Description

The N7L 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..

Class P

Product Features

- Universal input voltage: 90~305Vac ;
- Full power work range: 120~277Vac;
- Constant current design，Efficiency up to 95%;
- 3-in-1 dimmable: 0~10V / PWM / Rx;
- Dim-to-off;
- High surge protection: 6KV line-line, 6KV line-earth;
- 12V/0.2A auxiliary power supply;
- Output and Dimming Signal Isolating;
- Protections: SCP / OVP / OTP;
- 5 years warranty;

Application

Road and street lighting
Tunnel lighting
Area and flood lighting
High-bay lighting

Models

Model Number	Input Voltage Range (Vac)	MAX Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Current Range (A)	Default Current(A)	Eff. (Typ.)	PF(Typ.)	THD(Typ.)
N7L-240M260A12	90~305	240	180~260	0.92~1.11	1.0	95%	0.97	10%

Notes:

[1]. M means 0-10V/PWM/Rx dimming.

[2]. A12 means 12Vdc aux and Dim-to-off(Options available).

[3]. All specifications are measured at 25℃ 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	120-277Vac	305Vac	
Full Power Work Range	120Vac	-	277Vac	Refer to Output Power vs. Input Voltage curve
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	2.8A	120~277Vac & 100% load
Max Input Power	-	-	280W	120~277Vac & 100% load
Leakage Current	-	-	0.70mA	IEC 60598-1; 240Vac/60Hz
Leakage Current	-	-	0.75MIU	UL 8750; 277Vac/60Hz
Inrush Current	-	-	100A	230Vac, 100% load
Standby Power Consumption	-	-	0.5W	230Vac，dimming off and auxiliary source without load
Power Factor (PF)	0.90	0.97	0.99	120-277Vac，50-60Hz，80%-100% load
Total Harmonic Distortion (THD)	-	10%	15%	120-277Vac，50-60Hz，80%-100% load
MCB(B16)	-	4	-	230Vac; 100%load

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	180Vdc	-	260Vdc	
Open Circuit Voltage	-	-	310Vdc	
Output Current Range	0.78A	-	1.11A	
Full Power Current Range	0.92A	-	1.11A	
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℃±10℃Cambient temperature, input changes from 120Vac to 277Vac
Load Regulation	-5%	-	+5%	Load varies from 70% to 100% with 230Vac Input at 25℃±10℃ ambient temperature
Turn-on Delay Time	-	-	1.0s	120-277Vac,100% load

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@120Vac	91%	93%	-	100% load, 25℃ ambient temperature
Efficiency@230Vac	93%	95%	-	100% load, 25℃ ambient temperature
Efficiency@277Vac	93%	95%	-	100% load, 25℃ ambient temperature
Mean Time Between Failure	-	200Khours	-	25℃±10℃Cambient temperature，230Vac，80% load condition (MIL-HDBK-217/SR-332)
Lifetime	-	50Khours	-	230Vac & 100% load，Tc 75℃，refer to lifetime vs. case temperature curve
Operating Tc for Safety Tc_s	-40℃	-	+90℃	
Operating Tc for Warranty Tc_w	-40℃	-	+75℃	5-year warranty shell temperature,humidity:10% to 95% RH
Storage Temperature Ta	-40℃	-	+85℃	Humidity:5% to 100% RH
Altitude	-60m	-	4000m	
Over Temperature Protection Tc	90℃	95℃	100℃	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)	192*53*34mm			
Net Weight	740±50g/PCS			
Package (L*W*H)	500*310*160mm; 24PCS/Ctn, Gross Weight: 18Kg			

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_{omax}	-	100% I_{set}	
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	1.0V	-	1.3V	
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	10%	-	13%	
Turn-Off Duty Cycle	7%	-	9%	
Rx Range	0	-	100K	
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
Dielectric Strength (Input-Dimming)	-	3000Vac	-	60s，Current not exceeding 5mA
Grounding Resistance	-	-	0.1Ω	25℃±10℃ Ambient Temperature, pass 25A Current, 60s.
Insulation Resistance	10MΩ	-	-	Output-PE, 500Vdc/60s/25℃

