E332689

Product Features

- Input voltage range: 249~528Vac;
- Constant power design, output current programming adjustable;
- 3-in-1 dimmable: 0~10Vdc, PWM, Timer dimming. Dim-to-off;
- Constant lumen output;
- Auxiliary power supply: 12V/200mA;
- Surge protection: 4KV line-line, 6KV line-earth;
- Protections: SCP, OVP, OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

Application

- Suitable for horticulture lighting, high power lighting, etc.

DESCRIPTION

The P1H-600W series is 600W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 249~528Vac model. Offline Monitored by dimming cable connected with an USB kit programming device, the fully programmed drivers offer all dimming, dim-to-off, constant lumen output options and a wide range of output current in a single driver, which deliver maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be programmed for many different luminaire designs. P1H provides built-in timer dimming schedules further increasing the energy savings and CO_2 reductions achieved with LED lighting. It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enables the driver to operating with high reliability, and extending product lifetime. Overall protection is provided against lightening surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.

MODELS

Model Number [1]	Max Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Voltage Range (Vdc)	Output Current Adjustable Range (A) [2]	Default Output Current Setting(A)	Typical Efficiency [3]	PF
P1H-600M056A12	600	38-54	51.3-54	1.17 -11.7	51.3V/11.7A	95%@480	0.95@480

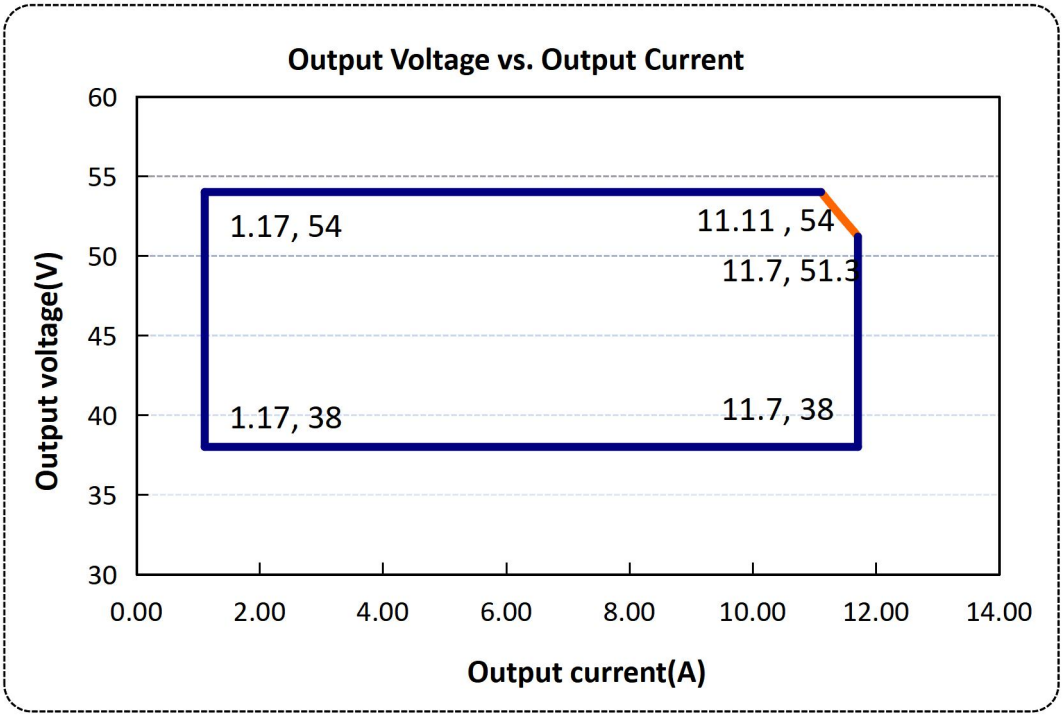
Notes:

[1]. A12 means the driver with 12V/200mA auxiliary power supply.

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

[3].All specifications are measured at 25℃ ambient temperature, input voltage 480Vac, and the typical value tested by full load, if no specific note.

