

S.M.P.S

LED Converter

Water Proof Converter

## F250CQH Series

220~250W single output with c.v+c.c circuit and PFC function



- 12V : Constant voltage design
- 24V,36V,48V : Constant voltage or current design (C.V+C.C. Mode)
- Built-in PFC function
- Wide input range
- Protections:Over load /Over voltage / Short circuit/Over temperature
- IP68 design for outdoor installations
- 100% full load burn-in test
- 3 in 1 dimming function(option:D type)
- Suitable for LED lighting and moving sign applications
- Safety standards : EN61347-1,EN61347-2-13  
K61347-1,K61347-2-13 ,J61347-1,J61347-2-13
- EMC standards : EN55015,EN61000-3-2,3  
EN61547,K00015,K61547,J55015
- Metal case

## UPF250S24CQH□

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 1-10Vdc or resistance

IP68      SELV    

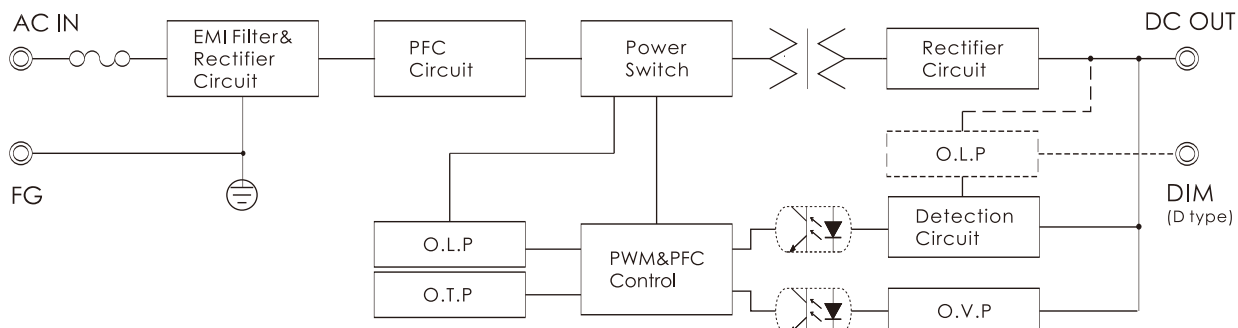
ITEM		UPF250S12CQH	UPF250S24CQH□	UPF250S36CQH□	UPF250S48CQH□
INPUT	VOLTAGE RANGE	AC90~305V			
	FREQUENCY RANGE	47~63Hz			
	POWER FACTOR	PF>0.95 at over 60% of rated power			
	EFFICIENCY(typ.)	90%	91%	92%	92%
	AC CURRENT(typ.)	2.7A/115VAC (typ) 1.17A/230VAC (typ)	2.55A/115VAC (typ) 1.3A/230VAC (typ)		
	INRUSH CURRENT(typ.)	COLD START 60A/230VAC			
	LEAKAGE CURRENT	<2.5mA / 230VAC			
OUTPUT	RATED CURRENT	18.75A	10.5A	7A	5.2A
	CONSTANT CURRENT REGION	—	12-24V	18-36V	24-48V
	RATED POWER	225W	250W	250W	250W
	VOLTAGE ADJ. RANGE	10.8~13.2V	22~27V	32~40V	43~53V
	CURRENT ADJ. RANGE	—	5~10.5A	4.5~7A	2.6~5.2A
	CURRENT ACCURACY	±5%			
	RIPPLE&NOISE(max.) Note2	150mVp-p			
	SETUP,RISE TIME(max.)	3000ms,100ms/115VAC at full load 3000ms,100ms/230VAC at full load			
	HOLD UP TIME(typ.)	15ms/115VAC at full load 15ms/230VAC at full load			
PROTEC-TION	OVER CURRENT Note3	Over 110% of rating ; recovers automatically after fault condition is removed			
	SHORT CIRCUIT	Hiccup or shut down mode / recover : automatically or need reapplying power			
	OVER VOLTAGE	115~140% of rating			
	OVER TEMPERATURE	115±10℃ (temp. Sensor) ; recovers automatically after fault condition is removed			
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	263*72*40.8mm(L*W*H)/1.4Kg			
NOTE	1. All parameters not specially mentioned are measured at 220vac 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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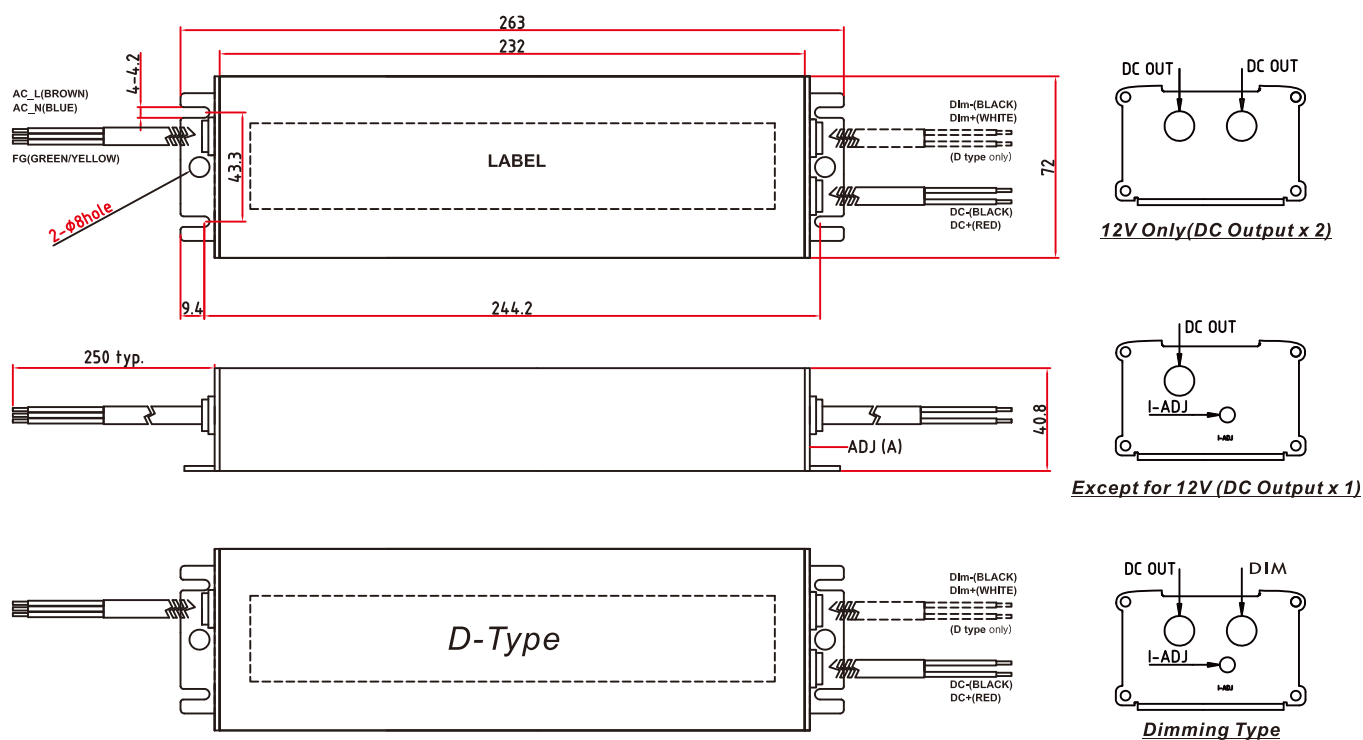
# LED Converter