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	√	

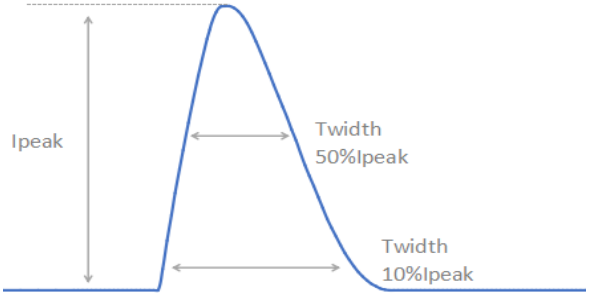
EMC Compliance

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		
Ringing Wave			

RoHS

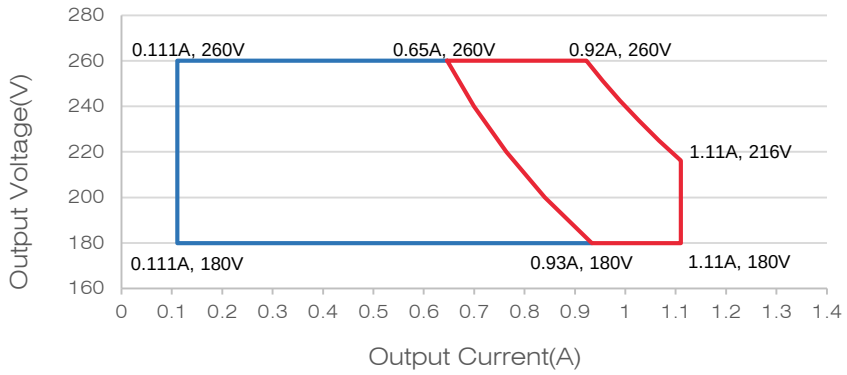
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Inrush Current



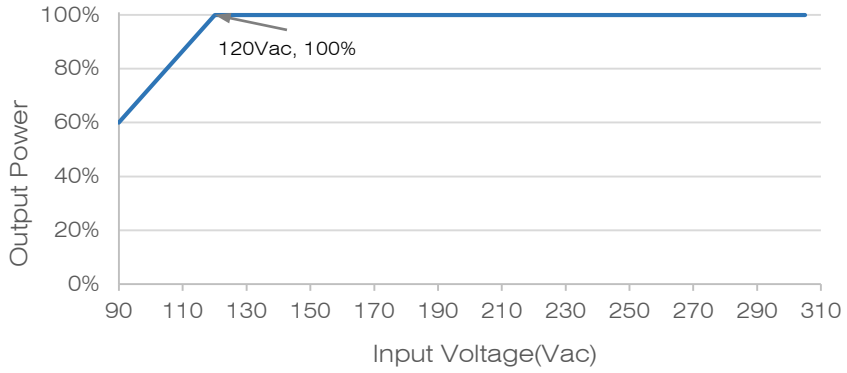
Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
230Vac	92.1A	685μs	342μs

