

## Description

P6H-550W series is specially designed for Horticulture Lighting and 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. The better thermal design and high efficiency enables the driver to operating with high reliability, and extending product lifetime. Overall protection is provided against lightning surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.



## Product Features

- input voltage / Full range: 198~440Vac;
- Constant current design,
- Efficiency up to 97%;
- 3-in-1 isolated dimming: 0-10Vdc, PWM, Resistor;
- Adjustable Output Current (AOC) with resistor;
- Dim-to-off; No glow after Dim-to-off
- Surge protection: 4KV line-line, 6KV line-earth;
- Auxiliary power supply; 12V/0.2A
- Multiple protection: SCP, OVP, OTP;
- IP20 design for indoor and outdoor applications;
- 5~7 years warranty.

## Application

Horticultural lighting  
Linear Lighting  
Industrial lighting,

## Models

Model Number	Input Voltage Range(Vac)	MAX Output Power(W)	Output Voltage Range(Vdc)	Full Power Output Range(Vdc)	Default Current(A)	Eff.(Typ.)	PF(Typ.)	THD(Typ.)
P6H-550M350A12H	198-440	550	175-350	183-350	1.6A	95.5%	0.99	5%

### NOTES:

[1]. M means 0-10V/PWM dimming.

[2]. A12 means Auxiliary source.

[3]. All specifications are measured at 25°C ambient temperature, input voltage 220Vac, and the typical value tested by full load, if no specific note.

## Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage Typ.	220Vac	277/347/400Vac	400Vac	
Input Voltage Range	198Vac	-	440Vac	
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	3.0A	220Vac&Full Load
Max Input Power	-	-	600W	220Vac&Full Load
Leakage Current	-	-	0.70mA	400Vac/60Hz
Inrush Current	-	0.15A <sup>2</sup> S	0.27 A <sup>2</sup> S	400Vac, full load,50%~50% peak pulse duration
Inrush Current	-	10A	15A	400Vac&Full Load, Cold Start
Standby Power Consumption	-	-	0.5W	230Vac&50Hz, Auxiliary Power Without Load
Power Factor(PF)	0.970	0.990	-	220Vac, 50/60Hz, 100% Load
Power Factor(PF)	0.950	0.970	-	277-347Vac, 50/60Hz, 100% Load
Power Factor(PF)	0.950	0.960	-	400Vac, 50/60Hz, 100% Load
Power Factor(PF)	0.950	0.955	-	424Vac, 50/60Hz, 100% Load
Power Factor(PF)	0.950	0.960	-	220-400Vac, 50/60Hz, 80%-100% Load
Total Harmonic Distortion(THD)	-	4%	15%	220-400Vac, 50/60Hz, 100% Load
Total Harmonic Distortion(THD)	-	6%	20%	220-400Vac, 50/60Hz, 80%-100% Load
MCB(B16)	-	5	-	220Vac

## Output Specifications

Parameter	Min	Typ	Max	Notes
Output Voltage Range	175V	-	350V	The full power cannot be lower than 200V
Open Circuit Voltage	-	-	430V	average value
Output Current Range	55%Iset	-	100%Iset	Adjustable Output Current with resistor;
Full Power Current Range	1.57A	-	3.00A	
Current Accuracy	-5% Iset	-	+5% Iset	
Total Output Current Ripple (pk-pk)	-	3%	5%	20MHz BW, full load& LED load, the ripple would be tiny different under different LED load.
Startup Overshoot Current	-	5%	10%	220~400Vac &100% Load, load is LED
Auxiliary source output voltage	11.4	12	12.6	220~400Vac &100% Load
Output ripple & noise(mV)Vp-p	-120mV	-	+120mV	100% load, Measured by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor
Auxiliary source output current	-	-	200mA	
Line Regulation	-1%	-	+1%	25°C±10°C ambient temperature, input voltage changes from 200Vac to 400Vac.
Load Regulation	-3%	-	+3%	25°C±10°C ambient temperature, Input Voltage 400Vac, load changes from 80% to 100%.
Turn-on Delay Time	-	-	1.5s	220~400Vac &100% Load, load is LED

