

S.M.P.S

LED Converter

Water Proof Converter

F60CQH Series

60W single output with c.v+c.c circuit and PFC function



- Constant voltage or current design(C.V+C.C. Mode) (12V:C.V mode only)
- Built-in PFC function • Wide input range
- Protections:Over current /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 street lighting 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

UPF60S48CQH□

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     

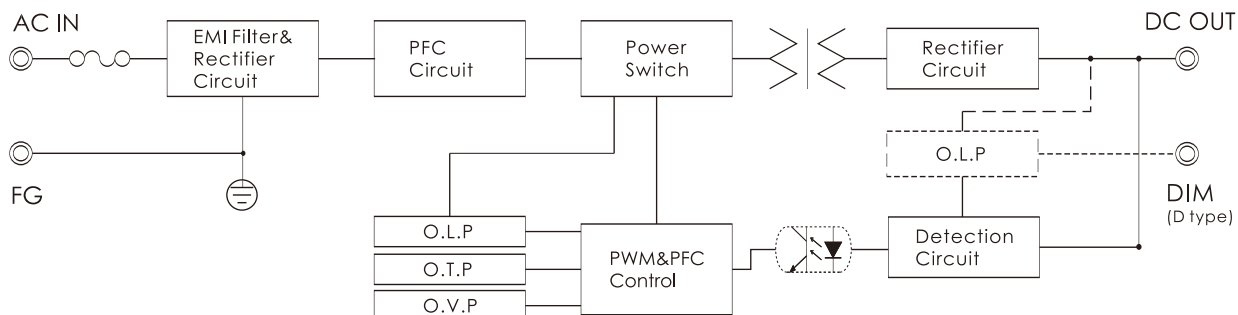
ITEM		UPF60S12CQH	UPF60S24CQH□	UPF60S36CQH□	UPF60S48CQH□
INPUT	VOLTAGE RANGE	AC90~305V			
	FREQUENCY RANGE	47~63Hz			
	POWER FACTOR	PF>0.95 at over 60% of rated power			
	EFFICIENCY(typ.)	84%	86%	86%	88%
	AC CURRENT(typ.)	0.8A/115VAC (typ) 0.4A/230VAC (typ)			
	INRUSH CURRENT(typ.)	COLD START 40A/230VAC			
	LEAKAGE CURRENT	<2.5mA / 230VAC			
OUTPUT	RATED CURRENT	5A	2.5A	1.7A	1.25A
	CONSTANT CURRENT REGION	-	14.4-24V	21.6-36V	28.8-48V
	RATED POWER	60W			
	VOLTAGE ADJ. RANGE	10.8~13.2V	22~27V	33~40V	43~53V
	CURRENT ADJ. RANGE	-	1.5~2.5A	1~1.7A	0.75~1.25A
	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			
PROTEC-TION	HOLD UP TIME(typ.)	50ms/115VAC at full load 50ms/230VAC at full load			
	OVER CURRENT Note3	12V : Over 110% of rating ; recovers automatically after fault condition is removed 24,36,48V : 95~108%			
	SHORT CIRCUIT	Hiccup mode ; recovers automatically after fault condition is removed			
	OVER VOLTAGE	115~140% of rating			
ISOLA-TION	OVER TEMPERATURE	95~105±10℃(temp. Sensor) ; recovers automatically after fault condition is removed			
	WITHSTAND VOLTAGE	I/P-O/P:AC3.75KV, I/P-F.G:AC2KV, O/P-F.G:AC1.5KV			
ENVIRON-MENT	ISOLATION RESISTANCE	I/P-O/P, I/P-F.G, O/P-F.G:DC500V 100Mohms(At room temp. & humid.)			
	WORKING TEMP.&HUMID.	-40~+70℃(Refer to "DERATING CURVE),20~95%RH			
	STORAGE TEMP.&HUMID.	-40~+80℃,10~95%RH			
OTHERS	VIBRATION	10~500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes			
	DIMENSION/WEIGHT	174*61.5*36.8mm(L*W*H)/0.66Kg			
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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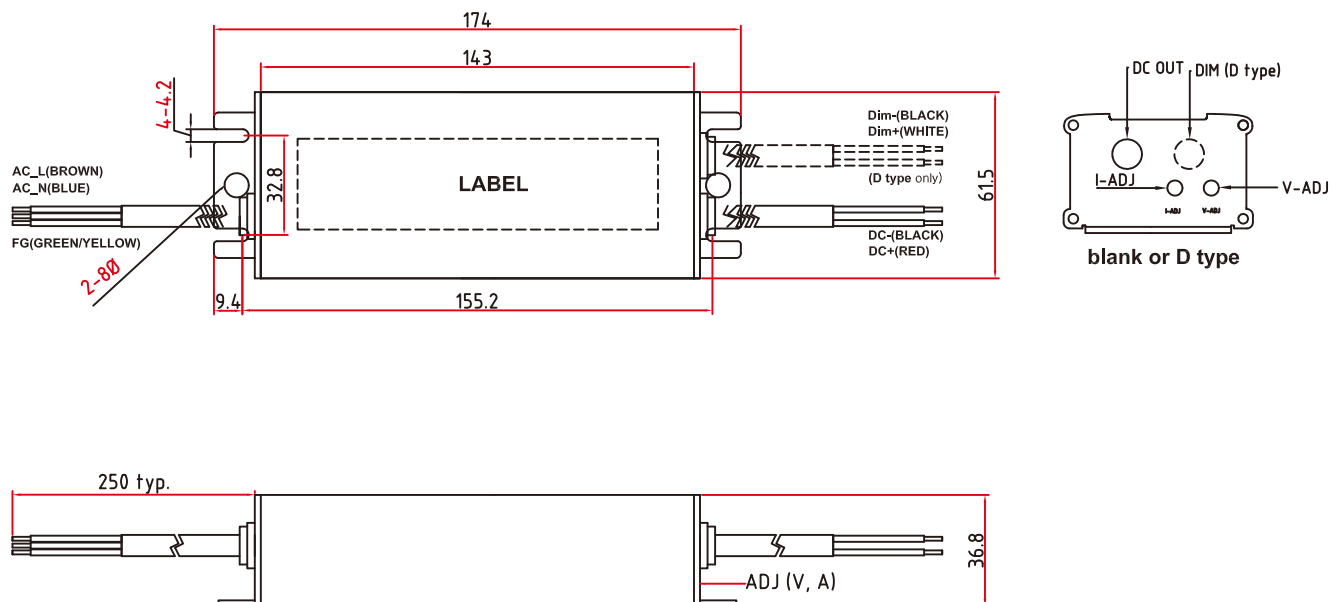
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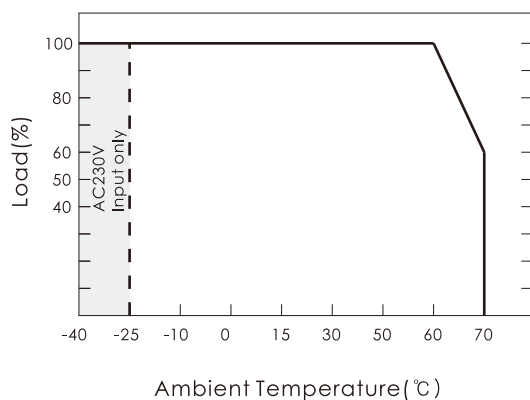
BLOCK DIAGRAM



