



## ■ Features :

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 89%
- 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
- 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

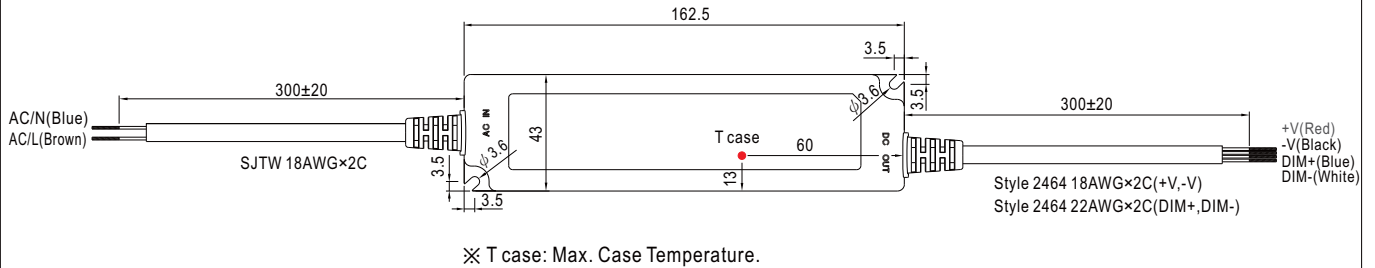


## SPECIFICATION

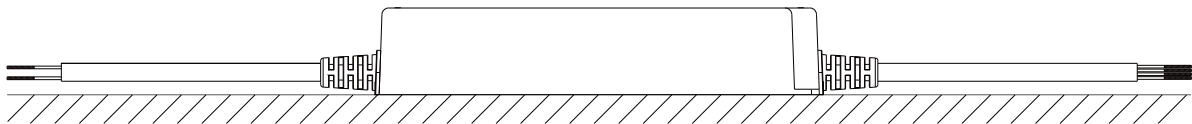
MODEL		LPF-40D-12	LPF-40D-15	LPF-40D-20	LPF-40D-24	LPF-40D-30	LPF-40D-36	LPF-40D-42	LPF-40D-48	LPF-40D-54	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V	
	CONSTANT CURRENT REGION <small>Note.4</small>	7.2 ~ 12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V	
	RATED CURRENT	3.34A	2.67A	2A	1.67A	1.34A	1.12A	0.96A	0.84A	0.76A	
	RATED POWER	40.08W	40.08W	40W	40.08W	40.2W	40.32W	40.32W	40.32W	41.04W	
	RIPPLE & NOISE (max.) <small>Note.2</small>	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p	
	VOLTAGE TOLERANCE <small>Note.3</small>	±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 <small>Note.7</small>	1000ms, 80ms / 115VAC at full load    500ms, 80ms / 230VAC									
HOLD UP TIME (Typ.)	16ms/230VAC        16ms/115VAC at full load										
INPUT	VOLTAGE RANGE <small>Note.5</small>	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%	85%	86%	87%	88%	88%	88.5%	89%	89%	
	AC CURRENT (Typ.)	0.6A / 115VAC		0.3A / 230VAC		0.25A/277VAC					
	INRUSH CURRENT (Typ.)	COLD START 50A(twidth=210µs measured at 50% Ipeak) at 230VAC									
	LEAKAGE CURRENT	<0.75mA / 240VAC									
PROTECTION	OVER CURRENT <small>Note.4</small>	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 ~ 17V	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	Shut down o/p voltage, re-power on to recover									
ENVIRONMENT	WORKING TEMP.	-40 ~ +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 <small>Note.6</small>	UL8750, CSA C22.2 No. 250.0-08(except for 48V, 54V), ENEC EN61347-1, EN61347-2-13 independent, EN62384, IP67, J61347-1, J61347-2-13 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 (≥60% load) ; EN61000-3-3									
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level(surge 2KV), criteria A									
OTHERS	MTBF	394.9Khrs min.    MIL-HDBK-217F (25°C)									
	DIMENSION	162.5*43*32mm (L*W*H)									
	PACKING	0.45Kg; 32pcs/15.4Kg/0.93CUFT									

