



### Product Features:

- Universal input voltage / Full range: 90~305Vac;
- 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, Positive and negative logic, Timer dimming, Dim-to-off;
- (M types) Constant lumen output ,daily log;
- Self adapting-midnight dimming;
- 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;
- 5 years warranty.

### Application:

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

### DESCRIPTION

The X6-320W series is 320W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 90~305Vac model. 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<sub>2</sub> 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, output over voltage, short circuit, and over temperature, to ensure low failure rate.

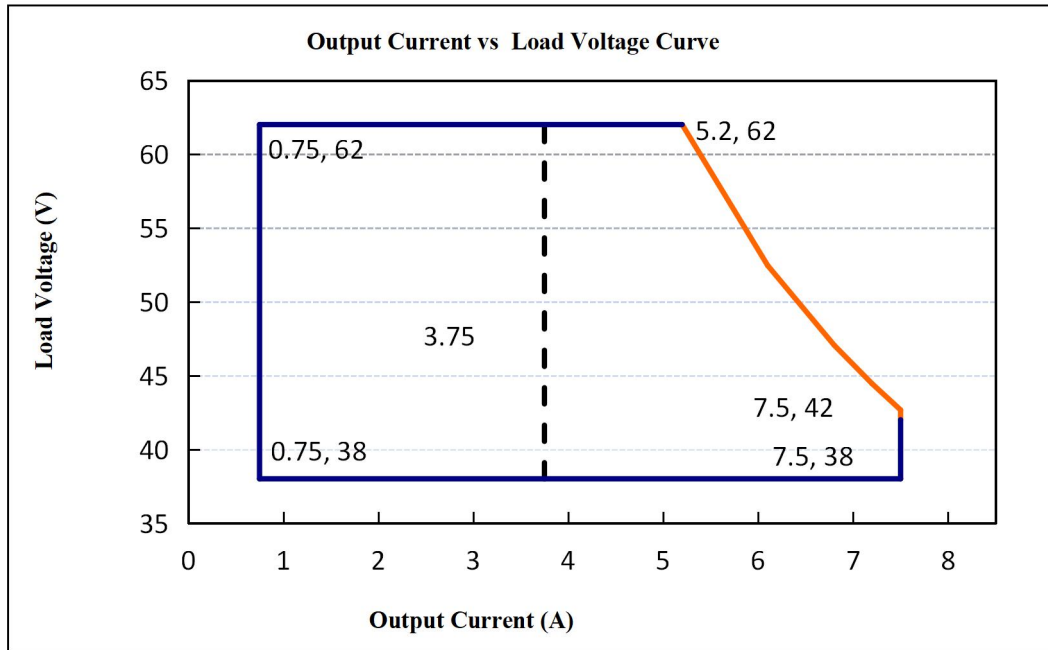
### MODELS

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
X6-320Y062A12	320	38-62	42-62	5.20-7.50	6.70	93%	0.96

#### Notes:

- [1]. Y can be M or V. Y=M means dimmable and offline programmable, The adjustable lout range: 10%-100% I<sub>max</sub>; 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 230Vac, and the typical value tested by 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	90Vac	100-277Vac	305Vac				
Input Frequency	47Hz	50/60	63Hz				
Leakage Current	-	-	0.70mA	277Vac/60Hz			
Input AC Current	-	-	4.2A	100-277Vac & full load			
Inrush Current	-	-	100A	230Vac & full load			
Standby Power Consumption			1W	230Vac/50Hz Dim to off			
Power Factor	0.97	0.99	-	120Vac, 50-60Hz, full load			
	0.95	0.97		230Vac, 50-60Hz, full load			
	0.93	0.95		277Vac, 50-60Hz, full load			
THD	-	5%	10%	100-230Vac, 50-60Hz, full load			
	-	-	15%	277Vac, 50-60Hz, full load			
Max. NO. of PSUs on CIRCUIT BREAKER	B10	1	B16	1	B25	2	230Vac
	C10	1	C16	2	C25	4	

## OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	+5%	
Output Current Setting Range (A) X6-320Y062A12	3.75	-	7.50	The 'M type' adjustable lout range: 10%-100% I <sub>max</sub> .
Output Current Setting Range with Constant Power X6-320Y062A12	5.20	-	7.50	
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%	100~277Vac &100% Load, load is LED
No Load Output Voltage(V) X6-320Y062A12	-	-	80	
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 230Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	1S	3S	120Vac,100% load
	-	-	2S	230Vac,100% load
12V auxiliary output voltage	11.4V	12V	12.6V	
12V auxiliary output source current	0mA		300mA	

## GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @120Vac X6-320Y062A12 I <sub>o</sub> =5.20A I <sub>o</sub> =7.50A	88% 87%	90.0% 89.0%		Measured at full load and 25°C ambient temperature, the efficiency is reduced by about 2%.
Efficiency @230Vac X6-320Y062A12 I <sub>o</sub> =5.20A I <sub>o</sub> =7.50A	91% 90%	93.0% 92.0%		Measured at full load and 25°C ambient temperature, the efficiency is reduced by about 2%.
Efficiency @277Vac X6-320Y062A12 I <sub>o</sub> =5.20A I <sub>o</sub> =7.50A	91.5% 90.5%	93.5% 92.5%		Measured at full load and 25°C ambient temperature, the efficiency is reduced by about 2%.
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, 230Vac,80% load (MIL-HDBK-217F)
Lifetime	-	50000Hrs	-	t <sub>c</sub> = 75°C, 0.1% / 1`000 h failure rate 230Vac&80% load
Ambient Temperature	-40°C		+60°C	Reference derating curve

