



150W Single Output Switching Power Supply

LPV-150 series

 □ IP67 FC (for L type only) cULus CE (for Blank type only)

■ Features

- Constant voltage design
- 90~132VAC input for LPVL-150
180~305VAC input for LPV-150
- Fully encapsulated with IP67 level (Note.8)
- Class II power unit, no FG
- Protections: Short circuit/Overload/Over voltage/
Over temperature
- Fully isolated plastic case
- Fanless design, cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Listed in UL Sign Component Manual (SAM)
- Type "HL" for use in class I, Division 2 hazardous (Classified)
location luminaires for LPVL-150
- 2 years warranty

■ Applications

- LED channel letters
- Indoor LED lighting
- LED decorative lighting

■ Description

LPV-150 and LPVL-150 are 150W single output power supplies that specifically and perfectly work for LED lighting and LED moving sign applications. As a class II power unit, these two series are housed with the UL 94V-0 rated flame retardant plastic enclosure. The IP67 design allows every model to fit the use at dry, damp and wet locations. Both series are constant voltage mode design that various models with 12V, 15V, 24V, 36V and 48V are offered for LPV-150 where as 12V and 24V are provided for LPVL-150.

■ Model Encoding

LPV **L** - 150 - **12**

Output voltage

Output wattage

Blank: AC input range 180~305VAC

L: AC input range 90~132VAC

Series name

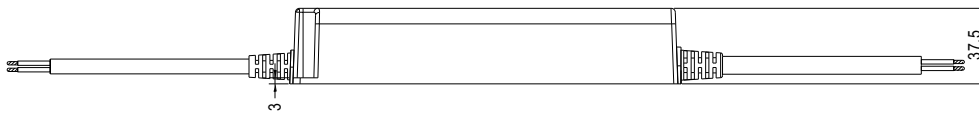
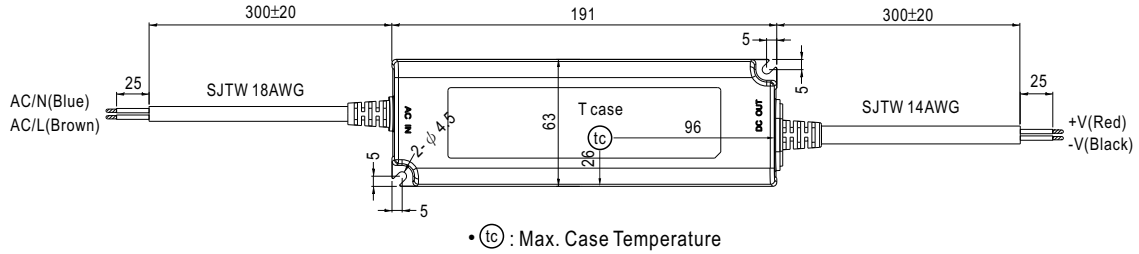


SPECIFICATION

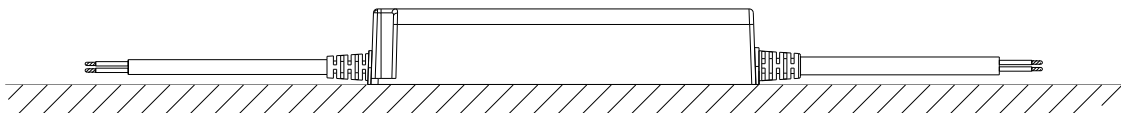
MODEL		LPV□-150-12	LPV-150-15	LPV□-150-24	LPV-150-36	LPV-150-48	
OUTPUT	DC VOLTAGE	12V	15V	24V	36V	48V	
	RATED CURRENT	10A	8A	6.3A	4.2A	3.2A	
	CURRENT RANGE	0 ~ 10A	0 ~ 8A	0 ~ 6.3A	0 ~ 4.2A	0 ~ 3.2A	
	RATED POWER	120W	120W	151.2W	151.2W	153.6W	
	RIPPLE & NOISE (max.) Note.2	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	
	VOLTAGE TOLERANCE Note.3	±5.0%					
	LINE REGULATION	±1.0%					
	LOAD REGULATION	±2.0%					
	SETUP, RISE TIME Note.6	LPV-150: 500ms, 50ms / 230VAC 500ms, 50ms / 277VAC; LPVL-150: 1500ms, 50ms / 115VAC					
HOLD UP TIME (Typ.)	LPV-150: 18ms/230VAC 20ms/277VAC at full load; LPVL-150: 10ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.4	LPV-150: 180 ~ 305VAC 254 ~ 431VDC; LPVL-150: 90~132VAC 254 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	87%	88%	89%	89%	90%	
	AC CURRENT	LPV-150: 1.7A/230VAC 1.5A/277VAC; LPVL-150: 3.0A/115VAC					
	INRUSH CURRENT (Typ.)	Blank type	COLD START 60A(twidth=900µs measured at 50% Ipeak) at 230VAC				
		L type	COLD START 75A(twidth=900µs measured at 50% Ipeak) at 115VAC				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	Blank type	2 units (circuit breaker of type B) / 3 units (circuit breaker of type C) at 230VAC				
L type		1 units (circuit breaker of type B) / 2 units (circuit breaker of type C) at 115VAC					
LEAKAGE CURRENT	LPV-150: 0.25mA / 240VAC LPVL-150:0.25mA / 120VAC						
PROTECTION	OVERLOAD	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	13.5 ~ 18V	17 ~ 25V	27 ~ 35V	40 ~ 49V	52 ~ 63V	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down					
ENVIRONMENT	WORKING TEMP.	-25 ~ +65°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 40°C for LPV-150-12,15 and LPVL-150-12,24;0~50°C for LPV-150-24,36,48)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC	SAFETY STANDARDS	Blank type	UL8750, CSA C22.2 No 250.13-12, UL879, CSA C22.2 No.207-M89, IP67 approved. Design refer to EN60950-1				
		L type	UL8750(type"HL"), CSA C22.2 No 250.13-12, UL879, CSA C22.2 No.207-M89, IP67 approved				
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C/ 70% RH					
	EMC EMISSION	Blank type	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2 Class A(≤80% load), EN61000-3-3				
		L type	Compliance to FCC part 15				
EMC IMMUNITY	Blank type	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024, light industry level, criteria A					
	L type	Design refer to IEC61000-4-2,3,4,5,6,8,11; light industry level, criteria A					
OTHERS	MTBF	703Khrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	191*63*37.5mm (L*W*H)					
	PACKING	LPV-150: 0.74Kg;20pcs/15.8Kg/0.95CUFT; LPVL-150: 0.85Kg;20pcs/17Kg/0.95CUFT					
NOTE	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC(115VAC for LPVL) input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. Derating may be needed under low input voltage. Please check the static characteristics for more details. 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. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time. The unit might not be suitable for lighting applications in EU countries. Please check with your local authorities for the possible use of the unit. Suitable for indoor use or outdoor use without direct sunlight exposure. 						

■ Mechanical Specification

Case No. LPC-150 Unit:mm

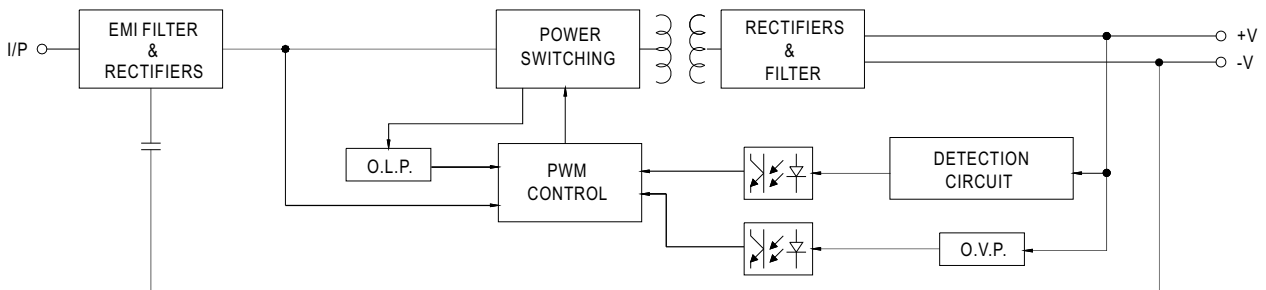


■ Recommend Mounting Direction

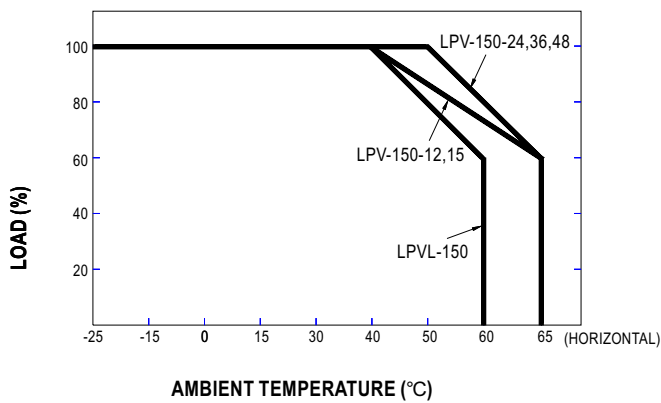


■ Block Diagram

PWM fosc : 47KHz



■ Derating Curve



■ Static Characteristics