## Mechanical Specification

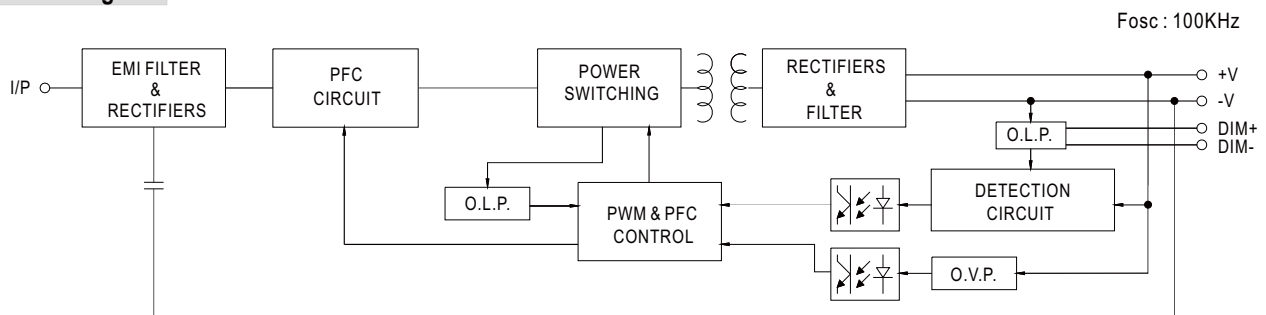
Case No. LPF-60B Unit:mm



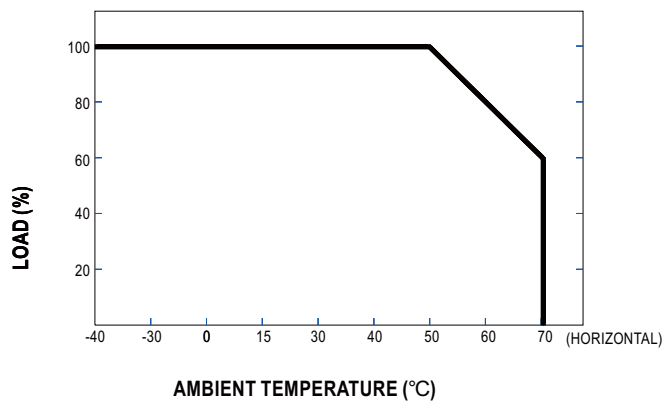
## Recommend Mounting Direction



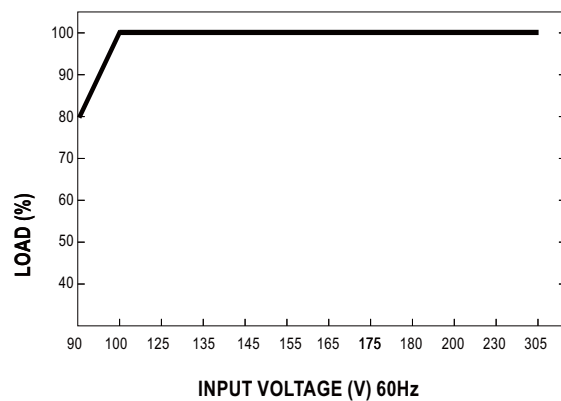
## Block Diagram



## Derating Curve

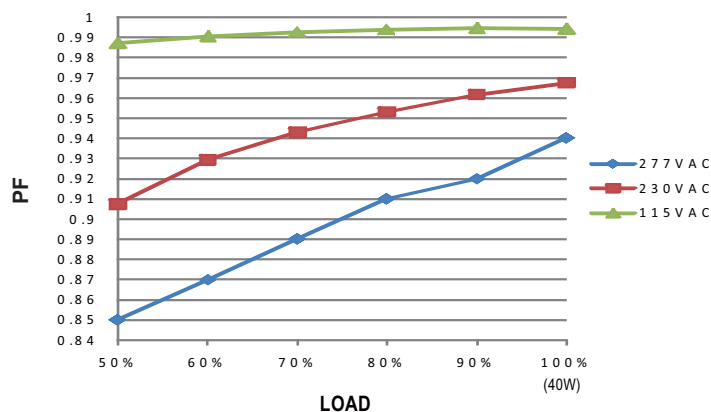


## Static Characteristics



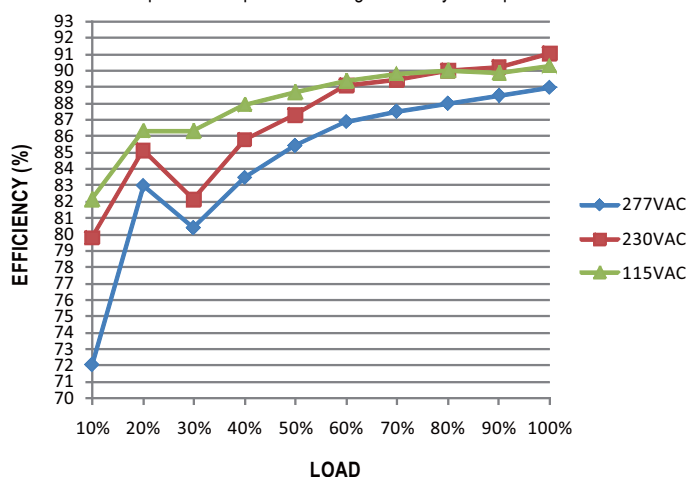
## Power Factor Characteristic

### Constant Current Mode



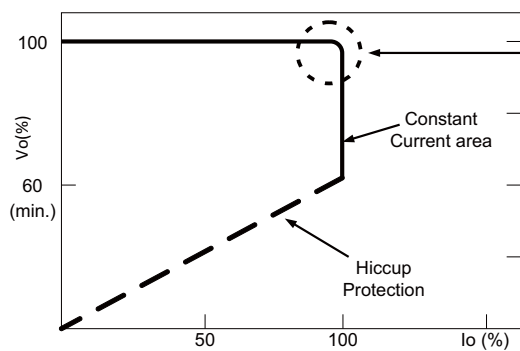
## EFFICIENCY vs LOAD (48V Model)

LPF-40D series possess superior working efficiency that up to 89% can be reached in field applications.



## DRIVING METHODS OF LED MODULE

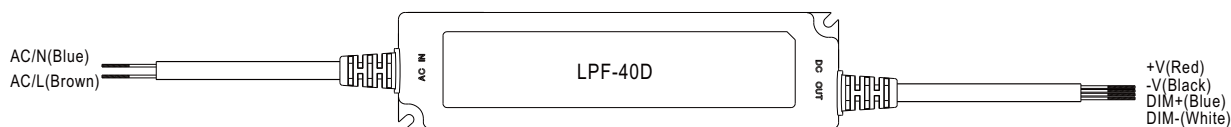
This LED power supply is suggested to work in constant current mode area (CC) to drive the LEDs.



Typical LED power supply I-V curve

