16W Single Output Switching Power Supply

**APV-16 series**

- **Features:**
  - Constant voltage design
  - Universal AC input / Full range
  - Protections: Short circuit / Over load / Over voltage
  - Fully isolated plastic case
  - Cooling by free air convection
  - Small and compact size
  - Class II power unit, no FG
  - Class 2 power unit
  - Pass LPS
  - IP30 design
  - Suitable for LED lighting and moving sign applications
  - 100% full load burn-in test
  - Low cost, high reliability
  - 2 years warranty

### SPECIFICATION

<table>
<thead>
<tr>
<th>MODEL</th>
<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>
<th>SETUP, RISE TIME</th>
<th>HOLD UP TIME (Typ.)</th>
<th>VOLTAGE RANGE Note.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>APV-16-5</td>
<td>5V</td>
<td>2.6A</td>
<td>0 ~ 2.6A</td>
<td>13W</td>
<td>100mVp-p</td>
<td>±5.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
<td>1500ms, 30ms / 230VAC</td>
<td>20ms/230VAC</td>
<td>90 ~ 264VAC</td>
</tr>
<tr>
<td>APV-16-12</td>
<td>12V</td>
<td>1.25A</td>
<td>0 ~ 1.25A</td>
<td>13W</td>
<td>120mVp-p</td>
<td>±5.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
<td>1500ms, 30ms / 230VAC</td>
<td>12ms/115VAC</td>
<td>127 ~ 370VDC</td>
</tr>
<tr>
<td>APV-16-15</td>
<td>15V</td>
<td>0.67A</td>
<td>0 ~ 1A</td>
<td>15W</td>
<td>120mVp-p</td>
<td>±5.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
<td>1500ms, 30ms / 230VAC</td>
<td></td>
<td>1500ms / 115VAC at full load</td>
</tr>
<tr>
<td>APV-16-24</td>
<td>24V</td>
<td>0.67A</td>
<td>0 ~ 0.67A</td>
<td>15W</td>
<td>150mVp-p</td>
<td>±5.0%</td>
<td>±1.0%</td>
<td>±2.0%</td>
<td>1500ms, 30ms / 230VAC</td>
<td></td>
<td>1500ms at full load</td>
</tr>
</tbody>
</table>

### OUTPUT

- **VOLTAGE RANGE Note.4:**
  - 5V
  - 12V
  - 15V
  - 24V

- **FREQUENCY RANGE:** 47 ~ 63Hz

- **Efficiciency (Typ.):**
  - 76%
  - 80%
  - 81%
  - 83%

- **AC CURRENT:**
  - 0.3A/230VAC
  - 0.5A/115VAC

- **INRUSH CURRENT (Typ.):**
  - COLD START 50A (twidth=185μs measured at 50% Ipeak) at 230VAC

- **MAX. No. of PSUs on 16A CIRCUIT BREAKER:**
  - 13 units (circuit breaker of type B)
  - 22 units (circuit breaker of type C) at 230VAC

### INPUT

- **VOLTAGE RANGE Note.4:**
  - 90 ~ 264VAC
  - 127 ~ 370VDC

- **FREQUENCY RANGE:**
  - 47 ~ 63Hz

- **EFFICIENCY (Typ.):**
  - 76%
  - 80%
  - 81%
  - 83%

- **AC CURRENT:**
  - 0.3A/230VAC
  - 0.5A/115VAC

- **INRUSH CURRENT (Typ.):**
  - COLD START 50A (twidth=185μs measured at 50% Ipeak) at 230VAC

- **MAX. No. of PSUs on 16A CIRCUIT BREAKER:**
  - 13 units (circuit breaker of type B)
  - 22 units (circuit breaker of type C) at 230VAC

### PROTECTION

- **OVER LOAD:** Above 105% rated output power
- **OVER VOLTAGE:**
  - 5.75 ~ 6.75V
  - 13.8 ~ 16V
  - 17.5 ~ 21V
  - 27.6 ~ 32.4V

- **TEMP. COEFFICIENT:**
  - ±0.03%/°C (0 ~ 50°C)

- **VIBRATION:**
  - 10 ~ 500Hz, 2G 10min./cycle, period for 60min. each along X, Y, Z axes

### ENVIRONMENT

- **WORKING TEMP.:** -30 ~ +70°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 ~ 50°C)

- **DIMENSION:**
  - 77*40*29mm (L*W*H)

### SAFETY & EMC

- **SAFETY STANDARDS:**
  - UL8750
  - CSA C22.2 No.250.0-08
  - EN61347-1
  - EN61347-2-13
  - EN62384

- **WITHSTAND VOLTAGE:**
  - Ip-O/P:3.75kVAC

- **ISOULATION RESISTANCE:**
  - Ip-O/P: >100M Ohms / 500VDC / 25°C / 70% RH

- **EMC EMISSION:**
  - Compliance to EN55015, EN61000-3-2, EN61000-3-3

- **EMC IMMUNITY:**
  - Compliance to EN61547, EN61000-4-2, 3, 4, 5, 6, 8, 11: light industry level(surge 2KV), criteria A

- **MTBF:**
  - 1145.7K hrs min. (p=0.9990)

- **DIMENSION:**
  - 77*40*29mm (L*W*H)

- **PACKING:**
  - 1Kg, 120pcs/14Kg, (L=85)CUFT

### 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 frequency 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 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. 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.
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

![Mechanical Diagram]

- **Unit**: mm

- **Derating Curve Static Characteristics**
  - **Ambient Temperature (°C)**
  - **Load (%)**
    - 0
    - 10
    - 20
    - 30
    - 40
    - 50
    - 60
    - 70
    - 80
    - 90
    - 100

- **AMBIENT TEMPERATURE (°C)**
  - 0
  - 10
  - 20
  - 30
  - 40
  - 50
  - 60
  - 70
  - 80
  - 90

- **LOAD (%)**
  - 0
  - 10
  - 20
  - 30
  - 40
  - 50
  - 60
  - 70
  - 80
  - 90

### Block Diagram

- **PWM Detection**
- **EMI Filter**
- **Power Switching**
- **Rectifiers & Filter**
- **Detection Circuit**

- **fosc**: 67KHz

### Derating Curve

- **Load (%)** vs **Ambient Temperature (°C)**
- **Load (%)** vs **Input Voltage (VAC) 60Hz**

### Static Characteristics

- **Load (%)** vs **Input Voltage (VAC) 60Hz**
Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Mean Well:

APV-16-12  APV-16-15  APV-16-24  APV-16-5