Operating Case Temperature for Safety Tc_s	-40℃	-	+90℃	
Operating Case Temperature for Warranty Tc_s	-40℃	-	+75℃	5 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature	-40℃	-	+85℃	Humidity: 5% to 100% RH
Dimensions (L*W*H)mm	L231*W98*H42mm			
Net Weight	1700±100g/PCS			
Package	L615xW375xH166mm; 10PCS/Ctn, Gross Weight: 19.6Kg			

### 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	X6-320M062	10%Imax	-	100%Imax	Imax=7.50A
	X6-320M062	0.75A	-	7.50A	
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	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	√
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	√

		ГOCT 30804.3.2-2013 (IEC 61000-3-2:2009) ГOCT 30804.3.3-2013 (IEC 61000-3-3:2008)	
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### Insulation

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	/

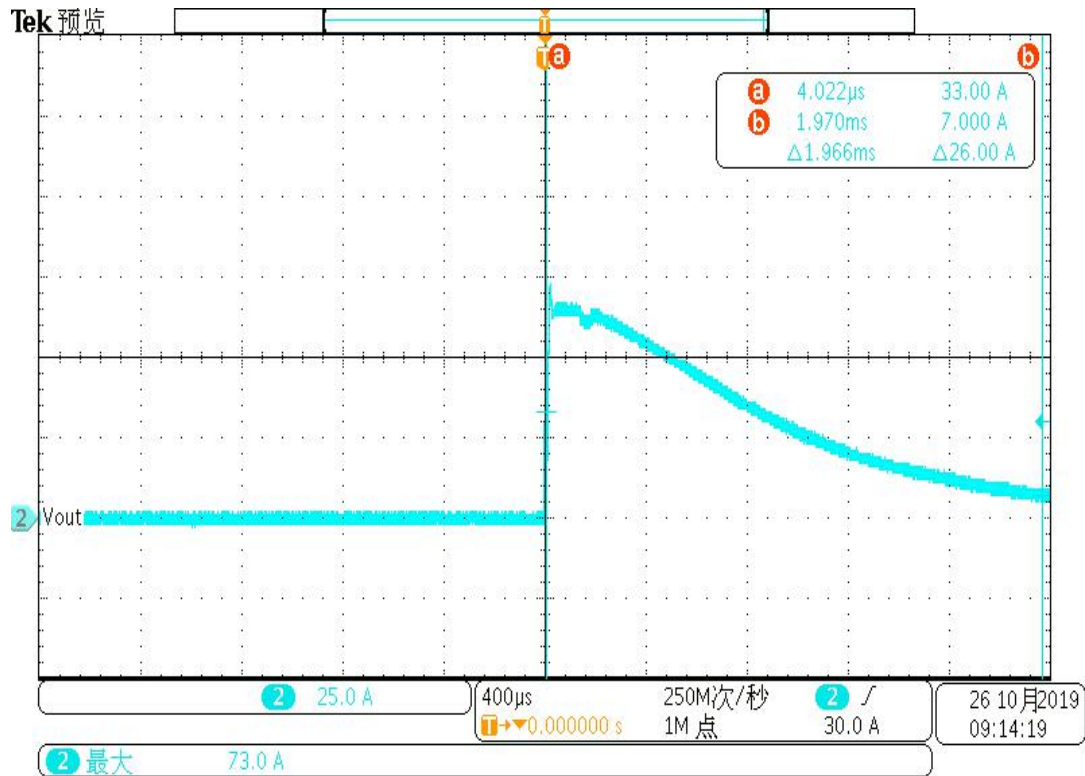
### EMC COMPLIANCE

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	√

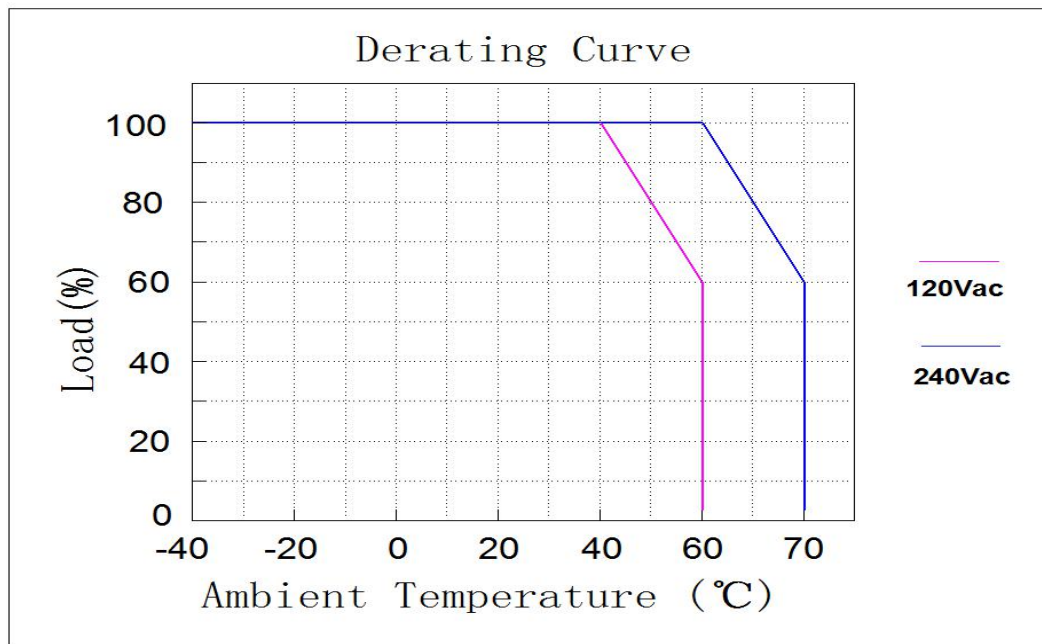
### NOTE:

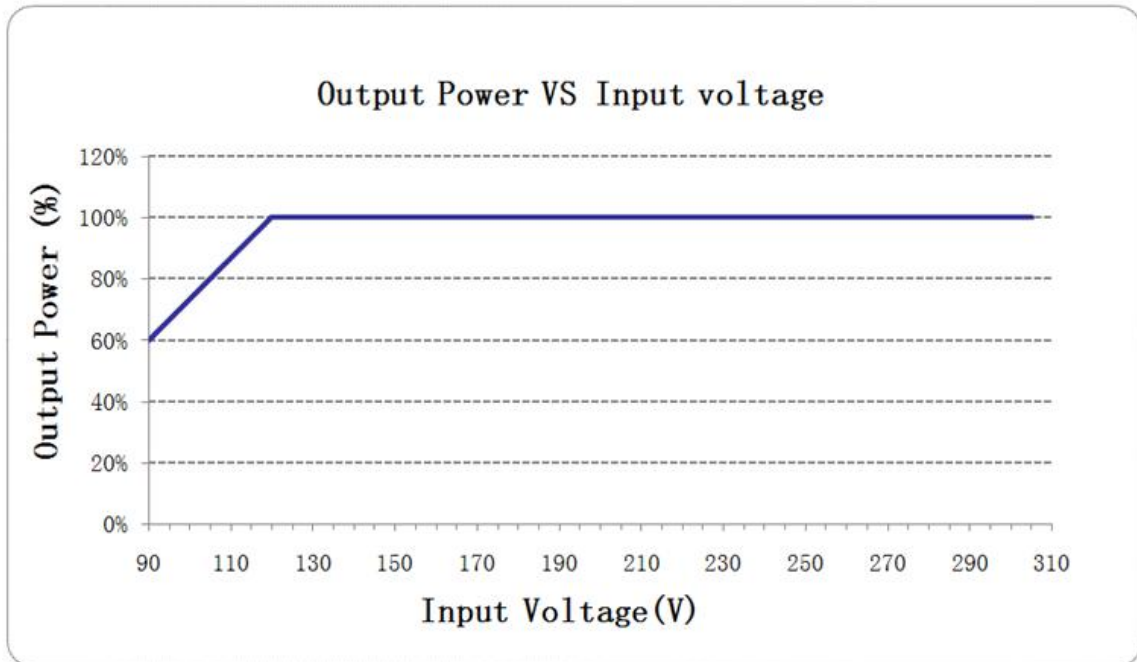
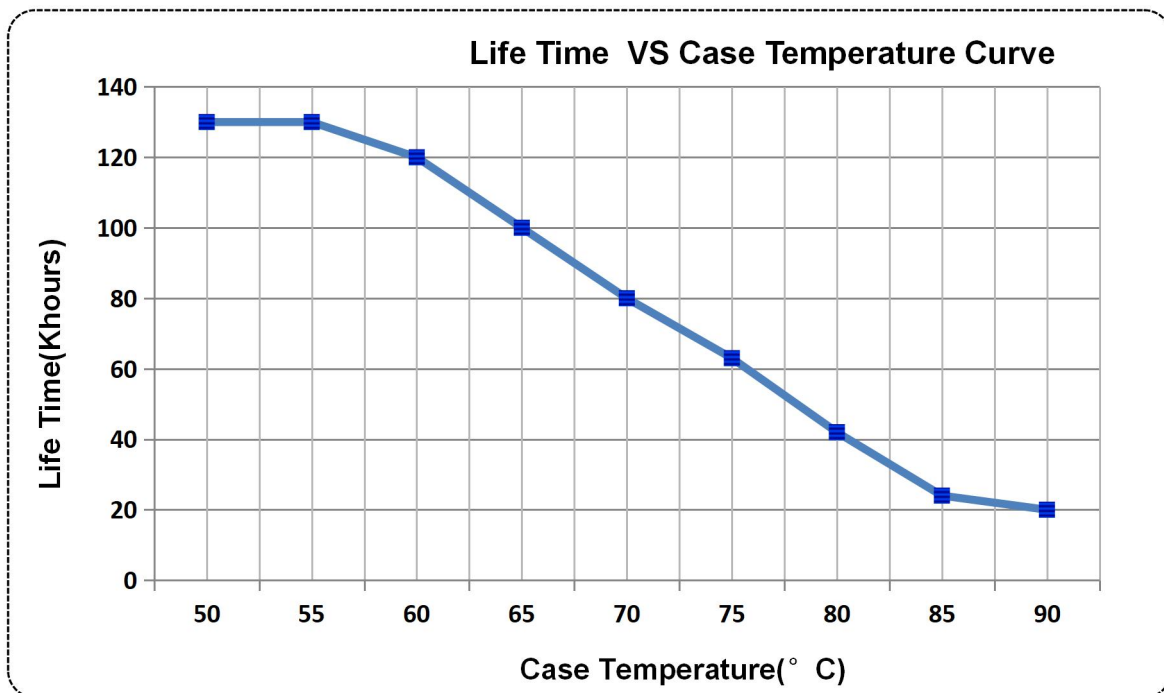
This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

