

PRODUCT FEATURES



- Universal input voltage: 220-400Vac;
- Constant current design, Efficiency up to 97%;
- 3-in-1 isolated dimming: 0-10Vdc, PWM, Resistor;
- Dim-to-off; No glow after Dim-to-off
- Surge protection: 4KV line-line, 6KV line-earth;
- 12V/0.2A auxiliary power supply;
- Multiple protection: SCP, OVP, OTP;
- IP20 design for indoor and outdoor applications;
- 7 years warranty.



APPLICATION

- Suitable for industrial lighting/Horticultural /Greenhouse Applications/Linear Lighting

DESCRIPTION

P6H-400W series is specially designed for industrial lighting applications. It is constant current LED driver that operates from 220-400Vac with 0-10V and PWM 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 over voltage, short circuit, and over temperature.

MODELS

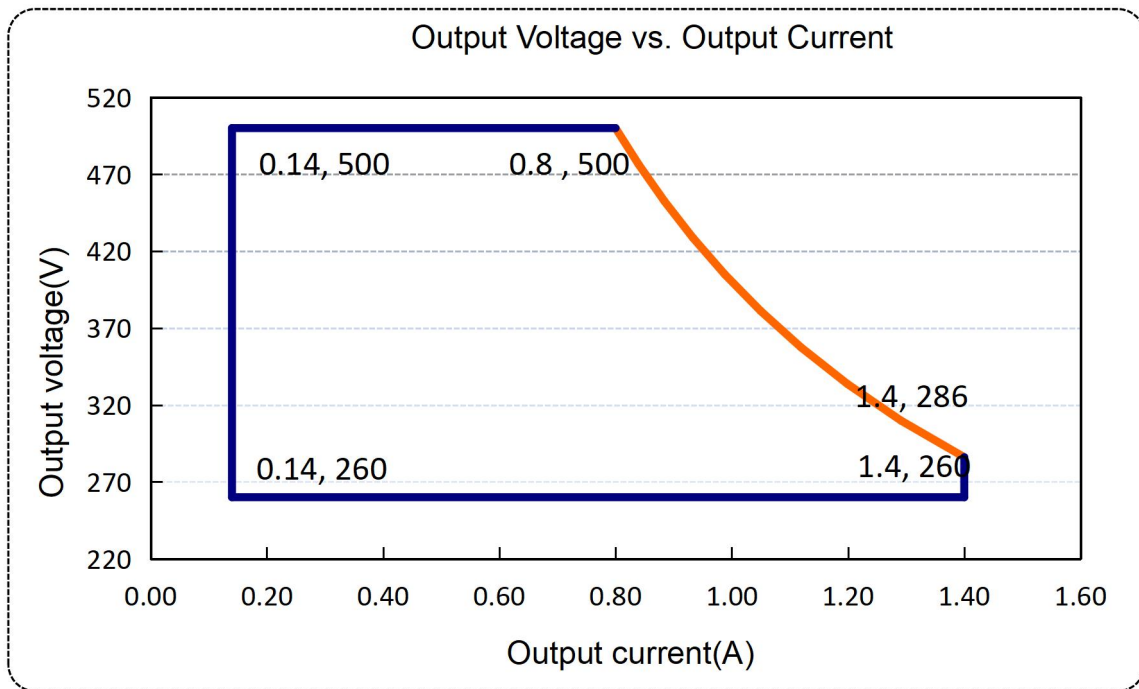
Model Number	Max Output Power (W)	Output Voltage Range (Vdc)	Output Current Adjustable Range (A)	Full Power Current Adjustable Range (A)	Default Output Setting	Typical Efficiency	Power Factor	
							220Vac	400Vac
P6H-400M500A12H	400	250-500	0.14~1.40	0.8-1.40	0.9A	96%	0.99	0.95

Notes:

[1]. Output current adjustable range with constant power at max output power;

[2]. All specifications are measured at 25°C ambient temperature, input voltage 220/277/347/400Vac, and the typical value tested by full load,

OPERATING AREA I-V



Notes: Adjustable range of resistance is suitable for the right area of the dotted line.

