Product Feature

- ◆ Input Voltage：108～305Vac;
- ◆ Surge immunity：DM-4KV，CM-6KV;
- ◆ Protection：SCP，OVP，OTP;
- ◆ IP67 design for indoor and outdoor applications

Application

- ◆ LED street lighting, industrial lighting and landscape lighting.

DESCRIPTION

The EHC-105W is a 105W, constant-current, IP67 LED driver that operates from 108-305 Vac input with excellent power factor and low THD. It is created for industrial lights, tunnel and street lights. The high efficiency of these drivers and compact metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, input over voltage, output over voltage, short circuit, and over temperature.

Models

Model Number	Input voltage range(Vac)	Max Output Power（W）	Output Voltage Range (Vdc)	Output current (A)	Typical Efficiency	Typical THD	Typical PF	
							120Vac	230Vac
EHC-105B150	200-305	105	75-150	0.7	91%	10%	0.99	0.97
	108-200	80	75-115					
EHC-105B122	200-305	105	61-123	0.86	90%	10%	0.99	0.97
	108-200	80	61-94					
EHC-105B100	200-305	105	50-100	1.05	90%	10%	0.99	0.97
	108-200	80	50-77					

Remark: All specifications are measured at 25C ambient temperature, if no specific note.

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INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	120Vac	120-277Vac	305Vac	Please refer to the Derating curve
Input Frequency	47HZ	50/60	63Hz	
Leakage Current	-	-	0.75mA	277V/60Hz
Input AC Current	-	-	1.2A	120-277Vac with full load
Inrush Current(I^2t)	-	-	$0.01A^2S$	230Vac input，Ta＝25℃（cold start）
Power Factor	0.97	0.98		120Vac, 80W
	0.95	0.97		230Vac, 105W
THD	-	10%	20%	200-230Vac, 80-105W Load
	-	10%	15%	200-230Vac, 105W Load
	-	10%	15%	120-200Vac, 80W Load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-8%Iset	-	8%Iset	Full load
Total Output Current Ripple(pk-pk)	-	150%	200%	Full load & LED Load, ripple is different with difference LED load. 20MHz BW
Startup Overshoot Current	-	-	10%	120~277Vac & Full load, LED Load
No Load Output Voltage EHC-105B150 EHC-105B122 EHC-105B100	-	-	 200V 180V 160V	
Line Regulation	-	-	8%	25℃±10℃ ambient temperature, input voltage changes from 200Vac to 277Vac.
Load Regulation	-	-	8%	25℃±10℃ambient temperature, 230Vac input, load changes from 60% to 100%.
Turn-on Delay Time	-	-	3S	120Vac, 80W Load
	-	**0.5** S	1S	230Vac, 105W Load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency@120Vac EHC-105B150 EHC-105B122 EHC-105B100	 87% 87% 87%	 89% 89% 89%		Measured at 80W load and 25℃ambient temperature
Efficiency@230Vac EHC-105B150 EHC-105B122 EHC-105B100	 89% 89% 89%	 91% 90% 90%		Measured at 105W load and 25℃ambient temperature
Efficiency@277Vac EHC-105B150 EHC-105B122 EHC-105B100	 89% 89% 89%	 91% 90% 90%		Measured at 105W load and 25℃ambient temperature
MTBF	-	200000Hours	-	230Vac,80% load (MIL-HDBK-217F)
Lifetime	-	50000Hours	-	230Vac&100% load,70℃case temperature, refer to lifetime VS Tc curve for details
Operating Case Temperature for Safety Tc_s	-40℃	-	+85℃	
Operating Case Temperature for Warranty Tc_w	-40℃	-	+75℃	5 Years Warranty Humidity：10% to 95% RH
Storage Temperature	-40℃	-	+85℃	Humidity：10% to 95% RH
Dimensions (L×W×H)mm	164mm*68mm*39mm			
Net Weight	650±100g			

