



## Product Specification

Product Name:             320W Constant Voltage LED Driver  
Product Model:            V6E-320B048  
Rev.                             B.2

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Prepared By	Checked By	Approved By



REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
A.1	—	Datasheets Release	2023-07-13	
B.2		ERL202307035	2023-08-21	Junsheng.Lin



### Product Features:

- ◆ Input voltage: 176~264Vac;
- ◆ Constant voltage output;
- ◆ High power factor >0.97(230Vac& full load);
- ◆ THD<10%;
- ◆ Protection: InputUVP, output SCP, OVP, OTP, OCP;
- ◆ Surge immunity: DM6KV,CM10KV;
- ◆ IP67, glue potted, suitable for dry / wet / damp locations;
- ◆ 5 years warranty.

### Application

- ◆ Suitable for landscape lighting.

### DESCRIPTION

The V6E-320 series is a 320W constant-voltage, the LED driver that operates from 176~264Vac input with excellent power factor and low THD. It is designed for landscape lighting. The high efficiency of the driver and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, under voltage, output over current, over voltage, short circuit, and over temperature.

### MODELS

Model Number	Max Output Power(W)	Output Voltage (Vdc)	Output Current Range (A)	Typical Efficiency	Typical PF	Typical THD
V6E-320B048	320	48	0~6.70	93.5%	0.97	10%

### Notes:

1. All performance parameters are measured at 25°C ambient temperature, 230Vac input, full load conditions, except for those specified;
2. The drivers are not allowed to work in over-load condition, otherwise warranty will expire.

**INPUT SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes			
Input Voltage	176Vac	200-240Vac	264Vac				
Input Frequency	47Hz	50/60	63Hz				
Leakage Current	-	-	0.70mA	240Vac/60Hz			
Input AC Current	-	-	2.2A	200-240Vac & full load			
Inrush Current	-	-	5.5 A <sup>2</sup> S	Cold start, 10%I <sub>peak</sub> , 230Vac & full load			
Power Factor	0.96	0.98	-	220-240Vac , 50-60Hz & full load			
	0.95	0.97	-	220-240Vac , 50-60Hz & 75% load			
	0.90	0.93	-	220-240Vac , 50-60Hz & 50% load			
THD	-	10%	15%	220-240Vac,50-60Hz,80%~100% load			
	-	15%	20%	220-240Vac,50-60Hz,50%~80% 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 Voltage Tolerance	-2%	-	+2%	Full load
Total Output Voltage Ripple(pk-pk)	-2%	-	+2%	Full load, Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor.
Outputovershoot	-5%	-	+5%	When the power is on
Line Regulation	-0.5%	-	+0.5%	25°C±10°C ambient temperature, input voltage changes from 200Vac to 240Vac.
Load Regulation	-2%	-	+2%	25°C±10°C ambient temperature, 230Vac input, load changes from 50% to 100%.
Turn-on Delay Time	-	-	0.5S	230Vac, 100% load

### GENERAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Notes
Efficiency@230Vac		92%	93.5%	-	40%~100% load
Dielectric Strength	Input-Output	-	3750Vac		5mA/60S
	Input-PE	-	1875Vac		
	Output- PE	-	500Vac		
Grounding Resistance		-	-	0.1Ω	25°C ± 10°C Ambient Temperature, pass 25A Current, 60s.
Insulation Resistance		10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60 S/25°C/70%RH
MTBF		-	200Khrs	-	25°C ± 10°C ambient temperature, 230Vac, 80% load condition (MIL-HDBK-217/SR-332)
Lifetime		-	50000Hours	-	230Vac & 100% load, 75°C case temperature, refer to lifetime VS Tc curve for details
Ambient Temperature		-40°C		+55°C	
Operating Case Temperature for Safety Tc_s		-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_w		-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 100% RH
Storage Temperature		-40°C	-	+90°C	Humidity: 10% to 100% RH
Dimensions (L*W*H)mm		L224.5*W96.9*H41.8			
Net Weight		1700±100g/PCS			
Package		L610*W370*H160mm; 10PCS/Ctn.; Gross Weight: 18.8kg			

