

Description

The N8H-1KM500A12 is a non-isolated constant power supply of N8H series with a high power factor. This series of products is specially designed for industrial lighting. It features multiple dimming functions such as 0-10V/PWM/resistor dimming (+12V auxiliary source). With high efficiency and a simple metal casing design, the product features excellent heat dissipation performance. It also has lightning protection, overvoltage protection, short-circuit protection and over-temperature protection, ensuring high reliability of the product.



Product Features

- Input voltage range: 180~528Vac;
- Constant Power design, Efficiency up to 97%;
- 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(0-10V)
- The AC power measurement accuracy is as high as 1%.
- 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 (12Ω);
- / US standard DM 6KV, CM 6KV (2Ω);
- Multiple protection: Input UVP, OVP, Output SCP, OTP, constant power;
- Ingress protection rating: IP67 ;
- 5 years warranty.

Application

Area and flood lighting
 High-bay lighting
 Sport lighting
 Horticulture lighting
 Aquaculture 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-1KM500A12	180-528	1000	200-500	2.0~3.8	2.8	97.3%	0.97	10%

Notes:

- [1]. M means 0-10V/PWM/RESISTOR/TIMER dimming.
- [2]. A12 means Auxiliary source.
- [3]. All specifications are measured at 25°C ambient temperature, input voltage 400Vac, and the typical value tested by full load, if no specific note.

Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage typ.	200Vac	220/277/347/400Vac	480Vac	Refer to Output Power vs. Input Voltage curve
Input AC Voltage Range	180Vac	-	528Vac	
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	6.0A	200Vac & 100% load
Max Input Power			1080W	200Vac & 100% load
Leakage Current	-	-	0.70mA	IEC 60598-1;240Vac/400Vac/50Hz
Leakage Current	-	-	0.75mA	UL 8750;277Vac/347Vac/400Vac/480Vac/60Hz
Inrush Current	-	-	30A	480Vac, 100% load, Cold start
Standby Power Consumption	-	-	0.5W	230Vac, dimming off and auxiliary source without load
Power Factor (PF)	0.95	0.96	-	220-400Vac, 50-60Hz, 80%-100% load
Power Factor (PF)	0.90		-	480Vac, 50-60Hz, 70%-100% load
Total Harmonic Distortion (THD)	-	5%	10%	220-400Vac, 50-60Hz, 80%-100% load
Total Harmonic Distortion (THD)	-	10%	20%	480Vac, 50-60Hz, 70%-100% load
MCB(B16)	-	2	-	

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	200Vdc	-	500Vdc	
NO-Load Output Voltage	-	-	600Vdc	
Output Current Range	10%Iset	-	100%Iset	Adjustable output current with programmer
Full Power Current Range@N8H-1000W	2.0A		3.8A	
Current Accuracy	-3%	-	+3%	
Total Output Current Ripple (pk-pk)	-	-	10%	20MHz BW full load & LED load 25 °C ambient temperature, the ripple would be tiny different under different LED load.
Startup Overshoot Current	-	-	10%	200~480Vac full load condition, LED load
Auxiliary source output voltage	10.8Vdc	12Vdc	13.2Vdc	200~480Vac & Auxiliary source with full load.
Auxiliary source output current	-	-	300mA	Within a 6.0ms cycle, the maximum peak current is 500mA, The longest duration is 2.2ms, Within a 5.2ms cycle, the maximum peak current is 850mA, The longest duration is 1.3ms,
Line Regulation	-2%	-	+2%	25 °C ±10 °C ambient temperature, input changes from 220Vac to 480Vac
Load Regulation	-3%	-	+3%	Load varies from 60% to 100% with 230Vac&480Vac input at 25 °C ±10 °C ambient temperature
Turn-on Delay Time	-	-	2s	230Vac, 100%load
Turn-on Delay Time	-	-	2s	480Vac, 100%load

