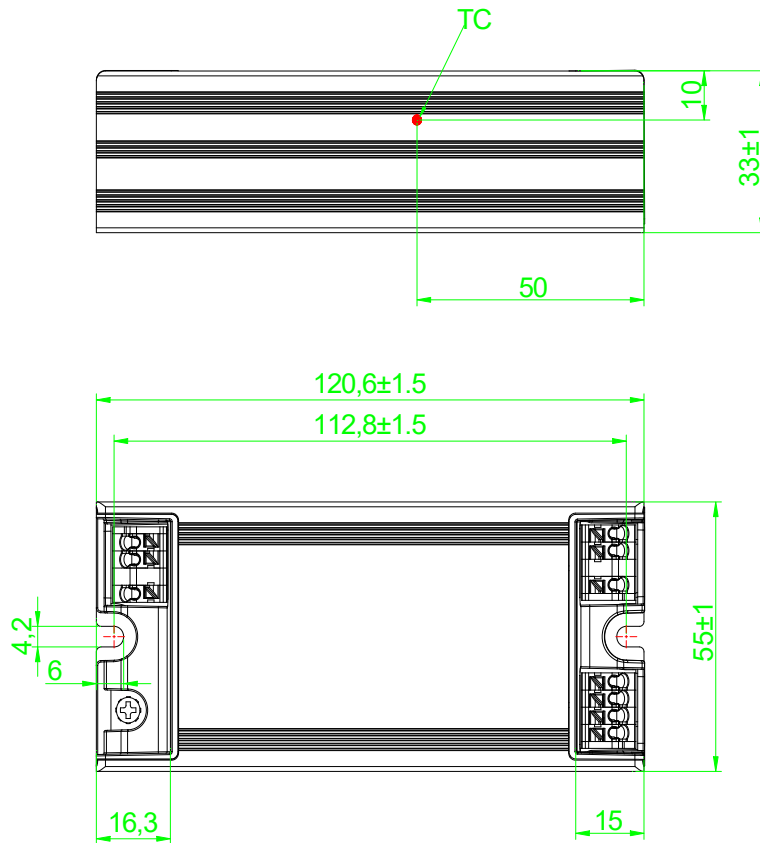
Lifetime vs. Case Temperature



0-10V/PWM/ Resistor Dimming



Mechanical Outline



Label
