

■ Description

- √ Wide Input Voltage: 176~305Vac
- √ 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℃
- √ Safety Design Compliant to UL8750/IEC61347
- √ Thermal Optimized Aluminum Case with Potting



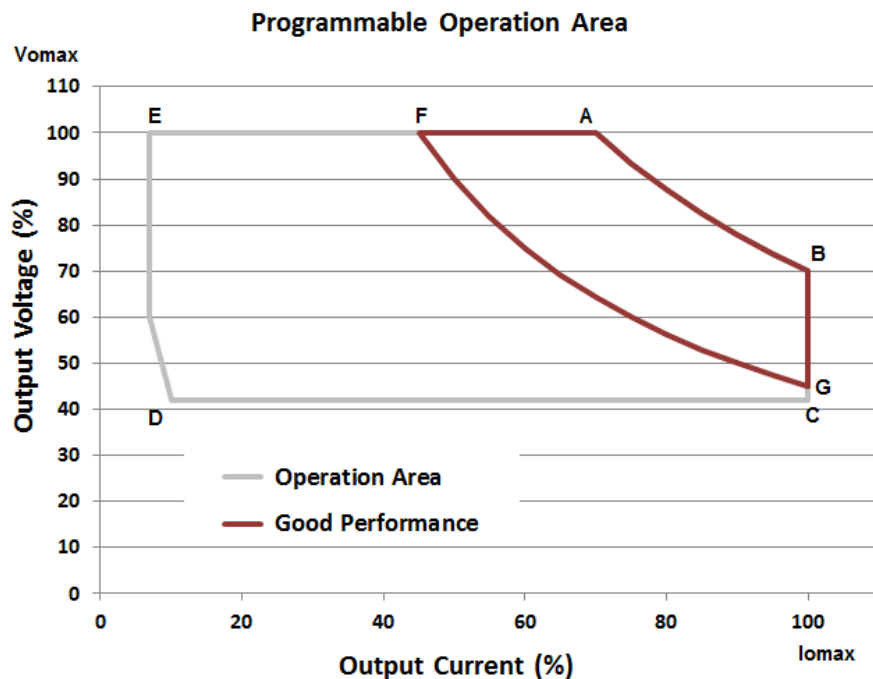
■ Application

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-F200CC-C070-S-CS	176 ~ 305Vac	200W	172-400Vdc	500-700mA	92.0%	CCC CE RoHS
PE-F200CC-C105-S-CS	176 ~ 305Vac	200W	114-286Vdc	700-1050mA	92.0%	CCC CE RoHS
PE-F200CC-C140-S-CS	176 ~ 305Vac	200W	86-190Vdc	1050-1400mA	91.5%	CCC CE RoHS
PE-F200CC-C210-S-CS	176 ~ 305Vac	200W	57-143Vdc	1400-2100mA	91.0%	CCC CE RoHS
PE-F200CC-C420-S-CS	176 ~ 305Vac	200W	29-71Vdc	2800-4200mA	92.0%	CCC CE RoHS
PE-F200CC-C520-S-CS	176 ~ 305Vac	200W	23-48Vdc	4200-5200mA	92.0%	CCC CE RoHS

■ Programmable Operation Area



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

Model	C070		C105		C140		C210		C420		C520	
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)
A	500	400	700	286	1050	190	1400	143	2800	71	4200	48
B	700	290	1050	190	1400	143	2100	95	4200	48	5200	38
C	700	172	1050	114	1400	86	2100	57	4200	29	5200	23
D	70	172	105	114	140	86	210	57	420	29	520	23
E	50	400	70	286	105	190	140	143	280	71	420	48
F	300	400	420	286	630	190	840	143	1680	71	2520	48
G	700	172	1050	114	1400	86	2100	57	4200	29	5200	23

