

Description

The N7L-(II) series is specifically designed for industrial lighting applications. It has a non-isolated design and operates in constant current mode with a high power factor and universal input voltage range of 90–305 V ac. It features 0–10V/PWM/Resistor dimming. Its compact housing and high efficiency enable the drivers to operate with high reliability, and it features input surge, output overvoltage, 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;
- 3 Timers dimming: Traditional, Virtual Midnight; Self-Adaptive;
- Off-line programmable;
- DIP switch power and photocontrol related settings are programmable;
- Output and dimming signal isolating;
- Standby Power Consumption:<0.5W;
- 12V/0.2Aauxiliary power supply;
- Surge protection: DM: 6KV, CM: 6KV;
- Protections: Input UVP, output SCP/ OVP/ OTP;
- Warranty: 5years.

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-320M300A12 (II)	90~305	320	180~300	0.3~1.5	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	-	-	3.8A	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	0.3A	-	1.5A	
Full Power Current Range	1.07A	-	1.5A	213-300Vdc
Default Photocontrol Turn-off Voltage	0V	1V	2V	Adjust via PC software
Default Photocontrol Turn-on Voltage	3V	4V	5V	
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
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	-5%	-	+5%	25°C±10°C ambient temperature, 230Vac input, load changes from 70% to100%
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%	-	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	-	+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				Hiccup mode. 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*33mm			
Net Weight	500±50g/PCS			
Package (L*W*H)	460*300*215mm; 18PCS/Ctn, Gross Weight: 9Kg			

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}	I _{set} =0.3-1.5A (Full Power Current Range)
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on voltage	0.8V	-	1.2V	
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	
Time control dimming	-	-	-	Three time control options are available.
Output lumen compensation	-	-	-	Output lumen compensation

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

2. During the withstand voltage test, please short-circuit the L/N, positive and negative output lines, positive and negative dimming lines, and auxiliary power supply.

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,CTБ EH 55015 ГОСТ IEC 61547	√	
EAC	ГОСТ 30804.3.3 (IEC 61000-3-3)	√	

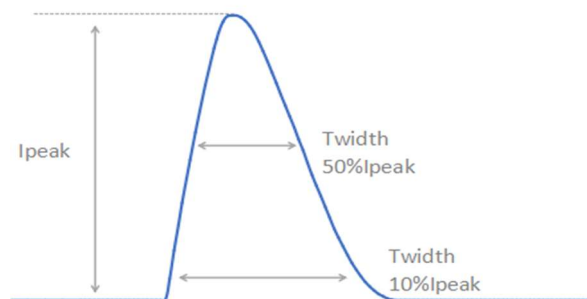
Notes :

1. The power supply complies with relevant EMC standards. As a part of the terminal equipment system, the power supply needs to be reconfirmed for EMC in conjunction with the entire system.

RoHS

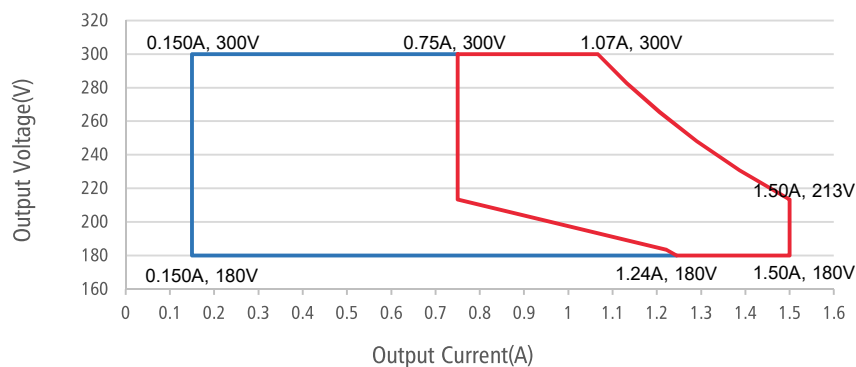
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Inrush Current Waveform

