



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;
- (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;
- 7 years warranty.

Application:

- Suitable for LED roadway lighting, plant lighting, industrial lighting, landscape lighting, etc.

Description

The X6-600W series is 600W 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 95%. Compliant with ERP2.0 standard, the maximum standby power consumption of remote shutdown is $\leq 500\text{mW}$. This series of products is specially designed for high-power LED lighting such as plant 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 CO₂ 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
X6-600Y428A12	600	240-428	342-428	1.4-1.75	1.4	94.5%	0.96

Notes:

[1]. Y can be M or V. Y=M means dimmable and offline programmable, The adjustable lout range: 10%-100% I_{max};

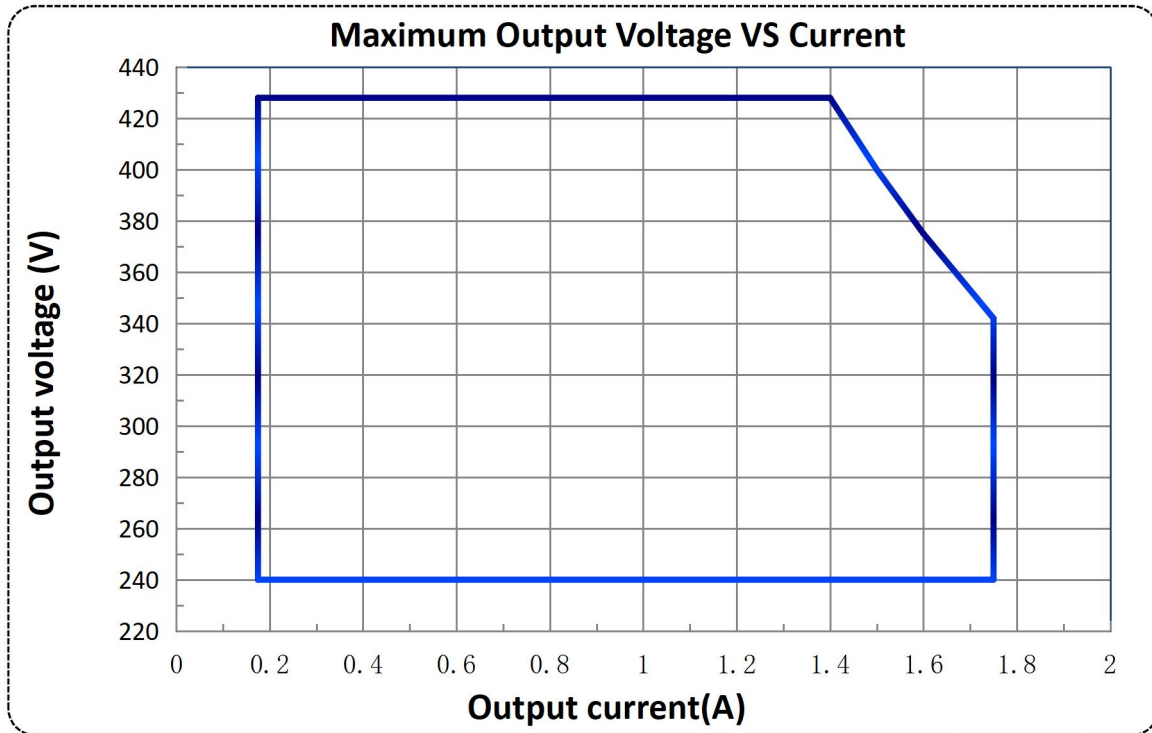
Y=V means non-dimmable and output current adjusted by built-in potentiometer.

A12 means the driver with 12V/300mA auxiliary power supply.

