



■ 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
- Pass LPS
- Class 2 power unit
- 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

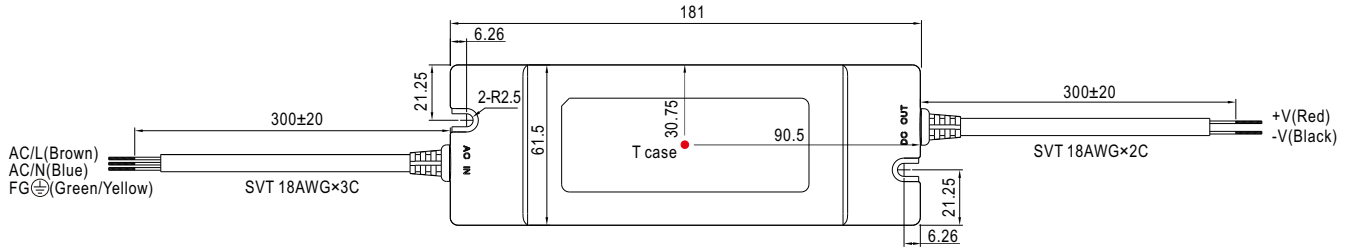


SPECIFICATION

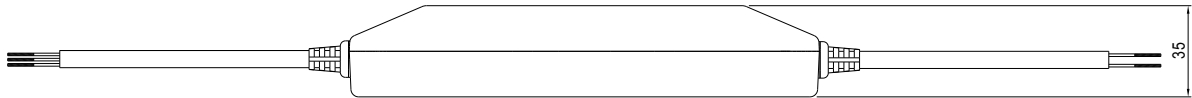
MODEL		PLN-45-12	PLN-45-15	PLN-45-20	PLN-45-24	PLN-45-27	PLN-45-36	PLN-45-48	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V	
	CONSTANT CURRENT OPERATION VOLTAGE <small>Note.6</small>	9 ~ 12V	11.25 ~ 15V	15 ~ 20V	18 ~ 24V	20.25 ~ 27V	27 ~ 36V	36 ~ 48V	
	RATED CURRENT	3.8A	3A	2.3A	1.9A	1.7A	1.25A	0.95A	
	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.) <small>Note.2</small>	2Vp-p	2.4Vp-p	1.8Vp-p	2.7Vp-p	2.7Vp-p	3.6Vp-p	4.6Vp-p	
	VOLTAGE ADJ. RANGE <small>Note.5</small>	11.5 ~ 13V	14.5 ~ 16.2V	19.5 ~ 22V	24 ~ 26V	25 ~ 30V	32.5 ~ 39V	43.6 ~ 51.8V	
	Can be adjusted by internal potentiometer SVR1								
	CURRENT ADJ. RANGE <small>Note.5</small>	3% ~ -25%. Can be adjusted by internal potentiometer SVR2							
	VOLTAGE TOLERANCE <small>Note.3</small>	±10%							
	LINE REGULATION	±3.0%							
LOAD REGULATION	±5.0%								
SETUP TIME	1500ms / 230VAC 3000ms / 115VAC at full load								
INPUT	VOLTAGE RANGE <small>Note.4</small>	90 ~ 295VAC 127 ~ 417VDC							
	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 0.275A/230VAC		0.22A/277VAC					
	INRUSH CURRENT (Typ.)	COLD START 35A(twidth=50µs measured at 50% Ipeak) at 230VAC							
	LEAKAGE CURRENT	<0.75mA / 240VAC							
PROTECTION	OVER CURRENT	95 ~ 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	13.8 ~ 16V	17.5 ~ 21V	22.8 ~ 25V	28 ~ 32V	31 ~ 35V	41 ~ 46V	54 ~ 60V	
Protection type : Shut down o/p voltage, re-power on to recover									
OVER TEMPERATURE	95°C±10°C (TSW1) detect on heatsink of power transistor								
Protection type : Shut down o/p voltage, recovers automatically after temperature goes down									
ENVIRONMENT	WORKING TEMP.	-30 ~ +50°C (Refer to "Derating Curve")							
	WORKING HUMIDITY	20 ~ 95% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)							
	VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes							
SAFETY & EMC	SAFETY STANDARDS	UL879, UL1310, UL8750, CSA C22.2 No. 207-M89(except for 48V), TUV EN61347-1, EN61347-2-13 independent, CAN/CSA 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 UL60950-1							
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH							
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥75% load) ; EN61000-3-3							
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level, criteria A							
OTHERS	MTBF	497.8Khrs min. MIL-HDBK-217F (25°C)							
	DIMENSION	181*61.5*35mm (L*W*H)							
	PACKING	0.5Kg; 24pcs/13Kg/0.75CUFT							
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Derating may be needed under low input voltage. Please check the static characteristics for more details. 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 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. 								

Mechanical Specification

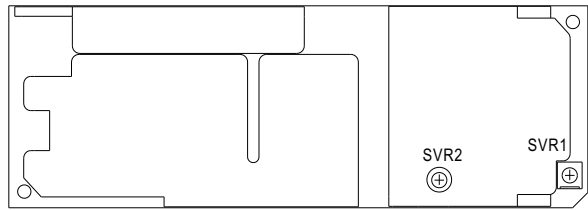
Case No.960A Unit:mm



※ T case: Max. Case Temperature.



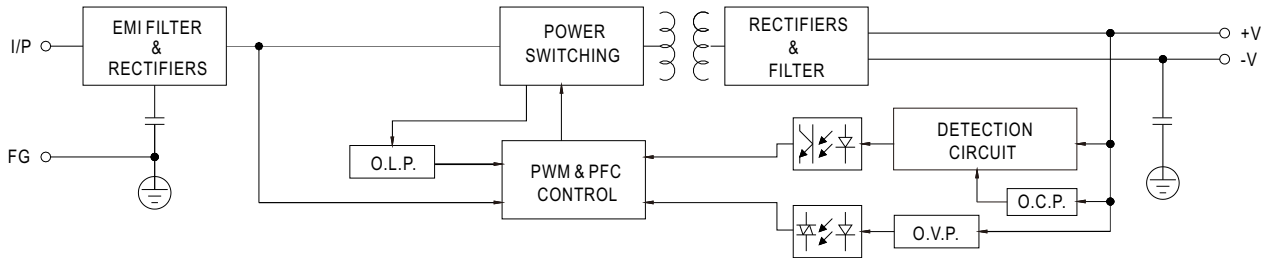
Output voltage and current adjustment : remove the upper case and adjust through SVR1 & SVR2 shown in the diagram.



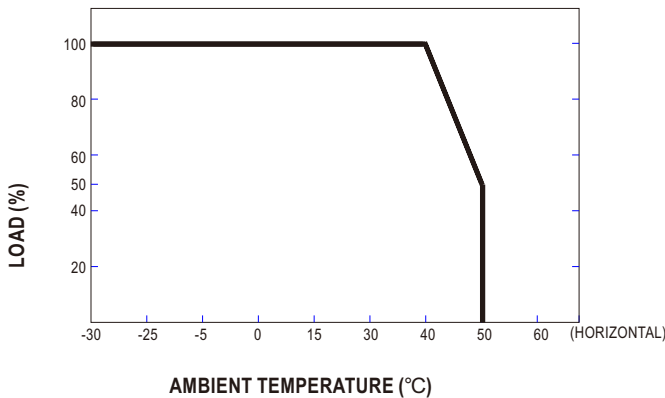
SVR1	Output voltage adjustment
SVR2	Output current adjustment

Block Diagram

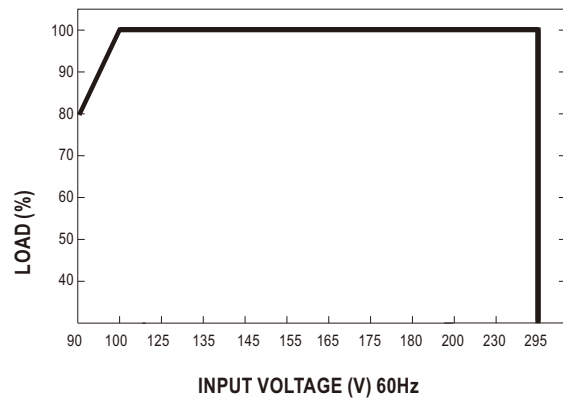
fosc : 95KHz(115VAC)
135KHz(230VAC)



