

Single Output Switching LED Power Supply • 40W

Mean Well LPF-40D Series



■ 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

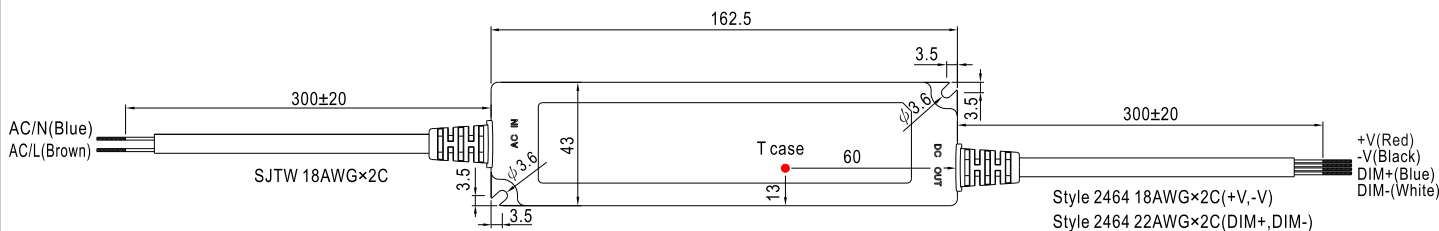


SPECIFICATION

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 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	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.) 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.7	1000ms, 80ms / 115VAC at full load 500ms, 80ms / 230VAC								
HOLD UP TIME (Typ.)	16ms/230VAC 16ms/115VAC at full load									
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.)	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 Note.4	95 ~ 108%								
	SHORT CIRCUIT	Protection type : Constant current limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE	Hiccup mode, recovers automatically after fault condition is removed.								
	OVER TEMPERATURE	15 ~ 17V	17.5 ~ 21V	23 ~ 27V	28 ~ 35V	34 ~ 40V	41 ~ 49V	46 ~ 54V	54 ~ 63V	59 ~ 66V
ENVIRONMENT	WORKING TEMP.	Shut down o/p voltage, re-power on to recover								
	WORKING HUMIDITY	-40 ~ +70°C (Refer to "Derating Curve")								
	STORAGE TEMP., HUMIDITY	20 ~ 95% RH non-condensing								
	TEMP. COEFFICIENT	-40 ~ +80°C, 10 ~ 95% RH								
	VIBRATION	±0.03%/°C (0 ~ 50°C)								
SAFETY & EMC	SAFETY STANDARDS Note.6	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
	WITHSTAND VOLTAGE	UL8750, CSA C22.2 No. 250.0-08(except for 48V, 54V), IEC EN61347-1, EN61347-2-13 independent, EN62384, IP67, J61347-1, J61347-2-13 approved ; design refer to UL60950-1, TUV EN60950-1								
	ISOLATION RESISTANCE	I/P-O/P:3.75KVAC								
	EMC EMISSION	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH								
	EMC IMMUNITY	Compliance to EN55015, EN61000-3-2 Class C (≥60% load) ; EN61000-3-3								
OTHERS	MTBF	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, EN55024, light industry level(surge 2KV), criteria A								
	DIMENSION	394.9Khrs min. MIL-HDBK-217F (25°C)								
	PACKING	162.5*43*32mm (L*W*H)								
NOTE	0.45Kg; 32pcs/15.4Kg/0.93CUFT									
<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Please refer to "DRIVING METHODS OF LED MODULE".</p> <p>5. Derating may be needed under low input voltages. Please check the static characteristics for more details.</p> <p>6. Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minutes.</p> <p>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.</p> <p>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.</p> <p>9. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.</p> <p>10. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.</p>										

