S.M.P.S	LED Converter	Water Proof Converter

F200CQ2 Series

200W 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**

UPF200S48CQ2D
  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
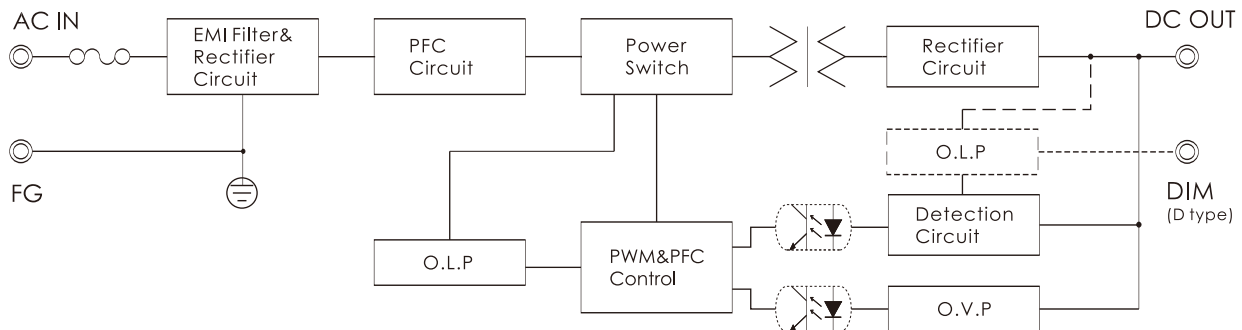
IP68 F M M SELV LPS Pfc KC KC CE

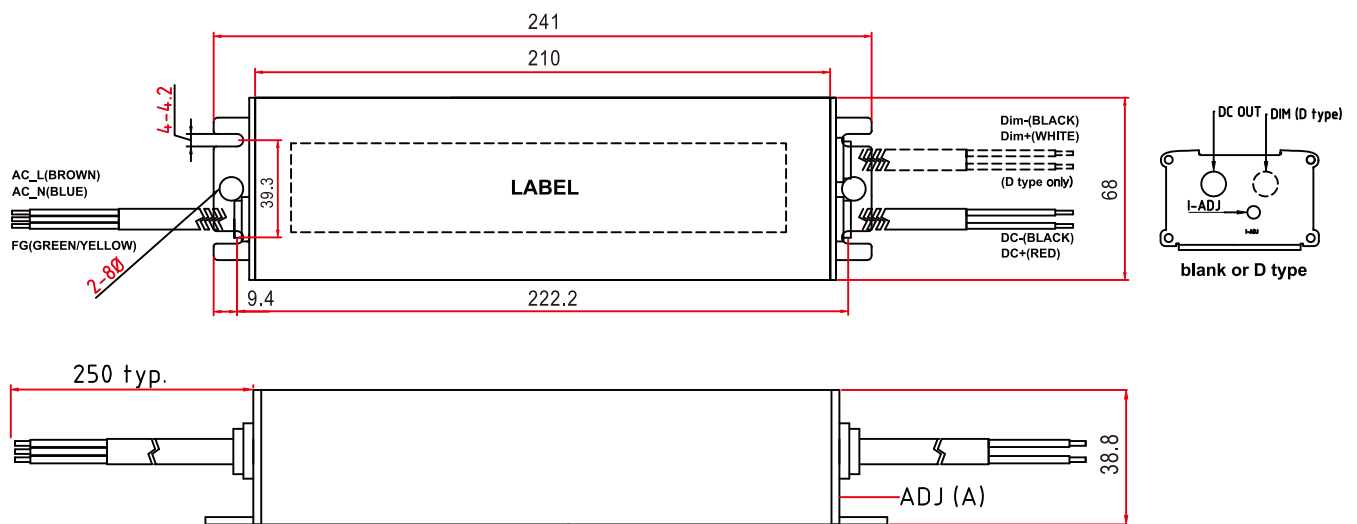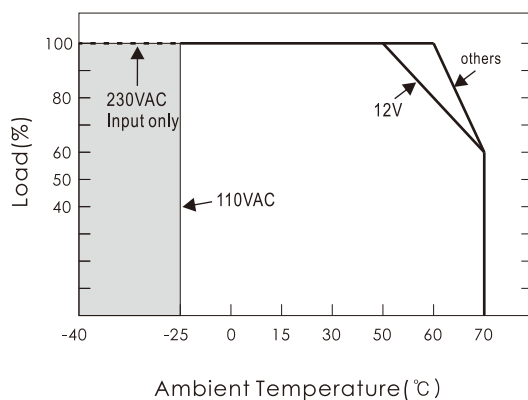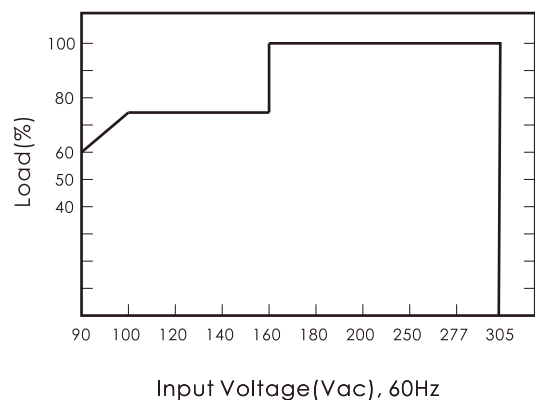|	ITEM	UPF200S12CQ2	UPF200S36CQ2□	UPF200S48CQ2□
INPUT	VOLTAGE RANGE	AC90~305V(refer to static characteristics)		
	FREQUENCY RANGE	47~63Hz		
	POWER FACTOR	PF>0.95 at over 60% of rated power		
	EFFICIENCY(typ.)	89%	92%	92%
	AC CURRENT(typ.)	1.0A/230VAC(typ)		
	INRUSH CURRENT(typ.)	50A/230VAC		
	LEAKAGE CURRENT	<2.5mA / 230VAC		
OUTPUT	RATED CURRENT	16A	5.6A	4.2A
	CONSTANT CURRENT REGION	–	22-36V	30-48V
	RATED POWER	144W at 100-160VAC , 192W at 160-305VAC	150W at 100-160VAC , 200W at 160-305VAC	
	CURRENT ADJ. RANGE	–	4~5.6A	1.95~4.2A
	CURRENT ACCURACY	±5%		
	RIPPLE&NOISE(max.) Note2	150mVp-p		
	SETUP,RISE TIME(max.)	3000ms,100ms/230VAC at full load		
	HOLD UP TIME(typ.)	10ms/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	241*68*38.8mm(L*W*H)/1.07Kg		
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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■ BLOCK DIAGRAM

