



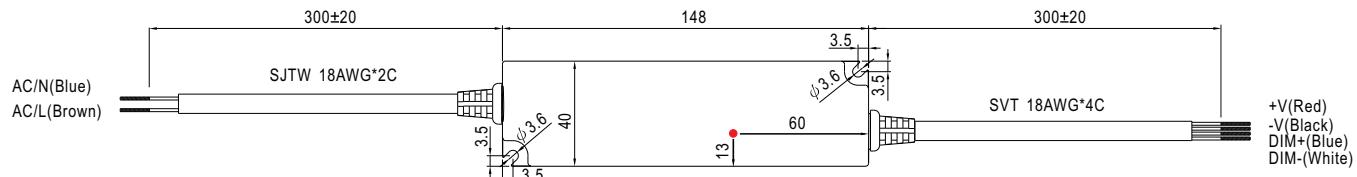
## SPECIFICATION



MODEL	LPF-16D-12	LPF-16D-15	LPF-16D-20	LPF-16D-24	LPF-16D-30	LPF-16D-36	LPF-16D-42	LPF-16D-48	LPF-16D-54	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	6 ~ 12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 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	1500ms, 80ms / 230VAC							
INPUT	HOLD UP TIME (Typ.)	16ms at full load	230VAC / 115VAC							
	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.)	83%	83%	84.5%	84.5%	84.5%	85%	85%	85%	84.5%
	AC CURRENT	0.4A / 115VAC	0.2A / 230VAC							
PROTECTION	INRUSH CURRENT (Typ.)	COLD START 50A/230VAC								
	LEAKAGE CURRENT	<0.75mA / 240VAC								
	OVER CURRENT Note.4	95 ~ 108%								
	PROTECTION	Protection type : Constant current limiting, recovers automatically after fault condition is removed								
ENVIRONMENT	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	Protection type : Shut down and latch off o/p voltage, re-power on to recover								
	WORKING TEMP.	-40 ~ +70°C (Refer to "Derating Curve")								
SAFETY & EMC	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								
OTHERS	SAFETY STANDARDS	UL8750, CSA C22.2 No. 250.0-08 (except for 48V, 54V), EN61347-1, EN61347-2-13 independent 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								
NOTE	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level(surge 2KV), criteria A								
	MTBF	420.1Khrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	148*40*32mm (L*W*H)								
NOTE	PACKING	0.21Kg;40pcs/9.4Kg/ 1.02CUFT								
	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 a 0.1uf & 47uf parallel capacitor.								
	3.	Tolerance : includes set up tolerance, line regulation and load regulation.								
	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.								
	5.	Derating may be needed under low input voltages. Please check the static characteristics for more details.								
	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.								
	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.								
	8.	Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.								

## ■ Mechanical Specification

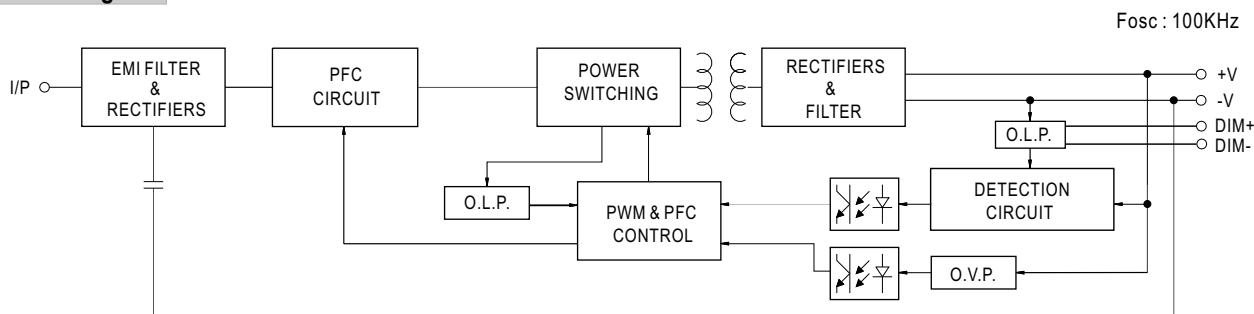
Case No.: LPF-16A Unit:mm



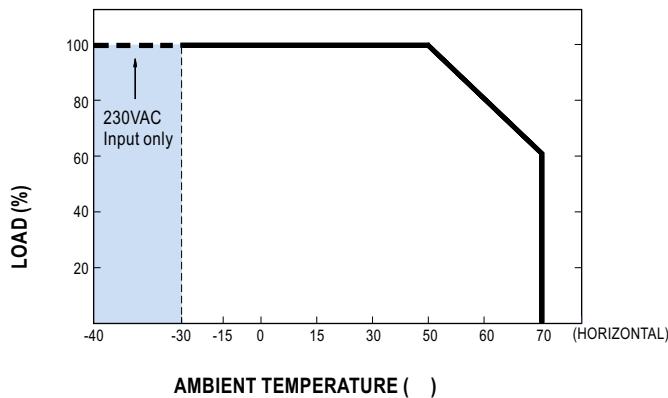
※ T case: Max. Case Temperature.



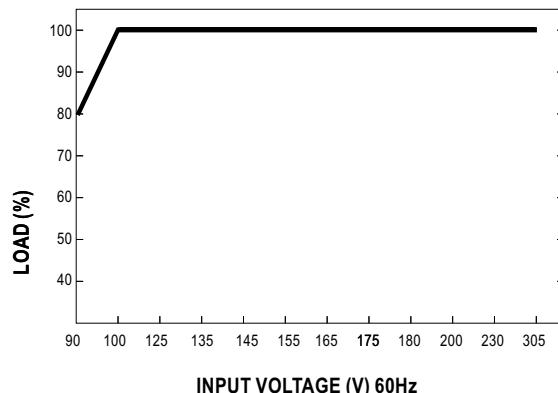
## ■ Block Diagram

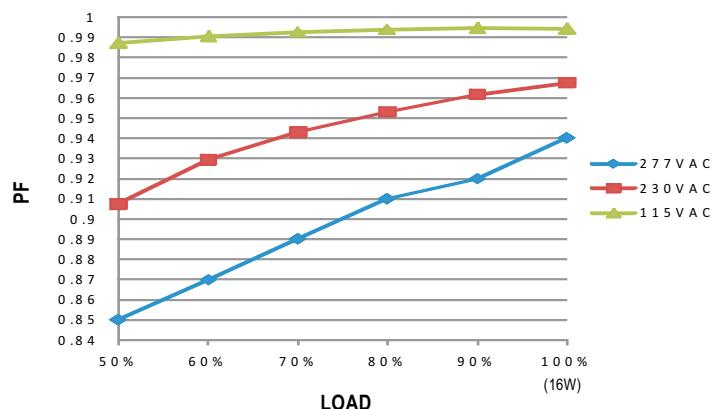


## ■ Derating Curve

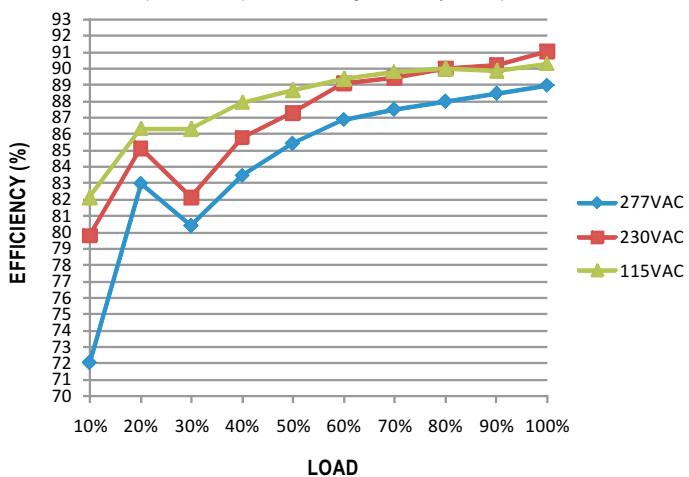


## ■ Static Characteristics

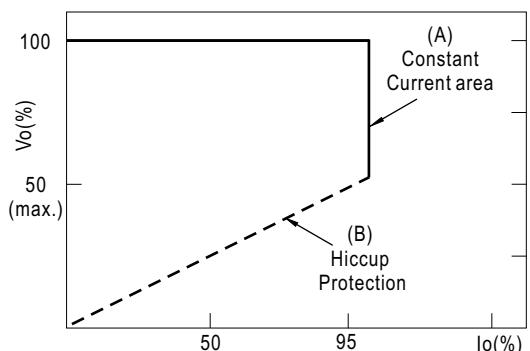


**■ Power Factor Characteristic**
**Constant Current Mode**

**■ EFFICIENCY vs LOAD (48V Model)**

LPF-16D series possess superior working efficiency that up to 85% can be reached in field applications.

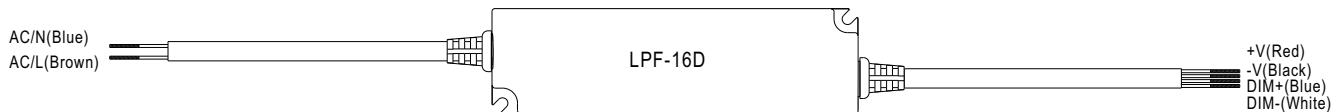

**■ DRIVING METHODS OF LED MODULE**

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	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
Output current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

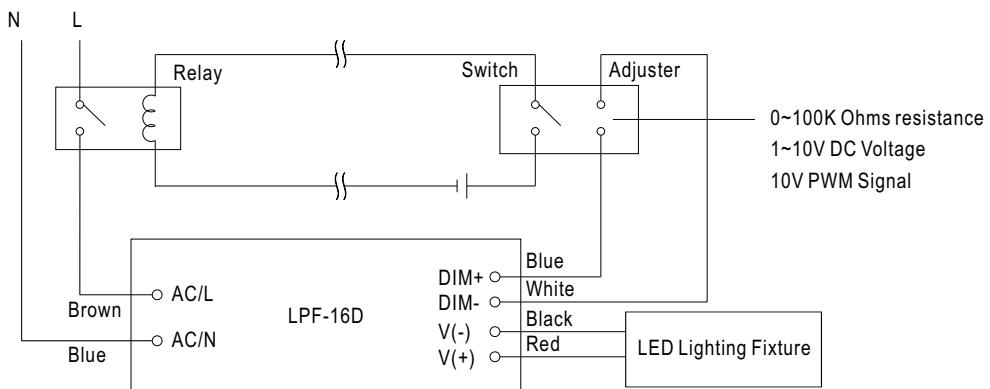
※ 1 ~ 10V dimming function for output current adjustment (Typical)

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.