

PART NUMBER: VPLN-60 Series

DESCRIPTION: switching power supply

features

- universal AC input / full range
- fully isolated plastic case with IP64 level
- built-in constant current limiting circuit with adjustable OCP level
- protections: short circuit/over load/over voltage/over temperature
- built-in active PFC function
- IP64 design for indoor or outdoor installations
- UL1310, Class 2 power unit
- 100% full load burn-in test
- cooling by free air convection
- suitable for LED lighting and moving sign applications
- high reliability
- 2 year warranty



Model	VPLN-60-12	VPLN-60-15	VPLN60-20	VPLN-60-24	VPLN-60-27	VPLN-60-36	VPLN-60-48
DC output voltage	12V	15V	20V	24V	27V	36V	48V
Vout tolerance ³	±10%	±10%	±10%	±10%	±10%	±10%	±10%
output rated current	5A	4A	3A	2.5A	2.3A	1.7A	1.3A
output min. range	0A	0A	0A	0A	0A	0A	0A
output max. range	5A	4A	3A	2.5A	2.3A	1.7A	1.3A
peak load	60W	60W	60W	60W	62.1W	61W	62.5W
ripple & noise ²	2Vp-p	2.4Vp-p	1.8Vp-p	2.7Vp-p	2.7Vp-p	3.6Vp-p	4.6Vp-p
line regulation	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%
load regulation ³	±10%	±10%	±10%	±10%	±10%	±10%	±10%
efficiency	83%	84.5%	86.5%	86.5%	87%	87%	88%
DC voltage adj. ⁶	11~13V	13.8~16.2V	18~22V	22~26V	25~30V	32.5~39V	43.6~51.8V
input voltage range ⁵	90~264VAC						
frequency range	47~63 Hz						
current adj. range ⁶	3%~25%						
AC input current	0.8A/115VAC; 0.4A/230VAC						
inrush current	40A/230VAC						
leakage current	0.5mA/240VAC						
overload protection	95%-110% 130% (max) type: constant current limiting, recovers automatically after fault removal						
shortcircuit protection ⁴	hiccup mode, recovers automatically after fault condition is removed						
over voltage protection	13.8~16V	17.5~21V	22.8~25V	28~32V	31~35V	41~46V	54~60V
	type: shut down o/p voltage, recovers automatically after temperature goes down						
over temp. protection	95°C ±10°C (TSW1) detect on heatsink of power transistor type: shutdown o/p voltage, recovers automatically after fault removal						
temperature coefficient	±0.03% / °C (0~50°C)						
set up, rise, hold up time	1500ms, 100ms / 230VAC, 300ms, 100ms / 115VAC at full load						
vibration	10~500Hz, 2G 10min./1 cycle (1 hour each axes)						
withstand voltage	I/P-O/P: 4.25KVAC,						
isolation resistance	I/P-O/P, 500VDC / 100M Ohms min.						
working temp., humidity	-30°C~+50°C (refer to output derating curve), 20%-90% RH						
storage temp., humidity	-40°C~+80°C, 10-95% RH						
MTBF	497.8Khrs/min at full load 25°C MIL-HDBK-217F						
safety standards	UL1310 Class 2, CAN/CSA C22.2 NO. 223-M91(except for 48V), EN61347-1, EN61347-2-13, IP64 Approved						
EMC standards	CISPR11 (EN55011), CISPR22 (EN55022) class B, EN61000-3-2,3, EN61000-4,2,3,4,5,6,8,11, ENV50204, EN55024, EN61547 (light industrial level, criteria A)						

