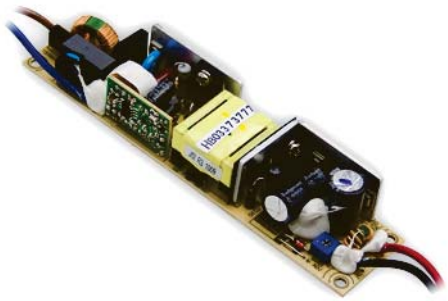
20W Single Output LED Power Supply

PLP-20 series



Features :

- Universal AC input / Full range(up to 277VAC)
- Protections:Short circuit/Over current/Over voltage/Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit with adjustable OCP level
- Built-in active PFC function
- Class Ⅱ power unit, no FG
- Class 2 power unit
- Small and compact size
- 100% full load burn-in test
- High reliability,low cost
- Suitable for built-in applications of LED lighting
- 2 years warranty

SPECIFICATION

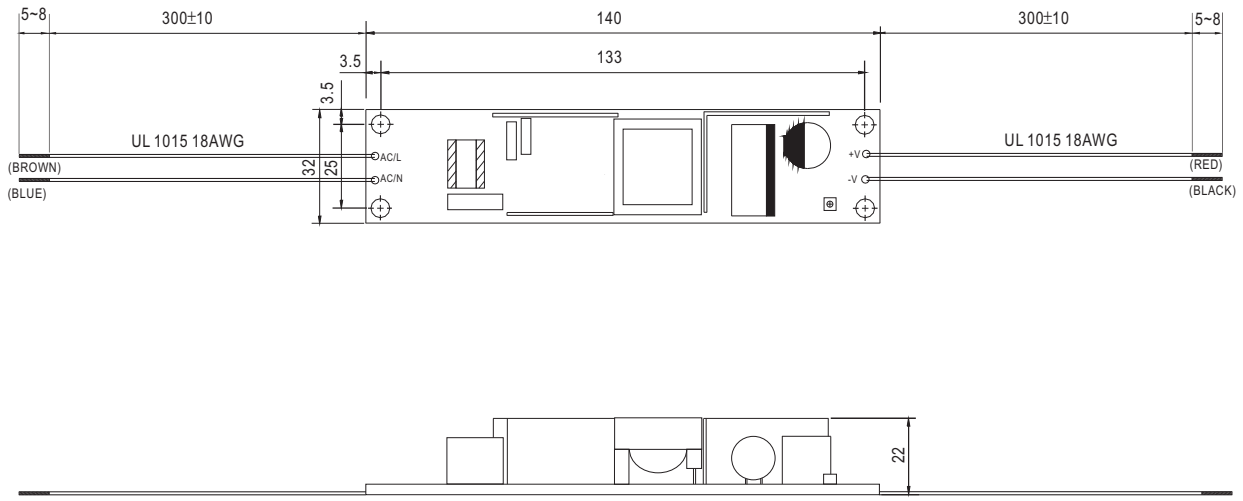
MODEL		PLP-20-12	PLP-20-18	PLP-20-24	PLP-20-36	PLP-20-48
OUTPUT	DC VOLTAGE	12V	18V	24V	36V	48V
	CONSTANT CURRENT REGION Note.5	9 ~ 12V	13.5 ~ 18V	18 ~ 24V	27 ~ 36V	36 ~ 48V
	RATED CURRENT	1.6A	1.1A	0.8A	0.55A	0.42A
	CURRENT RANGE	0 ~ 1.6A	0 ~ 1.1A	0 ~ 0.8A	0 ~ 0.55A	0 ~ 0.42A
	CURRENT ADJ. RANGE	75% ~ 100%				
	RATED POWER	19.2W	19.8W	19.2W	19.8W	20.2W
	RIPPLE & NOISE (max.) Note.2	2.5Vp-p	3.0Vp-p	3.0Vp-p	3.0Vp-p	3.8Vp-p
	VOLTAGE TOLERANCE Note.3	±10%				
	LINE REGULATION	±3.0%				
	LOAD REGULATION	±10%				
	SETUP, RISE TIME	500ms / 230VAC 2000ms / 115VAC at full load				
INPUT	VOLTAGE RANGE Note.4	90 ~ 277VAC 127~392VDC				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR	PF ⩾ 0.9 at 75~100% load, 115VAC/230VAC;PF ⩾ 0.9 at 85~100% load 277VAC (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.)	80%	81%	82%	83%	83.5%
	AC CURRENT	0.4A/115VAC 0.2A/230VAC 0.15A/277VAC				
	INRUSH CURRENT(Typ.)	COLD START 25A(twidth=60μs measured at 50% Ipeak) at 230VAC				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	92 units (circuit breaker of type B) / 98 units (circuit breaker of type C) at 230VAC				
	LEAKAGE CURRENT	0.5mA / 240VAC				
PROTECTION	OVER CURRENT Note.5	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	14 ~ 16V	19 ~ 22V	27 ~ 34V	41 ~ 46V	54 ~ 60V
		Protection type : Shut off o/p voltage, clamping by zener diode				
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down				
ENVIRONMENT	WORKING TEMP.	-30 ~ +60℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH				
	TEMP. COEFFICIENT	±0.06%/℃ (0 ~ 50℃)				
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes				
SAFETY & EMC	SAFETY STANDARDS	TUV EN61347-1, EN61347-2-13, GB19510.14, GB19510.1, UL8750, CSA C22.2 No. 250.0-08 approved				
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC				
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms/500VDC / 25℃/ 70%RH				
	EMC EMISSION	Compliance to EN55015, GB17743, GB17625.1, 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	643.6Khrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	140*32*22(L*W*H)				
	PACKING	0.12kg;60pcs/9.2kg/0.62CUFT				

