

■ Description

- √ Wide Input Voltage:90~305Vac
- √ High Efficiency up to 93.0%
- √ APFC (Active Power Factor Correction): 0.99 Typical
- √ 0-10V/PWM/Resistor/Time 4 in 1 Dimmable
- √ Programmable Timing Dimming
- √ Lighting Protection
- √ Waterproof: IP67
- √ 100% Full Load Aging Test for 4 Hours @Ta=45°C
- √ Safety Design Compliant to UL8750/IEC61347
- √ Thermal Optimized Aluminum Case with Potting



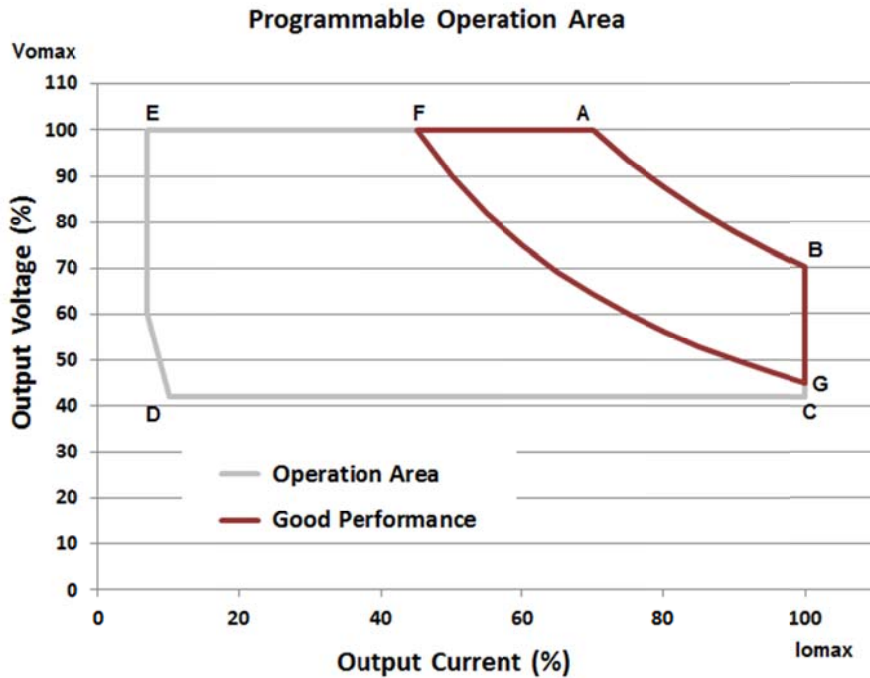
■ Application

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

■ Model Selection

Model Number	Input Voltage Range	Output Power	Output Voltage Range	Full Power Output Current	Typical Eff.	Certification
PE-P120CC-C060-S-CS	90 ~ 305Vac	120W	120-300Vdc	400-600mA	92.0%	CE CCC ENEC CB
PE-P120CC-C060-U-CS	90 ~ 305Vac	120W	120-300Vdc	400-600mA	92.0%	CE FCC UL
PE-P120CC-C080-S-CS	90 ~ 305Vac	120W	90-200Vdc	600-800mA	91.5%	CE CCC ENEC CB
PE-P120CC-C080-U-CS	90 ~ 305Vac	120W	90-200Vdc	600-800mA	91.5%	CE FCC UL
PE-P120CC-C120-S-CS	90 ~ 305Vac	120W	60-150Vdc	800-1200mA	91.0%	CE CCC ENEC CB
PE-P120CC-C120-U-CS	90 ~ 305Vac	120W	60-150Vdc	800-1200mA	91.0%	CE FCC UL
PE-P120CC-C180-S-CS	90 ~ 305Vac	120W	40-86Vdc	1400-1800mA	92.0%	CE CCC ENEC CB
PE-P120CC-C180-U-CS	90 ~ 305Vac	120W	40-86Vdc	1400-1800mA	92.0%	CE FCC UL
PE-P120CC-C240-S-CS	90 ~ 305Vac	120W	30-63Vdc	1900-2400mA	91.5%	CE CCC ENEC CB
PE-P120CC-C240-U-CS	90 ~ 305Vac	120W	30-63Vdc	1900-2400mA	91.5%	CE FCC UL
PE-P120CC-C300-S-CS	90 ~ 305Vac	120W	24-48Vdc	2500-3000mA	91.0%	CE CCC ENEC CB
PE-P120CC-C300-U-CS	90 ~ 305Vac	120W	24-48Vdc	2500-3000mA	91.0%	CE FCC UL
PE-P120CC-C350-S-CS	90 ~ 305Vac	120W	21-39Vdc	3100-3500mA	91.0%	CE CCC ENEC CB
PE-P120CC-C350-U-CS	90 ~ 305Vac	120W	21-39Vdc	3100-3500mA	91.0%	CE FCC UL

