BIS CE

Product Features:

- Universal input voltage / Full range: 90~305Vac;
- Auto constant power design, output current programming adjustable;
- (M types) offline programmable, (V types) output current adjustable by built-in potentiometer;
- 3-in-1 dimmable: 0~10Vdc, PWM, Positive and negative logic, Timer dimming, Dim-to-off;
- with auxiliary power supply 12V/300mA
- (M types)Constant lumen output, daily log;
- Output and Dimming Signal Isolating;
- Surge protection: 6KV line-line, 10KV line-earth;
- Protections: Brown in/out, SCP, OVP, OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry/damp/wet locations;
- 5~7 years warranty.

Application:

- Suitable for High power area lighting, High-bay lighting, stadium lighting, fishing lighting, etc.

Description

The X6-480W series is 480W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 90~305Vac model, with high power factor, the highest conversion efficiency can reach 94.5%. Compliant with ERP2.0 standard, the maximum standby power consumption of remote shutdown is≤500mW. This series of products is specially designed for high-power LED lighting such as fishing lights, high pole lights, stadium lights, etc. 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. X6 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 lightning surge, brown in/out, output over voltage, short circuit, auto constant power and over temperature, to ensure the high reliability of the product.

Models

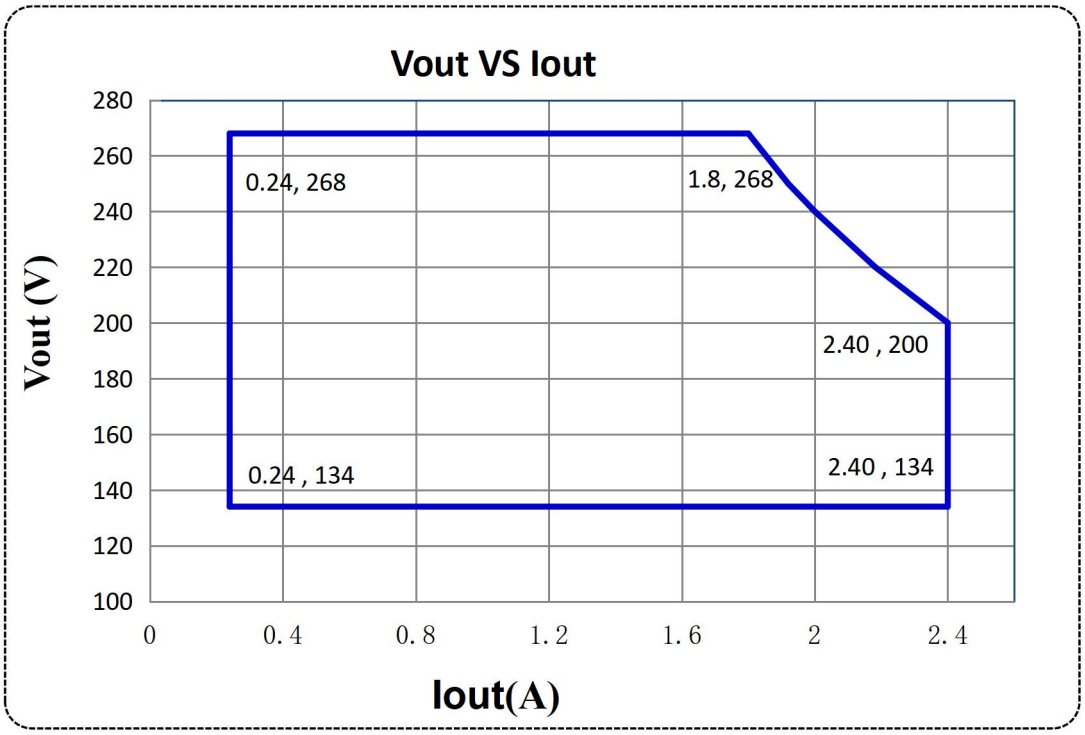
Model Number [1]	Max Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Voltage Range (Vdc)	Full Power Current Adjustable Range (A) [2]	Default Output Current Setting(A)	Typical Efficiency [3]	PF
X6-480M268A12	480	134-268	200-268	1.8-2.4	2.2	93.5%	0.95

Notes:

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

[2]. All specifications are measured at 25℃ ambient temperature, input voltage 240Vac, and the typical value tested by full load, if no specific note.

Operation Area



Input Characteristics

Parameters	Min	Typ.	Max	Notes
Input voltage(Vac)	90	100-277	305	
Input frequency(Hz)	47	50/60	63	
Input rated voltage(Vac)	100	240	277	
Input Brown_in (Vac)	80	-	89	
Input Brown_out (Vac)	70	-	79	
Leakage current (mA)	-	-	0.75	240Vac/50Hz
Input current Max (A)	-	-	2.2	240Vac, 100%Load
Input power Max (W)			520	240Vac, 100%Load
Inrush current (A)	-	-	50	240Vac, 100%Load, Cold start
Power factor	0.96	0.98	-	120Vac, 50-60Hz,80%-100%Load
	0.92	0.94	-	240Vac, 50-60Hz,80%-100%Load
	0.88	0.9	-	277Vac, 50-60Hz,80%-100%Load
THD	-	10%	15%	100-240Vac,50-60Hz,80%-100%Load
	-	-	20%	277Vac, 50-60Hz,80%-100%Load
Standby power consumption(mW)	-	-	500	240Vac/50Hz,the standby power supply is not loaded and the dimming wires short circuit

Output Characteristics

Parameters	Min	Typ.	Max	Notes
Output current tolerance	-5%	-	5%	
Output current adjustable range（A）	10% Imax	-	100%Imax	
Output current Max（A）	-	-	2.4	Imax(programmable Io) : 2.4A Iset-typ (default Io) : 2.2A
Total output current ripple(pk-pk) (%)	-	3	5	20MHz BW & full LED Load, the ripple is slightly different In different LED Load situations
Startup overshoot current	-	-	10%	120~277Vac & full load, LED load
Output Current Ripple at ＜200Hz (pk-pk)	-	2%	-	200Hz BW, full load& LED load, only this component of ripple is associated with visible flicker.
No load output voltage（V）	-	-	280	
Line regulation	-3%	-	3%	25℃±10℃ ambient tempo, adjust input voltage from 100V to 277V
Load regulation	-3%	-	3%	25℃±10℃ ambient tempo, adjust load from 60%to100%.
Standby power supply Vo(V)	-	12	-	
Standby power supply load regulation (%)	-5	-	5	
Standby power supply Io (mA)		200	300	
Turn_on delay time(s)	-	-	2	120Vac, 100% load
	-	-	0.5	240Vac, 100% load

Protection functions

Items	Notes
Over temperature	Compliant with requirements of the double 85 standard, the output power will be reduced, Automatically recover after the over-temperature is removed.
Output Short circuit	The output will be in Hiccup or Constant current mode , recovers automatically after fault condition is removed
Over output voltage	Run into protection model when output voltage exceeds limit , recovers automatically after fault condition is removed.

General Characteristics

Parameters		Min	Typ.	Max	Notes
efficiency@120Vac V_O=268V I_O=1.8A		90%	92%	-	Tested at 100%load, 25℃ambient temperature.
efficiency @240Vac V_O=268V I_O=1.8A		92%	93.5%	-	Tested at 100%load, 25℃ambient temperature.
efficiency @277Vac V_O=268V I_O=1.8A		92%	94%	-	Tested at 100%load,25℃ambient temperature.
Withstanding voltage	Input-output	-	3750Vac	-	60s,within 10mA
	Input-ground	-	1600Vac	-	
	Output-ground	-	1600Vac	-	
Grounding resistance (Ω)		-	-	0.1	25A/60s, under 25℃±10℃ambient temperature
Insulation resistance(MΩ)		10	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60s, 25℃±10℃&70%RH
MTBF(Hr)		-	200000	-	25℃±10℃ ambient temperature, 240Vac, 80% load (SR-232)
Lifetime(Hr)		-	50000	-	240Vac&100% load, 75℃ case temperature, refer to lifetime curve for details
Operating ambient temperature		-40℃		+45℃	120-200Vac &100% load
		-40℃		+55℃	200-277Vac &100% load
Operating Case Temperature for Safety Tc_s		-40℃	-	+90℃	
Operating Case Temperature for Warranty Tc_s		-40℃	-	+75℃	7 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature		-40℃	-	+85℃	Humidity: 5% to 100% RH
Output short circuit		-	-	<10W	Hiccup or Constant current mode, recovers automatically after fault condition is removed.
Over temperature		90℃	95℃	100℃	Case temperature, Decreases output current, returning to normal after over temperature is removed.
Dimensions (L*W*H)mm		L276*W125*H39.5mm;			
Net Weight		2600±100g/PCS			
Package		L495xW390xH170mm; 6PCS/Carton			

Dimming

Parameters	Min	Typ.	Max	Notes
0~10V Maximum Voltage on the Vdim (+) Pin (V)	9.7	10	10.5	
0~10V Source Current on Vdim(+)Pin (mA)	-	0.2	0.4	
Dimming Output Range	10%	-	100% I_{max}	I_{max}=2.4A
Recommended Dimming Range for 0-10V	0	-	10	Default 0-10V/ PWM
PWM_in High Level(V)	9.7	-	10.3	
PWM_in Low Level(V)	0	-	0.3	
PWM_in Frequency Range	300Hz		2KHz	
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	
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	

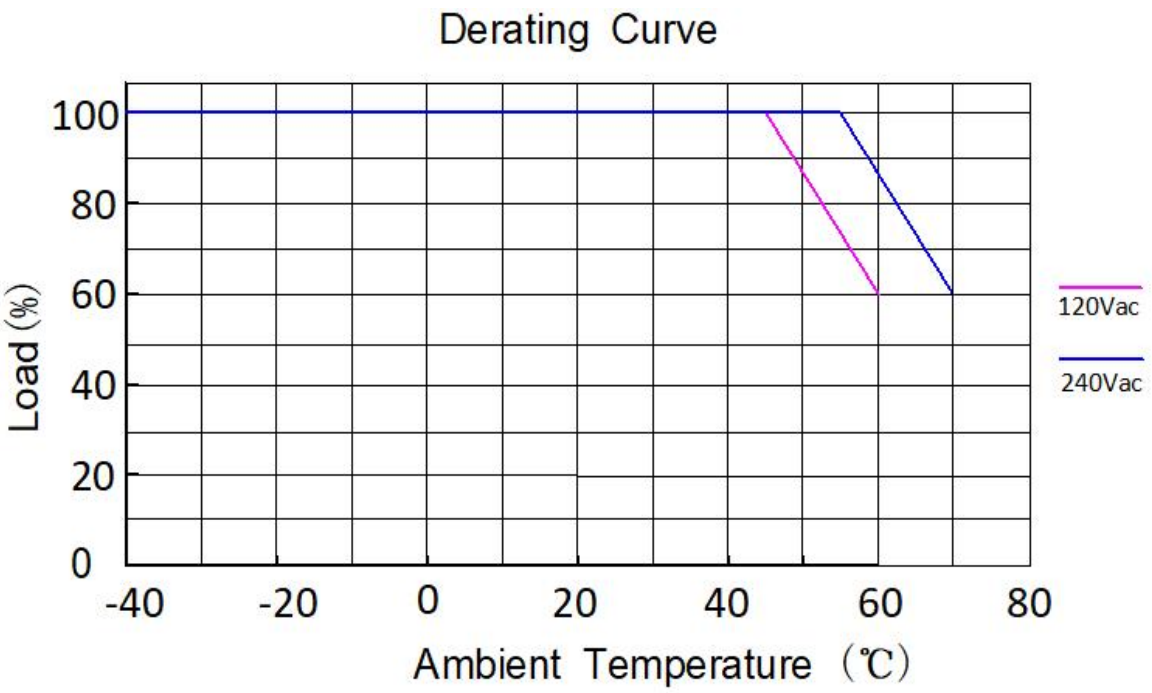
EMC Compliance

EMC Category	Country / Territory	Standards	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	
KC	South Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

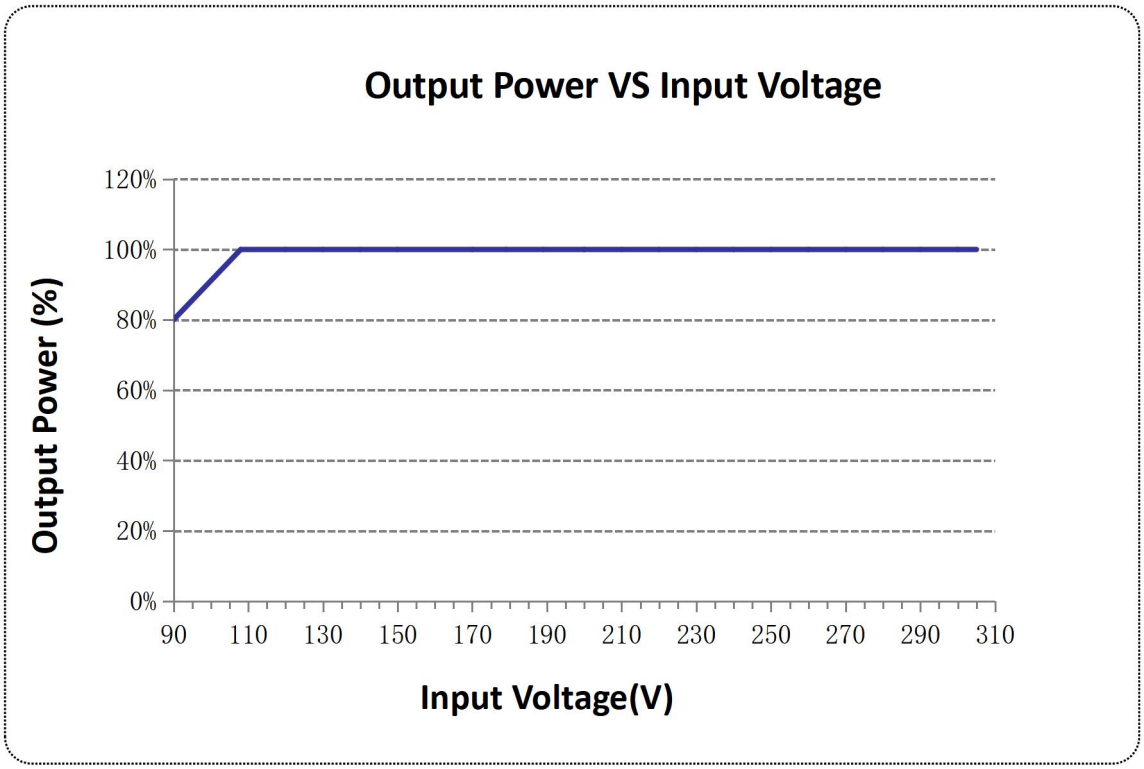
NOTE:

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.

