MEAN WELL LPF-60 Constant Voltage Constant Current LED Driver User Guide

Contents

MEAN WELL LPF-60 Constant Voltage, Constant Current LED Driver

Product Usage Instructions

Installation

1. Ensure power is switched off before installation.
2. Connect the LED driver to the power supply following the correct polarity.
3. Securely mount the LED driver in a well-ventilated area to prevent overheating.

Operation

1. Apply power to the LED driver within the specified voltage range.
2. Connect the LED load to the driver according to the constant current region for optimal performance.

Maintenance

1. Regularly inspect the LED driver for any signs of damage or overheating.
2. Clean the driver's exterior with a dry cloth to prevent dust accumulation.

Frequently Asked Questions

Q: Can I connect multiple LED loads to one driver?

A: It is recommended to follow the maximum number of PSUs specified for your circuit breaker type to avoid overloading.

Q: What should I do if the LED driver exceeds the specified ripple & noise levels?

A: Check the connections and ensure proper grounding to reduce noise interference.

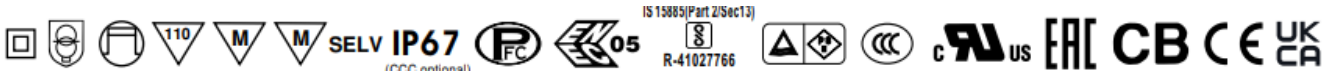
Q: How can I determine the correct constant current region for my LED load?

A: Refer to the user manual or contact technical support for assistance in selecting the appropriate constant

current region for your specific LED load.

Features

- Constant Voltage + Constant Current mode output
- Plastic housing with Class II design
- Built-in active PFC function
- Class 2 power unit
- Fully encapsulated with P67 level
- Typical lifetime>50000 hours
- 5 years warranty



- Applications
- LED panel lighting
- LED downlight
- LED decorative lighting
- LED tunnel lighting
- Moving sign

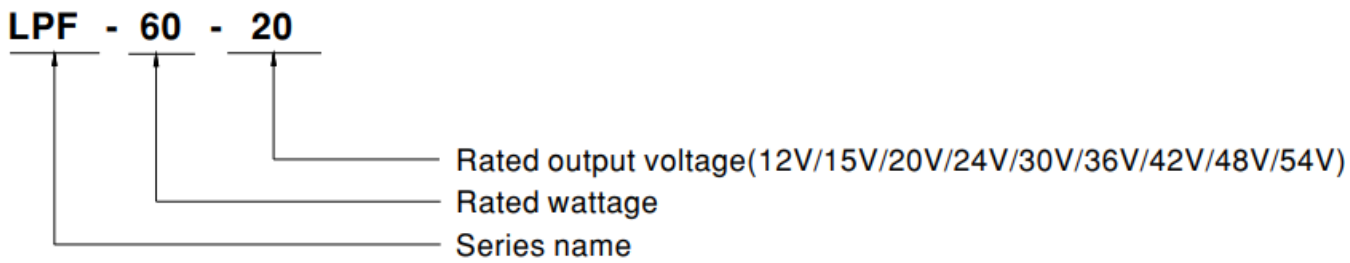
GTIN CODE

- **MW Search:** https://www.meanwell.com/serviceGTIN.aspx

Description

- LPF-60 series is a 60W AC/DC LED driver featuring the dual modes constant voltage and constant current output. LPF-60 operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V.
- Thanks to the hign efficiency up to 90%, with the fanless design, the entire series is able to operate for -40°C ~ +80°C case temperature under free air convection.
- The entire series is rated with IP67 ingress protection level and is suitable to work for a variety of applications at dry, damp or wet locations.

