

## ■ Description

- ✓ Wide Input Voltage: 90~305Vac
- ✓ High Efficiency up to 88.0%
- ✓ APFC (Active Power Factor Correction): 0.99 Typical
- ✓ All-Around Protection: OVP/OTP/SHORT
- ✓ Lighting Protection
- ✓ Waterproof: IP67
- ✓ Safety Design Compliant to UL8750/IEC61347
- ✓ Thermal Optimized Aluminum Case with Potting



## ■ Application

Outdoor Applications: Street Light, Tunnel Light, Landscape Light, Garden Light and others

## ■ Model Selection

Model Number	Input Voltage Range	Output Power	Output Voltage	Max. Output Current	Typical Eff.	Certification
PE-P060CV-V024-S-VF	60W	0-2.5A	24V	86%	VDE	CE/RoHS
PE-P060CV-V036-S-VF	60W	0-1.7A	36V	86%	VDE	CE/RoHS
PE-P060CV-V048-S-VF	60W	0-1.3A	48V	86%	VDE	CE/RoHS

## ■ Specifications

Items		Specification	
Input	Input Voltage	90~305Vac	
	Input Frequency	47~63Hz	
	Power Factor	>0.9@60-100%load, refer to PF vs. Load curve.	
	Input Current	0.35Amax@230Vac & Full-Load	
	THD	<20%@60-100%load, refer to THD vs. Load curve.	
	Inrush Current	65A peak, 1.2ms duration@230Vac 25°C 80A peak, 1.3ms duration@277Vac 25°C <5.0A <sup>2</sup> s@230Vac, 25°C Cold Start	
	Leakage Current	1mAmax @277Vac 60Hz, UL8750 0.75mAmax @240Vac 50Hz, IEC61347-1	
Output	Voltage Accuracy	±5%Vo	
	Setup Time	1.2s max	
	Output Overshoot	10%Vo max	
Protection	Output Over Current	125% Iomax, typ.	
	Over Temperature	Decrease output current until over temperature state is removed	
	Short Circuit	Auto recovery. The output recovers when short is removed.	
	Over Power	The output power can be limited if the load exceed rated output load.	
Environmental Condition	Operating Temperature	-40℃~+70℃; 10%RH~100%RH (See Derating Curve for more details) [3]	
	Storage Temperature	-40℃~+85℃; 5%RH~100%RH	
Others	MTBF	≥320,000 hours, measured at 230Vac input, 80% load and 25℃ ambient temperature(MIL-HDBK-217F)	
	Lifetime	≥58,000 hours, measured at 230Vac input, 80% load and 75℃ Case temperature <sup>[4]</sup>	
	Case Temperature	90℃ max <sup>[5]</sup>	
	Dimensions	Inch(L x W x H)	6.33x1.67x1.34
		Millimeter(L x W x H)	161x42.5x34
	Net Weight	400g	

Notes:

[1] Unless specified, all the test results are measured in the 25DegC room temperature.

[2] The result differs according to different LED load characteristic.

[3] Please confirm working conditions according to the derating curve of output power vs. input voltage and temperature. Beyond the safety work condition will not be recommended.

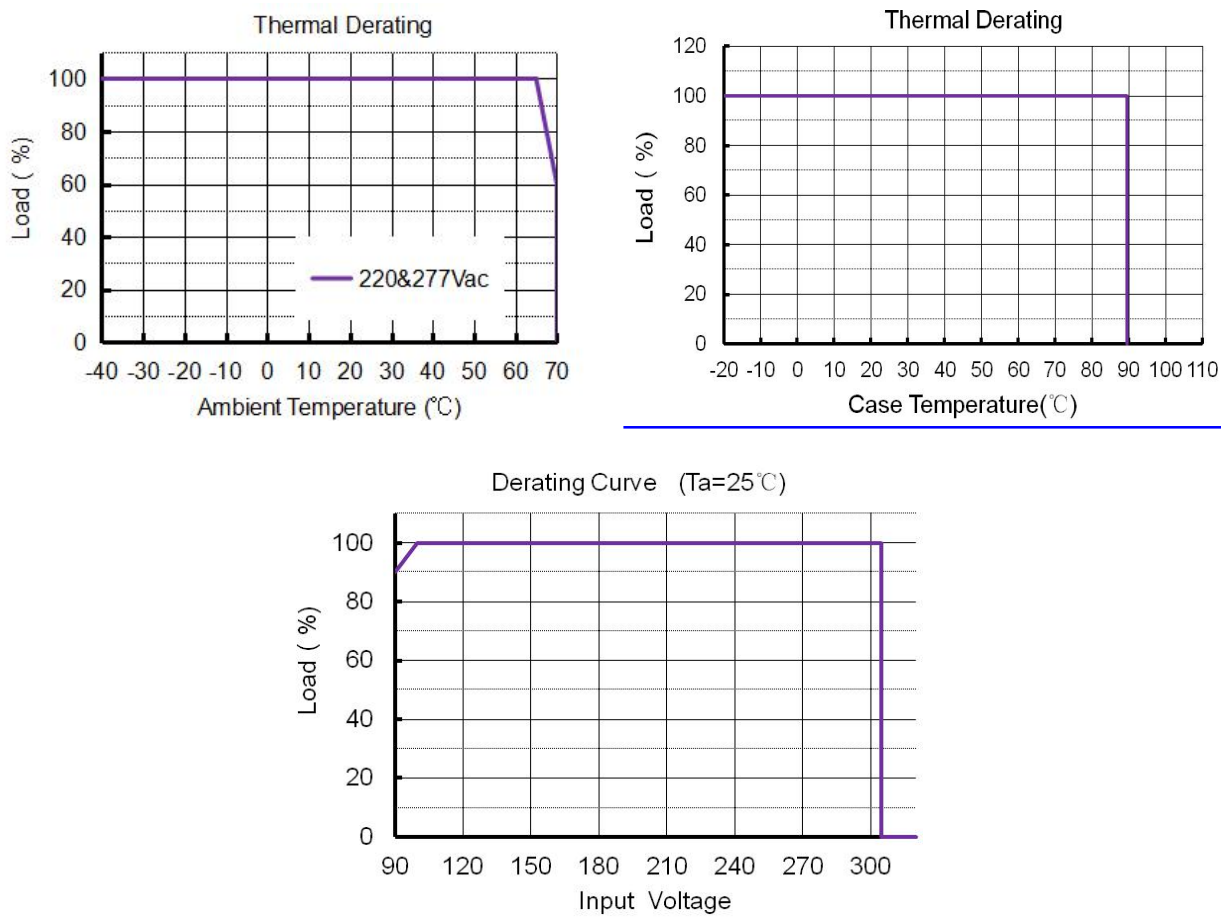
[4] refer to Lifetime vs. Tc curve .

[5] Tc point is marked on the product label. The label is also listed in the specification for approval.

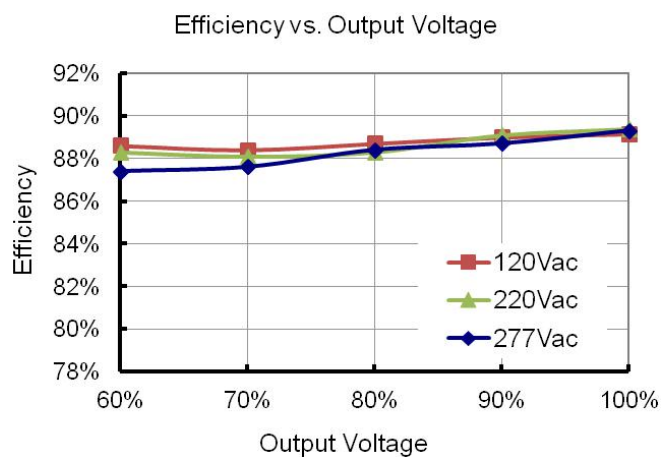
## ■ Safety & EMC Compliance

Safety Category	Standard
UL8750	Light Emitting Diode(LED) Equipment for Use in Lighting Products
UL1012	Power Unit Other Than Class 2
UL1310	Class 2 Power Units
IEC 61347-1	Lamp Controlgear Part 1: General and Safety Requirements
IEC 61347-2-13	Lamp Controlgear Part 2-13: Particular Requirement for d.c. or a.c. Supplied Electronic Controlgear for LED Modules
EMI Standards	Notes
IEC55015	Conducted emission test & Radiated emission test
IEC61000-3-2	Harmonic current emissions; Class C ( $\geq 75\%$ load)
IEC61000-3-3	Voltage fluctuations & flicker
FCC Part 15	Class B
EMS Standards	Notes
IEC 61000-4-2	Electrostatic discharge (ESD)
IEC 61000-4-3	Radio frequency electromagnetic field susceptibility test (RS)
IEC 61000-4-4	Electrical fast transient (EFT)
IEC 61000-4-5	Surge immunity test L-N:4kV; LN-PE:6kV
IEC 61000-4-6	Conducted radio frequency disturbances test (CS)
IEC 61000-4-8	Power frequency magnetic field test
IEC 61000-4-11	Voltage dips
IEC 61547	Electromagnetic immunity requirements applies to lighting equipment

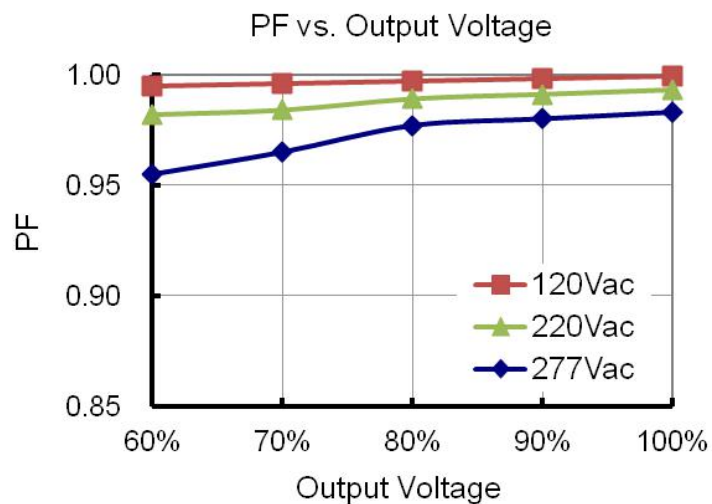
## ■ Derating Curve (Typical)



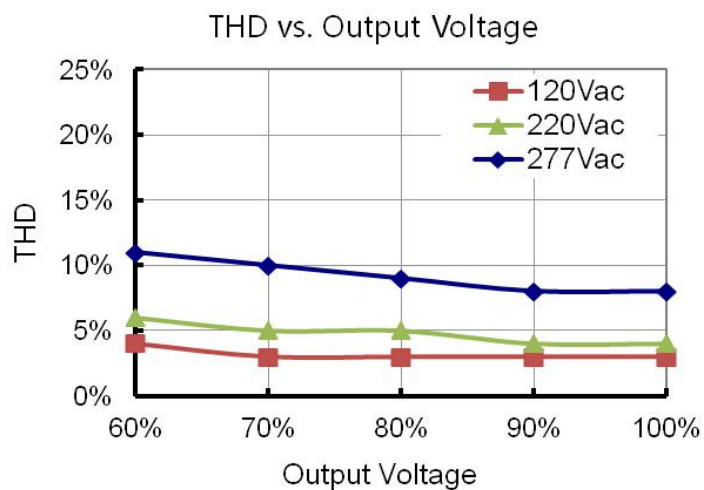
## ■ Efficiency vs. Load (Typical)



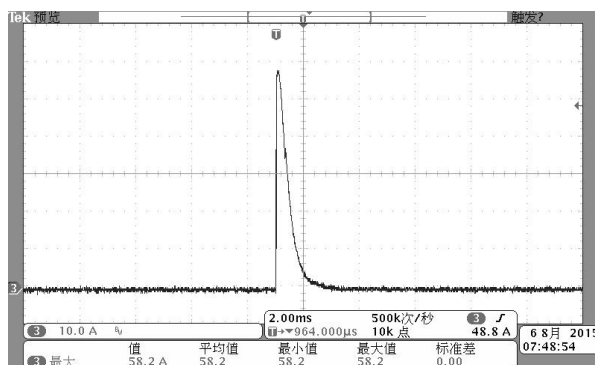
## ■ Power Factor Characteristics (Typical)

