



BIS CE

Product Features:

- Universal input voltage / Full range: 110~305Vac;
- 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, Timer dimming. Dim-to-off;
- (M types)Constant lumen output;
- Output and Dimming Signal Isolating;
- Surge protection: 5KV line-line,10KV line-earth;
- Protections: Input OVP/Input UVP/SCP/OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

Application:

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

DESCRIPTION

The X6-150W series is 150W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 110~305Vac model. A wide range of output current in a single driver, which delivers maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be adjusted for many different luminaire designs. X6 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, input over voltage, input under 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
X6-150Y062	150	38-62	42-62	2.42-3.60	3.15	91%	0.96

Notes:

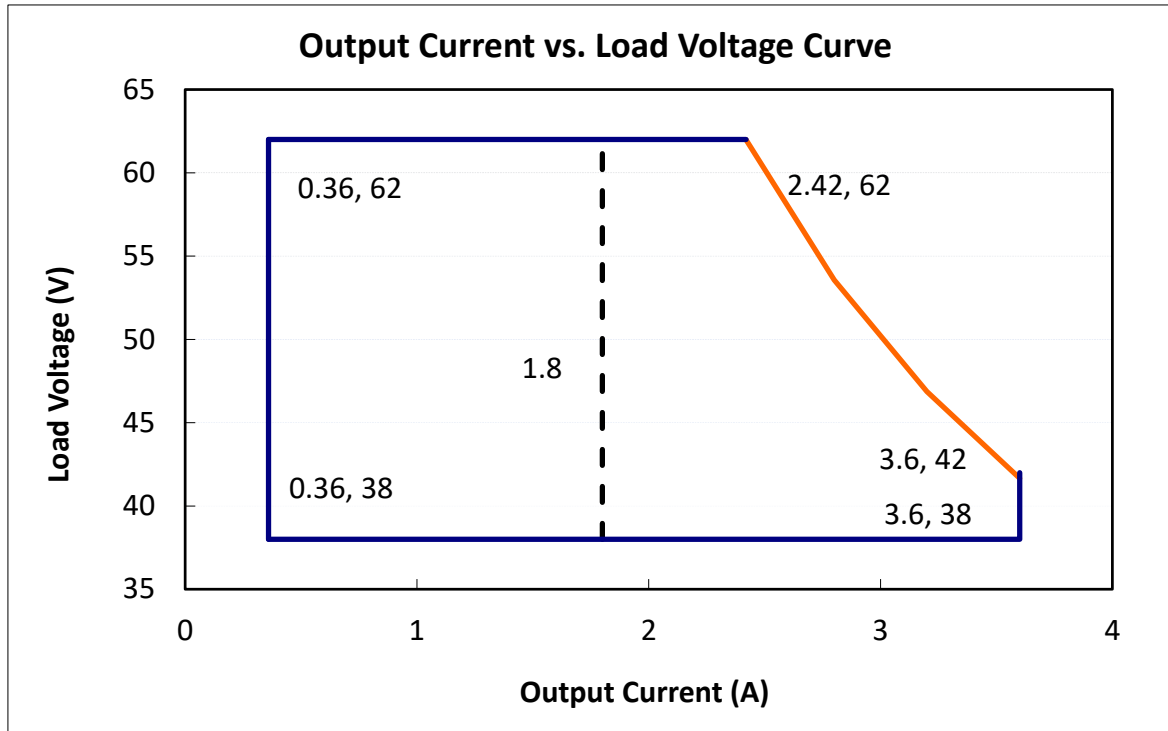
[1]. Y can be M or V. Y=M means dimmable and offline programmable, the adjustable lout range: 10%-100% I_{max};

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

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

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

OPERATING AREA I-V



Notes: The drivers are not allowed to work in over-load condition, otherwise warranty will expire. 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	240Vac/60Hz			
Input AC Current	-	-	2A	120-277Vac & full load			
Inrush Current	-	-	75A	240Vac & full load			
Standby Power Consumption			3W	240Vac/50Hz, Dim to off			
Power Factor	0.97	0.99	-	120Vac, 50-60Hz, full load			
	0.95	0.97		240Vac, 50-60Hz, full load			
	0.92	0.95		277Vac, 50-60Hz, full load			
THD	-	5%	10%	120-240Vac,50-60Hz, 70%-100% load			
	-	-	15%	277Vac, 50-60Hz, 70%-100% load			
Max. NO. of PSUs on CIRCUIT BREAKER	B10	3	B16	4	B25	7	230Vac
	C10	5	C16	7	C25	11	