Model Encoding



SPECIFICATION

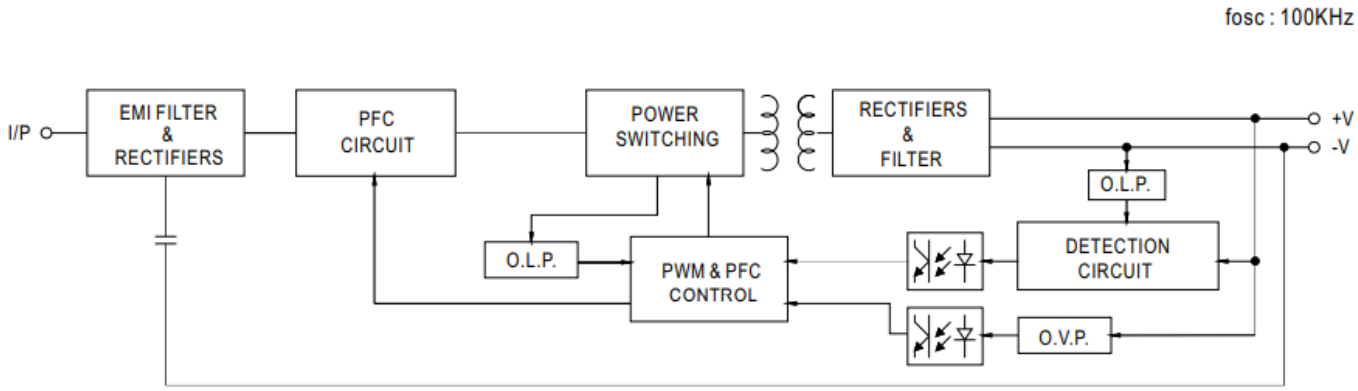
MODEL		LPF-60-12	LPF-60-15	LPF-60-20	LPF-60-24	LPF-60-30	LPF-60-36	LPF-60-42	LPF-60-48	LPF-60-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.2	7.2 ~12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	5A	4A	3A	2.5A	2A	1.67A	1.43A	1.25A	1.12A
	RATED POWER Note.5	60W	60W	60W	60W	60W	60.12W	60.06W	60W	60.48W
	RIPPLE & NOISE (max.) Note.3	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE TOLERANCE Note.4	±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	1000ms, 80ms / 115VAC 500ms, 80ms / 230VAC								
	HOLD UP TIME (Typ.)	16ms/230VAC 16ms/115VAC								
	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to “STATIC CHARACTERISTIC” section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR	PF≧0.97/115VAC, PF≧0.95/230VAC, PF≧0.92/277VAC@full load (Please refer to “POWER FACTOR (PF) CHARACTERISTIC” section)								

INPUT	**TOTAL HARMONIC DISTORTION**	THD< 20%(@load≧60%/115VC,230VAC; @load≧75%/277VAC) (Please refer to “TOTAL HARMONIC DISTORTION(THD)” section)								
	EFFICIENCY (Typ.)	86%	87%	88%	89%	90%	90%	90%	90%	90%
	AC CURRENT	0.8A / 115VAC 0.4A / 230VAC 0.32A/277VAC								
	INRUSH CURRENT(Typ.)	COLD START 55A(twidth=270μs measured at 50% Ipeak) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	8 units (circuit breaker of type B) / 14 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 240VAC								
PROTECTION	**OVER CURRENT**	95 ~ 108%								
		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
		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.**	Tcase=-40 ~ +80℃ (Please refer to “ OUTPUT LOAD vs TEMPERATURE” section)								
	MAX. CASE TEMP.	Tcase=+80℃								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								

SAFETY & EMC	**SAFETY STANDARDS Note.8**	UL8750, CSA C22.2 No. 250.0-08, ENEC BS EN/EN61347-1, BS EN/EN61347-2-13 independent, BS EN/EN62384, IP67, J61347-1, J61347-2-13, BIS IS15885(for 24V only), EAC TP TC 004,GB19510.1,GB19510.14 approved ; design refer to UL 60950-1
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH
	EMC EMISSION Note.8	Compliance to BS EN/EN55015,BS EN/EN61000-3-2 Class C (@load≧60%) ; BS EN/EN61000-3-3, GB/T 17743 , GB17625.1, EAC TP TC 020
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, light industry level (surge immunity Line-Line 2KV), EAC TP TC 020
OTHERS	**MTBF**	3786.9K hrs min. Telcordia SR-332 (Bellcore) ; 440.6Khrs min. MIL-HDBK-217F (25℃)
	DIMENSION	162.5*43*32mm (L*W*H)
	PACKING	0.45Kg; 32pcs/15.4Kg/0.93CUFT

