

Description

N8H series is specially designed for industrial lighting applications. with DMX-RDM programming 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 97%;
- NFC programming is adjustable; three time control options are available, constant power function can be turned off, light failure compensation, dimming shut-off point can be set, NTC over-temperature protection can be set;
- Dimming: DMX-RDM Dimming method;
- AC power measurement accuracy is up to 1%;
- Output and dimming signal isolation;
- No afterglow, even if L and N wires are connected opposite;
- 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-680R500	180-528	680	200-500	1.36~2.60	2.3	97%	0.97	10%

NOTES:

[1]. All specifications are measured at 25°C 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.
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	1%I _{omax}		100% I _{SET}	I _{SET} =1.36-2.60A
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.

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@220Vac	94.0%	95.0%	-	400Vdc, 80~100% load , Auxiliary Power Without Load, 25°C ambient temperature
Efficiency@347Vac	94.5%	96.5%	-	400Vdc, 80~100% load , Auxiliary Power Without Load, 25°C ambient temperature
Efficiency@400Vac	94.5%	96.5%	-	400Vdc, 80~100% load , Auxiliary Power Without Load, 25°C ambient temperature
Efficiency@480Vac	95.0%	97.0%	-	400Vdc, 80~100% load , Auxiliary Power Without Load, 25°C ambient temperature
Mean Time Between Failure	-	200Khours	-	25°C±10°C ambient temperature, 230Vac, 80% load (MIL-HDBK-217F/SR-332).
Lifetime	-	50Khours	-	Tc=75°C, 220Vac&100% load, refer lifetime vs. Case temperature curve.
Ambient Temperature Ta	-40°C	-	+45°C	200~277Vac & 100% load.
Ambient Temperature Ta	-40°C	-	+50°C	277~480Vac & 100% load.
Operating Tc for Safety Tc_s	-40°C	-	+90°C	
Operating Tc for Warranty Tc_w	-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 80% RH No condensation.
Storage Temperature Ta	-40°C	-	+85°C	Humidity: 5% to 95% RH No condensation.
Altitude	-60m	-	4000m	
Over Temperature Protection Tc	90°C	95°C	100°C	Tc; 220Vac&100% load.
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			

DMX Dimming

Parameter	Min	Typ.	Max	Notes
DMX+ to DMX-	-6V	-	6V	
DMX+ to Chassis	22M Ohm	-	-	
DMX- to Chassis	22M Ohm	-	-	
Logic 0 Input	-	-	-0.2V	DMX+ to DMX-
Logic 1 Input	0.2V	-	-	DMX+ to DMX-
Communication Baud Rate	-	250K bps	-	
Dimming Output Range	1%Io _{max}	-	100%Io _{set}	I _{est} =1.36 – 2.60A
Dimmer switch count	-	-	34	

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°C±10°C Ambient Temperature, pass 25A Current, 60s. UL Standard 30A, 2 minutes.
Insulation Resistance	10MΩ(Min)			Input-PE, Output-PE, 500Vdc/60s/25°C/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		

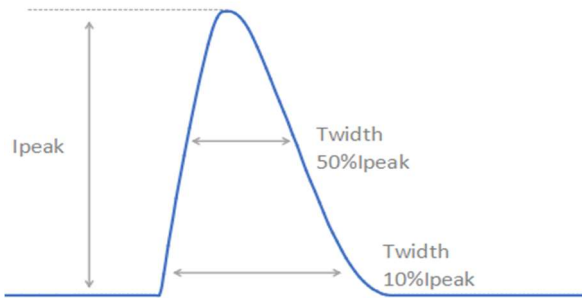
EMC Compliance

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

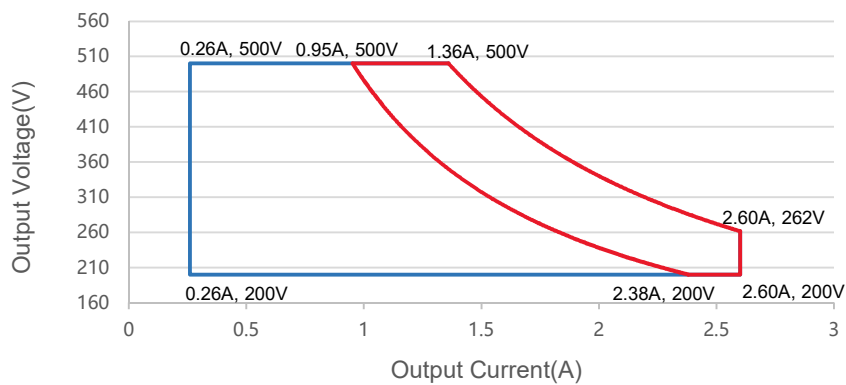
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current



