# 60W Single Output Switching Power Supply

## Introduction

**LPV-60 series**

**Features:**
- Constant voltage design
- Universal AC input / Full range
- Withstand 3000VAC surge input for 5 seconds
- Protections: Short circuit / Over load / Over voltage
- Cooling by free air convection
- Fully encapsulated with IP67 level (Note.8)
- Fully isolated plastic case
- Class II power unit, no FG
- Class 2 power unit
- Pass LPS
- Suitable for LED related fixture or appliance (such as LED Decoration or Advertisement devices)(Note.7)
- 100% full load burn-in test
- Low cost, high reliability
- 2 years warranty

## Specification

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPV-60-5</td>
<td>48V</td>
</tr>
<tr>
<td>LPV-60-12</td>
<td>36V</td>
</tr>
<tr>
<td>LPV-60-15</td>
<td>24V</td>
</tr>
<tr>
<td>LPV-60-24</td>
<td>127VDC</td>
</tr>
<tr>
<td>LPV-60-36</td>
<td>115V</td>
</tr>
<tr>
<td>LPV-60-48</td>
<td>230V</td>
</tr>
</tbody>
</table>

## Output

<table>
<thead>
<tr>
<th>DC Voltage</th>
<th>Rated Current</th>
<th>Current Range</th>
<th>Rated Power</th>
<th>Ripple &amp; Noise (max.)</th>
<th>Voltage Tolerance</th>
<th>Line Regulation</th>
<th>Load Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5V</td>
<td>8A</td>
<td>0 ~ 8A</td>
<td>120W</td>
<td>120mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±0.0%</td>
</tr>
<tr>
<td>12V</td>
<td>5A</td>
<td>0 ~ 5A</td>
<td>60W</td>
<td>120mVp-p</td>
<td>±0.5%</td>
<td>±1.0%</td>
<td>±0.5%</td>
</tr>
<tr>
<td>15V</td>
<td>4A</td>
<td>0 ~ 4A</td>
<td>60W</td>
<td>120mVp-p</td>
<td>±0.0%</td>
<td>±1.0%</td>
<td>±0.0%</td>
</tr>
</tbody>
</table>

## Input

<table>
<thead>
<tr>
<th>Voltage Range</th>
<th>Frequency</th>
<th>Efficiency (Typ.)</th>
<th>AC Current (Typ.)</th>
<th>Inrush Current (Typ.)</th>
<th>MAX. No. of PSUs on 16A Circuit Breaker</th>
<th>Leakage Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ~ 8A</td>
<td>47 ~ 63Hz</td>
<td>76%</td>
<td>1.2A/115VAC</td>
<td>COLD START 60A(t/252us measured at 50% Ipeak) at 230VAC</td>
<td>3 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC</td>
<td>0.25mA / 240VAC</td>
</tr>
</tbody>
</table>

## Protection

<table>
<thead>
<tr>
<th>Working Temp.</th>
<th>Working Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>-30 ~ +70°C</td>
<td>10 ~ 95% RH</td>
</tr>
</tbody>
</table>

## Environmental

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>±7%</td>
<td>±5%</td>
</tr>
</tbody>
</table>

## Compliance

- EAC TP TC 004, IP67, IEC/EN 62368-1 approved
- CAN/CSA C22.2 No. 223-M91(except for LPV-60-5,LPV-60-48), BIS IS15885(for LPV-60-12,LPV-60-24 only),
- Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A, EAC TP TC 020
- THOMAS SAMUEL

## Design

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 0.1uf & 47uf parallel capacitor.
3. Load Regulation includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltage. Please check the static characteristics for more details.
5. 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.
6. 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.
7. Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minute.
8. The ambient temperature derating of 3.5%/1000m with fanless models and of 5%/1000m with fan models for operating altitude higher than 2000m(6500ft).
9. Products sourced from the Americas region may not have the TUV/BS/C C C logo. Please contact your MEAN WELL sales for more information.
10. For any application note and IP water proof function installation caution, please refer our user manual before using.
11. This product is not intended for LED applications in the EU.(In the EU NPF/LP/FXLG series are recommended.)
12. To fulfill requirements of latest EoP regulation for lighting luminaires, this LED Driver can only be used behind a switch without permanently connected to mains.
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### Mechanical Specification
- **fosc:** 65KHz
- **PWM**
- **O.L.P.**
- **EMI FILTER**
- **RECTIFIERS**
- **POWER SWITCHING**
- **FILTER & RECTIFIERS**
- **+V**
- **-V**
- **I/P**
- **CONTROL**

### Recommend Mounting Direction
- **AC/N (Blue)**
- **AC/L (Brown)**

- **T case:** Max. Case Temperature.

### Block Diagram
- **EMI FILTER & RECTIFIERS**
- **POWER SWITCHING**
- **PWM CONTROL**
- **RECTIFIERS & FILTER**
- **DETECTION CIRCUIT**
- **O.V.P.**

### Derating Curve

- **AMBIENT TEMPERATURE (°C)**
- **LOAD (%)**

### Static Characteristics
- **INPUT VOLTAGE (V) 60Hz**
- **LOAD (%)**