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Iset	-	+5%Iset	
Output Current Setting Range X6-150Y062	1.80A	-	3.60A	The 'M type' adjustable lout range: 10%-100% I _{max} .
Output Current Setting Range with Constant Power X6-150Y062	2.42A	-	3.60A	
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%	120~277Vac &100% Load, load is LED
No Load Output Voltage X6-150Y062	-	-	70V	
Line Regulation	-1%	-	+1%	25°C±10°C ambient temperature, input voltage changes from 120Vac to 277Vac.
Load Regulation	-3%	-	+3%	25°C±10°C ambient temperature, Input voltage 240Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	1s	2s	120Vac,100% load
	-	-	0.5s	240Vac,100% load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @120Vac X6-150Y062 I _o =2.42A I _o =3.60A	87% 86%	89% 88%		Measured at full load and 25°C ambient temperature
Efficiency @240Vac X6-150Y062 I _o =2.42A I _o =3.60A	89% 88%	91% 90%	-	Measured at full load and 25°C ambient temperature
Efficiency @277Vac X6-150Y062 I _o =2.42A I _o =3.60A	89% 88%	91% 90%		Measured at full load and 25°C ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	Max 5mA/60s
	Input-PE	-	1600Vac	
	Output-PE	-	1600Vac	
Grounding Resistance	-	-	0.1Ω	25A/60s, under 25°C±10°C ambient temperature
Insulation Resistance	10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60s /25°C/70%RH
MTBF	-	200000Hrs	-	25°C±10°C ambient temperature, 240Vac,80% load (MIL-HDBK-217F)
Lifetime	-	50000Hrs	-	240Vac&100% load, 75°C case temperature, refer to lifetime curve for details
Ambient Temperature	-40°C		+60°C	Refer to the derating curve
Operating Case Temperature for Safety T _{c_s}	-40°C	-	+90°C	
Operating Case Temperature for Warranty T _{c_w}	-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 95% RH

Storage Temperature	-40°C	-	+85°C	Humidity: 5% to 100% RH
Dimensions (L*W*H)	L173*W68*H37mm			
Net Weight	810±50g/PCS			
Package	L500mm*W310mm*H160mm; 15PCS/Ctn, Net weight: 13.62Kg			

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	X6-150M062	10%I _{max}	-	100%I _{max}	I _{max} =3.60A
	X6-150M062	0.36A	-	3.60A	
Recommended Dimming Range for 0-10V	0V	-	10V	Default 0-10V/ PWM Dimming(0-10V,0-9V,0-5V,0-3.3V Positive and Reverse Logic can be customized as request)	
PWM_in High Level	9.7V	-	10.3V		
PWM_in Low Level	0V	-	0.3V		
PWM_in Frequency Range	200Hz		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	
ENEC		EN62493	
		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	
EAC	Russia	ГОСТ Р МЭК 61347-1-2011 ГОСТ IEC 61347-2-13-2013 ГОСТ IEC 62493-2014 СТБ EH 55015-2006 ГОСТ IEC 61547-2013 ГОСТ 30804.3.2-2013 (IEC 61000-3-2:2009) ГОСТ 30804.3.3-2013 (IEC 61000-3-3:2008)	

Isolation conditions

Insulation	Input/Mains	Dimming	LED Output	Case
Input/Mains	/	Double	Double	Basic
Dimming	Double	/	Basic	Basic
LED Output	Double	Basic	/	Basic
Case	Basic	Basic	Basic	/

