

S.M.P.S

LED Converter

Water Proof Converter

F120CQ2 Series

120W single output with c.c circuit
and PFC function



- **Constant current design(12V:Constant voltage)**
- Built-in PFC function
- Protections:Over current /Over voltage /Short circuit
- IP68 design for outdoor installations
- 100% full load burn-in test
- 3 in 1 dimming function(option:D type)
- Suitable for LED lighting and street lighting applications
- Safety standards : K61347-2-1,K61347-2-13,
EN61347-1,EN61347-2-13
- EMC standards : K00015,K61547,K61000-3-2,3,EN55015
- Metal case

UPF120S48CQ2D

Blank : IP68 rated. Cable for I/O connection.

Output voltage and current level can be adjusted through internal potentiometer

D(option) : IP68 rated. Constant current level adjustable through output cable with 10V PWM signal or 0-10Vdc or resistance

IP68     SELV LPS    

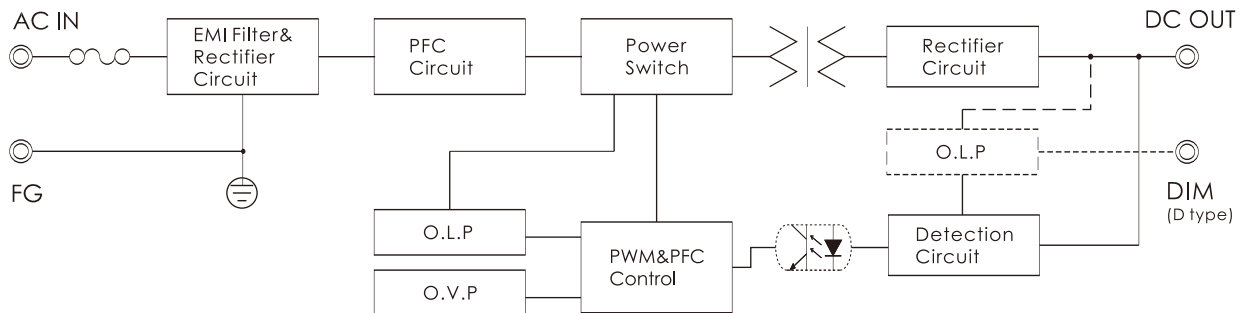
ITEM		UPF120S12CQ2	UPF120S36CQ2☐	UPF120S48CQ2☐
INPUT	VOLTAGE RANGE	AC160~305V(refer to static characteristics)		
	FREQUENCY RANGE	47~63Hz		
	POWER FACTOR	PF>0.95 at over 60% of rated power		
	EFFICIENCY(typ.)	88%	88%	89%
	AC CURRENT(typ.)	0.62A/230VAC(typ)		
	INRUSH CURRENT(typ.)	40A/230VAC		
	LEAKAGE CURRENT	<2.5mA / 230VAC		
OUTPUT	RATED CURRENT	10A	3.3A	2.5A
	CONSTANT CURRENT REGION	—	18-36V	24-48V
	RATED POWER	120W		
	CURRENT ADJ. RANGE	—	2.5~3.3A	1.9~2.5A
	CURRENT ACCURACY	±5%		
	RIPPLE&NOISE(max.) Note2	150mVp-p		
	SETUP,RISE TIME(max.)	3000ms,100ms/230VAC at full load		
	HOLD UP TIME(typ.)	50ms/230VAC at full load		
PROTEC-TION	OVER CURRENT Note3	12V : Over 110% of rating ; recovers automatically after fault condition is removed 36,48V : 95~108%		
	SHORT CIRCUIT	Hiccup mode ; recovers automatically after fault condition is removed		
	OVER VOLTAGE	110~140% of rating		
ISOLA-TION	WITHSTAND VOLTAGE	I/P-O/P:AC3.75KV, I/P-F.G:AC2KV, O/P-F.G:AC1.5KV		
	ISOLATION RESISTANCE	I/P-O/P, I/P-F.G, O/P-F.G:DC500V 100Mohms(At room temp. & humid.)		
ENVIRON-MENT	WORKING TEMP.&HUMID.	-40~+70℃ (Refer to “DERATING CURVE”),20~95%RH		
	STORAGE TEMP.&HUMID.	-40~+80℃,10~95%RH		
	VIBRATION	10~500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes		
OTHERS	DIMENSION/WEIGHT	222*61.5*37.1mm(L*W*H)/0.77Kg		
NOTE	1. All parameters not specially mentioned are measured at 230vac input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12” twisted pare-wire terminated with 0.1 uF & 47uF parallel capacitor. 3. Refer to “DRIVING METHODS of LED MODULE”			