General Specifications

parameter	Min	Typ.	Max	Notes
Efficiency@220Vac	92.0%	95.0%	-	100% load, auxiliary source without load,
Efficiency@277Vac	92.0%	96.0%	-	100% load, auxiliary source without load,
Efficiency@347Vac	94.0%	96.0%	-	100% load, auxiliary source without load,
Efficiency@400Vac	94.0%	97.0%	-	100% load, auxiliary source without load,
Efficiency@480Vac	94.0%	97.3%	-	100% load, auxiliary source without load,
Mean Time Between Failure	-	200Khours	-	25°C±10°C ambient temperature , 220Vac , 80% load condition (MIL-HDBK-217/SR-332)
Lifetime	-	50Khours	-	220Vac & 100% load , Tc 75°C , refer to Lifetime vs. Case Temperature
Operating Temperature Ta	-40°C	-	+45°C	200~277Vac, refer to Output Power vs. Ambient Temperature
Operating Temperature Ta	-40°C	-	+50°C	277~480Vac, refer to Output Power vs. Ambient Temperature
Operating Tc for Safety Tc_s	-40°C	-	+90°C	
Operating Tc for Warranty Tc_w	-40°C	-	+75°C	5-year warranty case temperature, humidity: 10% to 95% RH
Storage Temperature Ta	-40°C	-	+85°C	Humidity: 5% to 100% RH
Altitude	-60m	-	4000m	
Input Under Voltage Protection	-	-	170Vac	Turn off the output or hiccup when the input voltage falls below protection voltage. When the input voltage exceeds the recovery voltage, the driver will restart automatically.
Over Temperature Protection Tc	90°C	95°C	100°C	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	-	-	-	Constant current mode. The output shall return to normal when the fault condition is removed.
Dimensions (L*W*H)	303*125*44.5mm			
Net Weight	3150±100g/PCS			
Package (L*W*H)	539x515x161mm; 5PCS /ctn, Gross Weight: 18Kg			

Dimming

Parameter	Min	Typ.	Max	Notes
Absolute Maximum Voltage	-	10V	15V	
Source Current on Vdim (+)Pin	90uA -	100uA	200uA	
Dimming Range	10% I _{max}	-	100% I _{max}	
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	0.7V	0.9V	1.1V	
Turn-off Voltage	0.5V	0.7V	0.9V	
PWM_in High Level	9.7V	-	10.3V	
PWM_in Low Level	0V	-	0.3V	

PWM_in Frequency Range	500Hz	-	2KHz	
PWM_in Duty Cycle	1%	-	99%	
Turn-on Duty Cycle	7%	9%	11%	
Turn-Off Duty Cycle	5%	7%	9%	
Timer dimming	-	-	-	winter and summer time
Output lumen compensation	-	-	-	Constant lumen output function

Safety Specification

Parameter	CCC	CE	UL	Notes
Dielectric Strength (Input-Ground)	2000Vac	2000Vac	2000Vac	60s , Current not exceeding 5mA
Dielectric Strength (Output-Ground)	2200Vac	2200Vac	2200Vac	60s , Current not exceeding 5mA
Dielectric Strength (Input-Dimming)	4000Vac	4000Vac	2000Vac	60s , Current not exceeding 5mA
Grounding Resistance	0.1Ω(Max)			25°C±10°C Ambient Temperature, pass 30A Current, 120s.
Insulation Resistance	10MΩ(Min)			Input-PE, Output-PE, 500Vac/60s/25°C

Safety Compliance

Safety Category	Standards	Approved	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, AS/NZS 61347.1		

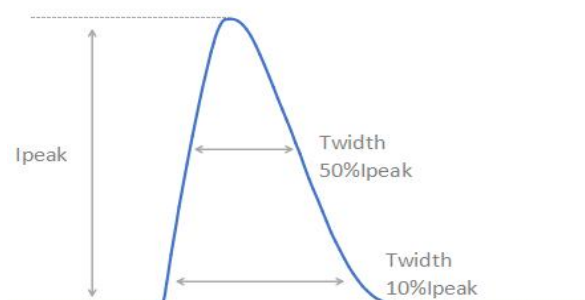
EMC Compliance

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	√	
Surge impulse immunity	ANSI/C82.77-5-2017	√	Meet 6KV / 6KV (2Ω)
	IEC/EN 61000-4-5	√	