The drivers are not allowed to work in over-load condition, otherwise warranty will expire.

INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	198Vac	220/277/347/400Vac	440Vac	
Input Frequency	47Hz	50/60Hz	63Hz	
Leakage Current	-	-	0.75mA	400Vac/60Hz
Input AC Current	-	-	2.2A	220-400Vac & full load
Inrush Current	-	0.12 A ² S	0.23 A ² S	277Vac, full load, 50%~50% peak pulse duration
	-	7.36A	10A	277Vac, full load
Power Factor	0.970	0.990	-	220Vac/50HZ, full load
	0.950	0.970	-	277Vac/50HZ, full load
	0.950	0.960	-	347Vac/50HZ, full load
	0.950	0.960	-	380Vac/50HZ, Vout=347V, Iout=0.9A
	0.950	0.955	-	400Vac/50HZ, full load
THD	-	4%	10%	220Vac-277Vac/50HZ, 80%-100% load
	-	6%	15%	347 Vac-400Vac/50HZ, 80%-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	+5%	
Output Current Range (A)	0.14	-	1.4	
Total Output Current Ripple (pk-pk)	-	3%	5%	20MHz BW, 100% Load& load is LED, ripple is different with difference LED load
Startup Overshoot Current	-	-	10%	230-400Vac & 100% Load, load is LED
No Load Output Voltage(V)	-	-	600V	
Standby Power(W)	-	-	0.5	220Vac; 100% load
Line Regulation	-1%	-	+1%	25°C±10°C ambient, temperature, input voltage changes from 220Vac to 400Vac
Load Regulation	-3%	-	+3%	25°C±10°C ambient, temperature, 400Vac input, load changes from 80% to 100%
Turn-on Delay Time	-	-	1.0S	220Vac, 100% load
	-	-	1.0S	347Vac-400Vac, 100% load
12V auxiliary output voltage	11.4V	12V	12.6V	25°C±10°C ambient temperature, 347Vac, 100% load
12V auxiliary output source current	0mA	-	200mA	

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @220Vac	94.5%	95.5%	-	25°C±10°C ambient temperature, 100% load,
Efficiency @277Vac/347 Vac	95.0%	96.0%	-	25°C±10°C ambient temperature, 100% load,
Efficiency @400Vac	95.5%	96.5%	-	25°C±10°C ambient temperature, 100% load,
Dielectric Strength	Input-PE	-	2200Vac	5mA/60S
	Output- PE	-	-	
Grounding Resistance	-	-	0.1Ω	25A/60S
Insulation Resistance	10MΩ	-	-	Input-PE, Output-PE, 500Vdc/60S/25°C/70%RH
MTBF	-	200000Hrs	-	25°C±10°C ambient temperature, 277Vac, 80% load (MIL-HDBK-217F/ SR-332)
Lifetime	-	50000Hrs	-	277Vac&100% load, 75°C case temperature, refer to lifetime VS Tc curve for details
Operating Case Temperature for Safety Tc_s	-40°C	-	+80°C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+75°C	7 years warranty
Storage Temperature	-40°C	-	+85°C	
Dimensions (L×W×H)mm	452X43X40			
Net Weight	0.79kg			
Package	L508Xw380Xh172mm 21PCS/Ctn, Gross Weight: 17Kg			

DIMMING

Parameter	Min.	Typ.	Max.	Parameter
0-10V Absolute Maximum Voltage on the Vdim (+) Pin	-	10V	20V	
0-10V Source Current on Vdim(+) Pin	-	0.1mA	0.2mA	
Dimming Output Range	0%	-	100% I _{max}	I _{max} =1.4A
Recommended Dimming Range for 0-10V	0V	-	10V	Default 0-10V/PWM dimming <0.7V-0.9V or <10% PWM, Dim to off >1.0V-1.4V or >10%-14% PWM, Dim to on
PWM_in High Level	9.7V	-	10.3V	
PWM_in Low Level	0V	-	0.3V	
PWM_in Frequency Range	300Hz	-	3KHz	
PWM_in Duty Cycle	0%	-	99%	
Dimming Accuracy	-	5%	10%	

