



# BIS

### Product Features:

- Universal input voltage: 110~305Vac;
- Constant power design, output current adjustable;
- Output current adjustable by built-in potentiometer;
- 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.

### DESCRIPTION

The X6-240Wseries is 240W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 110~305Vac. A wide range of output current in a single driver, which delivers maximum flexibility with customized operating settings and intelligent control options for luminaire 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 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, short circuit, and over temperature, to ensure low failure rate.

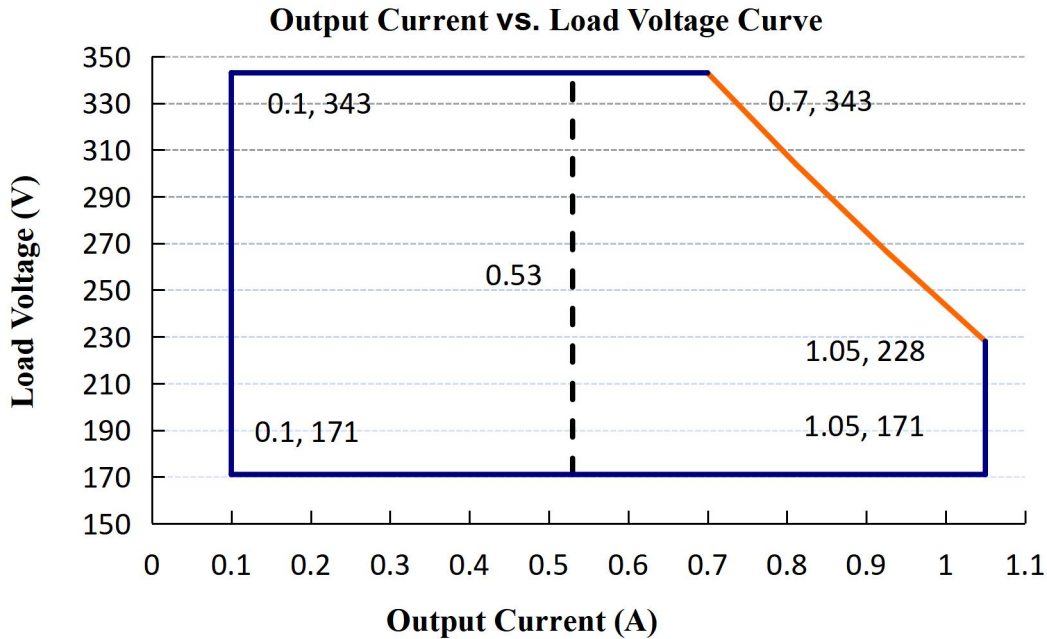
### MODELS

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
X6-240Y343	240	171-343	228-343	0.70-1.05	0.7	93.5%	0.97

#### Notes:

- [1]. Y can be M or V. Y=M means dimmable and offline programmable, The adjustable lout 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°C ambient temperature, input voltage 240Vac, and the typical value tested at full load, if no specific note.

### OPERATING AREA



**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	277Vac/60Hz			
Input AC Current	-	-	3.3A	120-277Vac & full load			
Inrush Current	-	-	75A	240Vac & full load			
Standby Power Consumption				240Vac/50Hz			
Power Factor	0.97	0.99	-	120Vac, 50-60Hz, full load			
	0.95	0.97		240Vac, 50-60Hz, full load			
	0.93	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	1	B16	2	B25	2	240Vac
	C10	2	C16	3	C25	4	

**OUTPUT SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
Output Current Setting Range)	0.53A	-	1.05A	The 'M type' adjustable lout range: 10%-100% I <sub>max</sub> .
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%	120~277Vac & 100% Load, load is LED
No Load Output Voltage	-	-	360Vdc	
Line Regulation	-1%	-	1%	25°C±10°C ambient temperature, input voltage changes from 100Vac to277Vac.
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 I <sub>o</sub> =0.7A I <sub>o</sub> =1.05A	89% 89%	91% 91%		Measured at full load and 25°C ambient temperature
Efficiency @240Vac I <sub>o</sub> =0.7A I <sub>o</sub> =1.05A	91.5% 91.5%	93.5% 93.5%	-	Measured at full load and 25°C ambient temperature
Efficiency @277Vac I <sub>o</sub> =0.7A I <sub>o</sub> =1.05A	92% 92%	94% 94%		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	240Vac&100% load
Operating Case Temperature for Safety T <sub>c_s</sub>	-40°C	-	+90°C	
Operating Case Temperature for Warranty T <sub>c_s</sub>	-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)	L208.6*W68*H39mm			