■ Specifications

Items		Specification	
Input	Input Voltage	176~305Vac	
	Input Frequency	47~63Hz	
	Power Factor	>0.9@60-100%load, refer to PF vs. Load curve.	
	THD	<20%@60-100%load, refer to THD vs. Load curve.	
	Input Current	1.2Amax@230Vac & Full-Load	
	Inrush Current	65A peak, 1.2ms duration@230Vac 25°C 80A peak, 1.3ms duration@277Vac 25°C <5.0A ² s@230Vac, 25°C Cold Start	
	Leakage Current	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	135%Vomax, The unit will be in burst mode when OVP. It will deliver full function after fault is removed.	
	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.	
	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	≥55,000 hours, measured at 230Vac input, 80% load and 75℃ Case temperature ^[4]	
	Case Temperature	90℃Cmax ^[5]	
	Dimensions	Inch(L x W x H)	8.7x2.66x1.48
		Millimeter(L x W x H)	221.0x67.5x37.5
	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.

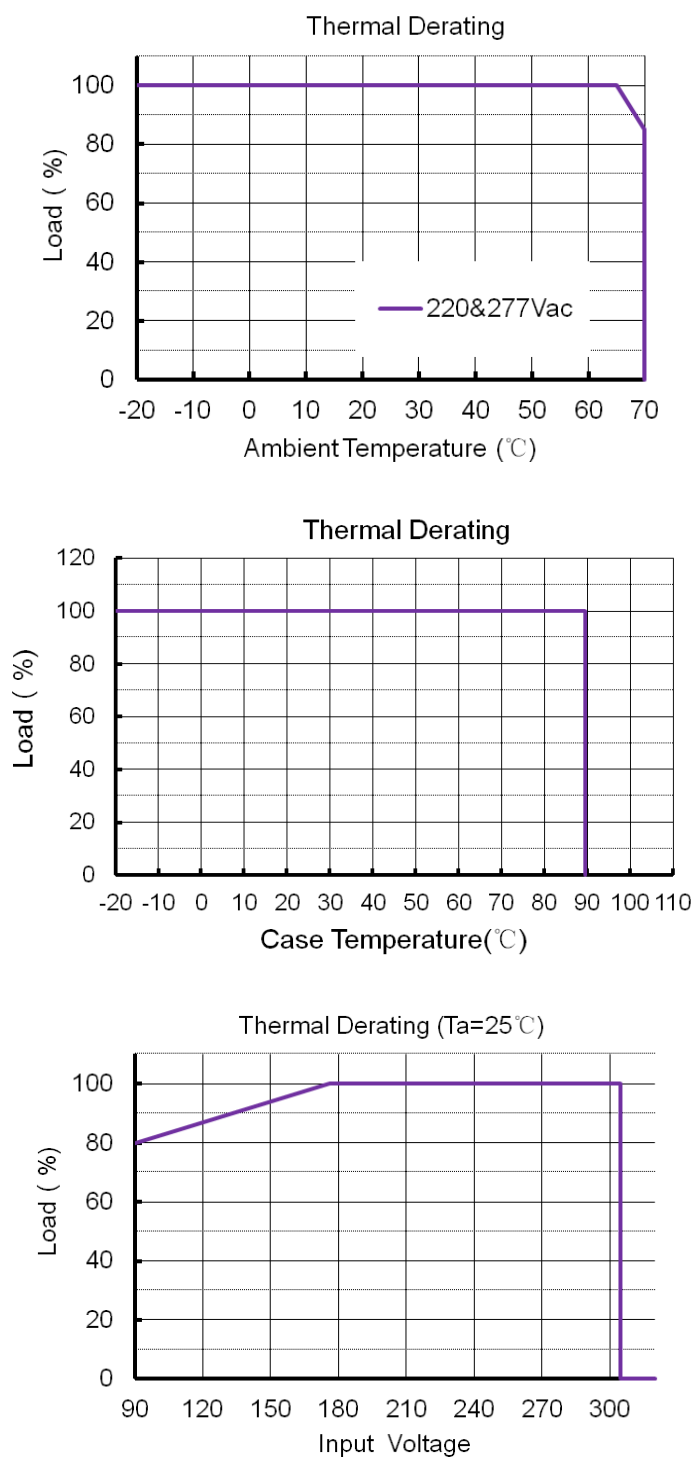
[4] refer to Lifetime vs. Tc curve .

