



■ 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
- Fully encapsulated with IP67 level (Note.6)
- Class II power unit, no FG
- Class 2 power unit
- Built-in 3 in 1 dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty

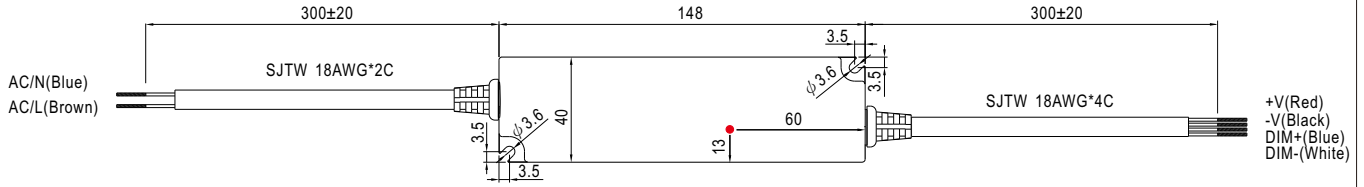


SPECIFICATION

| MODEL               | LPF-25D-12  | LPF-25D-15  | LPF-25D-20 | LPF-25D-24     | LPF-25D-30 | LPF-25D-36  | LPF-25D-42 | LPF-25D-48 | LPF-25D-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   | 2.1A  | 1.67A      | 1.25A          | 1.05A      | 0.84A       | 0.7A       | 0.6A       | 0.53A      | 0.47A      |
|                     | RATED POWER   | 25.2W   | 25.05W     | 25W            | 25.2W      | 25.2W       | 25.2W      | 25.2W      | 25.44W     | 25.38W     |
|                     | 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.7   | 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%        | 85%            | 85.5%      | 85.5%       | 85.5%      | 85.5%      | 86%        | 86%        |
|                     | AC CURRENT  | 0.4A / 115VAC   |            | 0.25A / 230VAC |            | 0.2A/277VAC |            |            |            |            |
|                     | INRUSH CURRENT (Typ.)   | COLD START 50A(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, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes   |            |                |            |             |            |            |            |            |
| SAFETY & EMC        | SAFETY STANDARDS Note.6   | UL8750, CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 independent, EN62384, J61347-1, J61347-2-13 approved, IP67 approved ;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 (≥ 55% load) ; EN61000-3-3   |            |                |            |             |            |            |            |            |
|                     | EMC IMMUNITY  | Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547,light industry level(surge 2KV), criteria A   |            |                |            |             |            |            |            |            |
| OTHERS              | MTBF  | 418.5Khrs min. MIL-HDBK-217F (25°C)   |            |                |            |             |            |            |            |            |
|                     | DIMENSION   | 148*40*32mm (L*W*H)   |            |                |            |             |            |            |            |            |
|                     | PACKING   | 0.36Kg; 40pcs/ 15.4Kg/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 55% ~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. Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minutes.</li> <li>7. 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>8. 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>9. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.</li> <li>10.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**

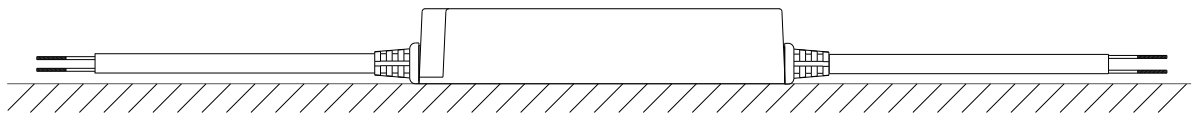
Case No. :LPF-16A Unit:mm



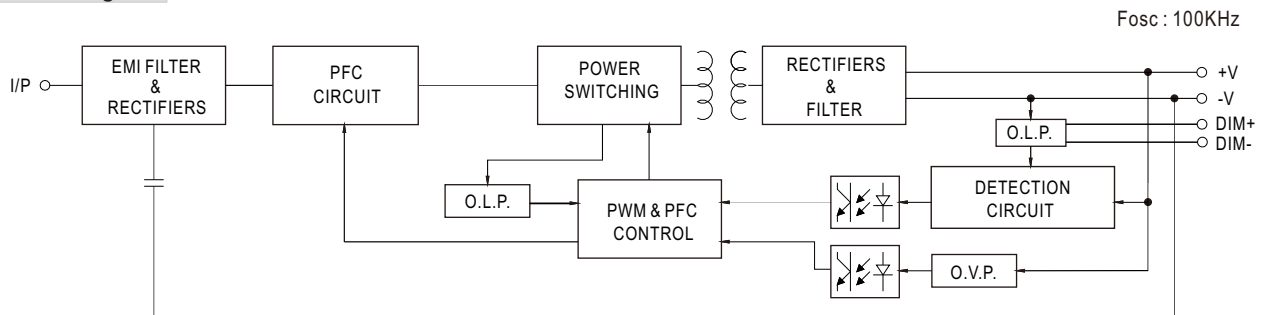
※ T case: Max. Case Temperature.



