



■ Features :

- Universal AC input / Full range (up to 295VAC)
- High efficiency up to 88.5%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Built-in active PFC function
- Fully isolated plastic case with IP64 level
- Pass LPS
- Class 2 power unit
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications
- Suitable for dry / damp locations
- Compliance to worldwide safety regulations for lighting
- 2 years warranty

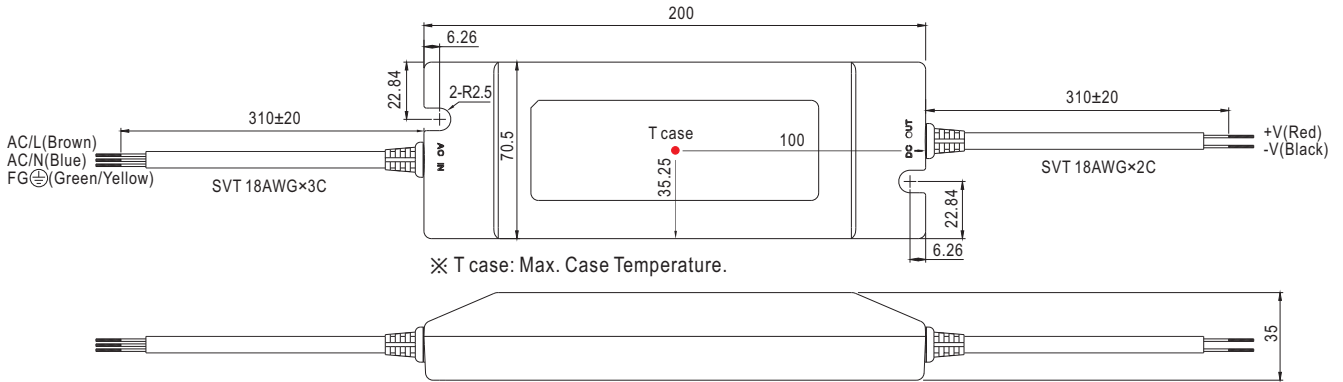


SPECIFICATION

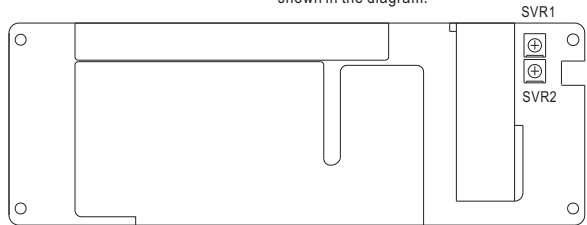
MODEL	PLN-100-12	PLN-100-15	PLN-100-20	PLN-100-24	PLN-100-27	PLN-100-36	PLN-100-48		
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	27V	36V	48V	
	CONSTANT CURRENT REGION Note.6	9 ~ 12V	11.25 ~ 15V	15 ~ 20V	18 ~ 24V	20.25 ~ 27V	27 ~ 36V	36 ~ 48V	
	RATED CURRENT Note.5	5A	5A	4.8A	4A	3.55A	2.65A	2A	
	RATED POWER Note.5	60W	75W	96W	96W	95.85W	95.4W	96W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	
	VOLTAGE ADJ. RANGE (SVR1)	10.2 ~ 12V	12.8 ~ 15V	17 ~ 20V	20.4 ~ 24V	23 ~ 27V	30.6 ~ 36V	40.8 ~ 48V	
	CURRENT ADJ. RANGE(SVR2)	3.75 ~ 5A	3.75 ~ 5A	3.6 ~ 4.8A	3 ~ 4A	2.6 ~ 3.55A	2 ~ 2.65A	1.5 ~ 2A	
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	
	LINE REGULATION	±1.0%							
	LOAD REGULATION	±2.0%							
SETUP, RISE TIME	500ms, 80ms/230VAC 1200ms, 80ms/115VAC at full load								
HOLD UP TIME (Typ.)	60ms/230VAC 16ms/115VAC at full load								
INPUT	VOLTAGE RANGE Note.4	90 ~ 295VAC		127 ~ 417VDC					
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF>0.95/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load (Please refer to "Power Factor Characteristic" curve)							
	TOTAL HARMONIC DISTORTION	THD< 20% when output loading≥75% at 115VAC/230VAC input and output loading≥75% at 277VAC input							
	EFFICIENCY (Typ.)	83%	85%	88.5%	88.5%	88%	88%	88.5%	
	AC CURRENT (Typ.)	12V:0.8A/115VAC		0.4A/230VAC		0.3A/277VAC		15V:0.9A/115VAC 0.45A/230VAC 0.35A/277VAC	
	INRUSH CURRENT (Typ.)	COLD START 40A(twidth=1030μs measured at 50% Ipeak) at 230VAC							
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	3 units (circuit breaker of type B) / 5 units (circuit breaker of type C) at 230VAC							
LEAKAGE CURRENT	<0.75mA / 240VAC								
PROTECTION	OVER CURRENT	95 ~ 102% 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 ~ 16V	16.5 ~ 20V	22 ~ 27V	27 ~ 34V	30 ~ 36V	39 ~ 48V	52 ~ 64V	
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover							
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 Note.7	UL879, UL1310, UL8750, CSA C22.2 No. 207-M89(except for 48V), TUV EN61347-1, EN61347-2-13 independent, TUV EN60950-1, 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, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (>75% load) ; EN61000-3-3							
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV), criteria A							
OTHERS	MTBF	303.1Khrs min. MIL-HDBK-217F (25°C)							
	DIMENSION	200*70.5*35mm (L*W*H)							
	PACKING	0.52Kg; 20pcs/12.5Kg/0.9CUFT							
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltage. Please check the static characteristics for more details.</p> <p>5. This is the maximum possible output current and power. Over load protection may be activated slightly below this level to comply with the requirement of UL1310 class 2.</p> <p>6. Please refer to "DRIVING METHODS OF LED MODULE".</p> <p>7. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18.</p> <p>8. 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.</p> <p>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.</p>								

