Description

N8H series is specially designed for industrial lighting applications. with 0-10V / PWM / Resistance(+12V Auxiliary) dimming function. This Rectangle integrated structure enables it to have a better heat dissipation cooler, significantly improving reliability and extending product life. To ensure trouble free operation, protection is provided against input surge, output short circuit, and over temperature, to ensure low failure rate.

Product Features

- Input voltage range: 180~528Vac;
- Constant Power design, Efficiency up to 96%;
- NFC programmable adjustable Three time control options are available. The constant power function can be turned off. Light attenuation compensation, dimming off point can be set, and NTC over-temperature protection can be set.
- Control scheme: 0-10V/PWM/ resistance/time control dimming, light attenuation compensation, offline programming;
- Auxiliary source output: 12V,300mA
- Output and dimming signal isolation;
- Dimming off without afterglow;
- Double live wire disconnection (there will be no afterglow even if the neutral wire and the live wire are reversed);
- Standby power consumption: <0.5W@230V;
- low inrush current: <30A;
- Dimming off without afterglow;
- External NTC supported（optional);
- Surge protection: DM 6KV, CM10KV；
- Multiple protection: Input UVP, OVP, Output SCP, OTP, constant power;
- Ingress protection rating: IP67 ;
- 5 years warranty.

Application

Stadium 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.)
N8H-680M500A12	180-528	680	200-500	1.36~2.60	2.30	97%	0.97	10%

NOTES:

[1]. All specifications are measured at 25℃ ambient temperature, input voltage 400Vac, and the typical value tested at full load, if no specific note.

Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage Range	180Vac	-	528Vac	Input below 200Vac, derated output
Input Voltage Typ.	200Vac	-	480Vac	
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	3.75A	200Vac&Full Load.
Max Input Power	-	-	745W	200Vac&Full Load.
Leakage current	-	-	0.70mA	IEC 60598-1；400Vac/50Hz
Inrush Current	-	-	30A	400Vac&Full Load
Standby Power Consumption	-	-	0.5W	230Vac, Dimming turn-off, Auxiliary Power Without Load,
Power Factor(PF)	0.95	0.98	-	230Vac, 50Hz, 60%-100% Load.
Power Factor(PF)	0.90	-	-	200-480Vac, 50/60Hz, 60%-100% Load.
Total Harmonic Distortion(THD)	-	10%	20%	200-480Vac, 50/60Hz, 60%-100% Load.
MCB(B16)	-	4	-	230Vac.

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	200Vdc	-	500Vdc	
Open Circuit Voltage	-	-	600Vdc	
Output Current range	10%Io	-	100%Io	Io=2.60A
Current Accuracy	-5%	-	+5%	
Total Output Current Ripple (pk-pk)	-	-	10%	20MHz BW, full load& LED load, the ripple would be tiny different under different LED load.
Startup Overshoot Current	-	-	10%	200~480Vac & 100% load
Line Regulation	-3%	-	+3%	220~480Vac
Load Regulation	-3%	-	+3%	220~480Vac
Turn-on Delay Time	-	-	1.5s	220~480Vac &100% Load, load is LED.
Auxiliary Output Voltage	10.8V	12.0V	13.2V	
Auxiliary Output Current			300mA	The maximum peak current 500mA has a maximum duration of 2.2ms in a 6.0ms cycle. The maximum peak current 850mA has a maximum duration of 1.3ms in a 5.2ms cycle.

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@220Vac	94.0%	95.0%	-	400Vdc, 80~100% load , Auxiliary Power Without Load,25℃ ambient temperature
Efficiency@347Vac	94.5%	96.5%	-	400Vdc, 80~100% load , Auxiliary Power Without Load,25℃ ambient temperature
Efficiency@400Vac	94.5%	96.5%	-	400Vdc, 80~100% load , Auxiliary Power Without Load,25℃ ambient temperature
Efficiency@480Vac	95.0%	97.0%	-	400Vdc, 80~100% load , Auxiliary Power Without Load,25℃ ambient temperature
Mean Time Between Failure	-	200Khours	-	25℃±10℃ ambient temperature, 230Vac,80% load (MIL-HDBK-217F/SR-332).
Lifetime	-	50Khours	-	Tc=75℃, 220Vac&100% load, refer lifetime vs. Case temperature curve.
Ambient Temperature Ta	-40℃	-	+45℃	200~277Vac &100% load.
Ambient Temperature Ta	-40℃	-	+50℃	277~480Vac &100% load.
Operating Tc for Safety Tc_s	-40℃	-	+90℃	
Operating Tc for Warranty Tc_w	-40℃	-	+75℃	5 years warranty case temperature Humidity: 10% to 80% RH No condensation.
Storage Temperature Ta	-40℃	-	+85℃	Humidity: 5% to 95% RH No condensation.
Altitude	-60m	-	4000m	
Over Temperature Protection Tc	90℃	95℃	100℃	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	-	-	-	Self-recovery .
Dimensions (L*W*H)	270*89*41.5mm			
Net Weight	1860±50g/PCS			
Package	415 *343 *130 mm; 6PCS /ctn, Gross Weight: 12Kg			