Net Weight	1050±100g/PCS	
Package	L502*W372*H222mm; 15PCS/Ctn Gross weight: 16.2Kg	

### 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	
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	/

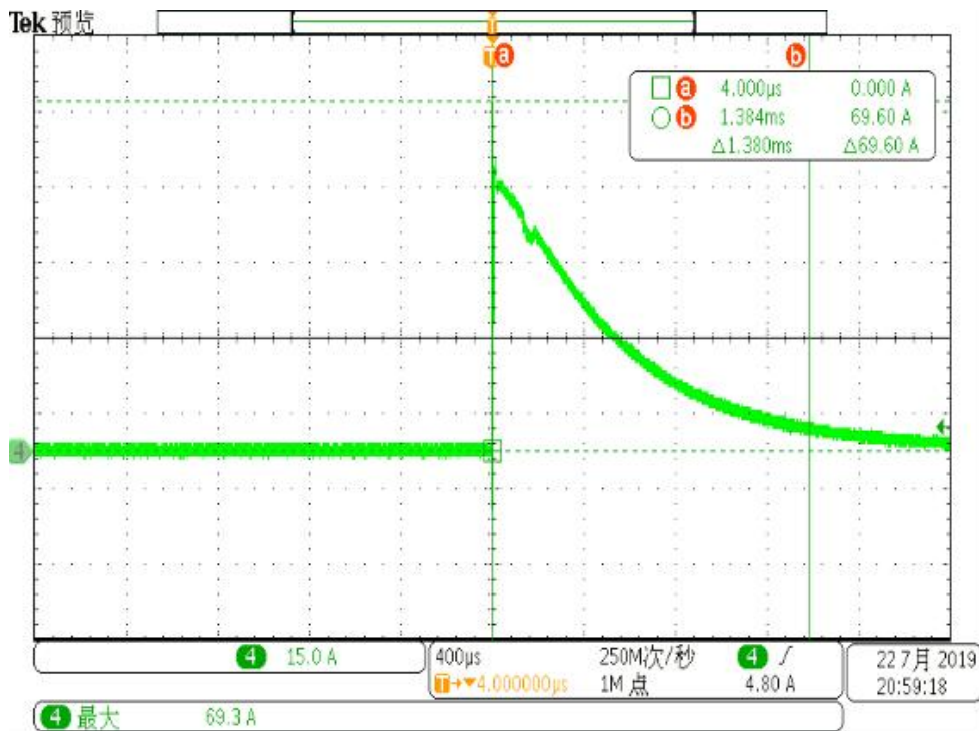
### EMC COMPLIANCE

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	

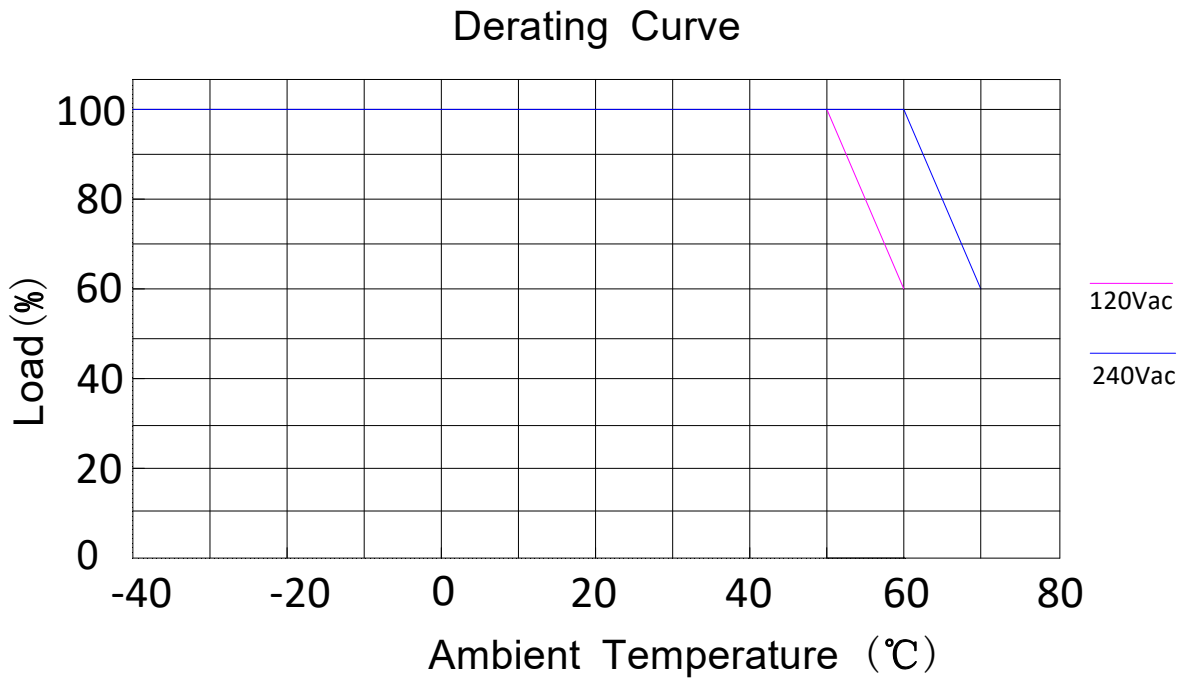
### NOTE:

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.

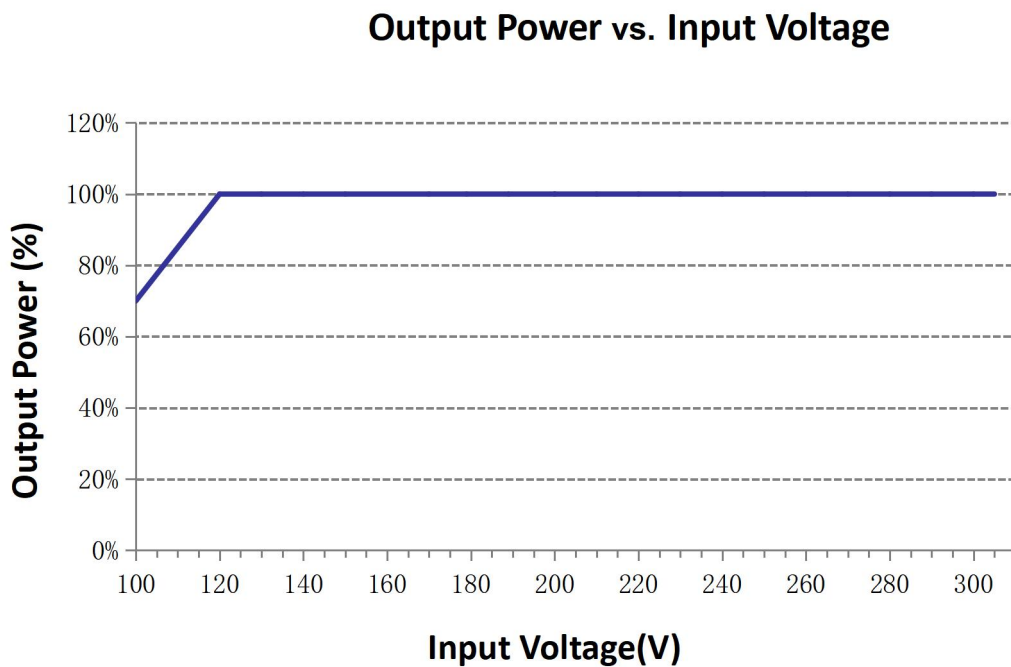
### INRUSH CURRENT WAVEFORM



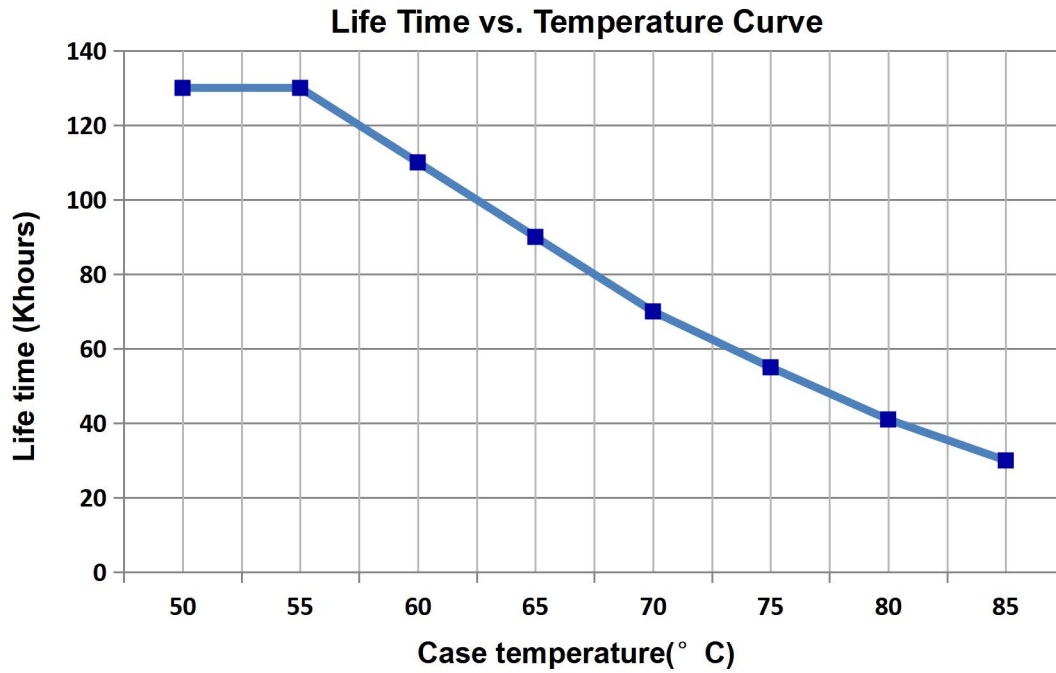
**DERATING CURVE**



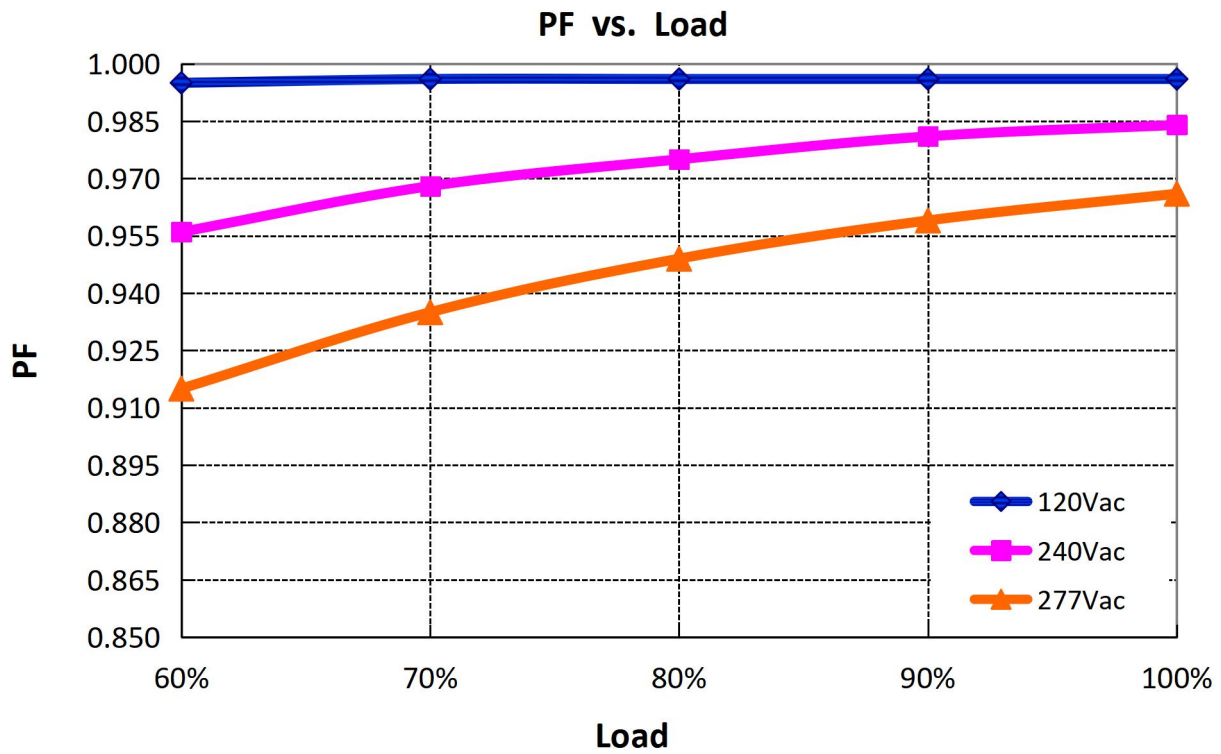
**OUTPUT POWER vs. INPUT VOLTAGE**



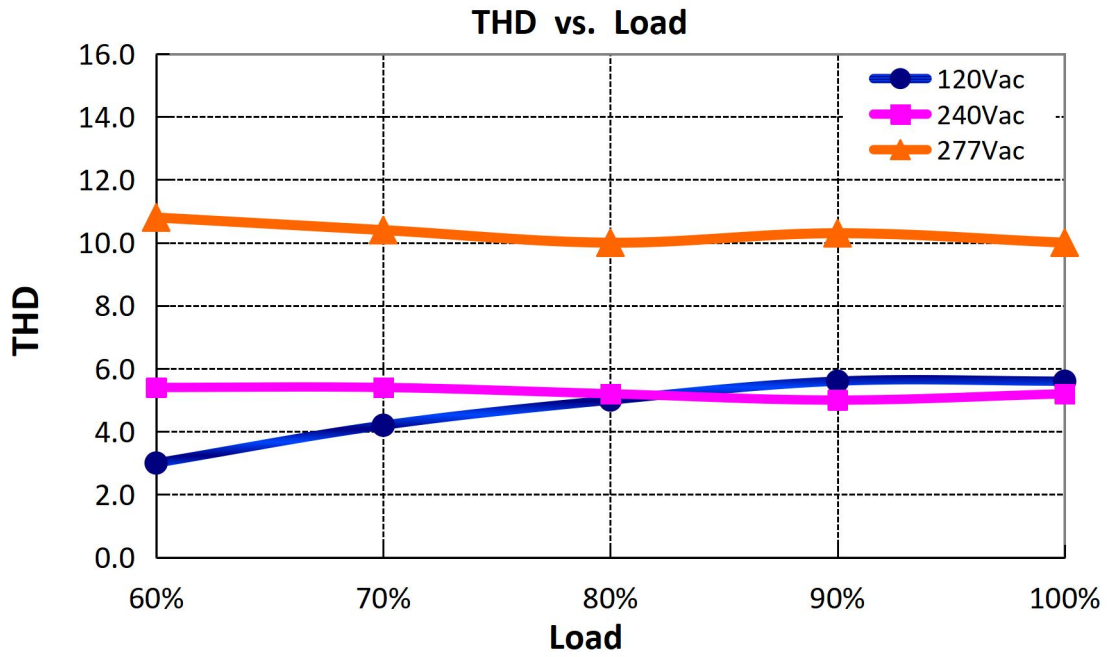