SAFETY STANDARDS

Safety Category	Country / Territory	Standards	Whether have Certification
CCC	China	GB19510.1, GB19510.14	
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
ENEC		EN62384	√
CB	CB Countries	IEC61347-1, IEC61347-2-13	√
BIS	India	IS 15885(PART 2/SEC 13)	
UL	USA	UL 8750	√
CUL	Canada	CSA C22.2 No.250.13	√
KC	South Korea	K61347-1, K61347-2-13	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	
		AS/NZS 61347.1	

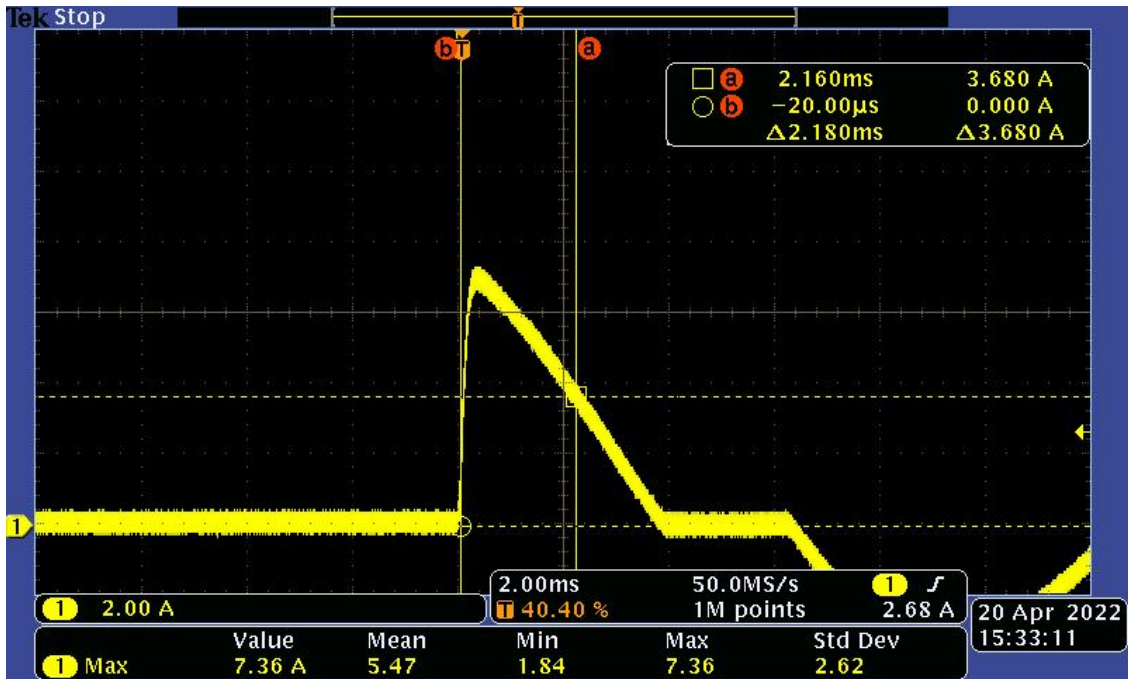
EMC COMPLIANCE

EMC Category	Country / Territory	Standards	Whether have Certification
CCC	China	GB/T 17743, GB 17625.1	
CE	Europe	EN 55015	√
		EN 61000-3-2, EN 61000-3-3	√
		EN61000-4-2,3,4,5,6,11	√
		EN 61547	√
KC	South Korea	K61547, K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	√