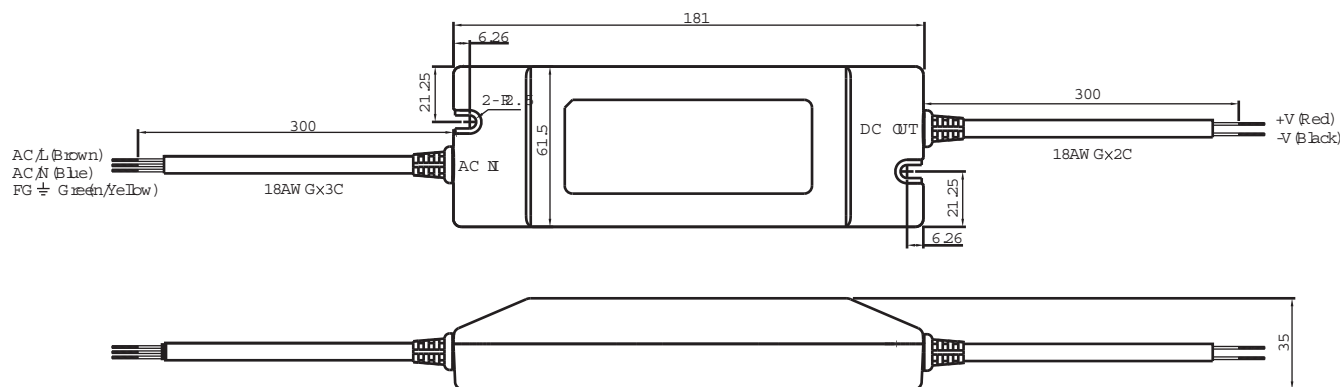
Notes:

1. all parameters NOT specifically mentioned are measured at 230Vac input, rated load, 25°C ambient
2. ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µF & 47 µF capacitor
3. tolerance includes set up tolerance, line regulation, load regulation
4. please refer to OLP characteristics.
5. derating may be needed under low input voltage. Please check the derating curve for more details
6. 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

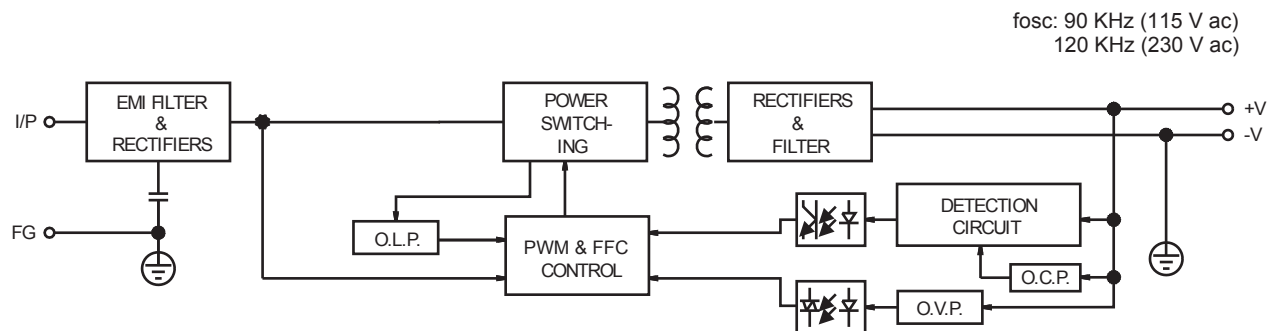
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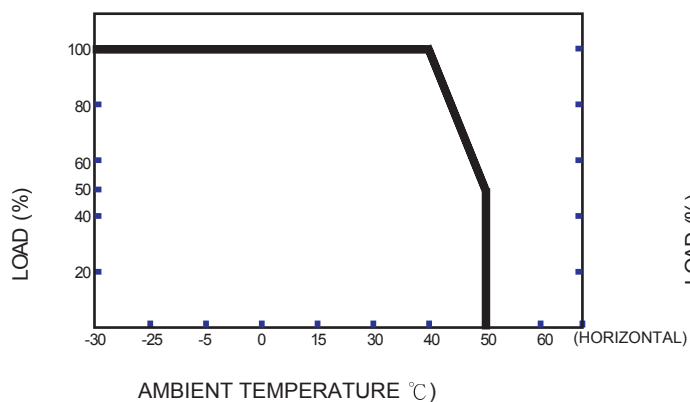
Dimensions (mm)



Block Diagram



Output Derating



Static Characteristics

