

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 time control dimming function dimm. 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;
- Constant current design, Efficiency up to 94%;
- 3-in-1 dimmable: 0~10V / PWM / Resistor / Light control ,light attenuation compensation;
- Output and dimming signal isolating;
- Adjustable off-line programming ,Programmable range of dialing power;
- Standby Power Consumption: <0.5W;
- High surge protection: DM: 6KV, CM: 6KV;
- 12V/0.2A auxiliary power supply;
- Protections: Output SCP / OVP / OTP;
- 5 years warranty.

Application

Linear high bay light

Flood light

Wall Pack light

Shoebox light

Models

Model Number	Input Voltage Range (Vac)	MAX Output Power (W)	Output Voltage Range (Vdc)	Output Current Adjustable Range (A)	Default Current(A)	Eff. (Typ.)	PF(Typ.)	THD(Typ.)
N7L-080M300A12(II)	90~305	80	180~300	0.2~0.37	0.32	94%	0.95	10%

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	-	-	1.0A	120Vac & 100% load
Max Input Power	-	-	100W	120Vac & 100% load
Leakage Current	-	-	0.70mA	IEC 60598-1; 240Vac/50Hz
Leakage Current	-	-	0.75mA	UL 8750; 277Vac/60Hz
Inrush Current	-	-	45A	120Vac, 100% load
Inrush Current	-	-	75A	120Vac, 100% load
Inrush Current	-	-	100A	230Vac, 100% load
Standby Power Consumption	-	-	0.5W	230Vac, dimming off and auxiliary source without load
Power Factor (PF)	0.90	0.95	-	120-277Vac, 50/60Hz, 80%-100% load
Total Harmonic Distortion (THD)	-	10%	20%	120-277Vac, 50/60Hz, 85%-100% load
MCB(B16)	-	17	-	230Vac; 100%load

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	180Vdc	-	300Vdc	
Open Circuit Voltage	-	-	350Vdc	
Output Current Range	0.2A	-	0.37A	Adjustable output current
Full Power Current Range	0.31A	-	0.37A	$P=U \times I=80W$, 100%load
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
Line Regulation	-5%	-	+5%	25°C±10°C ambient temperature, input changes from 120Vac to 277Vac
Load Regulation	-5%	-	+5%	Load varies from 70% to 100% with 230Vac Input at 25°C±10°C ambient temperature (maximum current output)
Turn-on Delay Time	-	-	1.0s	120-277Vac, 100% load

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@120Vac	92%	94%		25°C±10°Cambient temperature, 100% load, No load of auxiliary source(Output voltage 300)
Efficiency@230Vac	93%	95%	-	25°C±10°Cambient temperature, 100% load, No load of auxiliary source(Output voltage 300)
Efficiency@277Vac	94%	95%		25°C±10°Cambient temperature, 100% load, No load of auxiliary source(Output voltage 300)
Mean Time Between Failure	-	200Khours	-	25°C±10°Cambient temperature, 230Vac, 80% load condition (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 Tc for Safety Tc_s	-40°C	-	+90°C	
Operating Tc for Warranty Tc_w	-40°C	-	+85°C	5-year warranty shell temperature, humidity:10% to 90% RH, Non-condensing
Storage Temperature Ta	-40°C	-	+85°C	Humidity:5% to 95% RH, Non-condensing
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.
Dimensions (L*W*H)	106*56*33mm			
Net Weight	300±50g/PCS			
Package (L*W*H)	*mm; *PCS/Ctn, Gross Weight: *Kg			

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} =0.26~0.37A
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	1.0V	-	1.3V	
Turn-off Voltage	0.6V	-	1.0V	
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	10%	-	13%	
Turn-Off Duty Cycle	6%	-	10%	
Rx Range	0	-	100KΩ	
Auxiliary	10.8V	12V	13.8V	12Vdc/200mA

