

Specification for Approval

Product Name: 500W Non-isolate LED Driver

Product Model: N8H-500R500

Rev : A.1

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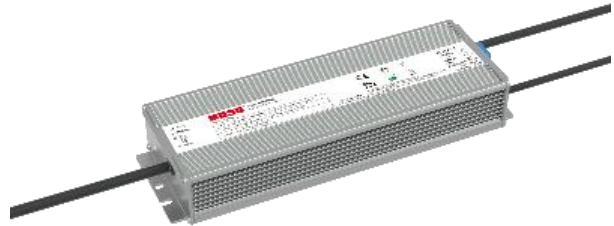
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Prepared By	Checked By	Approved By

Description

N8H series is a non-isolated constant power drive power supply with high power factor. This series of products is specifically designed for industrial lighting. It features DMX-RDM dimming, high efficiency, and a simple metal enclosure design. The product has excellent heat dissipation performance and is equipped with lightning protection, overvoltage protection, short-circuit protection, and over-temperature protection to ensure high reliability.



Product Features

- Input voltage range: 180~528Vac;
- Constant Power design, Efficiency up to 96%;
- 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;
- 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)	Eff.(Typ.)	PF(Typ.)	THD(Typ.)
N8H-500R500	180-528	500	200-500	1.00~1.90	96%	0.97	10%

NOTES:

[1]. All performance parameters are measured at ambient temperature of 25 degrees, 400Vac input, typical values under 100% load conditions, unless otherwise specified.

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	-	-	2.85A	200Vac&Full Load.
Max Input Power	-	-	550W	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
Power Factor(PF)	0.95	0.98	-	230Vac, 50Hz, 60%-100% Load.
	0.90	-	-	200-480Vac, 50/60Hz, 60%-100% Load.
Total Harmonic Distortion(THD)	-	10%	20%	200-480Vac, 50/60Hz, 60%-100% Load.
MCB(B16)	-	5	-	230Vac.

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	200Vdc	-	500Vdc	
Open Circuit Voltage	-	-	600Vdc	
Output Current range	1%Io	-	100% Io	I _{set} =1.00-1.90A
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%	200-480Vac
Load Regulation	-3%	-	+3%	200-480Vac
Turn-on Delay Time	-	-	1.5s	220~480Vac &100% Load, load is LED.

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@220Vac	93%	94%	-	400Vdc, 80~100% load , 25°C ambient temperature
Efficiency@347Vac	94%	96%	-	400Vdc, 80~100% load , 25°C ambient temperature
Efficiency@400Vac	94%	96%	-	400Vdc, 80~100% load , 25°C ambient temperature
Efficiency@480Vac	95%	96%	-	400Vdc, 80~100% 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, 230Vac&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	-	+85°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 housing	22M Ohm	-	-	
DMX- to housing	22M Ohm	-	-	
Input logic 0	-	-	-0.2V	DMX+ to DMX-
Input logic 1	0.2V	-	-	DMX+ to DMX-
Communication baud rate	-	250K bps	-	
Dimming output range	1%Io _{max}	-	100%Io _{set}	I _{est} =1.00 – 1.90A
Number of dimmer switches	-		34	

Safety Specification

Parameter	CCC	CE/ENEC/SAA	UL	Notes
Dielectric Strength (Input-Ground)	2000	2000	2000	60s, Current not exceeding 5mA.
Dielectric Strength (Output-Ground)	2200	2200	2200	60s, Current not exceeding 5mA.
Dielectric Strength (Input-Dim)	4000	4000	2000	60s, Current not exceeding 5mA.
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		