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

[3]. All specifications are measured at 25°C ambient temperature, input voltage 230Vac, 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	120/230	277	
Input Brown_ in(Vac)	80	-	89	
Input Brown_ out (Vac)	70	-	79	
Leakage current(mA)	-	-	0.75	277Vac/60Hz
Input current Max (A)	-	-	7.5	100Vac, 100%Load
Inrush current (A)	-	-	70	230Vac, 100%Load, Cold start
Power factor	0.95	0.98	-	120Vac, 50-60Hz,70%-100%Load
	0.93	0.96	-	230Vac, 50-60Hz,70%-100%Load
	0.90	0.93	-	277Vac, 50-60Hz,70%-100%Load
THD	-	10%	15%	100~240Vac,50-60Hz,70%-100%Load
	-	-	20%	277Vac, 50-60Hz,70%-100%Load
Standby power consumption(mW)	-	-	500	230Vac/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% I _{max}	-	100% I _{max}	
Output current Max (A)	-	-	1.75	I _{max} (programmable I _o) : 1.75A I _{set-typ} (default I _o) : 1.4A
Total output current ripple(pk-pk) (%)	-	3	5	20MHz BW & full LED Load, the ripple is slightly different under different LED Load situations
Startup overshoot current	-	-	10%	100~277Vac & full load, LED load
No load output voltage (V)	-	-	450	
Line regulation	-3%	-	3%	25°C±10°C ambient tempo, adjust input voltage from 100Vac to 277Vac
Load regulation	-3%	-	3%	25°C±10°C ambient tempo, adjust load from 60% to 100%.
Standby power supply V _o (V)	11.4	12	12.6	
Standby power supply load regulation(%)	-5	-	5	
Standby power supply I _o (mA)		200	300	
Turn_on delay time(S)	-	-	2	120Vac, 100% load
	-	-	0.5	230Vac, 100% load

Protection functions

Items	Notes
Over temperature	The output power will be reduced when the temperature goes up, automatically recover after the over-temperature is removed.
Output Short circuit	The output will be in Hiccup or locked working 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 =342V I _o =1.75A	90%	93%	-	Tested at 100% load, 25°C ambient temperature.
efficiency@230Vac V _o =342V I _o =1.75A	92%	94.5%	-	Tested at 100% load, 25°C ambient temperature.
efficiency@277Vac V _o =342V	92.5%	95%	-	Tested at 100% load, 25°C ambient temperature.

I _o =1.75A					
Withstanding voltage	Input-output	-	3750Vac	-	60S,within 10mA
	Input-ground	-	1600Vac	-	
	Output-ground	-	1600Vac	-	
Groundingresistance (Ω)		-	-	0.1	25A/60S, under 25°C±10°C ambient temperature
Insulation resistance(MΩ)		50	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S,25°C±10°C&70%RH
MTBF(Hr)		-	200000	-	25°C±10°C ambient temperature, 230Vac,80% load (SR-232)
Lifetime(Hr)		-	70000	-	230Vac&100% load, 75°C case temperature, refer to lifetime curve for details
Operating ambient temperatuer		-40°C	-	+45°C	120~200Vac&100% load
		-40°C	-	+55°C	200~277Vac&100% load
Operating Case Temperature for Safety Tc_s		-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_s		-40°C	-	+75°C	7 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature		-40°C	-	+85°C	Humidity: 5% to 100% RH
Output short circuit		-	-	<10W	Hiccup mode, recovers automatically after fault condition is removed.
Over temperature		90°C	95°C	100°C	Case temperature,Decreases output current, returning to normal after over temperature is removed.
Dimensions (L*W*H)mm		L276*W144*H47.5mm;			
Net Weight		3700±100g/PCS			
Package		L465xW400xH210mm; 5PCS/Carton			

Dimming

Parameters	Min	Typ.	Max	Notes
0~10VMaximum Voltageon the Vdim (+) Pin(V)	9.7	10	10.3	
0~10V Source Current on Vdim(+)Pin(mA)	0	0.2	0.4	
DimmingOutputRange	10% I _{max}	-	100% I _{max}	I _{max} =1.75A
Recommended DimmingRange 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%	-	100%	

Safety Standards

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	√
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
		EN62384	√
ENEC			
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	