0-10V Dimming

Parameter	Min	Typ	Max	Notes
Absolute Maximum Voltage	-	10V	15V	
Source Current on Vdim (+)Pin	-	100uA	200uA	
Dimming Output Range	10%I_{set}	-	100% I_{set}	I_{set}=1.36-2.60A
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	0.7V	0.8V	1.0V	
Turn-off Voltage	0.4V	0.5V	0.7V	
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	7%	8%	10%	
Turn-Off Duty Cycle	4%	5%	7%	Turn on output when dimming line is disconnected
Timer Dimming	-	-	-	3 types, which is set by software
Output Lumen Compensation	-	-	-	Constant lumen output function

Safety Specification

Parameter	CCC	CE/ENEC/SAA	UL	Notes
Dielectric Strength (Input-Ground)	2000Vac	2000Vac	2000Vac	60s, Current not exceeding 10mA.
Dielectric Strength (Output-Ground)	2200Vac	2200Vac	2200Vac	60s, Current not exceeding 10mA.
Dielectric Strength (Input-Dim)	4000Vac	4000Vac	2000Vac	60s, Current not exceeding 10mA.
Grounding Resistance	0.1Ω(Max)			25℃±10℃ Ambient Temperature, pass 25A Current, 60s. UL Standard 30A, 2 minutes.
Insulation Resistance	10MΩ(Min)			Input-PE, Output-PE, 500Vdc/60s/25℃/70%RH.

Safety Compliance

Safety Category	Standards	Approved	Notes
CCC	GB/T 19510.213 GB/T 19510.1		
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, AS/NZS 61347.1		

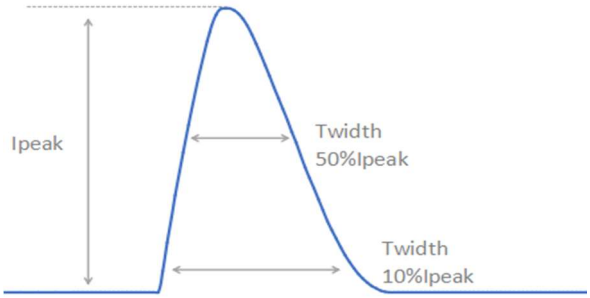
EMC Compliance

EMC Category	Standards	Approved	Notes
CCC	GB/T 17743-2021 GB 17625.1-2022		
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		
	ANSI/C82.77-5-2017	√	Meet 6KV / 6KV (2Ω)
	IEC/EN 61000-4-5	√	
	IEC/EN 61000-4-12	√	
	ANSI/IEEE C62.41.2	√	Meet 6KV / 6KV (2Ω)

RoHS

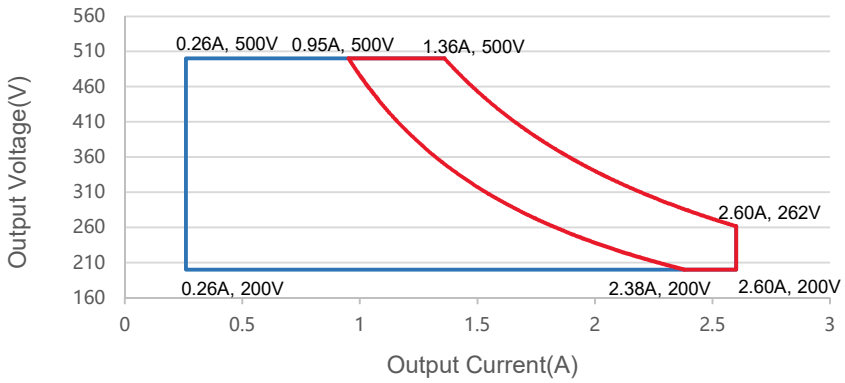
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current