Mechanical Specification

Case No.955A Unit:mm



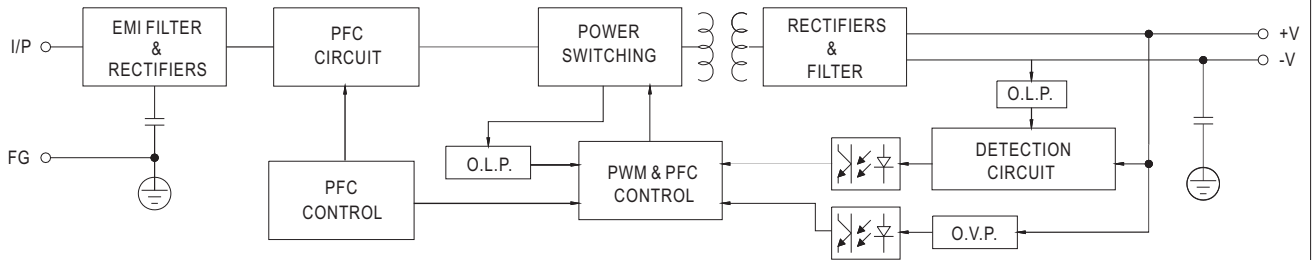
Output voltage and current adjustment : remove the upper case and adjust through SVR1 & SVR2 shown in the diagram.



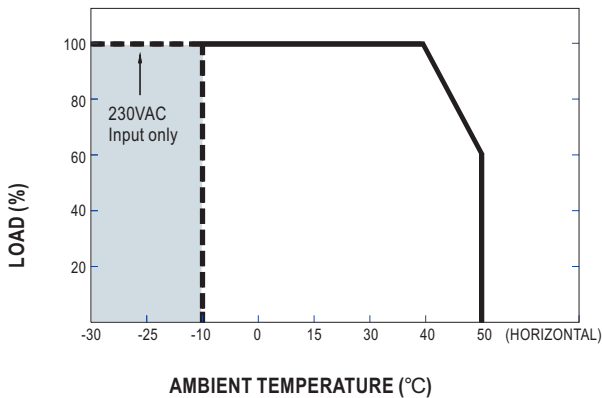
SVR1	Output voltage adjustment
SVR2	Output current adjustment