[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

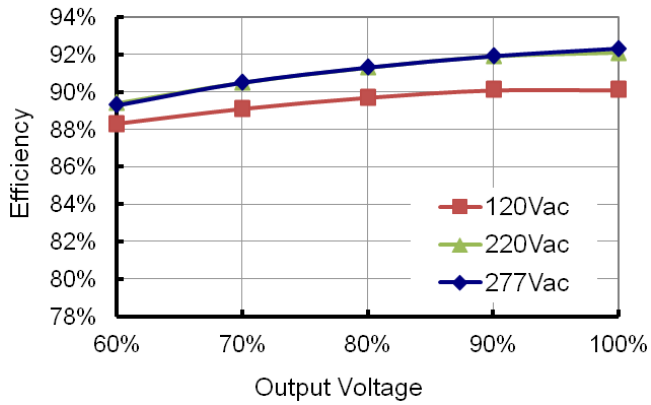
■ Derating Curve (Typical)



■ Efficiency vs. Load (Typical)

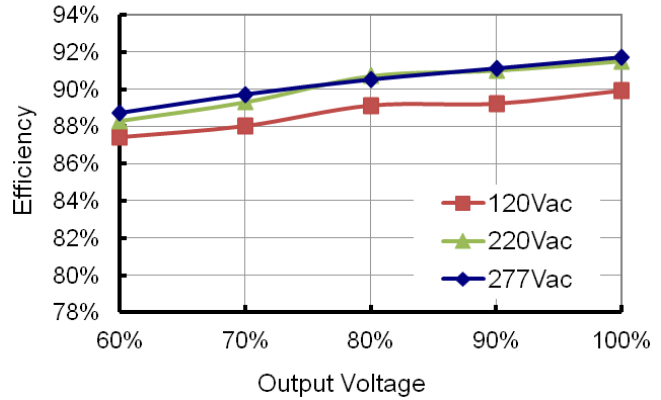
PE-PF200CC-C065

Efficiency vs. Output Voltage



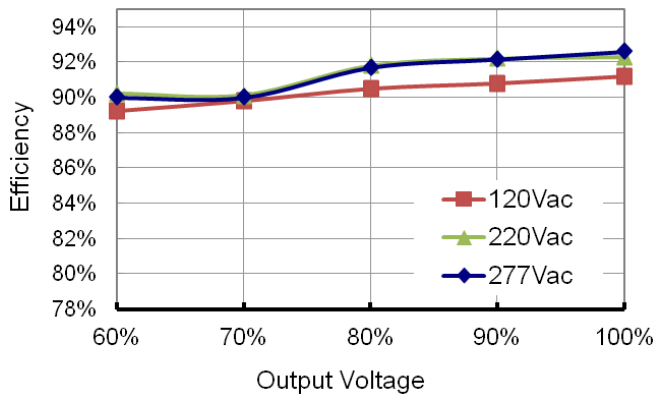
PE-F200CC-C105

