

Description

The N8H series are non-isolated constant power drivers featuring high power factor. These drivers are designed for industrial lighting applications. Featuring DALI-2/D4I (24V auxiliary source) dimming, high efficiency and a simple metal case design, the drivers have excellent thermal performance. They also feature 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 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;
- D4i / DALI-2 Dimming method;
- 24V/125mA, 3W(Transient peak power up to 10W);
- Built-in 16V DALI-2 bus power supply power supply;
- 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-680D500	180-528	680	200-500	1.36~2.60	2.30	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.
Leakage current	-	-	0.70mA	IEC 60598-1; 400Vac/50Hz
Inrush Current	-	-	30A	400Vac&Full Load
Standby Power Consumption	-	-	0.5W	230Vac, Dimming turn-off, And the auxiliary source is not loaded and the Dali bus is turned off
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 _o		100% I _o	I _o =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%	200-480Vac
Load Regulation	-3%	-	+3%	200-480Vac
Turn-on Delay Time	-	-	1.5s	220~480Vac & 100% Load, load is LED.
Auxiliary Output Voltage	21.6V	24.0V	26.4V	
Auxiliary Output Current			125mA	The maximum peak current 250mA has a maximum duration of 2.2ms in a 6.0ms cycle. The maximum peak current 425mA 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°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, 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	-	+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			

DALI-2 Specifications

Parameter	Min	Typ	Max	Notes
Auxiliary 24V Output Voltage	21.6V	24V	26.4V	
Auxiliary 24V Output Current	0	-	125mA	Return terminal is "DA-".
24V Output Transient Peak Current @6W	-	-	250mA	The maximum peak current of 250mA has a maximum duration of 2.2ms within a 6.0ms cycle, and the average current does not exceed 125mA.
24V Output Transient Peak Current @10W	-	-	425mA	The maximum peak current of 425mA has a maximum duration of 1.3ms within a 5.2ms cycle, and the average current does not exceed 125mA.
Built-in DALI-2 Bus Supply Voltage	12Vdc	16Vdc	20Vdc	Voltage depends on the load
Built-in DALI-2 Bus Supply Current	50mA	-	60mA	Return terminal is "DA-".
High Voltage Level	9.5V	16V	22.5V	
Lower Voltage Level	-6.5V	0V	6.5V	Return terminal is "DA-".
Dimming Output Current Range	1% I _o	-	100% I _o	I _o =2.60A.
Sink Current	-	-	2.0mA	
Timer dimming	-	-	-	Traditional, Self-adaption.
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°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		

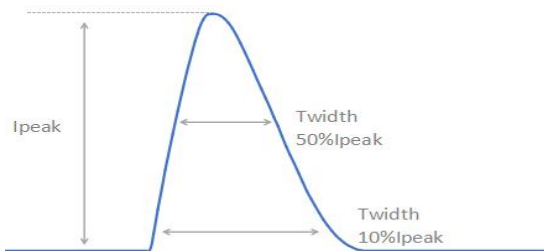
EMC Compliance

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

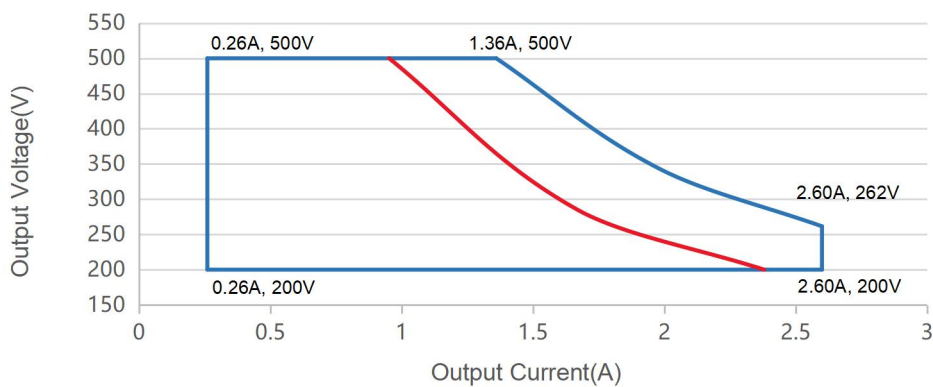
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current



