

Specification for Approval

Product Name: 150W Constant Voltage LED Driver

Product Model: V6E-150B012

Rev. A. 4

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>

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深圳茂硕电子科技有限公司
SHEN ZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD

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REVISION HISTORY

[illegible]



Product Features:

- ◆ Input voltage: 176~264Vac;
- ◆ Constant voltage output;
- ◆ High power factor >0.97(230Vac& full load);
- ◆ THD<10%;
- ◆ Protection: Input UVP, output SCP, OVP, OTP, OCP;
- ◆ Surge immunity: DM 6KV, CM 10KV;
- ◆ IP67, glue potted, suitable for dry / wet / damp locations;
- ◆ 5 years warranty.

Application

- ◆ Suitable for landscape lighting.

DESCRIPTION

The V6E-150 series is a 150W 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-150B012	150	12	0~12.5	92%	0.97	10%

Notes:

All performance parameters are measured at 25°C ambient temperature, 230Vac input, and full load conditions, except for those specified.

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	-		-		1.0A		200-240Vac & full load
Inrush Current	-		-		75A		Cold start, 10%I _{peak} , 230Vac & full load
Power Factor	0.96		-		-		220-240Vac, 50-60Hz, 100% load
	0.95		-				220-240Vac, 50-60Hz, 75% load
	0.90		-				220-240Vac, 50-60Hz, 50% load
THD	-		-		10%		220-240Vac, 50-60Hz, 50%-100% load
Max. No. of PSUs on CIRCUIT BREAKER	B10	5	B16	7	B20	9	230Vac
	C10	8	C16	12	C20	15	

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%	-	+5%	Full load
Total Output Voltage Ripple(pk-pk)	-3%	-	+3%	Full load, Measured by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor.
Output overshoot	-5%	-	+5%	200-240Vac & full load
Line Regulation	-0.5%	-	+0.5%	25°C±10°C ambient temperature, input voltage changes from 176Vac to 264Vac.
Load Regulation	-1%	-	+1%	25°C±10°C ambient temperature, 230Vac input, load changes from 50% to 100%.
Turn-on Delay Time	-	-	0.5S	230Vac, 100% load
Temperature Coefficient		0.03%/°C		-40°C ~ +60°C

GENERAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Notes
Efficiency@230Vac		91%	92%	-	Full load. Measured at full load and 25°C ambient temperature
		88%		-	75% load. Measured at full load and 25°C ambient temperature
		85%			50% load. Measured at full load and 25°C ambient temperature
Dielectric Strength	Input-Output	-	3750Vac		5mA/60S
	Input-PE	-	1875Vac		
	Output- PE	-	500Vac		
Grounding Resistance		-	-	0.1Ω	25A/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 (MIL-HDBK-217F)
Lifetime		-	50000Hours	-	230Vac&100% load, 75°C case temperature, refer to lifetime VS Tc curve for details
Ambient Temperature		-40°C		+60°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 95% RH
Storage Temperature		-40°C	-	+90°C	Humidity: 10% to 95% RH
Dimensions (L*W*H)mm		L162.5*W67.2*H37			
Net Weight		750±50g/PCS			
Package		L500mm*W310mm*H160mm; 15PCS/Ctn. Gross Weight: 13Kg			

SAFTY 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)	
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	