Block Diagram

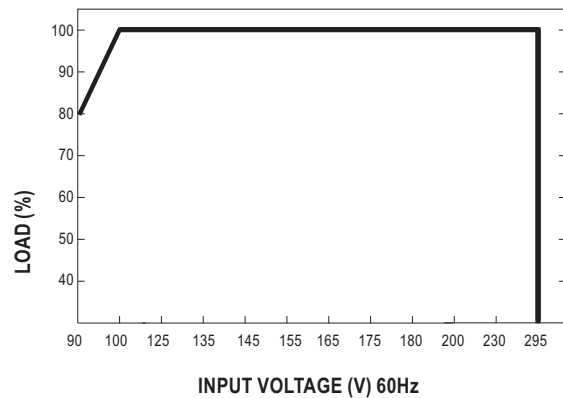
Fosc : 100KHz



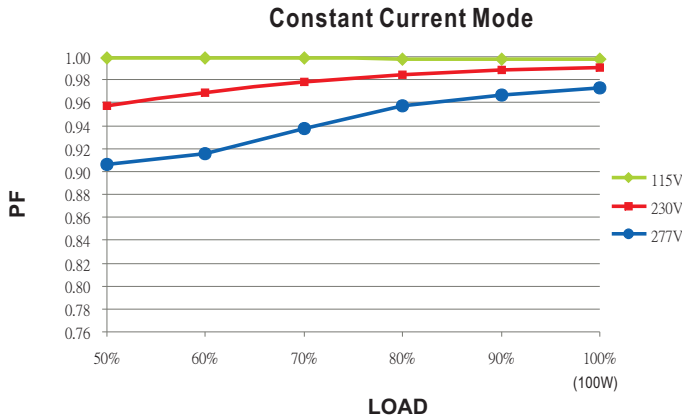
Derating Curve



Static Characteristics

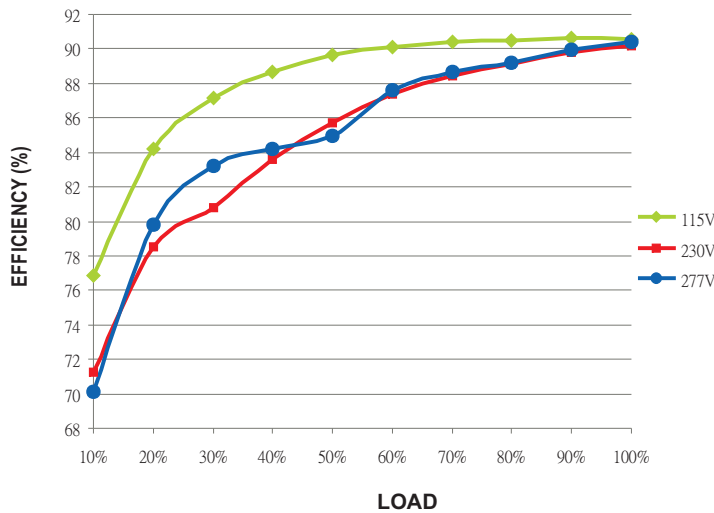


Power Factor Characteristic



EFFICIENCY vs LOAD (48V Model)

PLN-100 series possess superior working efficiency that up to 88.5% can be reached in field applications.

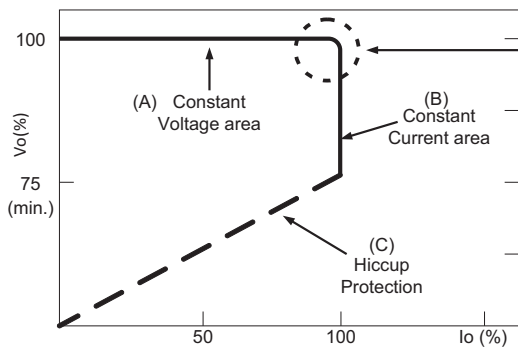


DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode [with LED driver, at area (A)] and CC mode [direct drive, at area (B)].



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.