

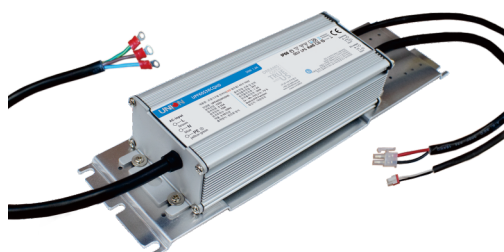
S.M.P.S

LED Converter

Water Proof Converter

F60CQHD-EX Series

50W single output with c.c circuit and PFC function



- **Constant current design**
- Built-in PFC function
- 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
- Suitable for LED lighting and street lighting applications
- Safety standards : EN61347-1,EN61347-2-13,J61347-1 61347-2-13 ,K61347-2-1,K61347-2-13
- EMC standards : EN55015,EN61000-3-2,3,EN61000-4-2,3,4,5,6,11 J55015,K00015,K61547 ,K61000-4-2,3,4,5,6,11
- Metal case

IP68       SELV     

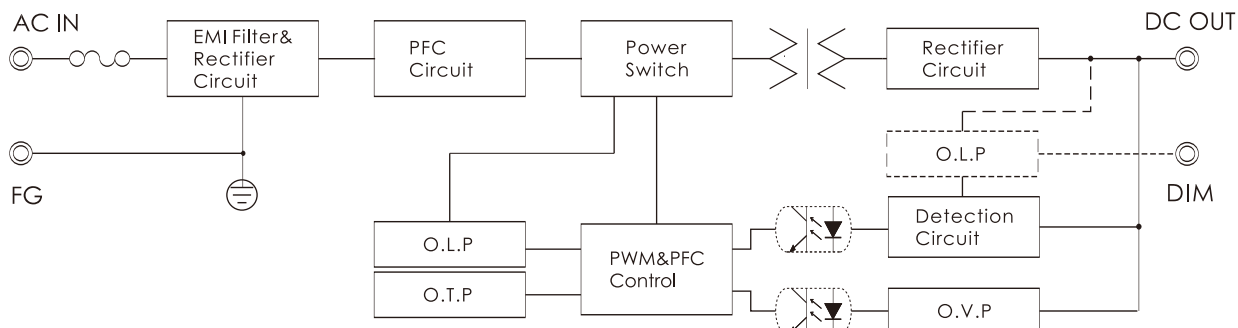
ITEM		UPF60S36CQHD-EX
INPUT	VOLTAGE RANGE	AC90~305V
	FREQUENCY RANGE	47~63Hz
	POWER FACTOR	PF>0.95 at over 60% of rated power
	EFFICIENCY(typ.)	86%
	AC CURRENT(typ.)	0.8A/115VAC (typ) 0.4A/230VAC (typ)
	INRUSH CURRENT(typ.)	COLD START 40A/230VAC
	LEAKAGE CURRENT	<2.5mA / 230VAC
OUTPUT	RATED CURRENT	1.4A
	CONSTANT CURRENT REGION	21.6-36V
	RATED POWER	50W
	VOLTAGE ADJ. RANGE	33~40V
	CURRENT ADJ. RANGE	1~1.7A
	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	Over 95~108% of rating ; recovers automatically after fault condition is removed
	SHORT CIRCUIT	Hiccup mode ; recovers automatically after fault condition is removed
	OVER VOLTAGE	115~140% of rating
ISOLA-TION	OVER TEMPERATURE	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./1 cycle, 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 pair-wire terminated with 0.1 uF & 47uF parallel capacitor. 3. Refer to "DRIVING METHODS of LED MODULE"	

