



### ■ Features :

- Universal AC input / Full range (up to 305VAC)
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- Cooling by free air convection
- Fully isolated plastic case with IP30 level (Note.8)
- Class II power unit, no FG
- Class 2 power unit
- IP67(optional , model NO. : LPF-16-12P)
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp locations(wet location for LPF-16-12P)
- 5 years warranty

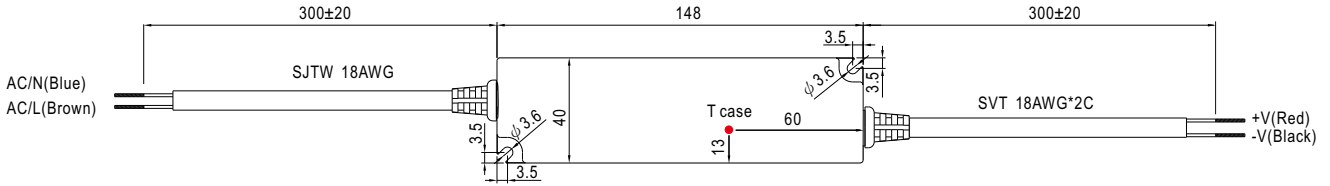


### SPECIFICATION

| MODEL               | LPF-16-12  | LPF-16-15  | LPF-16-20  | LPF-16-24      | LPF-16-30  | LPF-16-36   | LPF-16-42  | LPF-16-48  | LPF-16-54  |            |
|---------------------|--|--|------------|----------------|------------|-------------|------------|------------|------------|------------|
| OUTPUT              | DC VOLTAGE   | 12V  | 15V        | 20V            | 24V        | 30V         | 36V        | 42V        | 48V        | 54V        |
|                     | CONSTANT CURRENT REGION Note.4   | 6.6 ~ 12V  | 8.25 ~ 15V | 11 ~ 20V       | 13.2 ~ 24V | 16.5 ~ 30V  | 19.8 ~ 36V | 23.1 ~ 42V | 26.4 ~ 48V | 29.7 ~ 54V |
|                     | RATED CURRENT  | 1.34A  | 1.07A      | 0.8A           | 0.67A      | 0.54A       | 0.45A      | 0.39A      | 0.34A      | 0.3A       |
|                     | RATED POWER  | 16.08W   | 16.05W     | 16W            | 16.08W     | 16.2W       | 16.2W      | 16.38W     | 16.32W     | 16.2W      |
|                     | RIPPLE & NOISE (max.) Note.2   | 150mVp-p   | 150mVp-p   | 150mVp-p       | 150mVp-p   | 200mVp-p    | 250mVp-p   | 250mVp-p   | 250mVp-p   | 350mVp-p   |
|                     | VOLTAGE TOLERANCE Note.3   | ±4.0%  | ±4.0%      | ±4.0%          | ±4.0%      | ±4.0%       | ±4.0%      | ±4.0%      | ±4.0%      | ±4.0%      |
|                     | LINE REGULATION  | ±0.5%  | ±0.5%      | ±0.5%          | ±0.5%      | ±0.5%       | ±0.5%      | ±0.5%      | ±0.5%      | ±0.5%      |
|                     | LOAD REGULATION  | ±2.0%  | ±1.5%      | ±1.0%          | ±0.5%      | ±0.5%       | ±0.5%      | ±0.5%      | ±0.5%      | ±0.5%      |
|                     | SETUP, RISE TIME Note.6  | 1500ms, 80ms / 115VAC at full load 500ms, 80ms / 230VAC  |            |                |            |             |            |            |            |            |
| HOLD UP TIME (Typ.) | 16ms at full load 230VAC / 115VAC  |  |            |                |            |             |            |            |            |            |
| INPUT               | VOLTAGE RANGE Note.5   | 90 ~ 305VAC  |            | 127 ~ 431VDC   |            |             |            |            |            |            |
|                     | FREQUENCY RANGE  | 47 ~ 63Hz  |            |                |            |             |            |            |            |            |
|                     | POWER FACTOR (Typ.)  | PF>0.97/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load (Please refer to "Power Factor Characteristic" curve)  |            |                |            |             |            |            |            |            |
|                     | EFFICIENCY (Typ.)  | 84%  | 84%        | 86%            | 86%        | 86%         | 86%        | 86%        | 86%        | 86%        |
|                     | AC CURRENT   | 0.4A / 115VAC  |            | 0.25A / 230VAC |            | 0.2A/277VAC |            |            |            |            |
|                     | INRUSH CURRENT (Typ.)  | COLD START 45A(twidth=200µs measured at 50% Ipeak) at 230VAC   |            |                |            |             |            |            |            |            |
|                     | LEAKAGE CURRENT  | <0.75mA / 240VAC   |            |                |            |             |            |            |            |            |
| PROTECTION          | OVER CURRENT Note.4  | 95 ~ 108%<br>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   | 15 ~ 18V   | 17.5 ~ 21V | 23 ~ 27V       | 28 ~ 35V   | 34 ~ 40V    | 41 ~ 49V   | 46 ~ 54V   | 54 ~ 63V   | 59 ~ 66V   |
|                     | OVER TEMPERATURE   | Shut down o/p voltage, recovers automatically after temperature goes down  |            |                |            |             |            |            |            |            |
| ENVIRONMENT         | WORKING TEMP.  | -35 ~ +70°C (Refer to "Derating Curve")  |            |                |            |             |            |            |            |            |
|                     | WORKING HUMIDITY   | 20 ~ 95% RH non-condensing   |            |                |            |             |            |            |            |            |
|                     | STORAGE TEMP., HUMIDITY  | -40 ~ +80°C, 10 ~ 95% RH   |            |                |            |             |            |            |            |            |
|                     | TEMP. COEFFICIENT  | ±0.03%/°C (0 ~ 50°C)   |            |                |            |             |            |            |            |            |
|                     | VIBRATION  | 10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes  |            |                |            |             |            |            |            |            |
| SAFETY & EMC        | SAFETY STANDARDS   | UL8750, CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 independent, EN62384, J61347-1, J61347-2-13 approved, IP67 (optional) ; Design refer to UL60950-1, TUV EN60950-1 |            |                |            |             |            |            |            |            |
|                     | 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; EN61000-3-2 Class C (≥ 50% load) ; EN61000-3-3  |            |                |            |             |            |            |            |            |
| OTHERS              | EMC IMMUNITY   | Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level(surge 2KV), criteria A   |            |                |            |             |            |            |            |            |
|                     | MTBF   | 473.3Khrs min. MIL-HDBK-217F (25°C)  |            |                |            |             |            |            |            |            |
|                     | DIMENSION  | 148*40*32mm (L*W*H)  |            |                |            |             |            |            |            |            |
|                     | PACKING  | 0.21Kg; 40pcs/9.4Kg/1.02CUFT   |            |                |            |             |            |            |            |            |
| NOTE                | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. Constant current operation region is within 50% ~ 100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.</li> <li>5. Derating may be needed under low input voltages. Please check the static characteristics for more details.</li> <li>6. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.</li> <li>7. 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.</li> <li>8. Suitable for indoor use.</li> <li>9.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.</li> </ol> |  |            |                |            |             |            |            |            |            |