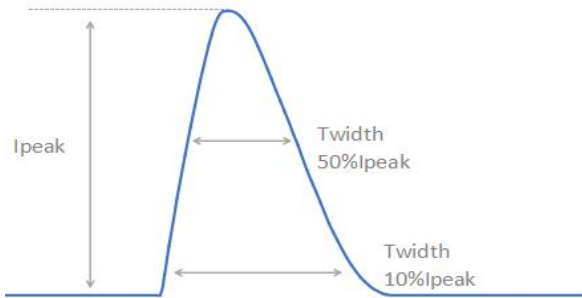
EMC Compliance

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

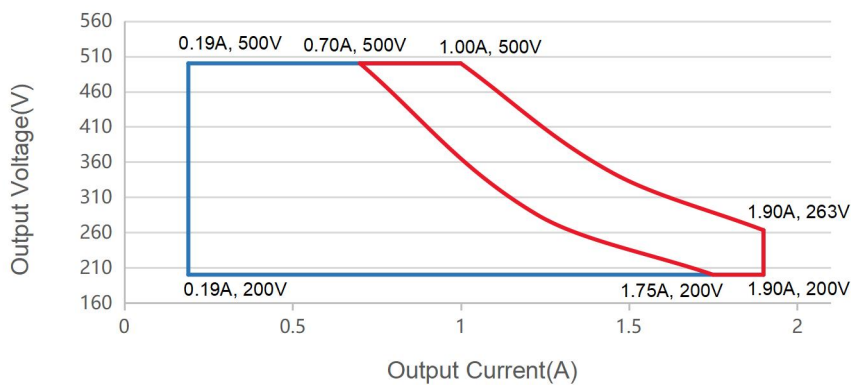
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current



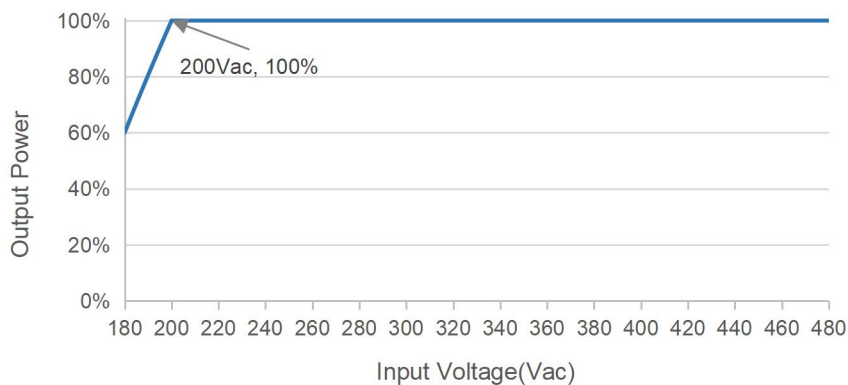
V_{in}	I_{peak}	$T(@10\% \text{ of } I_{peak})$	$T(@50\% \text{ of } I_{peak})$
220Vac	2.92A	5.60ms	4.20ms
277Vac	3.40A	7.20ms	6.00ms
347Vac	4.20A	7.00ms	5.60ms
400Vac	4.72A	7.80ms	6.20ms
480Vac	5.60A	8.90ms	7.60ms

