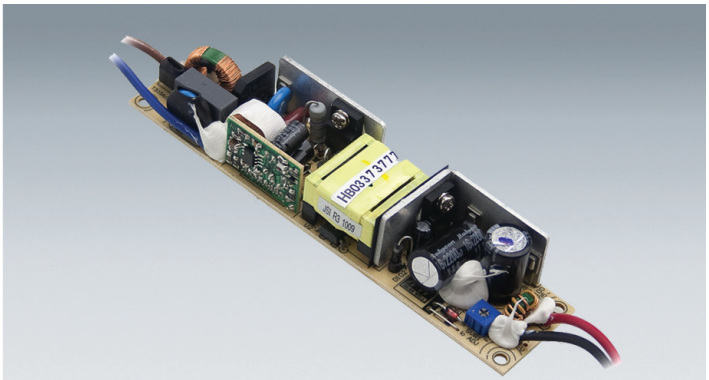
PLP-20 Series

20W Single Output Encapsulated Power Supply



140 x 32 x 22mm

Features

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

Specification

INPUT	**Voltage**	90 ~ 277V	127 ~ 392VDC			
	Frequency	47 ~ 63Hz				
	Power factor	PF>0.9 at 75~100% load, 115VAC/230VAC; PF>0.9 at 85~100% load 277VAC				
	Total Harmonic Distrortion	20% when output loading ≥75% at 115VAC/230VAC input and output loading ≥75% at 277VAC load				
	AC Current	0.4A/115VAC	0.2A/230VAC	0.15A/277VAC		
	Efficiency	80%	81%	82%	83%	83.5%
	Inrush Current	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 breker of type C) at 230VAC				
	Leakage Current	<0.5mA/240VAC				
OUTPUT	**MODEL No.**	**PLP-20-12**	**PLP-20-18**	**PLP-20-24**	**PLP-20-36**	**PLP-20-48**
	DC Voltage	12V	18V	24V	36V	48V
	Constant Current Region	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
	R & N (max)	2.5Vp-p	3.0Vp-p	3.0Vp-p	3.0Vp-p	3.8Vp-p
	Voltage Tolerance	±10%	±10%	±10%	±10%	±10%
	Line Regulation	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%
	Load Regulation	±10%	±10%	±10%	±10%	±10%
	Setup, Rise Time	500ms/230VAC 2000ms115VAC at full load				
PROTECTION	**Over Current**	95~110% rated output power 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 Temperature**	-30 ~ +60°C (Refer to "Derating Curve")				
	Working Humidity	20 ~ 90% RH non-condensing				
	Storage Temp.	-40°C to +80°C, 10~95% RH				
	Temp. Coefficient	±0.06%°C (0~50°C)				
	Vibration	10 ~ 500Hz, 2G 10min./1 cycle, period for 60 min. 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°C / 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-217 (25°C)				
	Packaging	0.12Kg/60pcs/9.2Kg/0.62CUFT				

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 capacitator.
3. Tolerance: includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltages. Please check the static characteristics for more details.
5. The power supply is considered a component which will be installed into final equipment. All the EMC tests are being executed by mounting the unit on a 360mm* 360mm metal plate with 1mm thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these tests, please refer to "EMI testing of component power supplies."
6. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.
7. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently being connected to the mains.

Sunpower Technology LLP Orion House, Calleva Park, Aldermaston, Berkshire RG7 8SN Tel: +44 (0)118 981 1001 • E-mail: sales@sunpower-uk.com

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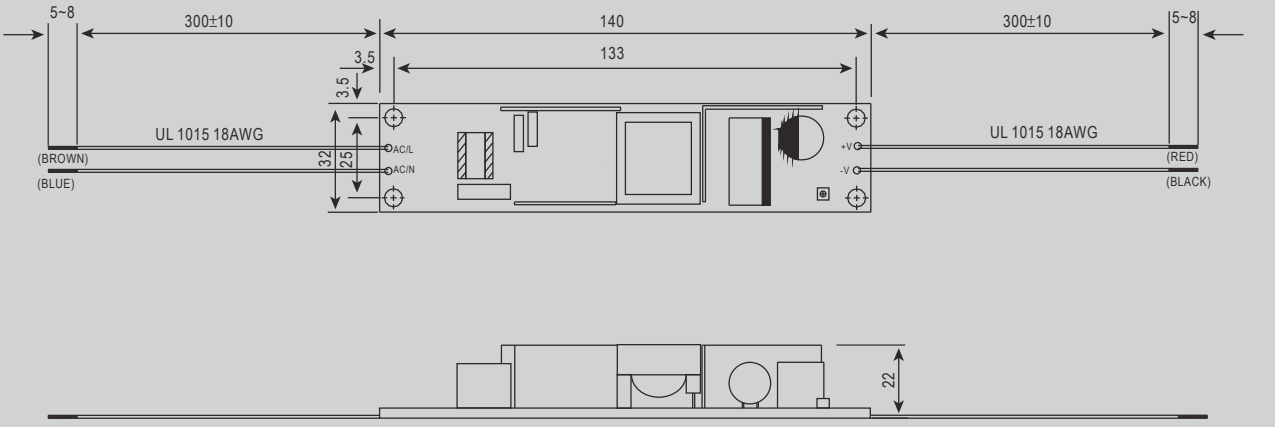
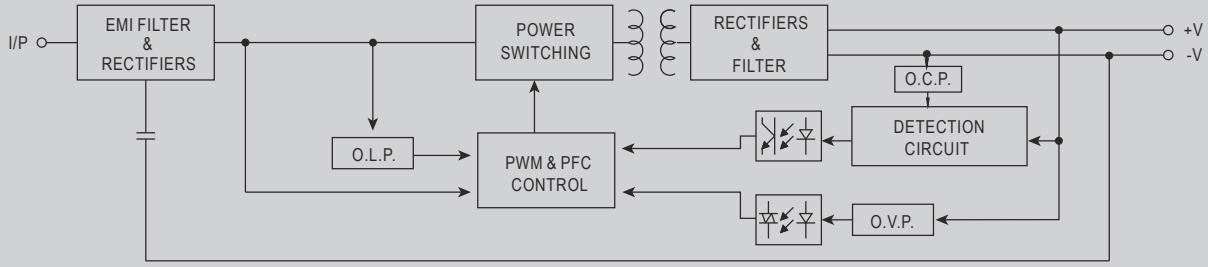
Mechanical Specification