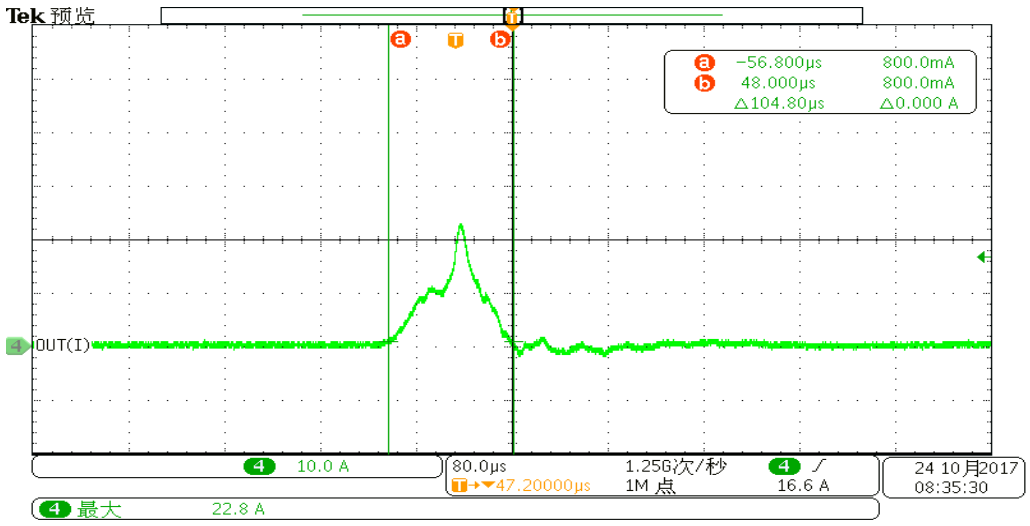
SAFTY STANDARDS

Safety Category	Country / Territory	Standards
CCC	China	GB19510.1, GB19510.14
CE	Europe	EN61347-1, EN61347-2-13
CB	CB Countries	IEC61347-1, IEC61347-2-13
UL	USA	UL 8750, UL 1310(Class 2 Power Units), UL 1012
CUL	Canada	CSA C22.2 No.107.1-01, CSA C22.2 No.223-M91（Power Supplies With Extra-Low-Voltage Class 2 Outputs）
KC	South Korea	K61347-1, K61347-2-13, K62384
PSE	Japan	J61347-1, J61347-2-13
SAA	Australia	AS/NZS IEC 61347-2-13
		AS/NZS 61347.1

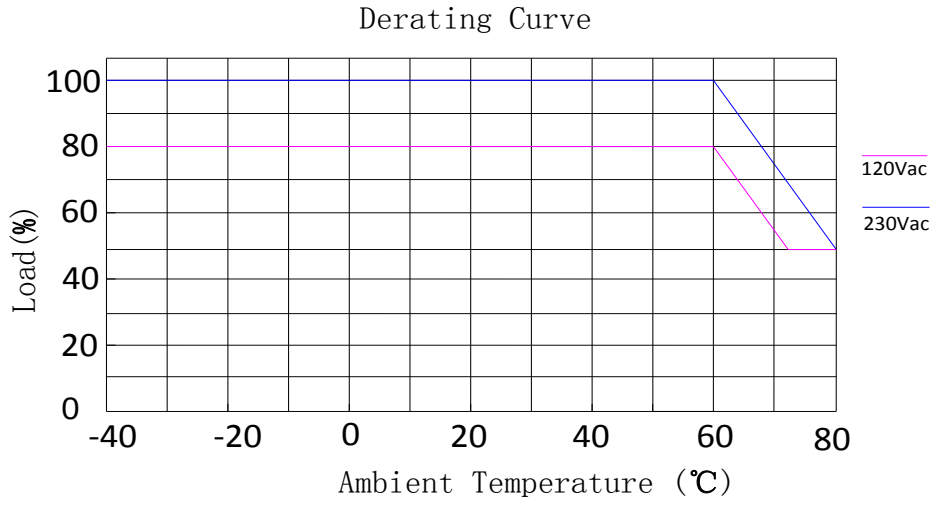
EMC COMPLIANCE

EMC Category	Country / Territory	**Standards**
CCC	China	GB 17743, GB 17625.1
CE	Europe	EN 55015, EN 61000-3-2, EN 61000-3-3
		EN61000-4-2,3,4,5,6,8,11
		IEC 61547
KC	South Korea	K61547
		K00015
PSE	Japan	J55015
FCC	USA	FCC part 15