Efficiency vs. Output Voltage



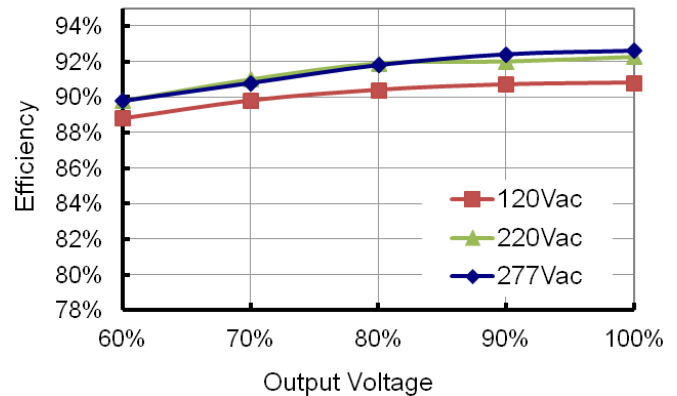
PE-F200CC-C140

Efficiency vs. Output Voltage



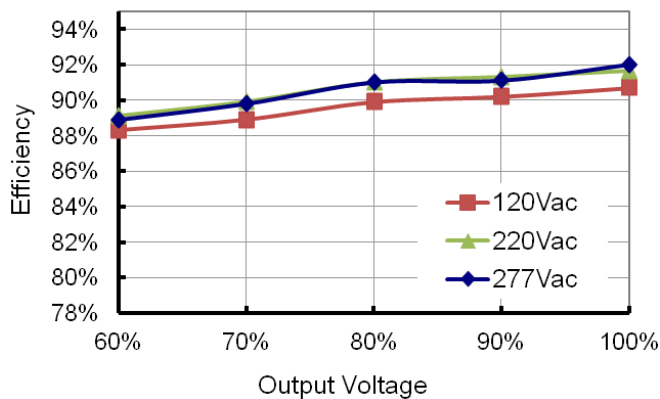
PE-F200CC-C210

Efficiency vs. Output Voltage



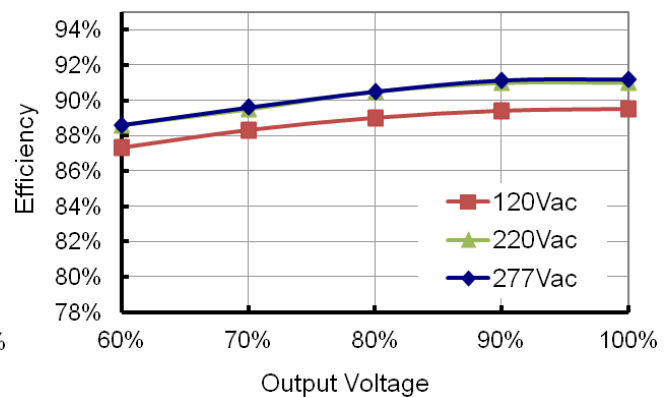
PE-F200CC-C420

Efficiency vs. Output Voltage

