



MEAN WELL PLN-45 Series 45W Single Output LED Power Supply Owner's Manual

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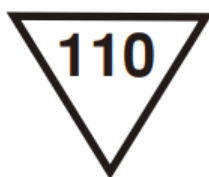


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Features

- Universal AC input/ Full range (up to 295VAC) User's Manual
- 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



SELV

LPS

IP64

(CCC optional)



(for 48V only)



US

(except for 48V)

[illegible]

INPUT	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.)	COLD START 35A(twist=50µs measured at 50% Ipeak) at 230VAC						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	42 units (c ircuit breaker of type B) / 42 units (circuit breaker of type C) 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- 16 V	17.5- 21 V	22.8- 25 V	28-32V	31 -35V	41 -46V	54 -60V
		Protection type: Shut down o/p voltage, re-power on to recover						
OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down							
ENVIRONMENT	WORKING TEMPERATURE	-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 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, GB19510.1,GB19510.14, IP64 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 BS EN/EN55015, BS EN/EN61000-3-2 Class C (,;;75% load) ; BS EN/EN61000-3-3;GB 17743 and GB17625.1,EAC TP TC 020
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6 ,8,11, BS EN/EN61547 , light industry level, criteria A;EAC TP TC 020
OTHERS	MTBF	497.8Khrs min. MIL-HDBK-2 17F (25°C)
	DIMENSION	181' 61.5'35mm (L'W'H)
	PACKING	0.5Kg; 24pcs/13Kg/0.87CUFT

NOTE

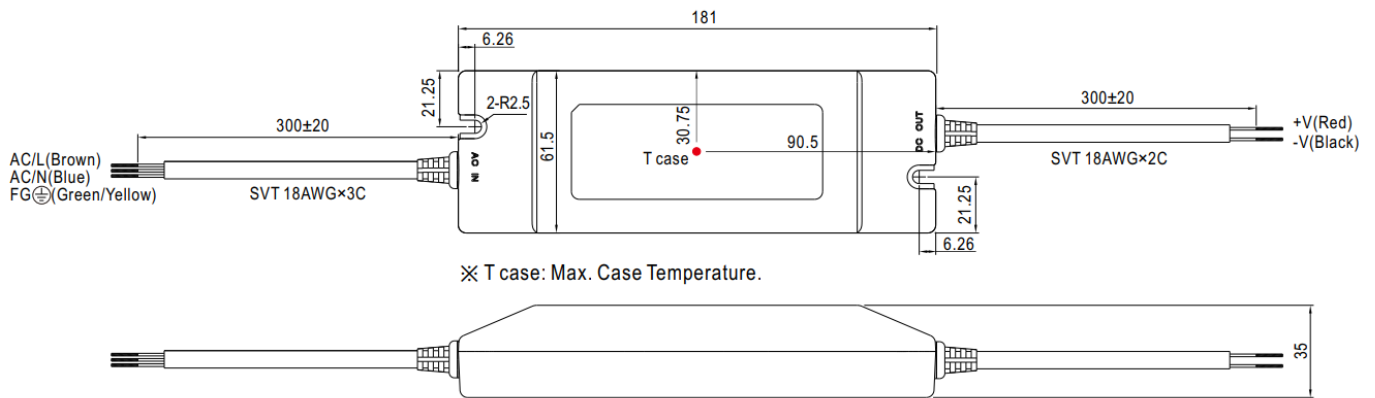
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20 MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line 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. Please refer to "DRIVING METHODS OF LED MODULE".
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.
9. 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.
10. The ambient temperature derating of 3.5°C/1 000m with fanless models and of 5°C/1 000m with fan models for operating altitude higher than 2000m(6500ft).
11. 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