Output Voltage vs. Output Current

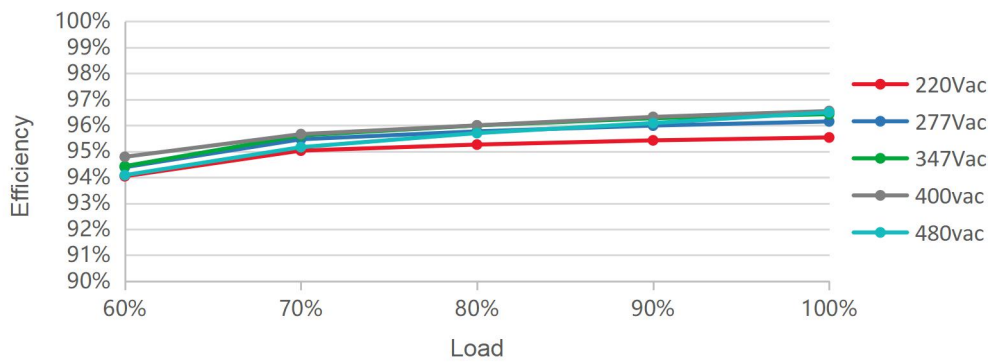


Red curve: good performance area

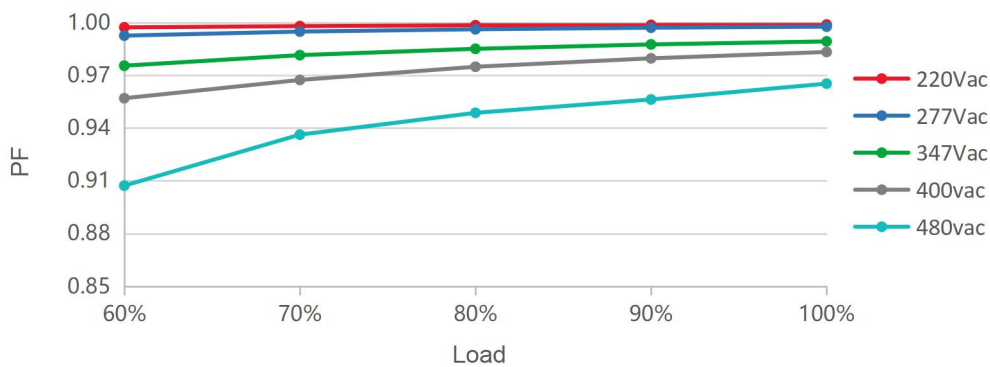
Output Power vs. Input Voltage



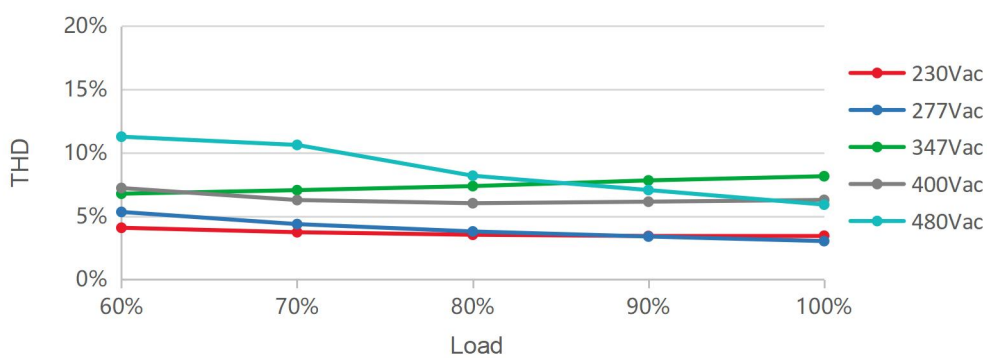
Efficiency vs. Load



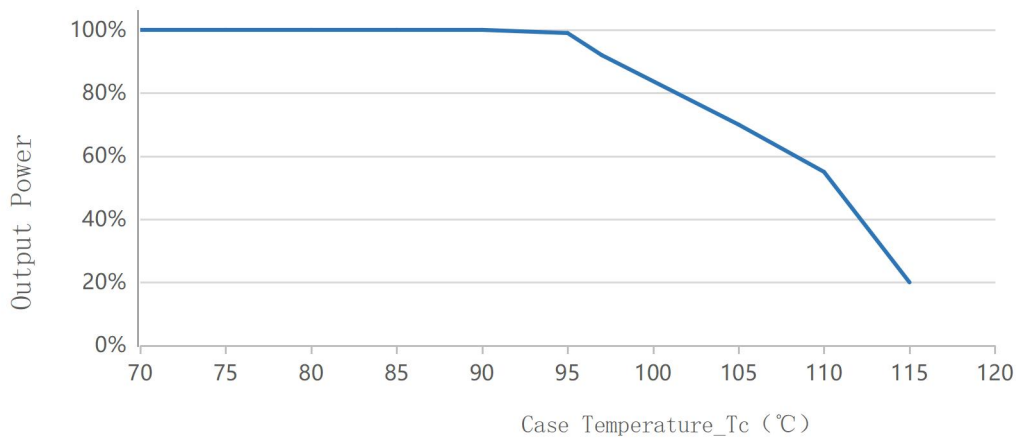
PF vs. Load



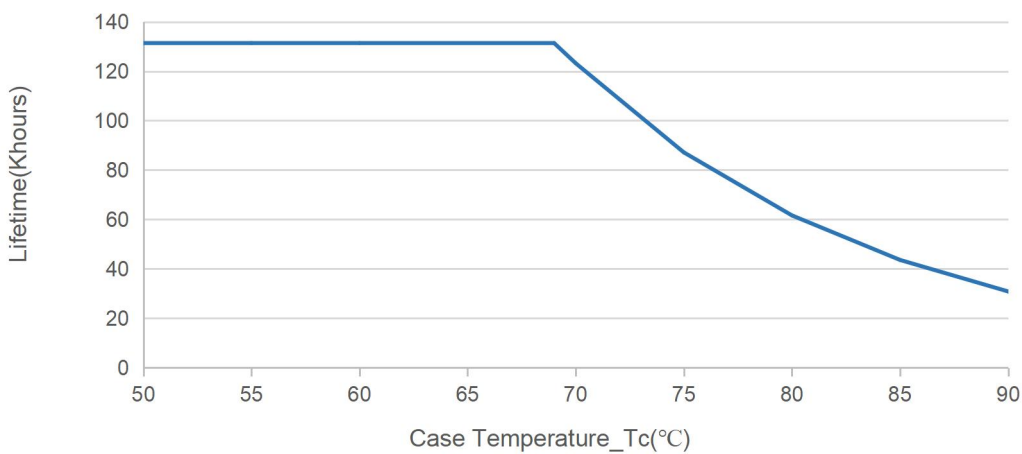
THD vs. Load



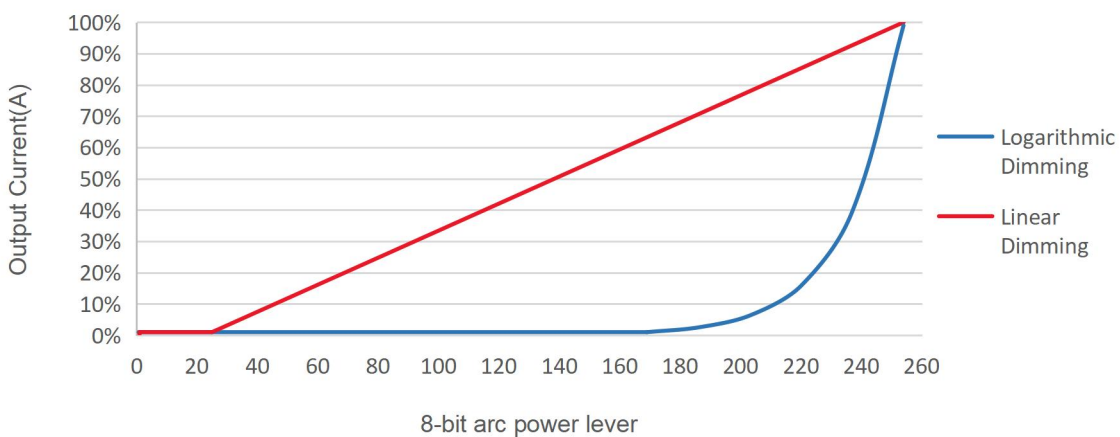