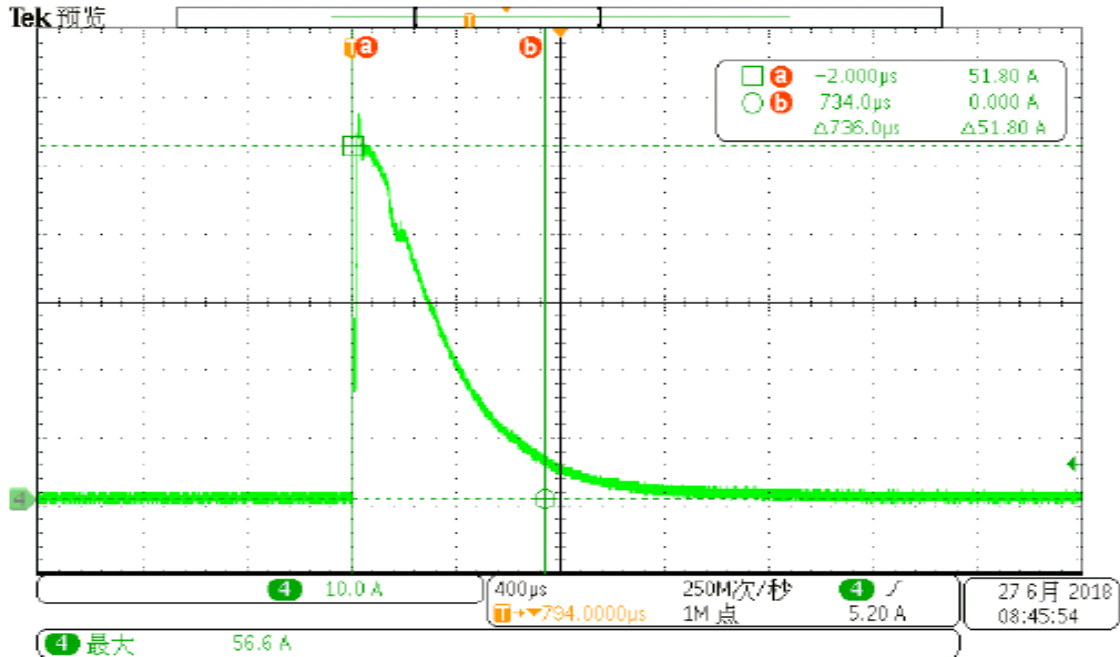
EMC COMPLIANCE

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	

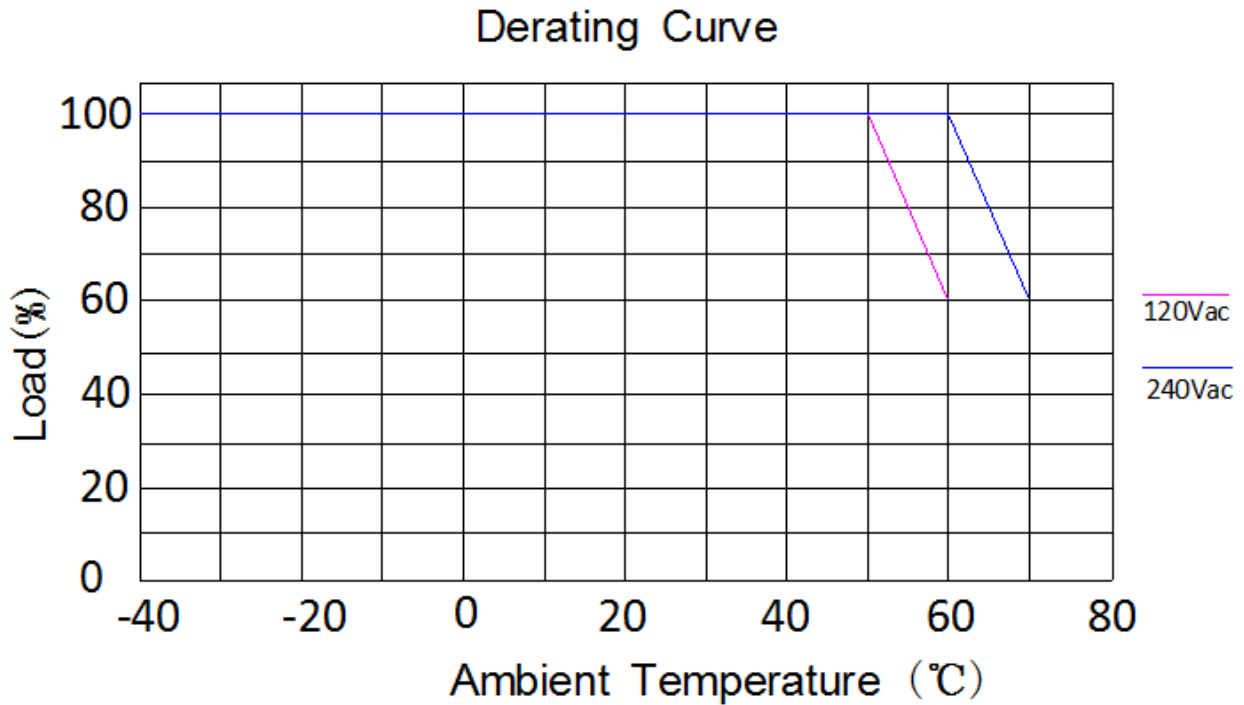
NOTE:

This LED driver meets the 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.