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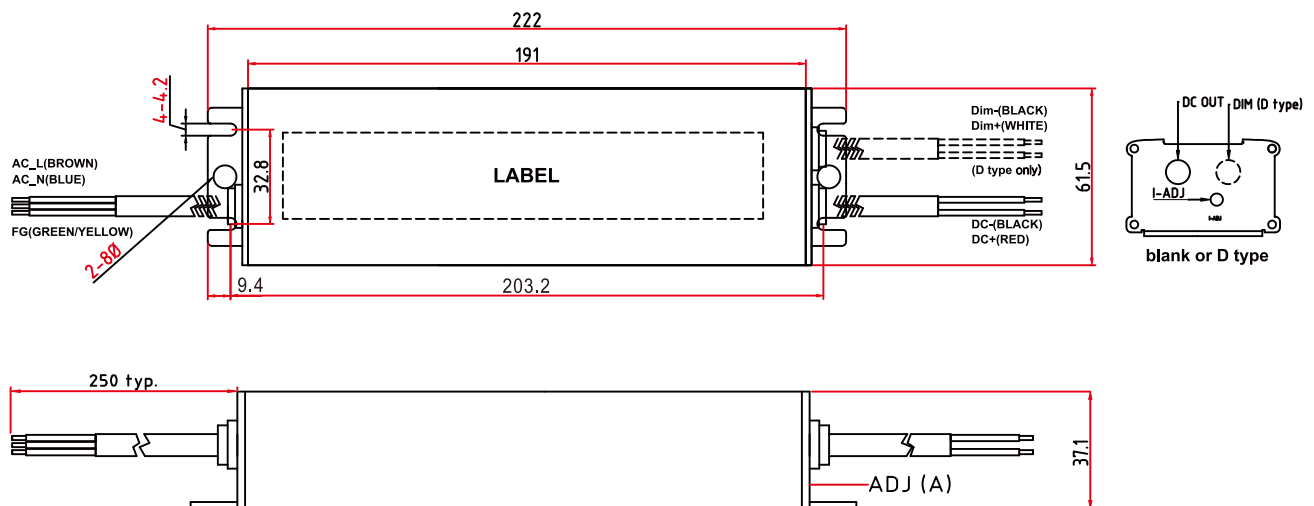
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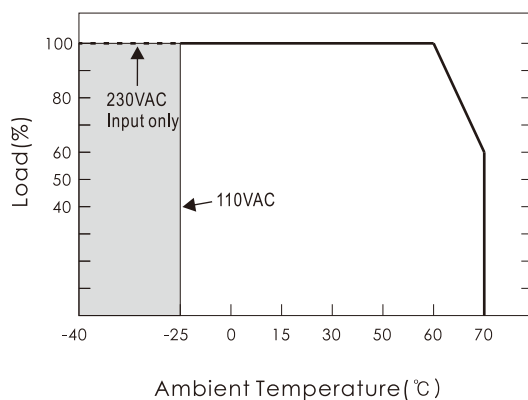
BLOCK DIAGRAM



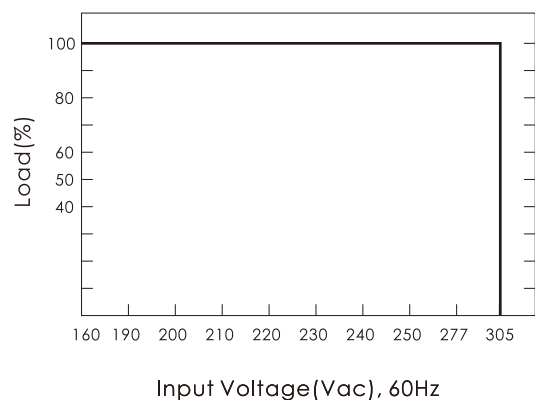
DIMENSIONS(unit:mm)



DERATING CURVE

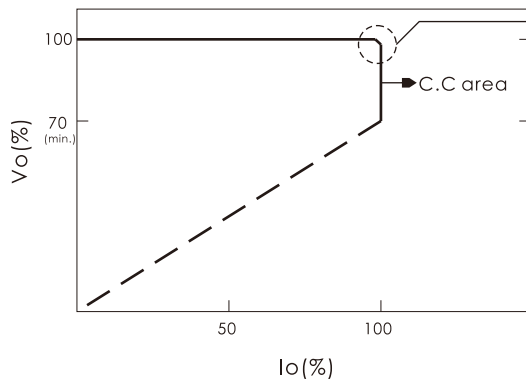


STATIC CHARACTERISTICS



DRIVING METHODS of LED MODULE

- This series works in constant current mode to directly drive the LEDs

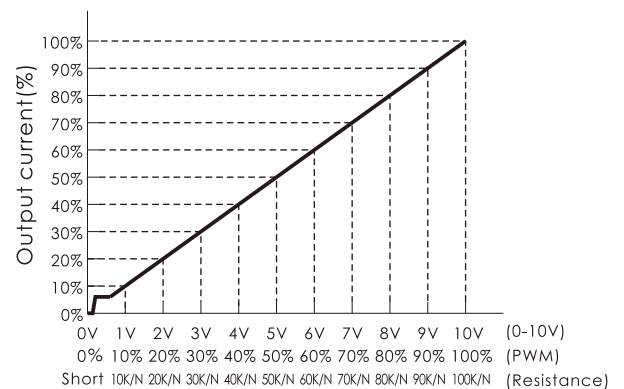


In the constant current region, the highest voltage at the output of the driver depends on the configuration of the systems.

DIMMING OPERATION(option:D type)

- Built-in 3 in 1 dimming function.
Output constant current level can be adjusted through output cable by connecting 10V PWM signal or 0-10Vdc or resistance between DIM+ and DIM-.
- Please do not connect 'DIM-' to 'V-'

DIMMING CURVE



- 10V PWM signal for output current adjustment(typ.):
frequency range:100Hz~3KHz

Duty Value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Open
Percent of Rated Current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~108%

- 0-10V dimming function for output current adjustment(typ.)

Dimming Value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	Open
Percent of Rated Current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~108%

- Reference resistance value for output current adjustment(typ.)

Resistance Value	Single driver	Short	10K Ω	20K Ω	30K Ω	40K Ω	50K Ω	60K Ω	70K Ω	80K Ω	90K Ω	100K Ω	Open
	Multiple driver (N=driver quantity for synchronized dimming operation)	Short	10K Ω /N	20K Ω /N	30K Ω /N	40K Ω /N	50K Ω /N	60K Ω /N	70K Ω /N	80K Ω /N	90K Ω /N	100K Ω /N	---
Percent of Rated Current		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~108%