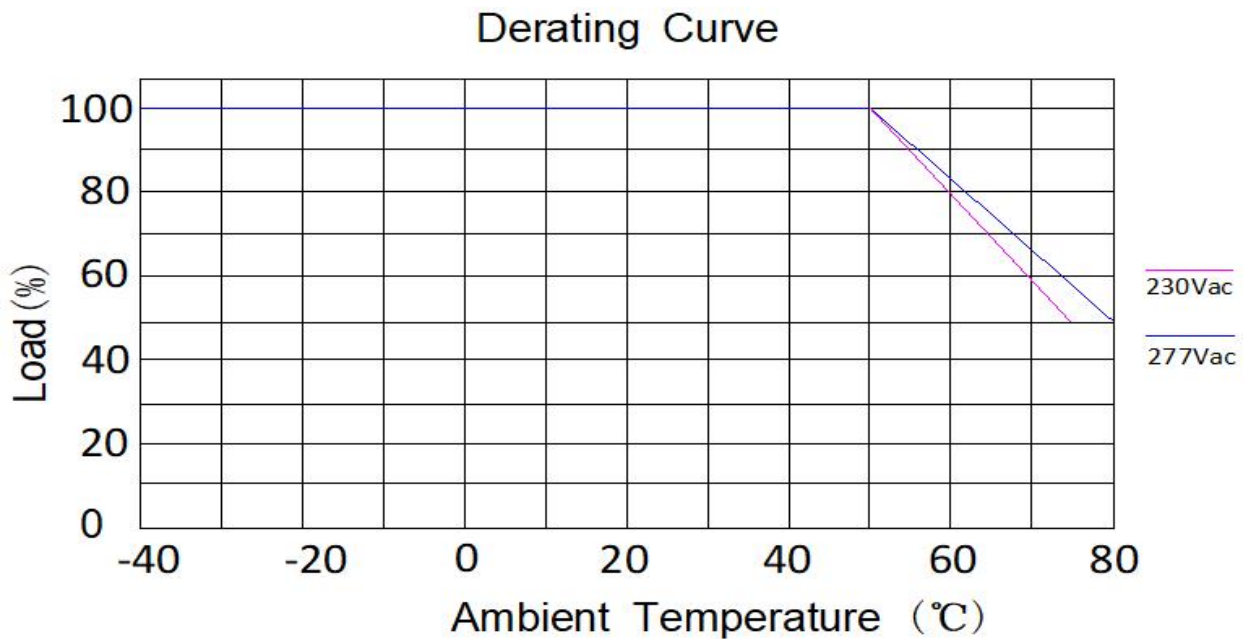
NOTE:

This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

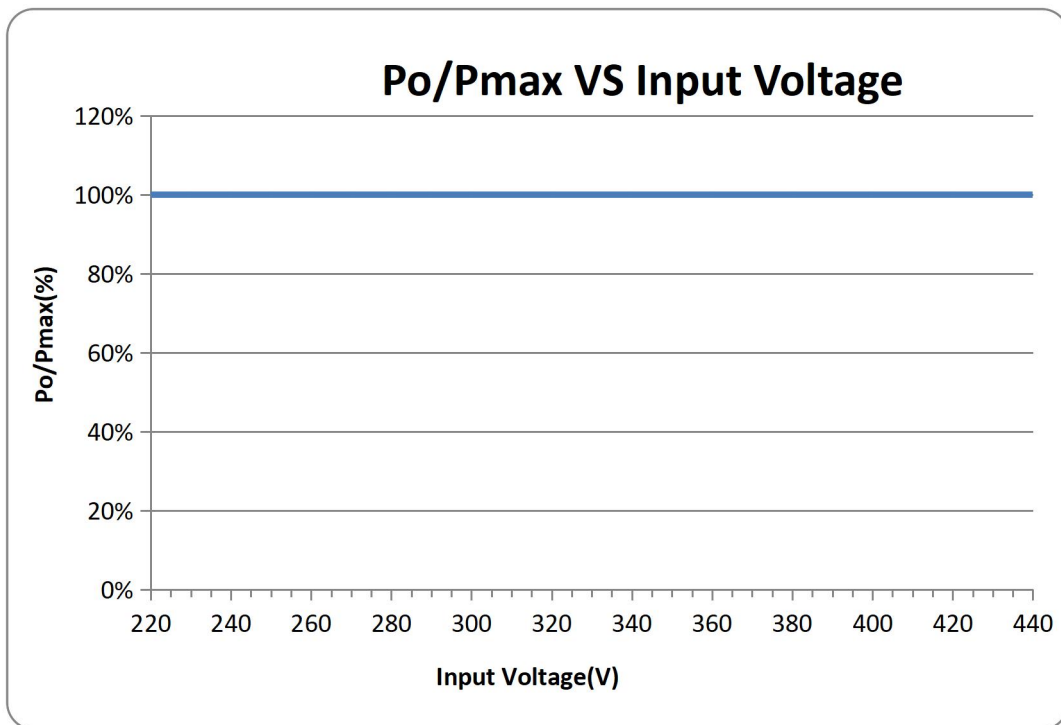
INRUSH CURRENT WAVEFORM



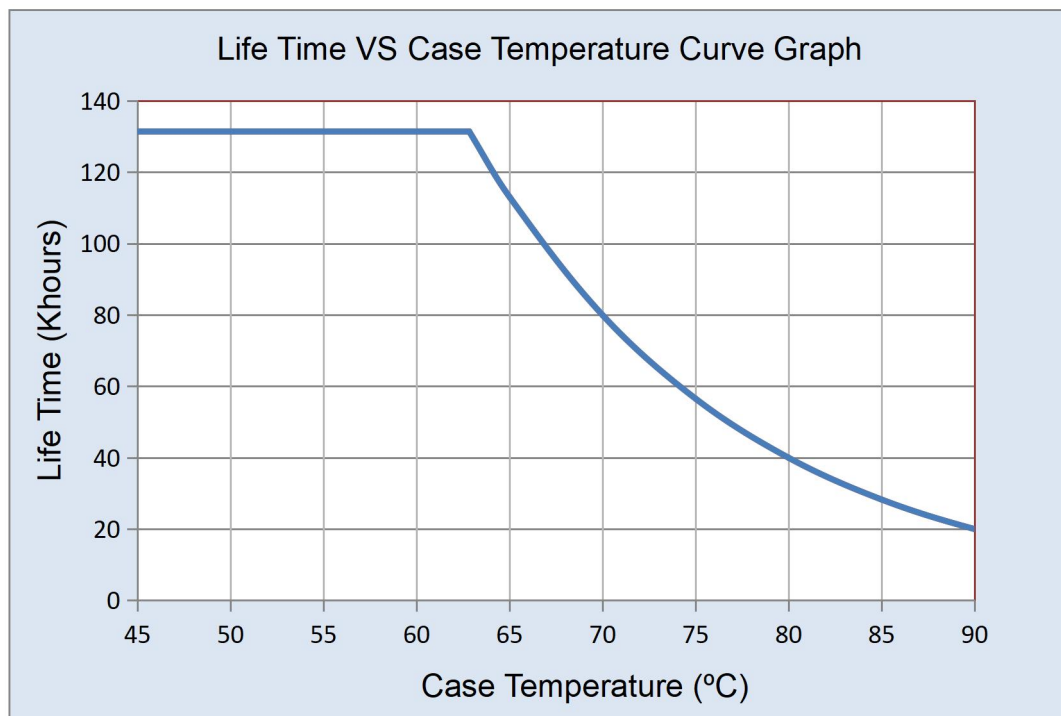
DERATING CURVE



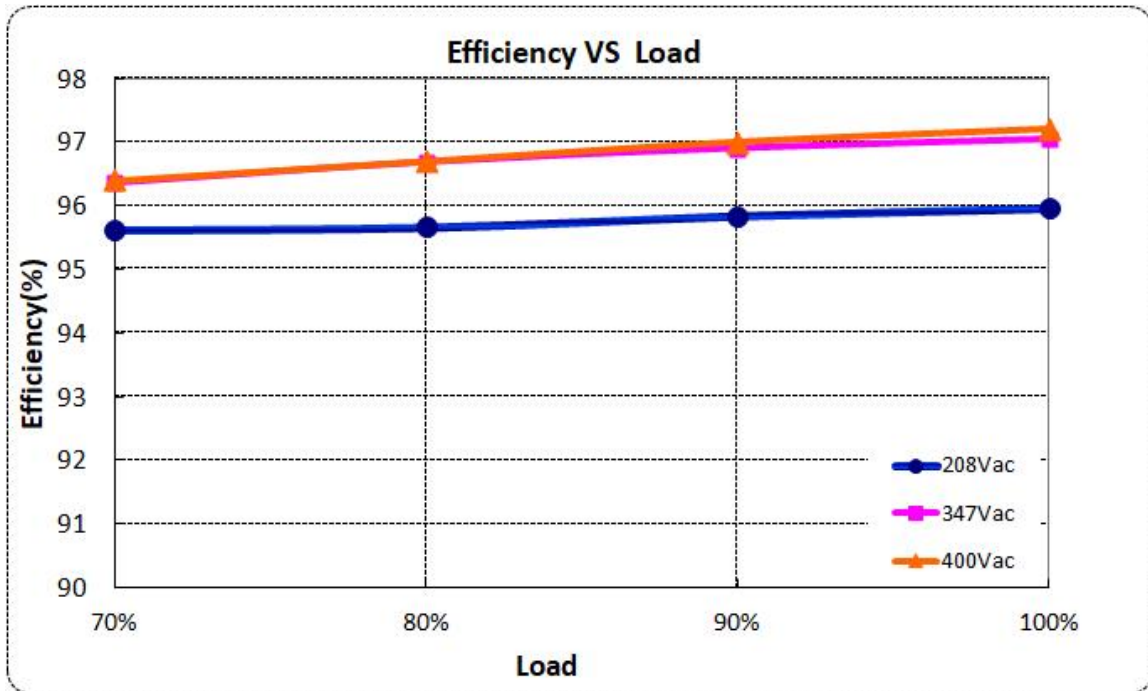
OUTPUT POWER VS INPUT VOLTAGE



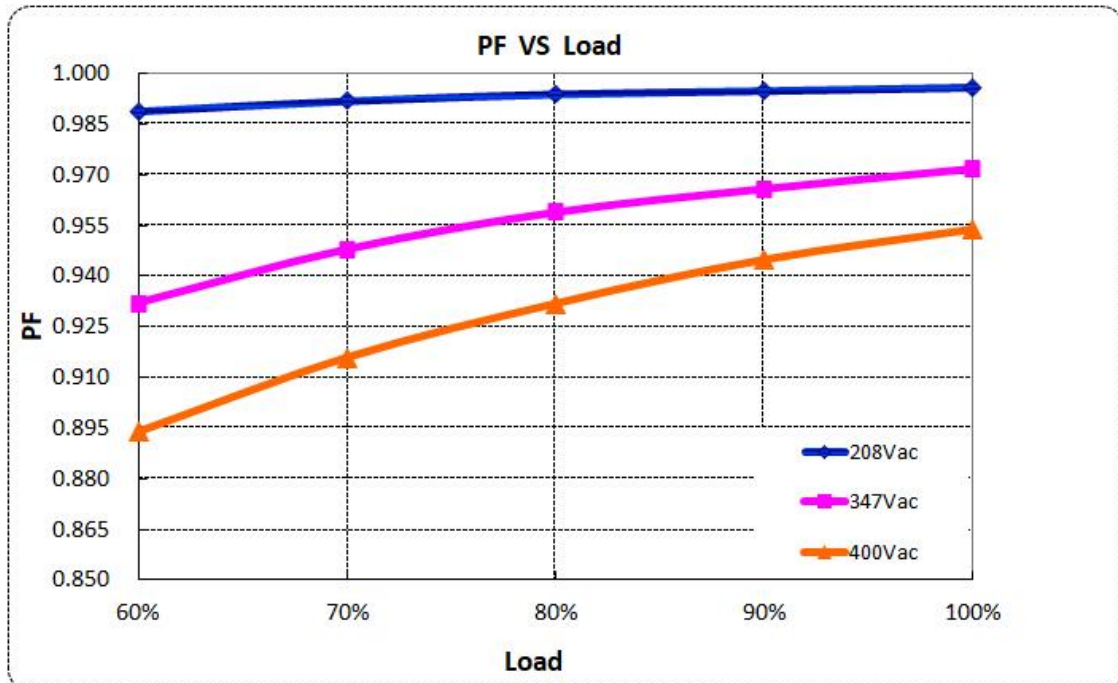
LIFETIME VS CASE TEMPERATURE



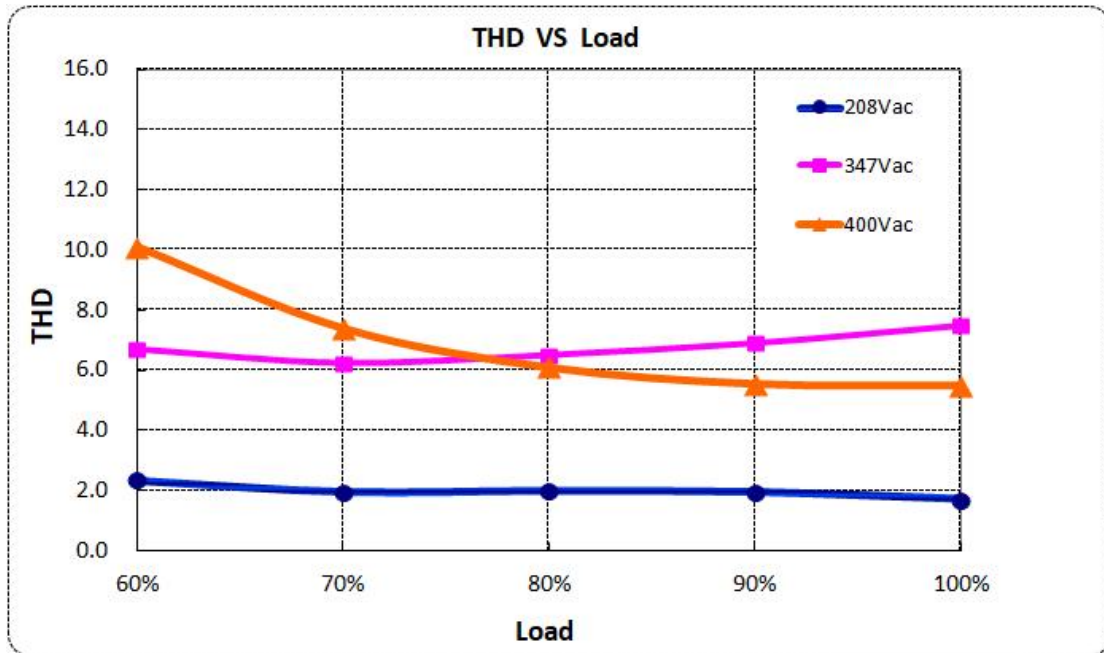