## General Specifications

Parameter	Min	Typ	Max	Notes
Efficiency@220Vac	94.5%	95.5%	-	Measured at full load and 25°C ambient temperature I <sub>o</sub> =2.0A, 12V No Load,
Efficiency@277Vac	95.0%	96.0%	-	
Efficiency@347Vac	95.0%	96.0%	-	
Efficiency@400Vac	95.5%	97.0%	-	
Mean Time Between Failure	-	200000hours	-	25°C±10°C ambient temperature, 220Vac, 80% load (MIL-HDBK-217F/SR-332)
Lifetime	-	50000hours	-	T <sub>c</sub> =75°C, 220Vac&100% load
Operating Temperature	-40°C	-	+45°C	220-277Vac&100% load
Operating Temperature	-40°C	-	+50°C	277-400Vac&100% load
Operating T <sub>c</sub> for Safety T <sub>c_s</sub>	-40°C	-	+90°C	
Operating T <sub>c</sub> for Warranty T <sub>c_s</sub>	-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 80% RH No condensation
Storage Temperature	-40°C	-	+85°C	
Altitude	-60m	-	4000m	
Input Under voltage Protection	110Vac	140 Vac	170 Vac	
Over Temperature Protection	-	-	95°C	T <sub>c</sub> ; 220Vac&100% load
Short Circuit Protection	-	-	-	self-recovery
Dimensions (L*W*H)mm	L452mm*W43mm*H40mm			
Net Weight	1200±20g/PCS			
Package	L606mm*W327mm*H136mm; 8PCS/ctn, Gross Weight: 12kg			

## DIMMING

Parameter	Min	Typ	Max	Notes
Absolute Maximum Voltage	-20V	10V	20V	On the V <sub>dim</sub> (+) Pin
Source Current on V <sub>dim</sub> (+)Pin	90uA	100uA	200uA	
Dimming Range	10% I <sub>set</sub>	-	100% I <sub>set</sub>	I <sub>set</sub> =1.57A~3.0A
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	0.7V	-	1.0V	
Turn-off Voltage	0.4V	-	0.7V	
PWM <sub>in</sub> High Level	9.7V	-	10.3V	
PWM <sub>in</sub> Low Level	0V	-	0.3V	
PWM <sub>in</sub> Frequency Range	300Hz	-	3KHz	
PWM <sub>in</sub> Duty Cycle	1%	-	99%	
Turn-on Duty Cycle	7%	-	10%	
Turn-Off Duty Cycle	4%	-	7%	
Resistor Dimming	-	-	100K	

## Safety Specification

Dielectric Strength (Input-Dim/AUX)	-	3750Vac	-	60S , Current not exceeding 5mA
Dielectric Strength (Input-Ground)	-	1880Vac	-	60S , Current not exceeding 5mA
Dielectric Strength (Output-Ground)	-	1880Vac	-	60S , Current not exceeding 5mA
Grounding Resistance	-	-	0.1Ω	25°C±10°C Ambient Temperature, pass 25A Current, 60s.
Insulation Resistance	10MΩ	-	-	Input-PE, Output-PE, 500Vdc/60S/25°C/70%RH

## Safety Compliance

Safety Category	Standards	Approved	Notes
CCC	GB19510.1,GB19510.14		
CE	EN61347-1, EN61347-2-13	√	
CE	EN62493	√	
ENEC	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		

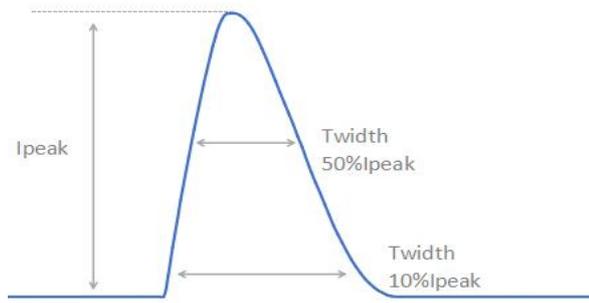
## EMC Compliance

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 Shock Immunity			
Ringing Wave			

## RoHS

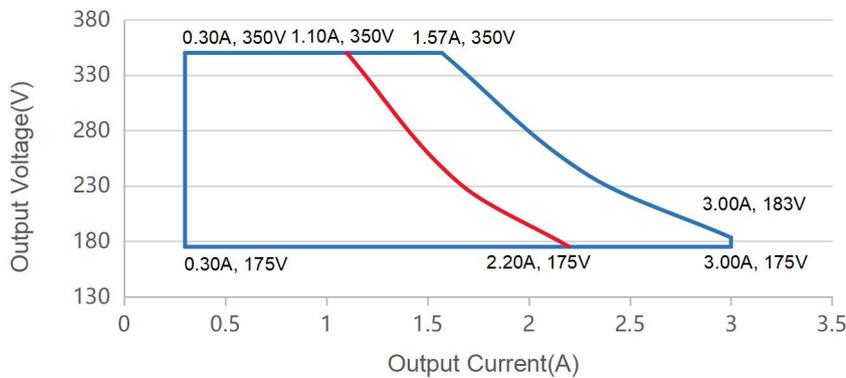
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

