30W Single Output LED Power Supply   # PLC-30 series

Features :

- Universal AC input / Full range
- Fully isolated plastic case with terminal block style of I/O
- Built-in constant current limiting circuit
- Adjustable output voltage and current level
- Protections:Short circuit/Over load/Over voltage/Over temperature
- Built-in active PFC function, comply with EN61000-3-2 class C (Pin≧25W)
- Cooling by free air convection
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications (Note.2)
- Compliance to worldwide safety regulations for lighting
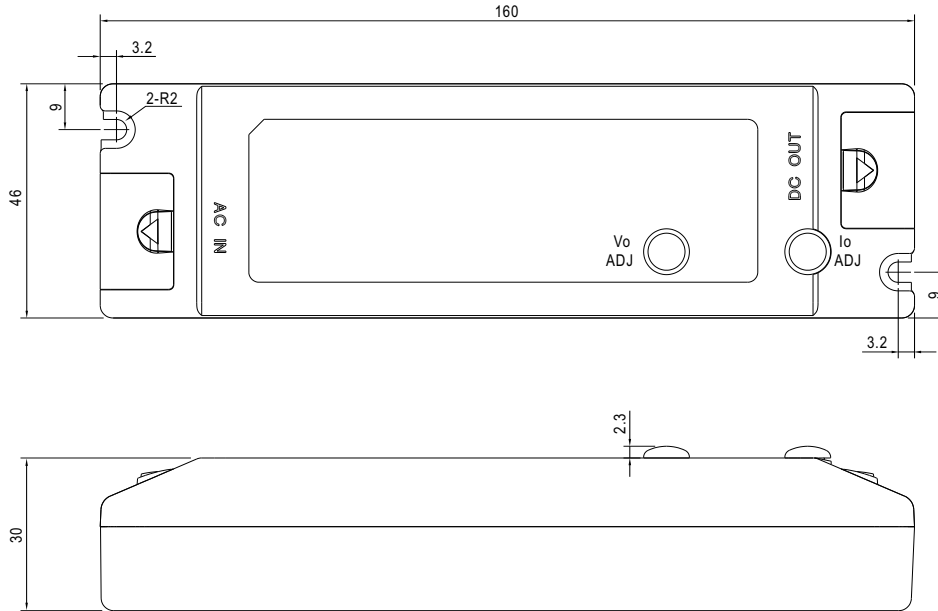- 2 years warranty

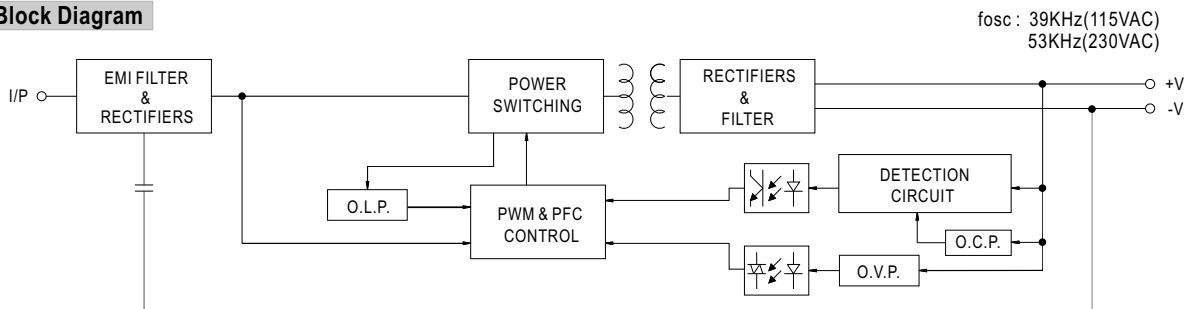F   110   M   M   **SELV** EQUIVALENT   P FC   A   BAUART GEPRÜFT TYPE APPROVED   CE