Safety Specification

Parameter	Min	Typ.	Max	Notes
Dielectric Strength (Input-Ground)	-	1600Vac	-	60s, Current not exceeding 5mA
Grounding Resistance	-	-	0.1Ω	25°C ± 10°C Ambient Temperature, pass 25A Current, 60s.
Insulation Resistance	10MΩ	-	-	Input-PE, 500Vdc/60s/25°C

Safety Compliance

Safety Category	Standards	Approved	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	√	

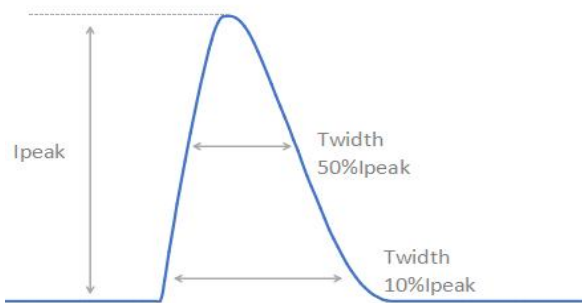
EMC Compliance

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	√	
Surge Shock Immunity	ANSI/C82.77-5-2017		
Ring Wave			

RoHS

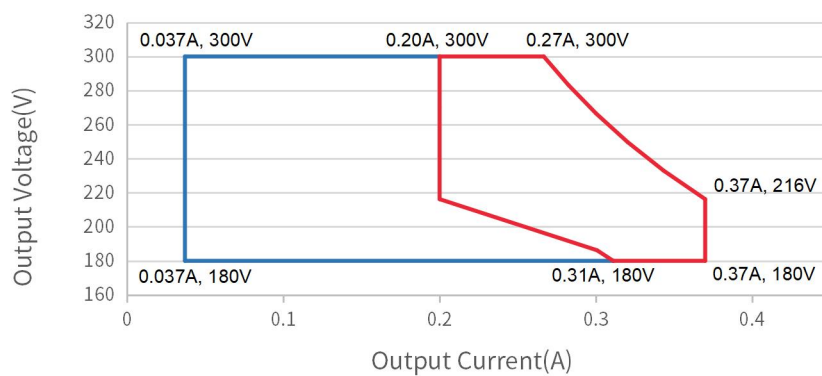
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Inrush Current



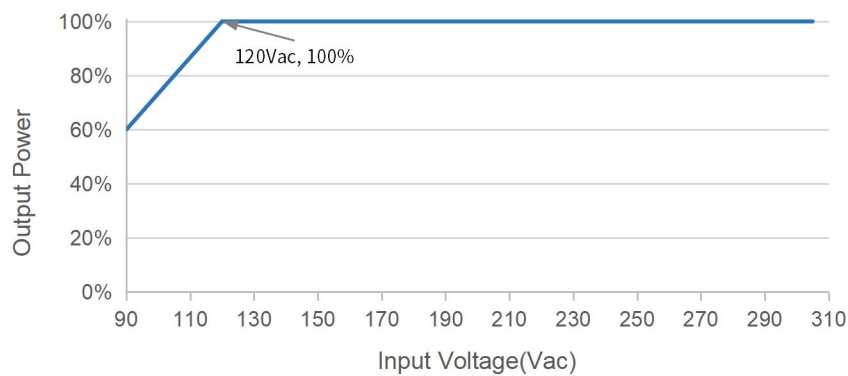
V_{in}	I_{peak}	$T(@10\% \text{ of } I_{peak})$	$T(@50\% \text{ of } I_{peak})$
230Vac	69.5A	133.6 μ s	75.2 μ s

