

## F400CP2 Series

400W single output with c.c circuit and PFC function



- **Constant current design**
- **Built-in PFC function**
- **Protections: Over current / Short circuit**
- **IP68 design for outdoor installations**
- **3 in 1 dimming function(option:D type)**
- **Suitable for LED lighting and street lighting applications**
- **Safety standards : K61347-2-1, K61347-2-13,**
- **EMC standards : K00015, K61547**
- **Metal case**
- **5years warranty**

**UPF400S48CP2**

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

Output 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		UPF400S48CP2
INPUT	VOLTAGE RANGE	AC180~264V
	FREQUENCY RANGE	47~63Hz
	POWER FACTOR	PF>0.95 at over 75% of rated power
	EFFICIENCY(typ.)	94%
	AC CURRENT(typ.)	1.85A/220VAC(typ)
	INRUSH CURRENT(typ.)	65A/220VAC
	LEAKAGE CURRENT	<2.5mA / 220VAC
OUTPUT	RATED CURRENT	7.8A
	CONSTANT CURRENT REGION	42-48V
	RATED POWER	376W
	CURRENT ADJ. RANGE	7~9A
	CURRENT ACCURACY	±5%
	RIPPLE&NOISE(max.) Note2	850mVp-p
	SETUP,RISE TIME(max.)	3000ms,100ms/220VAC at full load
PROTEC-TION	OVER CURRENT Note3	Over 95~108% of rating
	SHORT CIRCUIT	Hiccup mode ; 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:AC0.5KV
	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.	-30~+50℃ (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	307.2*74*46.5mm(L*W*H)/1.7Kg

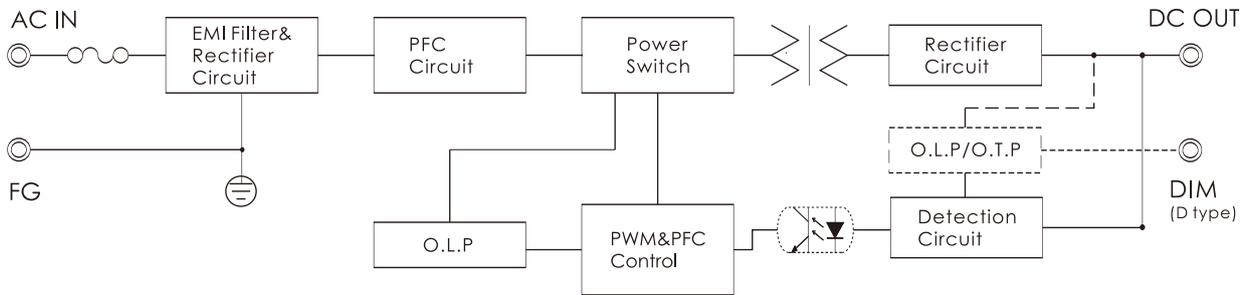
- NOTE**
1. All parameters not specially mentioned are measured at 220vac input, rated load and 25℃ of ambient temperature.
  2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with 0.1 uF & 47uF parallel capacitor.
  3. Refer to "DRIVING METHODS of LED MODULE"
  4. Turn on the AC switch after connecting the driver and the LED load