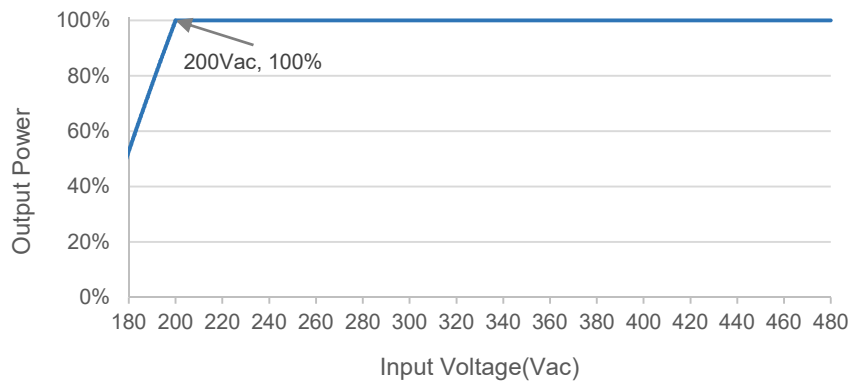
V_{in}	I_{peak}	$T_{@10\% \text{ of } I_{peak}}$	$T_{@50\% \text{ of } I_{peak}}$
220Vac	5.9A	4.30ms	3.10ms
277Vac	7.8A	4.00ms	2.80ms
347Vac	10.0A	4.40ms	3.20ms
400Vac	12.0A	3.24ms	2.04ms
480Vac	14.6A	4.40ms	2.80ms