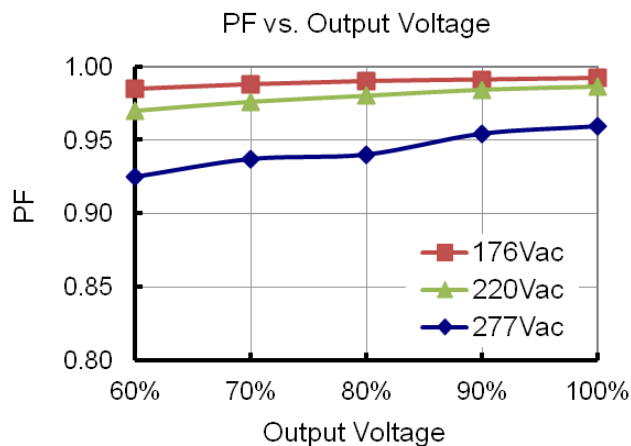


PE-F200CC-C520

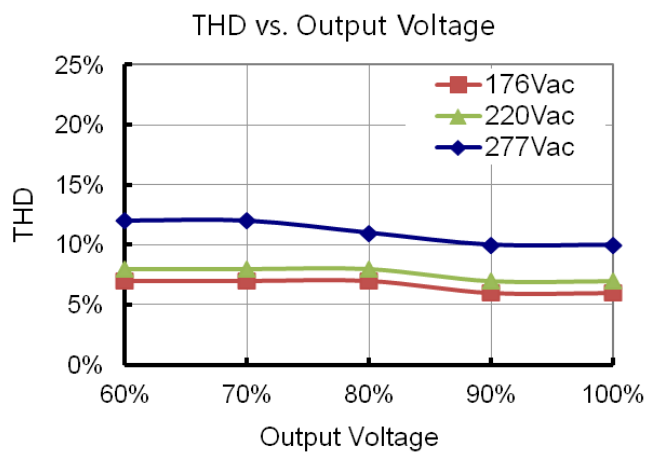
Efficiency vs. Output Voltage



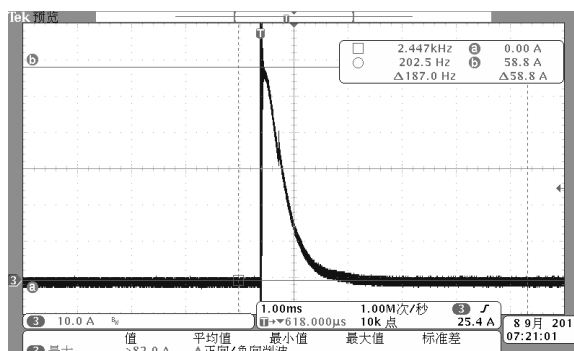
■ Power Factor Characteristics (Typical)



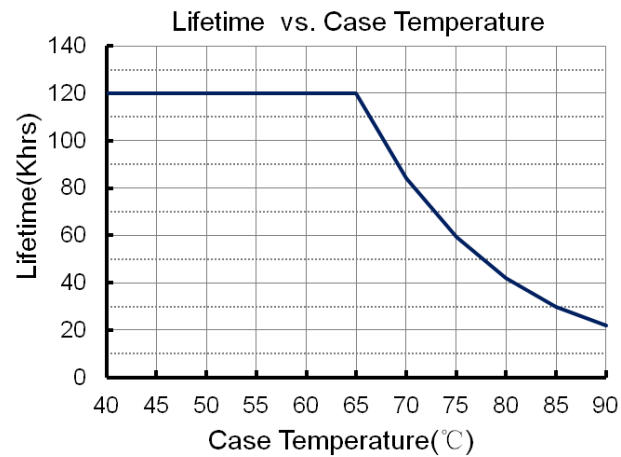
■ THD vs. Load (Typical)



■ Inrush Current Waveform (Typical)