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.  
Should there be any compatibility issues, please contact MEAN WELL.

## DIMMING OPERATION



※ Built-in 3 in 1 dimming function, output constant current level can be adjusted through output cable by 1 ~ 10Vdc, 10V PWM signal or resistance between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ 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 (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)

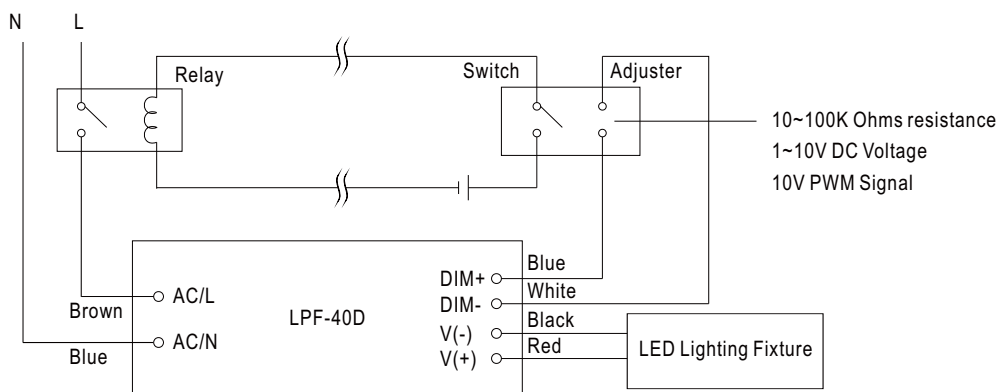
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Output current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

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

※ Using the built-in dimming function on LPF-40D can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

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.