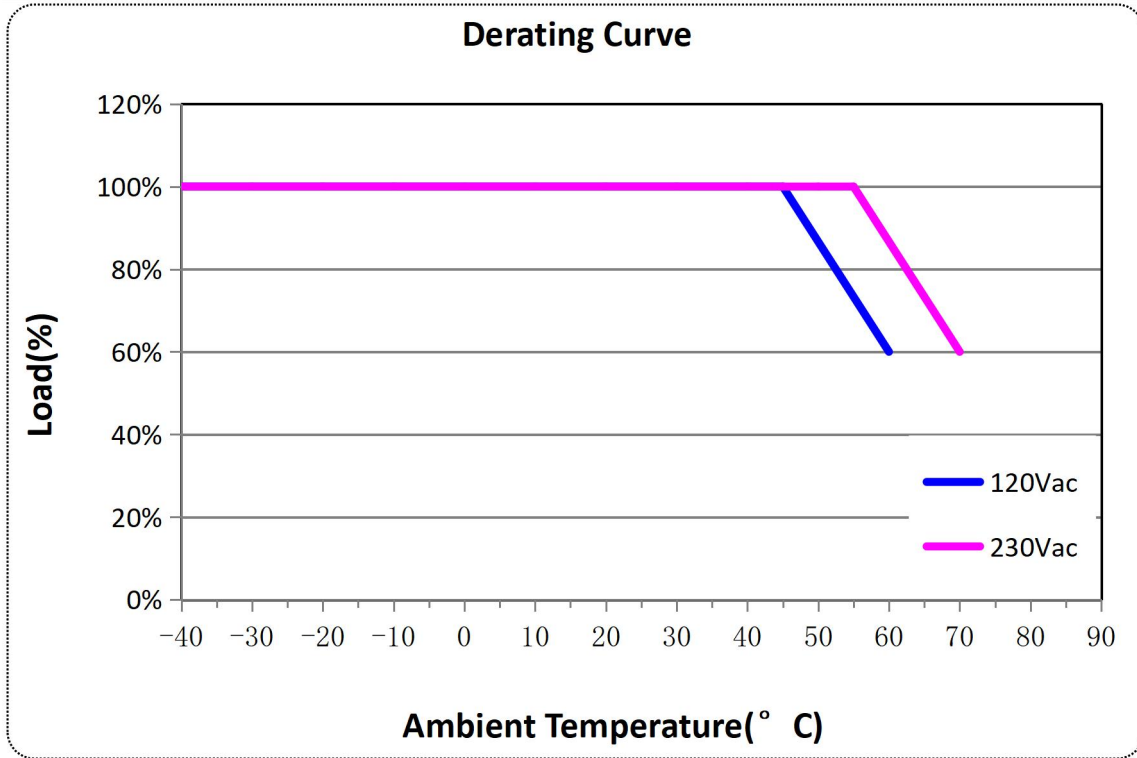
EMC Compliance

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	

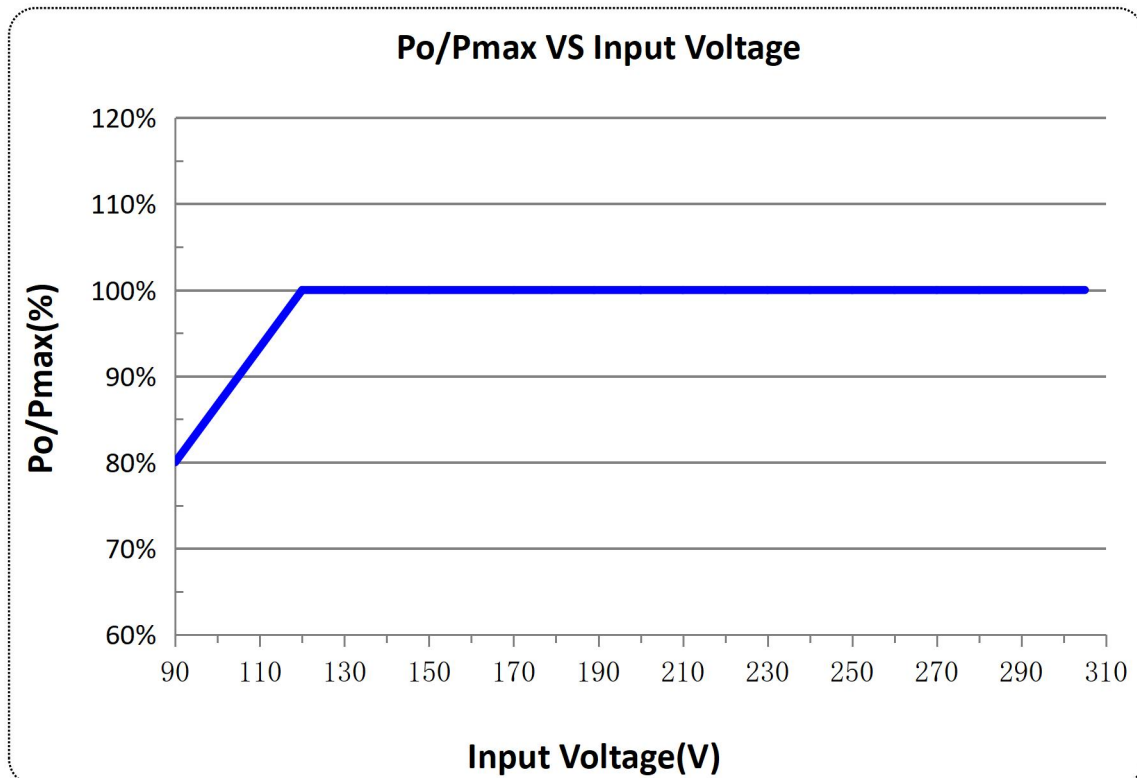
NOTE:

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.

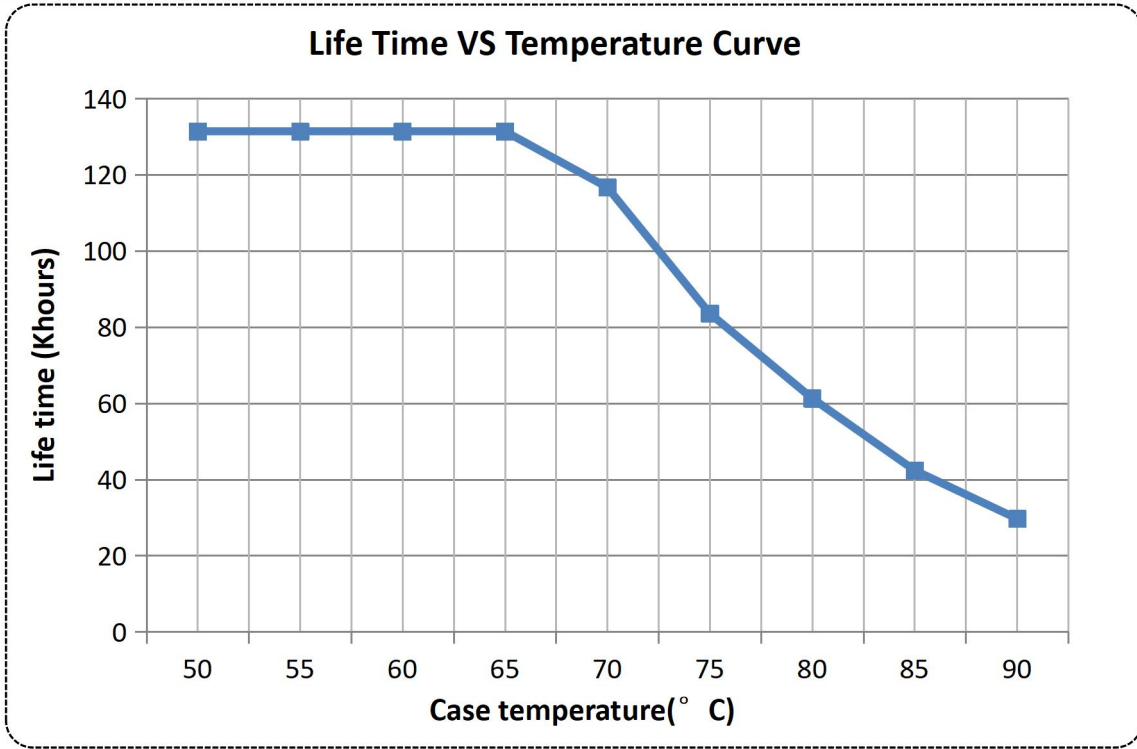
Derating Curve



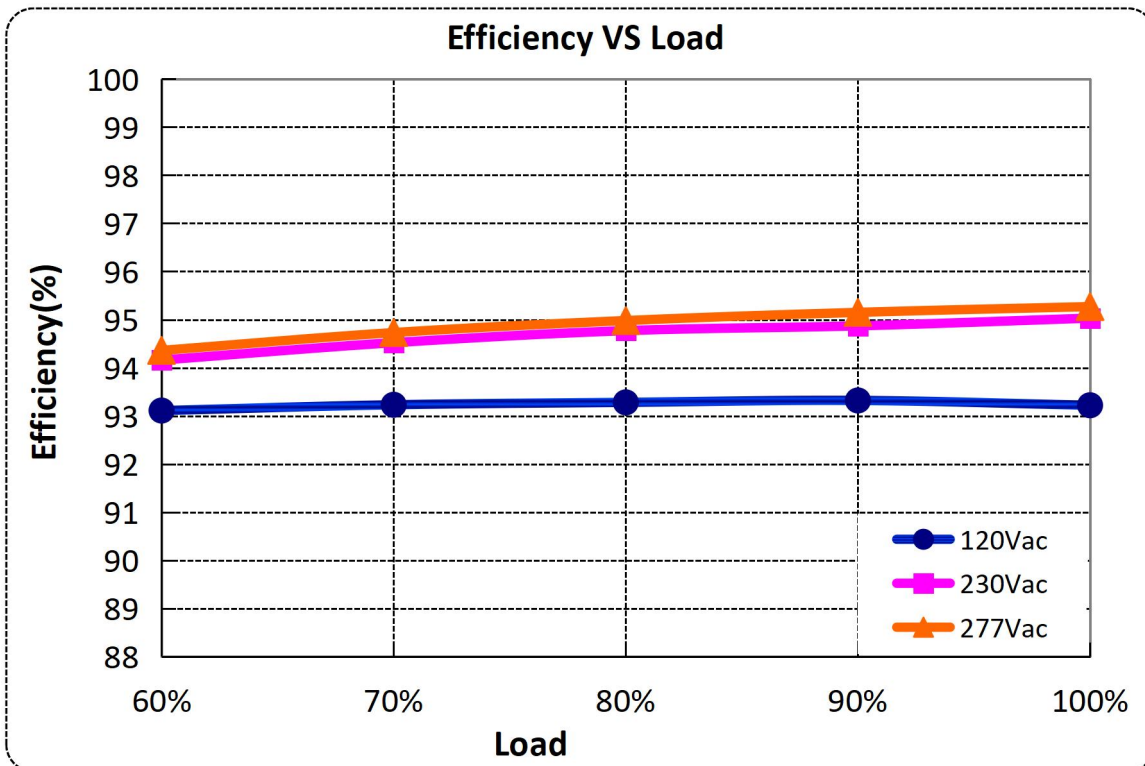
Output Power VS Input Voltage



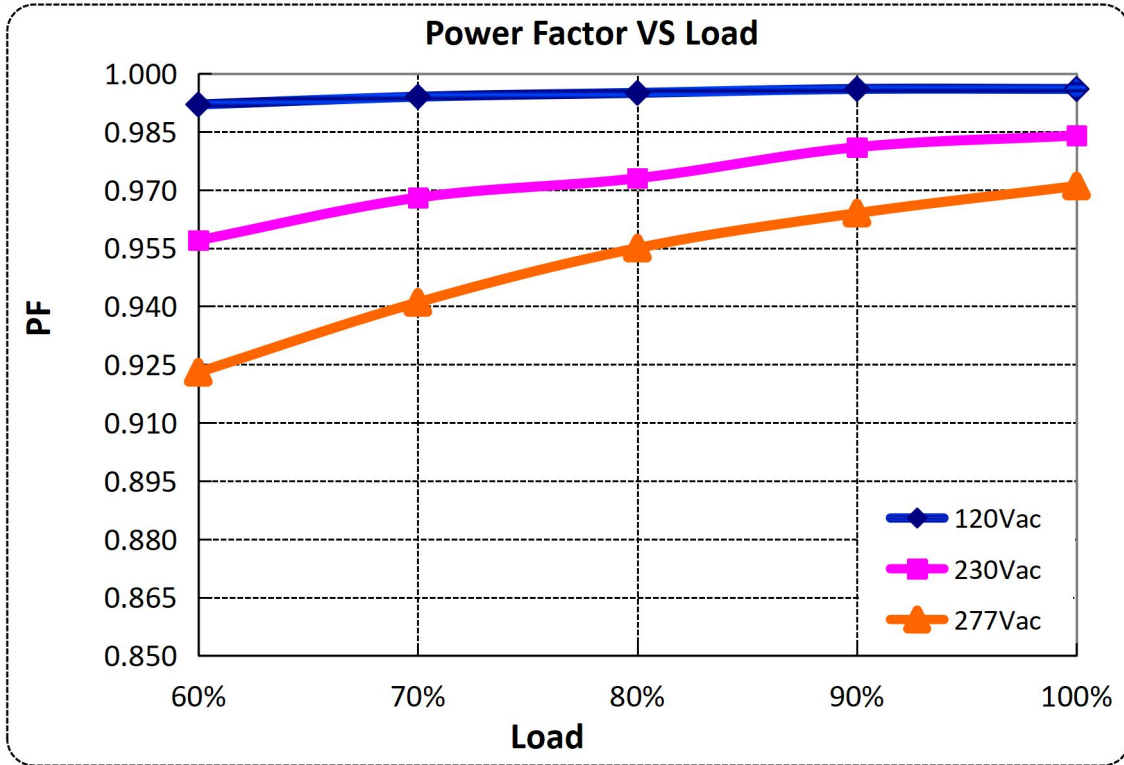
Lifetime VS Temperature of case