■ Programmable Operation Area



Here points of ABCDE form the operation area, while ABGF form the good performance area

Model	C060		C080		C120		C180		C240		C300		C350	
Item	Io(mA)	Vo (V)	Io(mA)	Vo (V)	Io(mA)	Vo (V)	Io(mA)	Vo (V)	Io(mA)	Vo (V)	Io(mA)	Vo (V)	Io(mA)	Vo (V)
A	400	300	600	200	800	150	1400	86	1900	63	2500	48	3100	39
B	600	200	800	150	1200	100	1800	67	2400	50	3000	40	3500	34
C	600	120	800	90	1200	60	1800	40	2400	30	3000	24	3500	21
D	60	120	80	90	120	60	180	40	240	30	300	24	350	21
E	40	300	60	200	80	150	140	86	190	63	250	48	310	39
F	240	300	360	200	480	150	840	86	1140	63	1500	48	1860	39
G	600	120	800	90	1200	60	1800	40	2400	30	3000	24	3500	21

■ Specifications

Items		Specifications	
Input	Input Voltage	90~305Vac	
	Input Frequency	47~63Hz	
	Power Factor	>0.9@60-100%load, refer to PF vs. Load curve.	
	THD	<15%@60-100%load, refer to THD vs. Load curve.	
	Input Current	1.8 Amax@110Vac & Full-Load; 0.9Amax@220Vac & Full-Load	
	Inrush Current	65A peak, 1.2ms duration@230Vac 25°C 70A peak, 1.3ms duration@277Vac 25°C <0.25A ² s@230Vac, 25°C Cold Start	
	Leakage Current	1mAmax @277Vac 60Hz, UL8750 0.75mAmax @240Vac 50Hz, IEC61347-1	
Output	Current Accuracy	±5%Io	
	Ripple Current ^[2]	Ip-p:5%Io LED 60%~100% Load	
	Setup Time	1.2s max	
	Output Overshoot	10%Io max & LED Load	
Protection	Output Over Voltage	110% Vomax	
	Input Under Voltage	Shut Down When Vmains≤85±5Vac; Auto Recovery When Vmains≥90±5Vac	
	Over Temperature	Decrease output current until over temperature state is removed	
	Short Circuit	Auto recovery. The output recovers when short is removed.	
Environmental Condition	Operating Temperature	-40°C~+70°C; 10%RH~100%RH (See Derating Curve for more details) ^[3]	
	Storage Temperature	-40°C~+85°C; 5%RH~100%RH	
Others	MTBF	≥300,000 hours, measured at 110Vac input, 80% load and 25 °C ambient temperature(MIL-HDBK-217F)	
	Lifetime	≥50,000 hours, measured at 110Vac input, 80% load and 75 °C Case temperature ^[4]	
	Case Temperature	90°C max ^[5]	
	Dimensions	Inch(L x W x H)	7.64x2.66x1.48
		Millimeter(L x W x H)	194.0x67.5x37.5
Net Weight	940g		

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.