**Inrush Current**

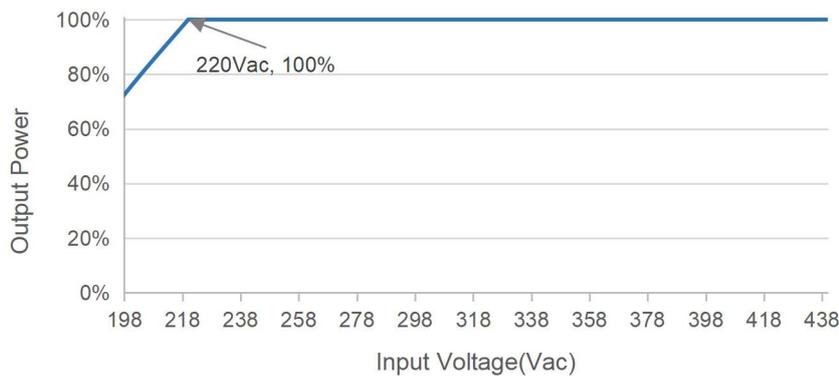


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	8A	3.220ms	2.010ms
277Vac	10A	3.230ms	2.040ms
347Vac	12A	3.250ms	2.050ms
400Vac	14A	3.270ms	2.030ms

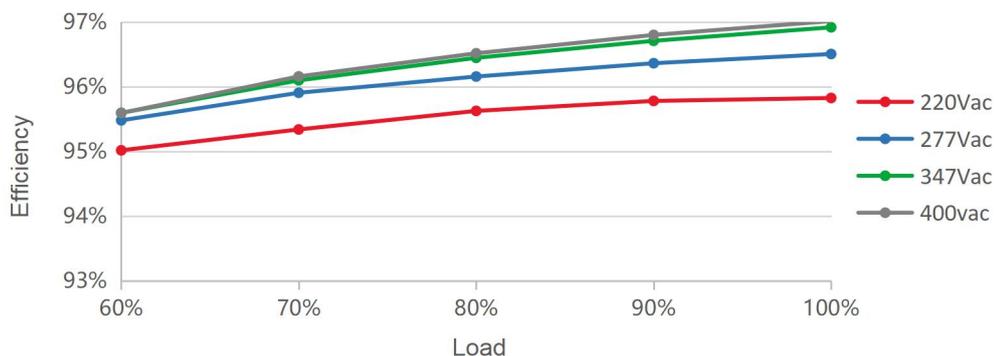
**Output Voltage vs. Output Current**



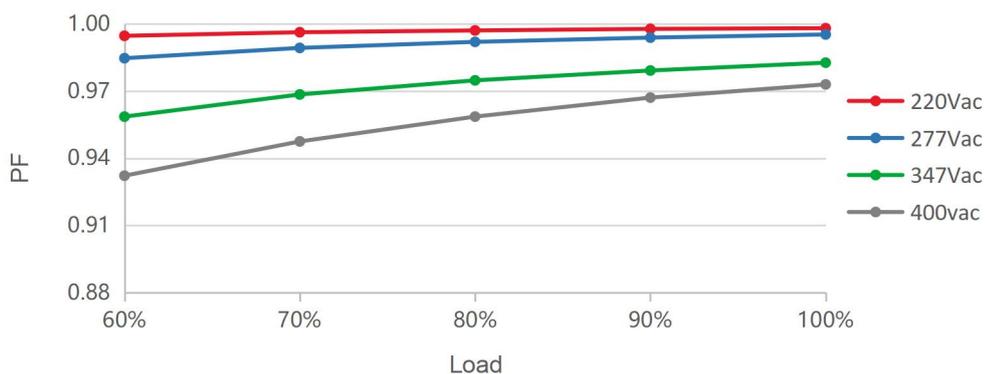