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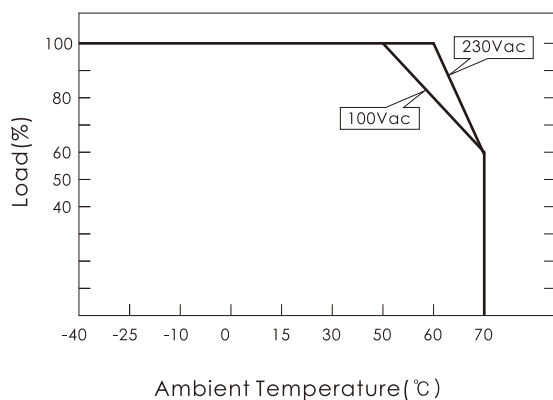
## BLOCK DIAGRAM



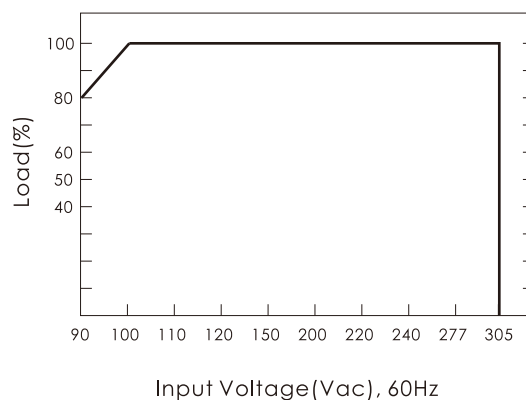
## DIMENSIONS(unit:mm)



## DERATING CURVE

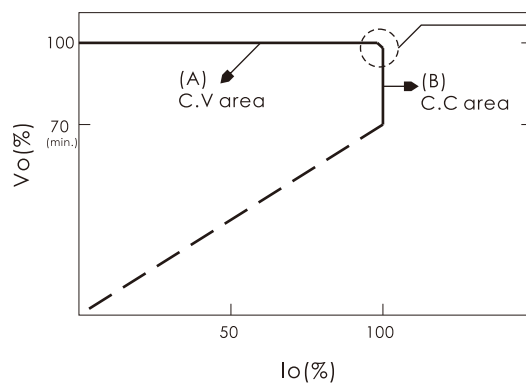


## STATIC CHARACTERISTICS



## DRIVING METHODS of LED MODULE

- C.V.+C.C. characteristics can be operated at both C.V. mode(with LED driver, at area (A)) and C.C. mode(direct driver, at area(B))
- At the moment of power on, the LED converter will work in C.V. Mode and can be provide a peak output current; after the LED turns on, the LED converter will go into C.C. Mode(pattern pending)



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 1-10Vdc or resistance between DIM+ and DIM-.
- Please do not connect 'DIM-' to 'V-'
- 10V PWM signal for output current adjustment(typ.):  
frequency range:100Hz~3KHz

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

- 1-10V dimming function for output current adjustment(typ.)

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

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

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