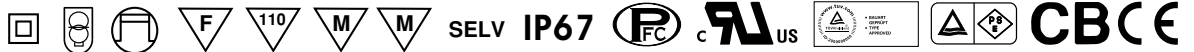




■ Features :

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 91%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Fully isolated plastic case
- Fully encapsulated with IP67 level (Note.6)
- Class II power unit, no FG
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 3 years warranty



**SPECIFICATION**

MODEL	LPF-90-15	LPF-90-20	LPF-90-24	LPF-90-30	LPF-90-36	LPF-90-42	LPF-90-48	LPF-90-54		
<b>OUTPUT</b>	<b>DC VOLTAGE</b>	15V	20V	24V	30V	36V	42V	48V	54V	
	<b>CONSTANT CURRENT REGION</b> Note.4	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V	
	<b>RATED CURRENT</b>	5A	4.5A	3.75A	3A	2.5A	2.15A	1.88A	1.67A	
	<b>RATED POWER</b>	75W	90W	90W	90W	90W	90.3W	90.24W	90.18W	
	<b>RIPPLE &amp; NOISE (max.)</b> Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	
	<b>VOLTAGE TOLERANCE</b> Note.3	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	
	<b>LINE REGULATION</b>	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	<b>LOAD REGULATION</b>	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	<b>SETUP, RISE TIME</b> Note.7	2000ms, 80ms / 115VAC at full load		1000ms, 80ms / 230VAC at full load						
	<b>HOLD UP TIME (Typ.)</b>	16ms/230VAC		16ms/115VAC at full load						
<b>INPUT</b>	<b>VOLTAGE RANGE</b> Note.5	90 ~ 305VAC		127 ~ 431VDC						
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz								
	<b>POWER FACTOR (Typ.)</b>	PF>0.97/115VAC, PF>0.96/230VAC, PF>0.95/277VAC at full load (Please refer to "Power Factor Characteristic" curve)								
	<b>EFFICIENCY (Typ.)</b>	89%	90%	90.5%	91%	91%	91%	91%	91%	
	<b>AC CURRENT (Typ.)</b>	0.95A / 115VAC		0.5A / 230VAC		0.4A / 277VAC				
	<b>INRUSH CURRENT(Typ.)</b>	COLD START 70A/230VAC								
	<b>LEAKAGE CURRENT</b>	<0.75mA / 277VAC								
<b>PROTECTION</b>	<b>OVER CURRENT</b> Note.4	95 ~ 108% Protection type : Constant current limiting, recovers automatically after fault condition is removed								
	<b>OVER VOLTAGE</b>	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 60V	59 ~ 65V	
	<b>OVER TEMPERATURE</b>	90°C ±10°C (RTH2) Protection type : Shut down o/p voltage, re-power on to recover								
<b>ENVIRONMENT</b>	<b>WORKING TEMP.</b>	-40 ~ +70°C (Refer to "Derating Curve")								
	<b>WORKING HUMIDITY</b>	20 ~ 95% RH non-condensing								
	<b>STORAGE TEMP., HUMIDITY</b>	-40 ~ +80°C, 10 ~ 95% RH								
	<b>TEMP. COEFFICIENT</b>	±0.03%/°C (0 ~ 50°C)								
	<b>VIBRATION</b>	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
<b>SAFETY &amp; EMC</b>	<b>SAFETY STANDARDS</b>	UL8750, EN61347-1, EN61347-2-13 independent, J61347-1, J61347-2-13, IP67 approved ; Design refer to UL60950-1, TUV EN60950-1								
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P:3.75KVAC								
	<b>ISOLATION RESISTANCE</b>	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH								
	<b>EMC EMISSION</b>	Compliance to EN55015, EN61000-3-2 Class C (≥60% load) ; EN61000-3-3								
	<b>EMC IMMUNITY</b>	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level(surge 2KV), criteria A								
<b>OTHERS</b>	<b>MTBF</b>	301.6Khrs min. MIL-HDBK-217F (25°C)								
	<b>DIMENSION</b>	161*61*36mm (L*W*H)								
	<b>PACKING</b>	0.7Kg;20pcs/15Kg/0.73CUFT								