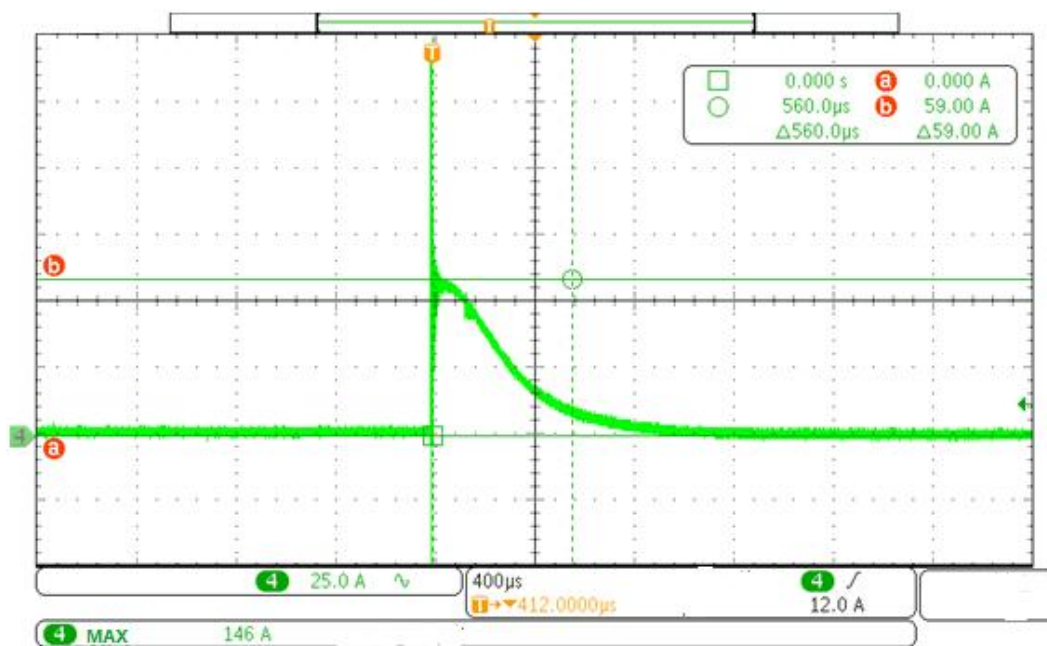
EMC COMPLIANCE

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:

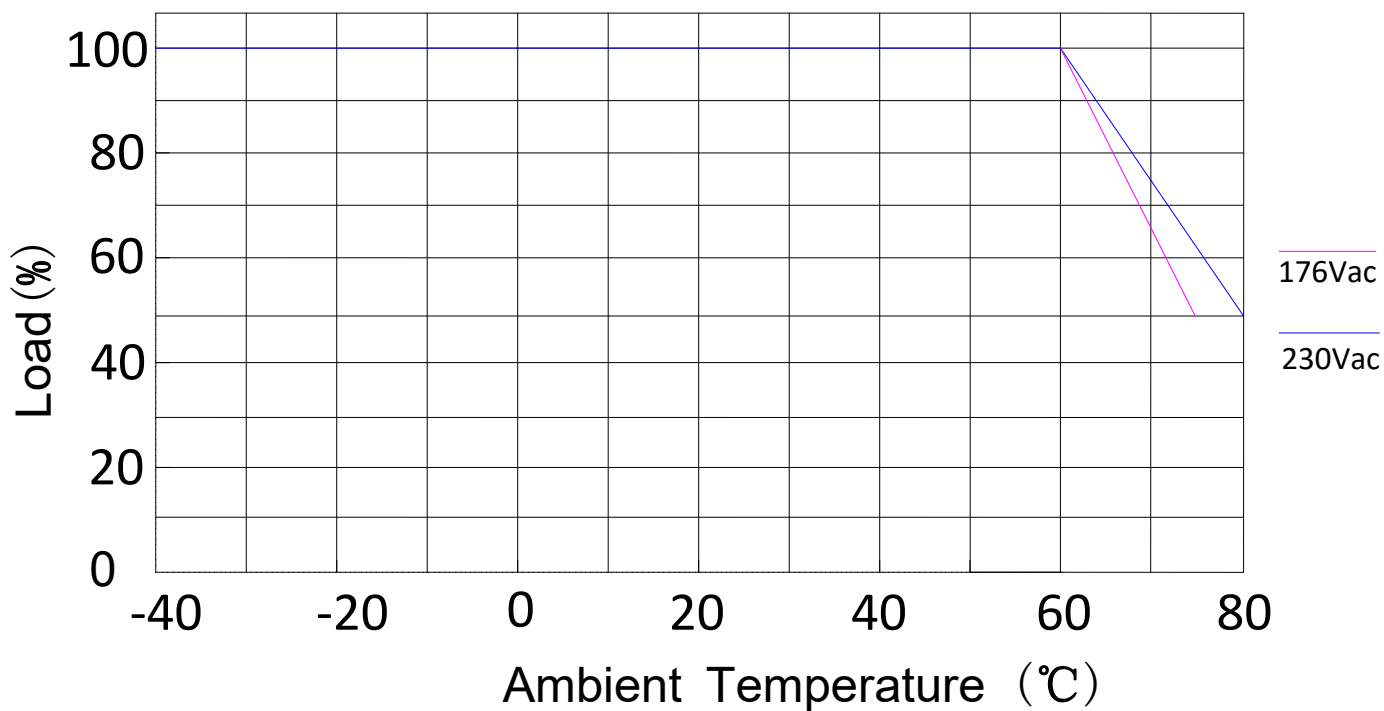
This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