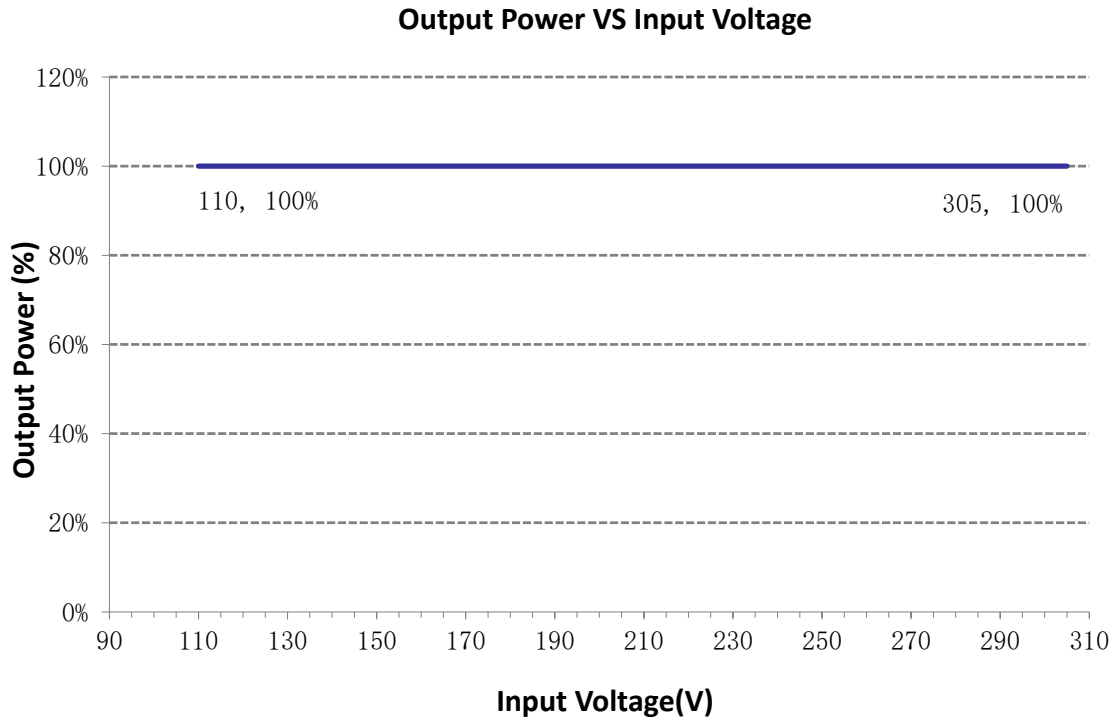
INRUSH CURRENT WAVEFORM



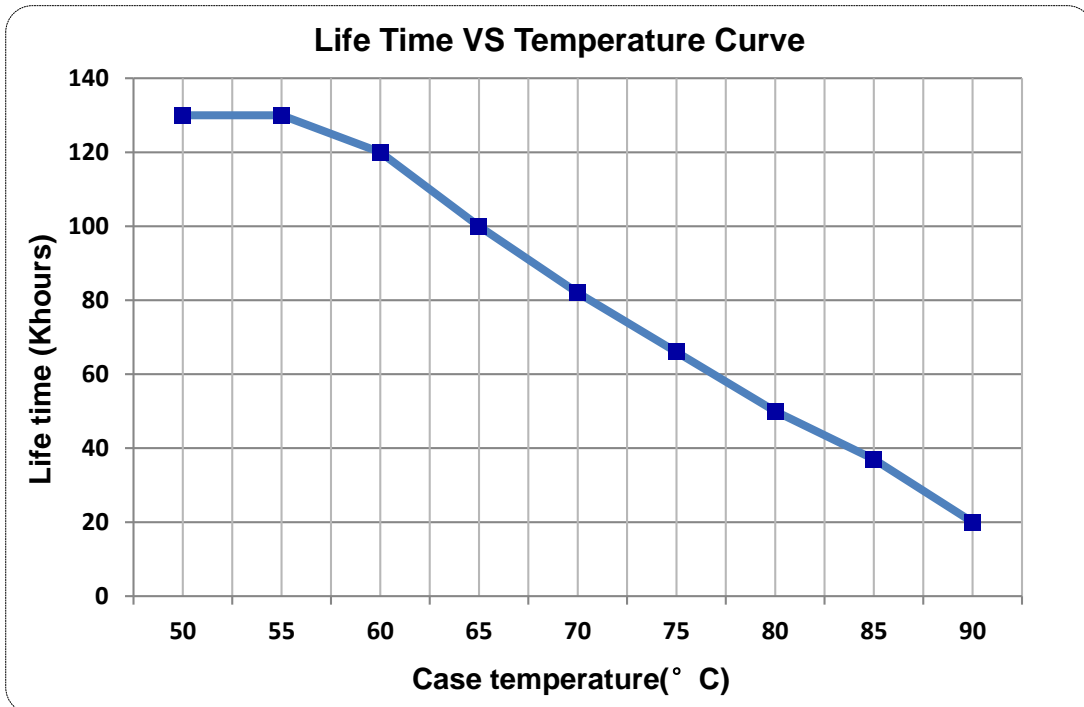
DERATING CURVE



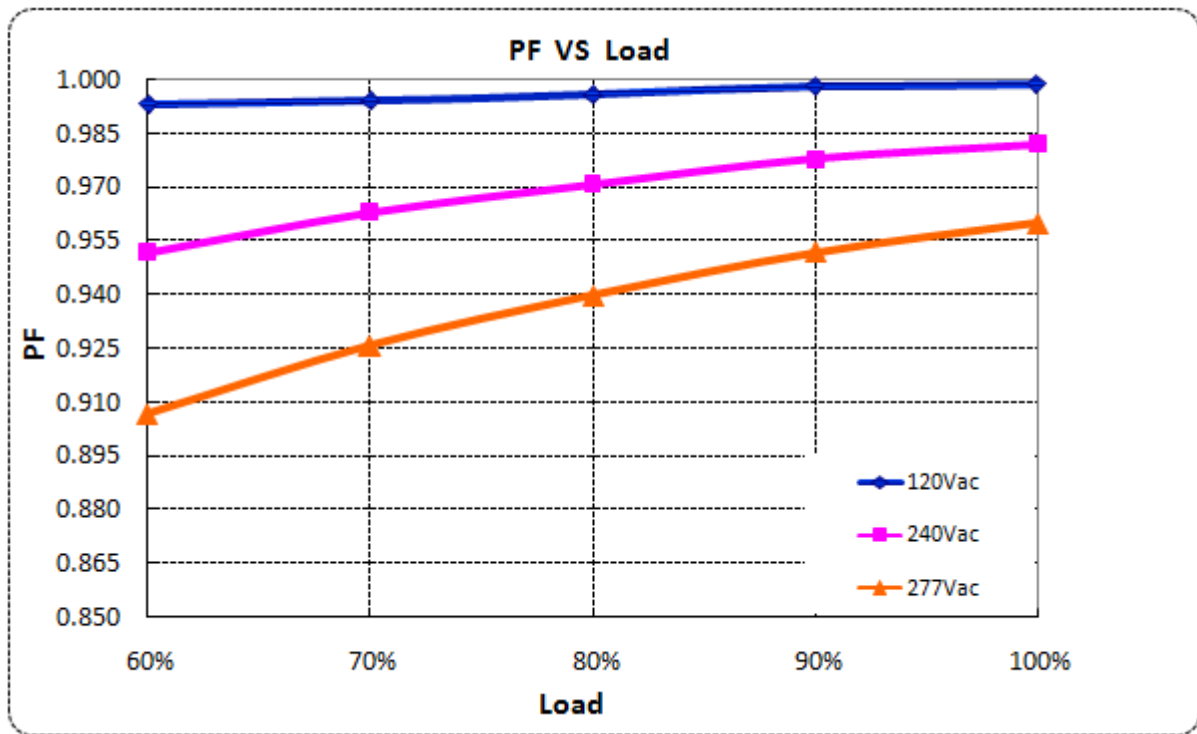