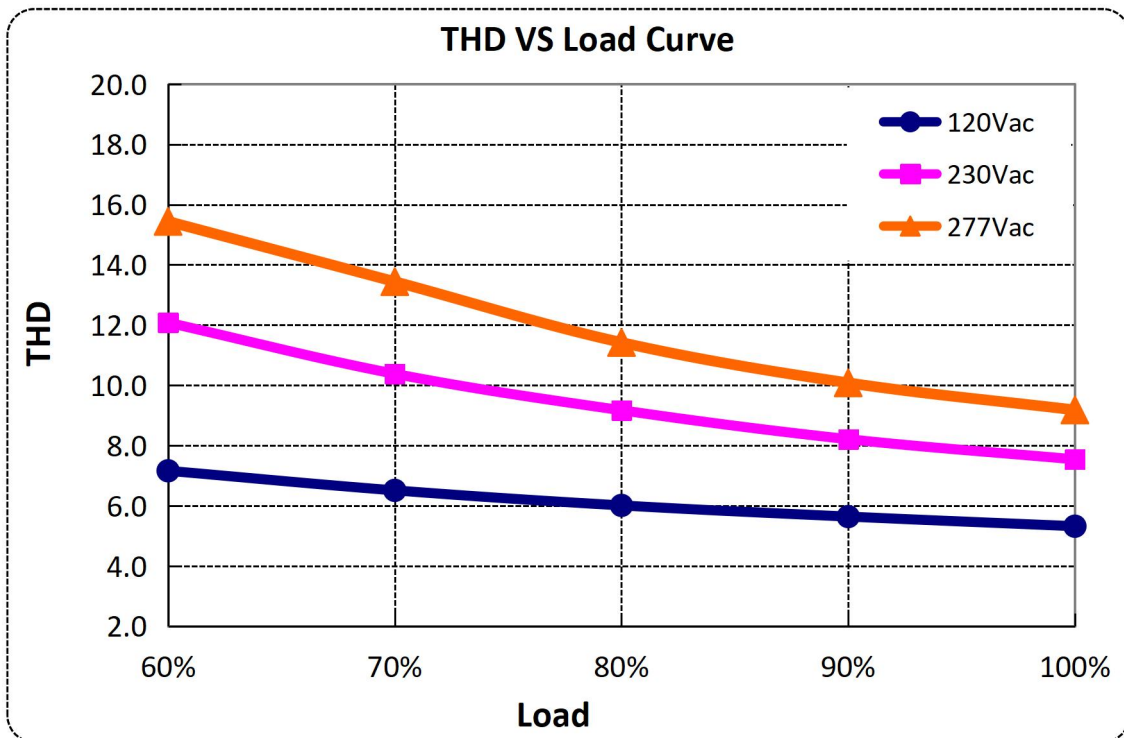
Efficiency VS Load Curve



Power Factor VS Load Curve

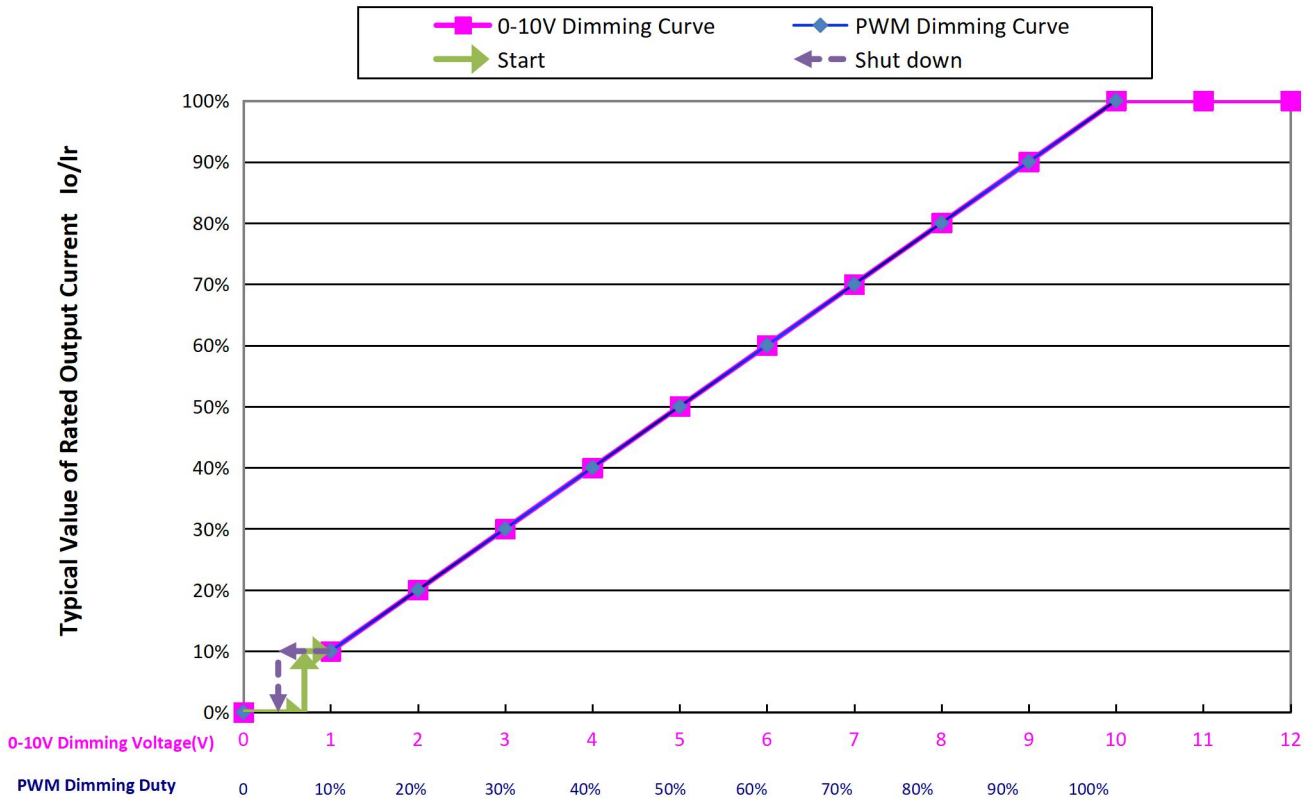


Total Harmonic Distortion

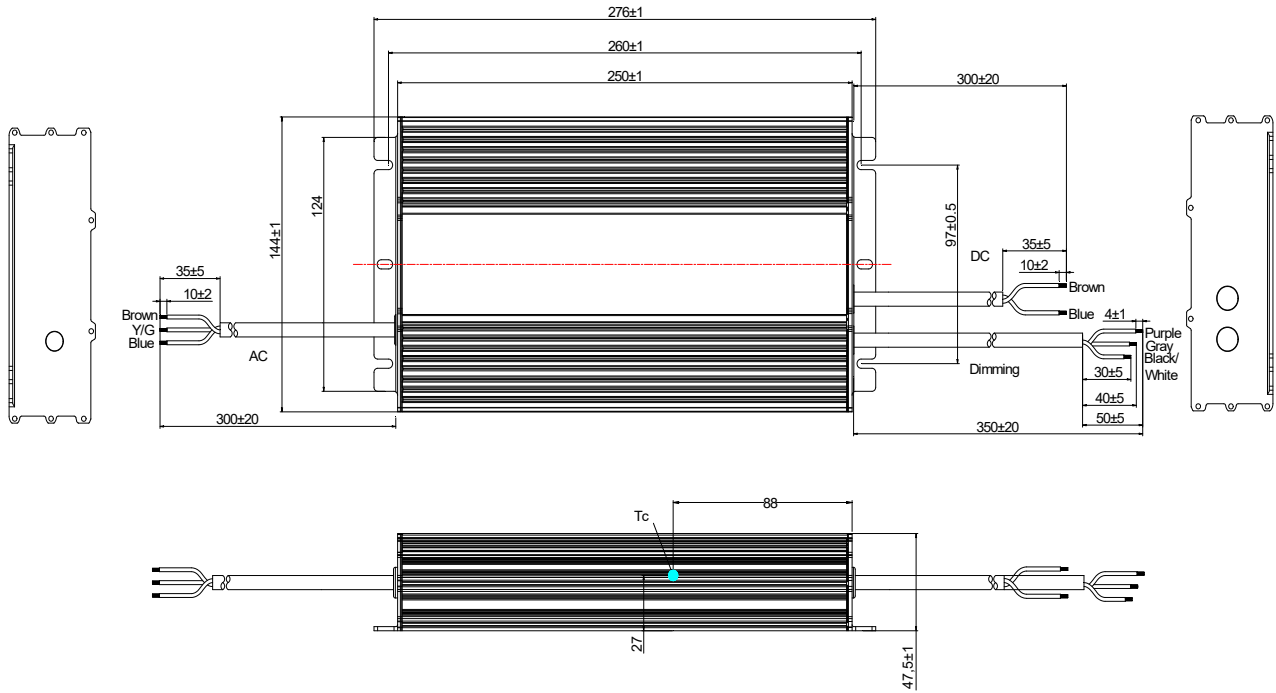


0-10V/PWM Dimming Curve

0-10V/PWM Dimming Curve



MECHANICAL OUTLINE



Cable	Specification	Note