### SAFTY STANDARDS

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

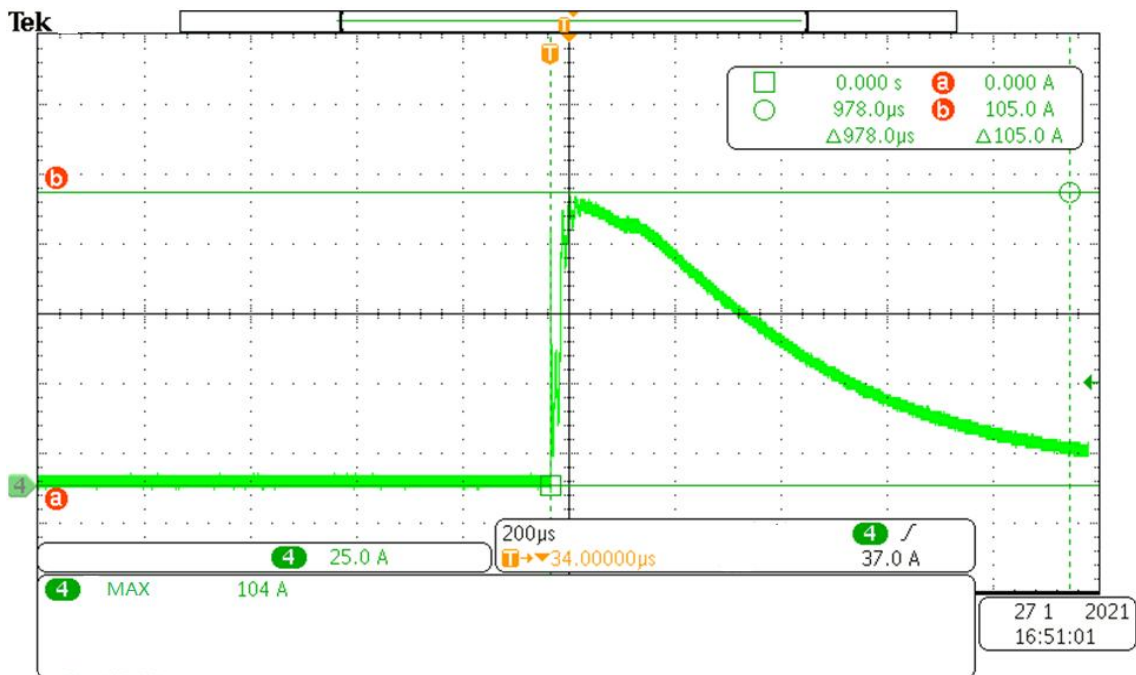
### EMC COMPLIANCE

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:

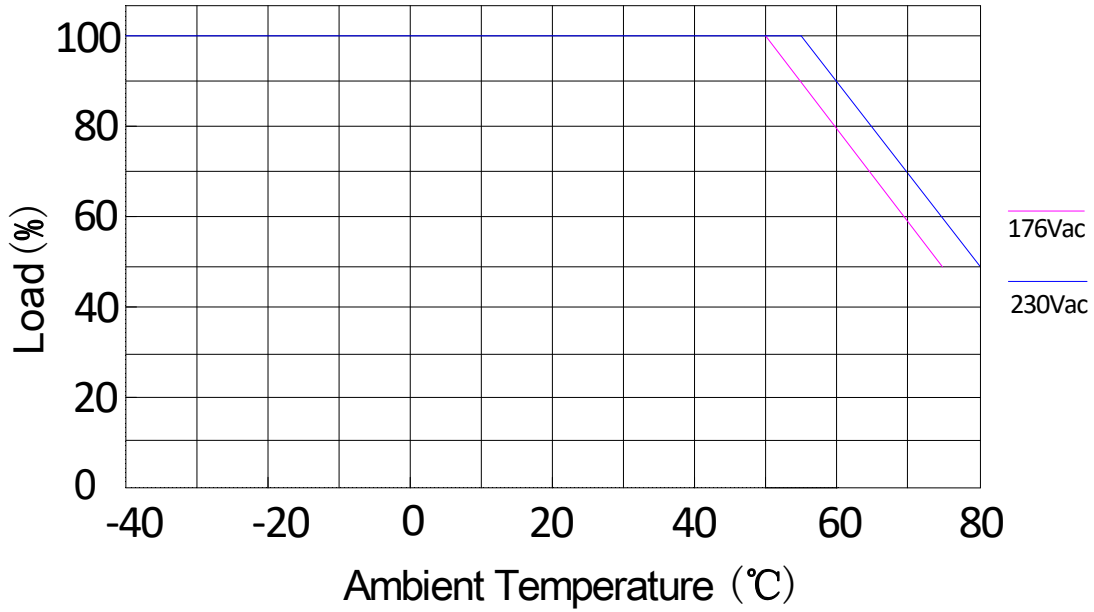
This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