OUTPUT POWER VS INPUT VOLTAGE



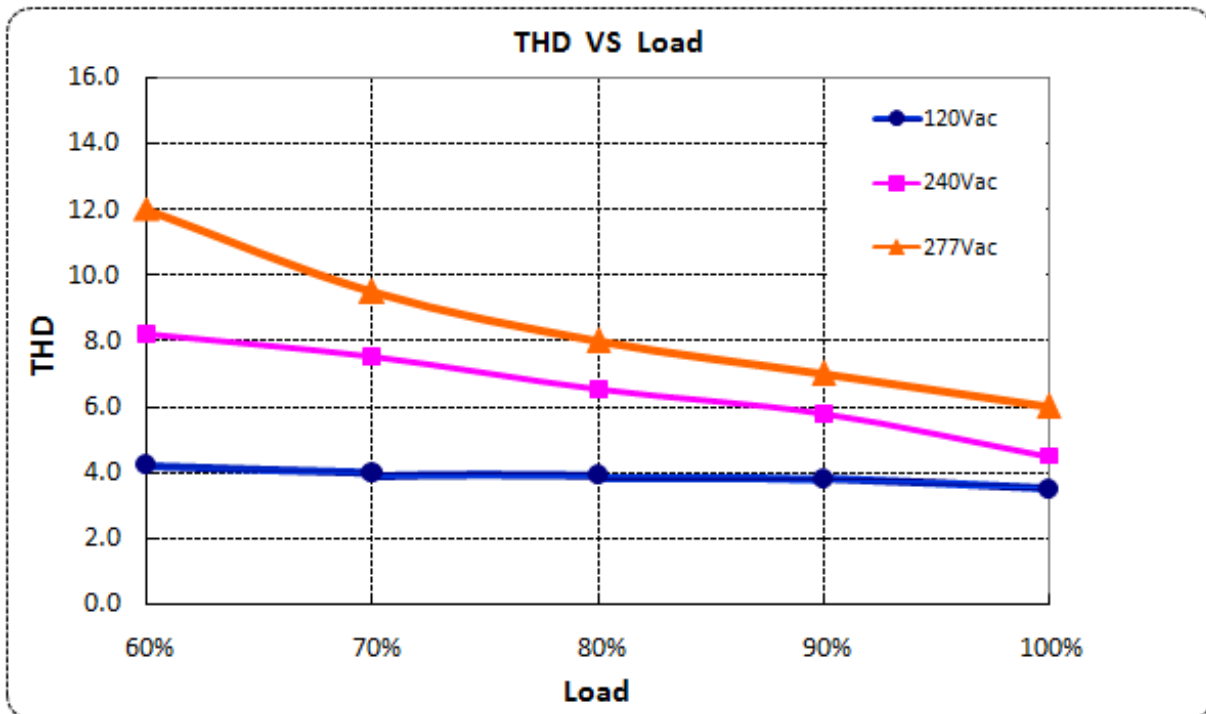
LIFETIME VS CASE TEMPERATURE



POWER FACTOR VS LOAD