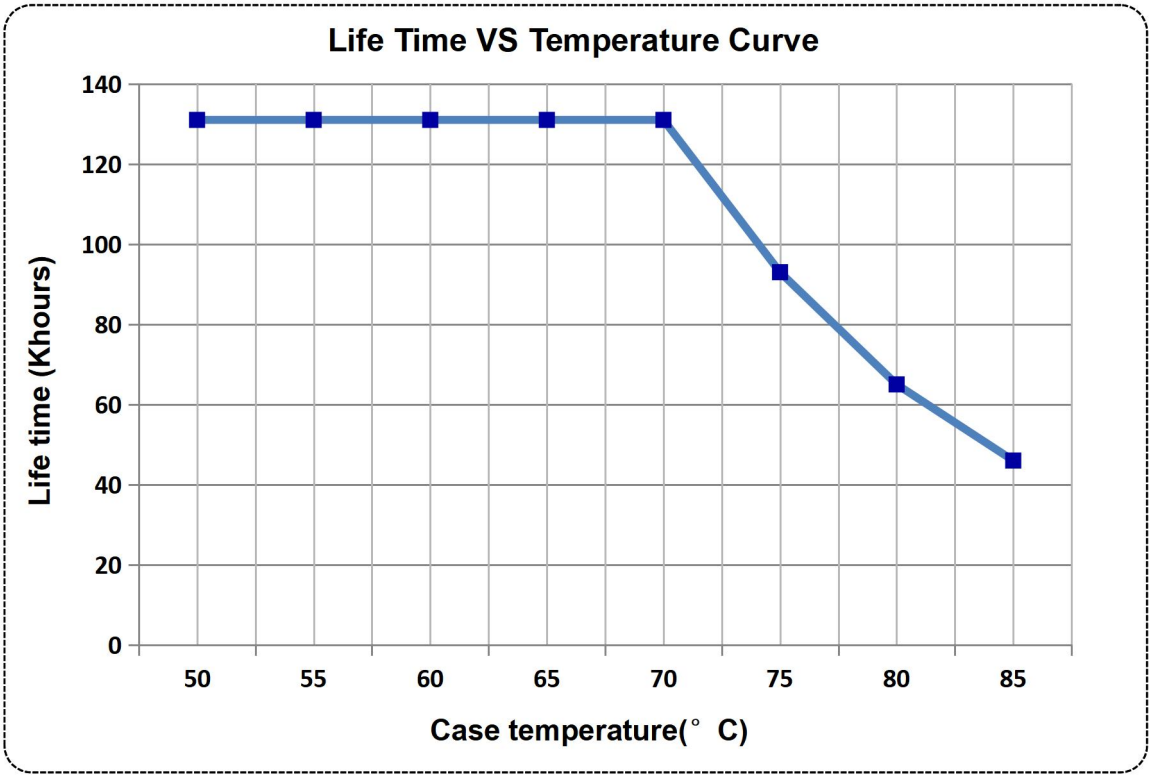
Derating curve



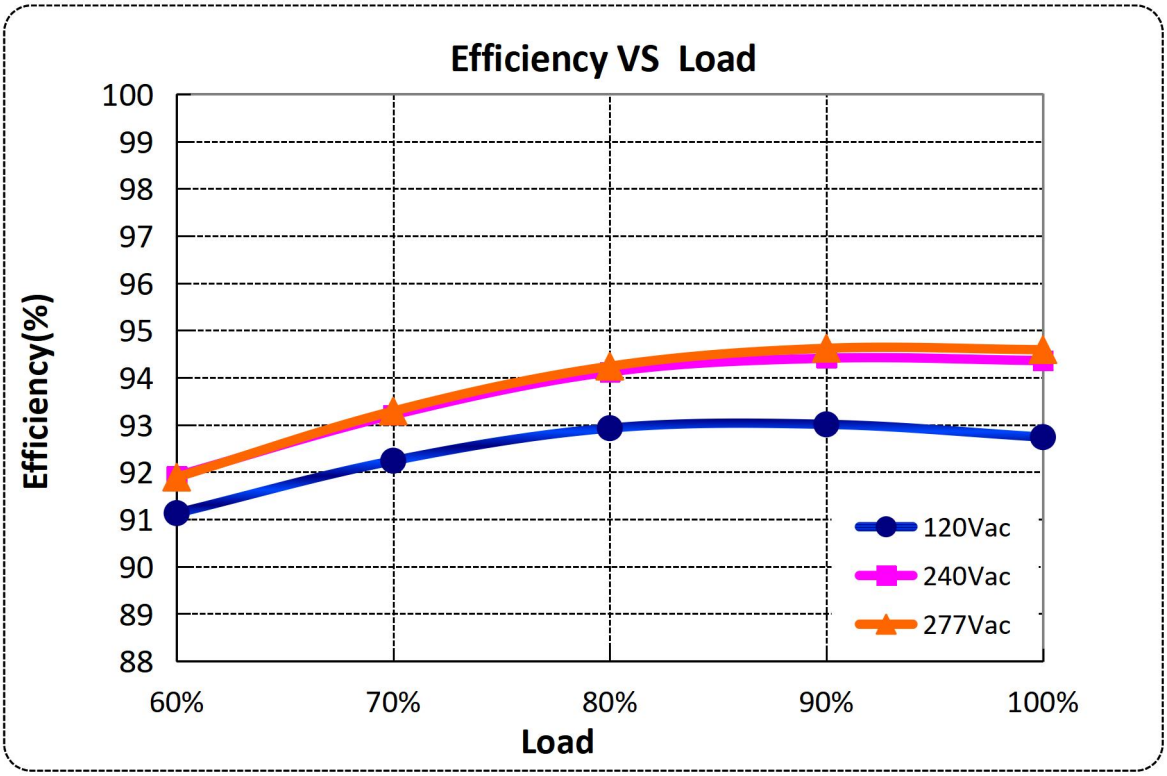
Output power VS Input voltage



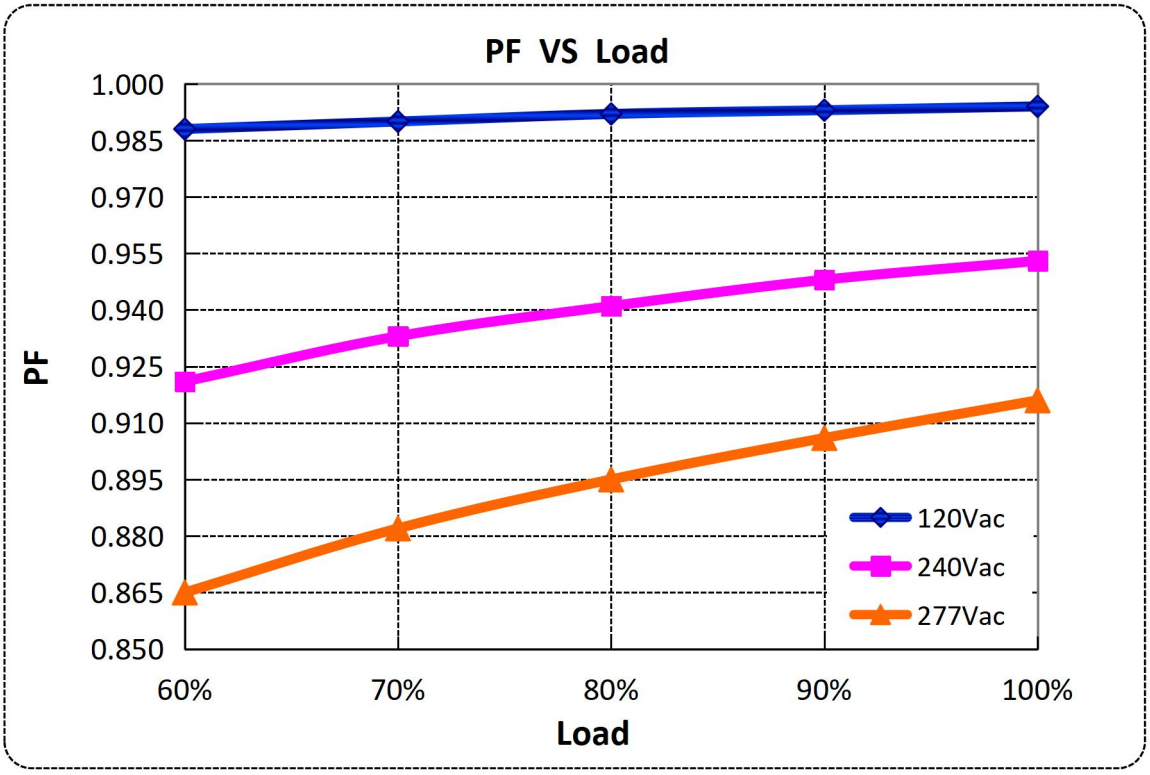
Lifetime VS Temperature of case



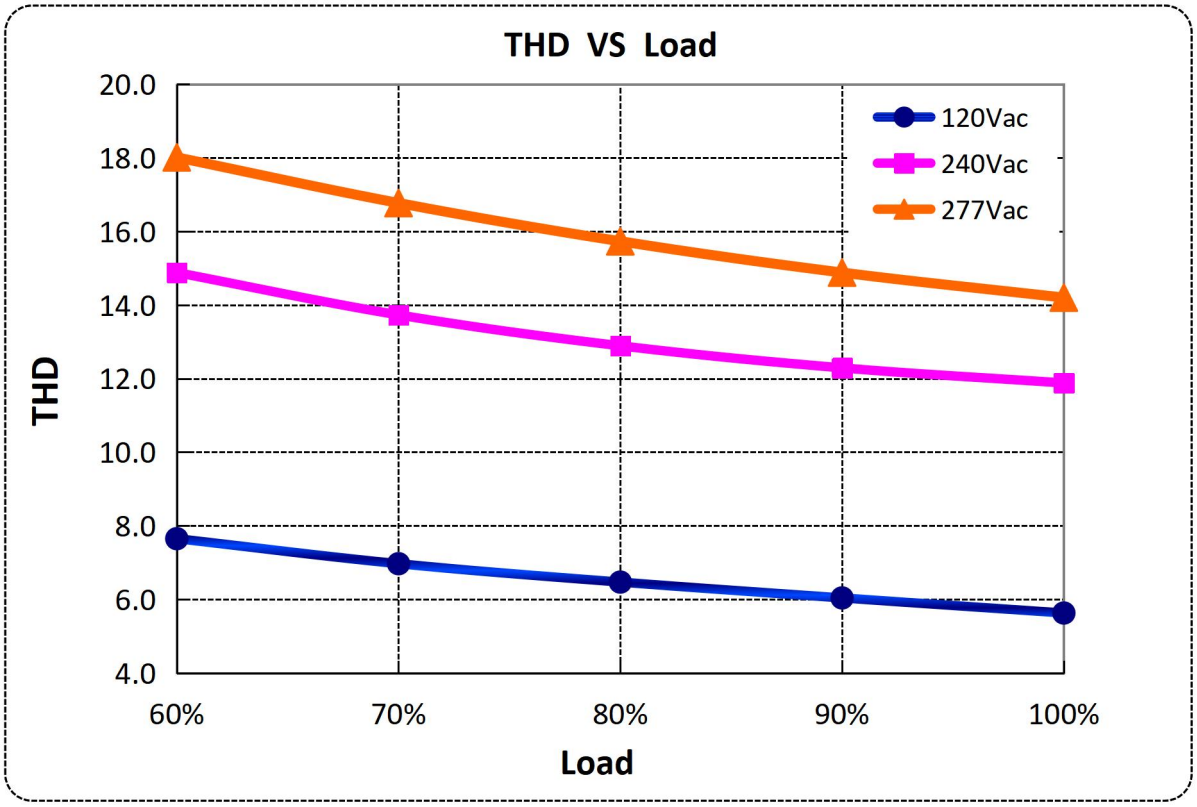
Efficiency VS Load Curve



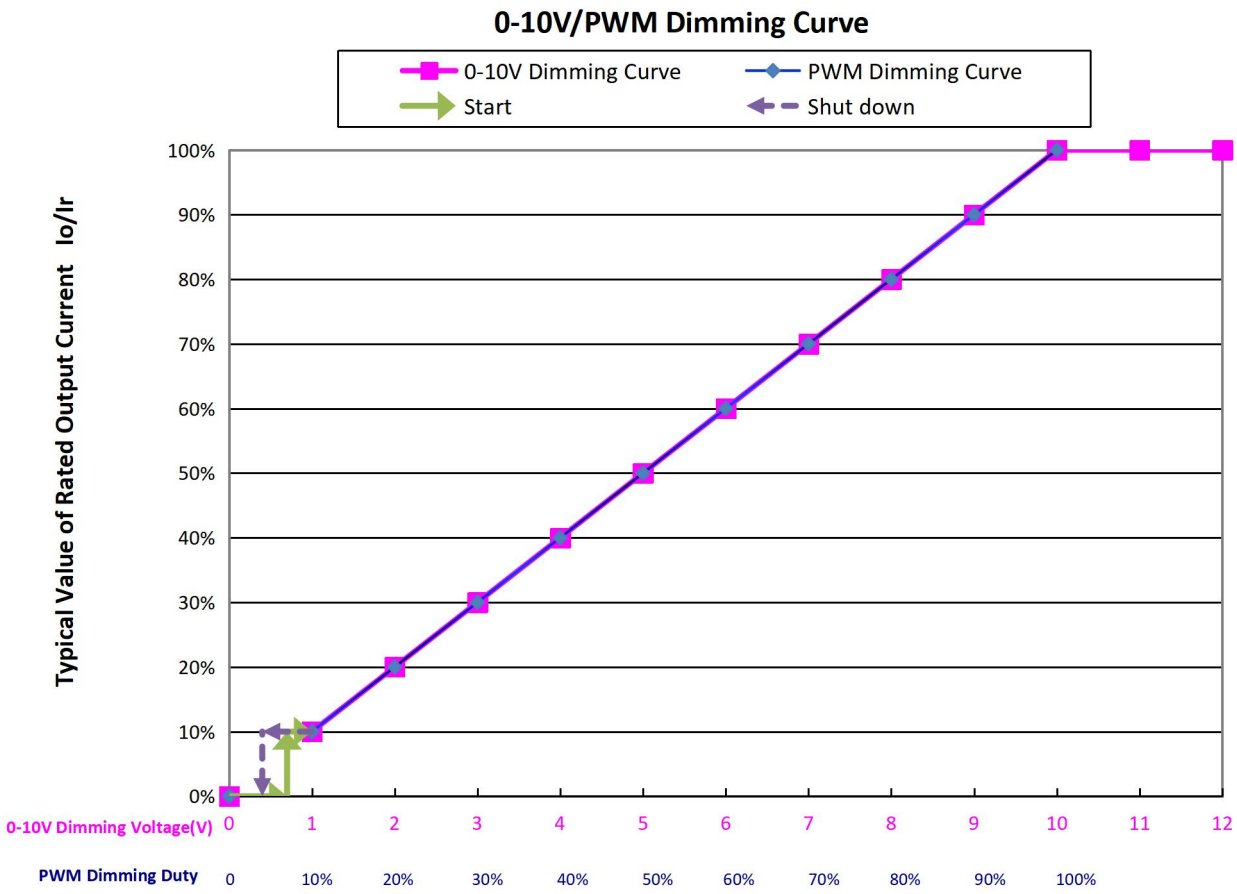