**INRUSH CURRENT WAVEFORM**



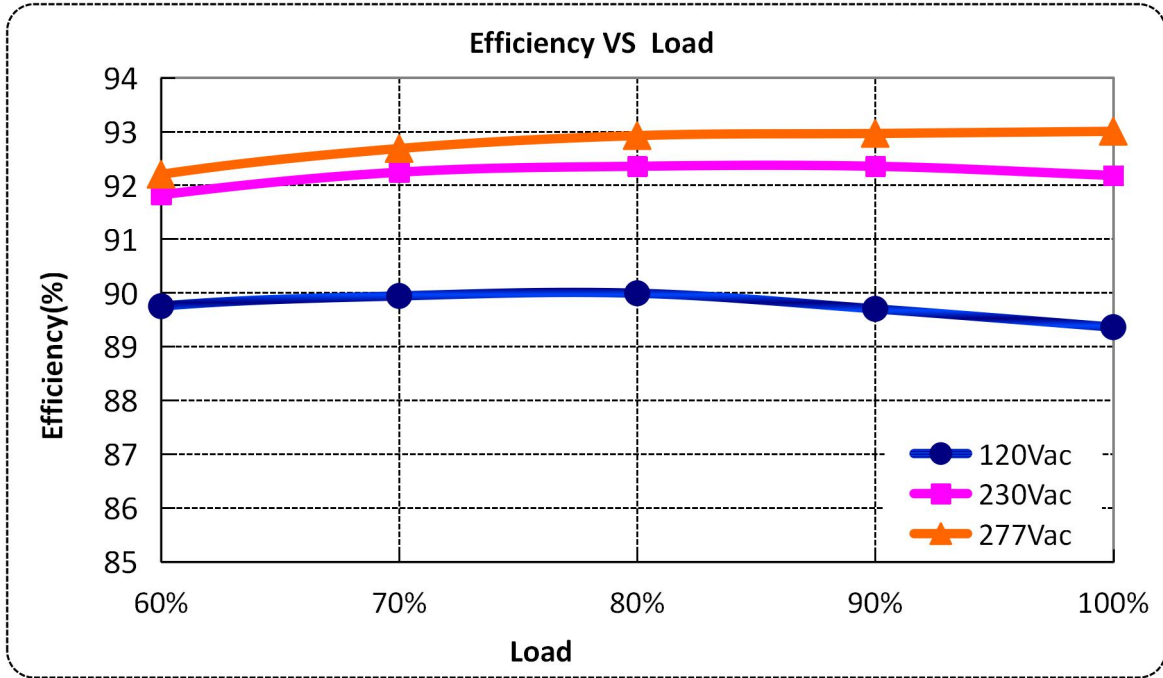
**DERATING CURVE**



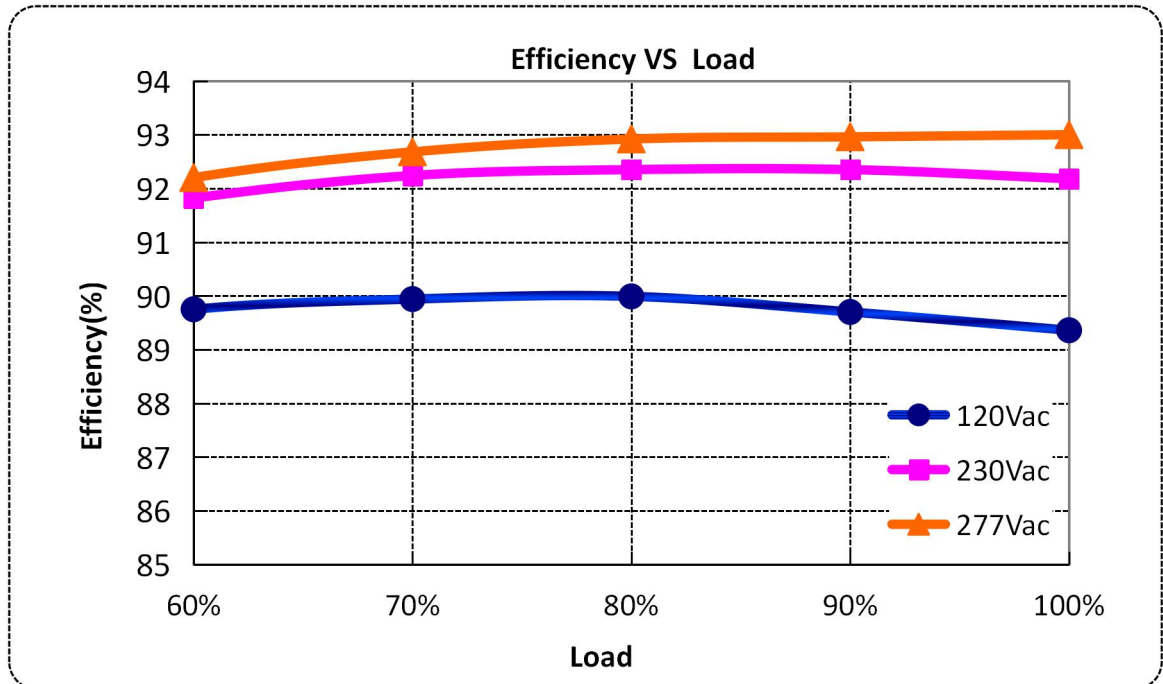
**OUTPUT POWER VS INPUT VOLTAGE****LIFETIME VS