### LIFETIME vs. CASE TEMPERATURE



### POWER FACTOR vs. LOAD

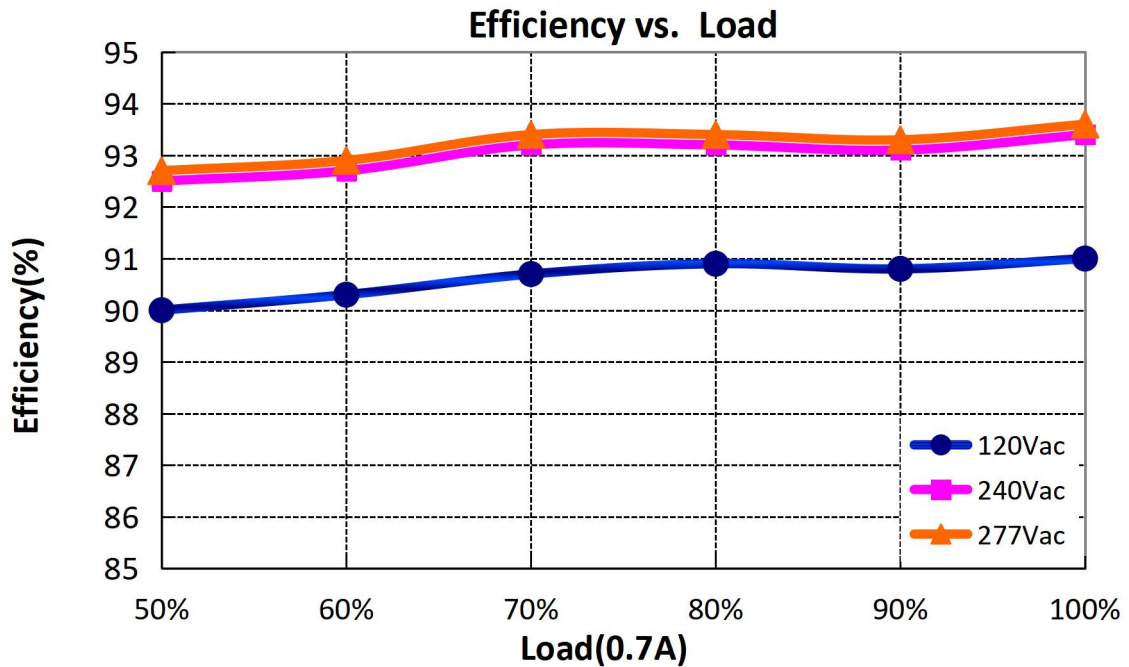


### TOTAL HARMONIC DISTORTION



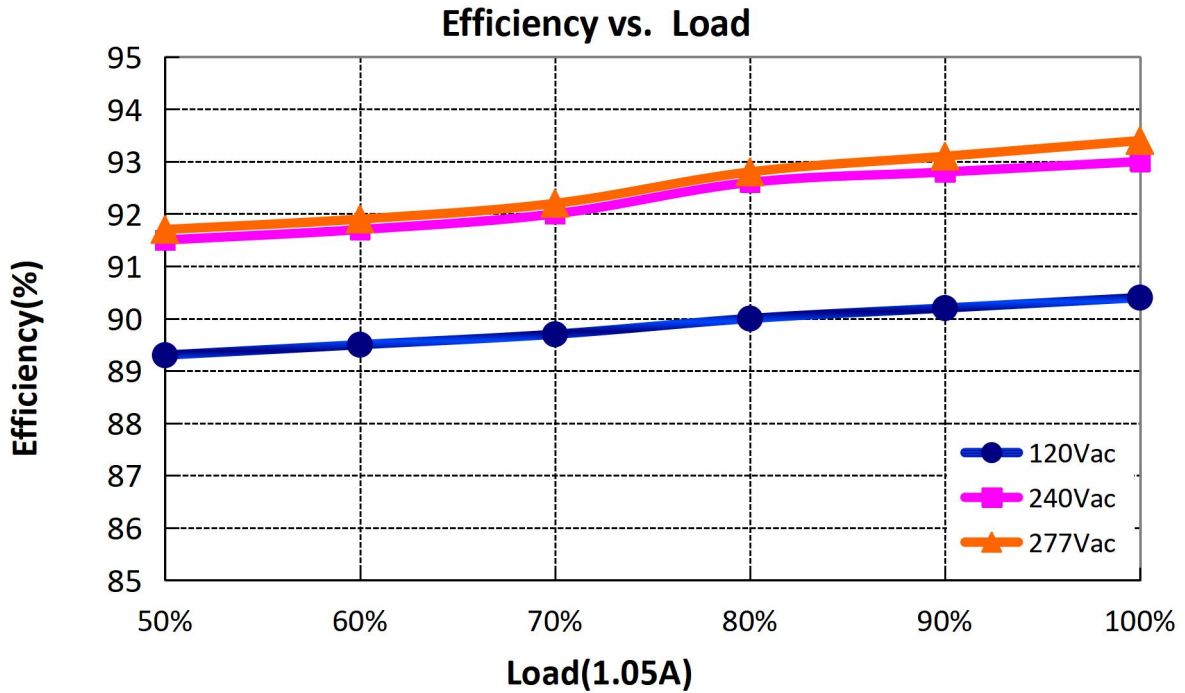
### EFFICIENCY vs. LOAD

$I_o=0.7A$





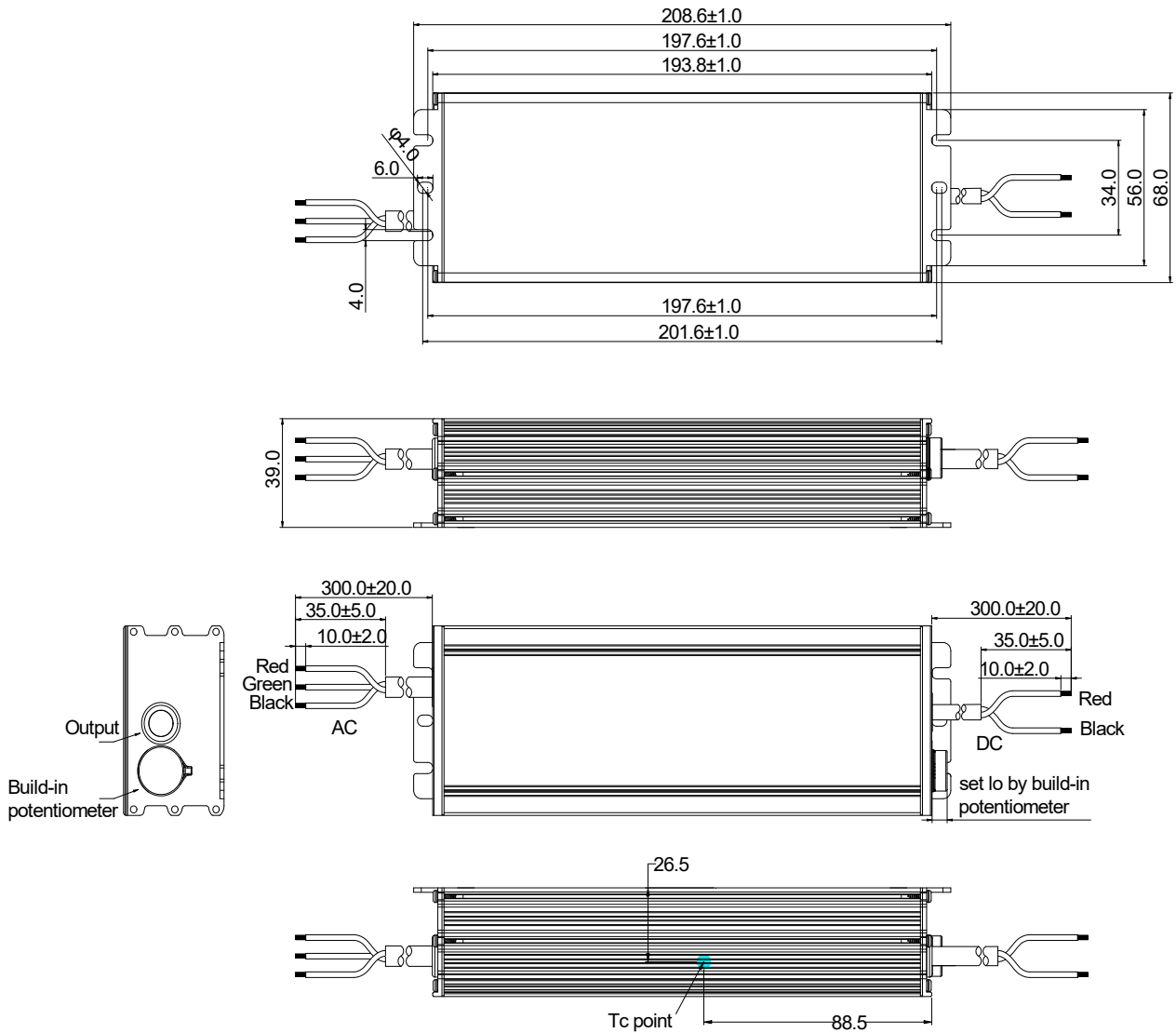
Io=1.05A



### 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.			

### MECHANICAL OUTLINE



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

### LABEL

45.50 mm

183.00 mm

**INPUT**

L RED

G GREEN

N BLACK


**MOSO<sup>®</sup> X6-240V343**  
LED DRIVER

INPUT	100-240V~ 50/60Hz, 3.3A Max.PF:0.95
OUTPUT	171-343V $\overline{\text{---}}$ 0.53-1.05A Max: 360V $\overline{\text{---}}$ Max.Power:240W
t <sub>c</sub> : 90°C	t <sub>a</sub> : 50°C Input:100-200V~ t <sub>a</sub> : 60°C Input:200-240V~


MADE IN CHINA  
For LED module only

SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD  
No.1061, Songbai Road, Xili Town, Nanshan District,  
Shenzhen, CHINA


IS15885(Part2/Sec13)



R-41077186  
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**IP67**



**OUTPUT**

RED Vo +

BLACK Vo -

Io ADJ (+)