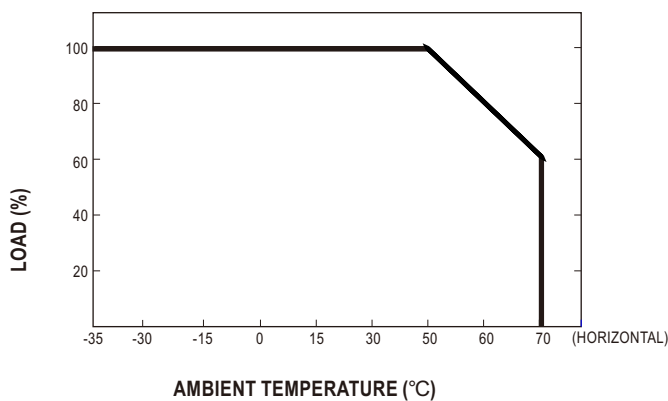
**Recommend Mounting Direction**



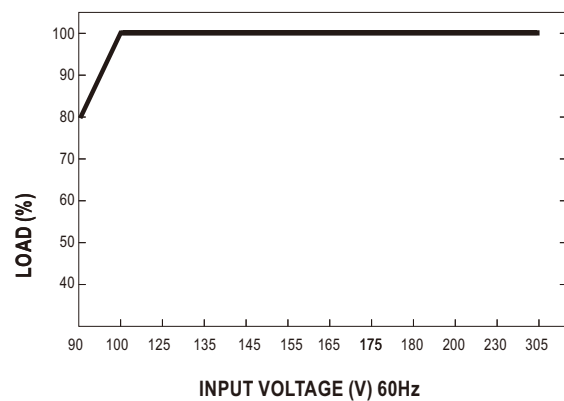
**Block Diagram**



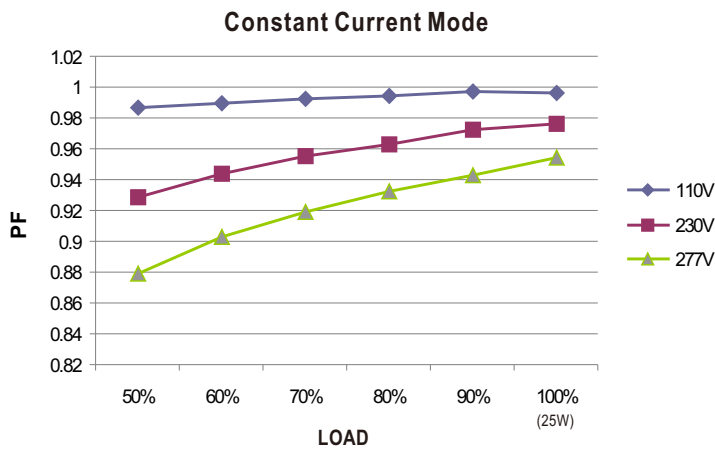
**Derating Curve**



**Static Characteristics**

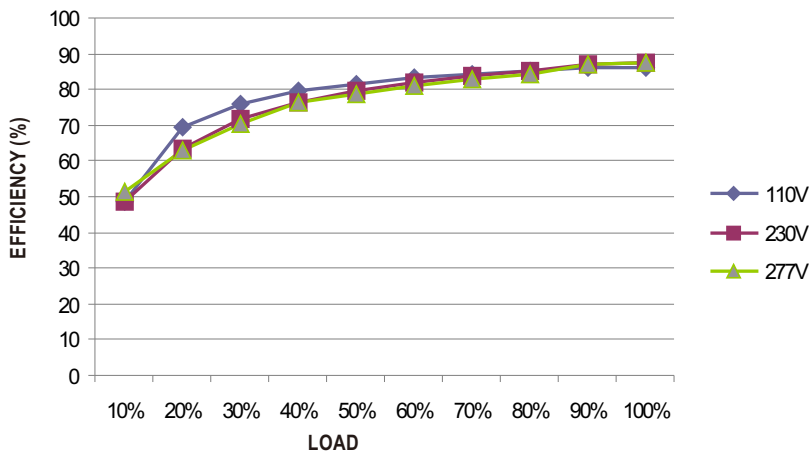


**Power Factor Characteristic**



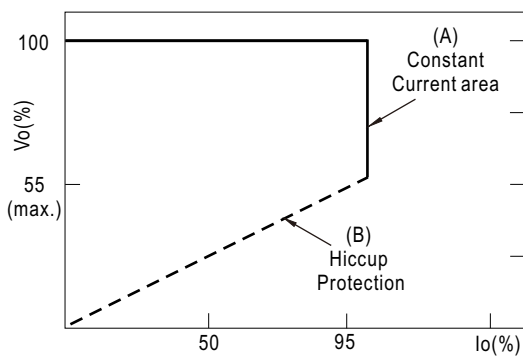
**EFFICIENCY vs LOAD (48V Model)**

LPF-25D series possess superior working efficiency that up to 86% can be reached in field applications.



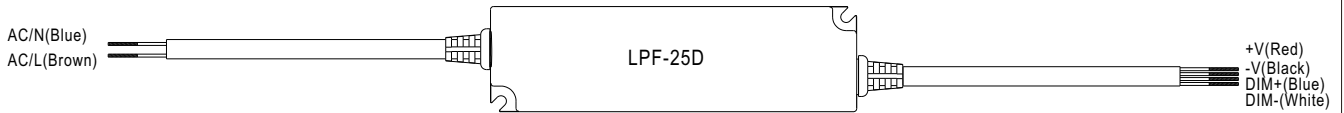
**DRIVING METHODS OF LED MODULE**

This LED power supply is suggested to work in constant current mode area (CC) to drive the LEDs.



Typical LED power supply I-V curve

**■ DIMMING OPERATION**



※ Output constant current level can be adjusted through output cable by 1 ~ 10Vdc, 10V PWM signal or resistance between DIM+ and DIM-.

※ Reference resistance value for output current adjustment (Typical)

| Resistance value            | Single driver  | 10KΩ   | 20KΩ   | 30KΩ   | 40KΩ   | 50KΩ   | 60KΩ   | 70KΩ   | 80KΩ   | 90KΩ   | 100KΩ   | OPEN     |
|-----------------------------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|----------|