CASE TEMPERATURE**

### EFFICIENCY VS LOAD

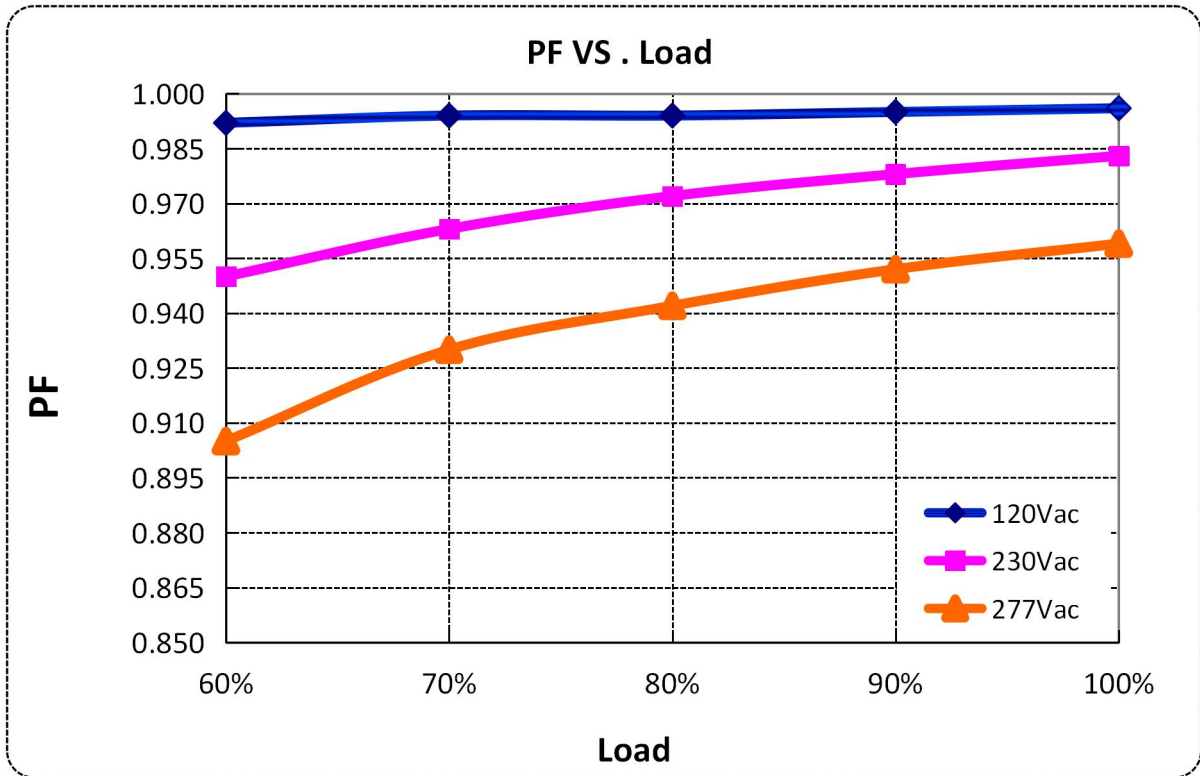
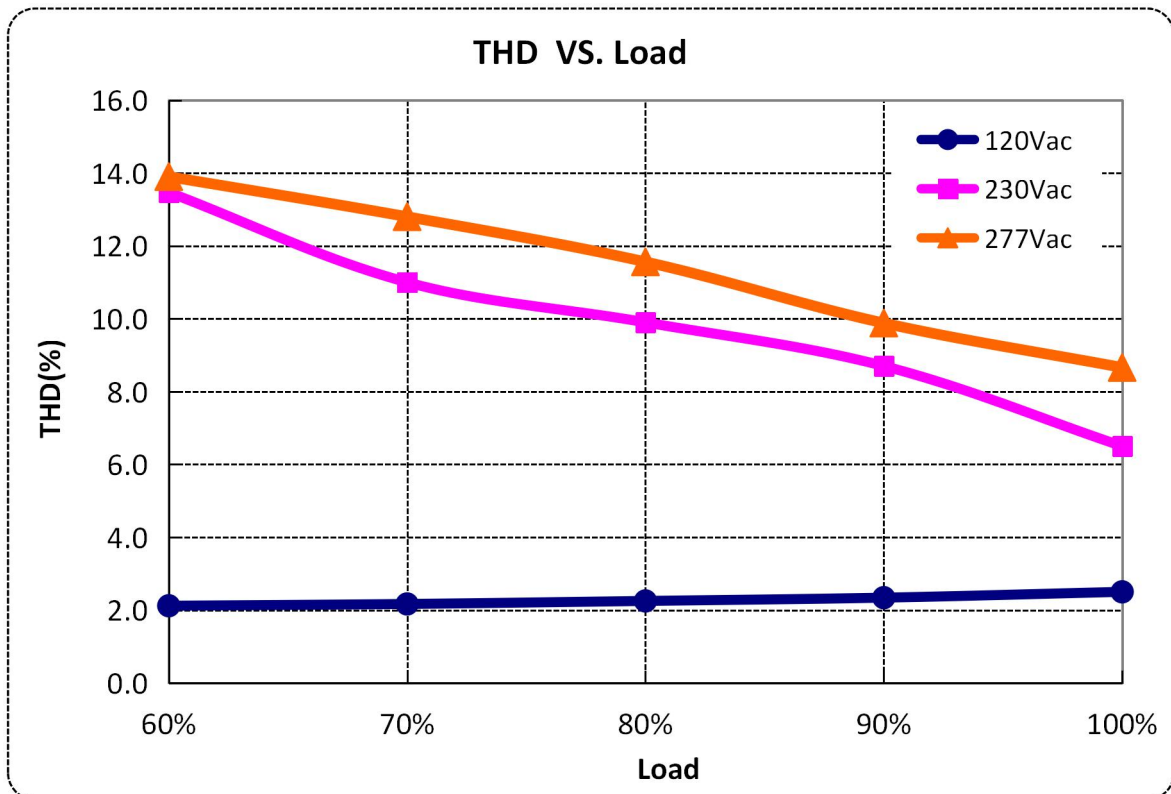
X6-320Y062A12 (Io=5.20A)



X6-320Y062A12 (Io=7.50A)