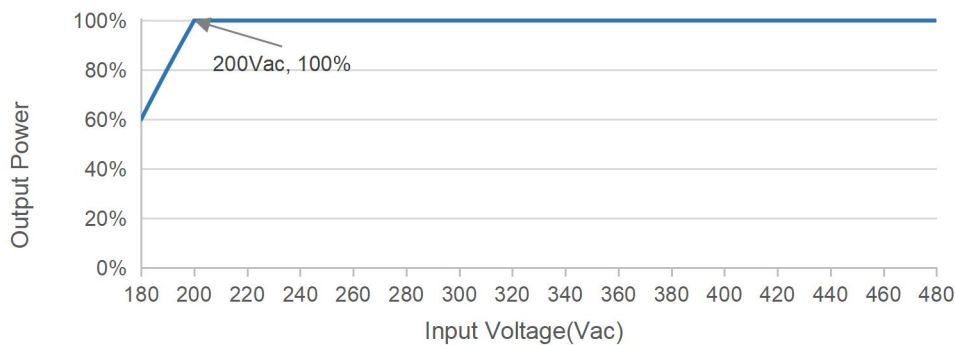
V _{in}	I _{peak}	T(@10% of I _{peak})	T(@50% of I _{peak})
220Vac	5.9A	4.30ms	3.10ms
277Vac	7.8A	4.00ms	2.80ms
347Vac	10.0A	4.40ms	3.20ms
400Vac	12.0A	3.24ms	2.04ms
480Vac	14.6A	4.40ms	2.80ms