OPERATING AREA I-V



INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	249Vac	277-480Vac	528Vac	
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.75mA	480Vac/50Hz
Input AC Current	-	-	2.58A	277&full load
	-	-	1.56A	480Vac&full load
Inrush Current (Cold start)	-	-	56A	400Vac & full load
	-	-	68A	480Vac & full load
	-	-	18 A^2S	400Vac & full load
Standby Power Consumption	-	-	1.5W	Dim to off, AUX. Power no load,480Vac
Power Factor	0.96	0.97	-	277Vac, 50-60Hz,full load
	0.93	0.95	-	480Vac, 50-60Hz, full load
THD	-	-	20%	277Vac,50-60Hz, 50%-100% load
	-	-	20%	480Vac, 50-60Hz, 50%-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Setting Range (A)	10% Imax	-	100%Imax	
Output Current Tolerance(%)	-3%	-	3%	
Output Current Setting Range (A)	1.17	-	11.7	
No Load Output Voltage（V）	-	-	58	
Total Output Current Ripple(pk-pk)	-	±5%	-	20MHz BW, full load& LED load, the ripple would be tiny different under different LED load.
Startup Overshoot Current (%)	-	-	20	277-480Vac &100% Load, load is LED
Line Regulation (%)	-1	-	1	25℃±10℃ ambient temperature, input voltage changes from 249Vac to528Vac.
Load Regulation (%)	-2	-	2	25℃±10℃ambient temperature, Input Voltage 400Vac, load changes from 38-54V.
AUX. Power output voltage (V)	11.4	12	12.6	
AUX. Power output current(mA)	0	200	-	
Turn-on Delay Time (S)	-	-	3	277Vac, 100%load,10-90%Vo
	-	-	2	480Vac, 100%load,10-90%Vo

GENERAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Notes
Efficiency @277Vac I_O=11.7A		93%	94%	-	Measured at full load and 25℃ambient temperature
Efficiency @480Vac I_O=11.7A		94%	95%	-	
Dielectric Strength	Input-Output	-	3750Vac	-	Max 5mA/60S
	Input-PE	-	2000Vac	-	
	Output-PE	-	1500Vac	-	
	Input-Dim		3750Vac		
Grounding Resistance (Ω)		-	-	0.1	25A/60S, under 25℃±10℃ambient temperature
Insulation Resistance (MΩ)		100	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25℃/70%RH
MTBF (Hr)		-	500000	-	Telcordia SR-332,100%load, & Ta = 25°C
Lifetime (Hr)		-	50000	-	277-480Vac&100% load, 75℃ case temperature, refer to lifetime curve for details
Ambient Temperature (℃)		-20		+50	
Operating Case Temperature for Safety Tc_s (℃)		-20	-	+90	TA 50℃ Max load,Input 277-480Vac
Operating Case Temperature for Warranty Tc_s (℃)		-20	-	+75	5 years warranty case temperature Humidity: 10% to 90% RH
Storage Temperature (℃)		-40	-	+85	Humidity：5% to 95% RH

Working Altitude	0m	-	3000m	
Dimensions (L*W*H)mm	L301 *W106 *H50 mm;			
Net Weight	2700±100g/PCS			
Package	L590mm*W445mm*H185mm; 8PCS/Ctn, Gross Weight: 23.6Kg			

DIMMING

Parameter	Min.	Typ.	Max.	Notes
0~10V Absolute Maximum Voltage on the Vdim (+) Pin (V)	-	10	-	
0~10V Source Current on Vdim(+)Pin (mA)	-	-	0.4	
Dimming Output Range	10%	-	100% I_{max}	I_{max}=11.7A
Recommended Dimming Range for 0-10V (V)	0	-	10	
PWM_in High Level (V)	9.7	-	10.5	
PWM_in Low Level (V)	0	-	0.3	
PWM_in Frequency Range	300Hz		3KHz	
PWM_in Duty Cycle	1%	-	99%	

SAFETY STANDARDS

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
ENEC		EN62384	√
CB	CB Countries	IEC61347-1, IEC61347-2-13	√
UL	USA	UL 8750	√
CUL	Canada	CSA C22.2 No.250.13	√