■ Mechanical Specification

Case No. : LPF-16A Unit:mm



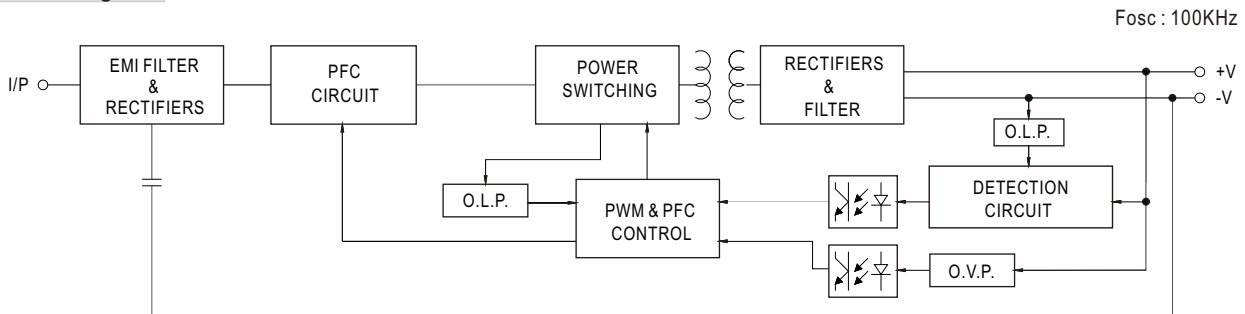
※ T case: Max. Case Temperature.