Output Voltage vs. Output Current

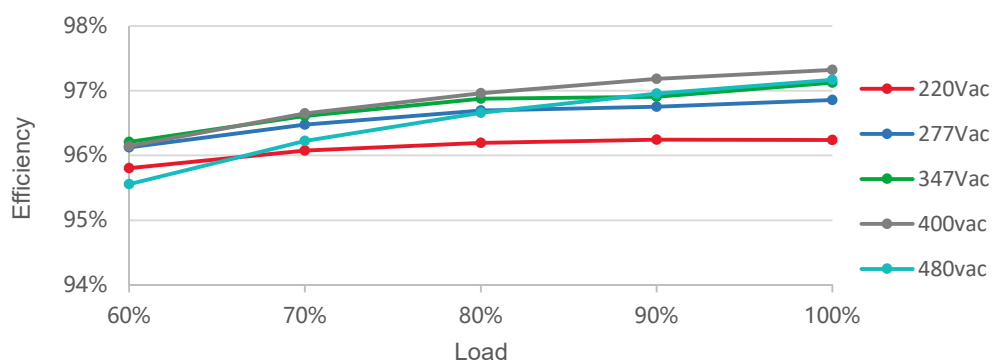


Red curve: good performance area

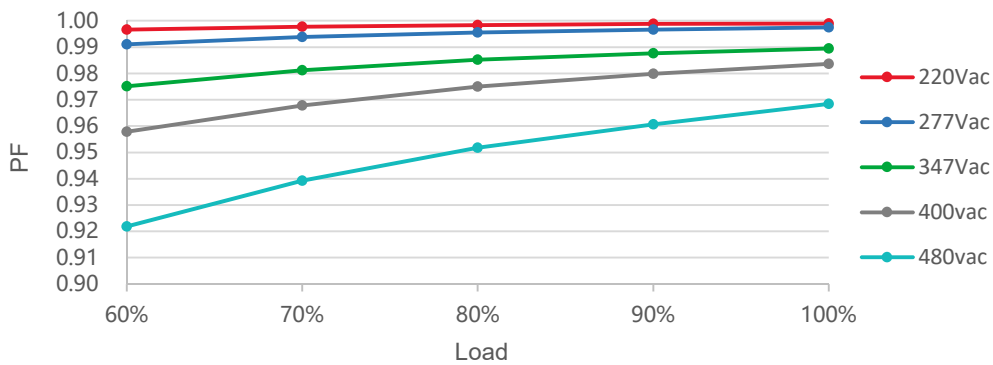
Output Power vs. Input Voltage



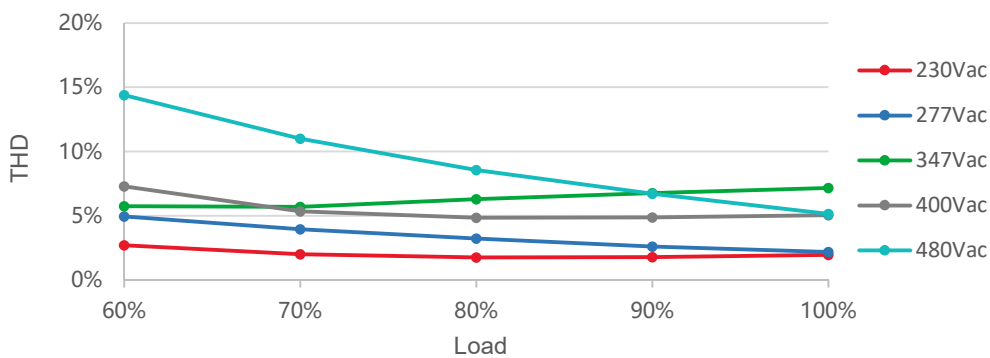
Efficiency vs. Load



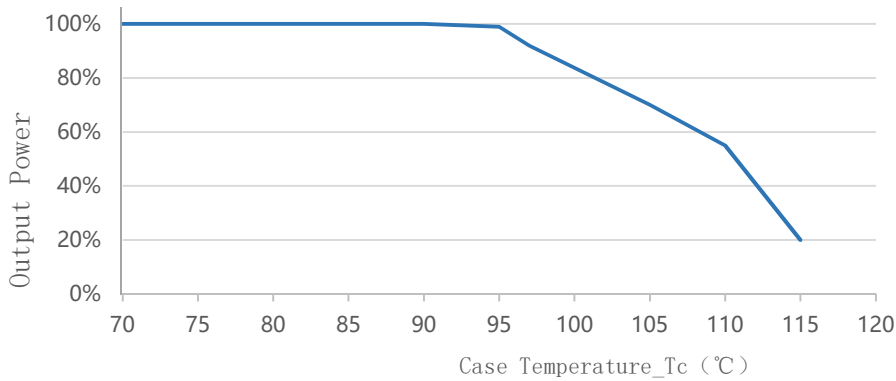
PF vs. Load



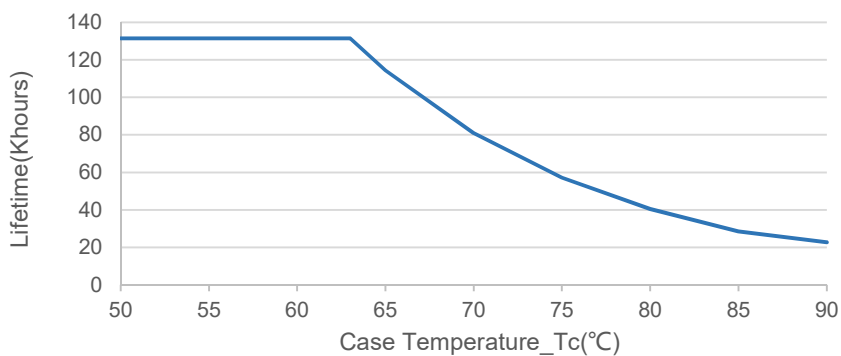
THD vs. Load



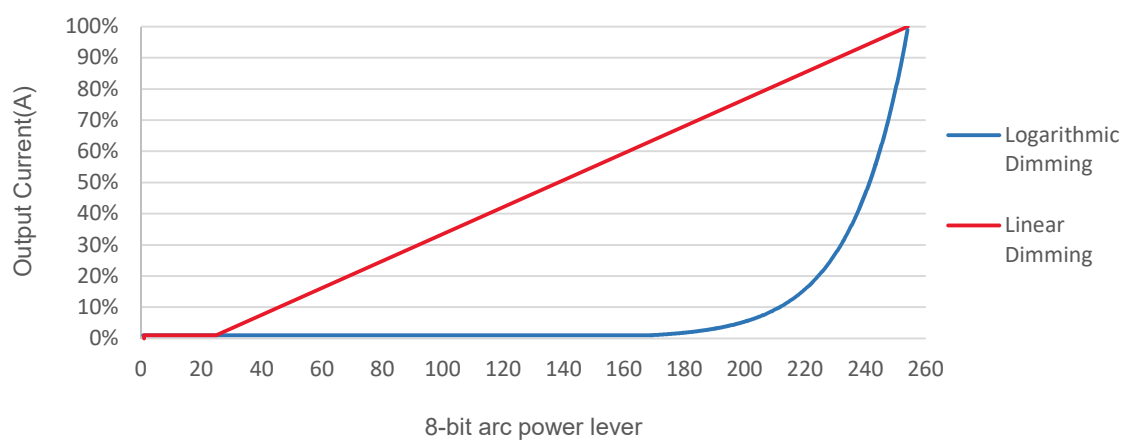
Output Power vs. Case Temperature



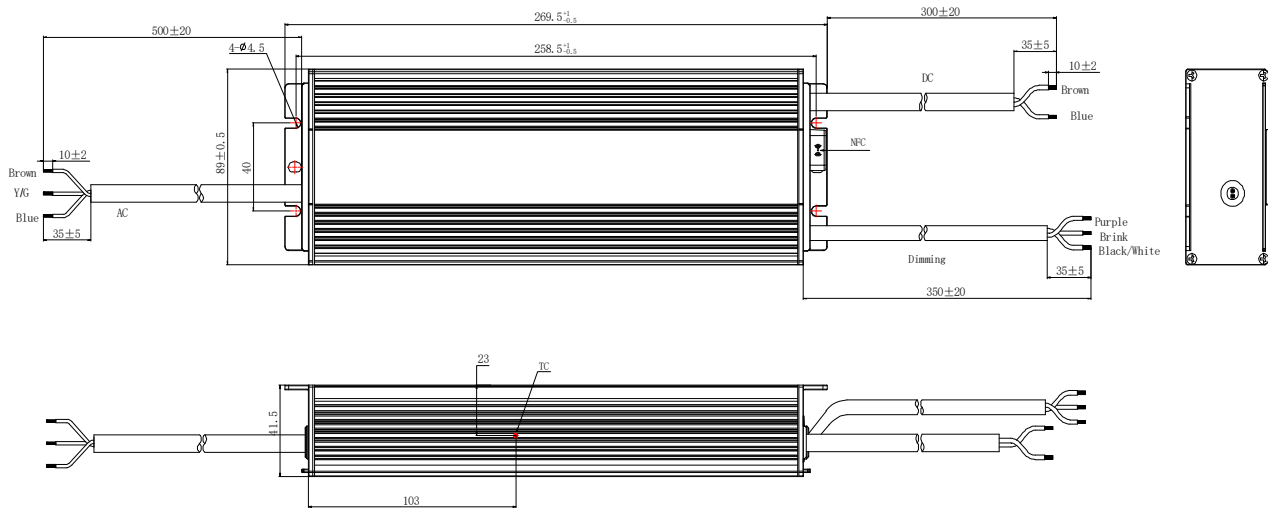
Lifetime vs. Case Temperature



Dmx Dimming Curve



Mechanical Outline



Connections

Wire	Recommended wire Specification	Note
Input	SJOW 17AWG*3C $\varnothing 9.5 \pm 0.3$ L=500±20mm	CCC/CE/UL
Output	SJOW 17AWG*2C $\varnothing 9.2 \pm 0.3$ L=300±20mm	CCC/CE/UL
Dimming	UL 21996 22AWG*3C $\varnothing 5.0 \pm 0.2$ L=350±20mm	UL

Label



Version

A.2	First release	

Specification for Approval

Product Name: 680W Non-isolate LED Driver

Product Model: N8H-680R500

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-680R500

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

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Prepared By	Checked By	Approved By