

Specification for Approval

Product Name: 30W Linear Non-isolated Driver

Product Model: N7L-030M260 

Rev: A.1

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



Product Features

- Universal input voltage: 90~305Vac;
- Constant current design, Efficiency up to 92%;
- 3-in-1 dimmable: 0~10V / PWM / Resistor;
- Output and dimming signal isolating;
- High surge protection: DM: 6KV, CM: 6KV;
- 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.) ^[2]	PF(Typ.)	THD(Typ.)
N7L-030M260	90~305	30	180~260	0.07~0.17	0.125	92%	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	-	-	0.4A	120Vac & 100% load
Max Input Power	-	-	40W	120Vac & 100% load
Leakage Current	-	-	0.70mA	IEC 60598-1; 240Vac/50Hz
Inrush Current	-	-	60A	230Vac, 100% load
Power Factor (PF)	0.90	0.95	-	120-277Vac, 50Hz, 80%-100% load
Total Harmonic Distortion (THD)	-	10%	20%	120-277Vac, 50/60Hz, 80%-100% load
MCB(B16)	-	22	-	230Vac; 100%load (for reference only)

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	180Vdc	-	260Vdc	
Open Circuit Voltage	-	-	310Vdc	
Output Current Range	0.07A	-	0.17A	Adjustable output current with potentiometer
Full Power Current Range	0.115A	-	0.167A	$P=U \cdot I=30W$, 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
Turn-on Delay Time	-	-	1.0s	120-277Vac, 100% load

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@120Vac	90%	91%	-	100% load, No load of auxiliary source
Efficiency@230Vac	91%	92%	-	100% load, No load of auxiliary source
Efficiency@277Vac	91%	92%	-	100% load, No load of auxiliary source
Mean Time Between Failure	-	200Khours	-	25°C±10°C ambient temperature , 230Vac , 80% load condition (MIL-HDBK-217/SR-332)
Lifetime	-	50Khours	-	230Vac & 100% load, Tc 80°C , refer to lifetime vs. case temperature curve
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)	113*51*34mm			
Net Weight	300±50g/PCS			
Package (L*W*H)	500*310*150mm; 20PCS/Ctn., Gross Weight: 6.5Kg			

Dimming (for M model)

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} =0.07~0.17A
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	0.8V	-	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	8%	-	13%	
Turn-off Duty Cycle	6%	-	10%	
Resistor Range	0	-	100KΩ	

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		

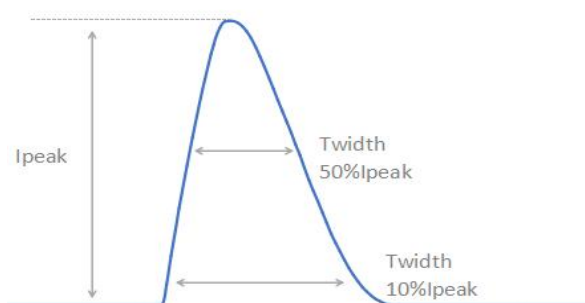
EMC Compliance

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		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

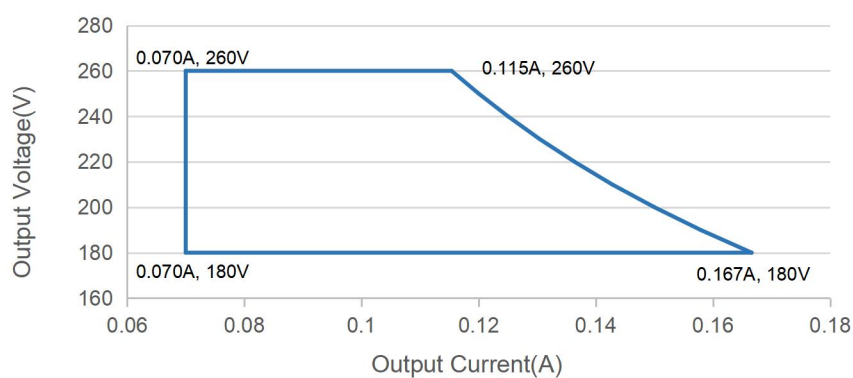
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Inrush Current

