BIS

Product Features：

- Universal input voltage / Full range: 110~305Vac;
- Constant power design, Adjustable output current by built-in potentiometer;
- (M type) offline programmable, (V type) output current adjustable by built-in potentiometer;
- 3-in-1 dimmable: 0~10Vdc, PWM, Timer dimming. Dim-to-off;
- (M type)Constant lumen output;
- Output and Dimming Signal Isolating;
- Surge protection: 5KV line-line, 10KV line-earth;
- Protections: 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 X6-200 series is 200W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 110~305Vac. 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 luminaire manufacturers, as one driver can be programmed for many different luminaire designs. X6-200 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 enable the driver to operate with high reliability, and extending product lifetime. Overall protection is provided against lightning surge, input over voltage, input under voltage, 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)	Full Power Current Adjustable Range (A) [2]	Default Output Current Setting(A)	Typical Efficiency [3]	PF
X6-200Y286	200	143-286	191-286	0.7-1.05	0.7	92%	0.97

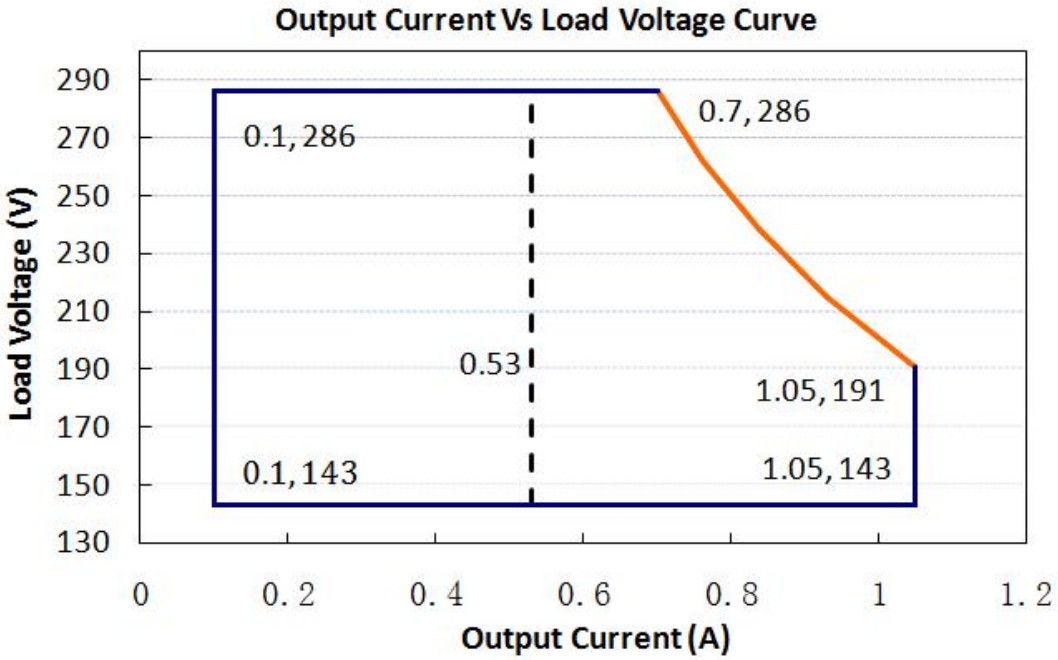
Notes:

[1]. Y can be M or V, Y=M means dimmable and offline programmable. The adjustable Iout range: 10%-100% Imax, Y=V means non-dimmable and output current adjusted by built-in potentiometer.

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

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

OPERATING AREA I-V



Notes：Y=V is suitable for the right area of the dotted line；Y=M is suitable for the solid line contain area.

INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	110Vac	120-277Vac	305Vac	Rated Input Voltage is 240Vac
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.70mA	270Vac/60Hz
Input AC Current	-	-	2.8A	120-270Vac &full load
Inrush Current	-	-	75A	240Vac & full load
Standby Power Consumption			2W	240Vac/50Hz
Power Factor	0.97	0.99	-	120Vac, 50-60Hz,full load
	0.95	0.97		240Vac, 50-60Hz, full load
	0.92	0.95		270Vac, 50-60Hz, full load
THD	-	5%	10%	120-240Vac,50-60Hz, 70%-100% load
	-	-	15%	270Vac, 50-60Hz, 70%-100% load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Iset	-	5%Iset	
Output Current Setting Range	0.53A	-	1.05A	
Output Current Setting Range with Constant Power	0.70A	-	1.05A	
Total Output Current Ripple(pk-pk)	-	5%	10%	20MHz BW, full load& LED load, the ripple would be tiny different under different LED load.
Startup Overshoot Current	-	-	10%	120~270Vac &100% Load, load is LED
No Load Output Voltage	-	-	300Vdc	
Line Regulation	-1%	-	1%	25℃±10℃ ambient temperature, input voltage changes from 100Vac to277Vac.
Load Regulation	-3%	-	3%	25℃±10℃ambient temperature, Input Voltage 240Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	0.5s	2s	120Vac,100% load
	-	-	0.5s	240Vac,100% load

GENERAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Notes
Efficiency @120Vac I_O=0.70A I_O=1.05A		88% 88%	89% 89%		Measured at full load and 25℃ ambient temperature
Efficiency @240Vac I_O=0.70A I_O=1.05A		91% 91%	92% 92%	-	Measured at full load and 25℃ ambient temperature
Efficiency @270Vac I_O=0.70A I_O=1.05A		91% 91%	92% 92%		Measured at full load and 25℃ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	-	Max 5mA/60s
	Input-PE	-	1600Vac	-	
	Output-PE	-	1600Vac	-	
Grounding Resistance		-	-	0.1Ω	25A/60s, under 25℃±10℃ ambient temperature
Insulation Resistance		10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60s /25℃/70%RH
MTBF		-	200000Hrs	-	25℃±10℃ambient temperature, 240Vac,80% load (MIL-HDBK-217F)
Lifetime		-	50000Hrs	-	240Vac&100% load, 85℃ case temperature, refer to lifetime curve for details
Ambient Temperature		-40℃		+60℃	240Vac&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
Dimensions (L*W*H)	L193.6*W68*H39mm			
Net Weight	940±100g/PCS			
Package	L502*W372*H222mm; 15PCS/Ctn, Net weight:15.7Kg			

DIMMING

Parameter		Min.	Typ.	Max.	Notes
0~10V Absolute Maximum Voltage on the Vdim (+) Pin		-	10V	-	
0~10V Source Current on Vdim(+)Pin		-	200uA	400uA	
Dimming Output Range	X6-200M286	10%I_{max}	-	100%I_{max}	I_{max}=1.05A
	X6-200M286	0.11A	-	1.05A	
Recommended Dimming Range for 0-10V		0V	-	10V	Default 0-10V/ PWM Dimming(0-10V,0-9V,0-5V,0-3.3V and Forward and reverse dimming can be customized as request)
PWM_in High Level		9.7V	-	10.3V	
PWM_in Low Level		0V	-	0.3V	
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)	√