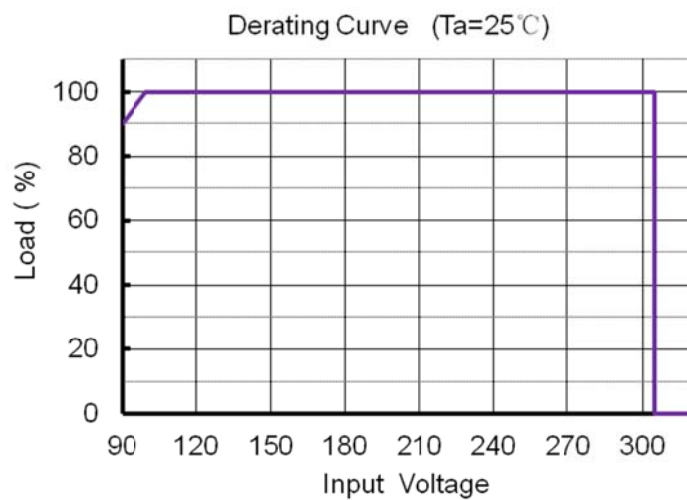
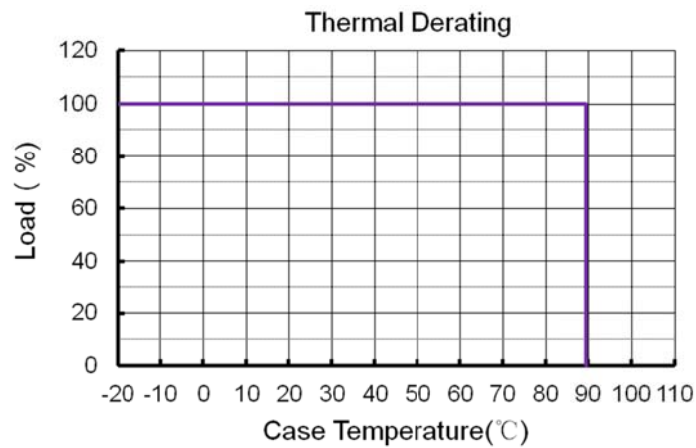
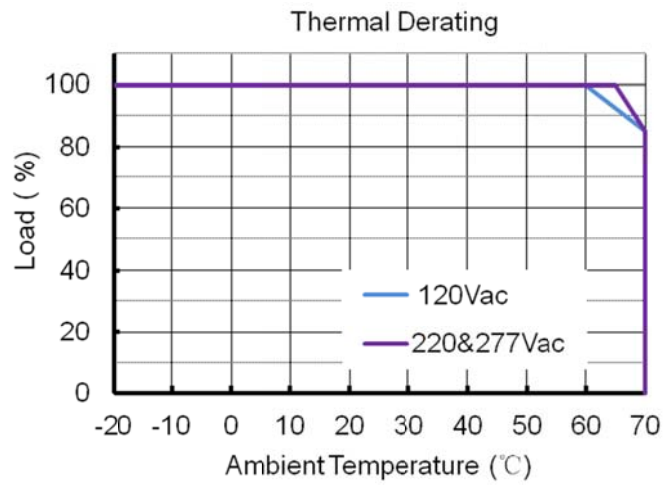
[4] refer to Lifetime vs. Tc curve .

[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
IEC 61347-1	Lamp Control Gear Part 1: General and Safety Requirements
IEC 61347-2-13	Lamp Control Gear Part 2-13: Particular Requirement for d.c. or a.c. Supplied Electronic Control Gear for LED Modules
EMI Standards	Notes
IEC 55015	Conducted emission test & Radiated emission test
IEC 61000-3-2	Harmonic current emissions; Class C ($\geq 75\%$ load)
IEC 61000-3-3	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

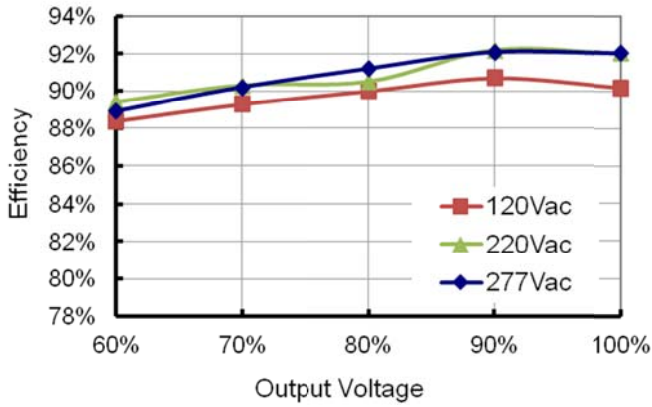
■ Derating Curve (Typical)