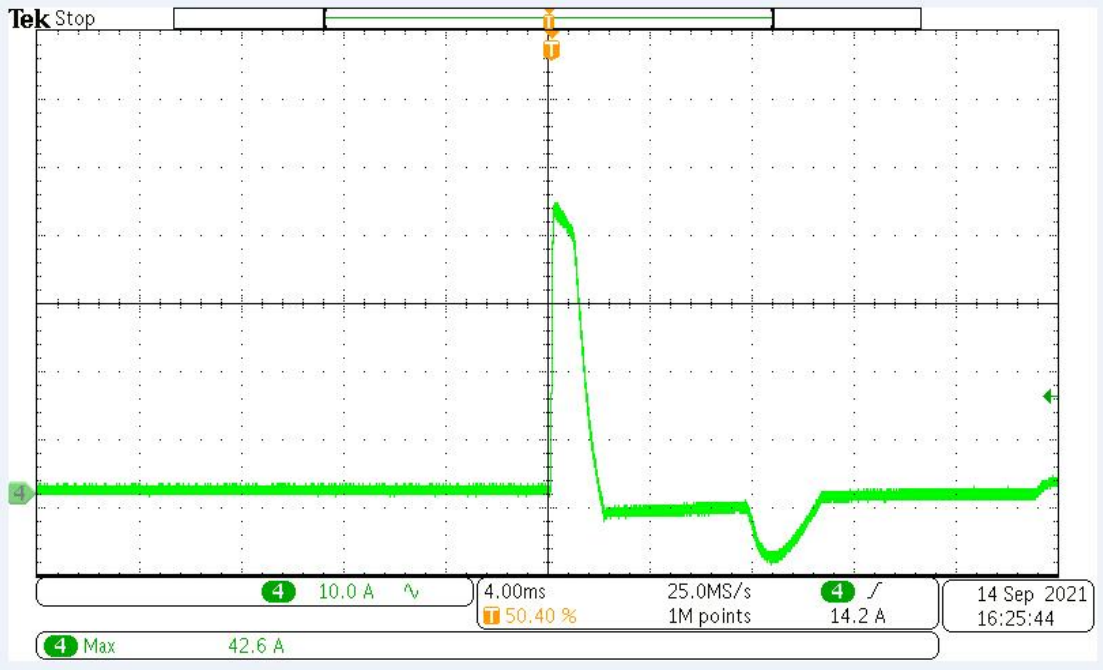
EMC STANDARDS

Safety Category	Country / Territory	Standards	Approved
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	√
FCC	USA	FCC part 15	√

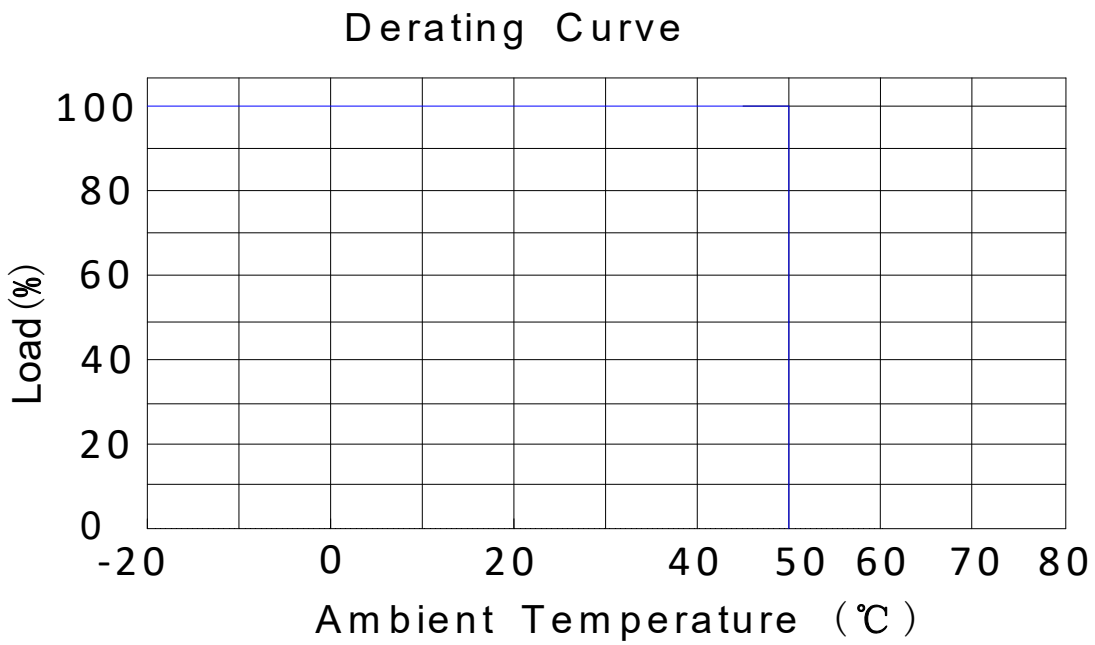
NOTE:

This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

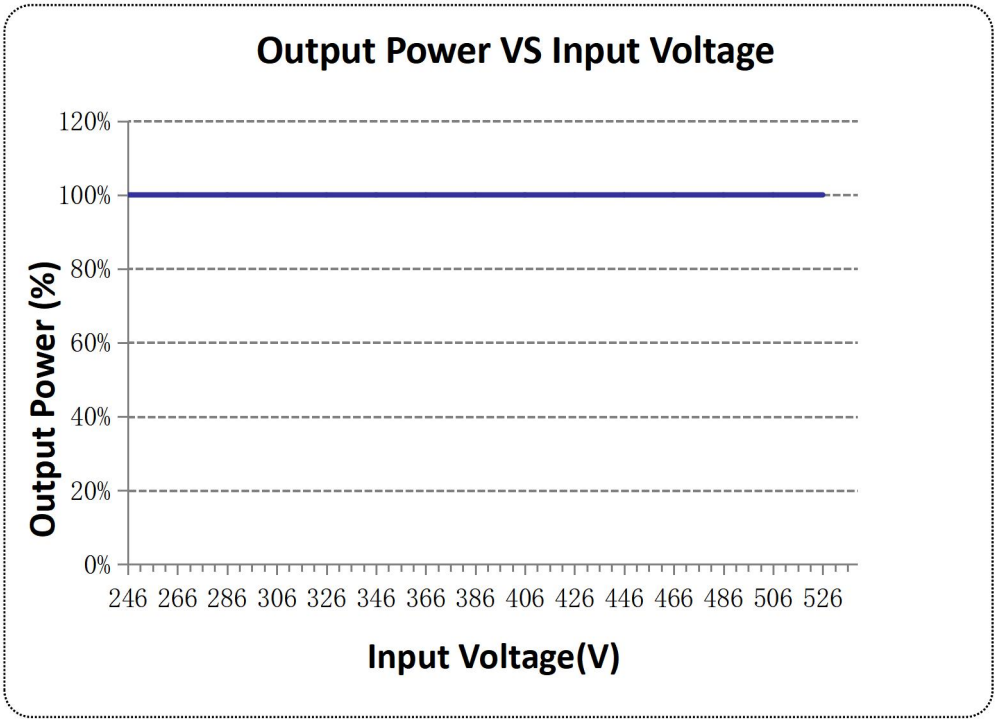
INRUSH CURRENT WAVEFORM



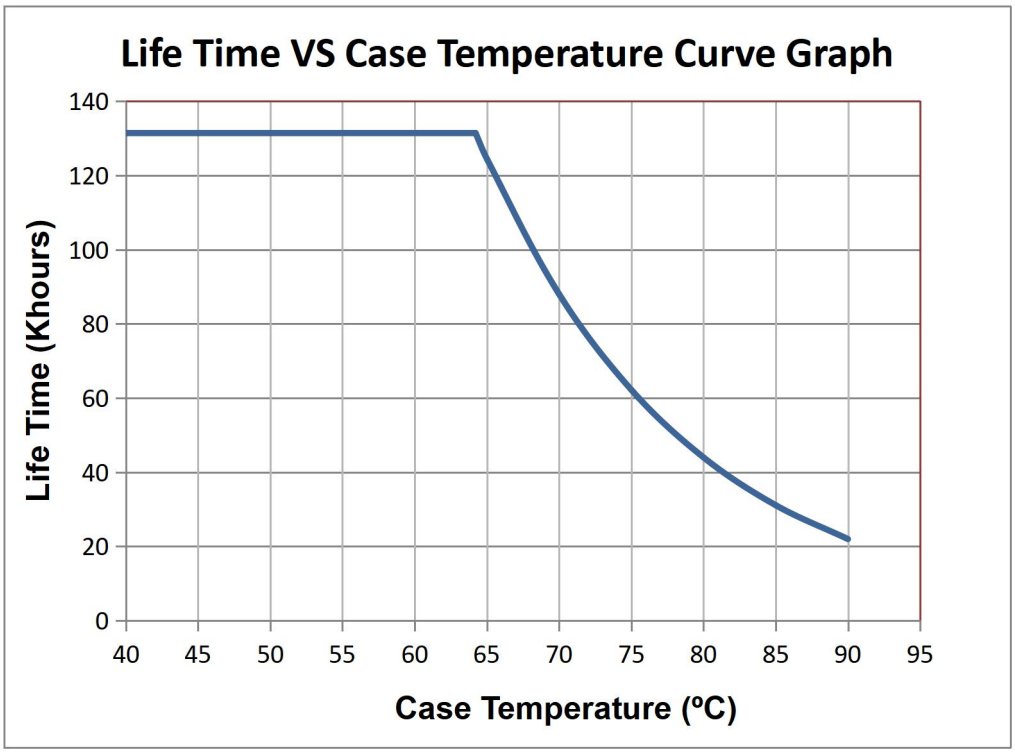
DERATING CURVE



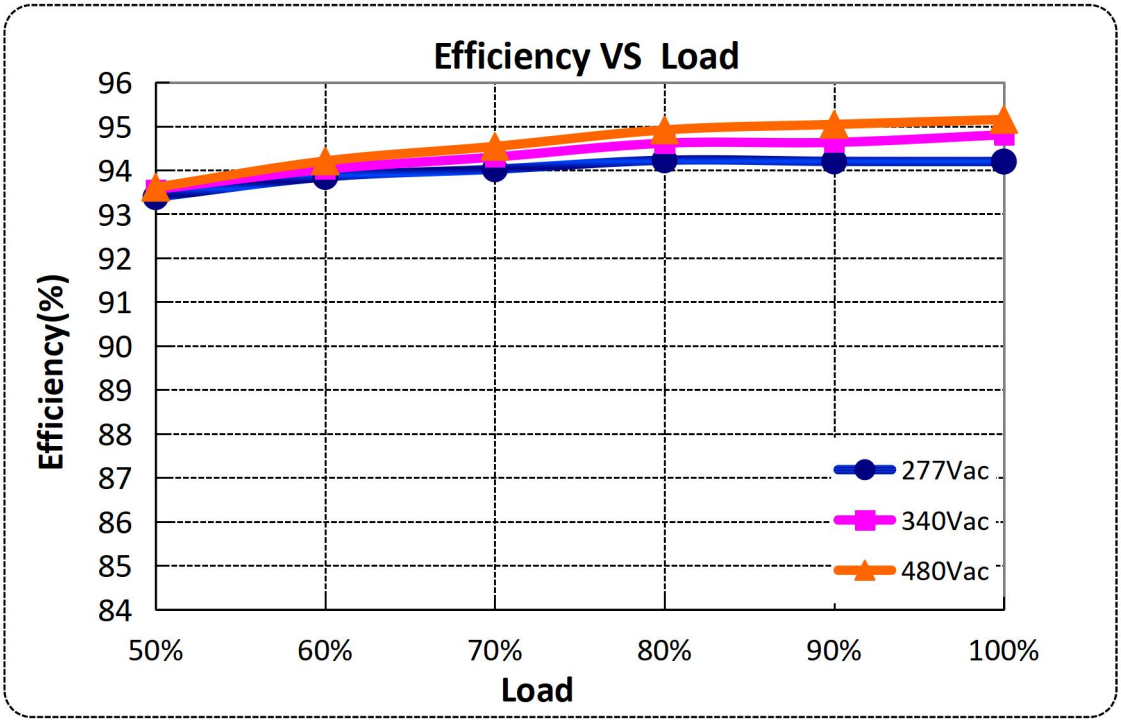
OUTPUT POWER VS INPUT VOLTAGE



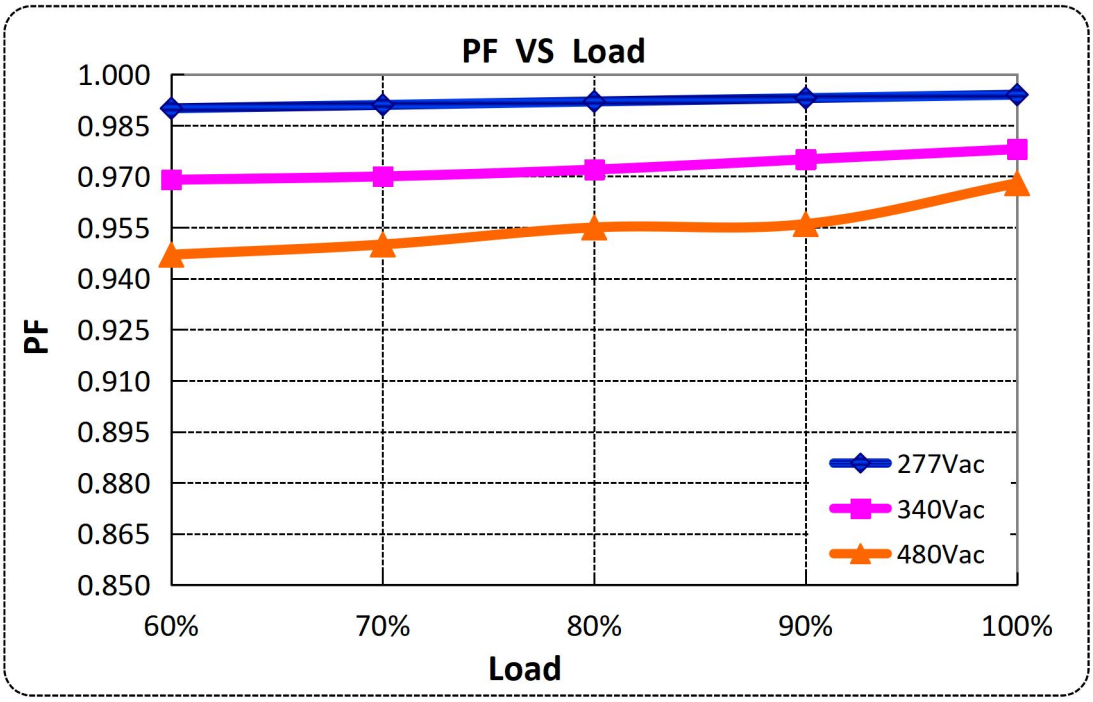
LIFETIME VS CASE TEMPERATURE