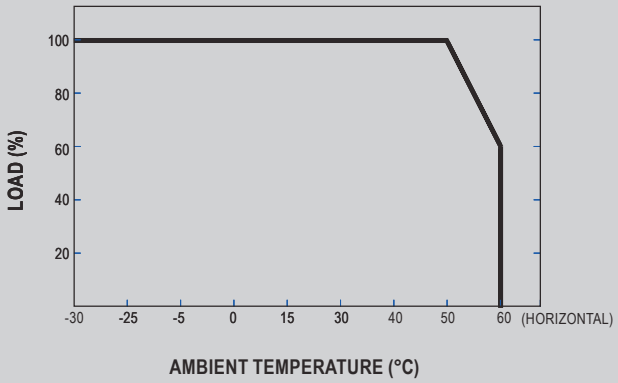
Unit:mm



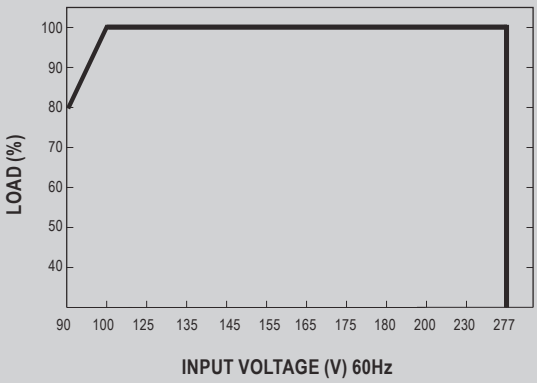
Block Diagram



Derating Curve

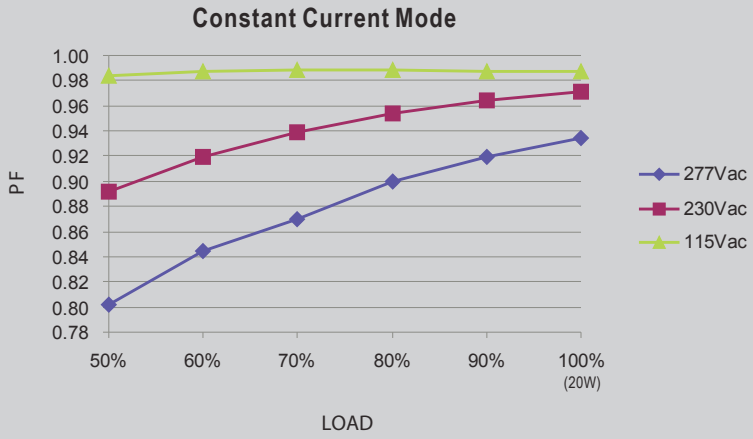


Output Derating VS Input Voltage

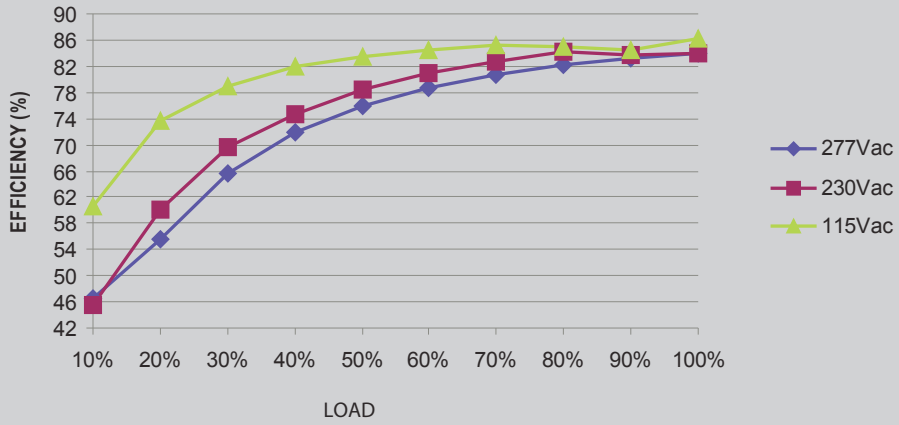


Mechanical Specification

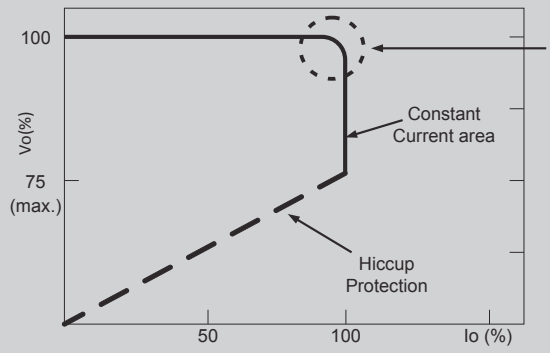
Power factor will be higher than 0.9 when output loading is 75% or higher.



PLP-20 series possess superior working efficiency that up to 83.5% can be reached in field applications.



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.