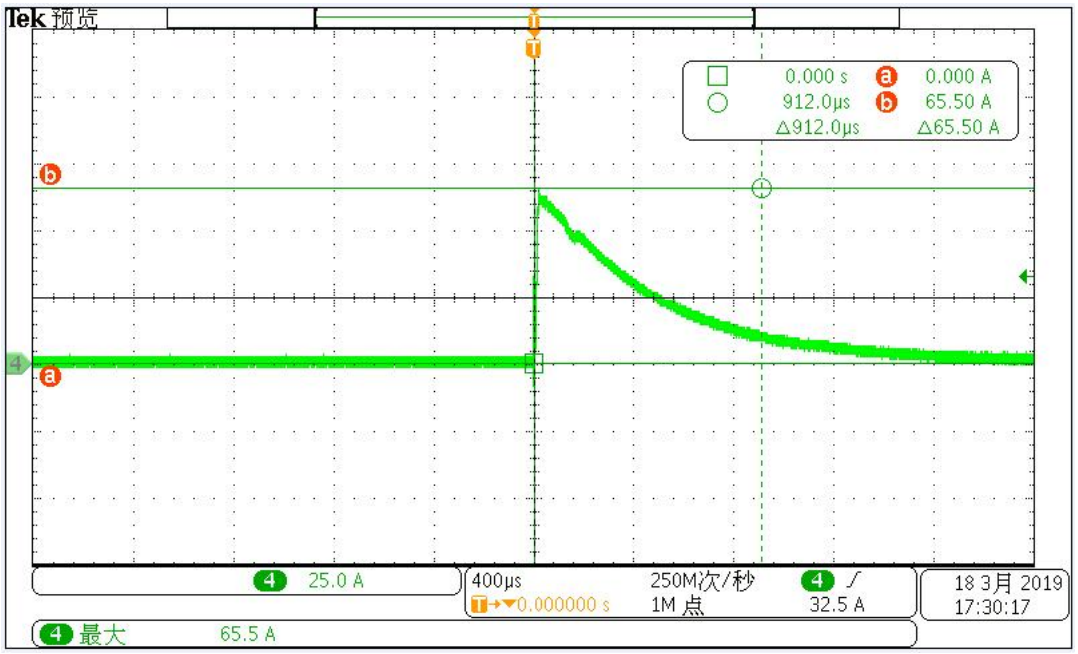
EMC COMPLIANCE

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	

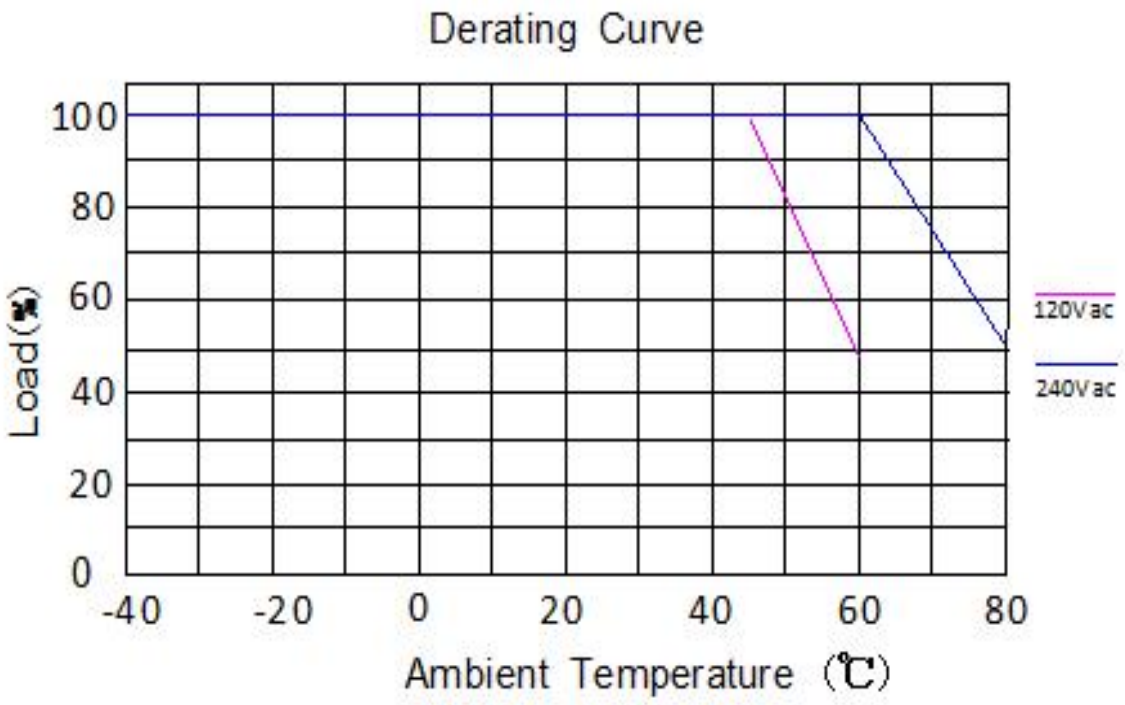
NOTE:

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

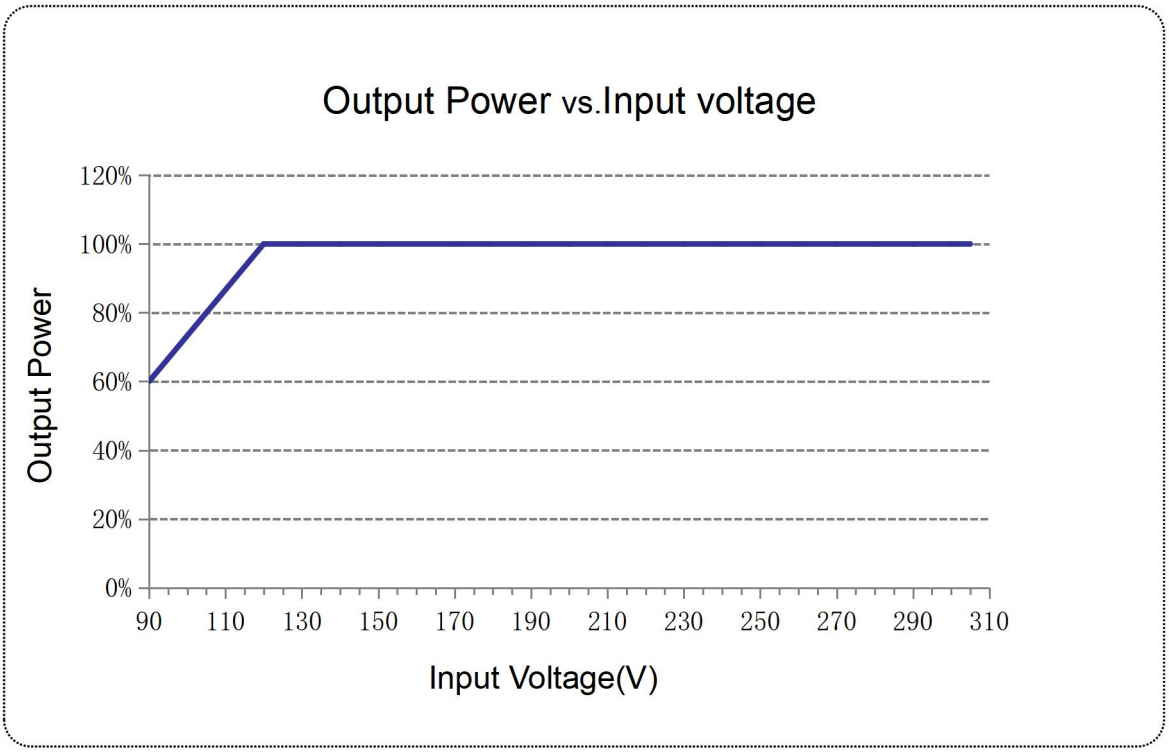
INRUSH CURRENT WAVEFORM



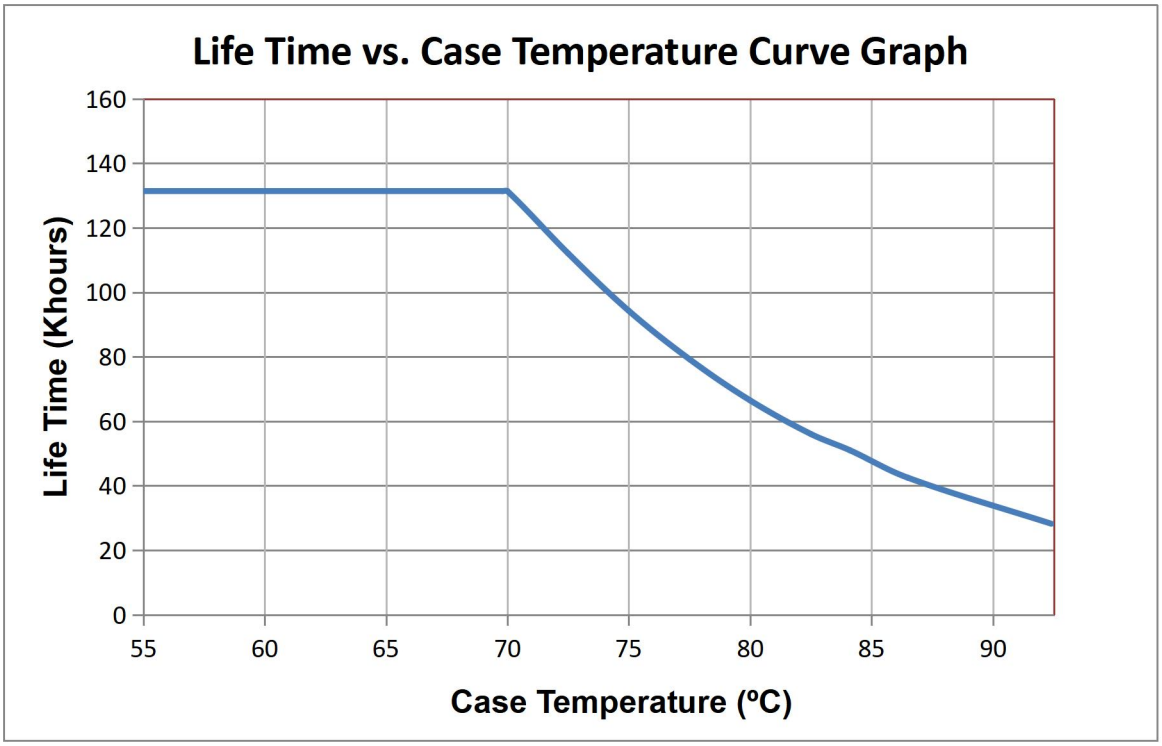
DERATING CURVE



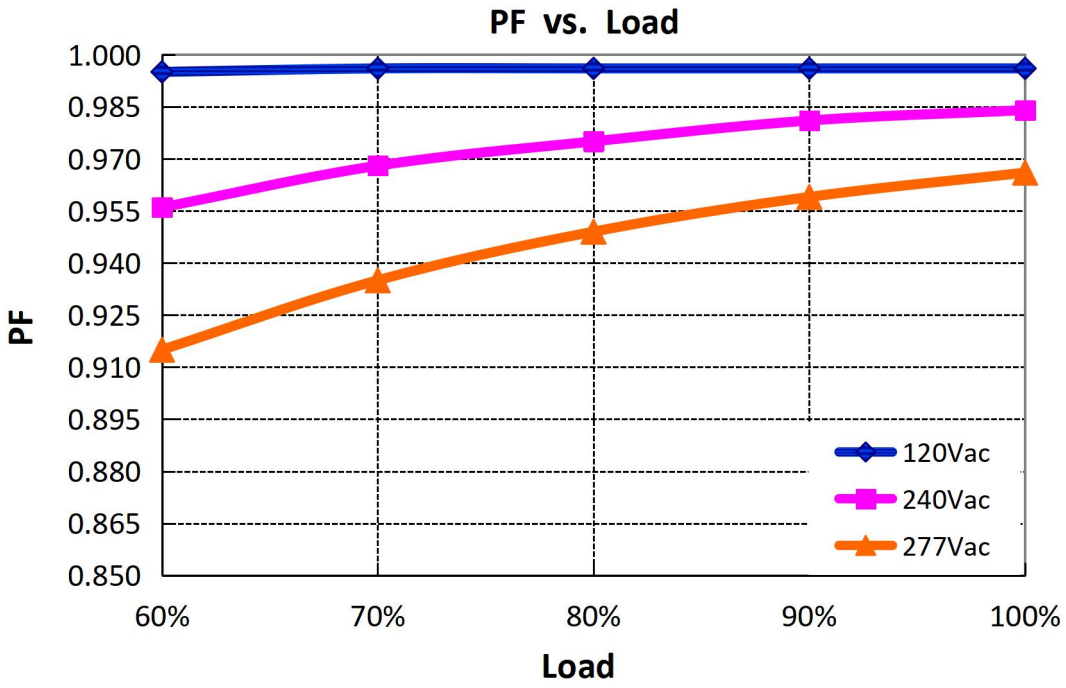
OUTPUT POWER vs. INPUT VOLTAGE



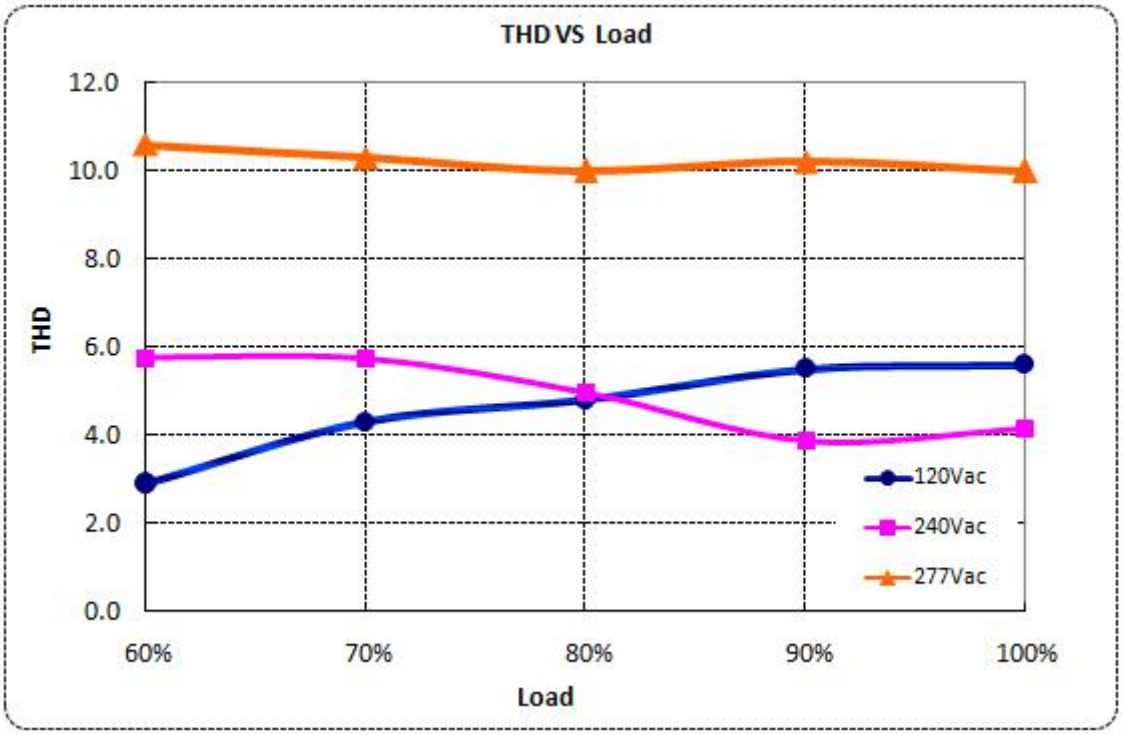
LIFE TIME vs. CASE TEMPERATURE



POWER FACTOR vs. LOAD