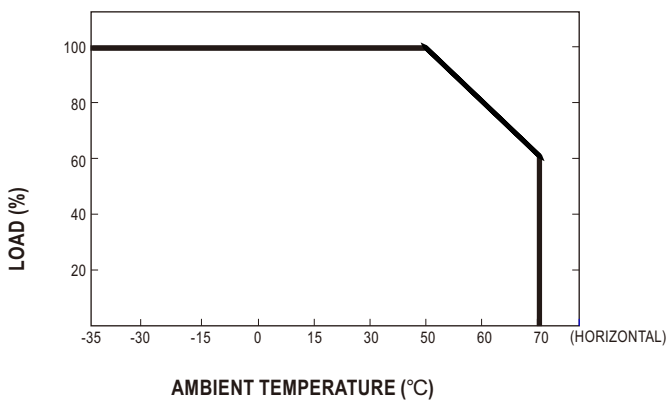
■ Recommend Mounting Direction



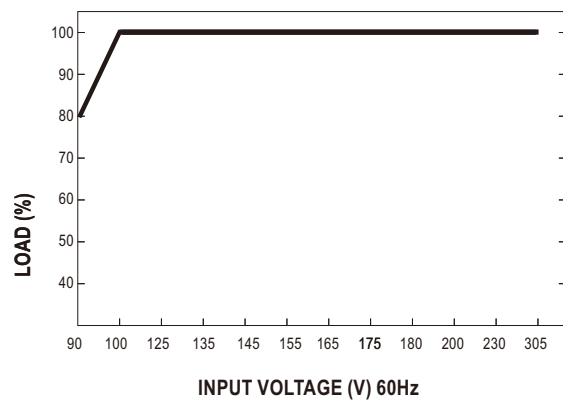
■ Block Diagram



■ Derating Curve

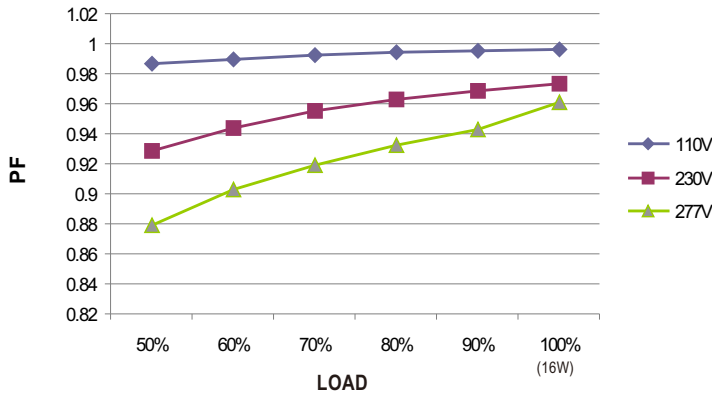


■ Static Characteristics



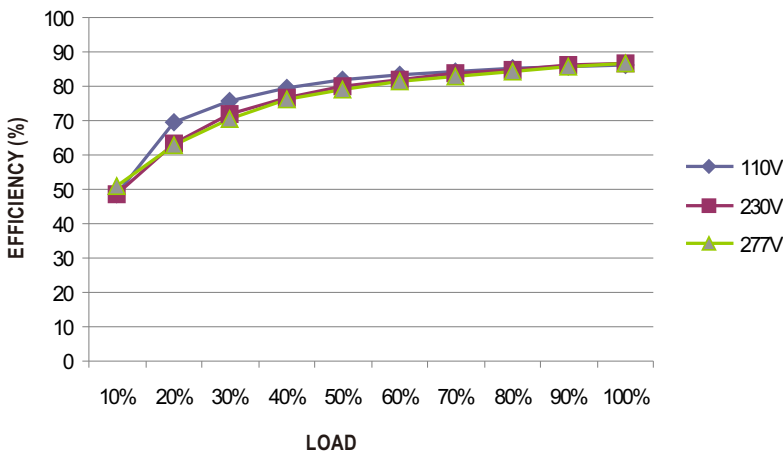
**Power Factor Characteristic**

**Constant Current Mode**



**EFFICIENCY vs LOAD (48V Model)**

LPF-16 series possess superior working efficiency that up to 86% can be reached in field applications.

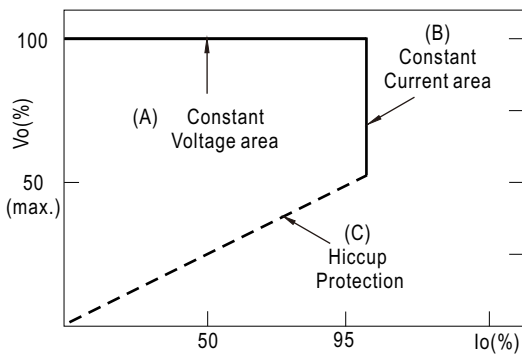


**DRIVING METHODS OF LED MODULE**

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve