



■ Features :

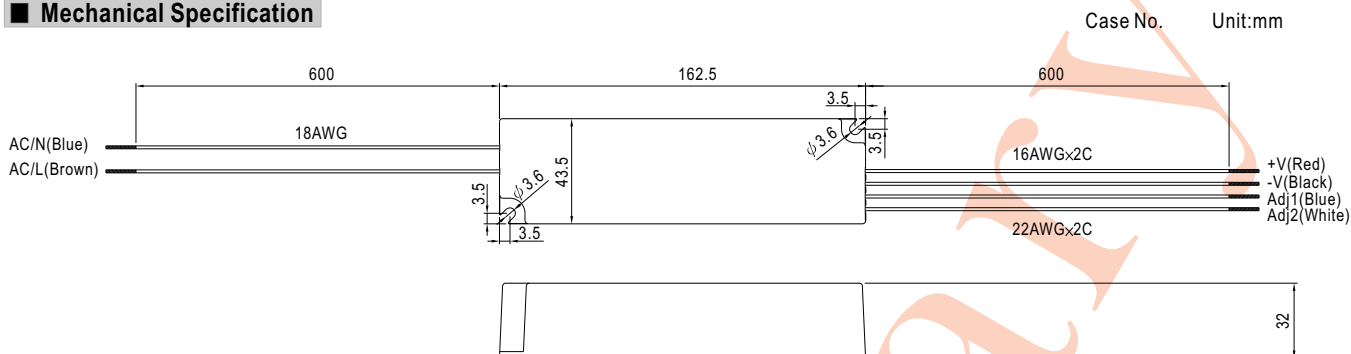
- Universal AC input / Full range (up to 305VAC)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in active PFC function
- High efficiency up to 91%
- Cooling by free air convection
- Fully isolated plastic case
- Epoxy encapsulated with IP67 level
- Class 2 power unit
- Optional dimming function (1~10Vdc or PWM signal or resistor)
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp locations
- 3 years warranty



SPECIFICATION

MODEL		LPF-60D-12	LPF-60D-15	LPF-60D-20	LPF-60D-24	LPF-60D-30	LPF-60D-36	LPF-60D-42	LPF-60D-48	LPF-60D-54	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V	
	CONSTANT CURRENT REGION Note.4	7.2 ~ 12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V	
	RATED CURRENT	5A	4A	3A	2.5A	2A	1.67A	1.43A	1.25A	1.12A	
	RATED POWER	60W	60W	60W	60W	60W	60.12W	60.06W	60W	60.48W	
	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.8	1000ms, 80ms / 115VAC at full load 1000ms, 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	PF ≥ 0.95/230VAC		PF ≥ 0.98/115VAC at full load and rated output voltage				PF ≥ 0.9 at 60 ~ 100% load			
	EFFICIENCY (Typ.)	86%	87%	88%	89%	90%	90%	91%	91%	91%	
	AC CURRENT	0.8A / 115VAC		0.4A / 230VAC							
	INRUSH CURRENT (Typ.)	COLD START 75A/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	14 ~ 16V	17.5 ~ 21V	23 ~ 27V	28 ~ 35V	34 ~ 38V	41 ~ 49V	46 ~ 54V	54 ~ 63V	59 ~ 65V	
		Protection type : Shut down and latch off o/p voltage, re-power on to recover									
	OVER TEMPERATURE	105°C ±10°C (RTH2) Protection type : Shut down o/p voltage, re-power on to recover									
ENVIRONMENT	WORKING TEMP.	-30 ~ +50°C @ full load ; +70°C @ 60% load (Refer to derating curve) ; -40°C can power on									
	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, EN61347-1, EN61347-2-13 independent, IP67 approved ; Design refer to UL60950-1, TUV EN60950-1									
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC									
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH									
	EMI CONDUCTION & RADIATION	Compliance to EN55015, Class B									
	HARMONIC CURRENT	Compliance to EN61000-3-2 Class C (≥ 60% load) ; EN61000-3-3									
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN61547, EN55024, heavy industry level, criteria A									
	MTBF	Khrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	162.5*43.5*32mm (L*W*H)									
	PACKING	Kg; 32pcs/ Kg/0.56CUFT									
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 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 60% ~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. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18. 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. 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.										

■ Mechanical Specification



※ Output constant current level can be adjusted through output cable by 1 ~ 10Vdc, PWM signal or resistor between ADJ1 and ADJ2.

※ 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%	100%~108%

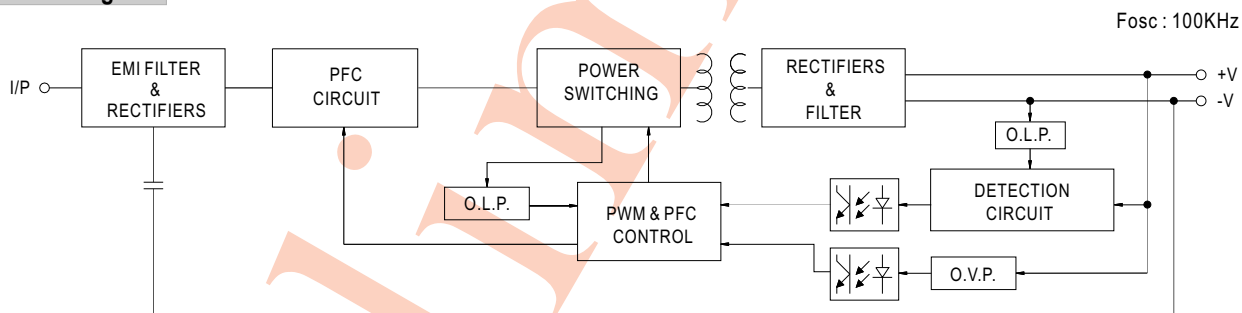
※ 1 ~ 10V dimming function for output current adjustment (Typical)

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%	100%~108%

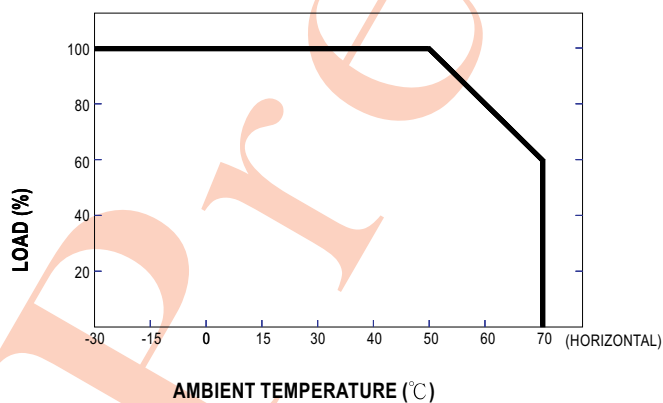
※ 10V PWM signal for output current adjustment (Typical)

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%	100%~108%

■ Block Diagram



Derating Curve



■ Static Characteristics