AC IN

EMI Filter&
Rectifier
Circuit

PFC
Circuit

Power
Switch

Rectifier
Circuit

DC OUT

FG

O.L.P

PWM&PFC
Control

O.L.P

Detection
Circuit

DIM
(D type)

O.V.P

■ DIMENSIONS(unit:mm)

241

210

4-4.2

39.3

LABEL

AC_L(BROWN)
AC_N(BLUE)

FG(GREEN/YELLOW)

2-8⌀

9.4

222.2

Dim-(BLACK)
Dim+(WHITE)
(D type only)

DC-(BLACK)
DC+(RED)

68

DC OUT   DIM (D type)

I-ADJ

blank or D type

250 typ.

38.8

ADJ (A)

■ DERATING CURVE

Load(%)

100
80
60
50
40

230VAC
Input only

110VAC

12V

others

-40 -25 0 15 30 50 60 70

Ambient Temperature(℃)

■ STATIC CHARACTERISTICS

Load(%)

100
80
60
50
40

90 100 120 140 160 180 200 250 277 305

Input Voltage(Vac), 60Hz

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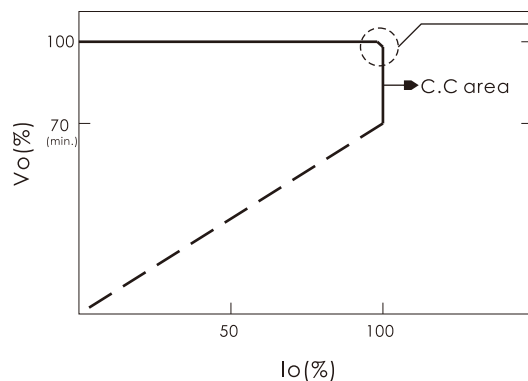
■ DRIVING METHODS of LED MODULE

● **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 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%