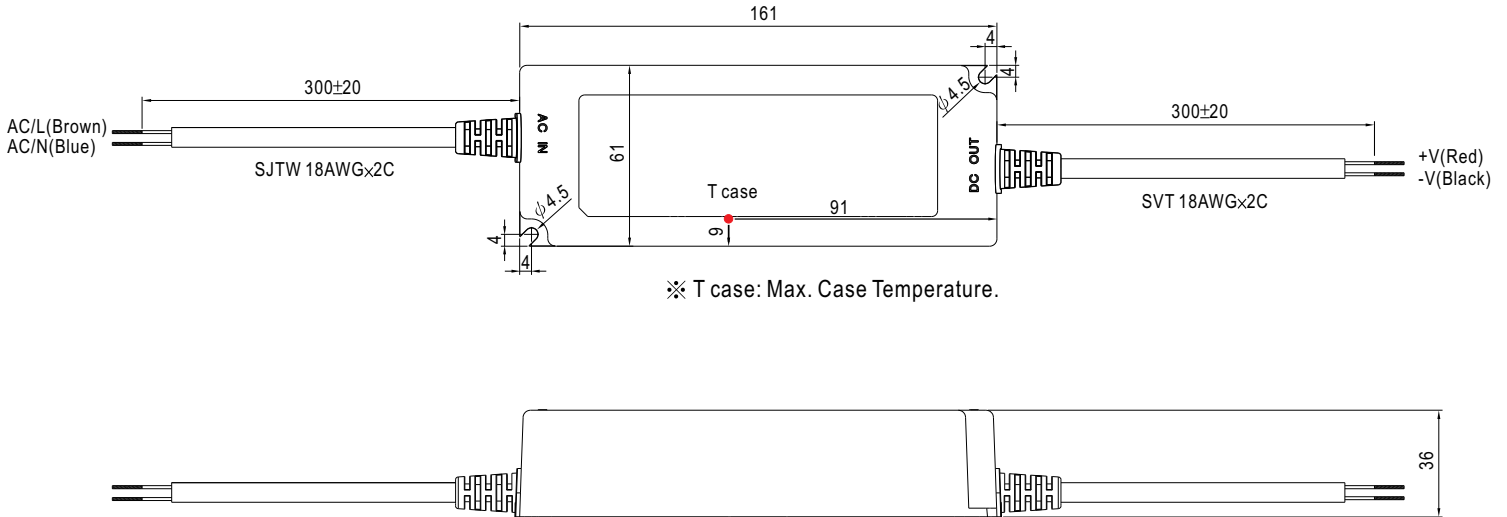
**NOTE**

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. Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minutes.
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