Output Voltage vs. Output Current

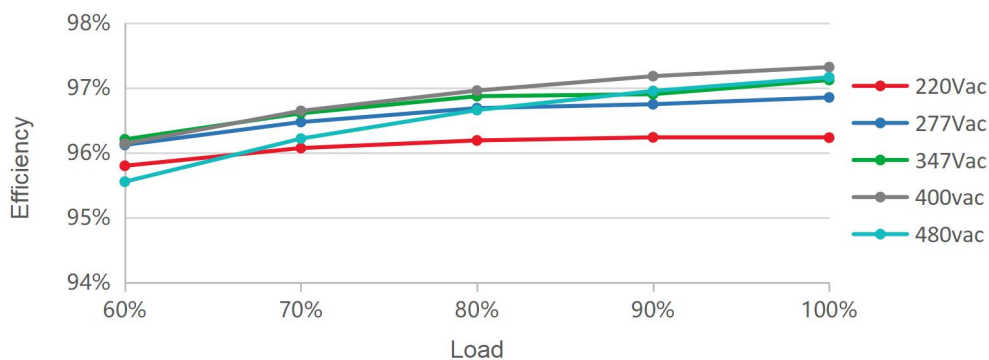


Red curve: good performance area

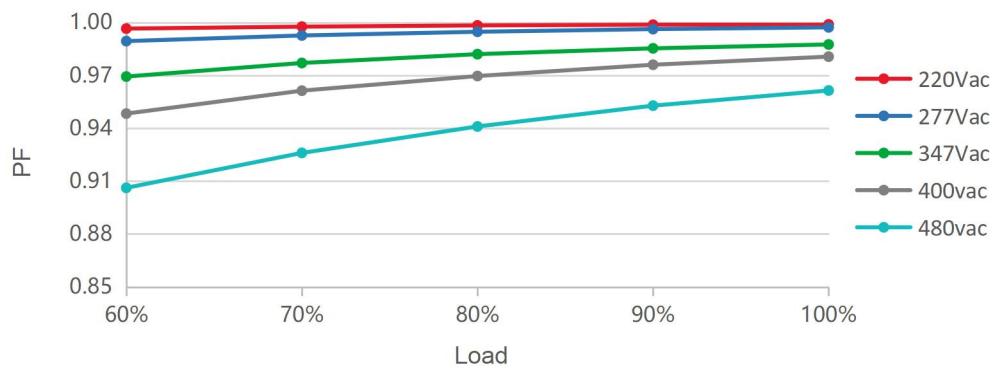
Output Power vs. Input Voltage



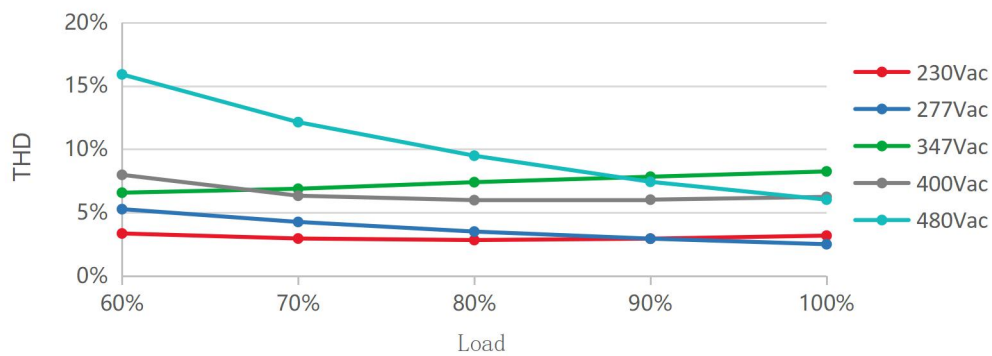
Efficiency vs. Load



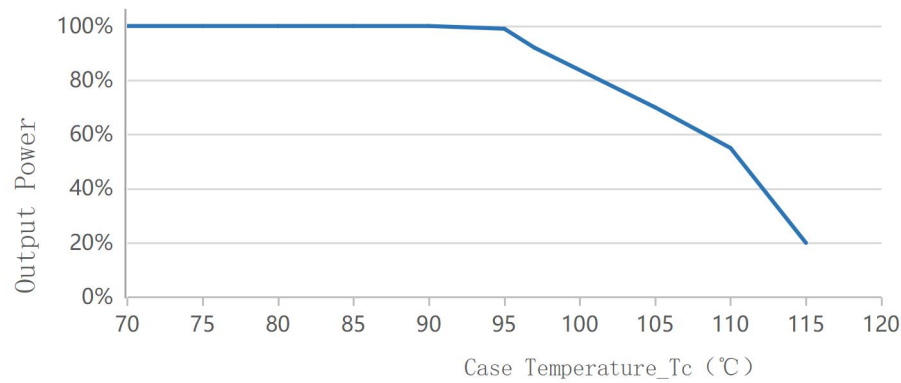
PF vs. Load



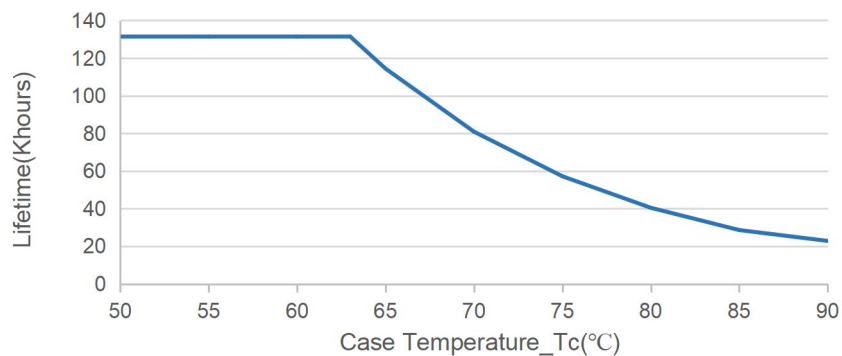
THD vs. Load

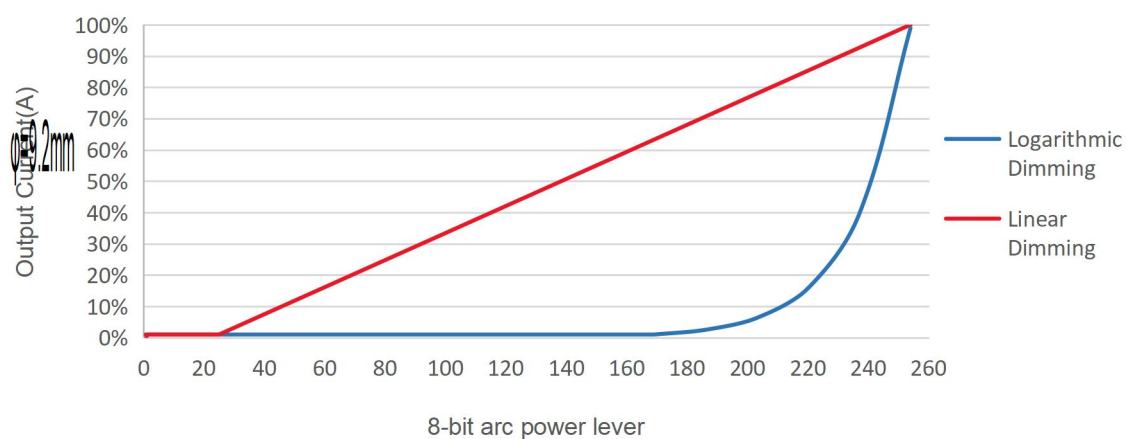


Output Power vs. Case Temperature



Lifetime vs. Case Temperature



DALI-2 Dimming Curve

The technical drawing illustrates the LED strip light assembly with the following details:

- Top View:**
 - Overall length: 500 ± 20 mm.
 - LED strip length: $269.5^{+1.5}_{-0.5}$ mm.
 - Strip width: 4 ± 0.5 mm.
 - Mounting hole diameter: $\varnothing 4.5$ mm.
 - Distance from left edge to first hole: 89 ± 0.5 mm.
 - Distance between holes: 40 mm.
 - Distance from right edge to last hole: 35 ± 5 mm.
 - AC input wires: Brown, Y/G, Blue. Connector length: 10 ± 2 mm.
 - DC output wires: Brown, Blue. Connector length: 10 ± 2 mm.
 - Dimming wires: Purple, Brink, Black/White. Connector length: 35 ± 5 mm.
 - Distance from right edge to dimming wires: 350 ± 20 mm.
 - Label: "NFC" with an arrow pointing to the dimming wire connection area.
- Side View:**
 - Strip thickness: 11.5 mm.
 - Mounting hole diameter: $\varnothing 4.5$ mm.