S.M.P.S

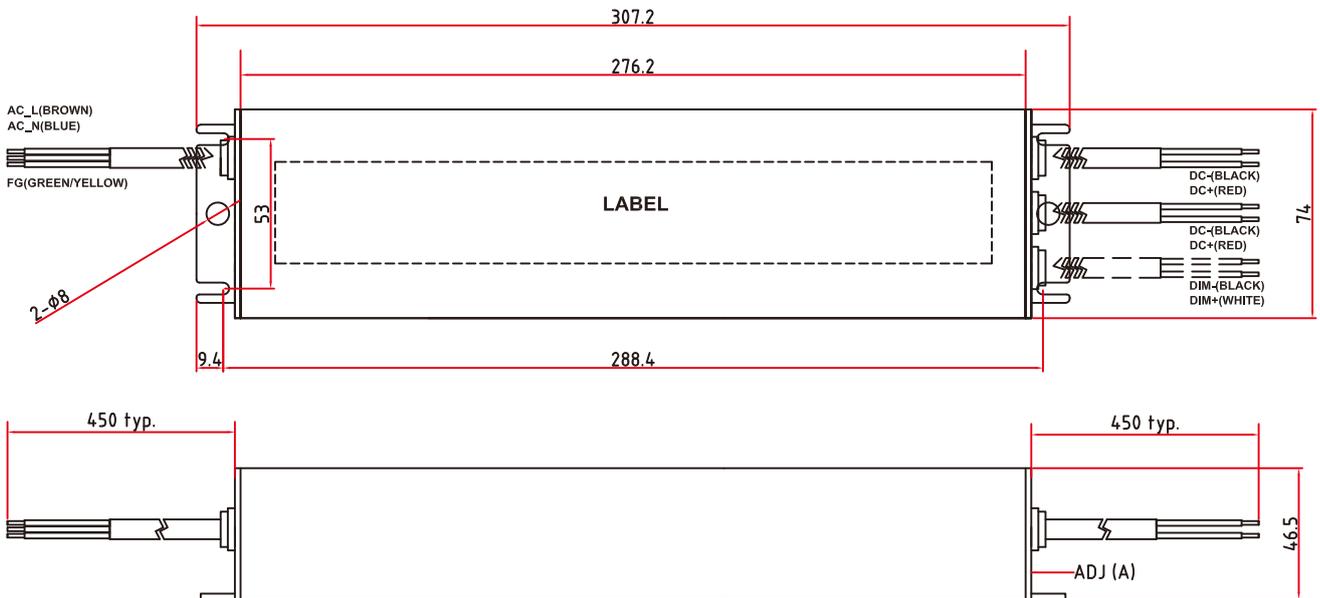
LED Converter

Water Proof Converter

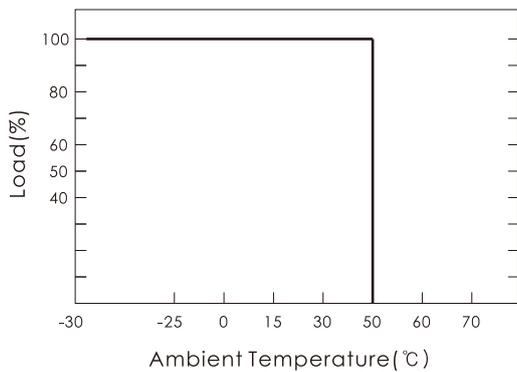
■ BLOCK DIAGRAM



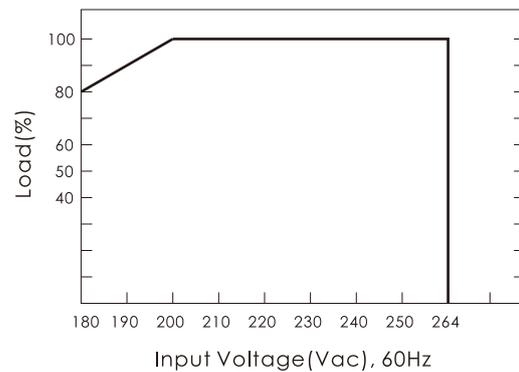
■ DIMENSIONS(unit:mm)



■ DERATING CURVE

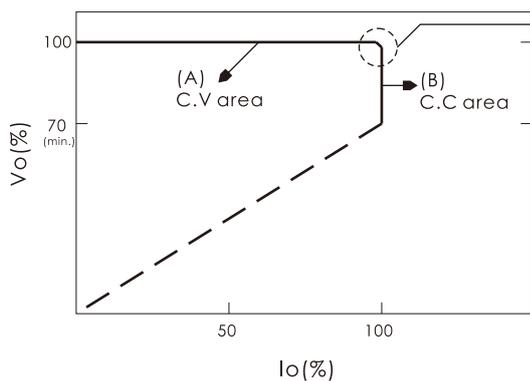


■ STATIC CHARACTERISTICS



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(patern 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%

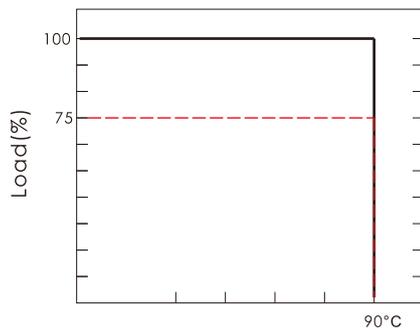
- Reference resistance value for output current adjustment(typ.)

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%

## ■ 과열보호회로

주변 사용환경 등이 열악하여 SMPS 가 과열시 내부온도 스위치 설정 값에 다다르게 되면 출력 전류 75% 님다운 하는 과열 보호 동작회로.

- 온도 스위치 90°C 설정
- 복귀 : 60°C 이하로 떨어지면 자동 복귀



(온도스위치 90°C)