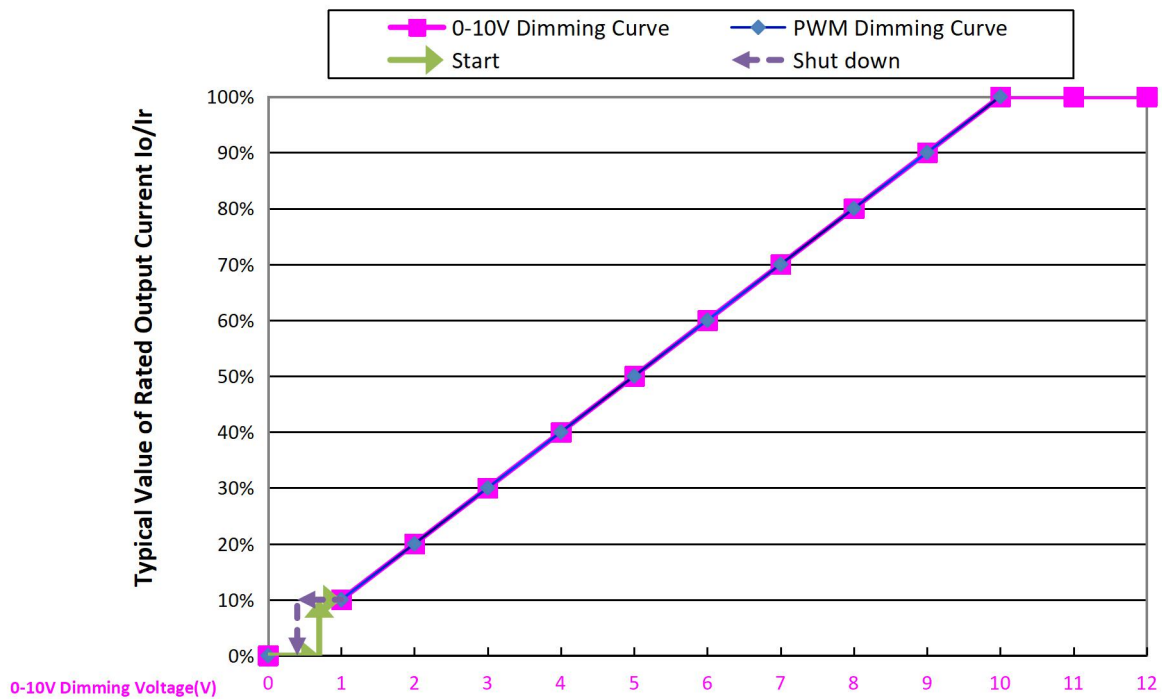
**POWER FACTOR VS LOAD****TOTAL HARMONIC DISTORTION**

### PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	When the short circuit occurs, the input power is reduced and the product enters the constant current output mode or locked mode. When the short circuit is released, restart the input to recover.
Over Voltage Protection	Run into protection model when output voltage exceeds limit, and return to normal when the fault