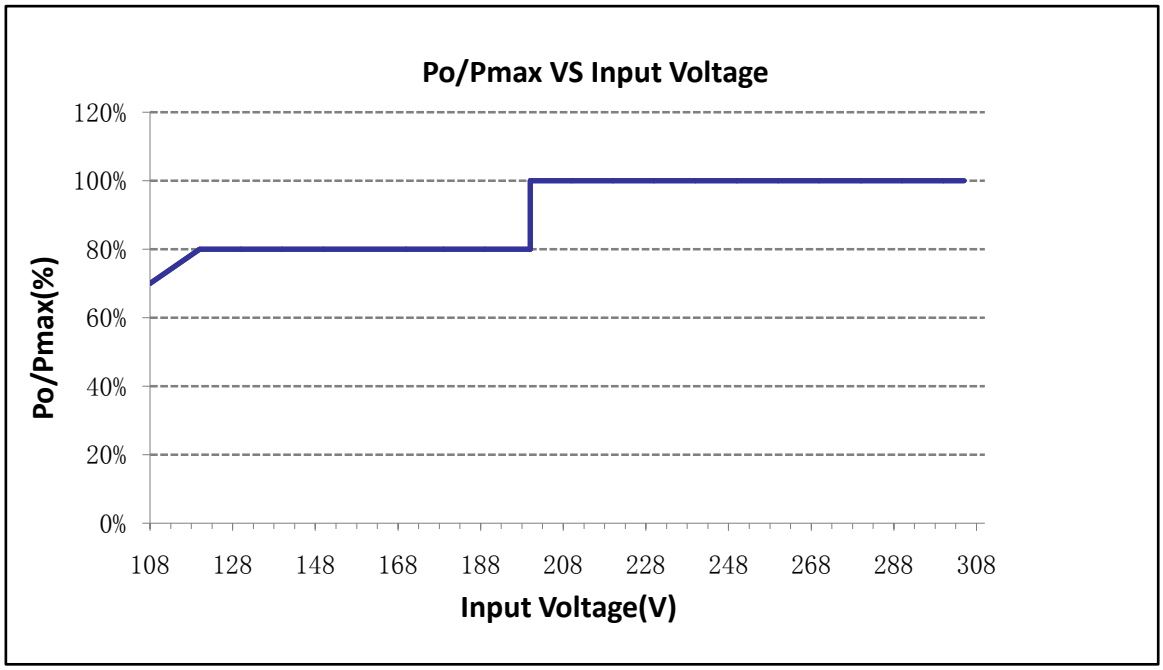
INRUSH CURRENT WAVEFORM



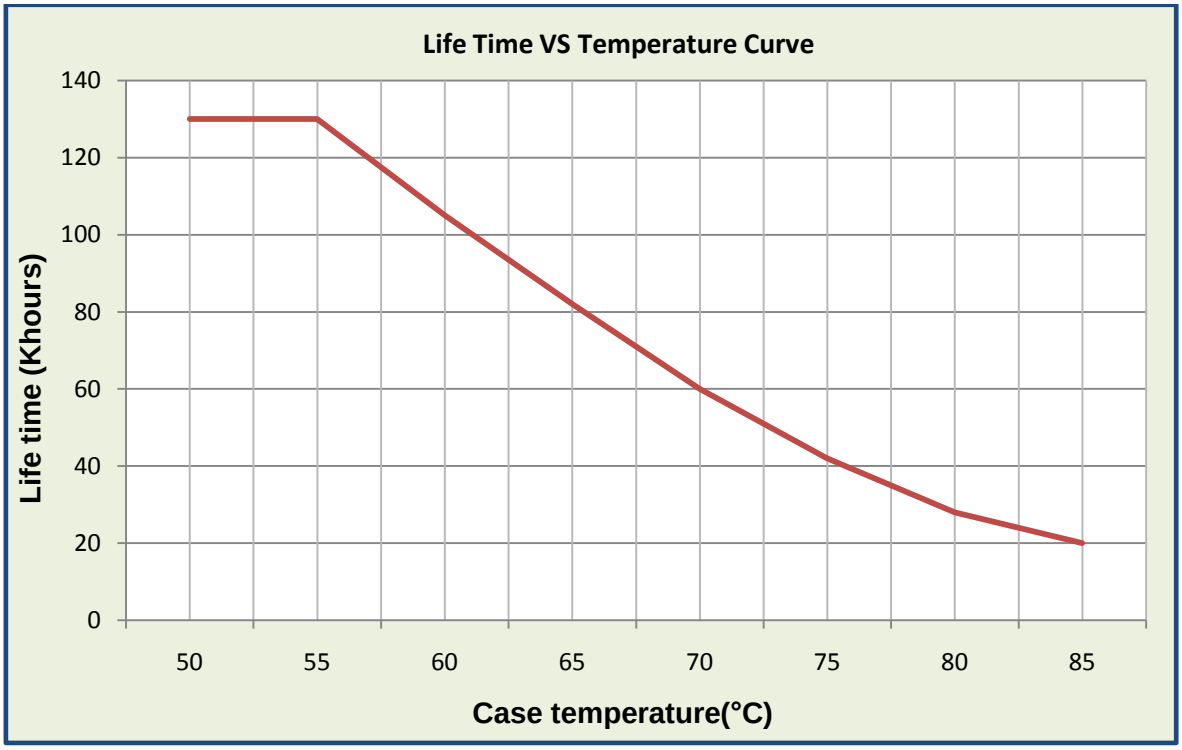
DERATING CURVE



OUTPUT POWER VS INPUT VOLTAGE

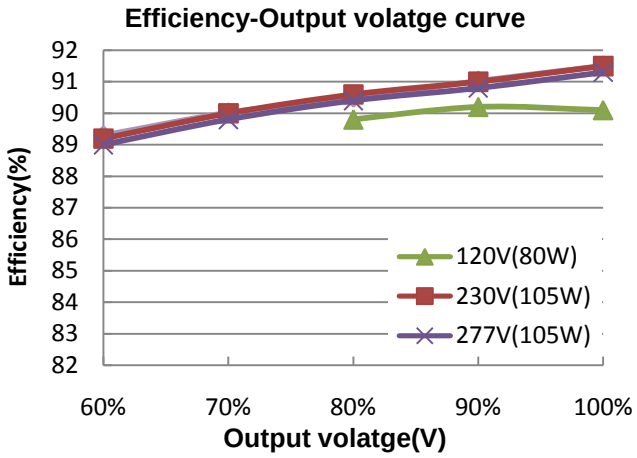


