

### 45W Single Output LED Power Supply

## PLN-45 series



#### Features :

- Universal AC input / Full range (up to 295VAC)
- Protections: Short circuit / Over current / Over voltage / Over temperature
- · Cooling by free air convection
- · Built-in constant current limiting circuit with adjustable OCP level
- · Fully isolated plastic case with IP64 level
- · Built-in active PFC function
- · IP64 design for indoor or outdoor installations
- · Class 2 power unit
- Pass LPS
- 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

8	F	110	M	M	SELV	LPS	( for 48V only)	c <b>RL</b> us	( except for 48V )	IP64	P	TT Energies RobitItater	CE
IO ATION													

MODEL		PLN-45-12	PLN-45-15	PLN-45-20	PLN-45-24	PLN-45-27	PLN-45-36	PLN-45-48				
	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V				
OUTPUT	CONSTANT CURRENT OPERATION VOLTAGE Note.6	9~12V	11.25~15V	15~20V	18 ~24V	20.25 ~27V	27 ~ 36V	36 ~ 48V				
	RATED CURRENT	3.8A	3A	2.3A	1.9A	1.7A	1.25A	0.95A				
	CURRENT RANGE	0~3.8A	0~3A	0~2.3A	0~1.9A	0~1.7A	0~1.25A	0~0.95A				
	RATED POWER	45.6W	45W	46W	45.6W	45.9W	45W	45.6W				
	RIPPLE & NOISE (max.) Note.2	2Vp-p	2.4Vp-p	1.8Vp-p	2.7Vp-p	2.7Vp-p	3.6Vp-p	4.6Vp-p				
		11.5 ~ 13V	14.5 ~ 16.2V	19.5 ~ 22V	24~26V	25~30V	32.5 ~ 39V	43.6 ~ 51.8V				
	VOLTAGE ADJ. RANGE Note.5	Can be adjusted by internal potentiometer SVR1										
	CURRENT ADJ. RANGE Note.5	5 3% ~ -25%. Can be adjusted by internal potentiometer SVR2										
	VOLTAGE TOLERANCE Note.3											
	LINE REGULATION	±3.0%										
	LOAD REGULATION	±5.0%										
	SETUP TIME	1500ms / 230VAC 3000ms / 115VAC at full load										
INPUT	VOLTAGE RANGE Note.4											
	FREQUENCY RANGE	47 ~ 63Hz										
	POWER FACTOR (Typ.)	PF>0.92/115VAC, PF>0.9/230VAC, PF>0.9/277VAC at full load (Please refer to "Power Factor Characteristic" curve)										
	EFFICIENCY (Typ.)	83.5%	85%	86.5%	86.5%	86.5%	87.5%	87.5%				
	AC CURRENT (Typ.)	0.55A/115VAC 0.25A/230VAC 0.22A/277VAC										
	INRUSH CURRENT (max.)	40A/230VAC										
	LEAKAGE CURRENT	<0.75mA / 240VAC										
		95 ~ 110%										
PROTECTION	OVER CURRENT	Protection type : Constant current limiting, recovers automatically after fault condition is removed										
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.										
		13.8 ~ 16V	17.5 ~ 21V	22.8 ~ 25V	28 ~ 32V	31 ~ 35V	41~46V	54 ~ 60V				
	OVER VOLTAGE					01 001	11 101	01 000				
		Protection type : Shut down o/p voltage, re-power on to recover 95°C ±10°C (TSW1) detect on heatsink of power transistor										
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, recovers automatically after temperature goes down										
		-30 ~ +50°C (Refer to "Derating Curve")										
ENVIRONMENT	WORKING TEMP.	20 ~ 95% RH non-condensing										
	WORKING HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH										
	STORAGE TEMP., HUMIDITY											
	TEMP. COEFFICIENT											
SAFETY & EMC	VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes										
	SAFETY STANDARDS	UL879, UL1310, UL8750, CSA C22.2 No. 207-M89(except for 48V), TUV EN61347-1, EN61347-2-13 independent, CAN/C										
		C22.2 No. 223-M91(except for 48V), CSA C22.2 No. 250.0-08(except for 48V), IP64, J61347-1, J61347-2-13 approved, design refer to UL609										
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:1.88KVAC O/P-FG:0.5KVAC										
	ISOLATION RESISTANCE		hms / 500VDC / 2	-								
	EMC EMISSION			,	75% load) ; EN610							
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level, criteria A										
	MTBF	497.8Khrs min. MIL-HDBK-217F (25℃)										
OTHERS	DIMENSION	181*61.5*35mm (L*W*H)										
	PACKING	0.5Kg: 24pcs/13	3Kg/0.75CUFT									