Power Factor VS Load Curve



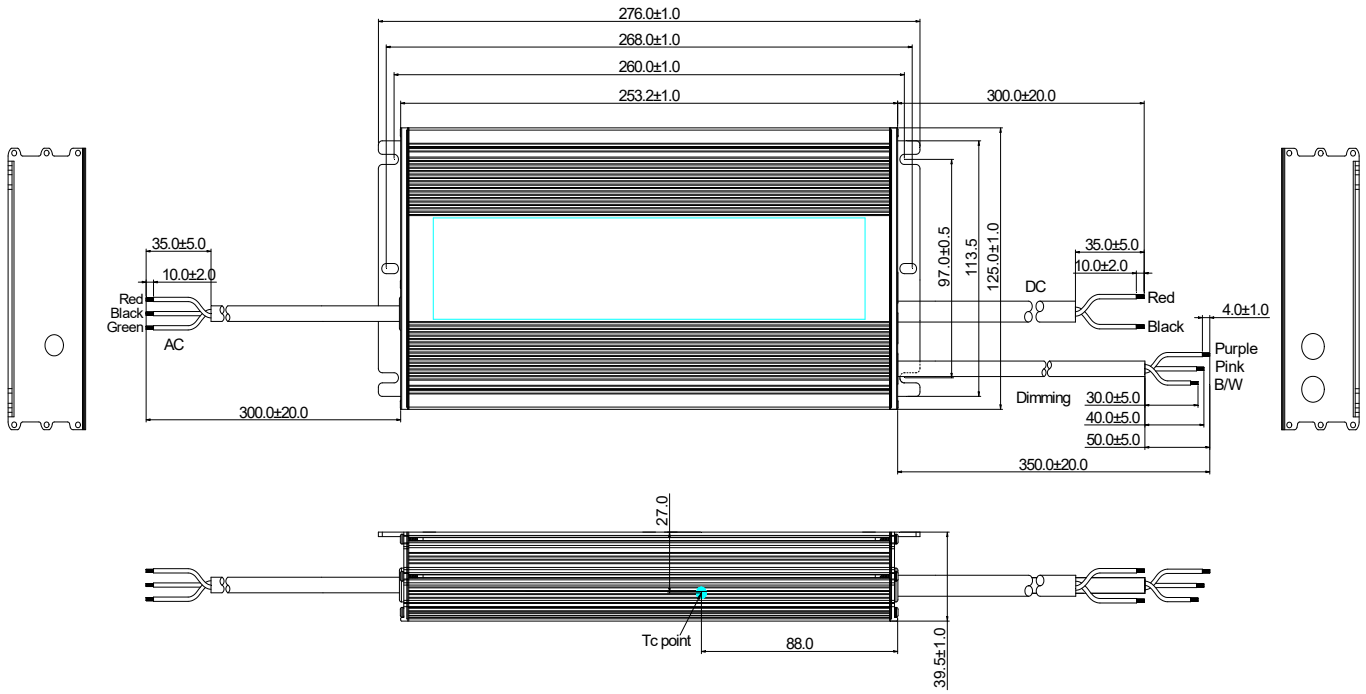
Total Harmonic Distortion



0-10V/PWM Dimming Curve

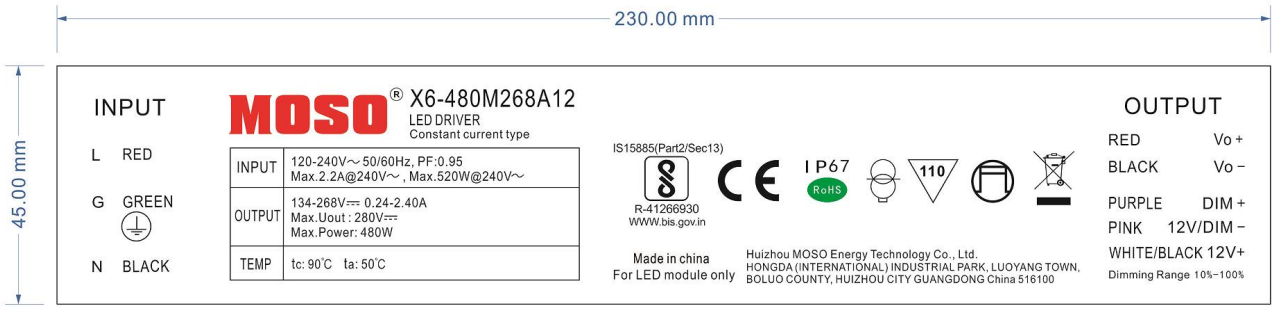


MECHANICAL OUTLINE



Wire	Specification	Note
Input	BIS-9968 3x1.0mm² L=300±20mm	BIS
Output	BIS-9968 2x1.5mm² L=300±20mm	BIS
Dimming	UL 21996 22AWG *3C L=350±20mm	Y=M

Lable:



Revision History

version.	Description of change		Changed Date	Notes
	Before	Now		
A.1	—	First release	2023-10-30	
B.2		ECL202407004	2024-07-03	Song ma
C.2		ECL202409009	2024-09-09	Hai yang chen

Specification for approval

Product name: 480W Off-line Programmable Driver

Product Model: X6-480M268A12

Rev: C.2

Sample Date: __

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

Prepared by	Checked by	Approved by

Product Specification

Product name: 480W Off-line Programmable Driver

Product Model: X6-480M268A12

Rev: C.2

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