INRUSH CURRENT WAVEFORM

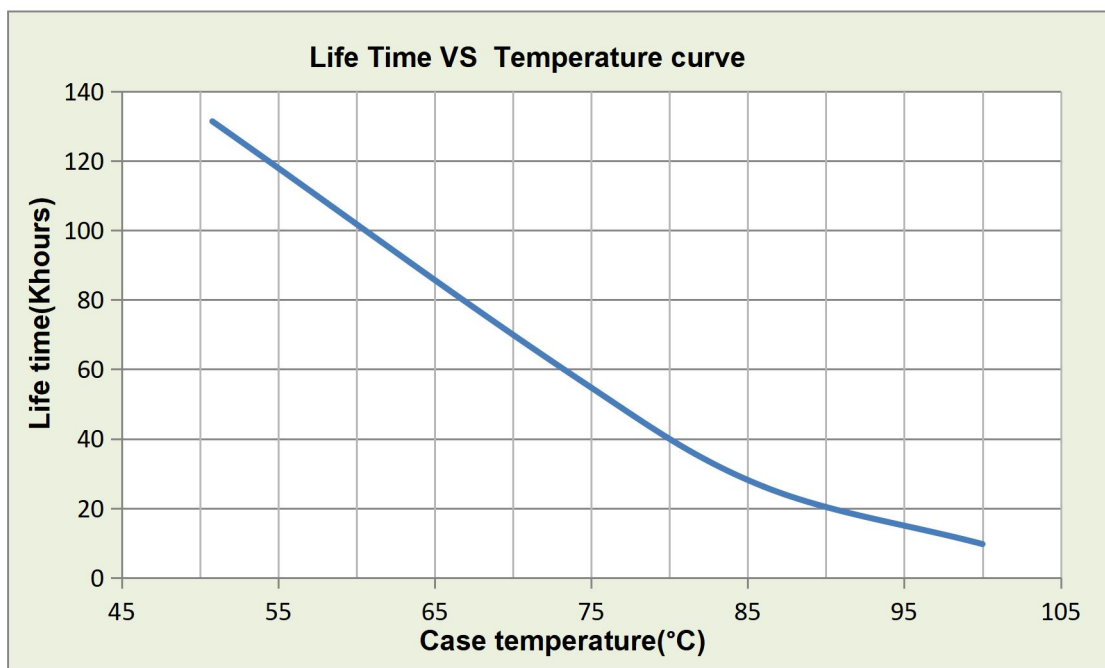


DERATING CURVE

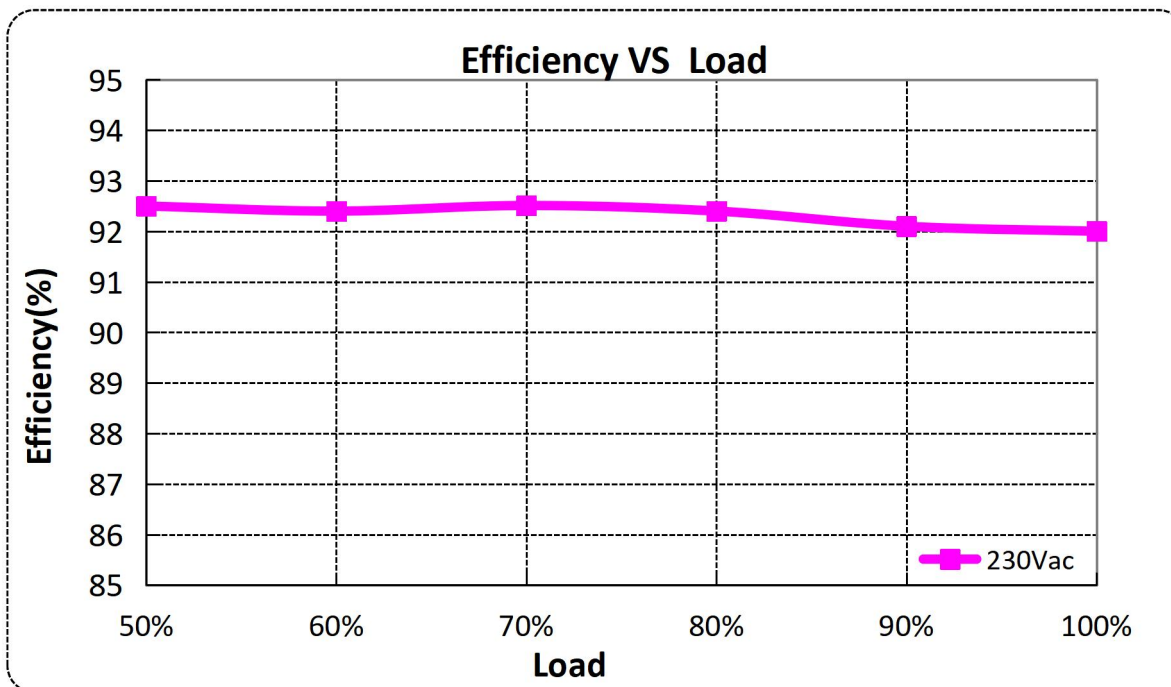
Derating Curve