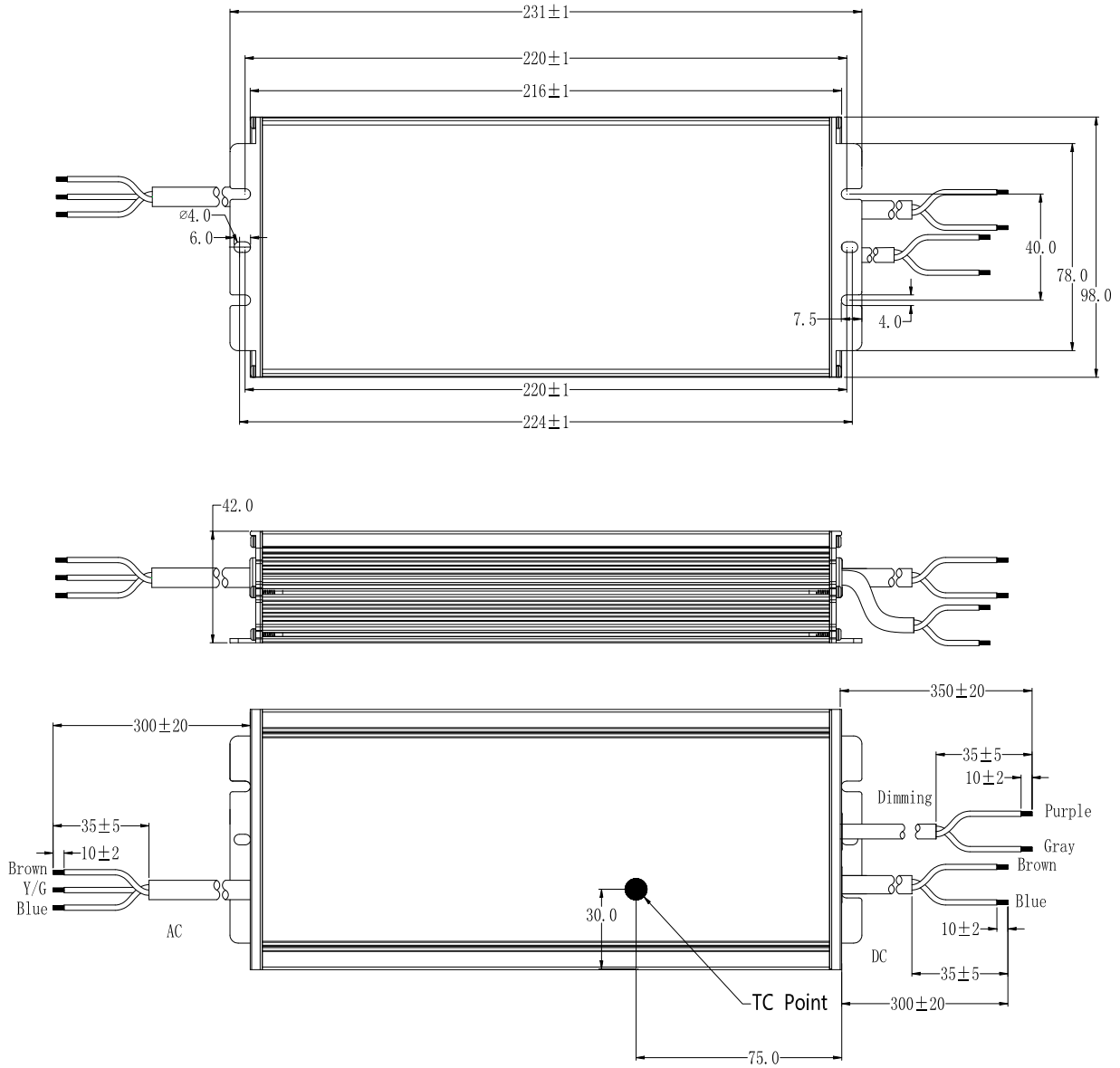
### 0-10V/PWM DIMMING

0-10V/PWM Dimming Curve

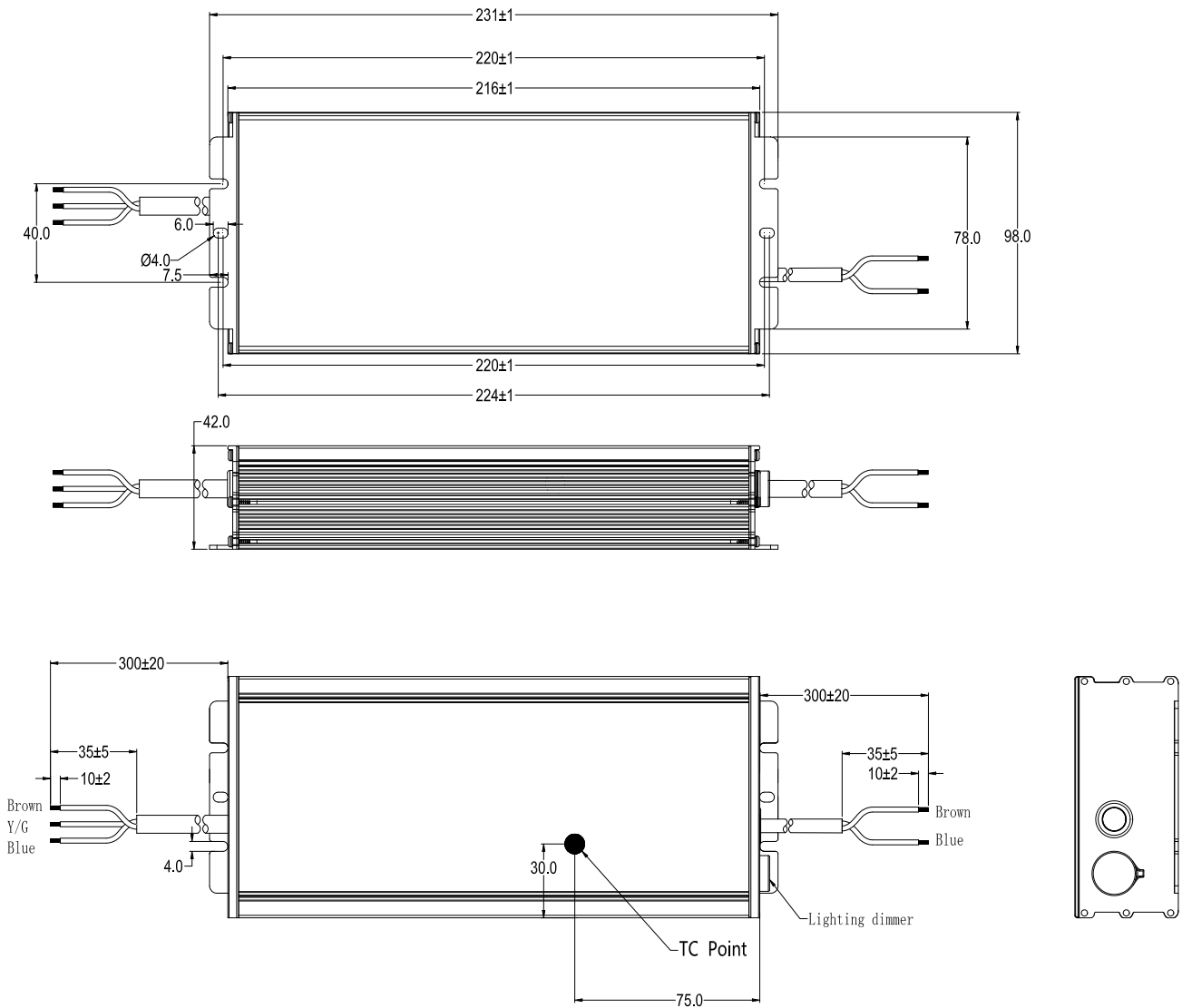


**Mechanical Outline**

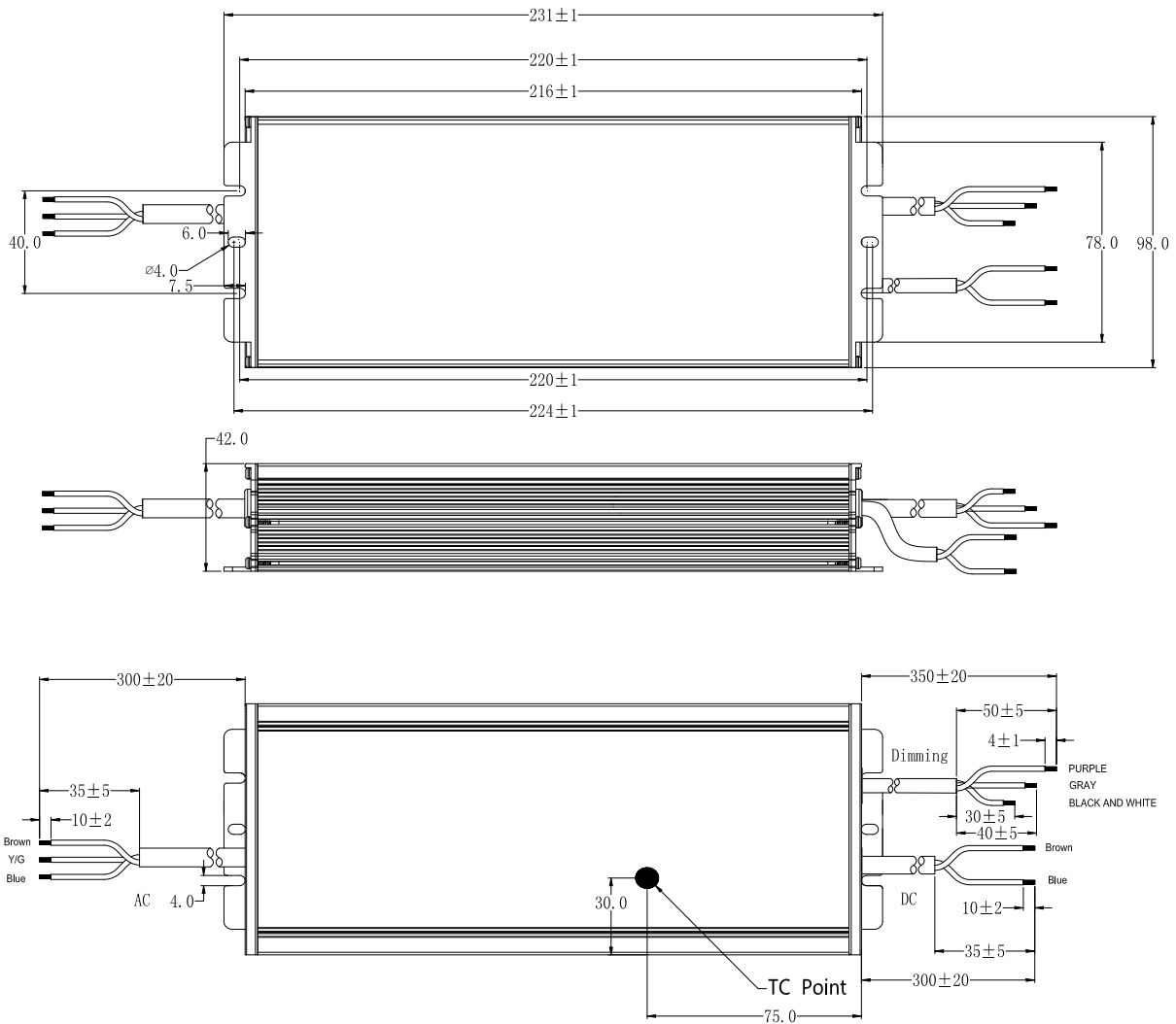
X6-320M062 types



### X6-320V062 types



### X6-320M062A12 Types



Wire	Specification	Note
Input	SJOW 17AWG*3C external diameter: 8.3mm L=300±20mm; peel length 35mm, Tin-dip length 10mm	for CCC/CE/UL
Output	SJOW 17AWG*2C external diameter: 7.7mm L=300±20mm; peel length 35mm, Tin-dip length 10mm	for CCC/CE/UL
Dimming	UL2733 22AWG*2C external diameter: 5.45mm L=350±20mm; peel length 30/40/50mm, Tin-dip length 4mm	Y = M

### LABEL

#### X6-320M062

203.00 mm

73.00 mm

**INPUT**

L (BROWN 棕)

G (Y/G 黄/绿)

N (BLUE 蓝)

**MOSO<sup>®</sup>** X6-320M062

LED DRIVER

LED 控制装置(恒流型)

INPUT (输入)	100-240V~ 50/60Hz, 4.2A Max.PF:0.95 277V~ 50/60Hz, 1.6A Max (277V~ for North America only)
OUTPUT (输出)	38-62V=== 0.75-7.50A Max.(最大电压): 80V=== Max.Power(最大功率):320W
t <sub>c</sub> : 90°C	t <sub>a</sub> : 50°C Input:100-200V~ t <sub>a</sub> : 60°C 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

**OUTPUT**

(PURPLE 紫) DIM +

(GRAY 灰) DIM -

(BROWN 棕) Vo +

(BLUE 蓝) Vo -

#### X6-320V062

203.00 mm

73.00 mm

**INPUT**

L (BROWN 棕)

G (Y/G 黄/绿)

N (BLUE 蓝)

**MOSO<sup>®</sup>** X6-320V062

LED DRIVER

LED 控制装置(恒流型)

INPUT (输入)	100-240V~ 50/60Hz, 4.2A Max.PF:0.95 277V~ 50/60Hz, 1.6A Max (277V~ for North America only)
