



- 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
  - 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



■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>



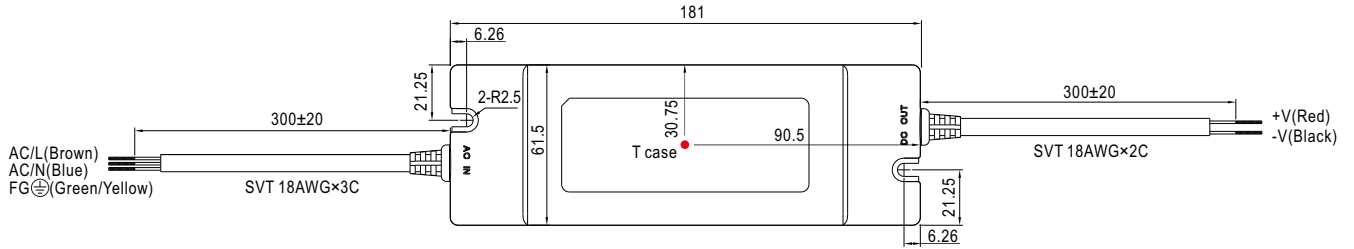
SPECIFICATION

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 REGION 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
	VOLTAGE ADJ. RANGE Note.5	11.5 ~ 13V	14.5 ~ 16.2V	19.5 ~ 22V	24 ~ 26V	25 ~ 30V	32.5 ~ 39V	43.6 ~ 51.8V
	CURRENT ADJ. RANGE Note.5	Can be adjusted by internal potentiometer SVR1						
	VOLTAGE TOLERANCE Note.3	3% ~ -25%. Can be adjusted by internal potentiometer SVR2						
	LINE REGULATION	±10%						
LOAD REGULATION	±3.0%							
SETUP TIME	±5.0%							
INPUT	VOLTAGE RANGE Note.4	90 ~ 295VAC		127 ~ 417VDC				
	FREQUENCY RANGE	500ms / 230VAC 1200ms / 115VAC at full load						
	POWER FACTOR (Typ.)	47 ~ 63Hz						
	TOTAL HARMONIC DISTORTION	PF>0.92/115VAC, PF>0.9/230VAC, PF>0.9/277VAC at full load (Please refer to "Power Factor Characteristic" curve)						
	EFFICIENCY (Typ.)	84.5%	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.)	THD< 20% when output loading≥75% at 115VAC/230VAC input and output loading≥80% at 277VAC input						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	COLD START 35A(twidth=50µs measured at 50% Ipeak) at 230VAC						
	LEAKAGE CURRENT	42 units (circuit breaker of type B) / 42 units (circuit breaker of type C) at 230VAC						
PROTECTION	OVER CURRENT	95 ~ 110%						
	SHORT CIRCUIT	Protection type : Constant current limiting, 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
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover						
ENVIRONMENT	WORKING TEMP.	Shut down o/p voltage, recovers automatically after temperature goes down						
	WORKING HUMIDITY	-30 ~ +50°C (Refer to "Derating Curve")						
	STORAGE TEMP., HUMIDITY	20 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT	-40 ~ +80°C, 10 ~ 95% RH						
	VIBRATION	±0.03%/°C (0 ~ 50°C)						
SAFETY & EMC	SAFETY STANDARDS	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes						
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC		I/P-FG:2KVAC		O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	UL879, UL1310, UL8750, CSA C22.2 No. 207-M89(except for 48V), TUV BS EN/EN61347-1, BS EN/EN61347-2-13 independent, CAN/CSA C22.2 No. 223-M91(except for 48V), CSA C22.2 No. 250.0-08(except for 48V), EAC TP TC 004, IP64 approved, design refer to UL60950-1						
	EMC EMISSION	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH						
OTHERS	EMC IMMUNITY	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (≥75% load) ; BS EN/EN61000-3-3;EAC TP TC 020						
	MTBF	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, light industry level, EAC TP TC 020						
	DIMENSION	3444.5K hrs min. Telcordia SR-332 (Bellcore) ; 417.1Khrs min. MIL-HDBK-217F (25°C)						
NOTE	PACKING	181*61.5*35mm (L*W*H)						
		0.5Kg; 24pcs/13Kg/0.87CUFT						