RoHS

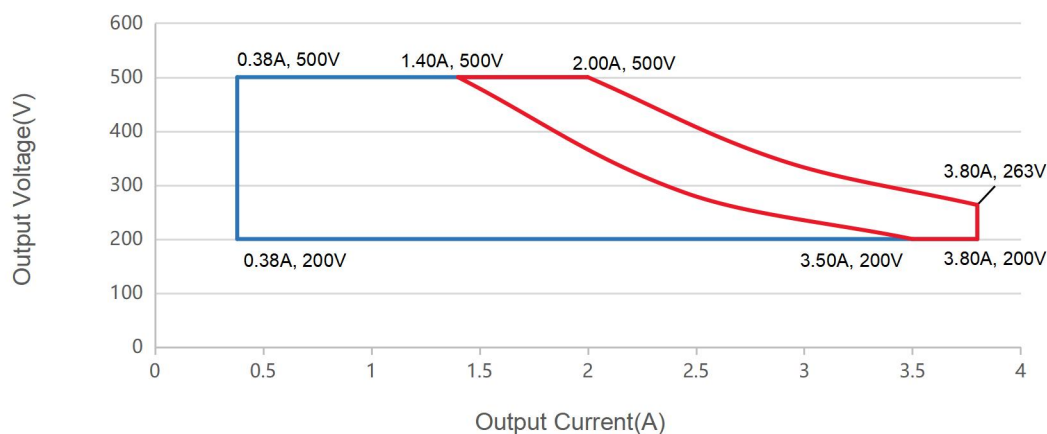
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current Curve