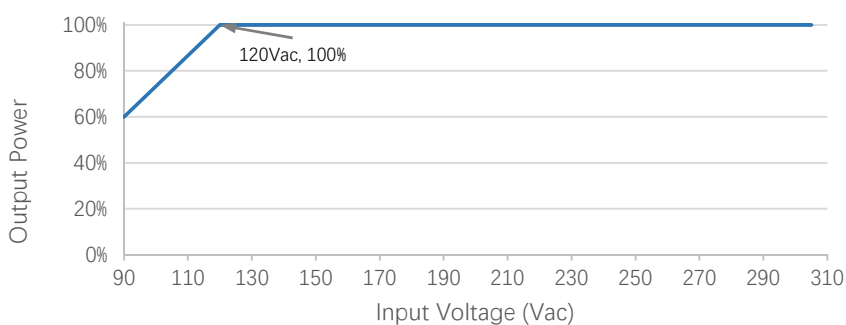


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	79A	400μs	200μs
230Vac	142A	372μs	172μs
277 Vac	150A	414μs	200μs

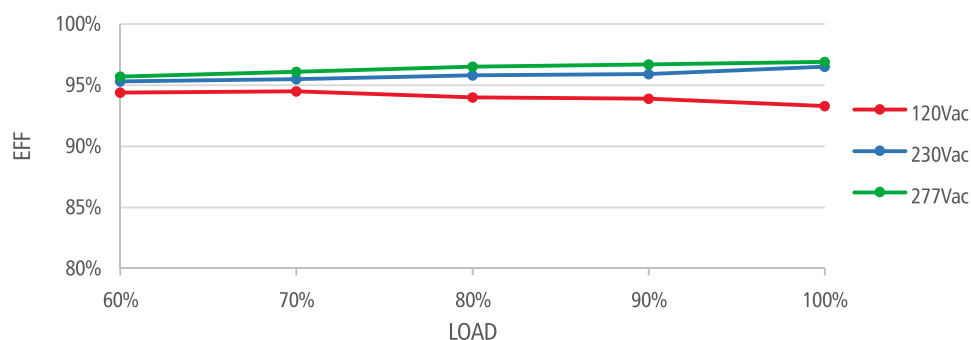
Output Voltage vs. Output Current



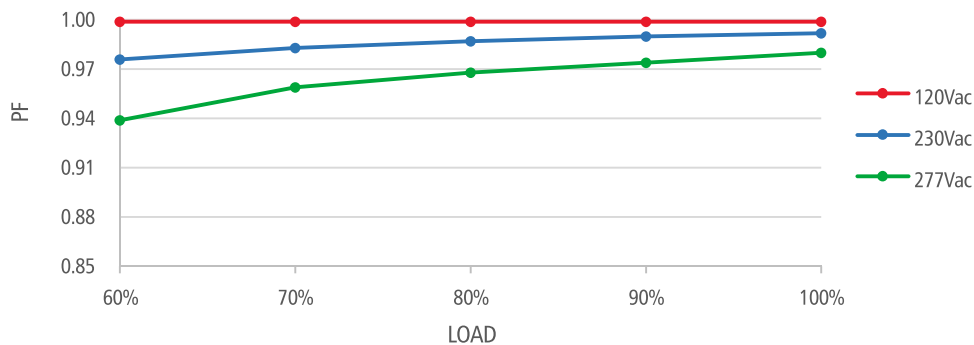
Output Power vs. Input Voltage



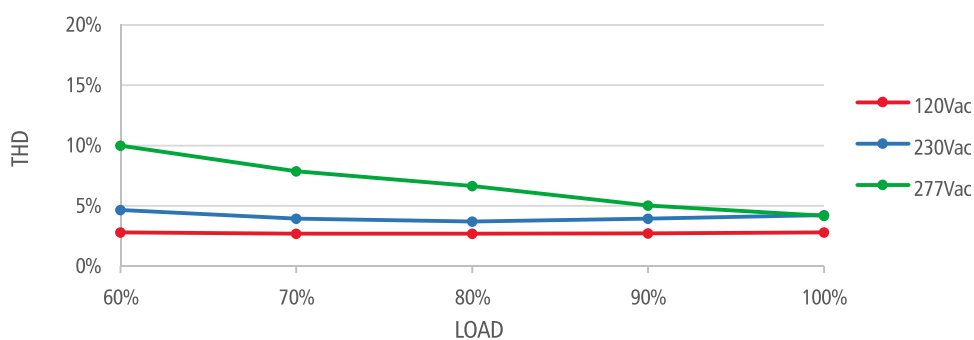
Efficiency vs. Load



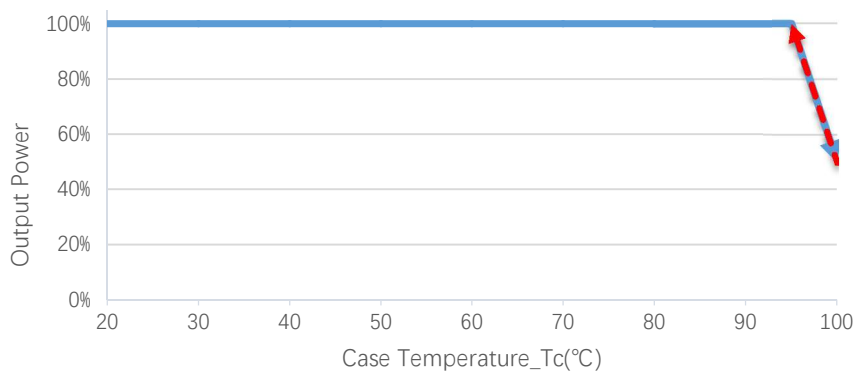
PF vs. Load



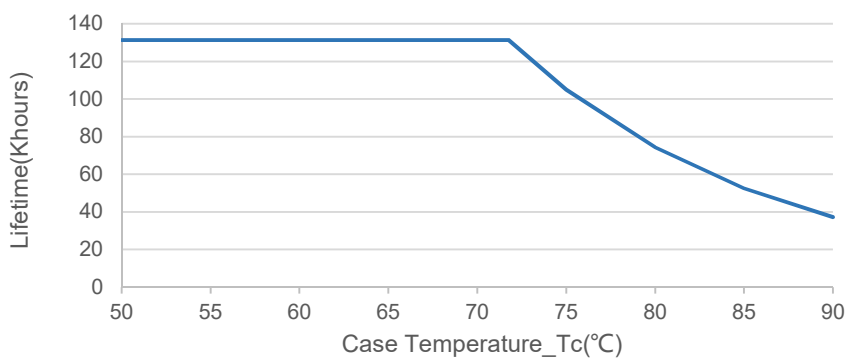