■ **Mechanical Specification**

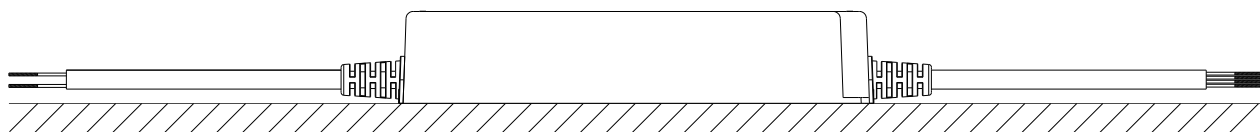
Case No. LPF-60B Unit: mm



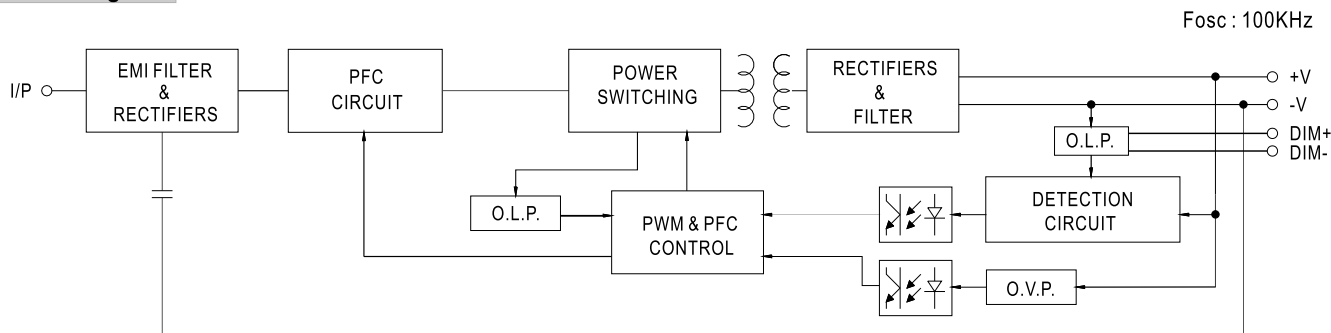
※ T case: Max. Case Temperature.