LIFETIME VS CASE TEMPERATURE

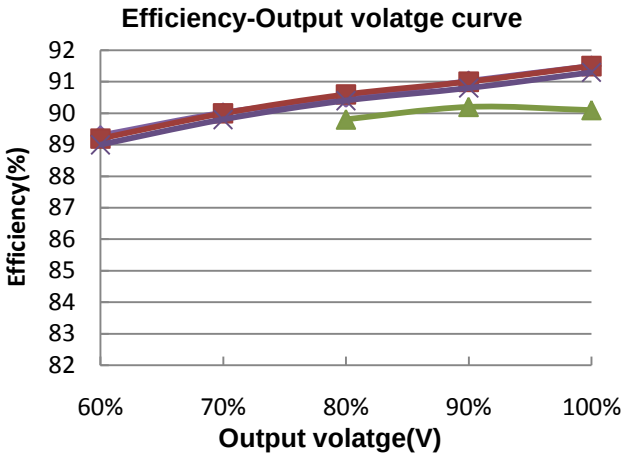


EFFICIENCY VS LOAD

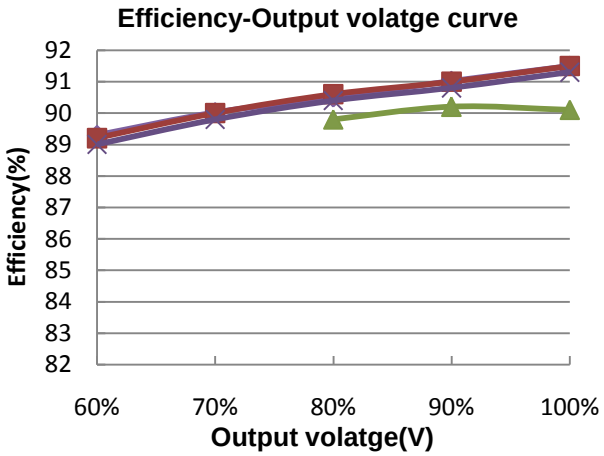
EHC-105B100(Io=1050mA)