 - Distance from left edge to first hole: 23 mm.
 - Label: "TC" with an arrow pointing to the mounting hole.
- Detail View:** A small inset shows the profile of the LED strip with a diameter of $\varnothing 11.5$ mm.

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

336.00 mm

32.00 mm

INPUT
L BROWN

G Y/G
⊕

N BLUE

MOSO® N8H-680D500
LED DRIVER CC mode

Input(No Load): 600V ~

INPUT	200-400 ~ 50/60Hz, 3.75A, PF: 0.9C-0.95, Max.745W
OUTPUT	200-500V ~ 0.26-2.60A, Max.Power:680W
tc:90°C	ta:45°C Input:200-277V ~ ta:50°C Input:277-400V ~

OUTPUT
BROWN LED +
BLUE LED -
PURPLE DA +
PINK 24V/DA -
BLACK/WHITE 24V+
(24V 125mA)
Integrated SPD

MADE IN CHINA
For LED module only

Suitable for Dry, Damp and Wet locations
SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD
No.10611, Songbai Road, Xili Town, Nanshan District,
Guangdong, China

Version

A.1	First release	2025-10-20

Specification for Approval

Product Name: 680W Non-isolate LED Driver

Product Model: N8H-680D500

Rev : A.1

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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-680D500

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.		

Address: XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

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Prepared By	Checked By	Approved By