



Product Feature

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



DESCRIPTION

The EHC-150W is a 150W, 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	277Vac
EHC-150B214	108-305	150W	107-215	0.7	90%	10%	0.95	0.90
EHC-150B174	108-305	150W	87-175	0.86	90%	10%	0.95	0.90
EHC-150B143	108-305	150W	72-143	1.05	88%	10%	0.95	0.90

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

INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	108Vac	120-277Vac	305Vac	Please refer to the Derating curve
Input Frequency	47HZ	50/60	63Hz	
Leakage Current	-	-	0.75mA	277V/60Hz
Input AC Current	-	-	1.5A	176-305Vac with full load
Inrush Current(I _{zt})	-	-	0.01A ² S	230Vac input , Ta=25℃ (cold start)
Power Factor	0.95	0.97		230Vac, 150W
THD	-	10%	15%	230Vac, 70%-100% Load
THD	-	10%	15%	277Vac, 100% Load

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-8%I _{set}	-	8%I _{set}	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%	200~277Vac & Full load, LED Load
No Load Output Voltage EHC-150B143 EHC-150B174 EHC-150B214	-	-	190V 240V 290V	
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	176Vac, 100% Load
	-	0.5 S	1S	230Vac, 100% Load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency@176Vac EHC-150B214 EHC-150B174 EHC-150B143	87% 86% 84%		- - -	Measured at 70% load and 25°C ambient temperature
Efficiency@230Vac EHC-150B214 EHC-150B174 EHC-150B143	88% 87% 86%	90% 90% 88%		Measured at full load and 25°C ambient temperature
Efficiency@277Vac EHC-150B214 EHC-150B174 EHC-150B143	88% 87% 86%	90% 90% 88%	-	Measured at full load and 25°C ambient temperature
MTBF	-	200000Hours	-	230Vac,80% load (MIL-HDBK-217F)
Lifetime	-	50000Hours	-	230Vac&100% load,70°C case temperature, refer to lifetime VS Tc curve for details
Operating Case Temperature for Safety Tc_s	-40°C	-	+85°C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+75°C	5 Years Warranty Humidity: 10% to 95% RH
Storage Temperature	-40°C	-	+85°C	Humidity: 10% to 95% RH
Dimensions (LxWxH)mm	179mm*68mm*43.5mm			
Net Weight	800±100g			

SAFTY STANDARDS

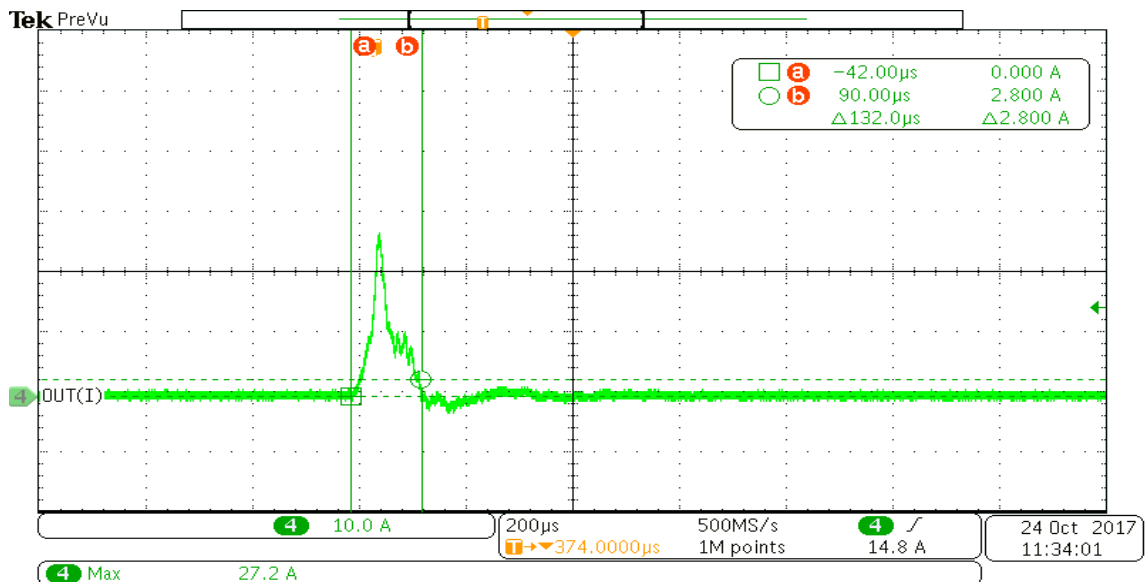
Safety Category	Country / Territory	Standards
CCC	China	GB19510.1, GB19510.14
CE	Europe	EN61347-1, EN61347-2-13
CB	CB Countries	IEC61347-1, IEC61347-2-13
UL	USA	UL 8750, UL 1310(Class 2 Power Units), UL 1012
CUL	Canada	CSA C22.2 No.107.1-01, CSA C22.2 No.223-M91 (Power Supplies With Extra-Low-Voltage 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