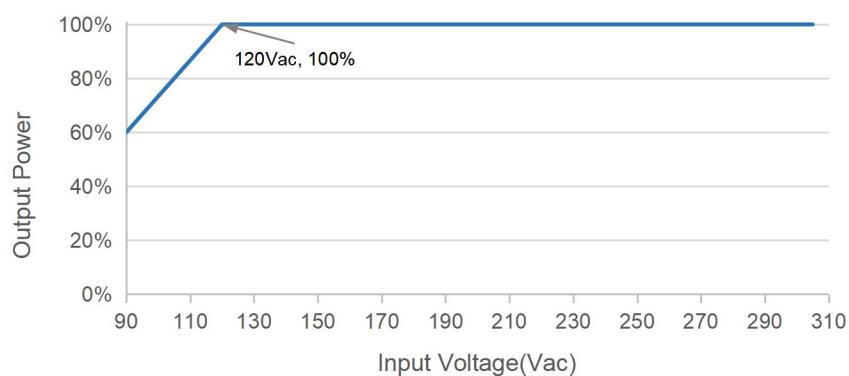


V_{in}	I_{peak}	$T(@10\% \text{ of } I_{peak})$	$T(@50\% \text{ of } I_{peak})$
230Vac	34A	540 μ s	172 μ s

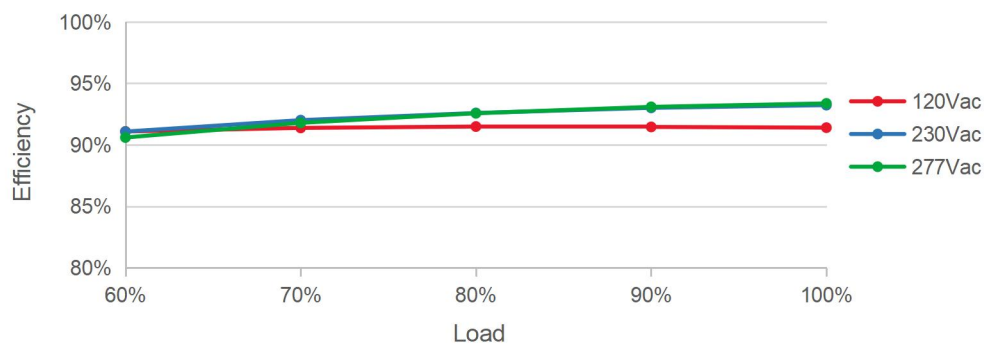
Output Voltage vs. Output Current

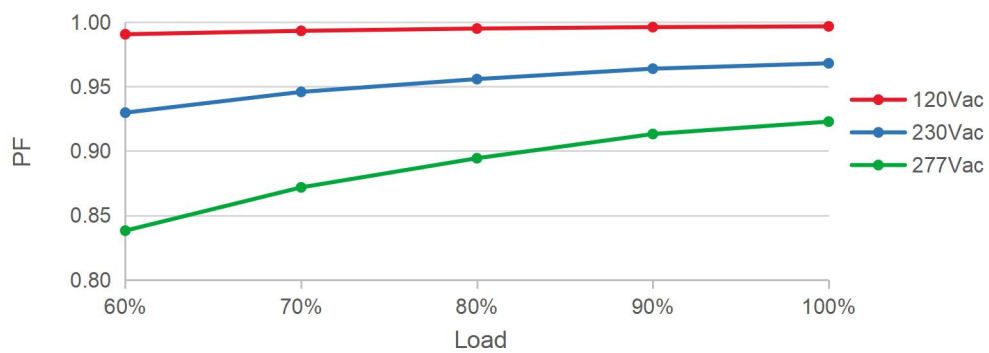
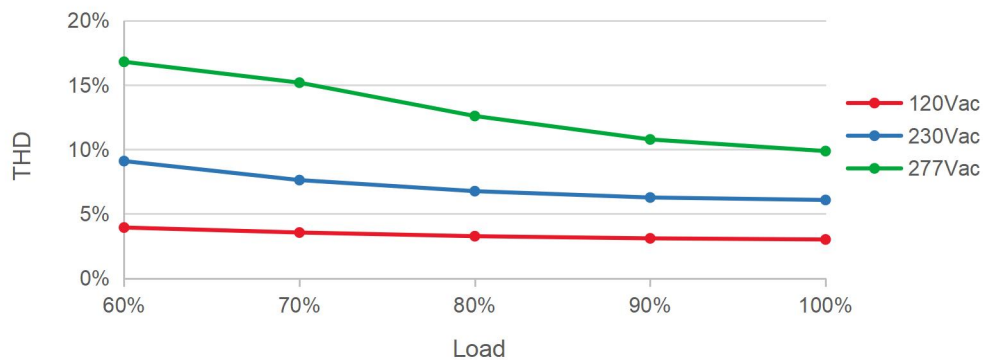
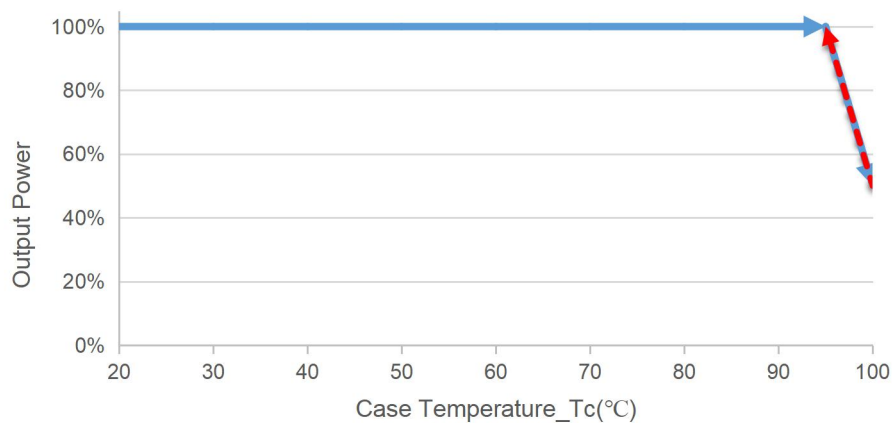