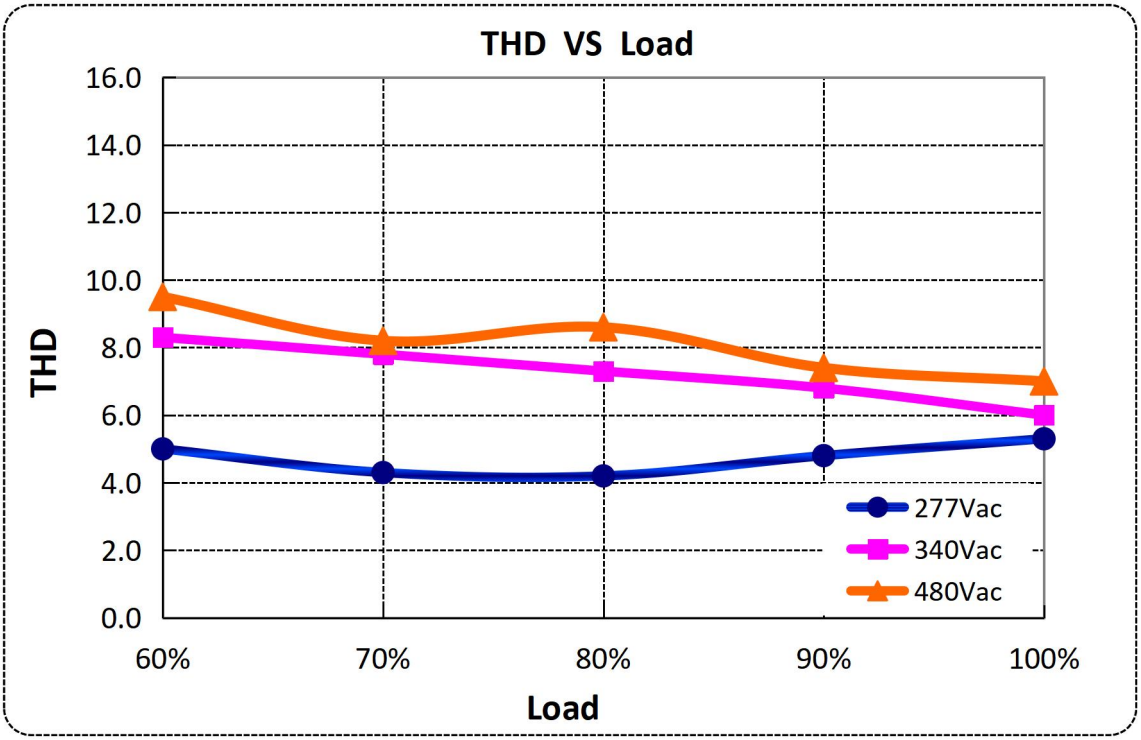
EFFICIENCY VS LOAD



POWER FACTOR VS LOAD



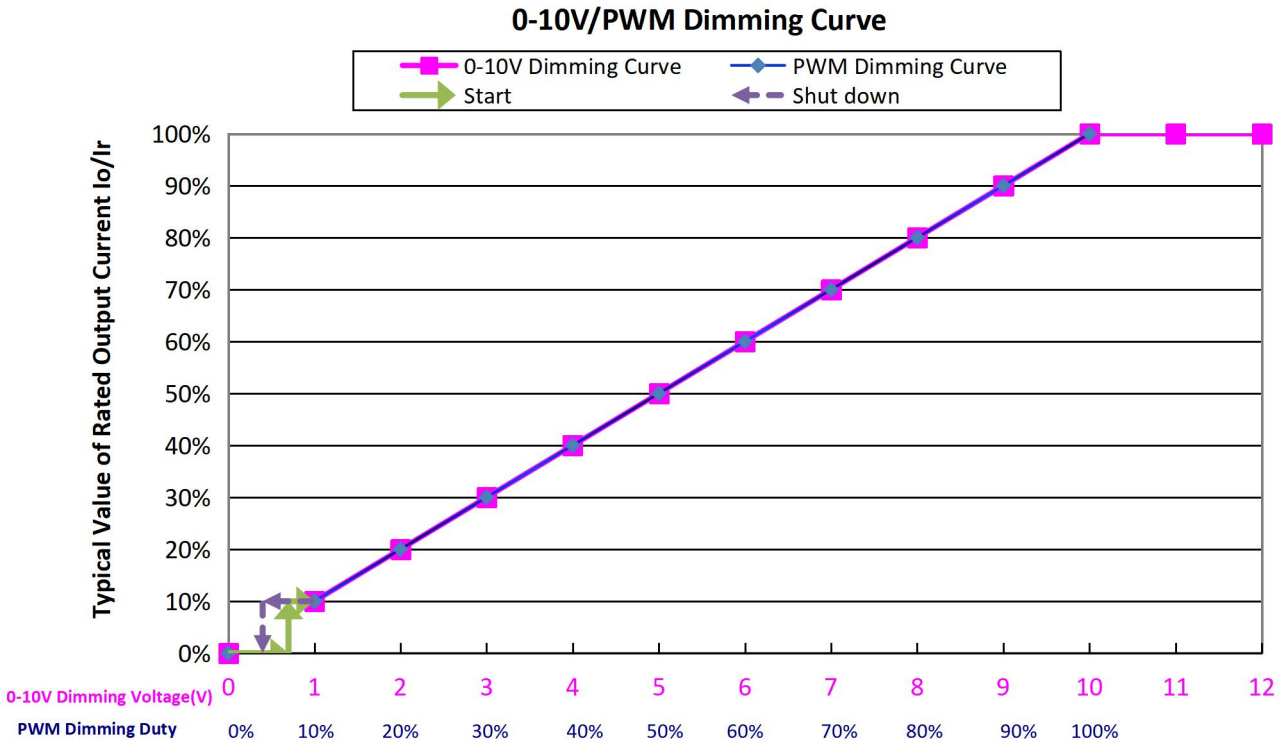
TOTAL HARMONIC DISTORTION



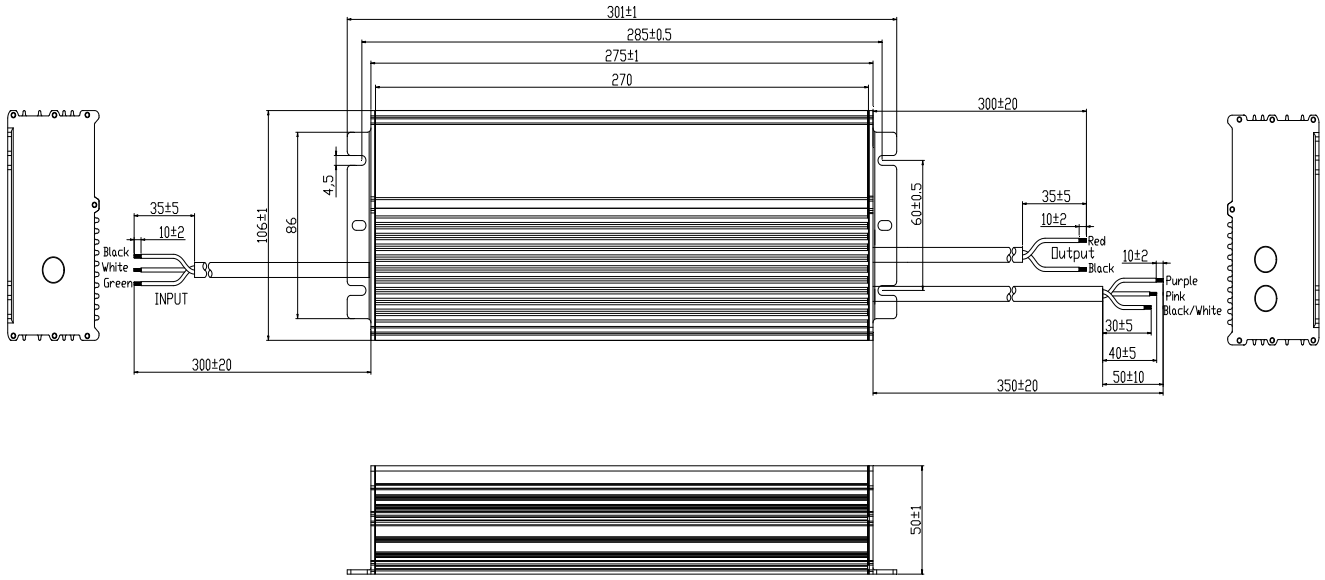
PROTECTIONS

Parameter	Notes
Over Temperature Protection	Turn off output current, returning to normal after over temperature is removed.
Short Circuit Protection	Constant current 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 is eliminated and restart the power supply.

0-10V/PWM DIMMING



MECHANICAL OUTLINE



Wire	Specification	Note
Input	STW 18AWG*3C external diameter: 9.3mm L=300±20mm	UL
Output	SJTW 14AWG*2C external diameter: 8.7mm L=300±20mm	UL
Dimming	UL21996 22AWG*3C external diameter: 5.0mm L=350±20mm	Y=M

LABEL

REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
A.1	—	Datasheets Release	2022-05-26	

Specification for Approval

Product Name: 600W Constant Current LED Driver

Product Model: P1H-600M056A12

Rev. A.1

Sample Date: _

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 Province, P.R.China
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Web site: http://www.mosopower.com

Product Specification

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Product Model: P1H-600M056A12

Rev. A.1

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