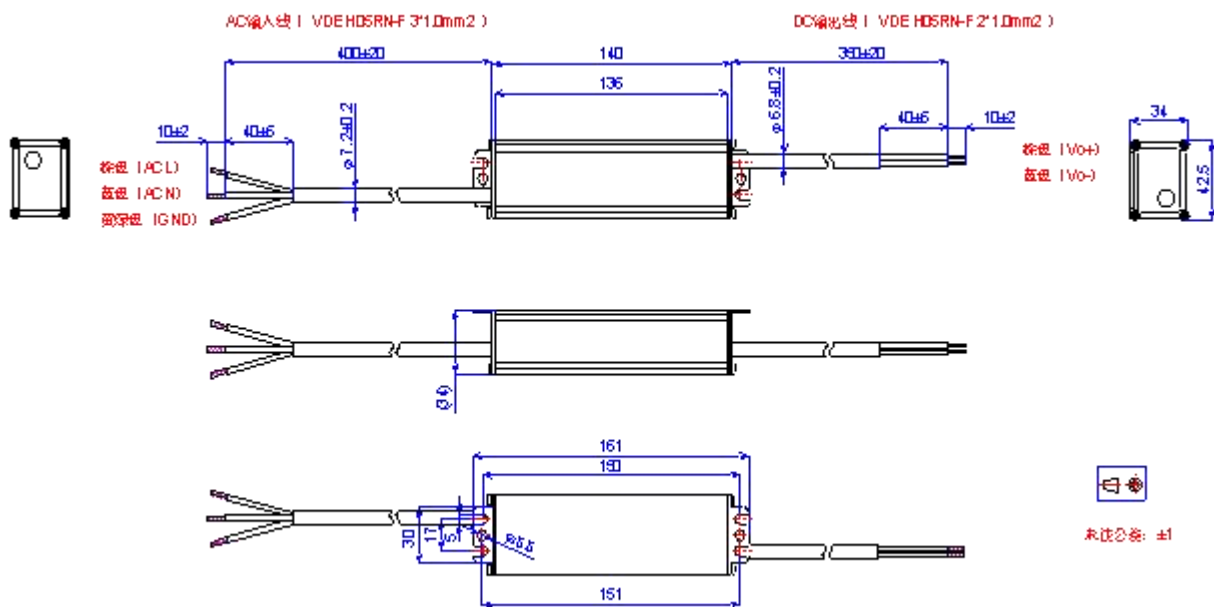
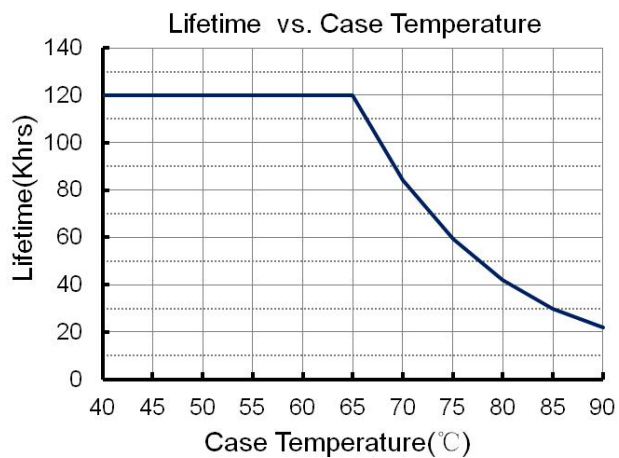


## ■ THD vs. Load (Typical)



## ■ Inrush Current Waveform (Typical)





**■ Revision History**

Date	Rev.	Description of Change		
		Item	From	To
2015-12-04	A	Release	/	/
2016-2-11	B	Update Performance Curve		