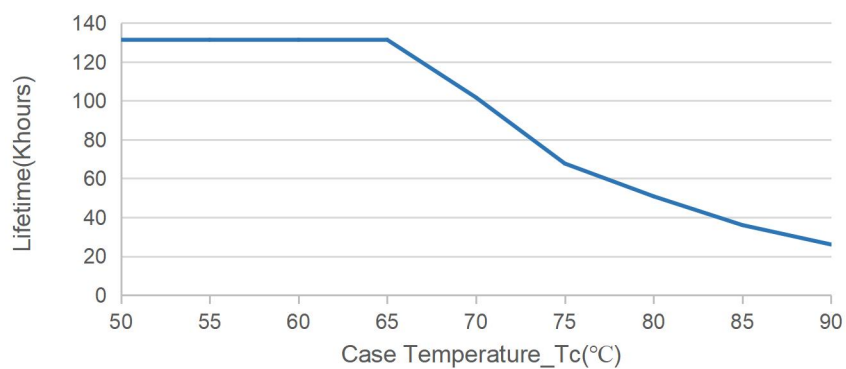
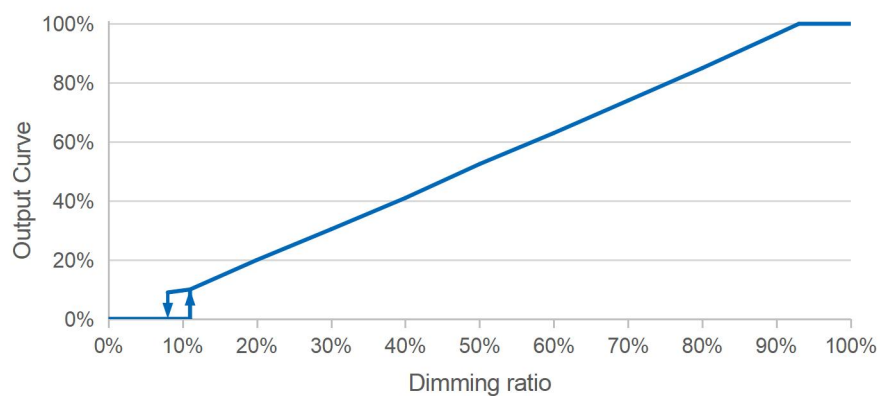
Output Power vs. Input Voltage



