


■ Features :

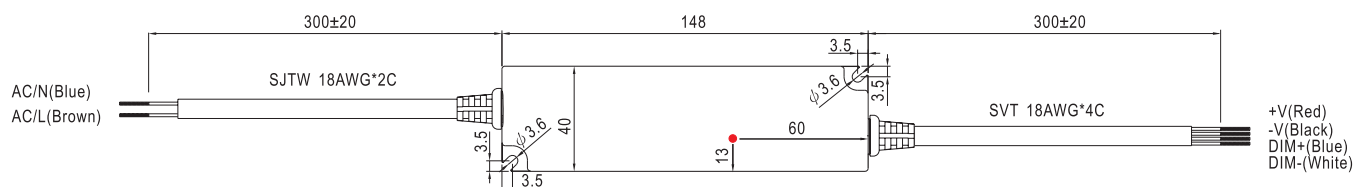
- Universal AC input / Full range (up to 305VAC)
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- Cooling by free air convection
- Fully isolated plastic case with IP30 level (Note.9)
- Class II power unit, no FG
- Class 2 power unit
- IP67(optional , model NO. : LPF-16D-12P)
- 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 location(wet location for LPF-16D-12P)
- 3 years warranty


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	6.6 ~ 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 1500ms, 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.)	83%	83%	84.5%	84.5%	84.5%	85%	85%	85%	84.5%	
	AC CURRENT	0.4A / 115VAC		0.25A / 230VAC		0.2A/277VAC					
	INRUSH CURRENT (Typ.)	COLD START 50A/230VAC									
	LEAKAGE CURRENT	<0.75mA / 240VAC									
PROTECTION	OVER CURRENT Note.4	95 ~ 108% 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	
		Protection type : Shut down and latch off o/p voltage, re-power on to recover									
	OVER TEMPERATURE	100℃± 5℃(TSW1) Detect on U2 Protection type : Shut down o/p voltage, re-power on to recover									
ENVIRONMENT	WORKING TEMP.	-35 ~ +70℃ (Refer to "Derating Curve")									
	WORKING HUMIDITY	20 ~ 95% RH non-condensing									
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH									
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)									
	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 (except for 42V,48V, 54V), EN61347-1, EN61347-2-13 independent,EN62384 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℃ / 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	420.1Khrs min. MIL-HDBK-217F (25℃)									
	DIMENSION	148*40*32mm (L*W*H)									
	PACKING	0.21Kg;40pcs/9.4Kg/ 1.02CUFT									
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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 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. 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. 9. Suitable for indoor use.										

■ Mechanical Specification

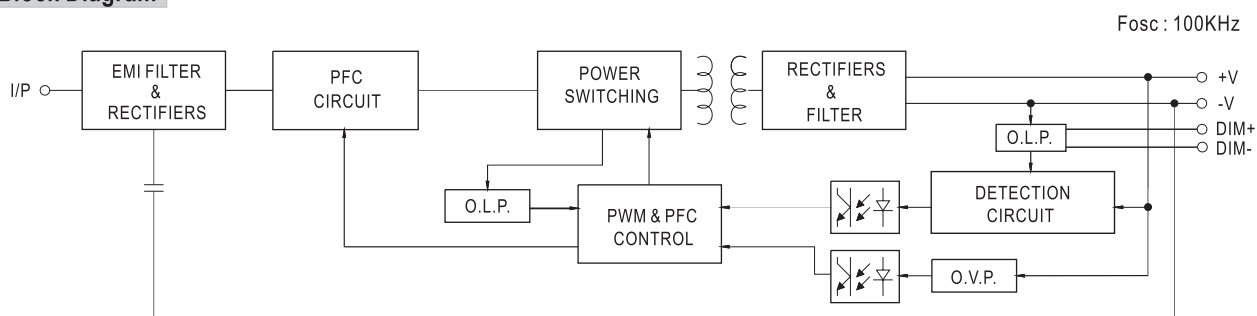
Case No.: LPF-16A Unit:mm



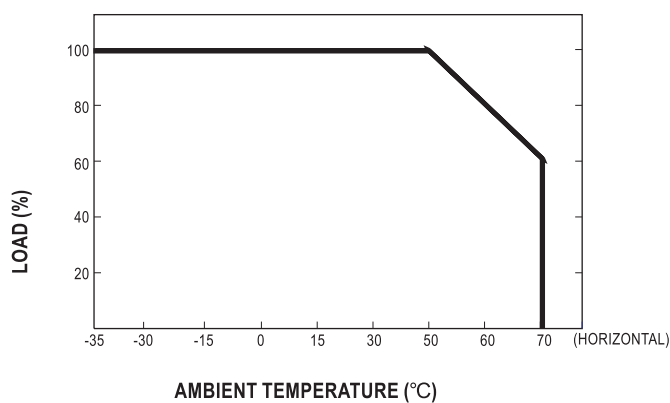
※ T case: Max. Case Temperature.