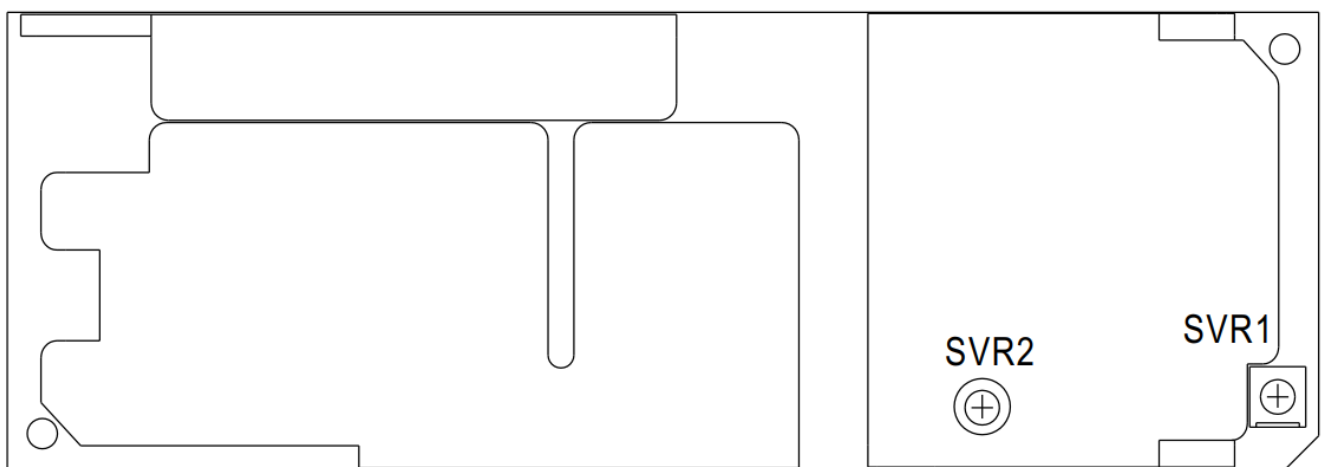
Product Liability Disclaimer : For detailed information, please refer to

<https://www.meanwell.com/serviceDisclaimer.aspx>

Mechanical Specification

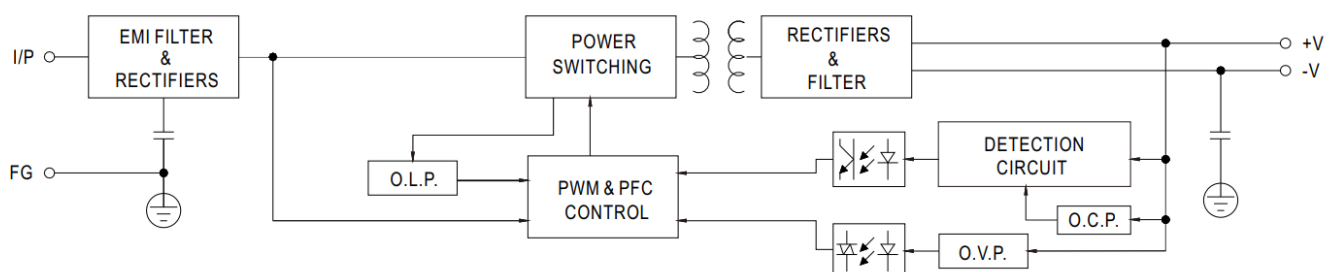


Output voltage and current adjustment: remove the upper case and adjust through SVR 1 & SVR2 shown in the diagram.



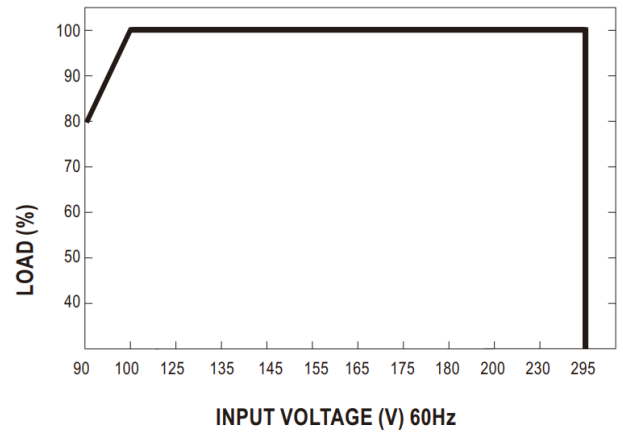
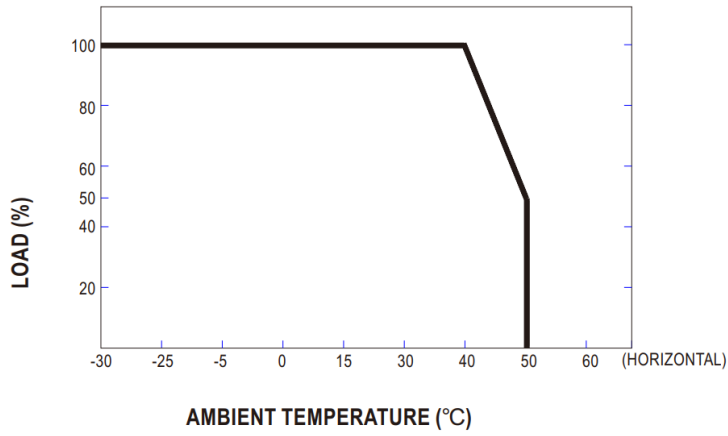
SVR 1	Output voltage adjustment
SVR2	Output current adjustment