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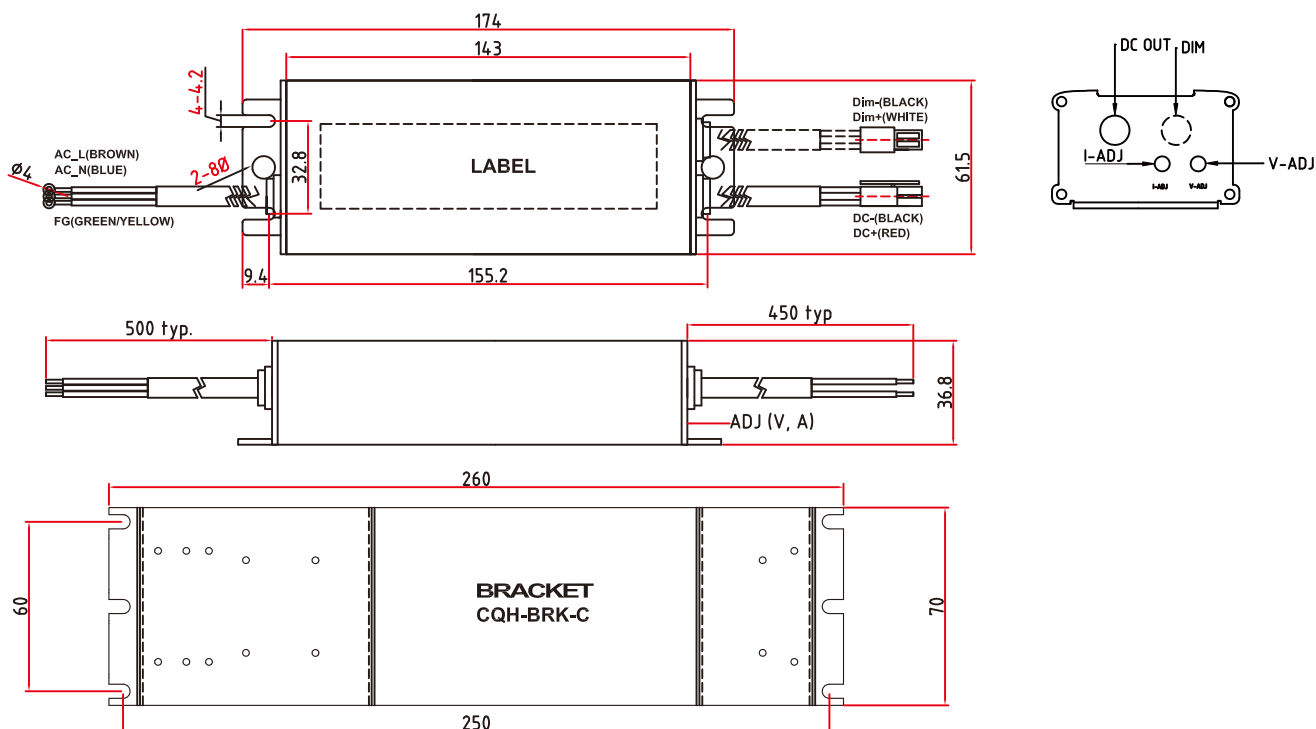
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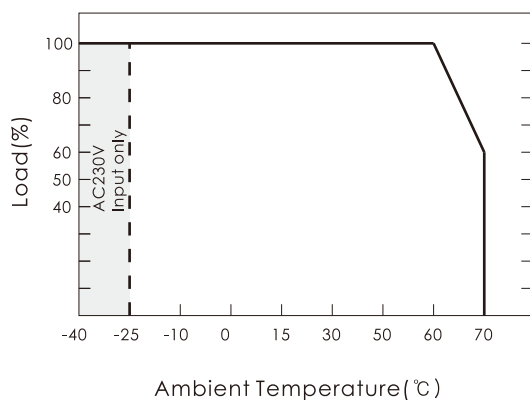
BLOCK DIAGRAM



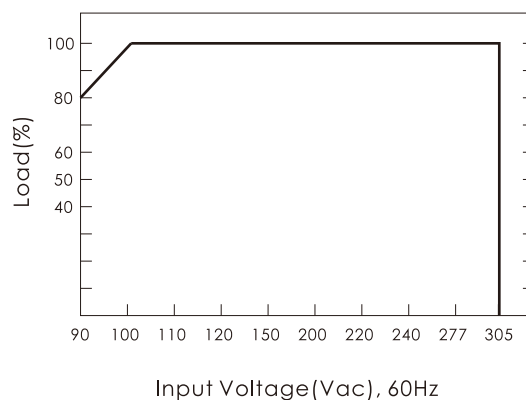
DIMENSIONS (unit:mm)



DERATING CURVE

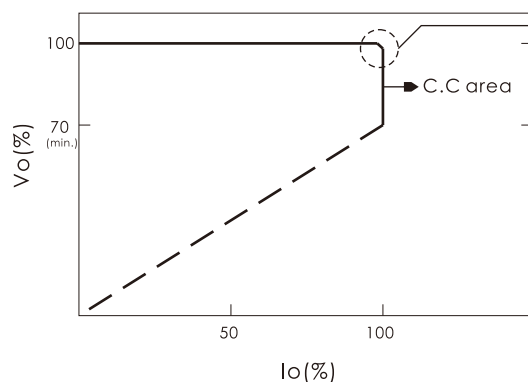


STATIC CHARACTERISTICS



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

- 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%