SPECIFICATION

MODEL		PLC-30-9	PLC-30-12	PLC-30-15	PLC-30-20	PLC-30-24	PLC-30-27	PLC-30-36	PLC-30-48
OUTPUT	DC VOLTAGE	9V	12V	15V	20V	24V	27V	36V	48V
	CONSTANT CURRENT REGION Note.6	6.3 ~ 9V	8.4 ~ 12V	10.5 ~ 15V	14 ~ 20V	16.8 ~ 24V	18.9 ~ 27V	25.2 ~ 36V	33.6 ~ 48V
	RATED CURRENT	3.3A	2.5A	2A	1.5A	1.25A	1.12A	0.84A	0.63A
	CURRENT RANGE	0 ~ 3.3A	0 ~ 2.5A	0 ~ 2A	0 ~ 1.5A	0 ~ 1.25A	0 ~ 1.12A	0 ~ 0.84A	0 ~ 0.63A
	RATED POWER	29.7W	30W	30W	30W	30W	30.24W	30.24W	30.24W
	RIPPLE & NOISE (max.) Note.2	2.6Vp-p	2Vp-p	2.6Vp-p	2.6Vp-p	2.4Vp-p	2.3Vp-p	3.6Vp-p	3.7Vp-p
	VOLTAGE ADJ. RANGE Note.5	8.55 ~ 9.9V	11.4 ~ 13.2V	14.5 ~ 16.5V	19 ~ 22V	22.8 ~ 26.4V	25.65 ~ 29.7V	34.2 ~ 39.6V	45.6 ~ 52.8V
	CURRENT ADJ. RANGE Note.5	2.475 ~ 3.399A	1.875 ~ 2.575A	1.5 ~ 2.06A	1.125 ~ 1.545A	0.938 ~ 1.288A	0.84 ~ 1.1536A	0.63 ~ 0.865A	0.473 ~ 0.649A
	VOLTAGE TOLERANCE Note.3	±10%							
	LINE REGULATION	±3.0%							
	LOAD REGULATION	±5.0%							
	SETUP TIME	1500ms / 230VAC 3000ms / 115VAC at full load							
INPUT	VOLTAGE RANGE	90 ~ 264VAC 127 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR	PF≧0.9 at 75 ~ 100% load, 115VAC / 230VAC							
	EFFICIENCY(Typ.)	80%	82.5%	83.5%	84%	84%	84.5%	85%	85.5%
	AC CURRENT	0.4A/115VAC 0.2A/230VAC							
	INRUSH CURRENT(max.)	40A/230VAC							
	LEAKAGE CURRENT	<0.5mA / 240VAC							
PROTECTION	OVER CURRENT Note.4	100 ~ 110%							
		Protection type : Constant current limiting, recovers automatically after fault condition is removed							
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.							
	OVER VOLTAGE	10 ~ 14V	14 ~ 16V	17 ~ 22V	23 ~ 26V	27 ~ 34V	31 ~ 35V	40 ~ 50V	53 ~ 63V
		Protection type : Shut down o/p voltage, re-power on to recover							
	OVER TEMPERATURE	95℃ ±10℃ (TSW1)							
		Protection type : Shut down o/p voltage, re-power on to recover							
ENVIRONMENT	WORKING TEMP.	-30 ~ +50℃ (Refer to output load derating curve)							
	WORKING HUMIDITY	20 ~ 95% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃ , 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.06%/℃ (0 ~ 50℃)							
	VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes							
SAFETY & EMC	SAFETY STANDARDS	TUV EN61347-1, EN61347-2-13 approved							
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC							
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH							
	EMI CONDUCTION & RADIATION	Compliance to EN55015							
	HARMONIC CURRENT	Compliance to EN61000-3-2 Class C (Pin≧25W), Class D (>70% load) ; EN61000-3-3							
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN61547, light industry level, criteria A							
OTHERS	MTBF	625.5Khrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	160*46*30mm (L*W*H)							
	PACKING	0.2Kg; 70pcs/15Kg/0.96CUFT							
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 pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Direct connecting to LEDs is not suggested for models with "RIPPLE & NOISE" >±10% and using additional drivers is highly recommended. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Please refer to OLP characteristics. 5. Output voltage can be adjusted through the SVR1 on the PCB; limit of output constant current level can be adjusted through the SVR2 on the PCB. 6. Constant current operation region is within 70% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.							

File Name:PLC-30-SPEC 2009-10-12

■ **Mechanical Specification**

Case No. 990A   Unit:mm

160

3.2

9

2-R2

46

AC IN

DC OUT

Vo
ADJ

Io
ADJ

9

3.2

2.3

30

■ **Block Diagram**

fosc : 39KHz(115VAC)
53KHz(230VAC)

I/P

EMI FILTER
&
RECTIFIERS

POWER
SWITCHING

RECTIFIERS
&
FILTER

+V
-V

O.L.P.

PWM & PFC
CONTROL

DETECTION
CIRCUIT

O.C.P.

O.V.P.

■ **Derating Curve**

AMBIENT TEMPERATURE (℃)

LOAD (%)

100
80
60
40
20

-30 -25 -5 0 15 30 40 50 60