### INRUSH CURRENT WAVEFORM

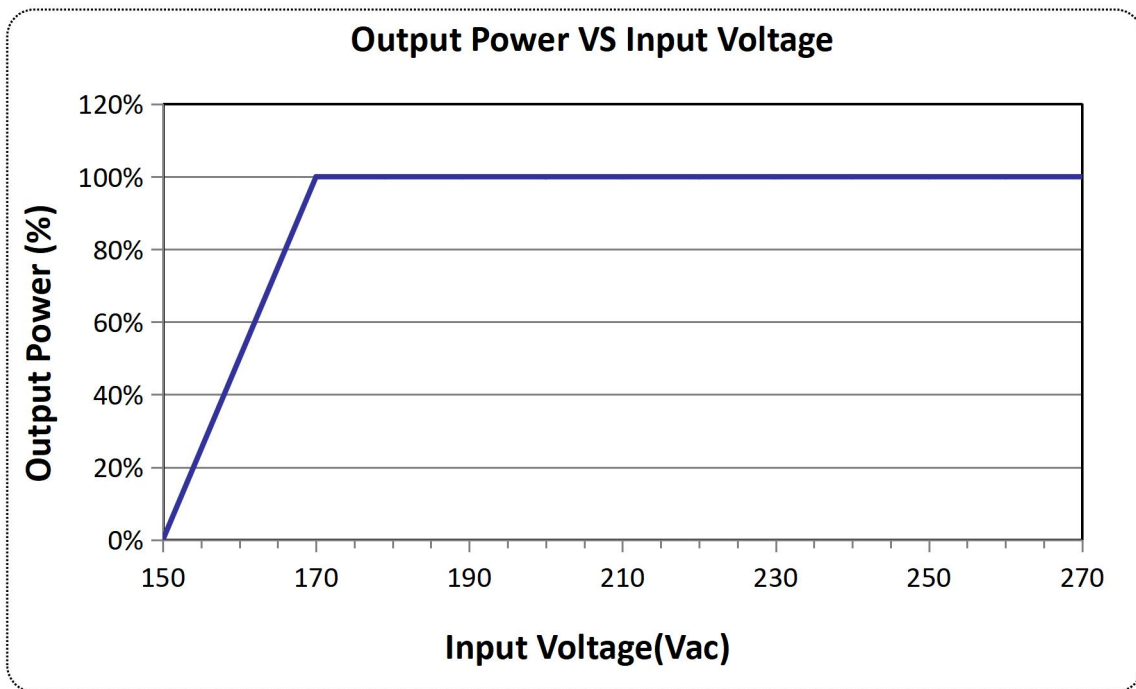


### DERATING CURVE

#### Derating Curve

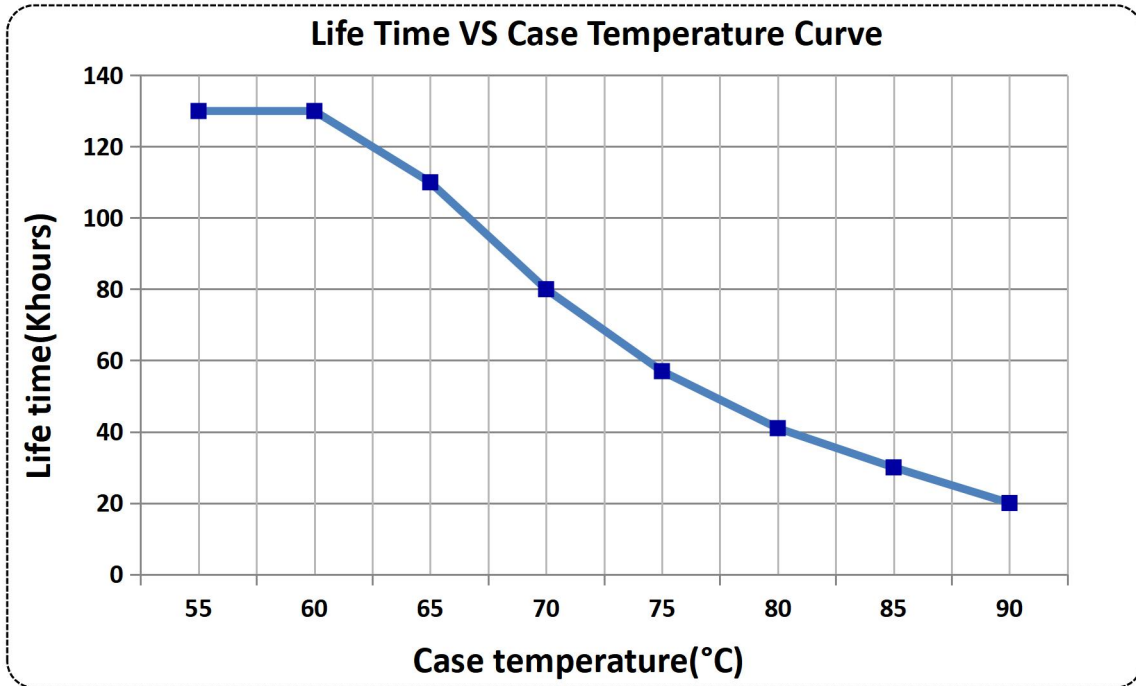


### OUTPUT POWER VS INPUT VOLTAGE CURVE

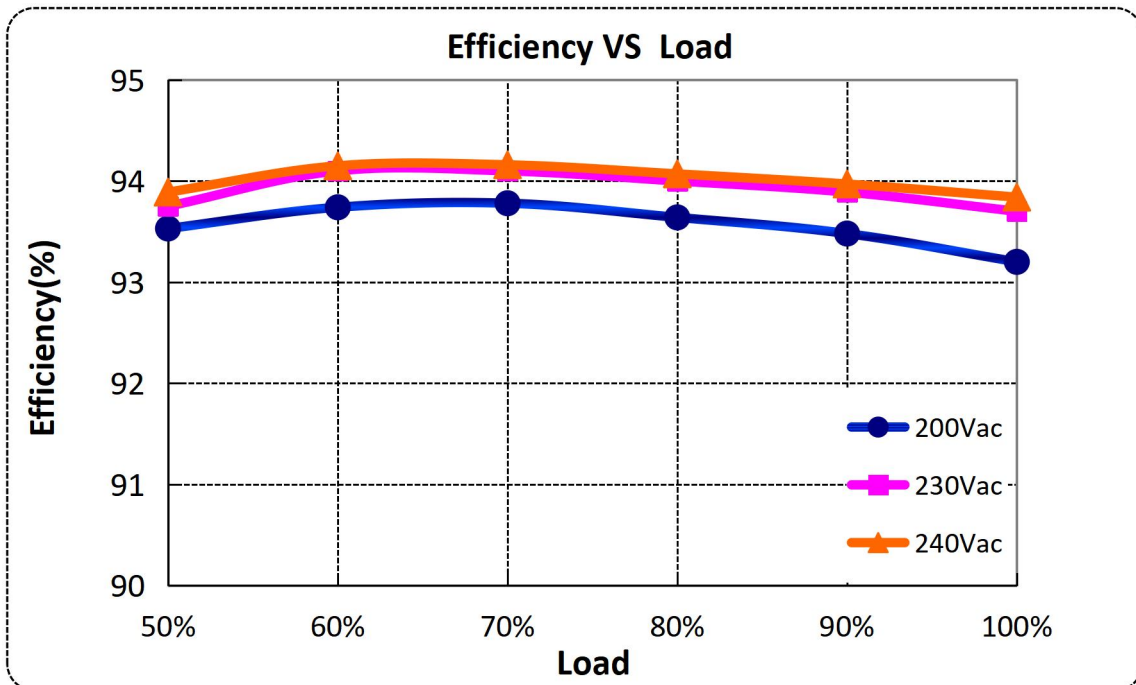




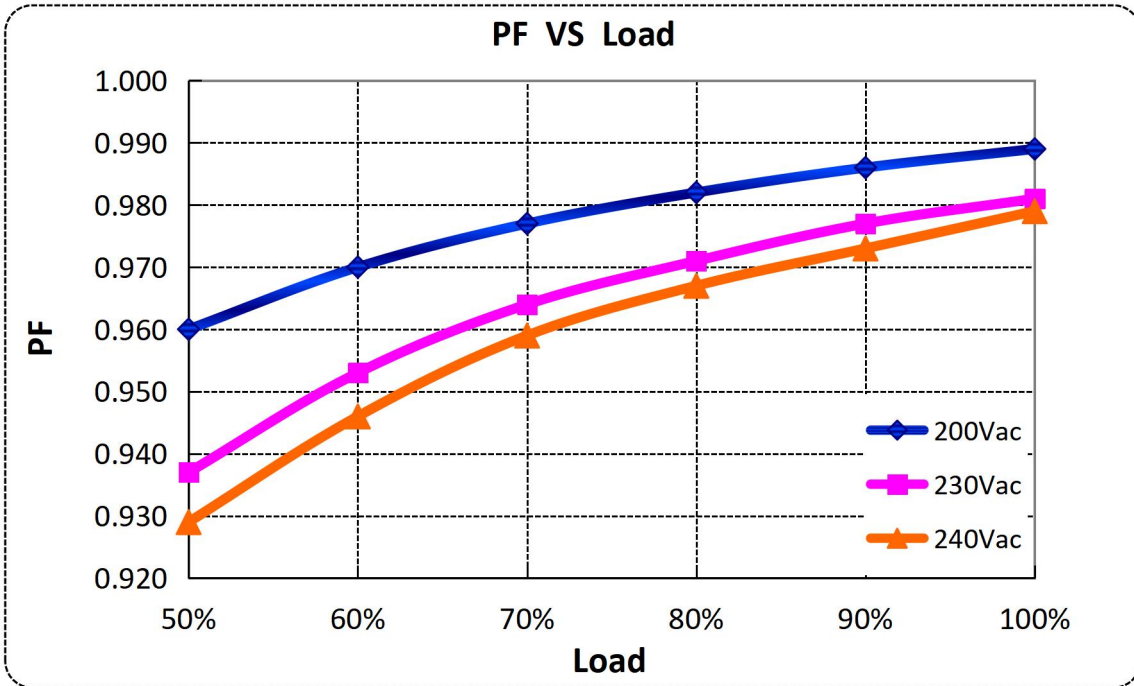
## LIFETIME VS CASE TEMPERATURE



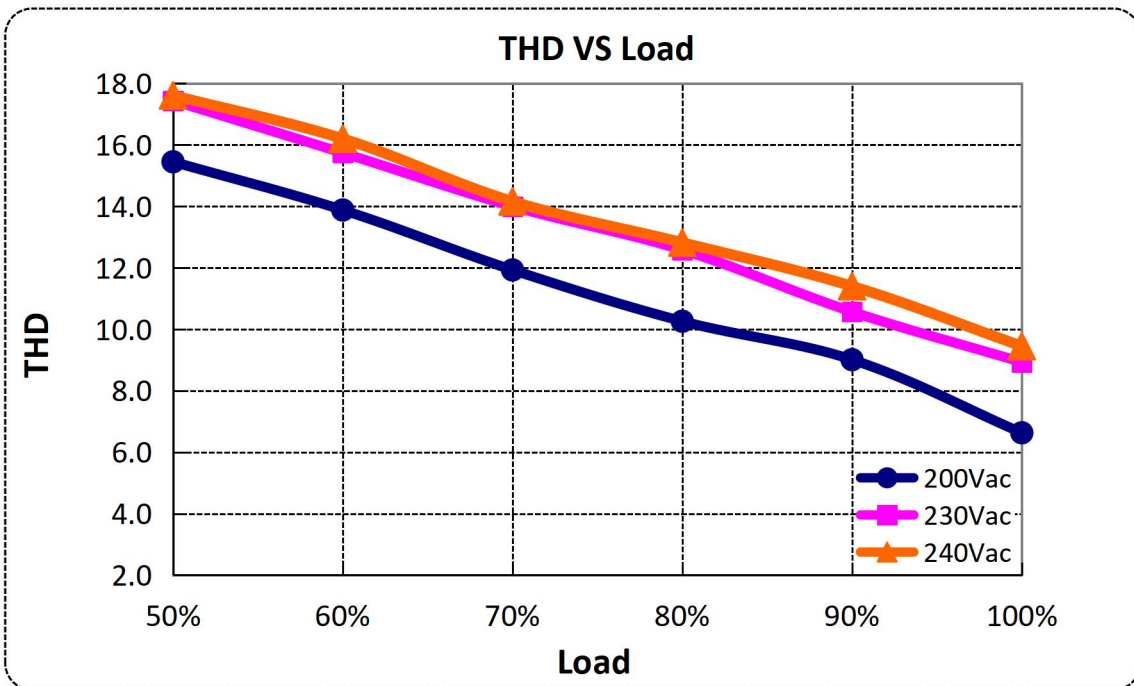