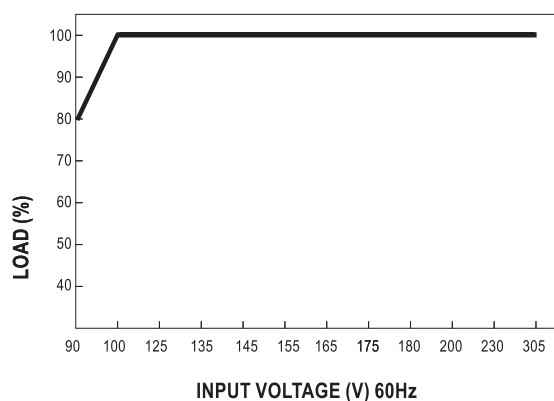
■ Block Diagram



Derating Curve

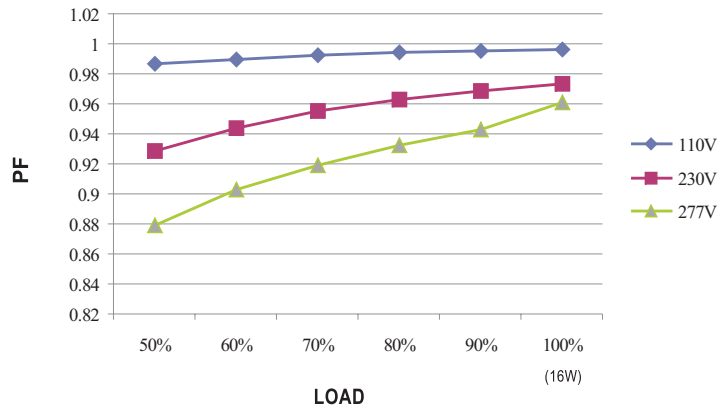


■ Static Characteristics



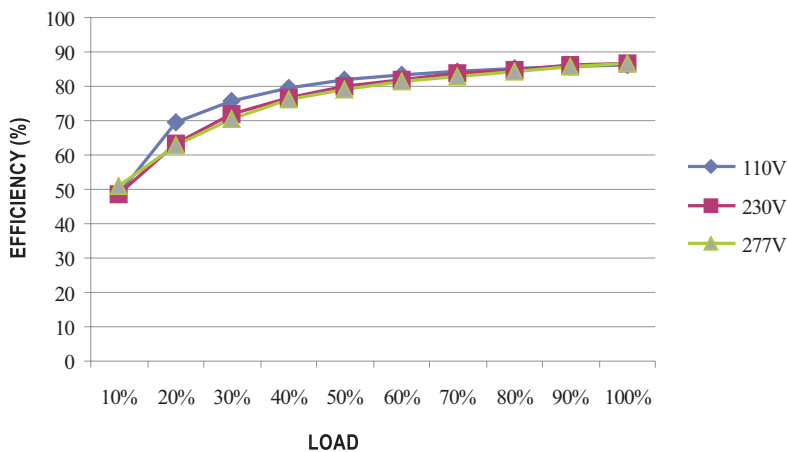
Power Factor Characteristic

Constant Current Mode



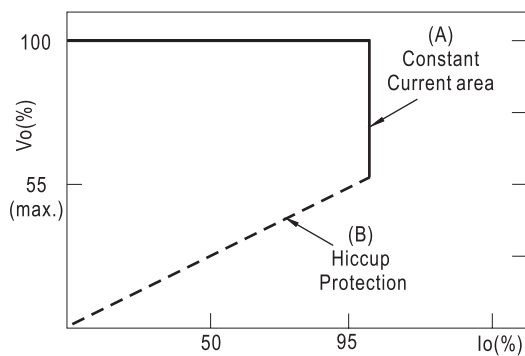
EFFICIENCY vs LOAD (48V Model)

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



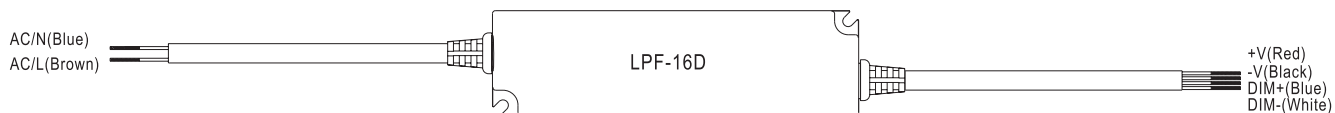
DRIVING METHODS OF LED MODULE

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%

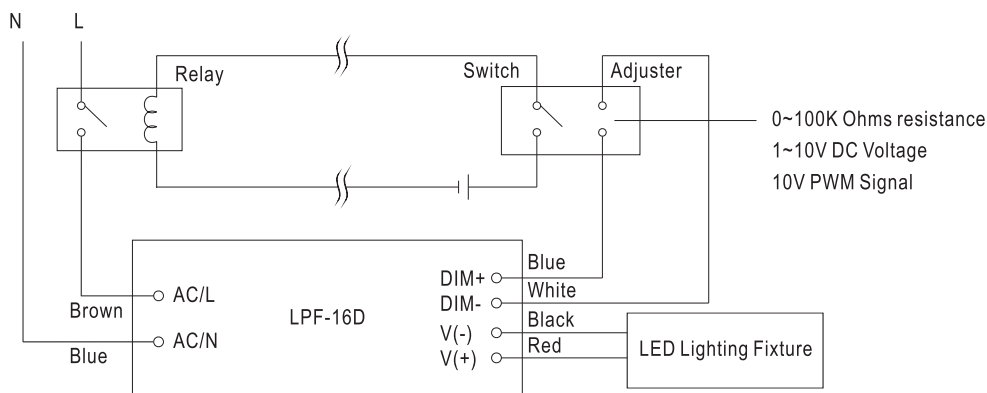
※ 1 ~ 10V dimming function for output current adjustment (Typical)

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.