Output Voltage vs. Output Current

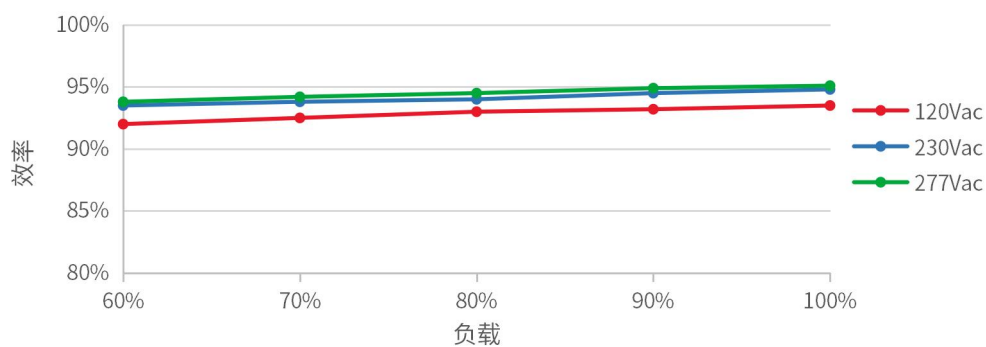


Red curve: good performance area

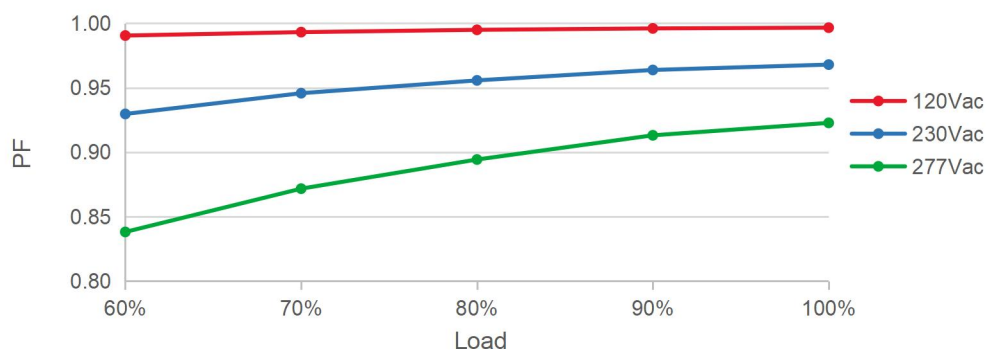
Output Power vs. Input Voltage



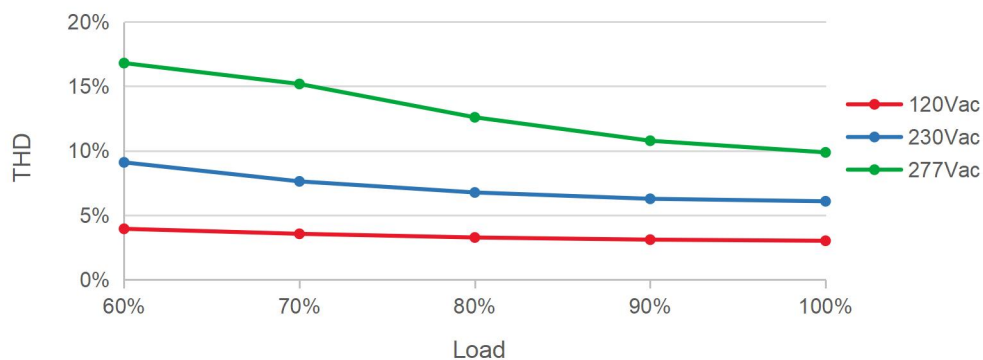
Efficiency vs. Load



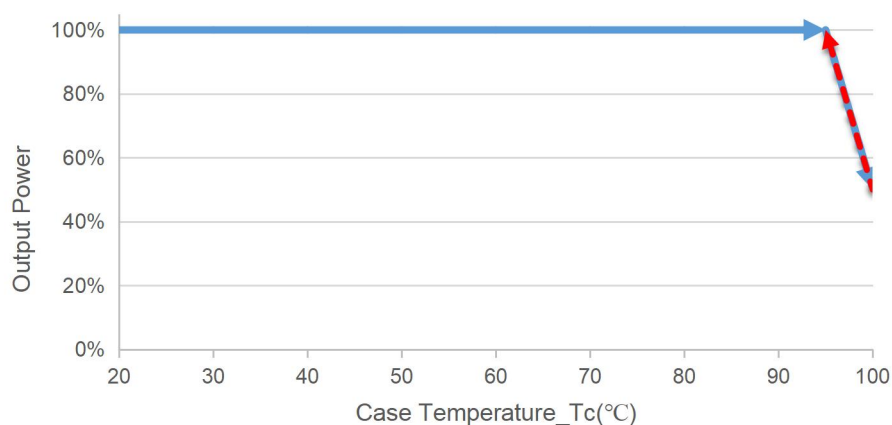
PF vs. Load



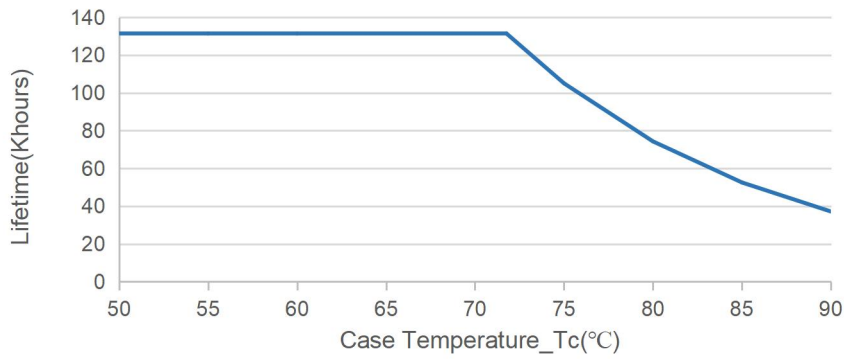
THD vs. Load



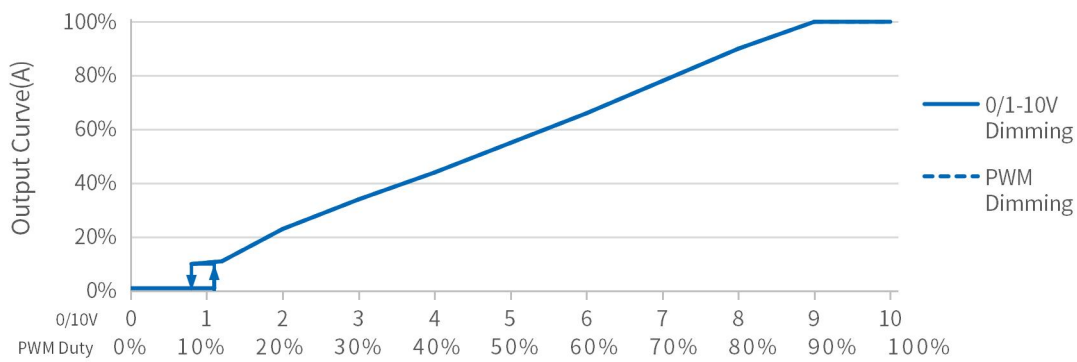
Output Power vs. Case Temperature



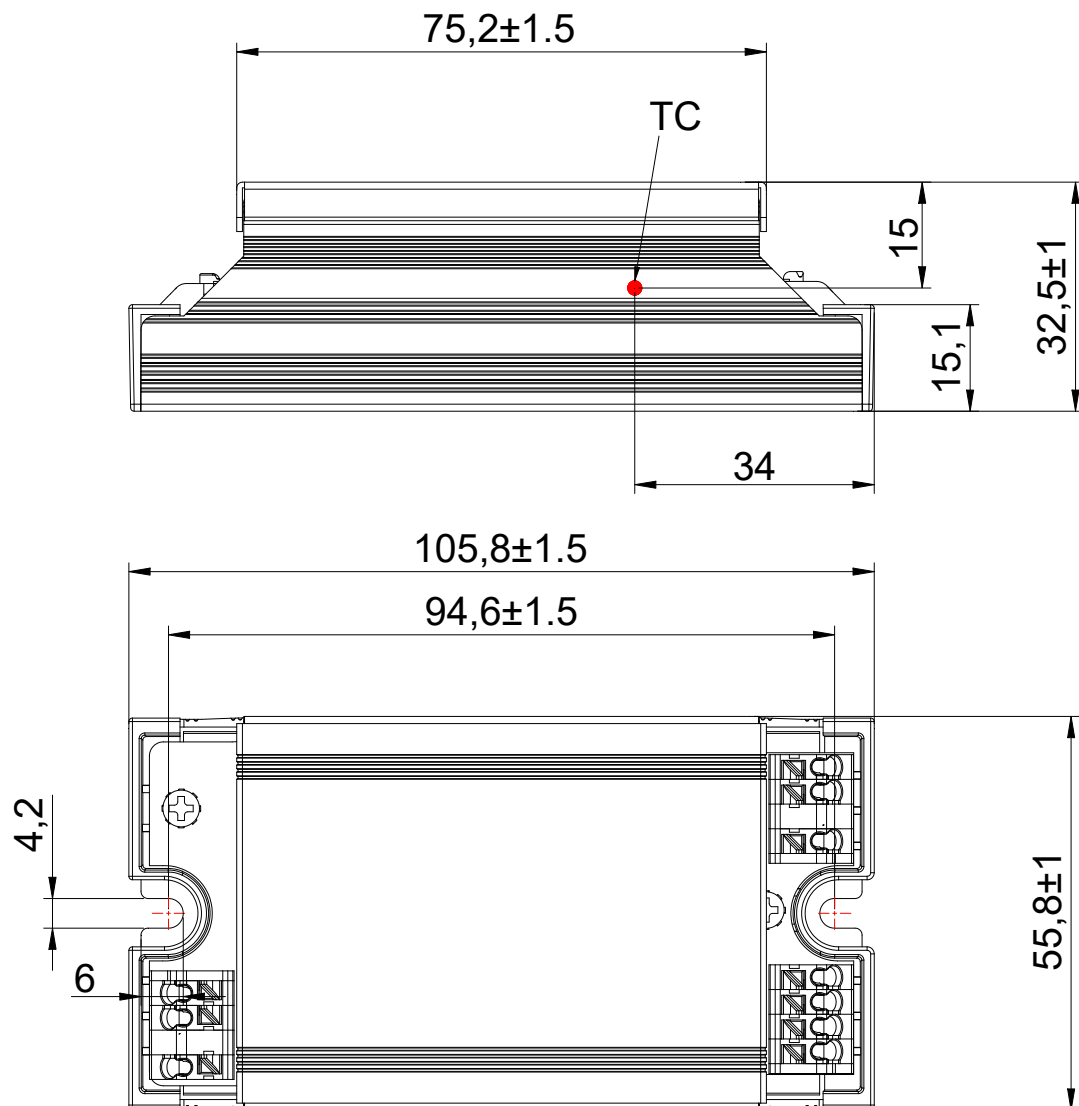
Lifetime vs. Case Temperature



0-10V/PWM Dimming



Mechanical Outline



Notes:

- [1]. In order to meet the requirements of the "derating curve" and "maximum ambient temperature of 50 °C", it is necessary to add auxiliary heat dissipation devices with a recommended heat dissipation area of 380cm² and the volume is 115cm³; It is also necessary to add thermal conductive silicone grease between the heat sink and LED driver to ensure a tight fit with the auxiliary heat sink.
- [2]. The pressure resistance of LED beads and aluminum substrate should be greater than 2KVac.

Label

Version

A.0	First release	2025-04-10

Specification for Approval

Product Name: 80W Linear Non-isolated Driver

Product Model: N7L-080M300A12(II)

Rev: A.0

Address:XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

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Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 80W Linear Non-isolated Driver

Product Model: N7L-080M300A12(II)

Rev: A.0

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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Prepared By	Checked By	Approved By

**N7L(II)- 80W Linear Non-isolated
Driver**