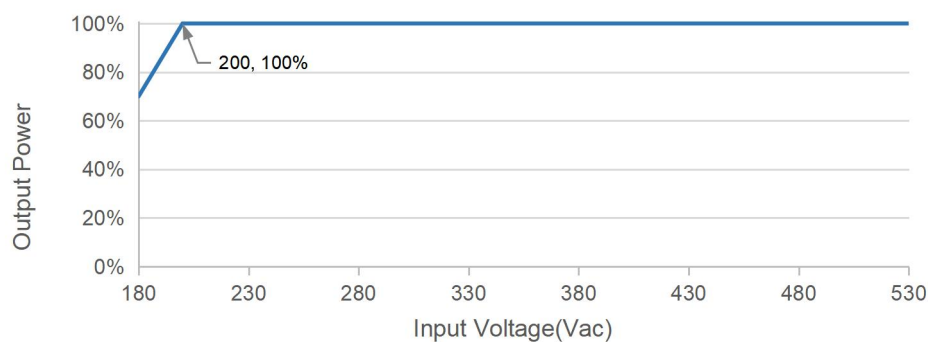


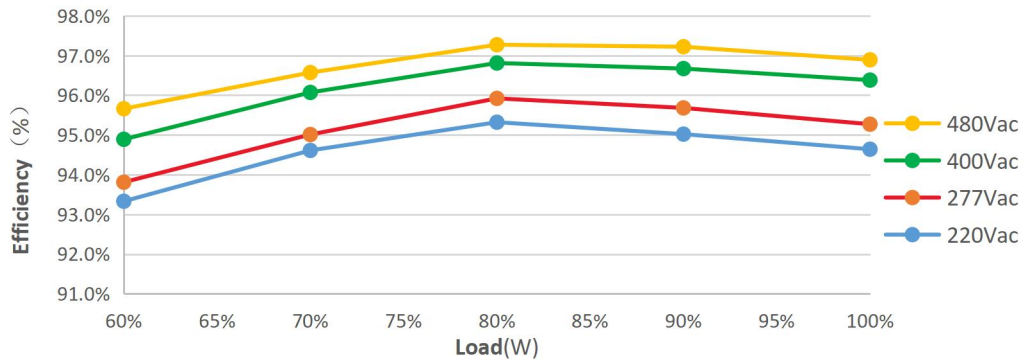
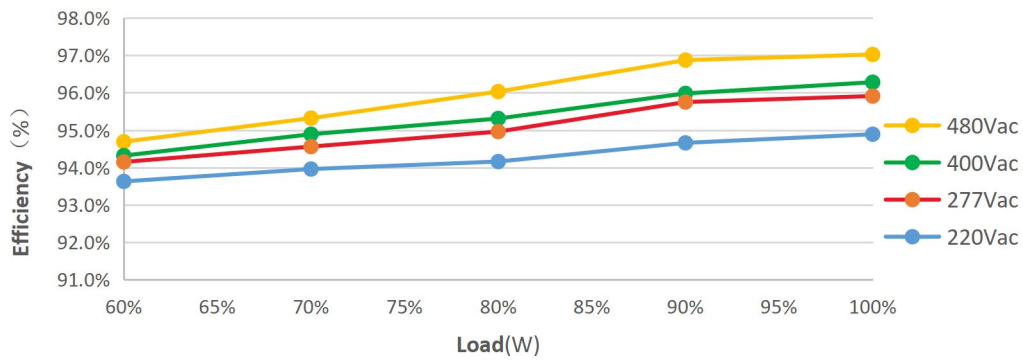
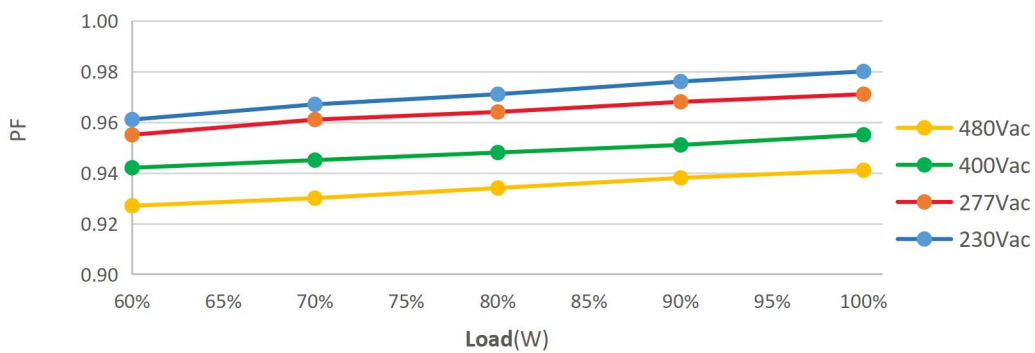
Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	12.8A	6.6ms	2.3ms
277Vac	18.0A	6.2ms	2.0ms
347Vac	25.1A	6.5ms	2.1ms
400Vac	25.1A	6.5ms	2.1ms
480Vac	30.4A	6.7ms	2.3ms