THD vs. Load



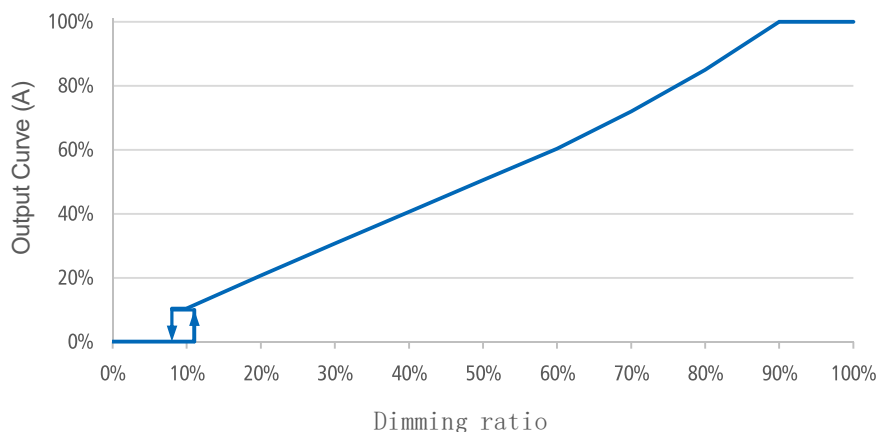
Output Power vs. Case Temperature



Lifetime vs. Case Temperature

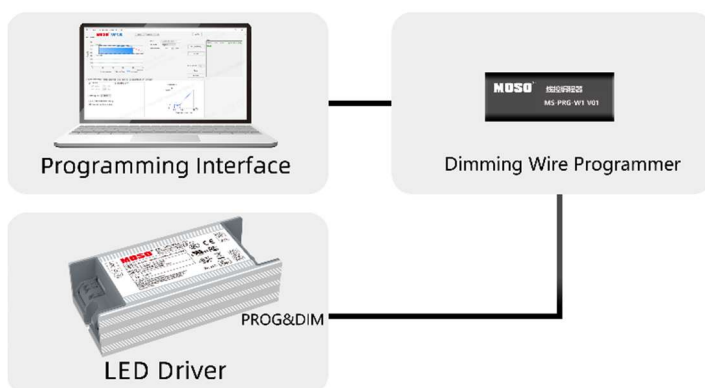


0-10V/PWM/Resistor Dimming



Off-line Programming

User-friendly connection of programming without necessary to power on device (suitable for N7-II, N7L-II Series).



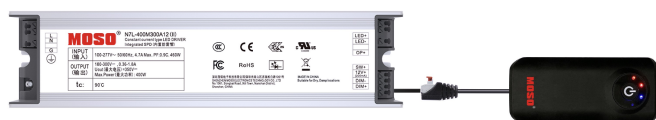
Visual Intelligent Programming

1. Set the output parameters through the control signal line 0-3.3V/0-5V/0-9V/0-10V optional.