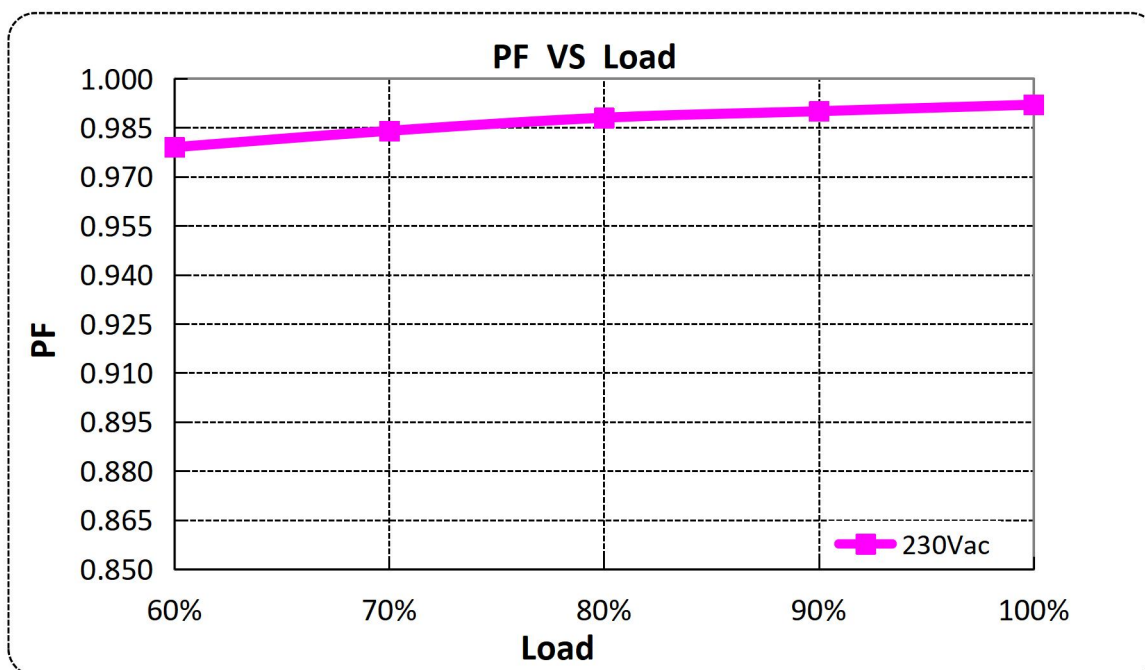
LIFETIME VS CASE TEMPERATURE



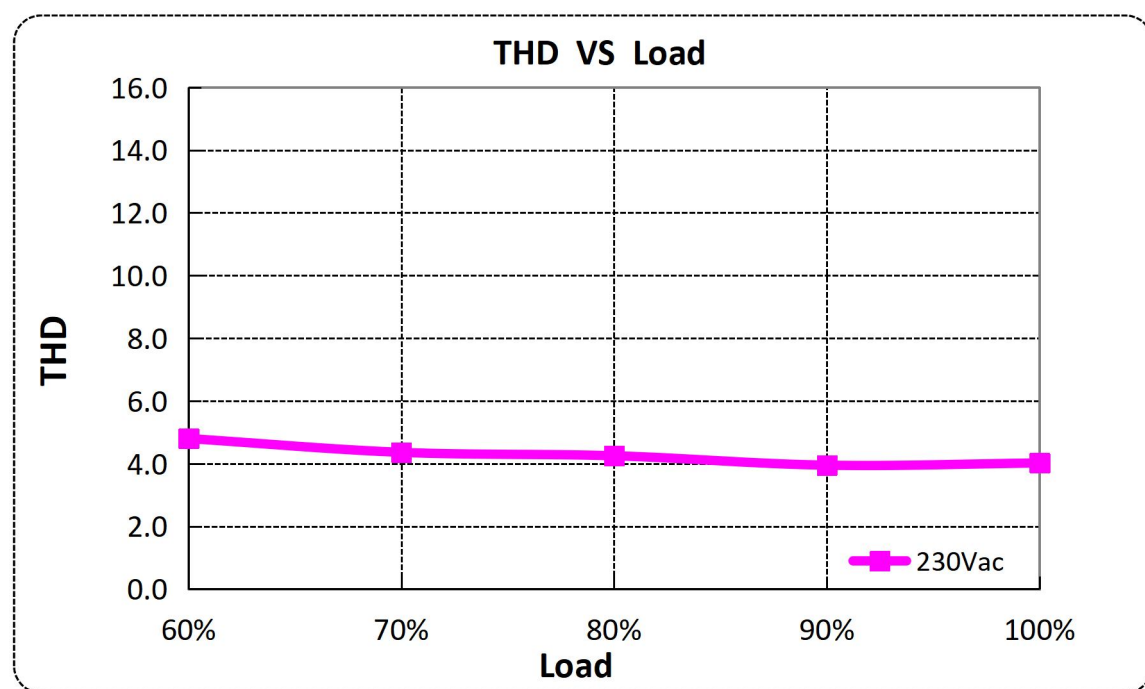
EFFICIENCY VS LOAD



POWER FACTOR VS LOAD