|                             | Multiple drivers<br>(N=driver quantity for synchronized dimming operation) | 10KΩ/N | 20KΩ/N | 30KΩ/N | 40KΩ/N | 50KΩ/N | 60KΩ/N | 70KΩ/N | 80KΩ/N | 90KΩ/N | 100KΩ/N | -----    |
| Percentage of rated current |  | 10%    | 20%    | 30%    | 40%    | 50%    | 60%    | 70%    | 80%    | 90%    | 100%    | 95%~108% |

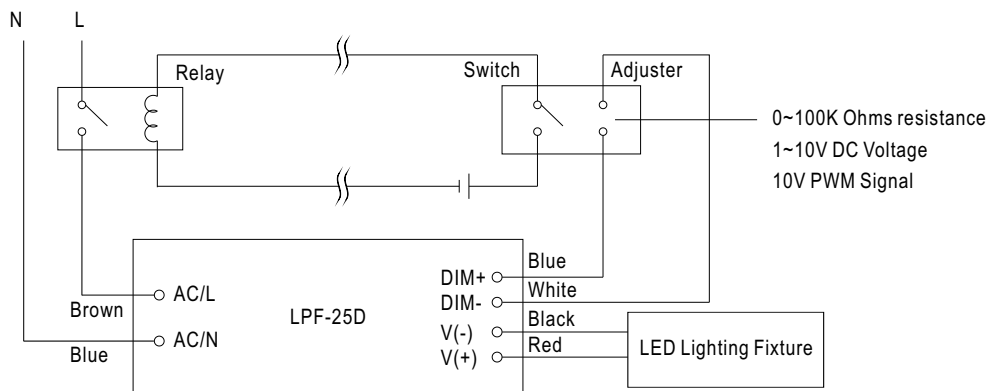
※ 1 ~ 10V dimming function for output current adjustment (Typical)

| Dimming value  | 1V  | 2V  | 3V  | 4V  | 5V  | 6V  | 7V  | 8V  | 9V  | 10V  | OPEN     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------|
| Output current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%~108% |

※ 10V PWM signal for output current adjustment (Typical): Frequency range :100~3KHz

| Duty value     | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | OPEN     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------|
| Output current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%~108% |

Dimming connection diagram for turning the lighting fixture ON/OFF :



Using a switch and relay can turn ON/OFF the lighting fixture.

1. Output constant current level can be adjusted through output cable by connecting a resistor or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
2. The LED lighting fixture can be turned ON/OFF by the switch.