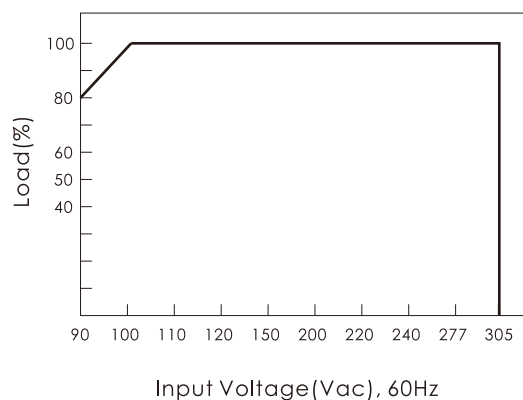
DIMENSIONS(unit:mm)



DERATING CURVE

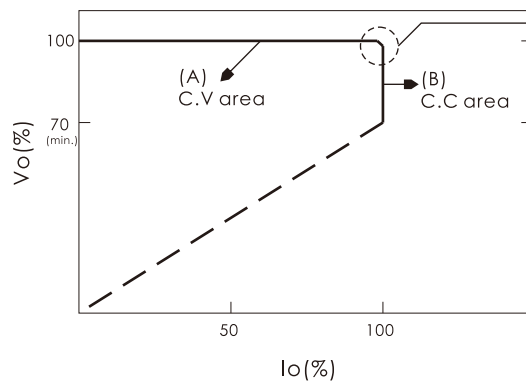


STATIC CHARACTERISTICS



■ 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	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	Open
	Multiple driver (N=driver quantity for synchronized dimming operation)	10KΩ /N	20KΩ /N	30KΩ /N	40KΩ /N	50KΩ /N	60KΩ /N	70KΩ /N	80KΩ /N	90KΩ /N	100KΩ /N	---
Percent of Rated Current		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~108%