Block Diagram

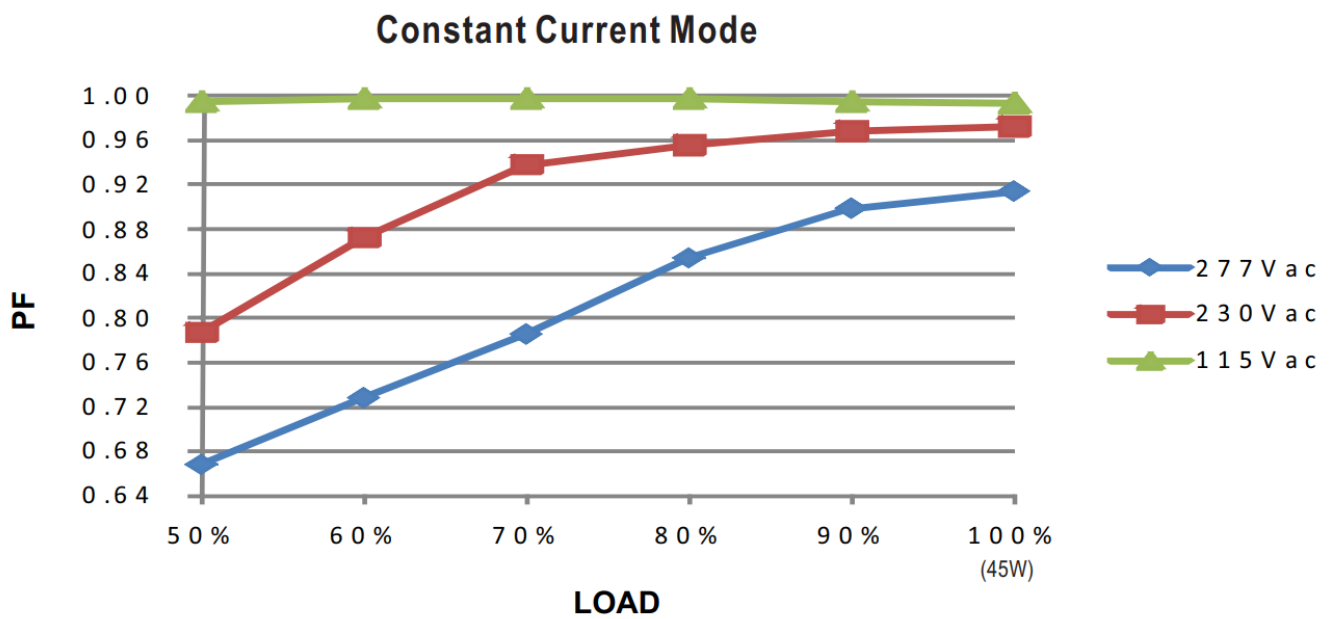


Derating Curve

Static Characteristics

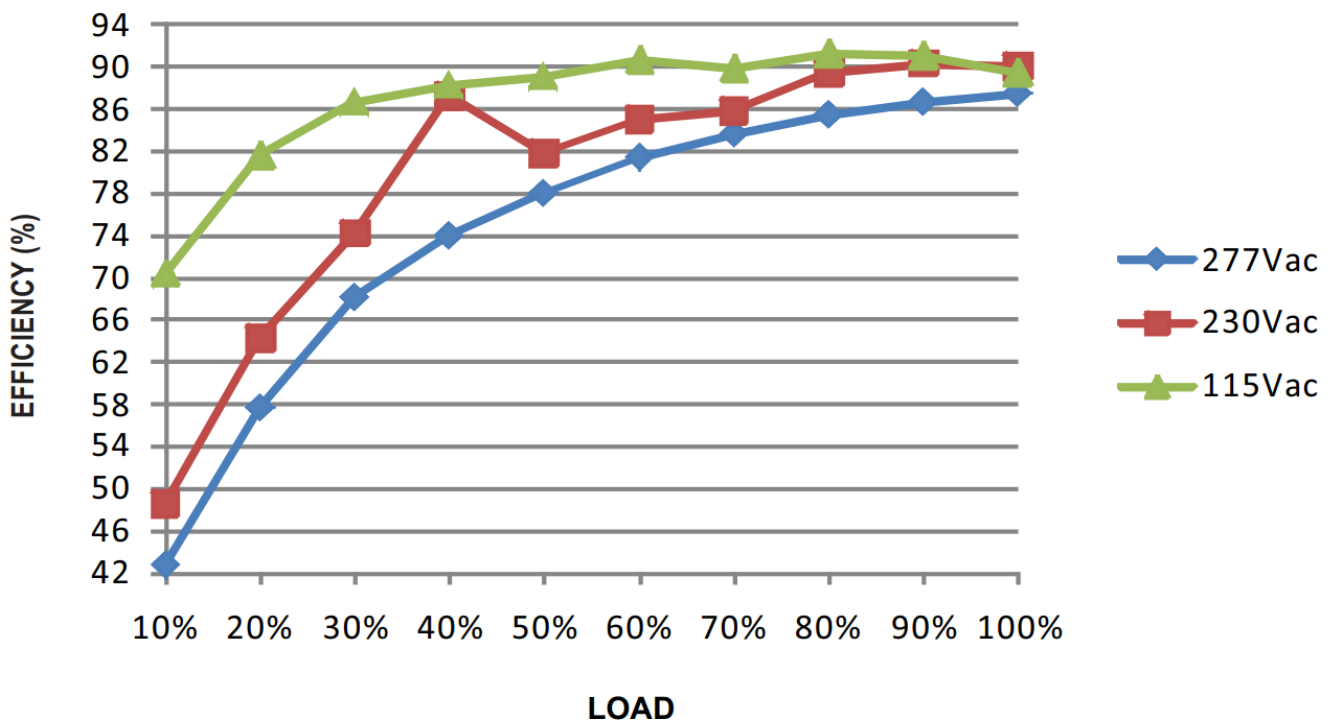


Power Factor Characteristic



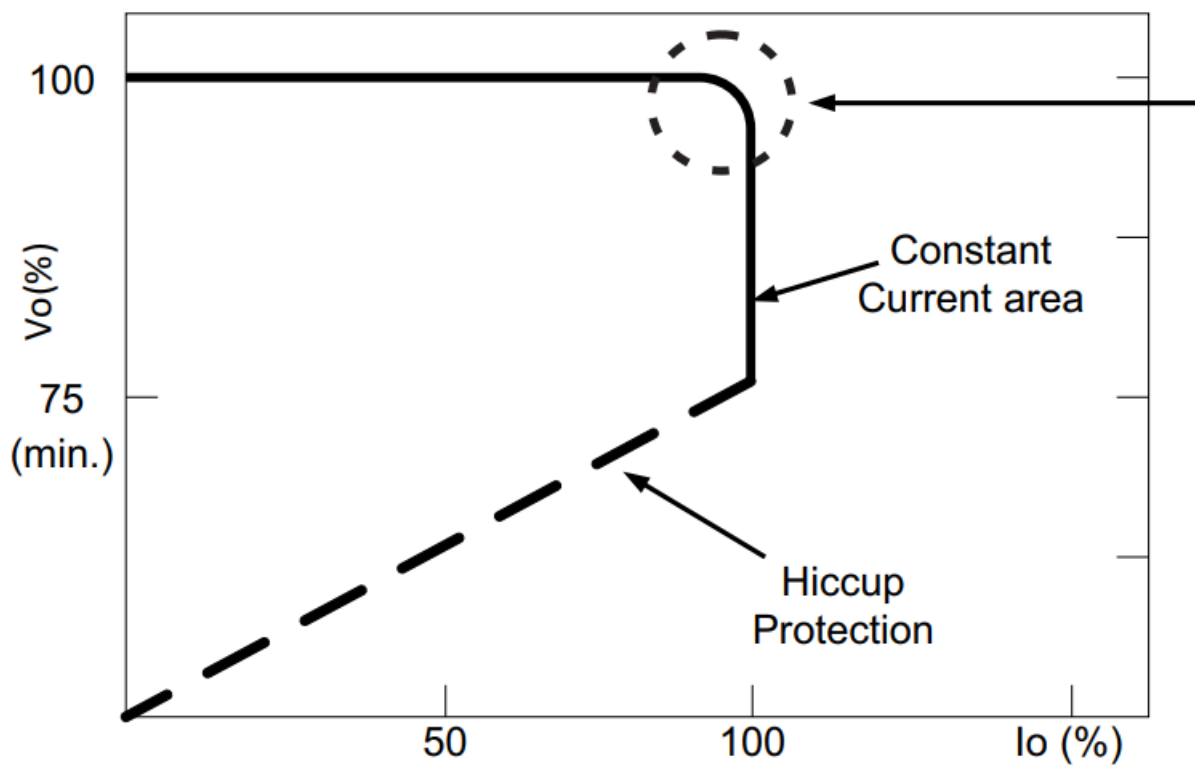
EFFICIENCY vs LOAD (48V Model)

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.



Documents / Resources

	<p>MEAN WELL PLN-45 Series 45W Single Output LED Power Supply [pdf] Owner's Manual PLN-45 Series 45W Single Output LED Power Supply, PLN-45 Series, 45W Single Output LED Power Supply, Output LED Power Supply, LED Power Supply, Power Supply</p>
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References

- [MEAN WELL Product Liability Disclaimer-MEAN WELL Switching Power Supply Manufacturer](#)