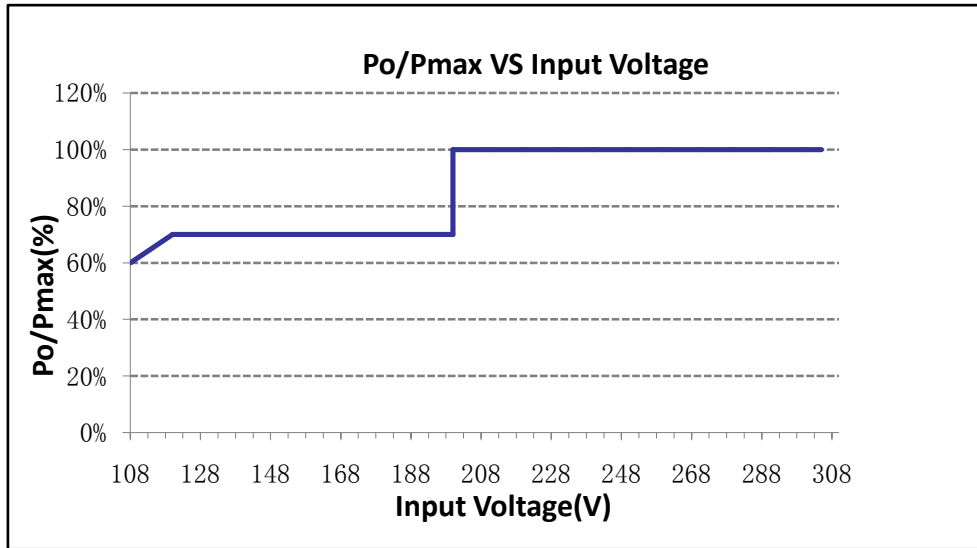
EMC Category	Country / Territory	Standards
CCC	China	GB 17743, GB 17625.1
CE	Europe	EN 55015, EN 61000-3-2, EN 61000-3-3
		EN61000-4-2,3,4,5,6,8,11
		IEC 61547
KC	South Korea	K61547
		K00015
PSE	Japan	J55015
FCC	USA	FCC part 15

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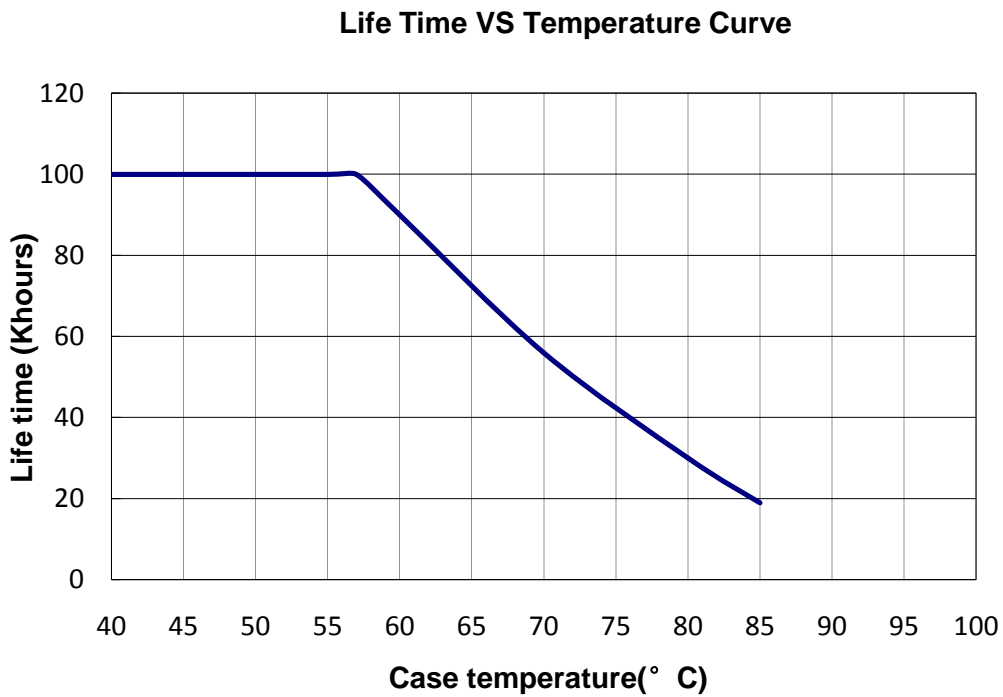
NRUSH CURRENT WAVEFORM