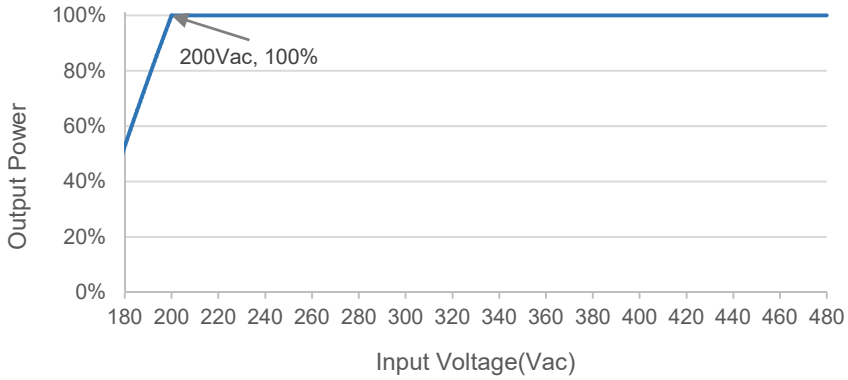
Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	5.90A	4.30ms	3.10ms
277Vac	7.80A	4.00ms	2.80ms
347Vac	10.0A	4.40ms	3.20ms
400Vac	12.0A	3.24ms	2.04ms
480Vac	14.6A	4.40ms	2.80ms

Output Voltage vs. Output Current

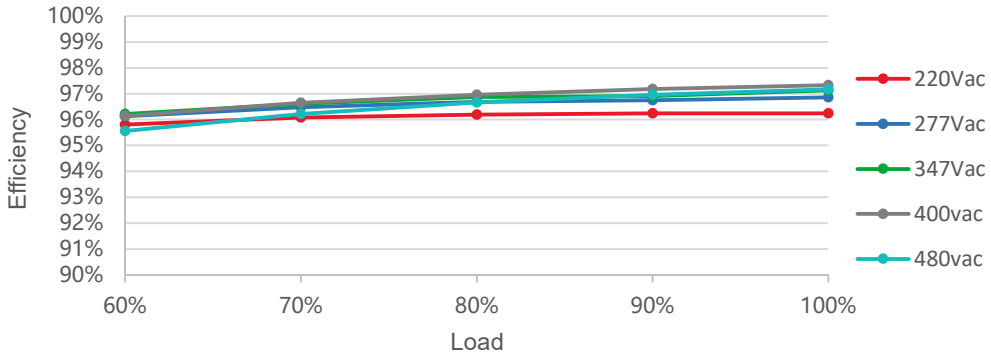


Red curve: good performance area

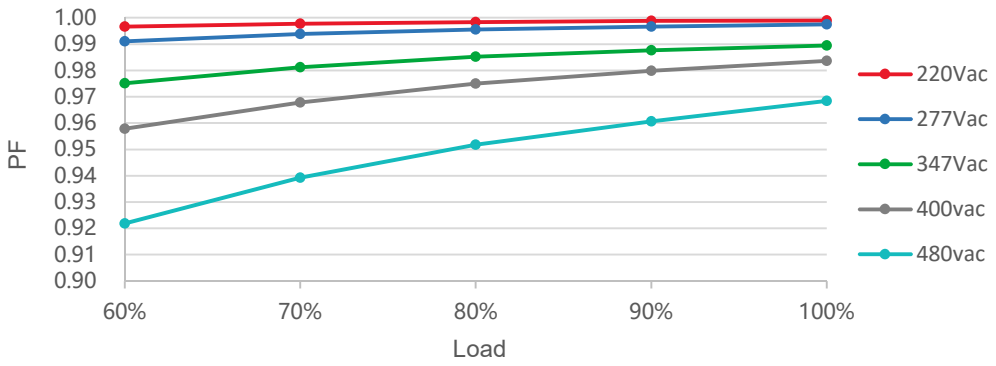
Output Power vs. Input Voltage



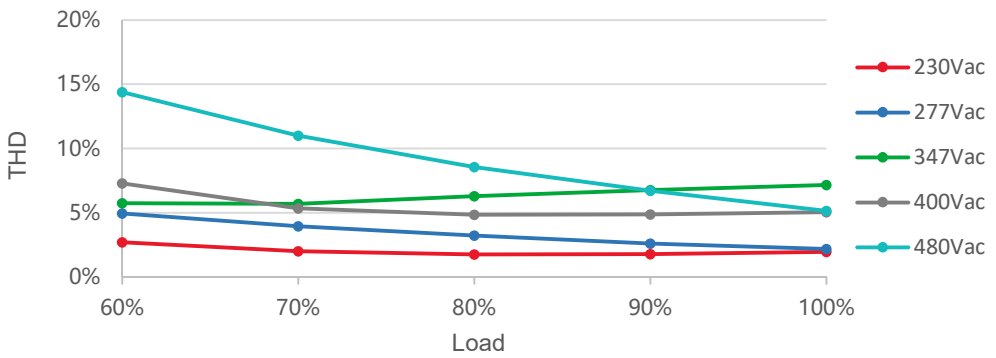
Efficiency vs. Load



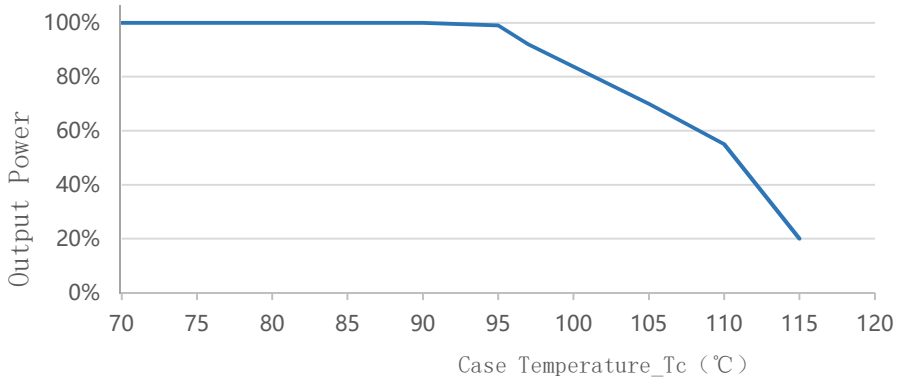
PF vs. Load



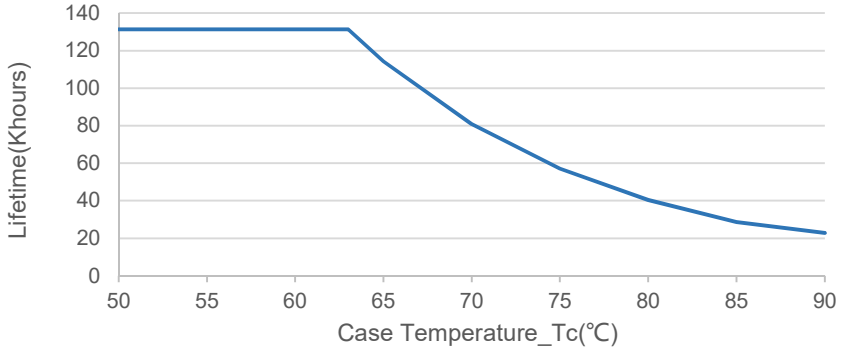
THD vs. Load



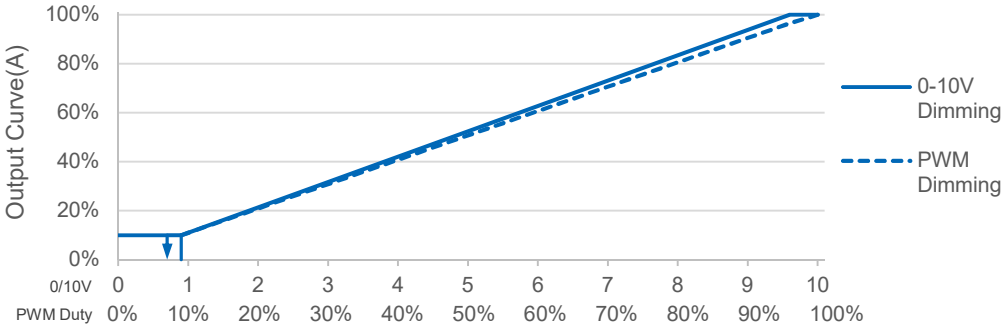
Output Power vs. Case Temperature



Lifetime vs. Case Temperature



0-10V / PWM Dimming Curve



Off-line Programming

User-friendly connection of programming without necessary to power on device(suitable for X6, X6S, X6I,X6E Series).