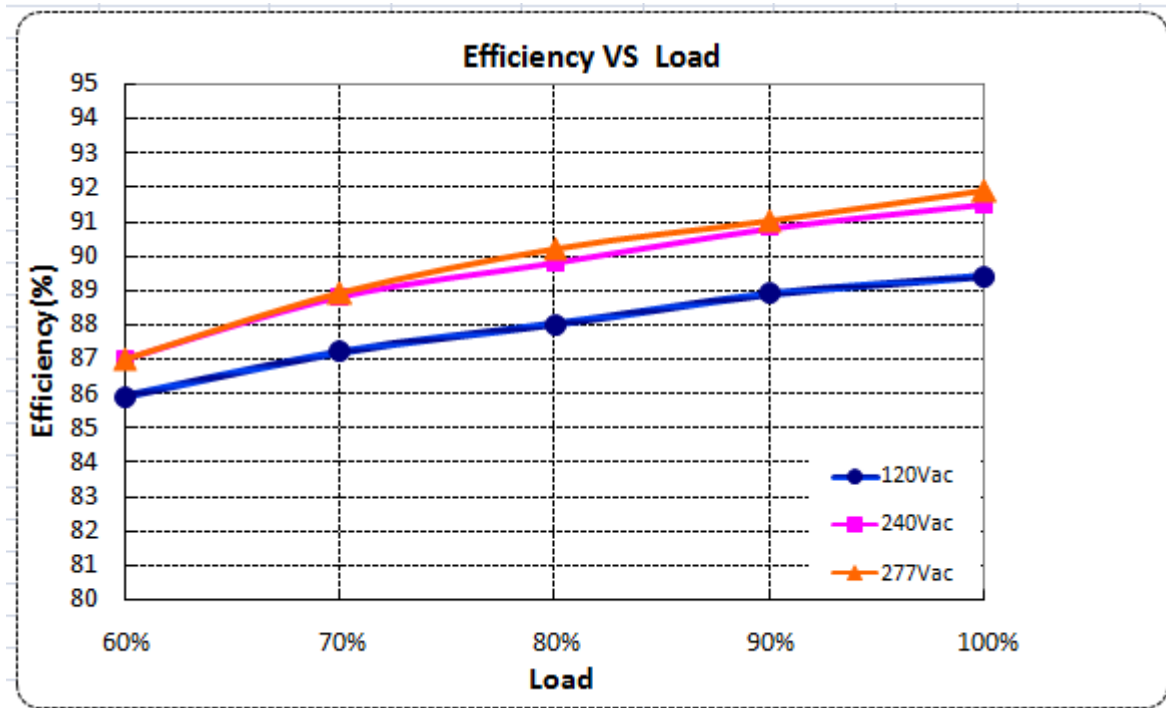


TOTAL HARMONIC DISTORTION

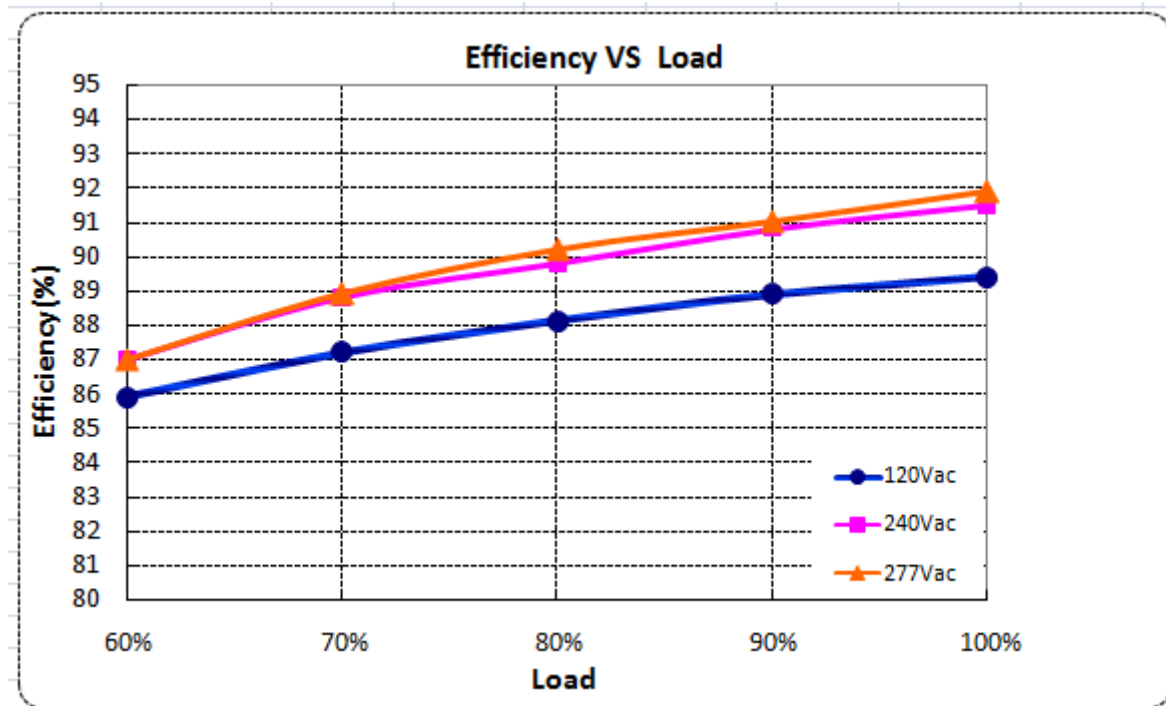


EFFICIENCY VS LOAD

X6-150Y062 (I_o=2.42A)