OUTPUT POWER VS INPUT VOLTAGE



LIFETIME VS CASE TEMPERATURE

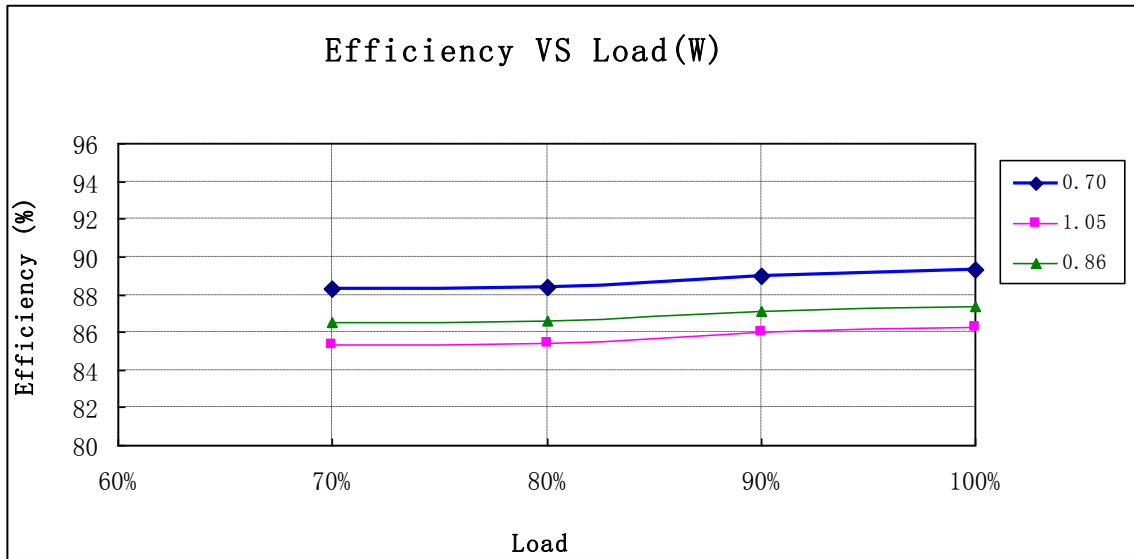


EFFICIENCY VS LOAD

EHC-150B143 (Iou=1.05A/ Pout=105W/Vin=120Vac) Ta=25°C

EHC-150B174 (Iou=0.86A/ Pout=105W/Vin=120Vac) Ta=25°C

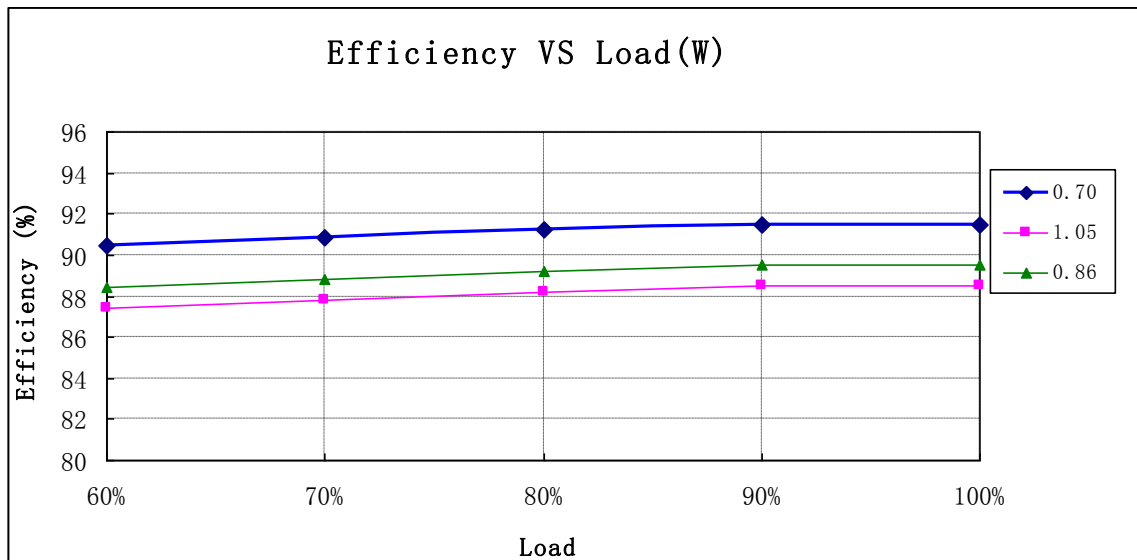