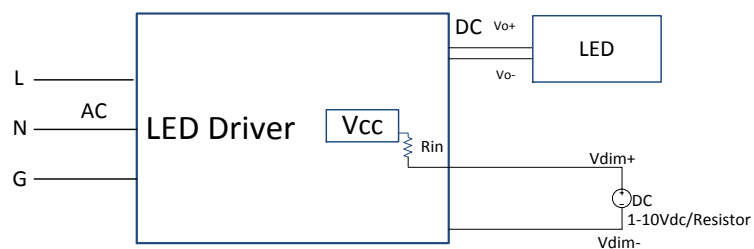
■ Lifetime vs. Case Temperature



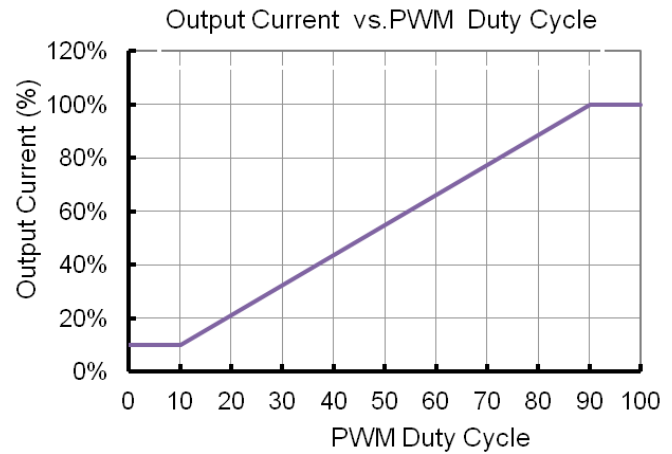
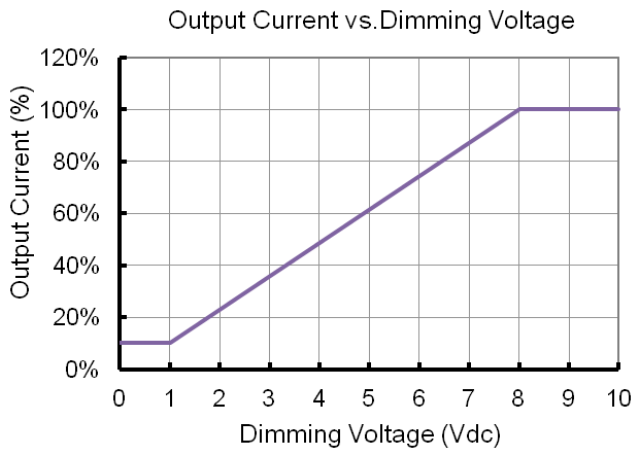
■ Dimming Section

Parameter	Min.	Typ.	Max.
Vcc	-	12.5 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

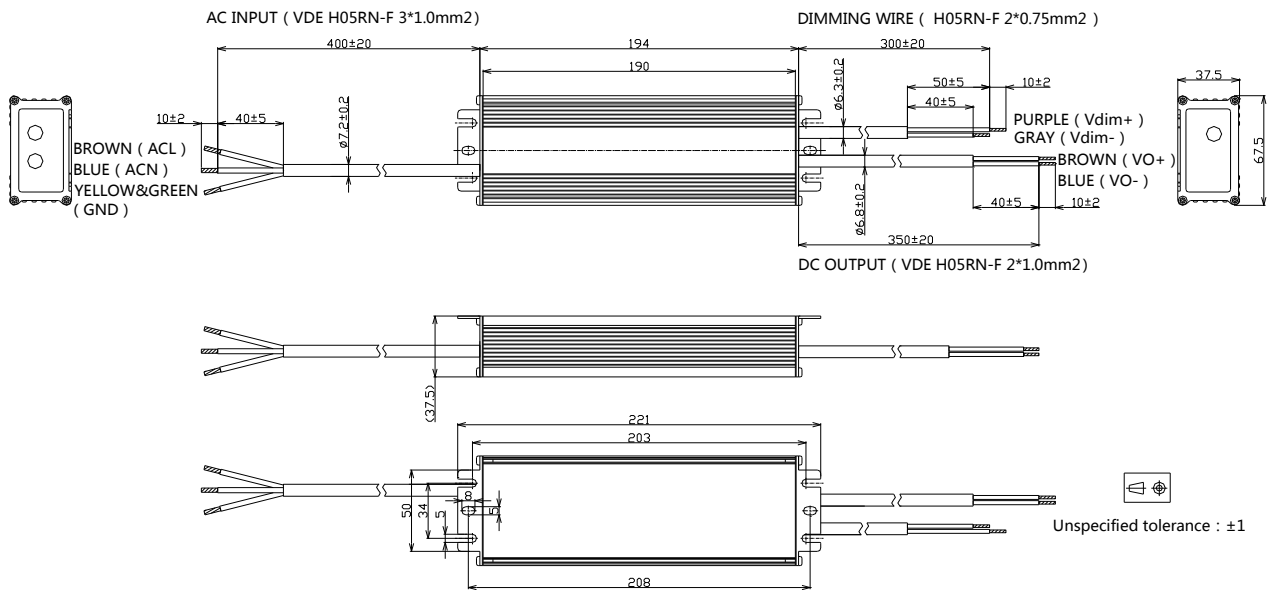


Dimming Curve



Mechanical Outline (Unit: mm)

PE-F200CC-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.

Revision History

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