OUTPUT (输出)	38-62V=== 3.75-7.50A Max.(最大电压): 80V=== Max.Power(最大功率):320W
t <sub>c</sub> : 90°C	t <sub>a</sub> : 50°C Input:100-200V~ t <sub>a</sub> : 60°C Input:200-240V~,277V~

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Shenzhen, CHINA

**OUTPUT**

(BROWN 棕) Vo +

(BLUE 蓝) Vo -

Io ADJ (+)

#### X6-320M062A12

203.00 mm

73.00 mm

**INPUT**

L (BROWN 棕)

G (Y/G 黄/绿)

N (BLUE 蓝)

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Shenzhen, CHINA

**OUTPUT**

(PURPLE 紫) DIM +

(GRAY 灰) DIM -

White 白/Black 黑 12V  
Dimming Range 10%~100%

(BROWN 棕) Vo +

(BLUE 蓝) Vo -



## Specification for Approval

Product Name: 320W outdoor off-line programmable driver  
Product Model: X6-320M062   
X6-320V062   
X6-320M062A12   
Rev.: C.3  
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 Province, P.R.China Post Code: 518108  
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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## Product Specification

Product Name:        320W outdoor off-line programmable driver

Product Model:        X6-320M062

X6-320V062

X6-320M062A12

Rev.                      C.3

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E-mail: info@mosopower.com                                      Web site: <http://www.mosopower.com>

Prepared By	Checked By	Approved By