2. Timer dimming. Set the timer control function, support up to 7 segments;
3. Set DIP switch power range and photocontrol range;
4. Set output CLO;
5. Read the recorded system parameters; Record the working time working temperature,.
6. Configure the driving parameters. After setting is completed, then click the configured parameters to complete programming.

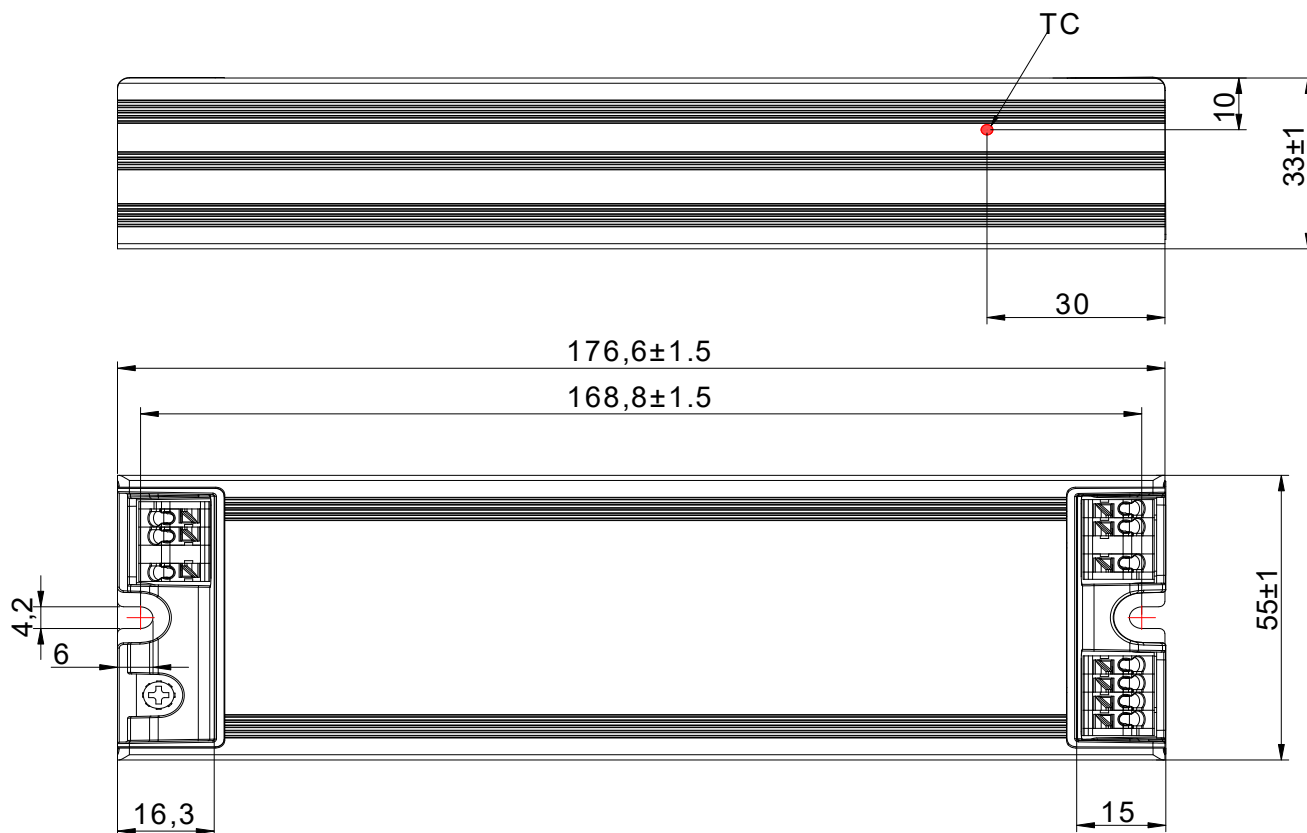
Programming mode 2:

Instructions of one touch programmer:

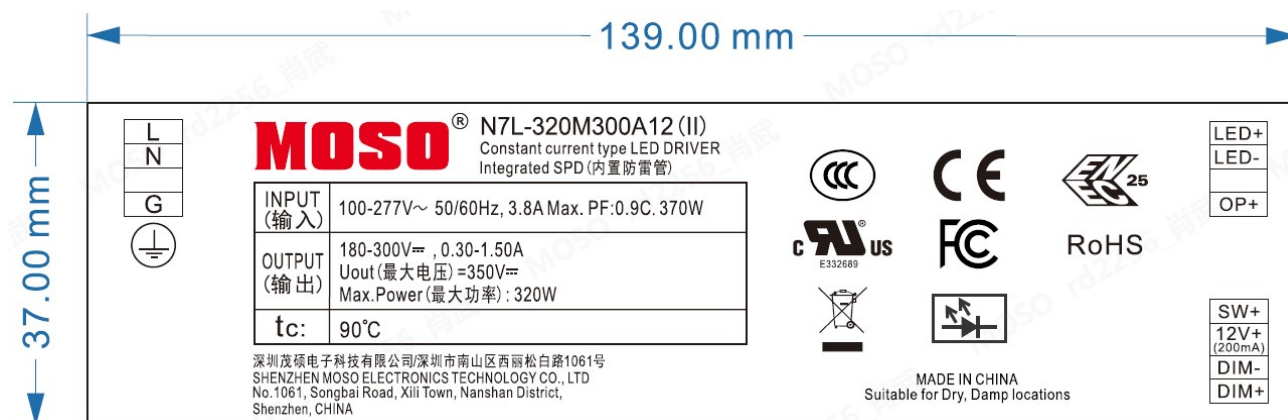
1. Open the software interface and download the program to the offline programmer.
2. Connect the dimming wire with the programmer, press the programmer button, the programmer will give you a subtle reminder “ (Beep) ” to tell you the installation completed.



Mechanical Outline



Label



Version

A.1	First release	2026-02-06

Specification for Approval

Product Name: 320W Linear Non-isolated Driver

Product Model: N7L-320M300A12(II)

Rev. A.1

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

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Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 320W Linear Non-isolated Driver

Product Model: N7L-320M300A12(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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Prepared By	Checked By	Approved By