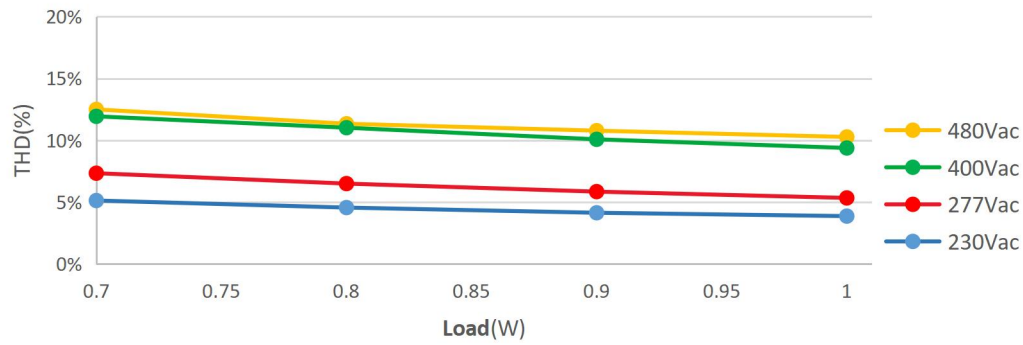
Output Voltage vs. Output Current



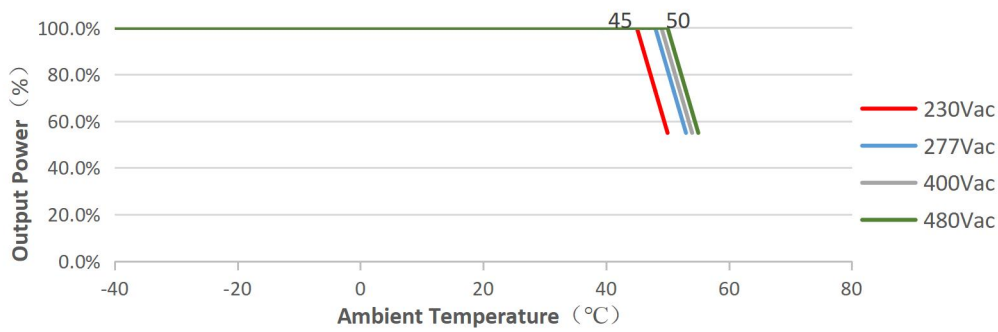
Output Power vs. Input Voltage



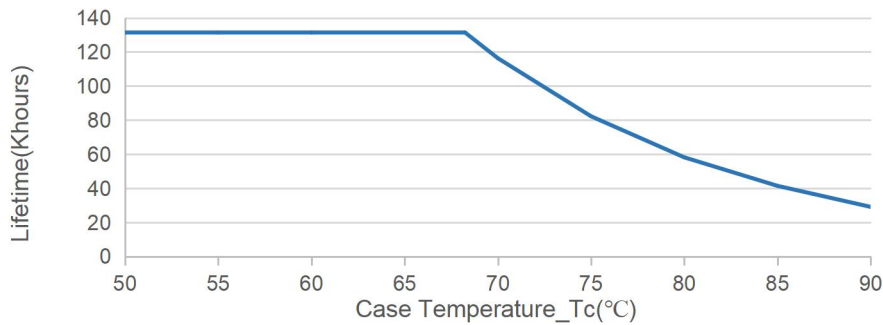
Efficiency vs. Load (N8H-1K0M500A12 $I_o=2.0A$)

Efficiency vs. Load (N8H-1K0M500A12 $I_o=3.8A$)

PF vs. Load

THD vs. Load



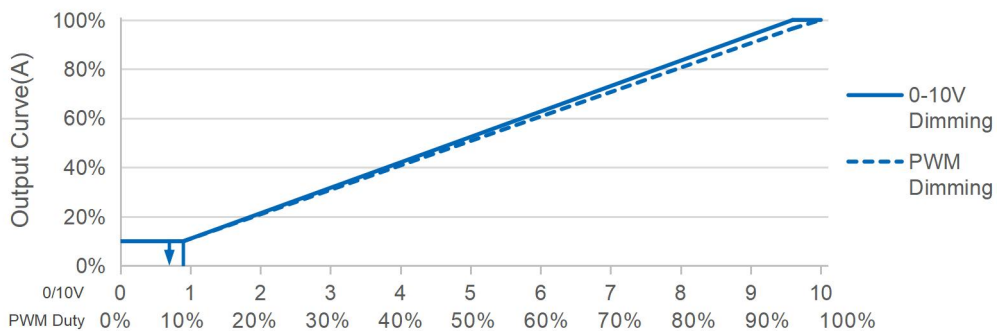
Output Power vs. Ambient Temperature



Lifetime vs. Case Temperature



0-10V/PWM Dimming



Programmer Adjustable Driver

User-friendly connection of programming without necessary to power on device(suitable for N8H Series).