EFFICIENCY VS LOAD $I_{out}=1.1A$



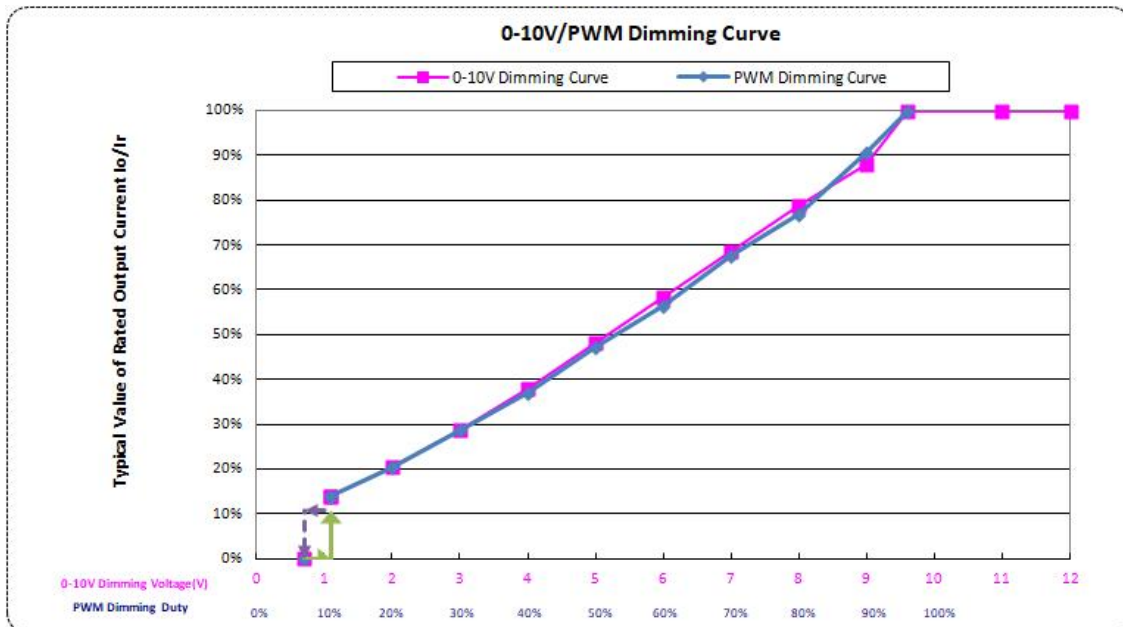
POWER FACTOR VS LOAD



TOTAL HARMONIC DISTORTION



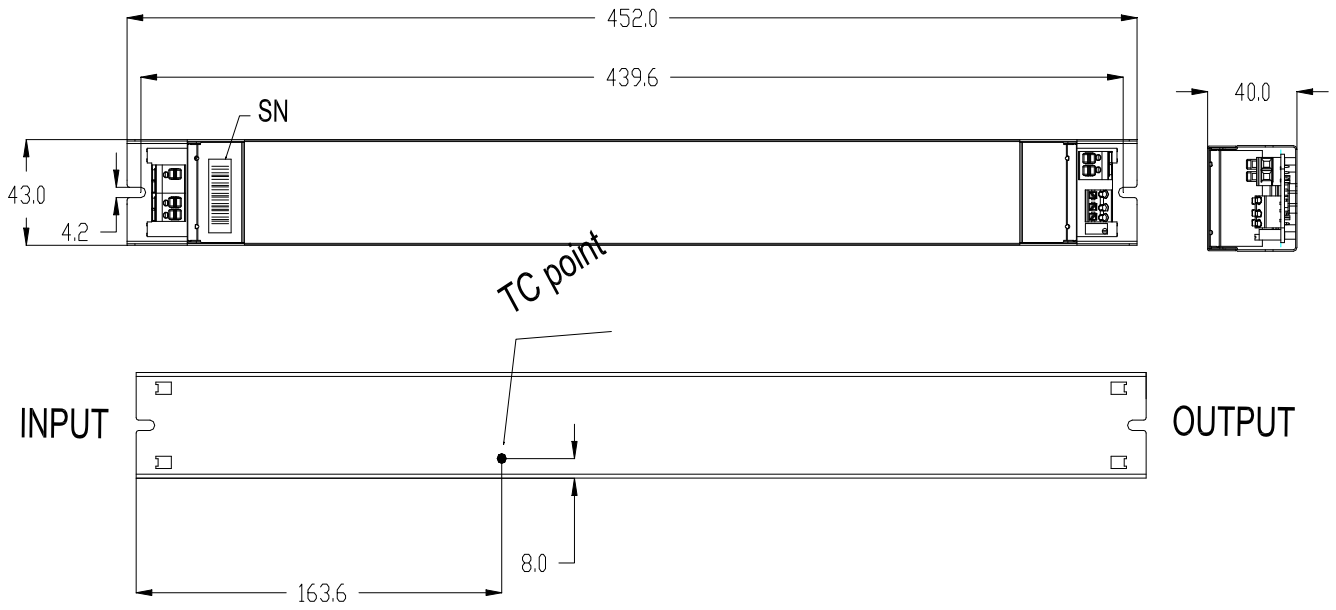
0-10V/PWM DIMMING CURVE



PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed, exclude auxiliary power supply.
Short Circuit Protection	Hiccup mode and auto recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.
Over Voltage Protection	Run into protection model when output voltage exceeds limit, and return to normal when the fault.

MECHANICAL OUTLINE



LABEL



Product Specification

Product Name: 400W Non-isolated LED driver
Product Model: P6H-400M500A12H
Rev. B.2

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E-mail: wcx@mosopower.com

Post Code: 518108

FAX: 0755-27657908

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

Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 400W Non-isolated LED driver

Product Model: P6H-400M500A12H

Rev. B.2

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

Prepared By	Checked By	Approved By