NOTE

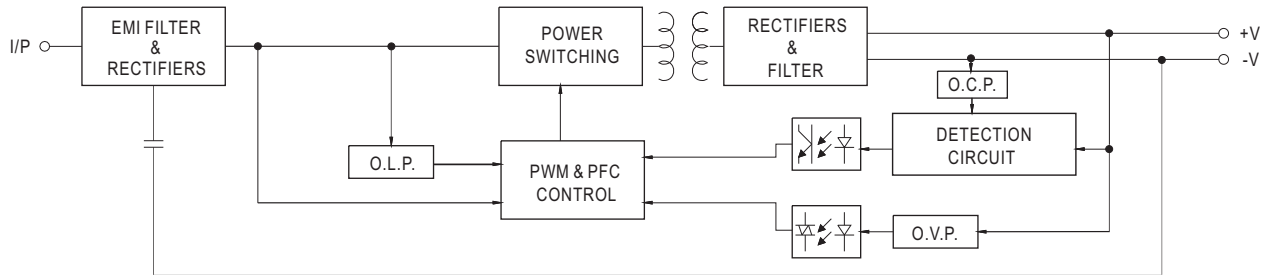
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltage, please check the static characteristic for more details.
5. Please refer to "DRIVING METHODS OF LED MODULE".
6. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)
7. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.
8. 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.