X6-150Y062 (I_o=3.60A)

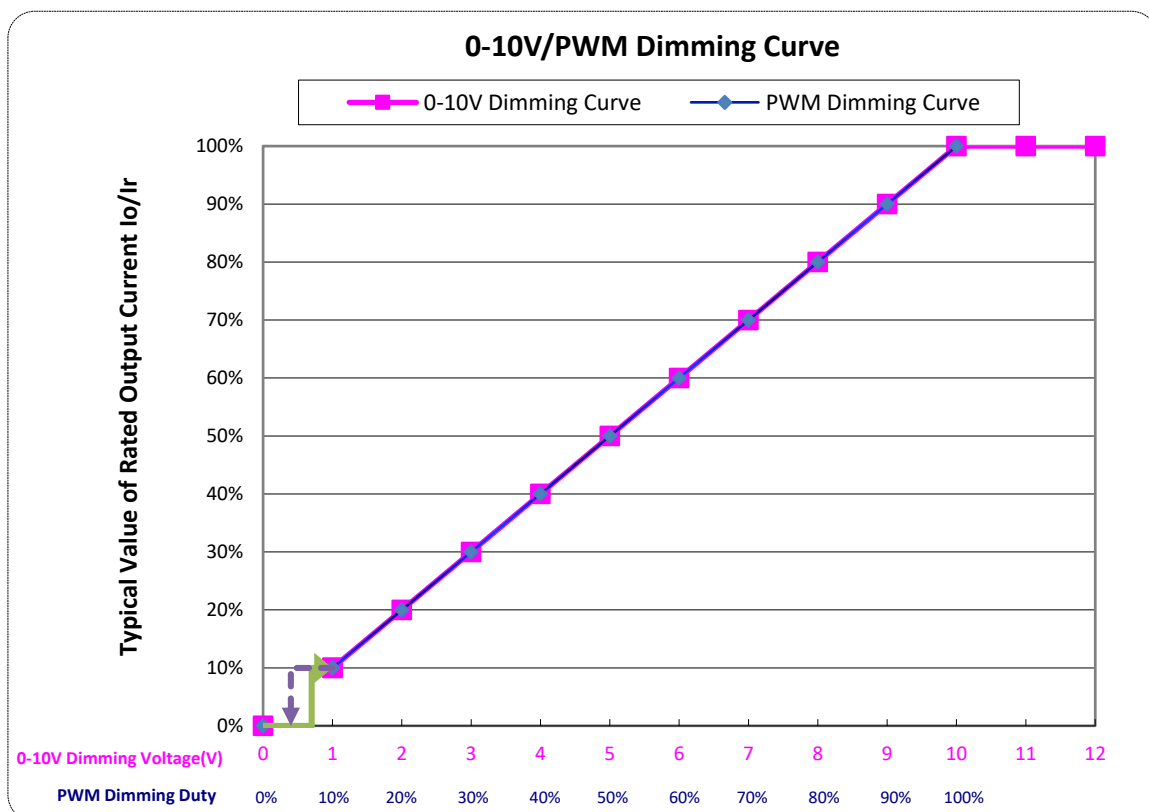


PROTECTIONS

Parameter		Min.	Typ.	Max.	Notes
Input Over Voltage Protection	Input Protection Voltage	340Vac	-	390Vac	Turn off the output when the input voltage exceeds protection voltage.
	Recovery Voltage	300Vac	-	340Vac	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 fail			

Notes: All specifications are measured at 25°C ambient temperature.