**Output Power vs. Input Voltage**



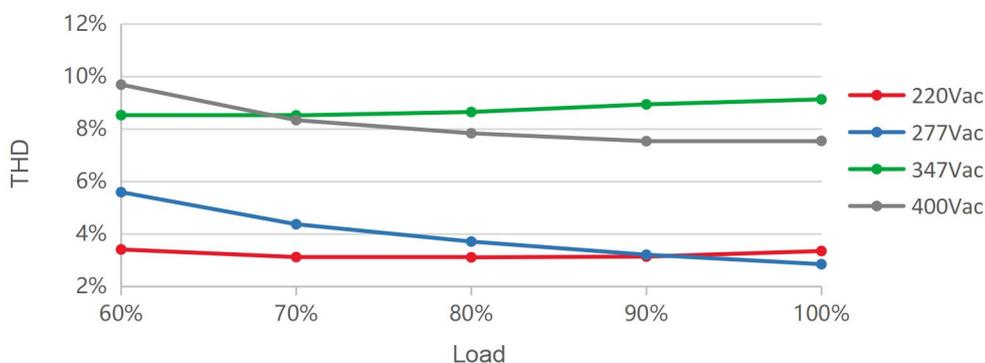
**Efficient vs. Load**



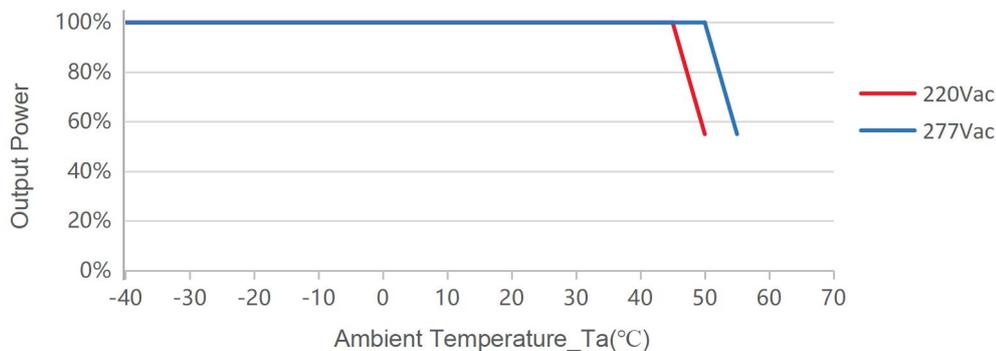
**PF vs. Load**



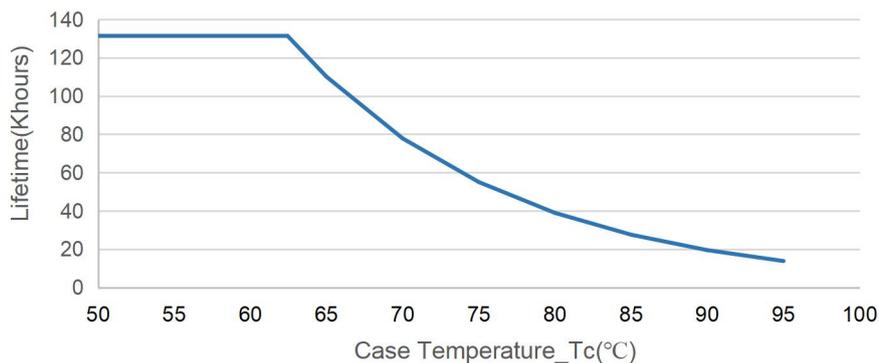
**THD vs. Load**



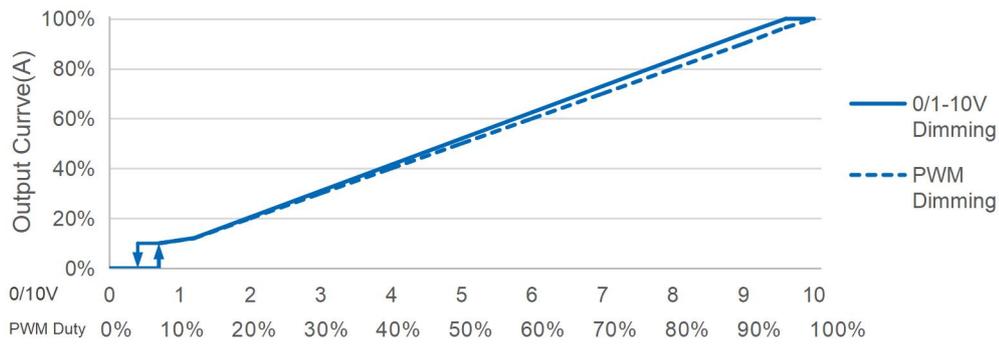
**Output Power vs. Ambient Temperature**