■ **Efficiency vs. Load (Typical)**

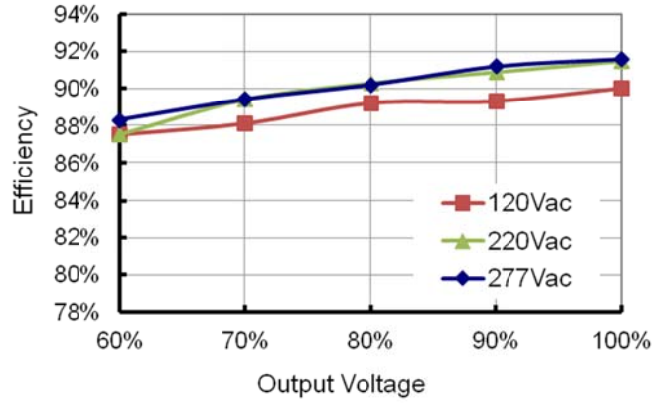
PE-P120CC-C060

Efficiency vs. Output Voltage



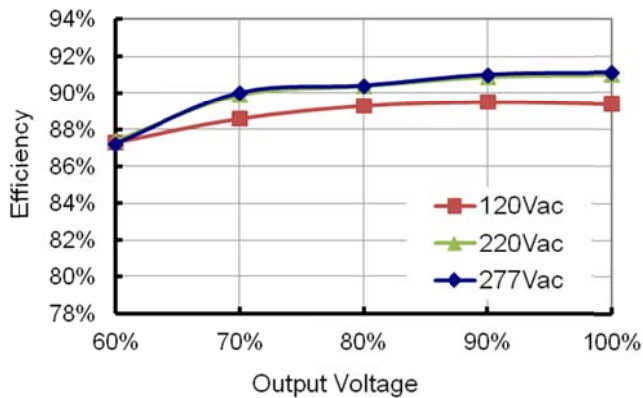
PE-P120CC-C080

Efficiency vs. Output Voltage



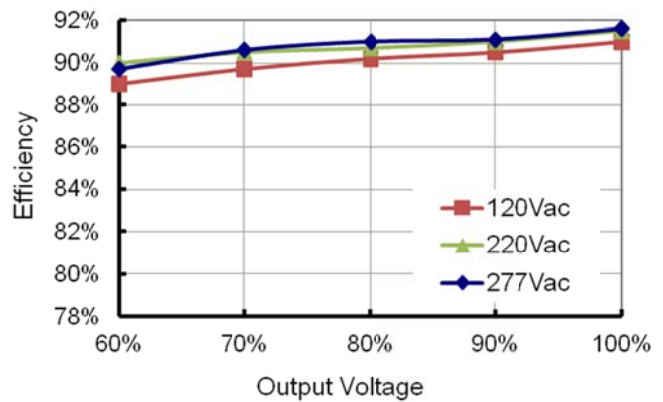
PE-P120CC-C120

Efficiency vs. Output Voltage



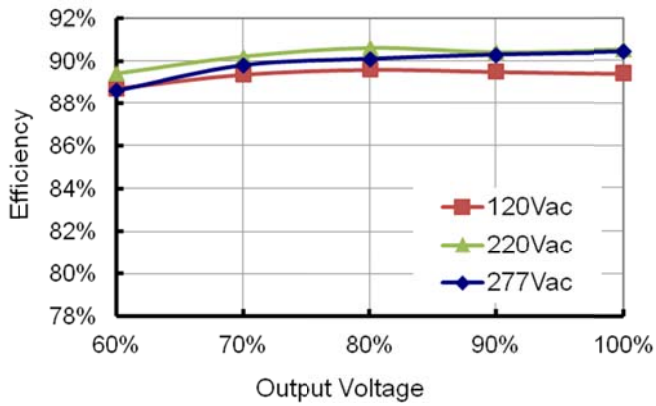
PE-P120CC-C140

Efficiency vs. Output Voltage

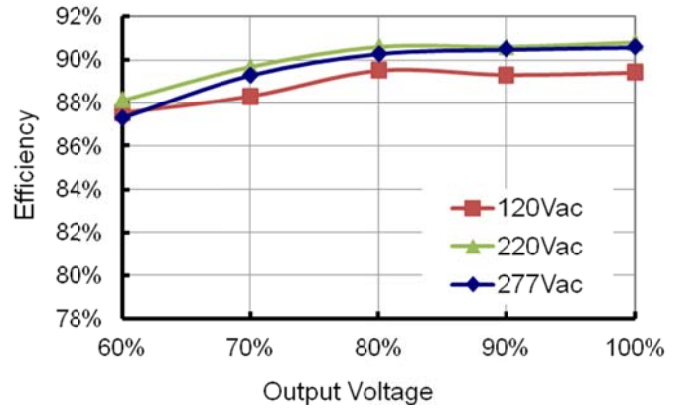


PE-P120CC-C240

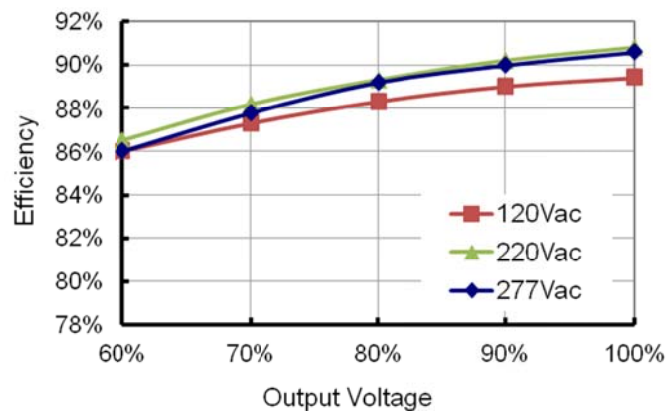
Efficiency vs. Output Voltage


PE-P120CC-C300

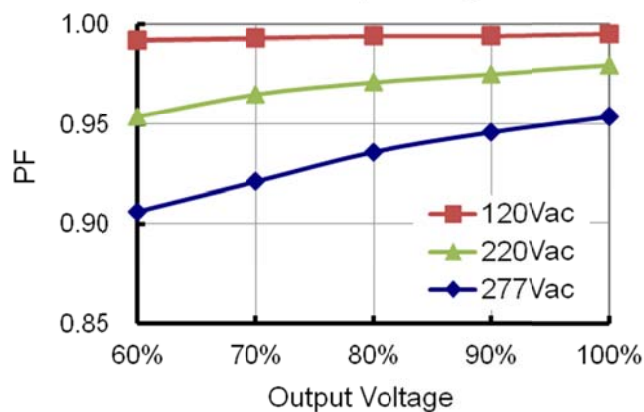
Efficiency vs. Output Voltage


PE-P120CC-C350

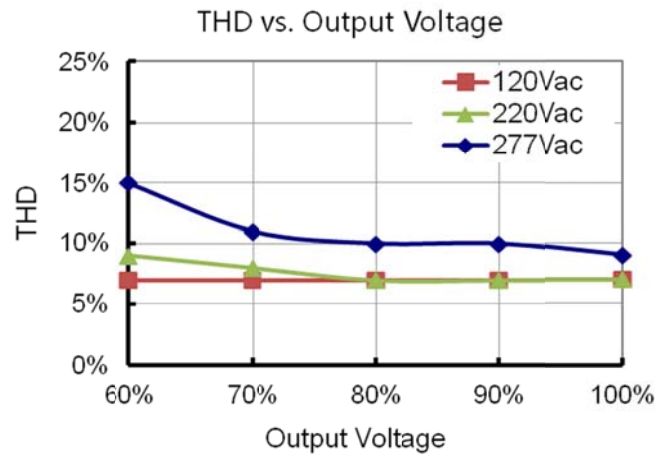
Efficiency vs. Output Voltage



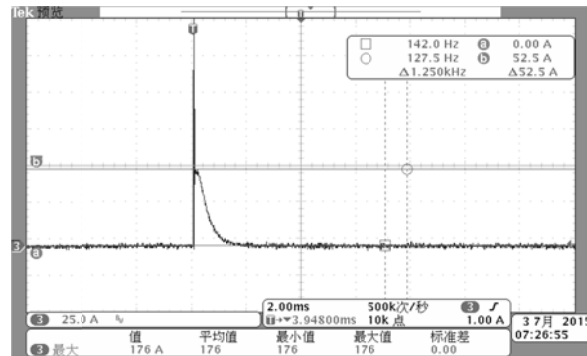
■ Power Factor Characteristics (Typical)

PF vs. Output Voltage


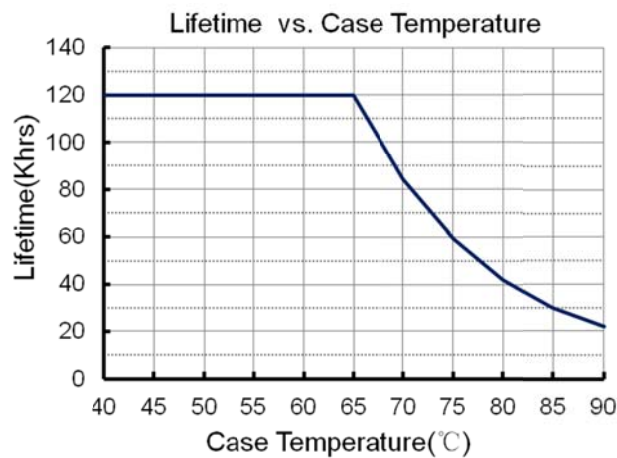
■ THD vs. Load (Typical)



■ Inrush Current Waveform (Typical)



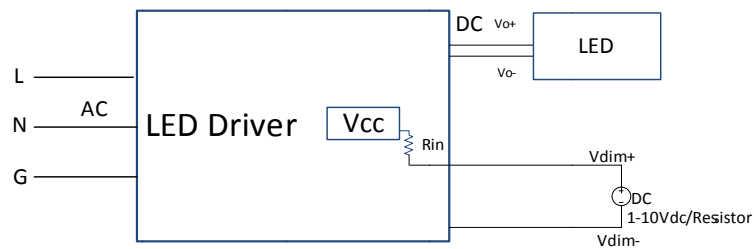
■ Lifetime vs. Case Temperature



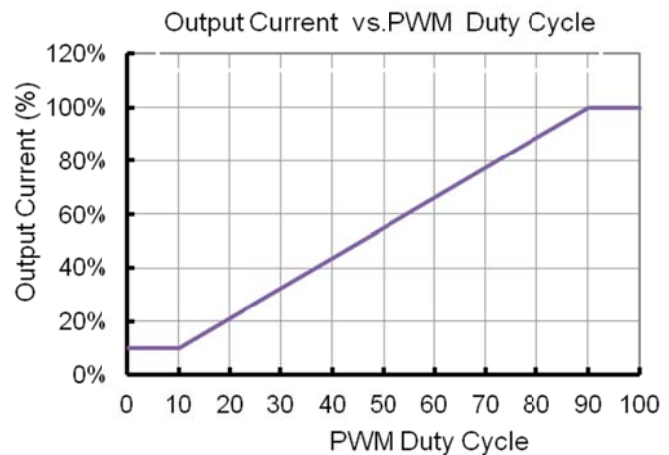
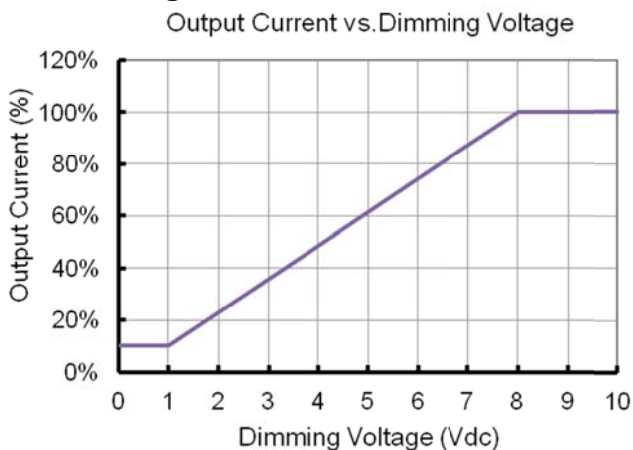
■ Dimming Section

Parameter	Min.	Typ.	Max.
Vcc	-	12 V	-
Rin	-	51 kOhm	-
Absolute maximum voltage range on the 0~10V input pin	-20 V	-	20 V
Dimming range	10%	-	100%
0-10V Dimming Range	10% (Vdim=0~1V)	-	100% (Vdim=8~10V)
PWM Dimming Range	10% (Duty=0-10%)	-	100% (Duty=90-100%)
PWM High	3V	-	10V
PWM Low	0V	-	0.6V
PWM Frequency	300Hz	-	2kHz
External PWM Controller Current Sinking Capability	300uA	-	-