- All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
- Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- 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.
- Please refer to "DRIVING METHODS OF LED MODULE".
- 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. (as available on [https://www.meanwell.com/Upload/PDF/EML\\_statement\\_en.pdf](https://www.meanwell.com/Upload/PDF/EML_statement_en.pdf))
- Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.
- To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.
- The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).
- For any application note and IP water proof function installation caution, please refer our user manual before using. [https://www.meanwell.com/Upload/PDF/LED\\_EN.pdf](https://www.meanwell.com/Upload/PDF/LED_EN.pdf)
- This product is not suitable for LED lighting applications in China.(It is recommended to use the LPF/NPF/XLG/XLC/XLN series in China)

**Mechanical Specification**

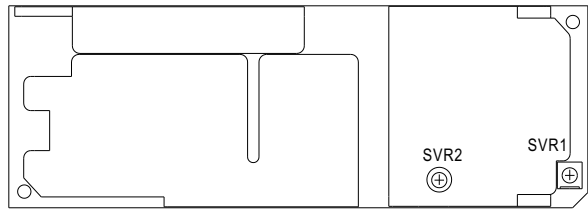
Case No.960A Unit:mm Tolerance:±1



※ T case: Max. Case Temperature.



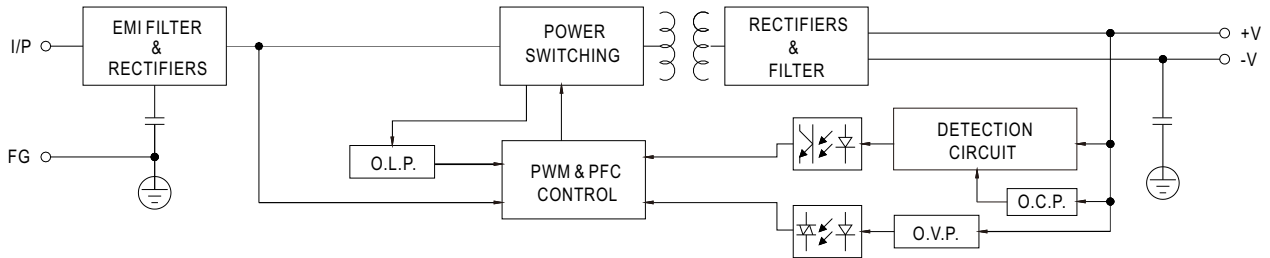
Output voltage and current adjustment : remove the upper case and adjust through SVR1 & SVR2 shown in the diagram.



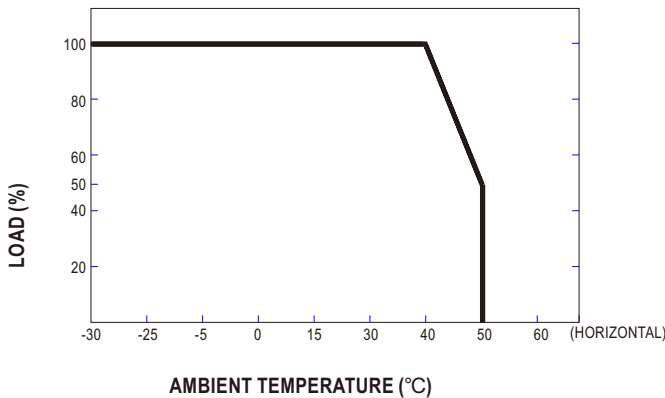
SVR1	Output voltage adjustment
SVR2	Output current adjustment

**Block Diagram**

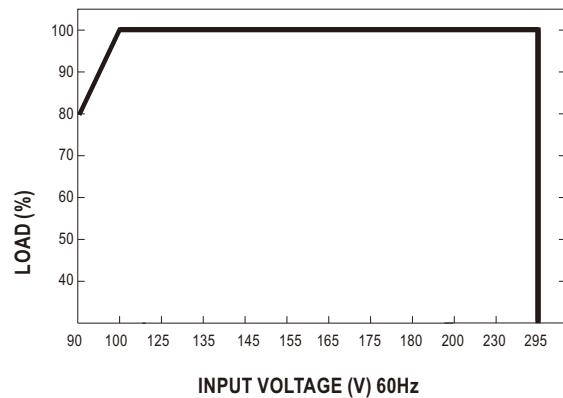
fosc : 95KHz(115VAC)  
135KHz(230VAC)



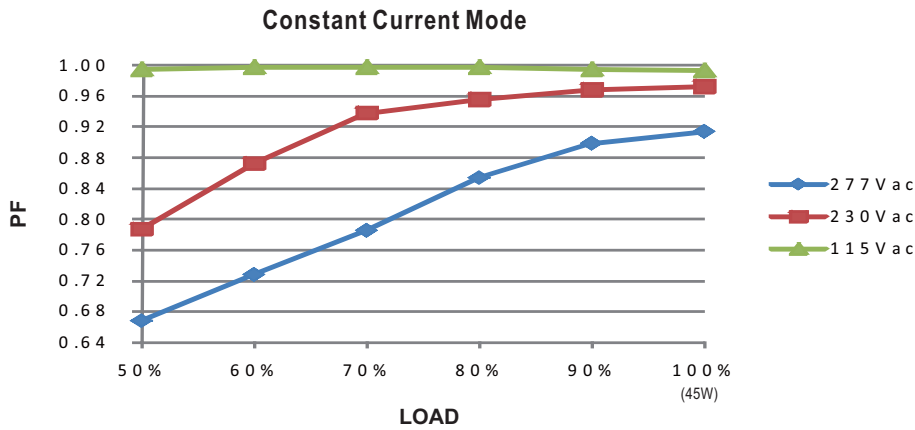
**Derating Curve**



**Static Characteristics**

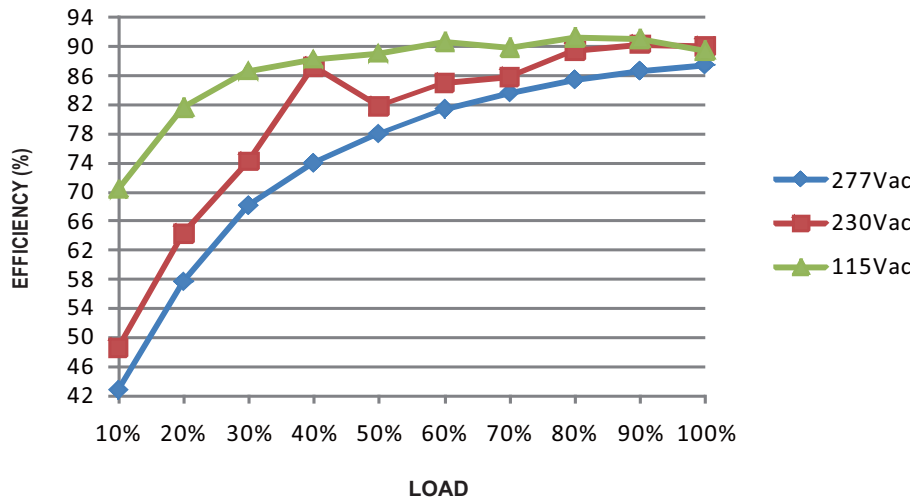


**Power Factor Characteristic**



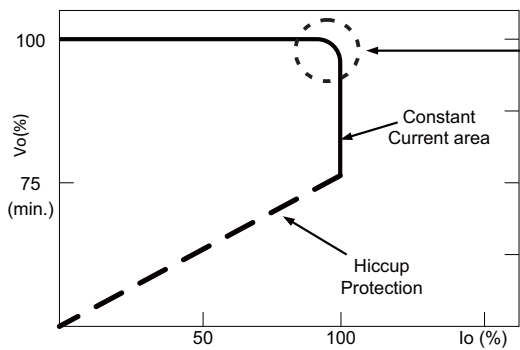
**EFFICIENCY vs LOAD (48V Model)**

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

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems. Should there be any compatibility issues, please contact MEAN WELL.