Programming mode I

Visual Intelligent Programming

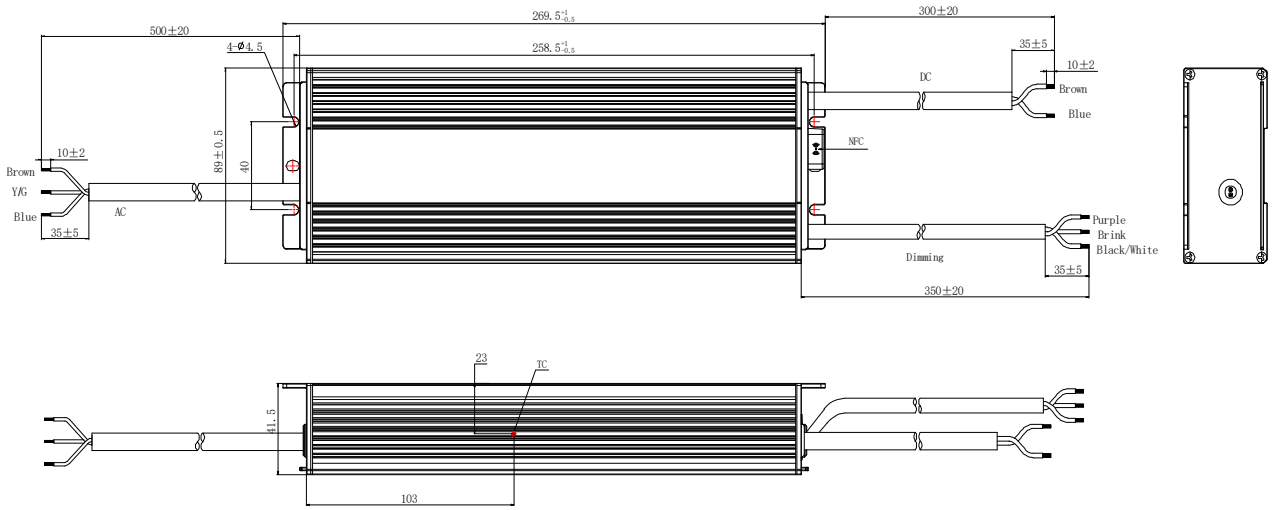
1. Set the output parameters through the control signal line 0-3.3V/0-5V/0-9V/0-10V optional.
2. Timer dimming. Set the timer control function, support up to 7 segments;
3. Set output CLO;
4. Read the recorded system parameters; Record the working time working temperature, and software version information of the LED driver.
5. Configure the driving parameters. After setting is completed, then click the configured parameters to complete programming.
6. Download it to the offline programmer.

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 asubtle reminder "(Beep) " to tell you the installation completed.

Mechanical Outline



Connections

Wire	Recommended wire Specification	Note
Input	SOW 17AWG*3C ⌀9.5±0.3 L=500±20mm	CCC/CE/UL
Output	SOW 17AWG*2C ⌀9.2±0.3 L=300±20mm	CCC/CE/UL
Dimming&12V	UL 21996 22AWG*3C ⌀5.0±0.2 L=350±20mm	UL

Label

Version

A.2	First release	2025-10-20

Specification for Approval

Product Name: 680W Non-isolate LED Driver

Product Model: N8H-680M500A12

Rev : A.2

Address: XiLi Songbai 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: 680W Non-isolate LED Driver

Product Model: N8H-680M500A12

Rev : A.2

CUSTOMER AUTHORIZED SIGNATURE		
Tested By	Checked By	Approved By
(Company seal)Return one copy to MOSO with approved signature and company seal.		

Address: XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China
Tel: 0755-27657000
FAX: 755-27657908
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Web Site: http://www.mosopower.com

Prepared By	Checked By	Approved By