Output Power vs. Case Temperature



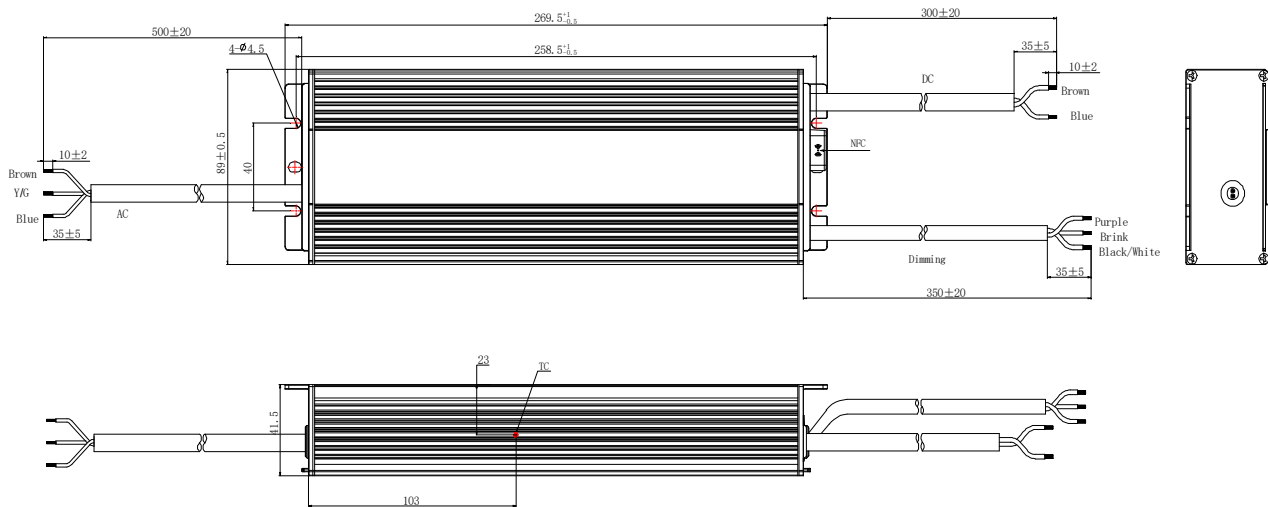
Lifetime vs. Case Temperature



DMX Dimming Curve



Mechanical Outline



Connections

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.1	First release	2025-10-20

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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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