## EFFICIENCY VS LOAD



### POWER FACTOR VS LOAD



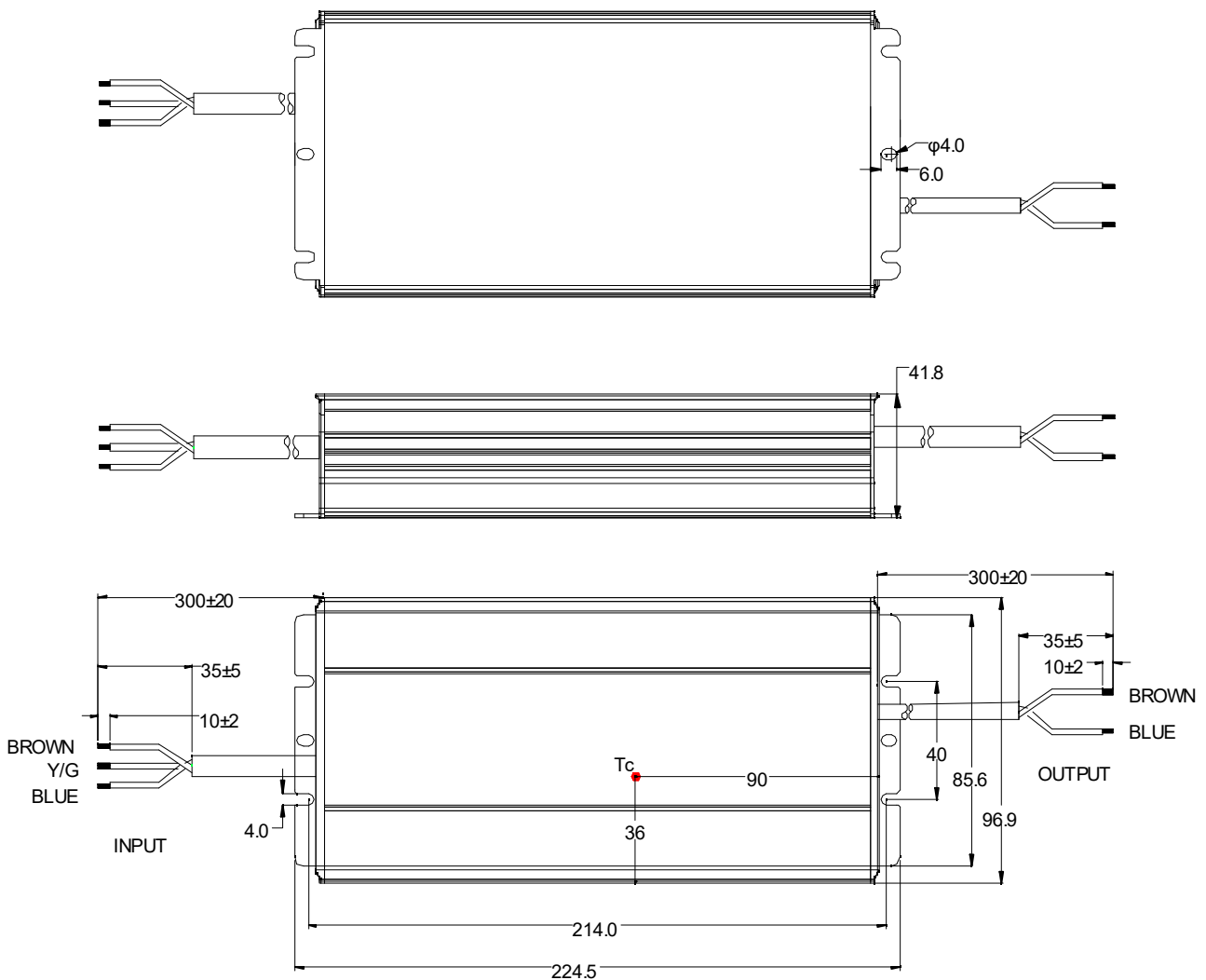
### TOTAL HARMONIC DISTORTION



### PROTECTIONS

Parameter	Min.	Typ.	Max.	Notes
Input under voltage protection	156Vac /50Hz	-	176Vac /50Hz	Turn off the output or hiccup when the input voltage falls below protection voltage.
Over temperature protection	Output drop current. Returning to normal after over temperature is removed.			