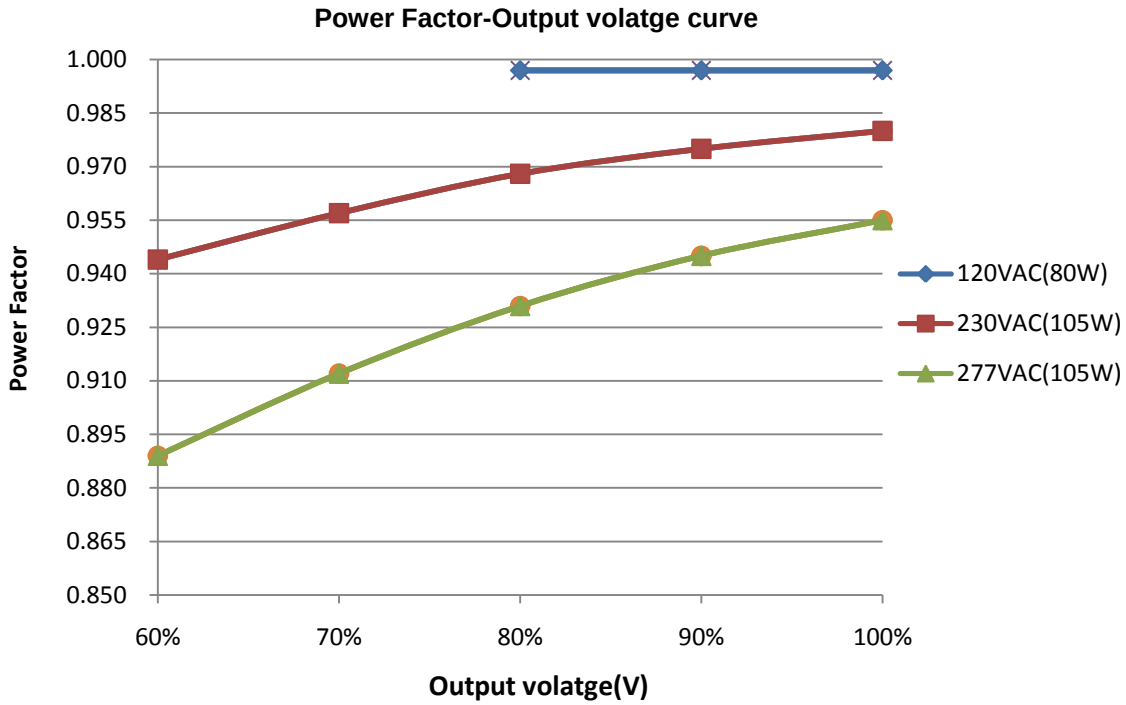
EHC-105B122(Io=860mA)



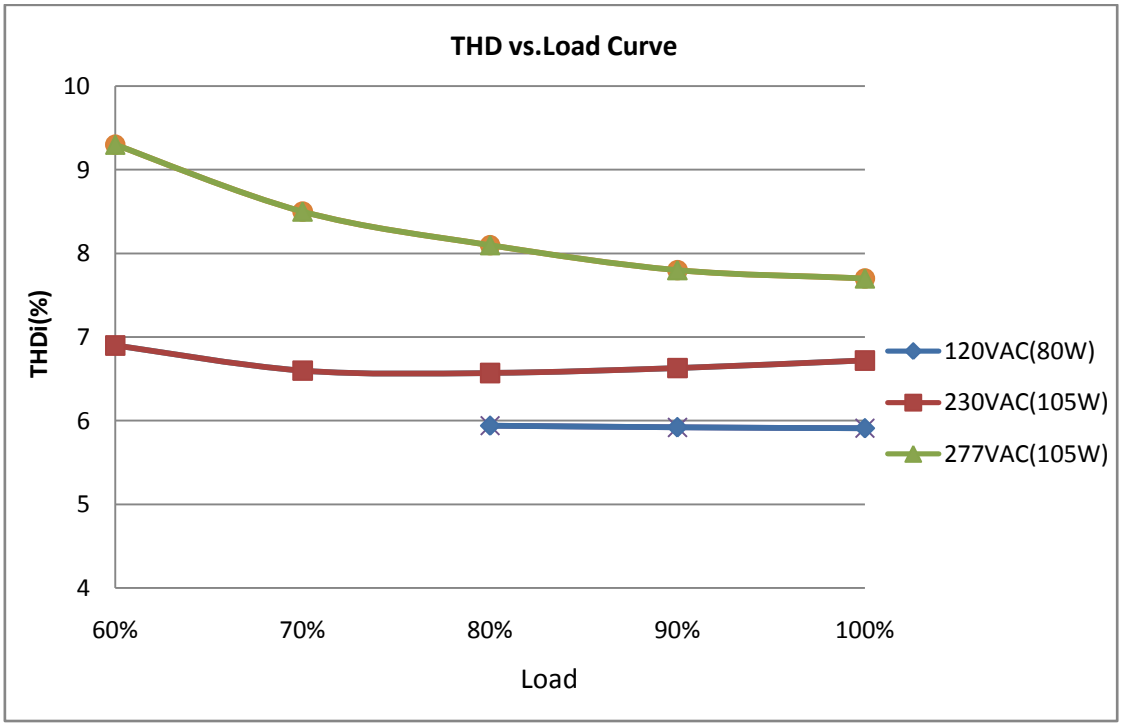
EHC-105B150(Io=700mA)