Input	SJOW 17AWG*3C external diameter: 8.2mm L=300±20mm	CCC+CE+UL
Output	SJOW 17AWG*2C external diameter: 7.7mm L=300±20mm	CCC+CE+UL
Diming	UL21996 22AWG*3C external diameter: 5.0mm L=350±20mm	

Label

45.00 mm

230.00 mm

INPUT L (BROWN 棕) G (Y/G 黄/绿) N (BLUE 蓝)	MOSO® X6-600M428A12 LED DRIVER LED 控制装置(恒流型)		OUTPUT (BROWN 棕) Vo+ (BLUE 蓝) Vo- (PURPLE 紫) DIM+ (PINK 粉) 12V/DIM- (BLACK/WHITE 黑白) 12V+
INPUT (输入) 100-240V~ 50/60Hz, 7.5A Max. PF:0.95, 700W 277V~ 50/60Hz, 2.8A Max (277V~ for North America only)	OUTPUT (输出) 240-428V~ 0.175-1.750A Max. Uout(最大电压): 450V~ Max. Power(最大功率): 600W ta: 45℃ Input: 100-200V~ ta: 55℃ Input: 200-240V~, 277V~	MADE IN CHINA For LED module only Suitable for Dry, Damp and Wet locations SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD No. 1061, Songbai Road, Xili Town, Nanshan District, Shenzhen, CHINA	