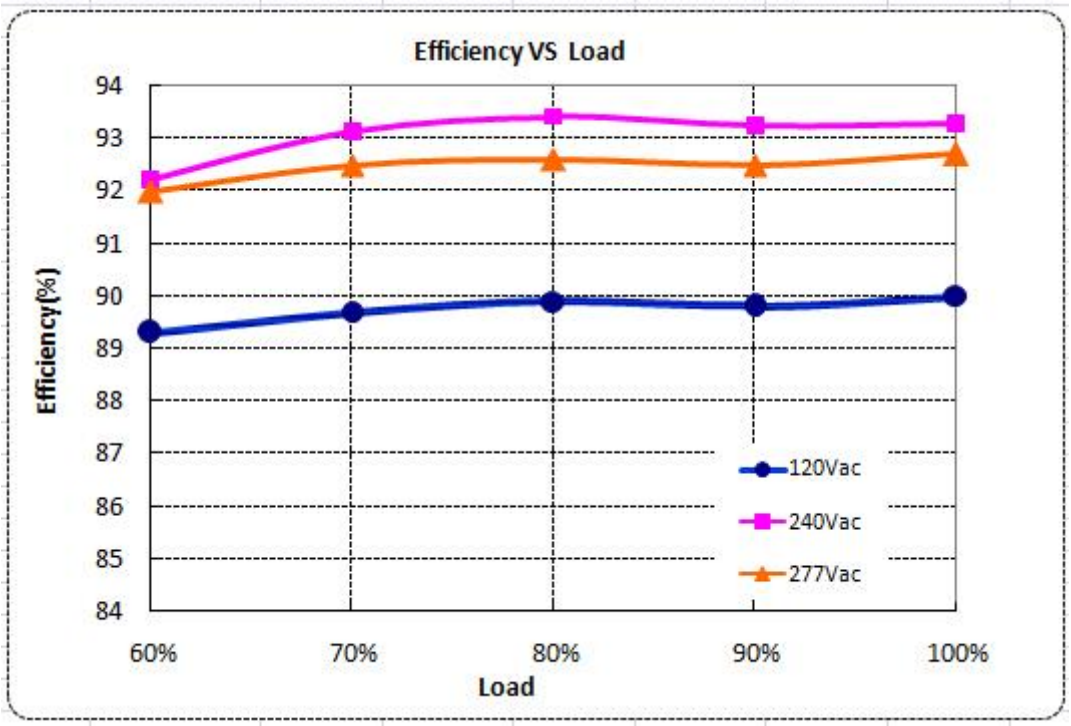


TOTAL HARMONIC DISTORTION

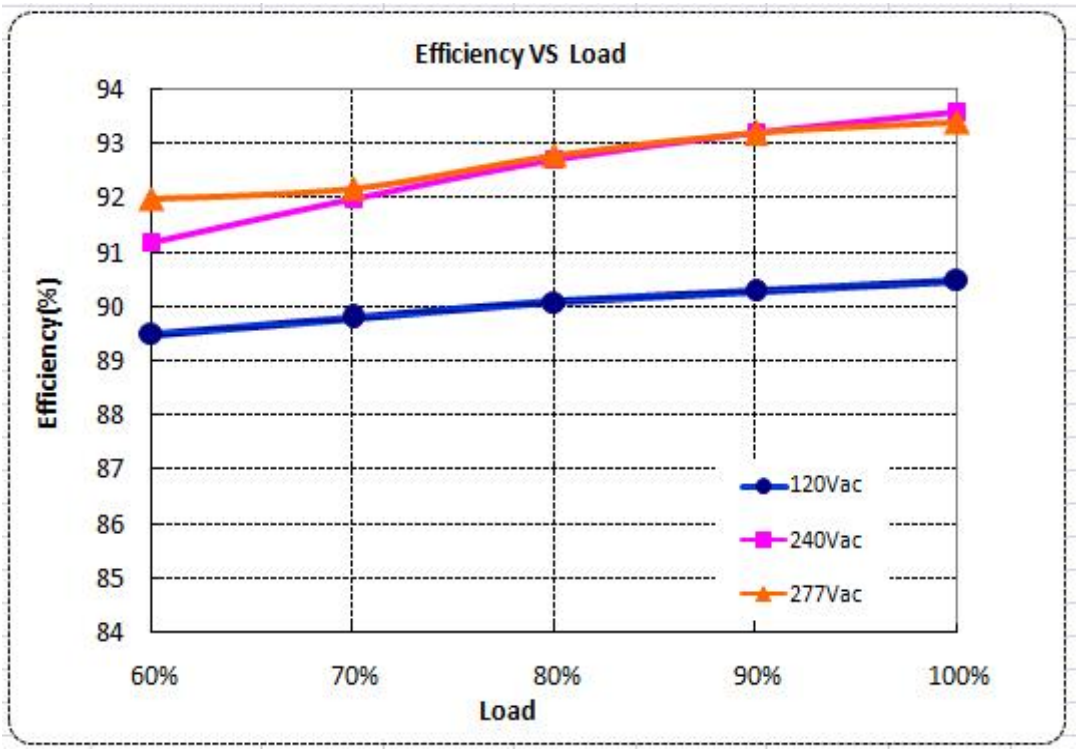


EFFICIENCY vs. LOAD

Io=0.7A



Io=1.05A



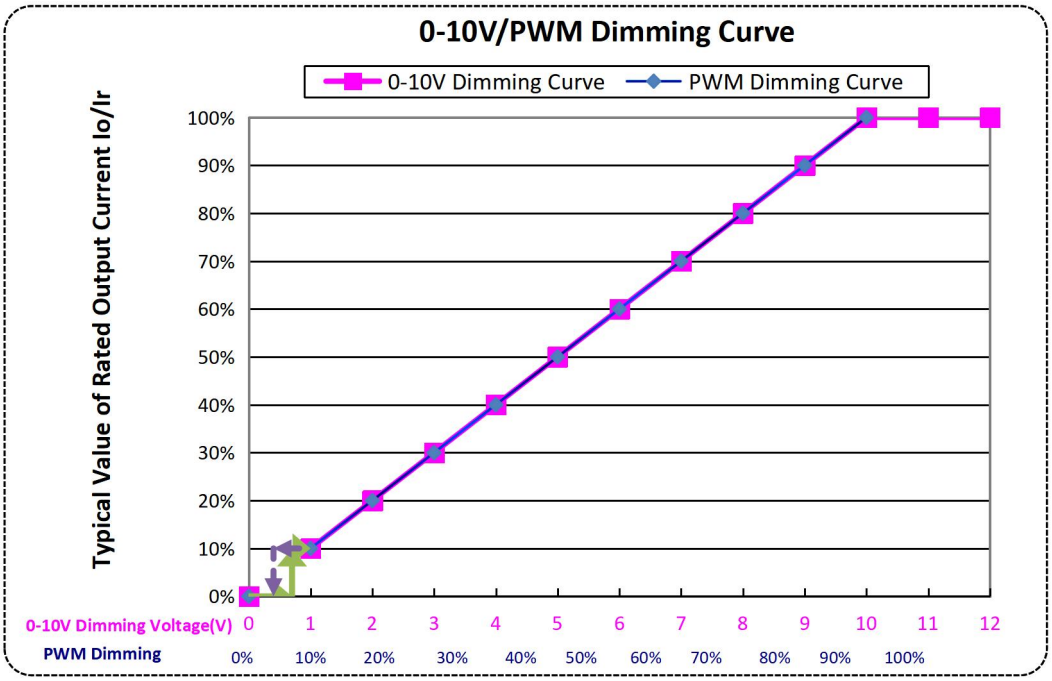
PROTECTIONS

Parameter		Min.	Typ.	Max.	Notes
Input Over Voltage Protection	Input Protection Voltage	325Vac	340Vac	350Vac	Turn off the output when the input voltage exceeds protection voltage.
	Recovery Voltage	300Vac		315Vac	Auto Recovery. The driver will restart when the input voltage falls below recovery voltage.
	Max. of Input Over Voltage	-	-	440Vac	The driver can survive for 48 hours with input over-voltage of 440Vac.
Over Temperature Protection		Decreases output current, returning to normal after over temperature is removed.			
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.			
Output Over Voltage Protection		Limits output voltage at no load and in case the normal voltage limit fails.			

Notes:

[1]. All specifications are measured at 25℃ ambient temperature, the typical value tested at full load, if no specific note.