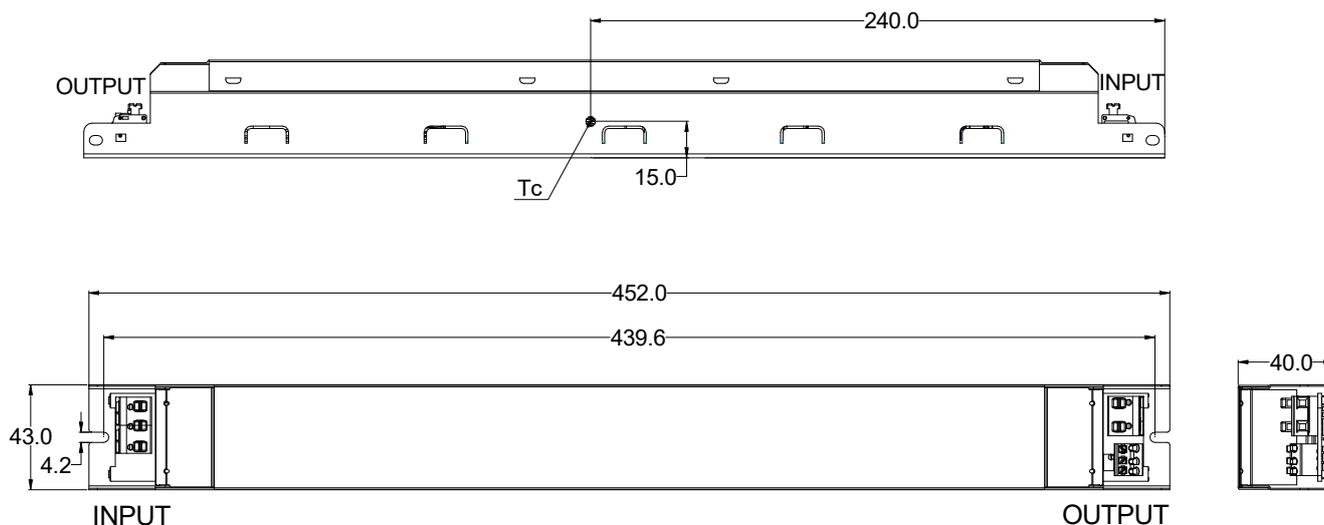
**Lifetime vs. Case Temperature**



### 0-10V/PWM Dimming



**Mechanical Outline**



**Connections**

<b>Input (L,N,G)</b>	Wire Cross-section 0.5 mm <sup>2</sup> - 2.5 mm <sup>2</sup>	Push-in at 45°angle, solid and stranded wire
<b>Output</b>	Wire Cross-section 0.5 mm <sup>2</sup> - 2.5 mm <sup>2</sup>	Push-in at 45°angle, solid and stranded wire
<b>Dimming</b>	Wire Cross-section 0.34 mm <sup>2</sup> - 0.75 mm <sup>2</sup>	Push-in at 45°angle, solid and stranded wire

**Label**

		<p><b>MOSO</b><sup>®</sup> P6H-550M350A12H LED DRIVER Constant current type</p>			<p>Integrated SPD MADE IN CHINA For LED module only</p>	<p>The lamp controlgear relies upon the luminaire enclosure for protection against accidental contact with live parts.</p>	<p>Suitable for Dry, Damp locations SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD No.1081, Songbai Road, Xili Town, Nanshan District, Shenzhen, CHINA</p>	<p>Cross-section of conductors: input terminal:0.5-2.5mm<sup>2</sup> LED output terminal:0.5-2.5mm<sup>2</sup> DIM/12V terminal:0.34-0.75mm<sup>2</sup></p>
		<table border="1"> <tr> <td><b>INPUT</b></td> <td>220-400V~ 50/60Hz, 3.0A Max. 600W Max. PF:0.9C-0.95</td> </tr> <tr> <td><b>OUTPUT</b></td> <td>175-350V~ 1.57-3.00A Uout Max: 430V~ Max.Power: 550W</td> </tr> <tr> <td>t<sub>a</sub> : 90°C</td> <td>t<sub>a</sub> : 45°C Input: 220-277V~ t<sub>a</sub> : 50°C Input: 277-400V~</td> </tr> </table>	<b>INPUT</b>					
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**Version**

	First release	
A.2	First release	2024-07-09
B.2	/	2024-08-21

## Specification for Approval

Product Name : 550W Non-isolate LED Driver

Product Model : P6H-550M350A12H

Rev : B.2

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

Tel: 0755-27657000

FAX: 755-27657908

E-mail: [info@mosopower.com](mailto:info@mosopower.com)

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

Prepared By	Checked By	Approved By

## Specification for Approval

Product Name: 550W Non-isolate LED Driver

Product Model: P6H-550M350A12H

Rev : B.2

<b>CUSTOMER AUTHORIZED SIGNATURE</b>		
<b>Tested By</b>	<b>Checked By</b>	<b>Approved By</b>
(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

FAX: 755-27657908

E-mail: [info@mosopower.com](mailto:info@mosopower.com)

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

<b>Prepared By</b>	<b>Checked By</b>	<b>Approved By</b>