Programming mode 1



Programming mode 2



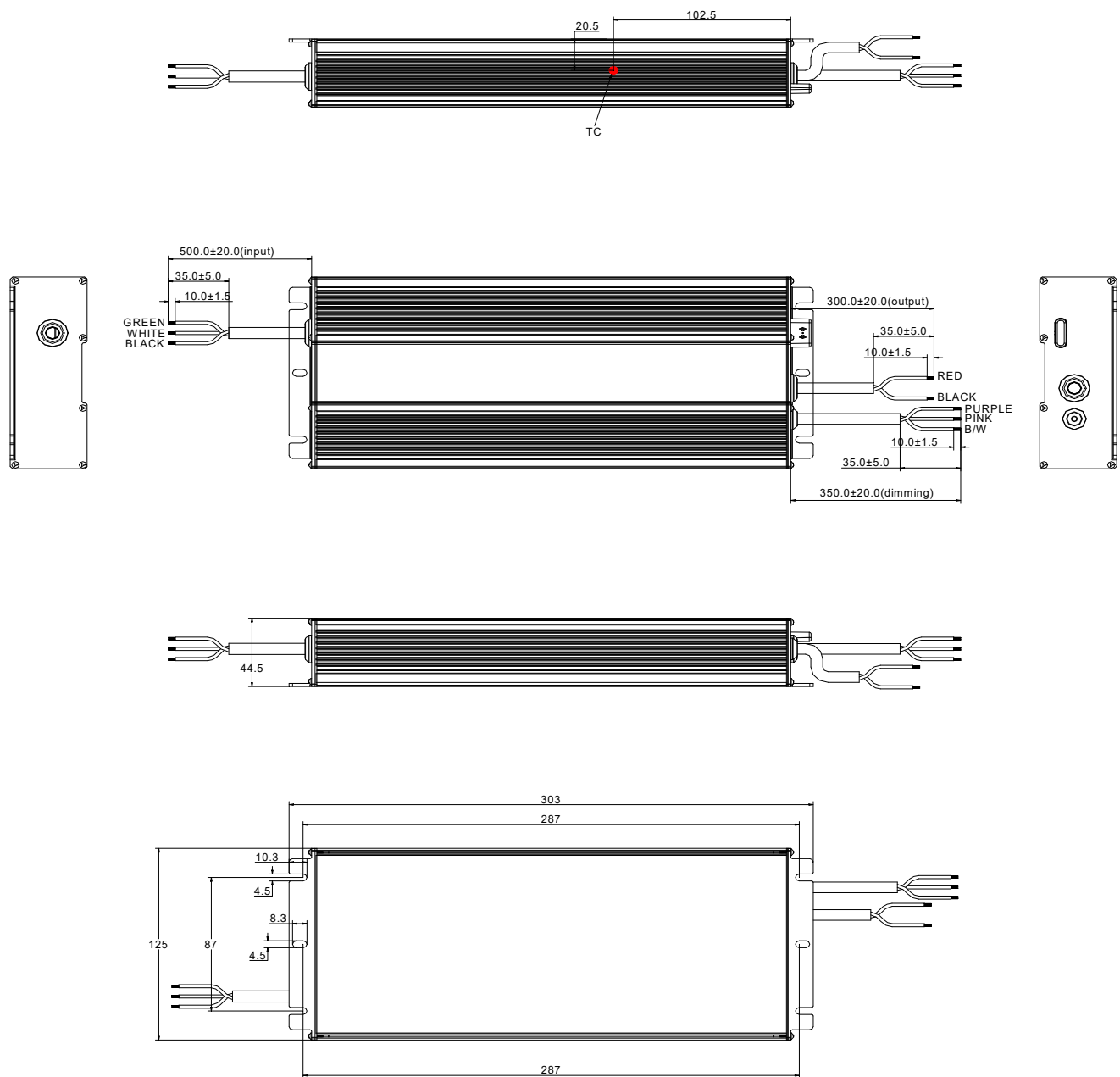
Visual Intelligent Programming

1. Set the output parameters through the control signal line 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

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



Connections

Input	SOW 17AWG*3C Ø9mm L=500±20mm	3C/CE /UL
Output	SOW 17AWG*2C Ø6.5mm L=300±20mm	3C/CE /UL
Dimming	UL21996 22AWG*3C Ø4.6mm L=350±20mm	Dim+/Dim-, 12V+

Version

A.1	First release	2025-09-01

Specification for Approval

Product Name: 1000W Non-isolate LED Driver

Product Model: N8H-1K0M500A12

Rev : A.1

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

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Web Site: <http://www.mosopower.com>

Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 1000W Non-isolate LED Driver

Product Model: N8H-1K0M500A12

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