■ Mechanical Specification

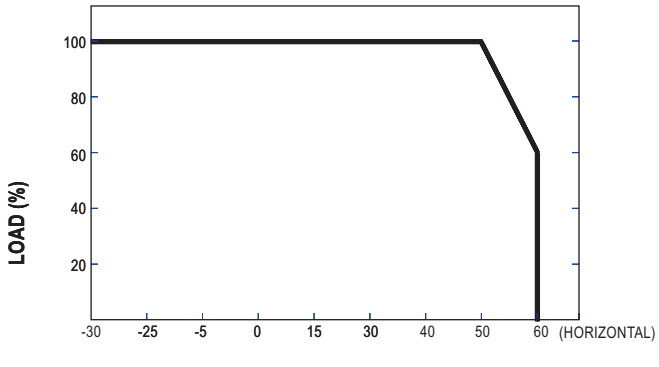
Unit:mm



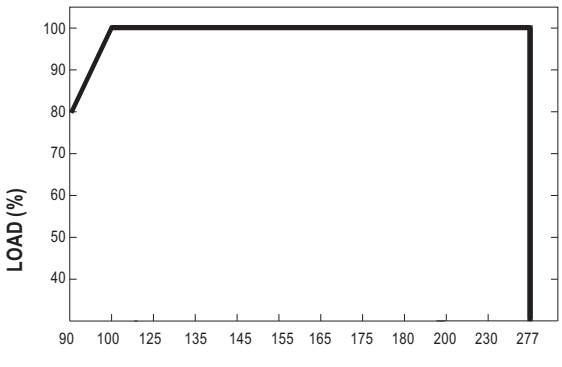
■ Block Diagram



■ Derating Curve

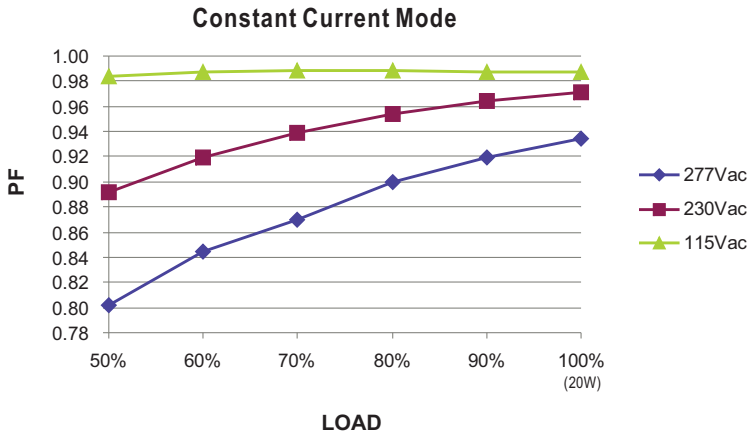


■ Static Characteristics



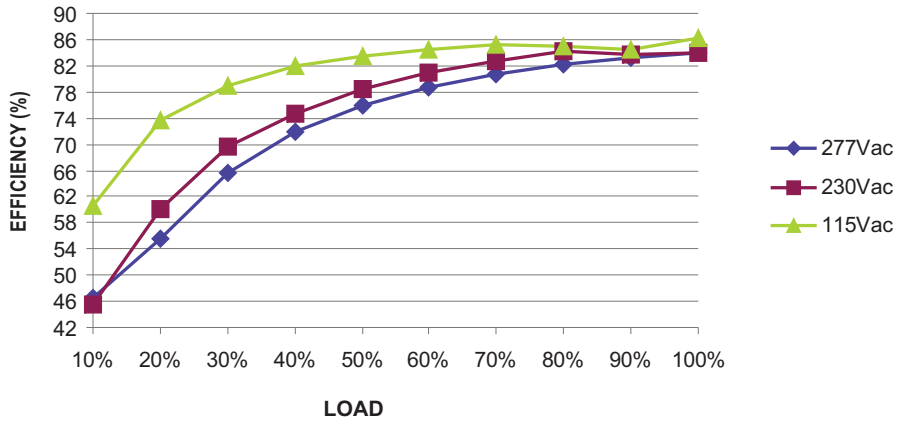
■ Power Factor Characteristic

Power factor will be higher than 0.9 when output loading is 75% or higher.



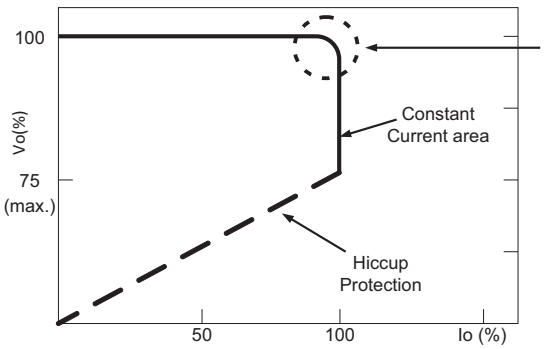
■ EFFICIENCY vs LOAD (48V Model)

PLP-20 series possess superior working efficiency that up to 83.5% 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.