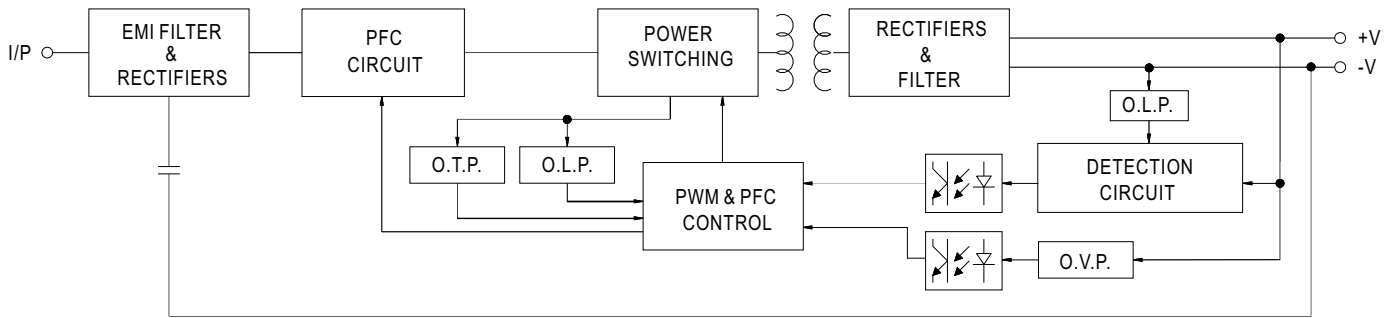
Case No.LPF-90A

Unit:mm



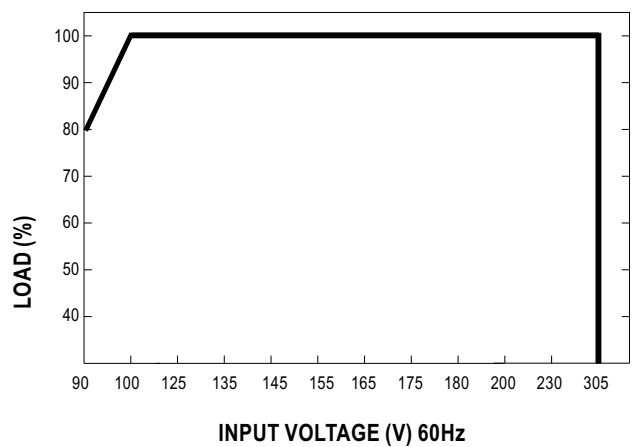
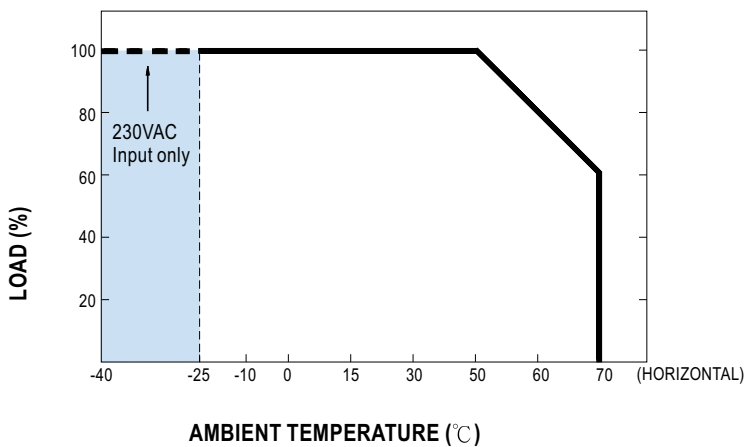
## Block Diagram

fosc : 100KHz

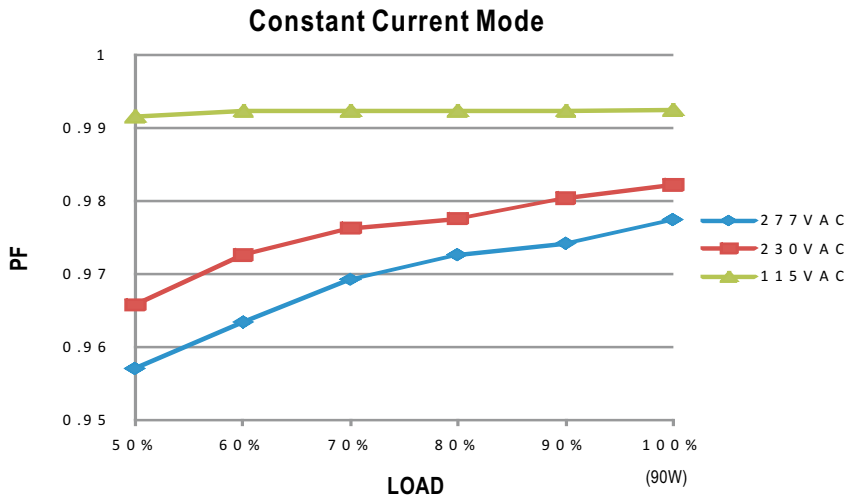


## Derating Curve

## Static Characteristics

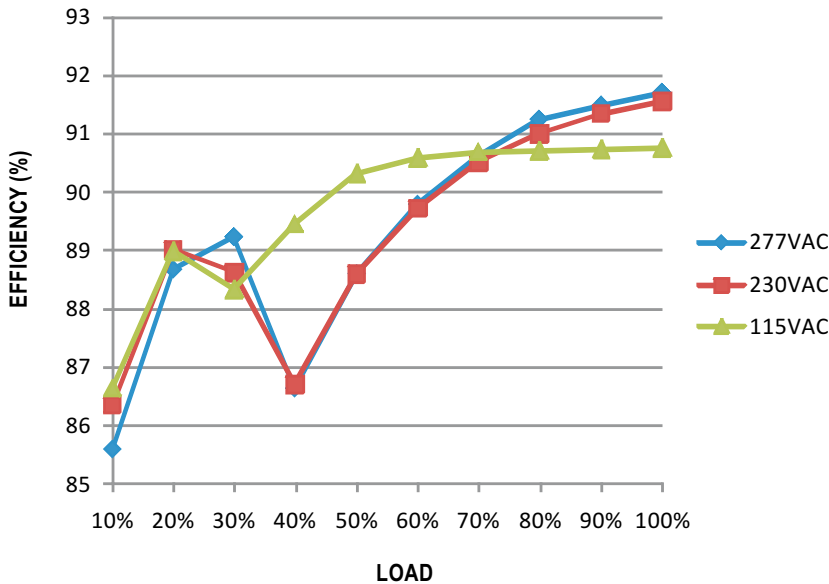


**Power Factor Characteristic**



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

LPF-90 series possess superior working efficiency that up to 91% 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)).