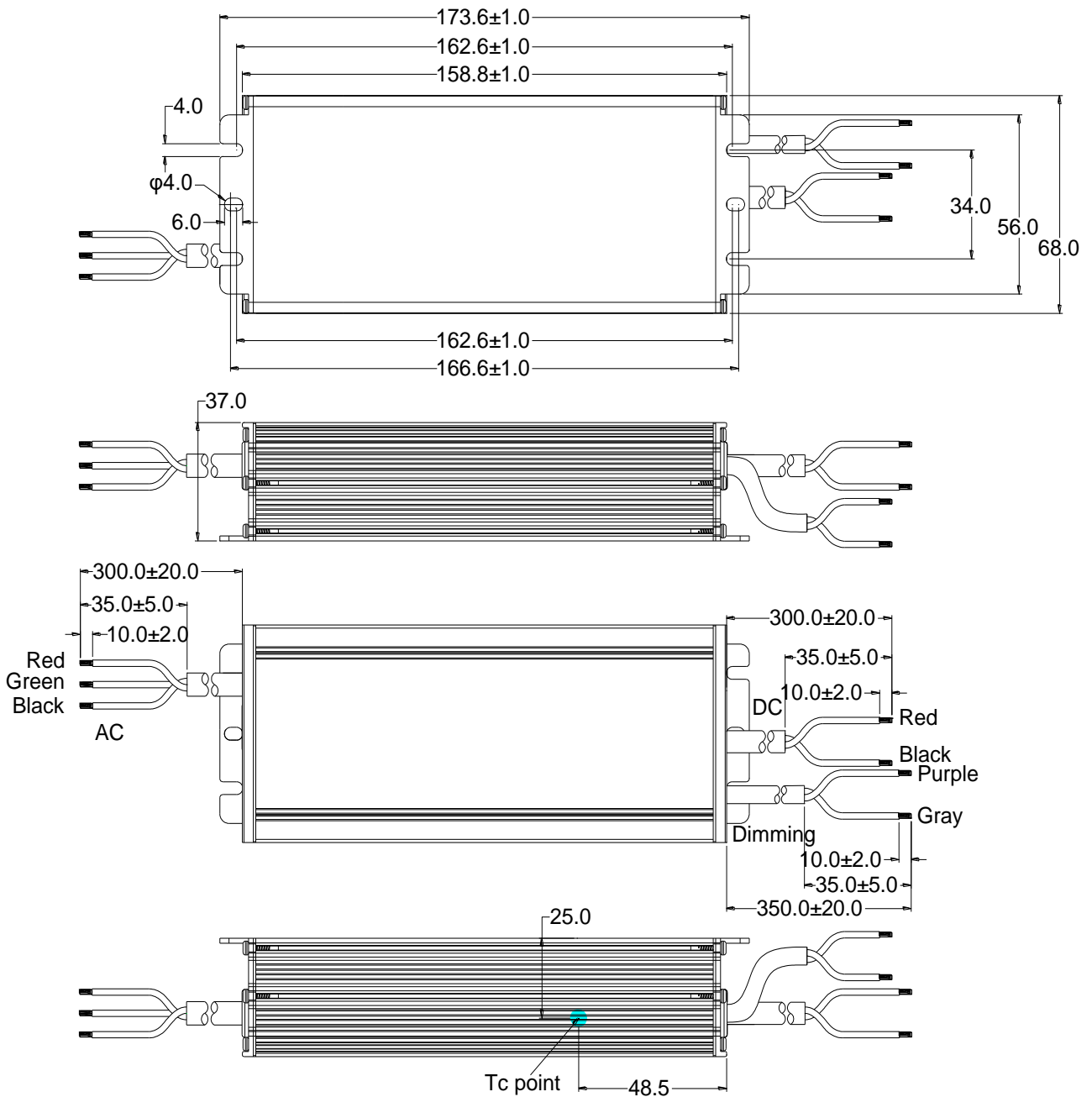
0-10V/PWM DIMMING



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

X6-150M062 Types



Wire	Specification	Note
Input	BIS-9968 3x1.0 mm ² L=300±20mm	BIS
Output	BIS-9968 2x1.0 mm ² L=300±20mm	BIS
Dimming	UL 2733 22AWG *2C L=350±20mm	Y=M

LABEL

45.50 mm

149.00 mm

INPUT L RED G GREEN N BLACK	MOSO[®] X6-150M062 LED DRIVER Constant current type	IS15885(Part2/Sec13) R-41246603 WWW.bis.gov.in SELV 	CE IP67 	OUTPUT RED Vo + BLACK Vo - PURPLE DIM + GRAY DIM -						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">INPUT</td> <td>100-240V~ 50/60Hz, 2.0A Max. PF:0.95</td> </tr> <tr> <td>OUTPUT</td> <td>38-62V--- 0.36-3.60A Max: 70V--- Max. Power: 150W</td> </tr> <tr> <td>t_c: 90°C</td> <td>t_a: 50°C Input:100-200V~ t_a: 60°C Input:200-240V~</td> </tr> </table>	INPUT	100-240V~ 50/60Hz, 2.0A Max. PF:0.95	OUTPUT	38-62V--- 0.36-3.60A Max: 70V--- Max. Power: 150W	t _c : 90°C	t _a : 50°C Input:100-200V~ t _a : 60°C Input:200-240V~			
INPUT	100-240V~ 50/60Hz, 2.0A Max. PF:0.95									
OUTPUT	38-62V--- 0.36-3.60A Max: 70V--- Max. Power: 150W									
t _c : 90°C	t _a : 50°C Input:100-200V~ t _a : 60°C 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								

Specification for Approval

Product Name: 150W outdoor off-line programmable driver
Product Model: X6-150M062
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.		

XiLi Songbai Road 1061, Nanshan
Address: District, Shenzhen City, Guangdong Post Code: 518108
Province, P.R.China
TEL: 0755-27657000 FAX: 0755-27657908
E-mail: info@mosopower.com Web site: <http://www.mosopower.com>

Prepared By	Checked By	Approved By



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Prepared By	Checked By	Approved By

Specification subject to change without notice