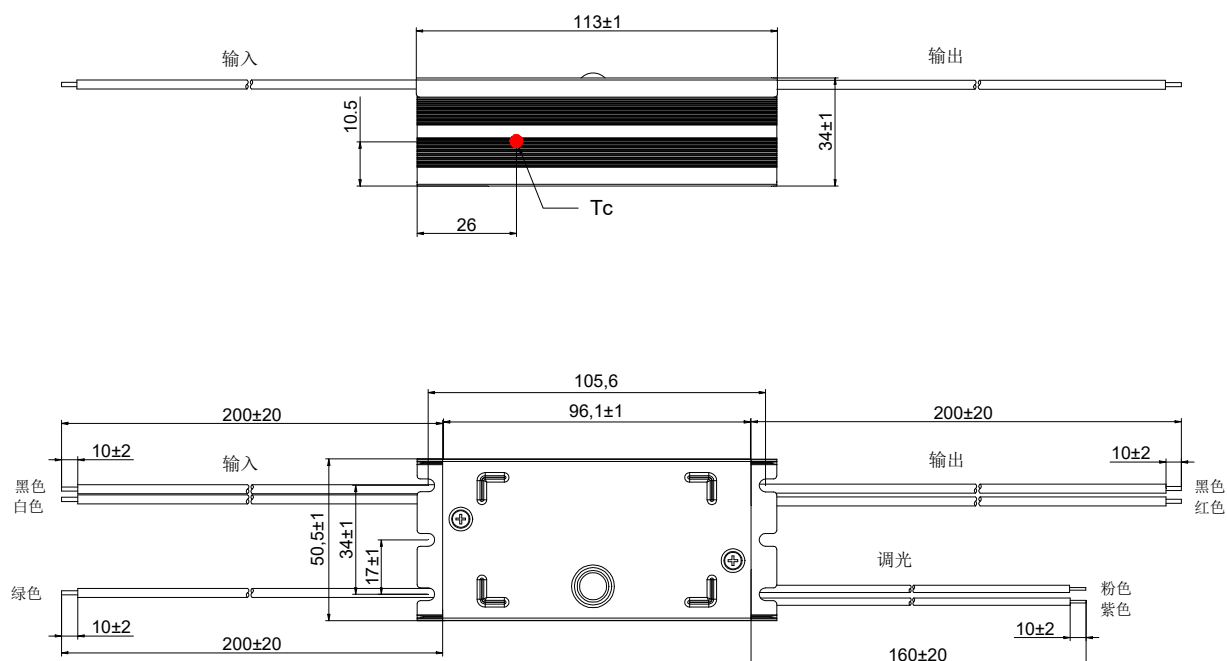
Efficiency vs. Load



PF vs. Load**THD vs. Load****Output Power vs. Case Temperature**

Lifetime vs. Case Temperature**0-10V/PWM/ Resistor Dimming (for M model)**

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.

Specification

Input	UL 1015 18AWG L=200±20mm Tin-dip length 10±2mm L: Black, N: White, G: Green	UL
Output	UL 1015 18AWG L=200±20mm Tin-dip length 10±2mm LED+: Red, LED-: Black	UL
Dimming	UL 1015 22AWG L=160±20mm Tin-dip length 10±2mm DIM+: Purple, DIM-: Pink	UL(for M model)

Label

INPUT **MOSO**[®] **N7L-030M260**
LED DRIVER (Constant current type)
LED 控制装置 (恒流型)

L (Black 黑)	INPUT (输入)	100-240V~ 50/60Hz, 0.4A Max. PF: 0.9C-0.95. Max. 40W
N (White 白)		
G (Green 绿)		
OUTPUT (输出)		180-260V $\overline{\text{---}}$; 0.07-0.17A Uout Max. (最大电压): 310V $\overline{\text{---}}$ Max. Power (最大功率): 30W

tc: 90°C
MADE IN CHINA
For LED module only

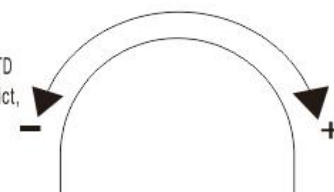
SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD
No. 1061, Songbai Road, Xili Town, Nanshan District,
Shenzhen, CHINA

IoADJ

OUTPUT
(Black 黑) Vo⁻
(Red 红) Vo⁺
(Pink 粉) DIM⁻
(Purple 紫) DIM⁺

CCC
EAC
CE
RoHS





Version

A.1	First release	2025-09-28