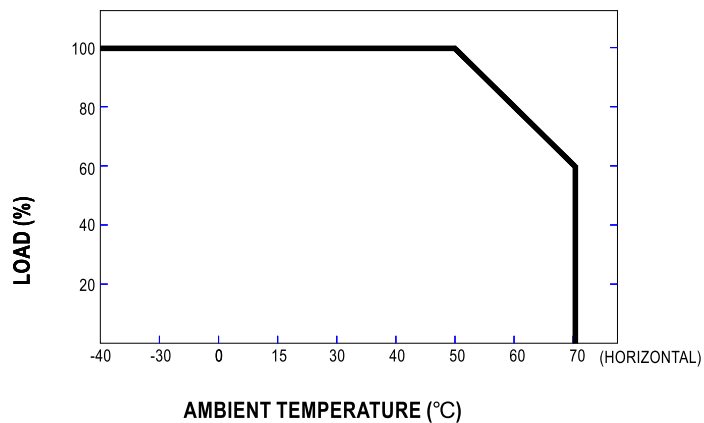
■ **Recommend Mounting Direction**



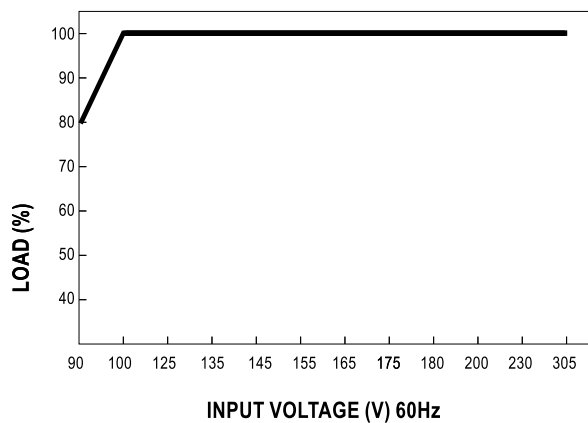
■ **Block Diagram**



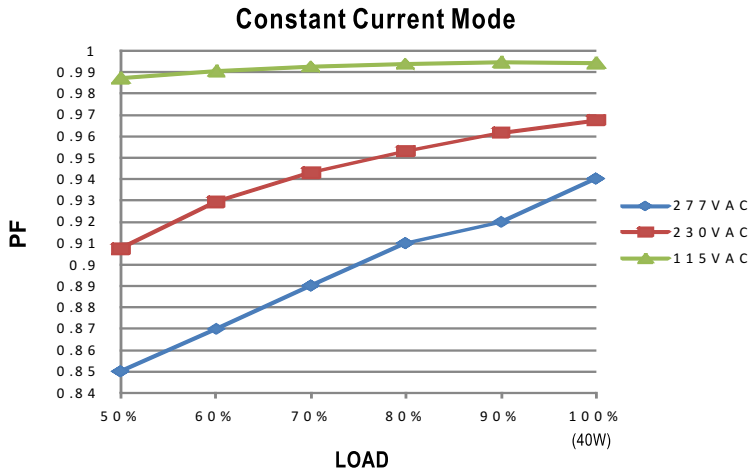
■ **Derating Curve**



■ **Static Characteristics**

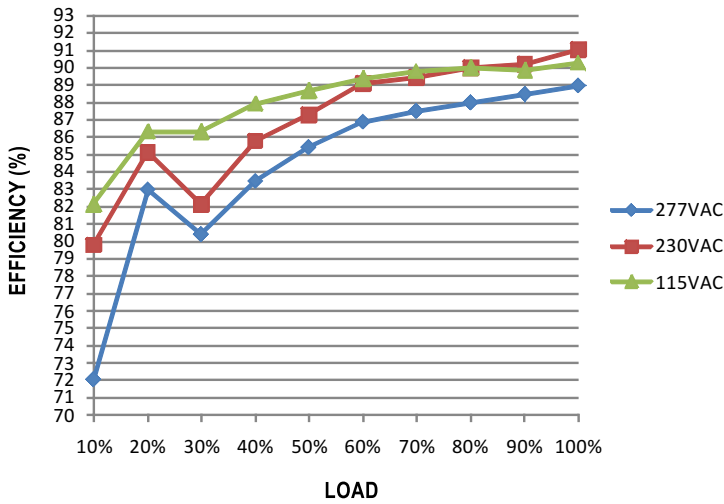


Power Factor Characteristic



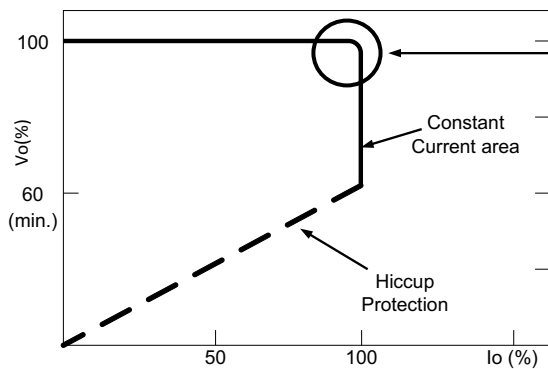
EFFICIENCY vs LOAD (48V Model)

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



DRIVING METHODS OF LED MODULE

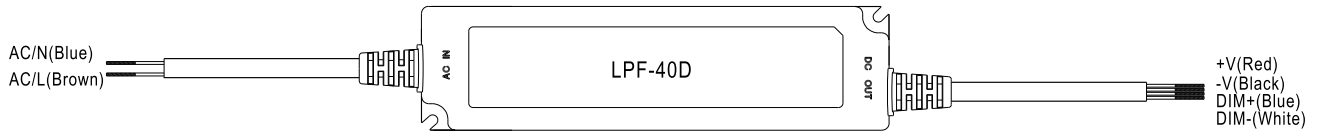
This LED power supply is suggested to work in constant current mode area (CC) to drive the LEDs.



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)

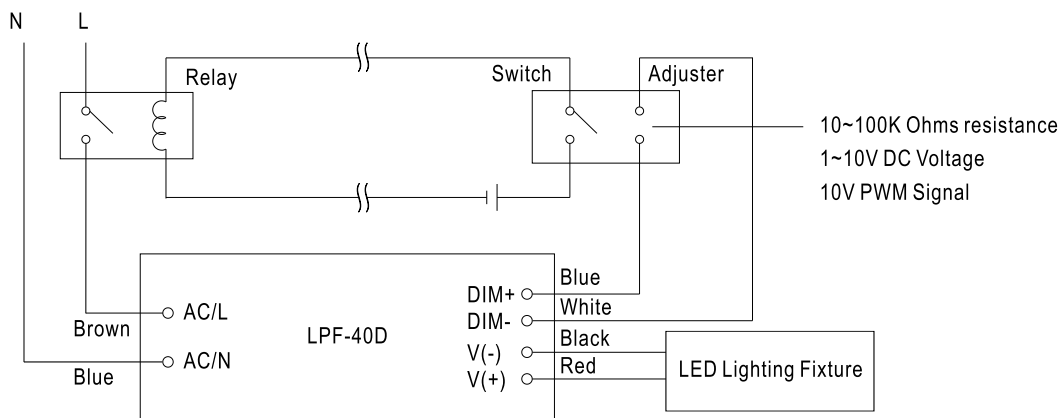
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Output current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 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.