Output Voltage vs. Output Current

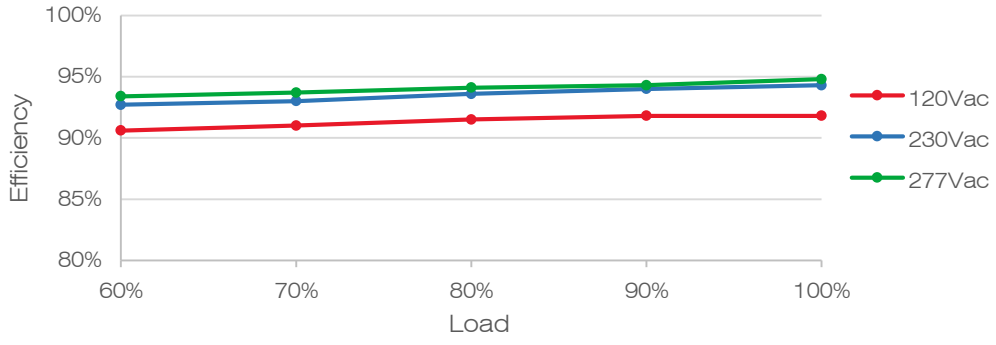


Red curve: good performance area

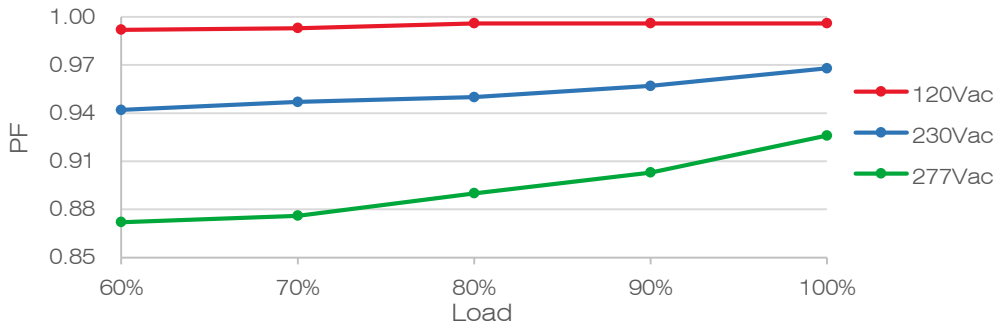
Output Power vs. Input Voltage



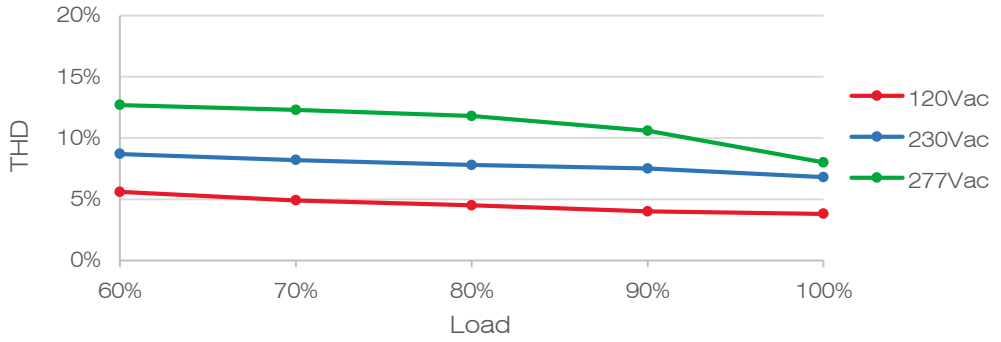
Efficiency vs. Load



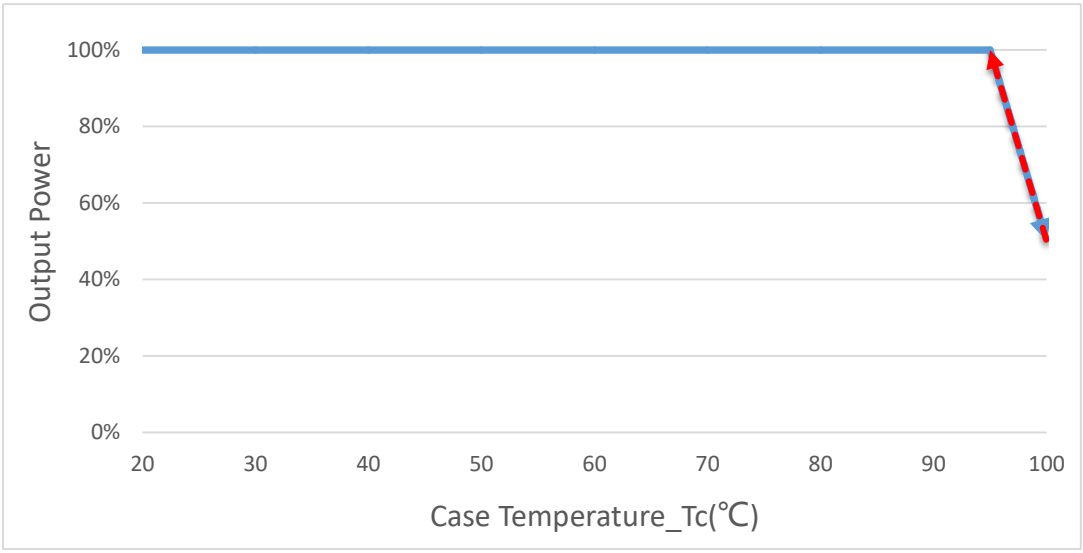
PF vs. Load



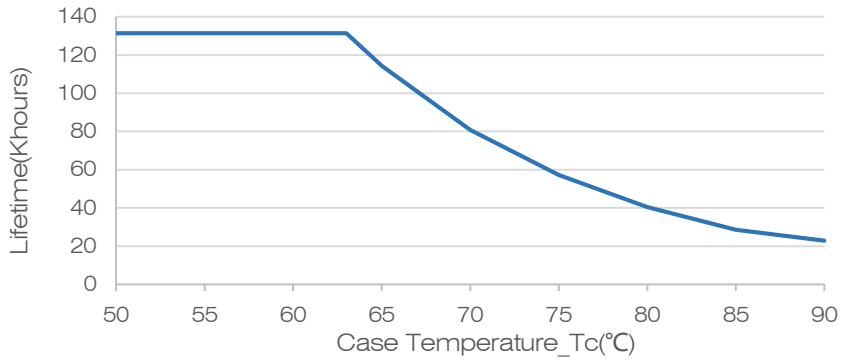
THD vs. Load



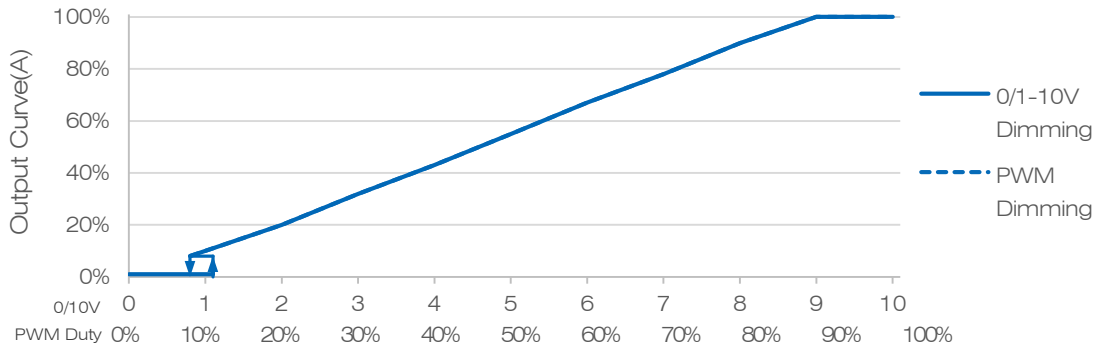
Output Power vs. Case Temperature



Lifetime vs. Case Temperature

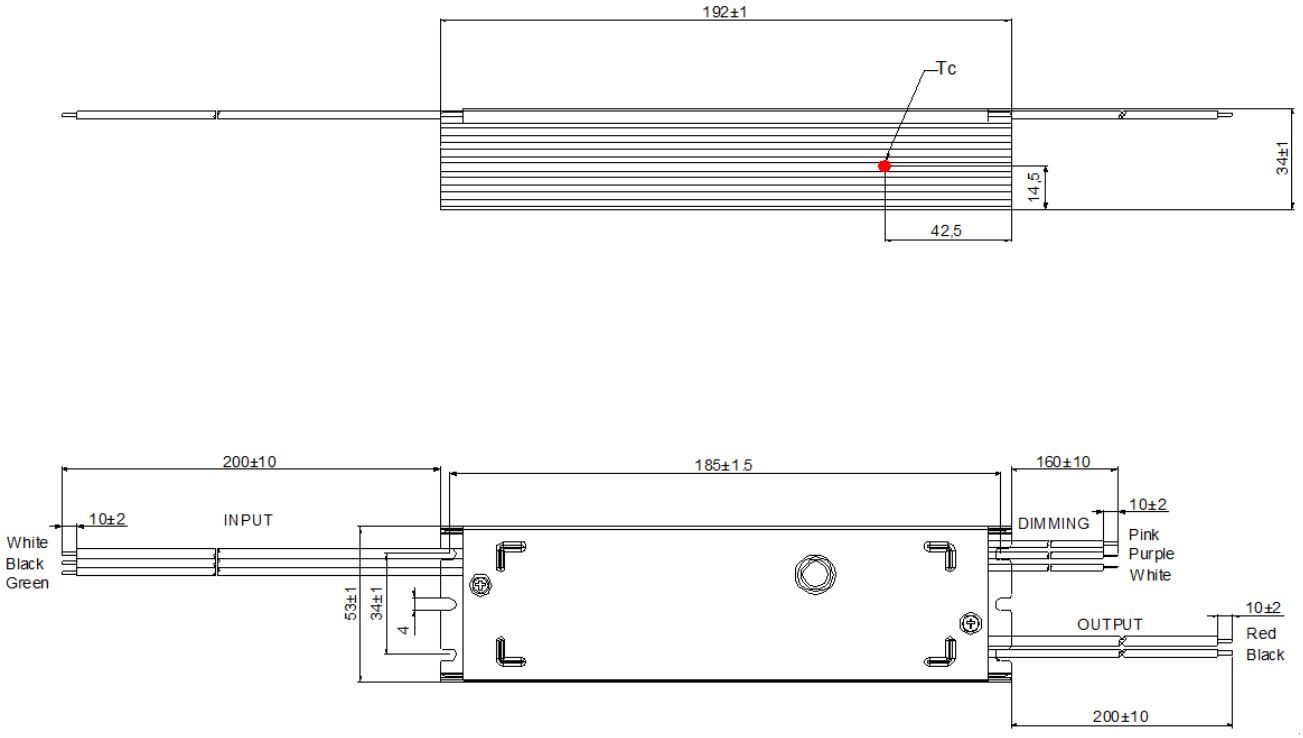


0-10V/PWM Dimming



Notes: Afterglow may appear after switching off dimming due to the difference of lamp panel. Thus, lighting fixture grounding test is suggested.