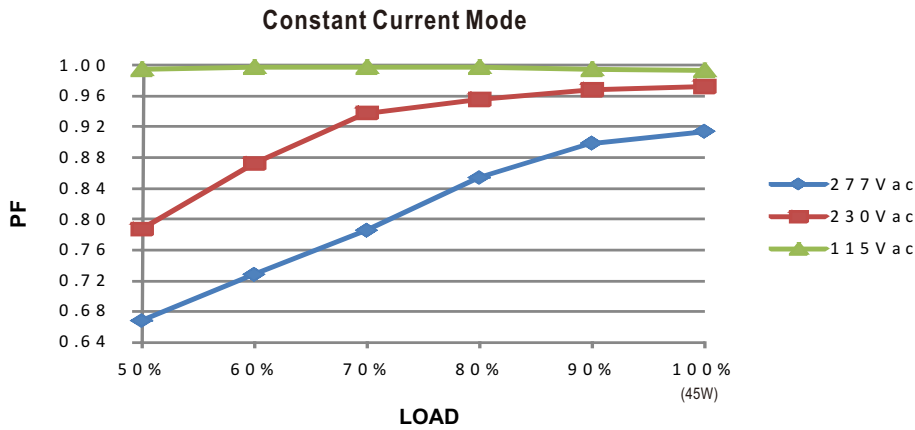
Derating Curve



Static Characteristics

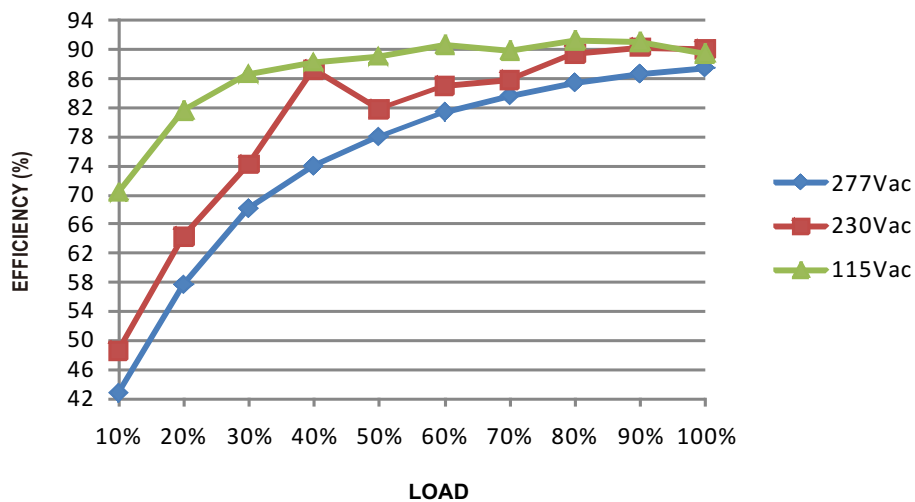


Power Factor Characteristic



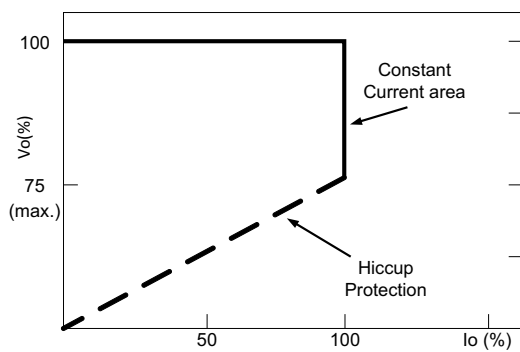
EFFICIENCY vs LOAD (48V Model)

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