EHC-150B214 (Iou=0.70A/ Pout=105W/Vin=120Vac) Ta=25°C



EHC-150B143 (I_{ou}=1.05A/ P_{out}=150W/V_{in}=230Vac) Ta=25°C

EHC-150B174 (I_{ou}=0.86A/ P_{out}=150W/V_{in}=230Vac) Ta=25°C

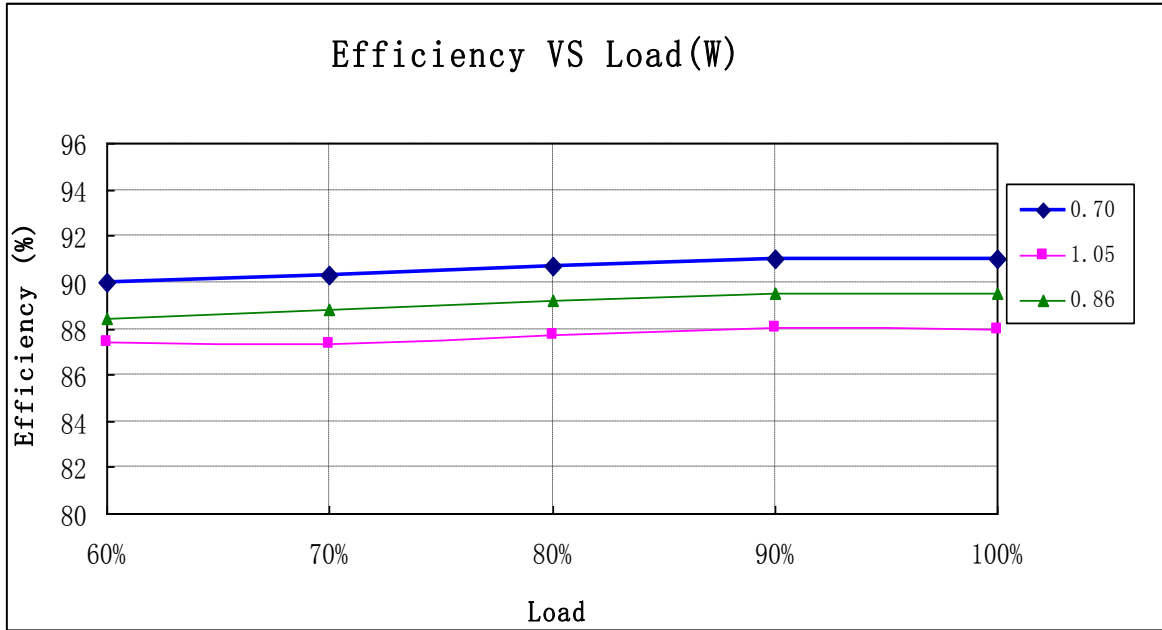
EHC-150B214 (I_{ou}=0.70A/ P_{out}=150W/V_{in}=230Vac) Ta=25°C