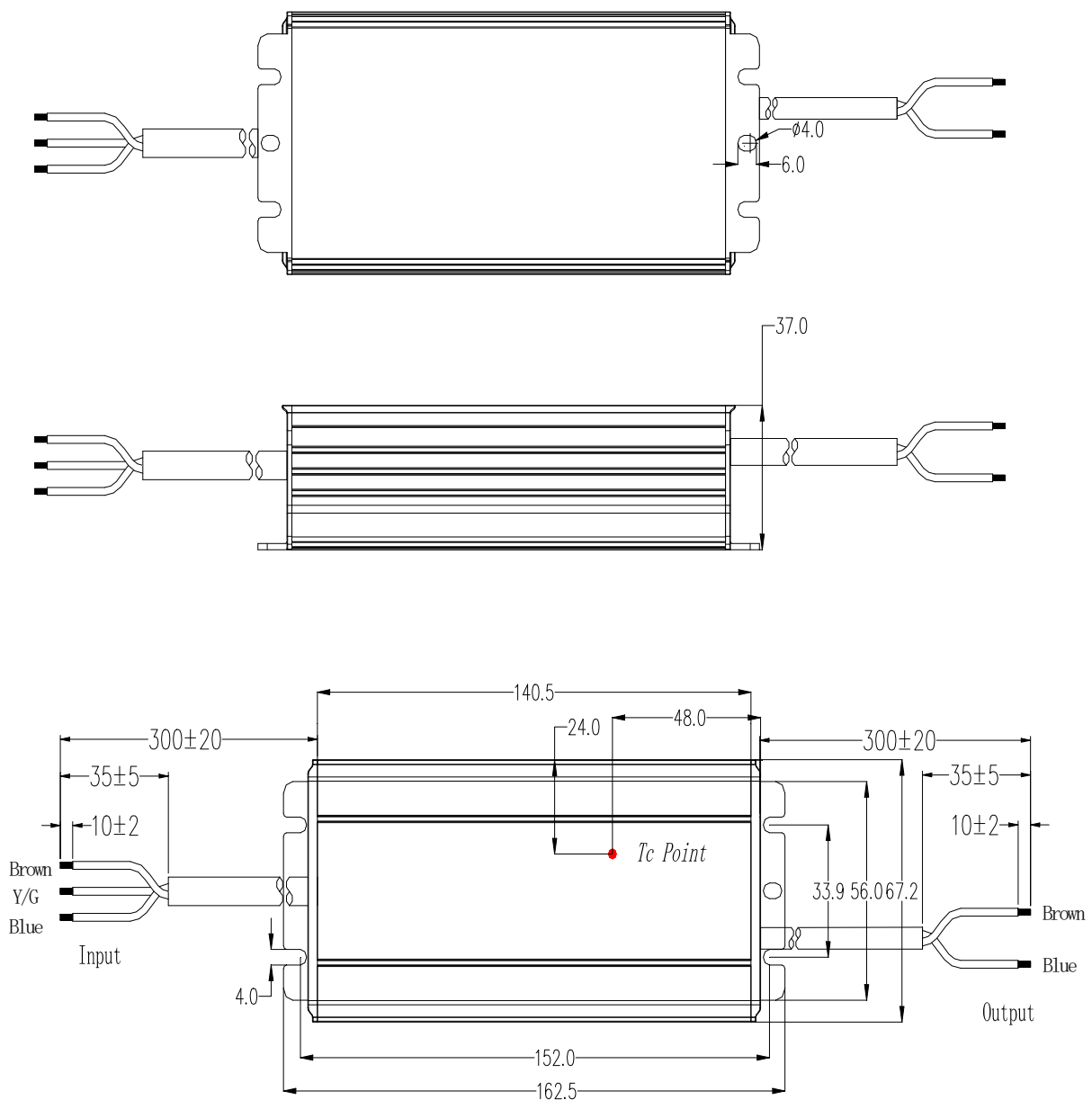
TOTAL HARMONIC DISTORTION



PROTECTIONS

Parameter	Notes
Over temperature protection	Turn off the output. 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 ² external diameter: 7.15mm; L=300±20mm	CCC/CE
Output	CCC+VDE 2*1.0mm ² external diameter: 9.6mm; L=300±20mm	CCC/CE

LABEL