Diagram

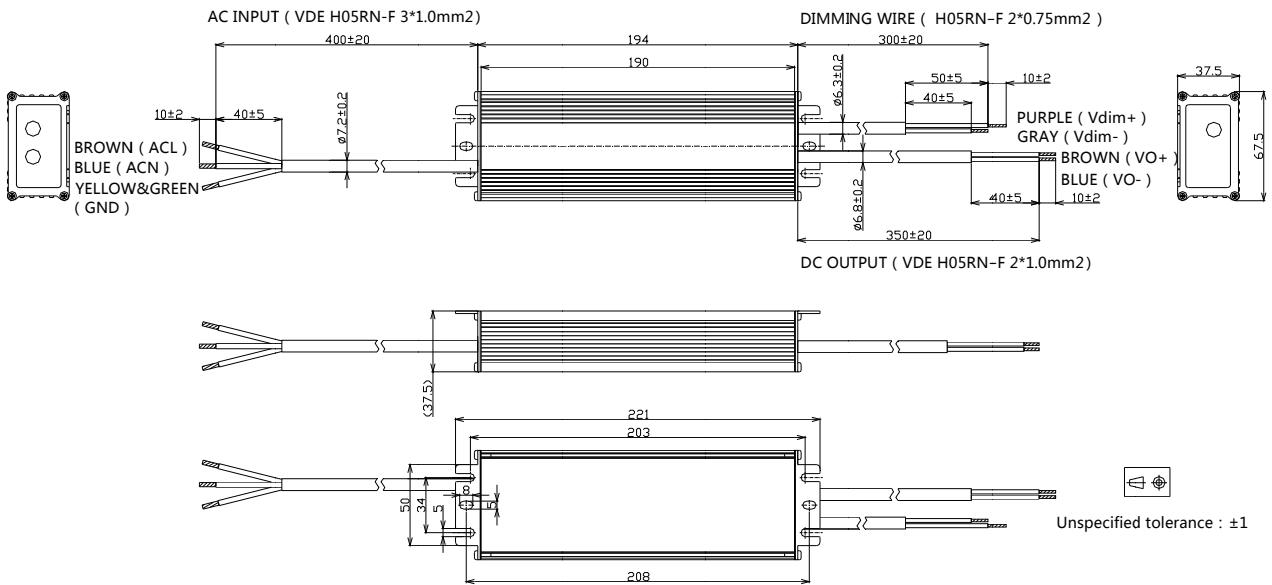


Dimming Curve



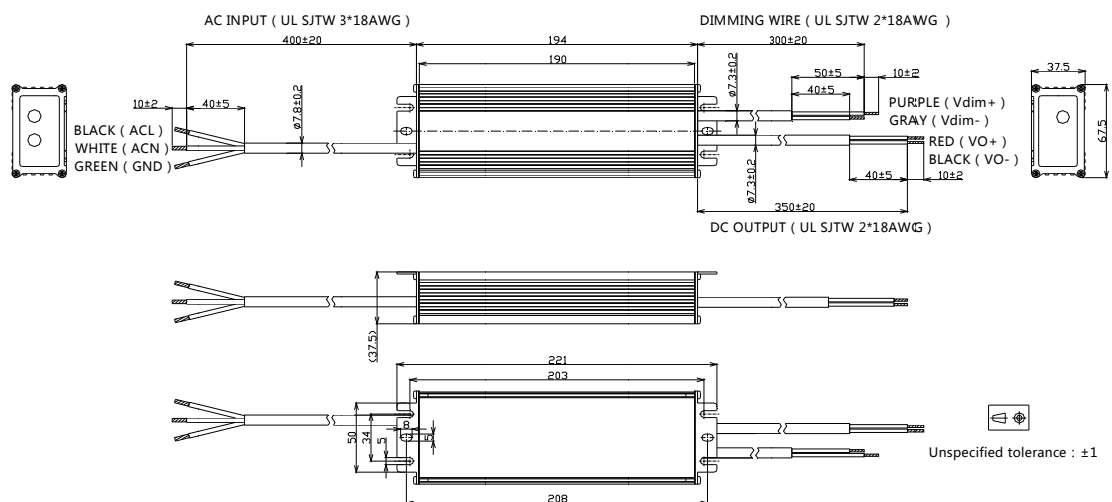
■ Mechanical Outline (Unit: mm)

PE-P120CC-Cxxx-S-CS



Note: Please make sure the output cable does not connect to dimming cable or the cables of other drivers until 20 seconds after being tested because of the remained voltage in the output capacitor.

PE-P120CC-Cxxx-U-CS



Note: Please make sure the output cable does not connect to dimming cable or the cables of other drivers until 20 seconds after being tested because of the remained voltage in the output capacitor.

■ Revision History

Date	Rev.	Description of Change		
		Item	From	To
2014-11-04	A	Release	/	/
2015-2-11	B	Update Inrush Current Curve		