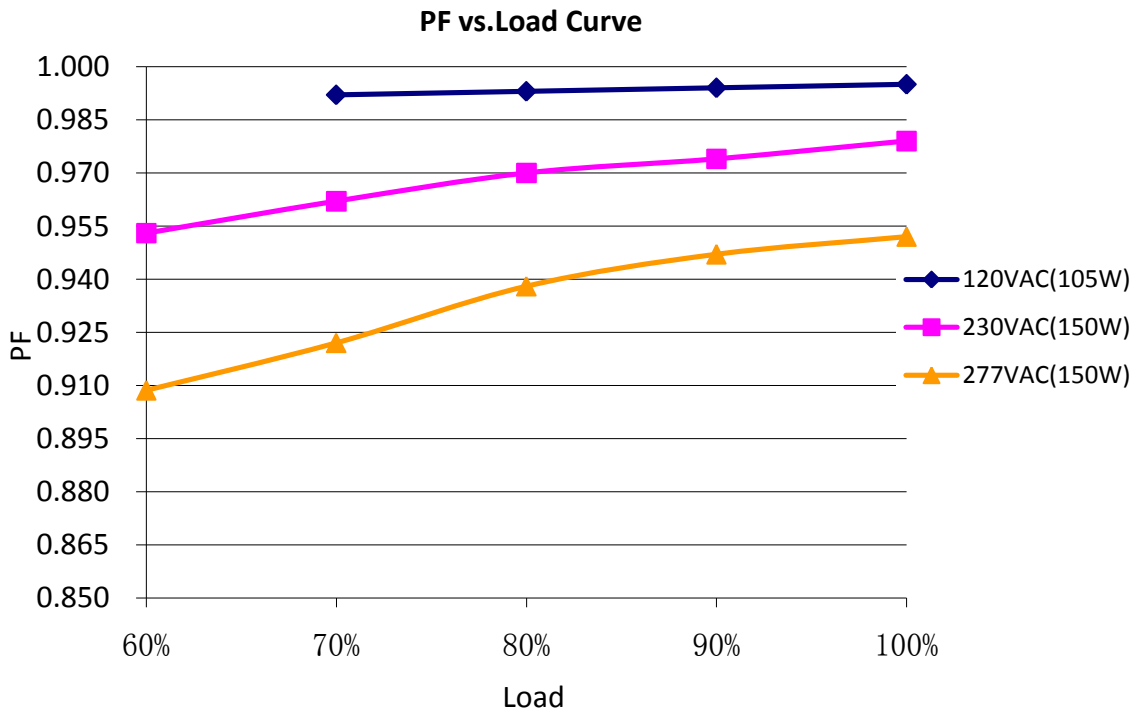
EHC-150B143 (I_{ou}=1.05A/ P_{out}=150W/V_{in}=277Vac) Ta=25°C

EHC-150B174 (I_{ou}=0.86A/ P_{out}=150W/V_{in}=277Vac) Ta=25°C

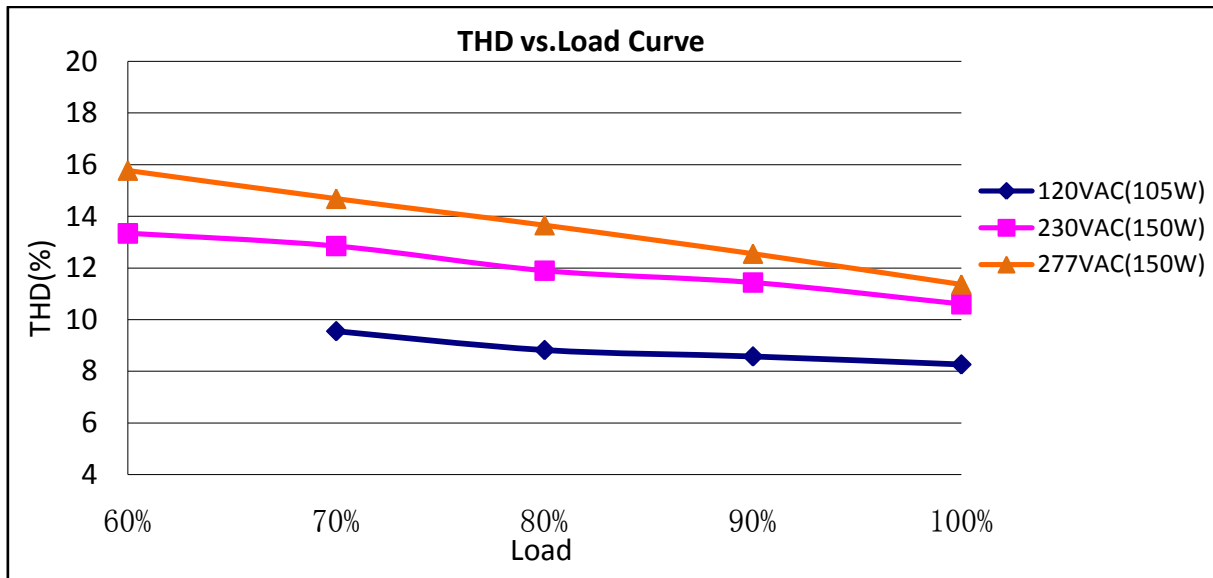
EHC-150B214 (I_{ou}=0.70A/ P_{out}=150W/V_{in}=277Vac) Ta=25°C