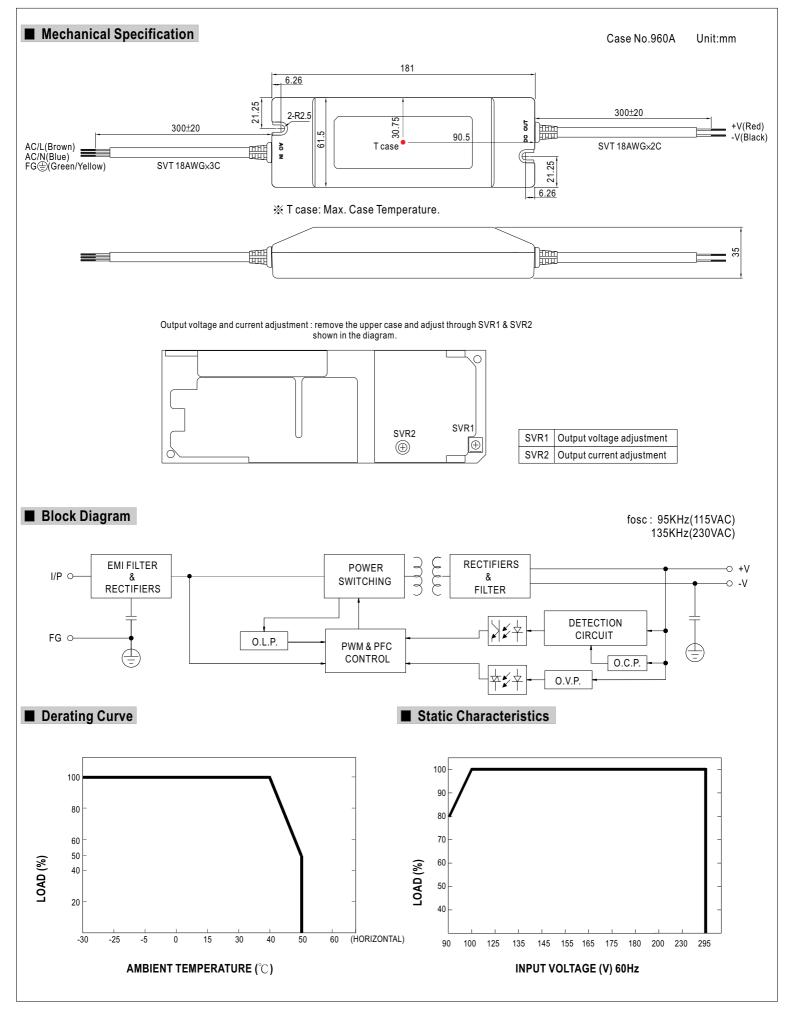
Tolerance : includes set up tolerance, line regulation and load regulation.
Derating may be needed under low input voltage. Please check the static characteristics for more details.
Output voltage can be adjusted through the SVR1 on the PCB ; limit of output constant current level can be adjusted through the SVR2 on the PCB.

6. Constant current operation region is within 75% ~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.

7. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. 8. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

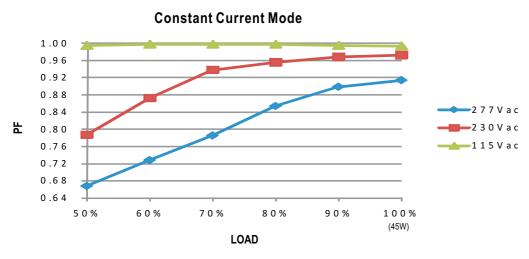


# PLN-45 series



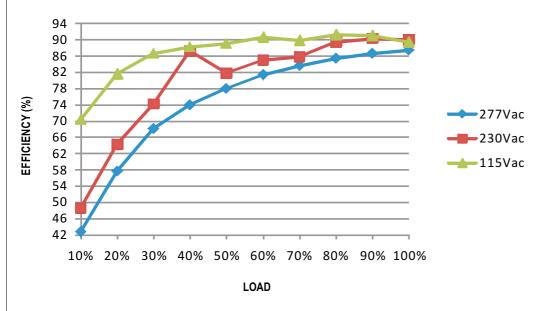


Power Factor Characteristic



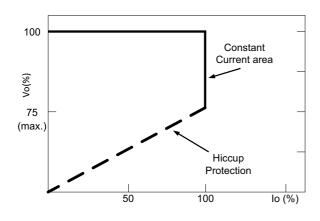
### ■ EFFICIENCY vs LOAD (48V Model)

PLN-45 series possess superior working efficiency that up to 87.5% can be reached in field applications.



### DRIVING METHODS OF LED MODULE

This LED power supply is suggested to work in constant current mode area (CC) to drive the LEDs.



Typical LED power supply I-V curve