Short circuit protection	Hiccup mode. The output shall return to normal when the fault condition is removed.			
Over current protection	Hiccup mode. The output shall return to normal when the fault condition is removed.			
Over voltage protection	Turn off the output voltage, when the fault is removed, restart and resume.			

### MECHANICAL OUTLINE



Wire	Specification	Note
Input	CCC+VDE 3*1.0mm <sup>2</sup> L=300±20mm	CCC/CE
Output	CCC+VDE 2X1.5 mm <sup>2</sup> L=300±20mm	CCC/CE

### LABEL

44.50 mm

200.00 mm

**INPUT**

L (BROWN 棕)

G (Y/G 黄/绿)

N (BLUE 蓝)

**MOSO<sup>®</sup> V6E-320B048**  
LED DRIVER  
LED 控制装置 (特压型, 内置防浪涌)

INPUT (输入)	200-240V~50/60Hz, 2.2A Max.
OUTPUT (输出)	Output current: 6.7A Max. Urated 48V <sup>---</sup> , Prated: 320W Max.
t <sub>c</sub> : 90°C	t <sub>a</sub> : 55°C Input: 200-240V~

中国制造  
 仅适用LED模块  
 MADE IN CHINA  
 For LED module only

深圳茂硕电子科技有限公司  
 Suitable for Dry, Damp and Wet locations  
 SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD  
 No. 1001, Songbai Road, Xili Town, Nanshan District,  
 Shenzhen, CHINA



**OUTPUT**

(BROWN 棕) Vo+

(BLUE 蓝) Vo-

### ROHS

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU

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