POWER FACTOR VS LOAD



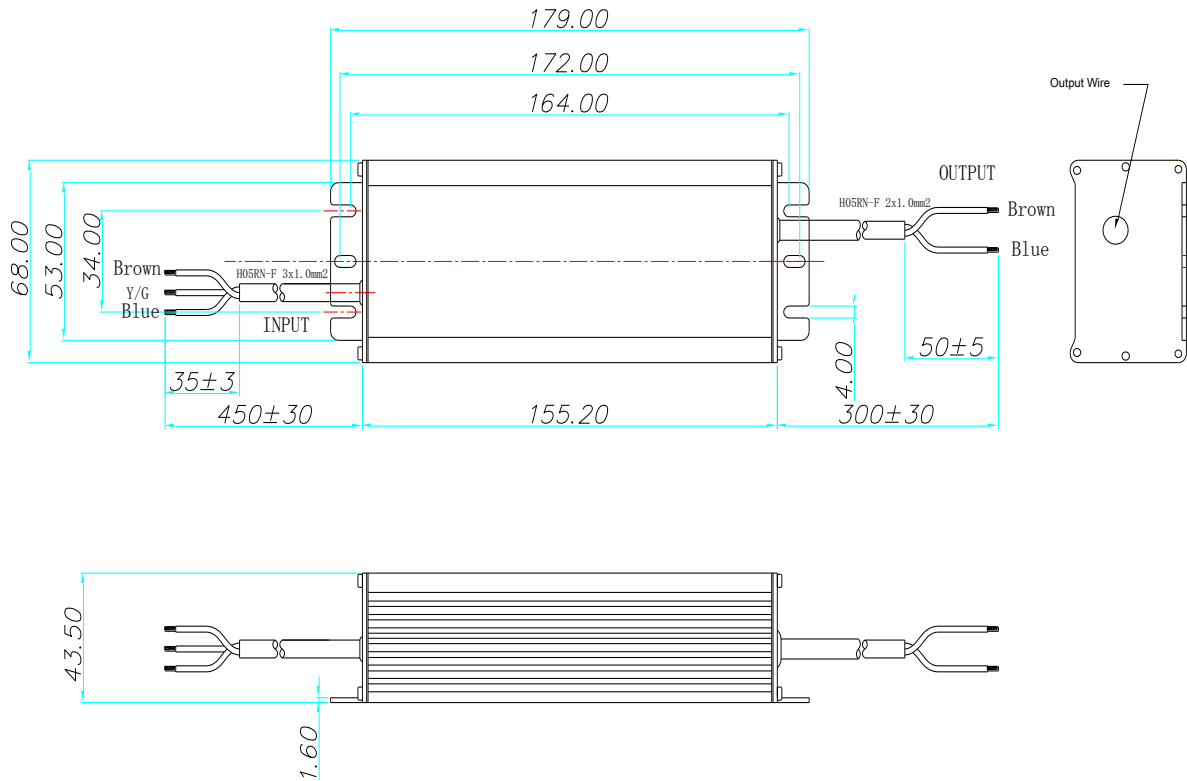
TOTAL HARMONIC DISTORTION



PROTECTIONS

Parameter		Min.	Typ.	Max.	Notes
Input Over Voltage Protection	Input Protection Voltage	320Vac	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	2017-09-08	A.1