POWER FACTOR VS LOAD



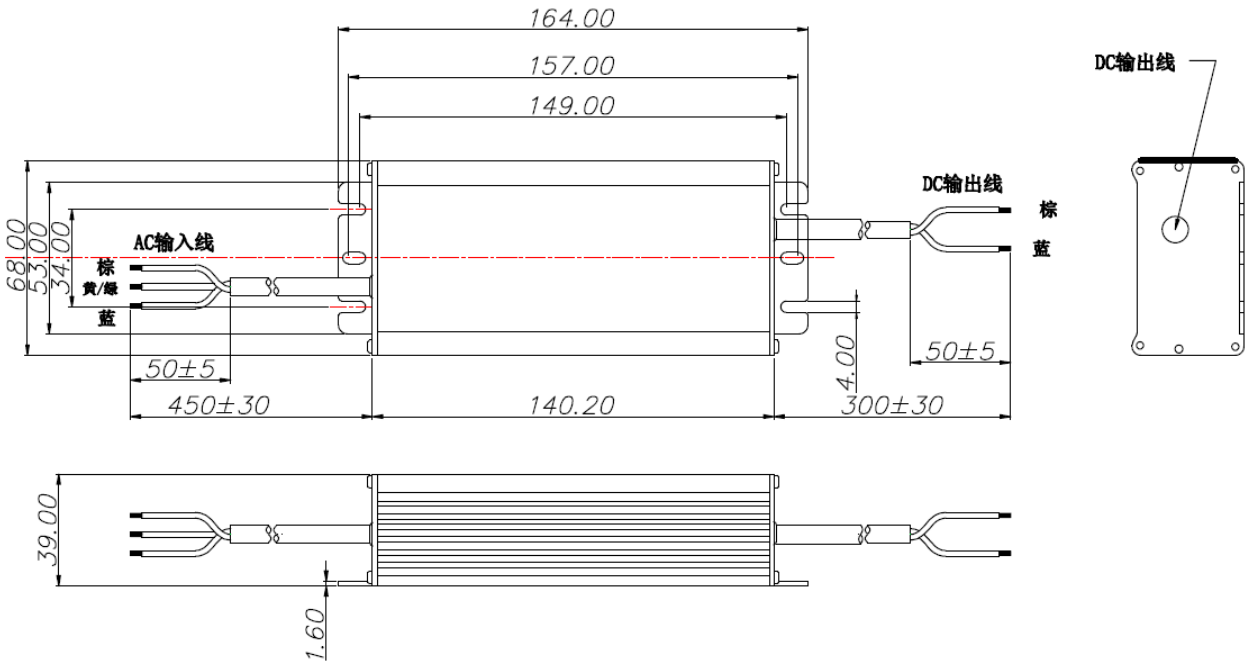
TOTAL HARMONIC DISTORTION



PROTECTIONS

Parameter		Min.	Typ.	Max.	Notes
Input Over Voltage Protection	Input Protection Voltage	330Vac	340Vac	350Vac	Turn off the output when the input voltage exceeds protection voltage.
	Recovery Voltage	300Vac	320Vac	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			

MECHANICAL OUTLINE



Wire	Specification
Input	CCC+CE 3x1.0mm^2 L=450mm
Output	CCC+CE 2x1.0mm^2 L=300mm

REVISION HISTORY

Version	Description of Change		Date	Notes
	Before	Now		
A.1	—	Datasheets Release	2017-10-26	A.1

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