Mechanical Outline



Notes:

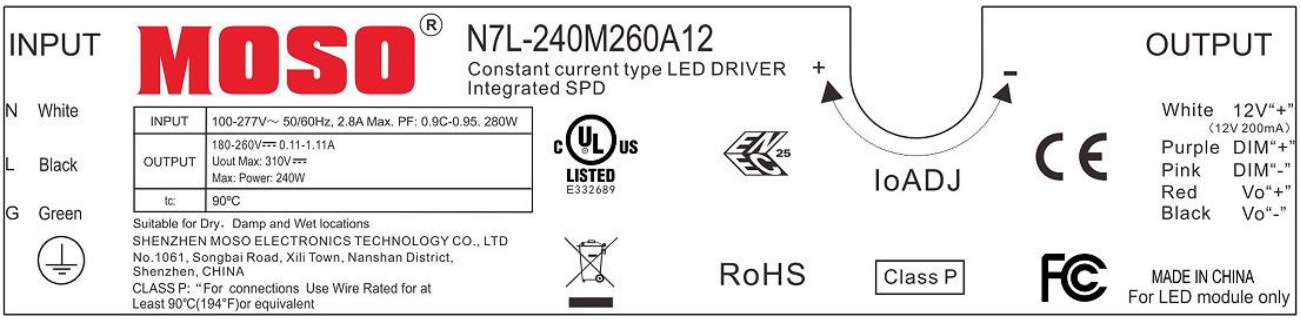
[1]. In order to meet the requirements of the "derating curve" and "maximum ambient temperature of 50 ℃", it is necessary to add auxiliary heat dissipation devices with a rec ommended heat dissipation area of 380cm ² and the volume is 115cm ³; It is also necessary to add thermal conductive silicone grease 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.

Specification

Input	UL 1015 18AWG L=200±10mm Y=10±2mm	UL
Output	UL 1015 18AWG L=200±10mm Y=10±2mm	UL
Dimming	UL 1015 22AWG L=160±10mm Y=10±2mm	UL

Label



Note:

Nameplate is laser engraved.

Version

A.1	First release	2023-05-22

Specification for Approval

Product Name: 240W Linear Non-isolated Driver

Product Model: N7L-240M260A12

Rev: A.1

Address:XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China
Tel: 0755-27657000
FAX: 755-27657908
E-mail:info@mosopower.com
Web Site:http://www.mosopower.com

Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 240W Linear Non-isolated Driver

Product Model: N7L-240M260A12

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.		

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

Tel: 0755-27657000

FAX: 755-27657908

E-mail:info@mosopower.com

Web Site:http://www.mosopower.com

Prepared By	Checked By	Approved By