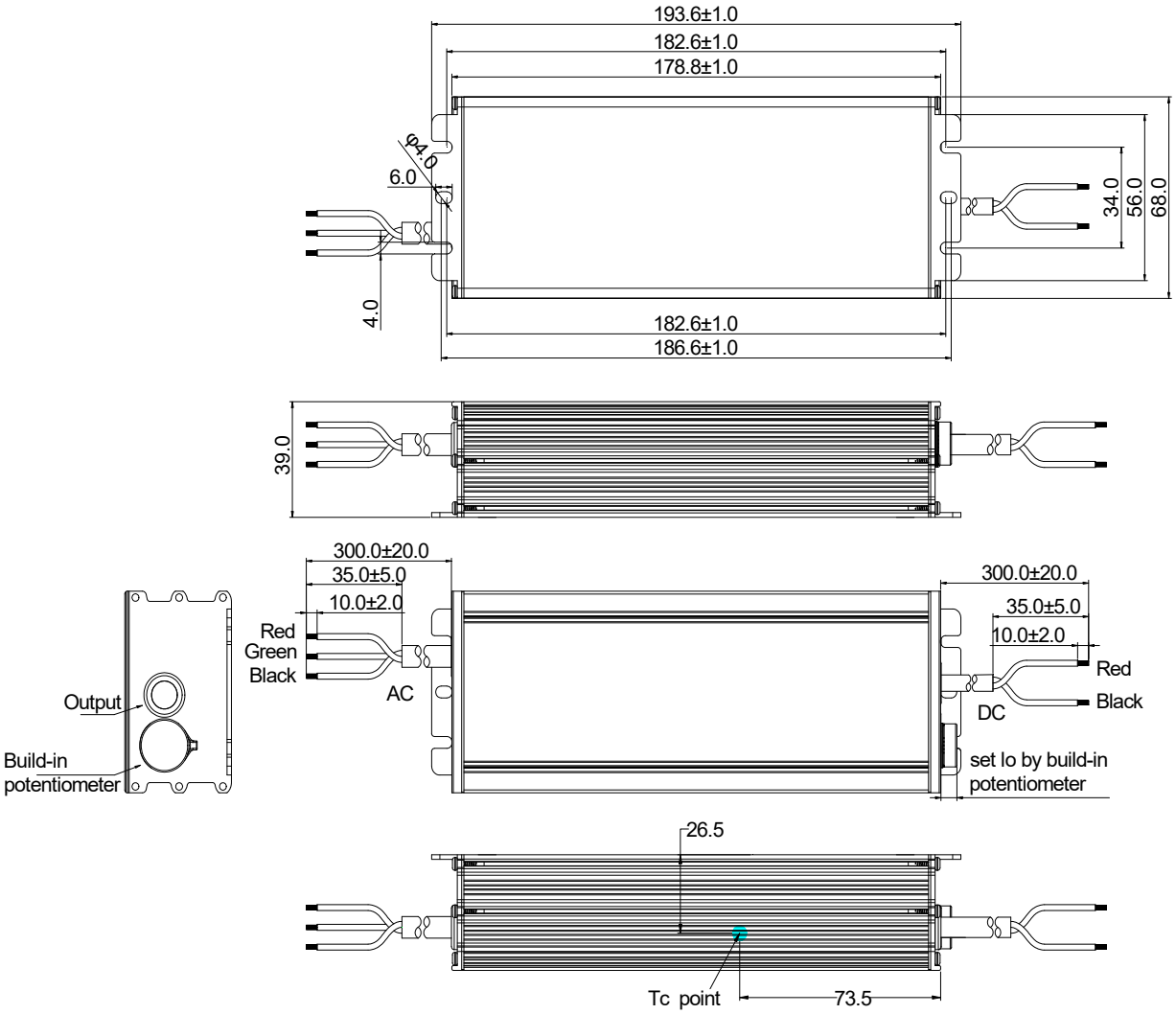
0-10V/PWM DIMMING



Note:

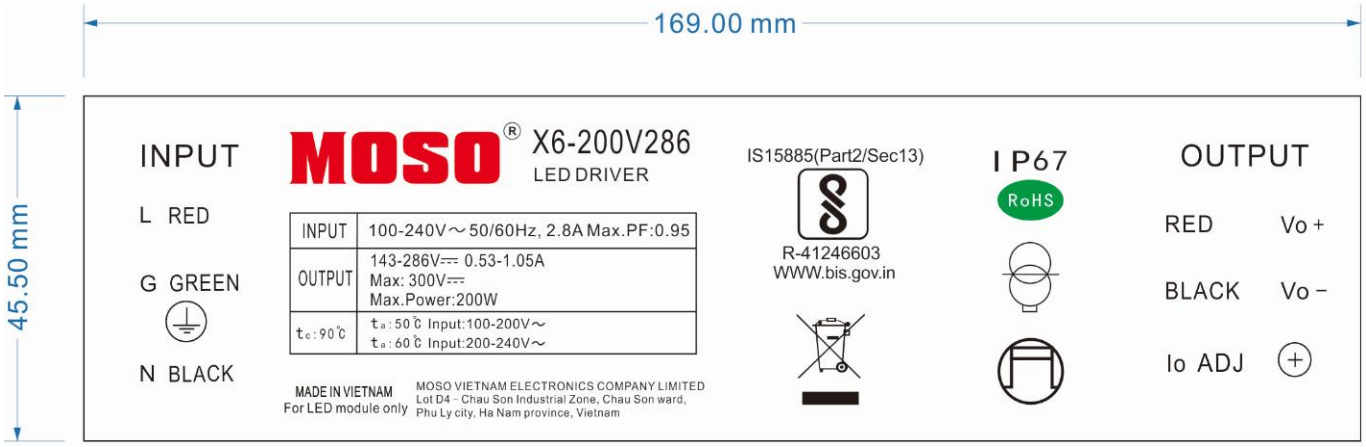
Dim to off model is realized by decreasing the output voltage, the power supply still has residual voltage when dim to off, so the start up voltage of the lamp should be higher than residual voltage.

MECHANICAL OUTLINE



Wire	Specification	Note
Input	BIS-9968 3x1.0mm^2 external diameter:7.3mm L=300±20mm	BIS
Output	BIS-9968 2x1.0mm^2 external diameter:6.9mm L=300±20mm	BIS

LABEL


169.00 mm
45.50 mm
INPUT
L RED
G GREEN
N BLACK
MOSO® X6-200V286
LED DRIVER
INPUT 100-240V～50/60Hz, 2.8A Max.PF:0.95
OUTPUT 143-286V⎓ 0.53-1.05A
Max: 300V⎓
Max.Power:200W
tc: 90℃ ta: 50℃ Input:100-200V～
ta: 60℃ Input:200-240V～
MADE IN VIETNAM
For LED module only
MOSO VIETNAM ELECTRONICS COMPANY LIMITED
Lot D4 - Chau Son Industrial Zone, Chau Son ward,
Phu Ly city, Ha Nam province, Vietnam
IS15885(Part2/Sec13)
R-41246603
WWW.bis.gov.in
IP67
RoHS
OUTPUT
RED Vo +
BLACK Vo −
Io ADJ

REVISION HISTORY

Rev.	Description of Change		Changed Date	Notes
	Before	After		
A.1	Original Release		2023-02-01	

Specification for Approval

Product Name: 200W outdoor adjustable driver

Product Model: X6-200V286

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
Post Code: 518108
TEL: 0755-27657000
FAX: 0755-27657908
E-mail: yoyo@mosopower.com
Web site: http://www.mosopower.com

Prepared By	Checked By	Approved By

Product Specification

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Product Model: X6-200V286

Rev. A.1

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Prepared By	Checked By	Approved By