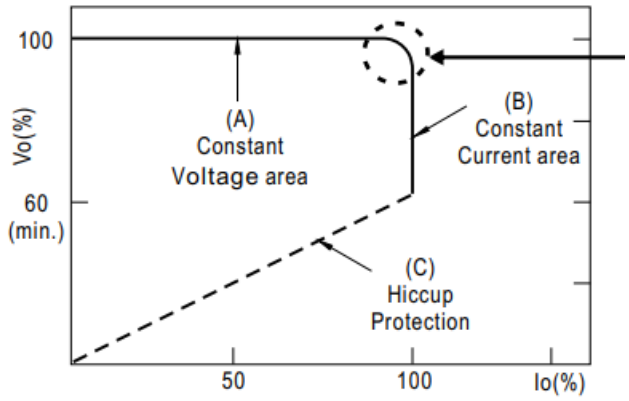
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature. 2. Please refer to “DRIVING METHODS OF LED MODULE”. 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12″ twisted pair-wire terminated wit h a 0.1uf & 47uf parallel capacitor. 4. Tolerance : includes set up tolerance, line regulation and load regulation. 5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” se ctions for details. 6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. 7. The driver 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. (as available on **https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)** 8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be use d behind a switch without permanently connected to the mains. 9. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly tc point (or TMP, per DLC), is about 70℃ or less. 10. Please refer to the warranty statement on MEAN WELL’s website at **http://www.meanwell.com** 11. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). 12. For any application note and IP water proof function installation caution, please refer our user man ual before using. **https://www.meanwell.com/Upload/PDF/LED_EN.pdf** ※ Product Liability Disclaimer For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer.aspx**

BLOCK DIAGRAM



DRIVING METHODS OF LED MODULE

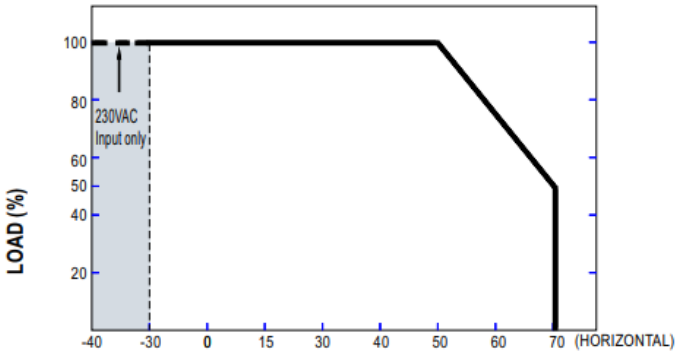
- This series can work in either Constant Current mode (a direct driveway) or Constant Voltage mode (usually through an additional DC/DC driver) to drive the LEDs.



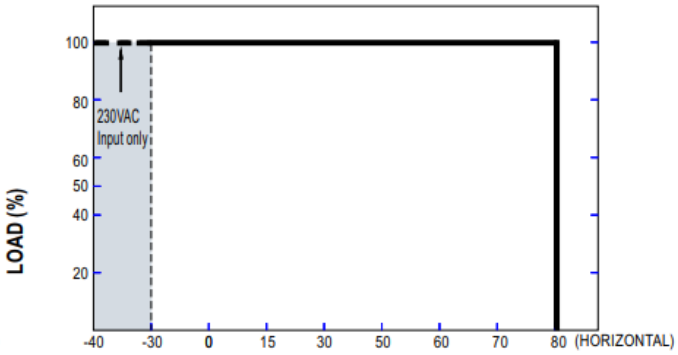
Typical output current normalized by rated current (%)

- 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.

OUTPUT LOAD vs TEMPERATURE

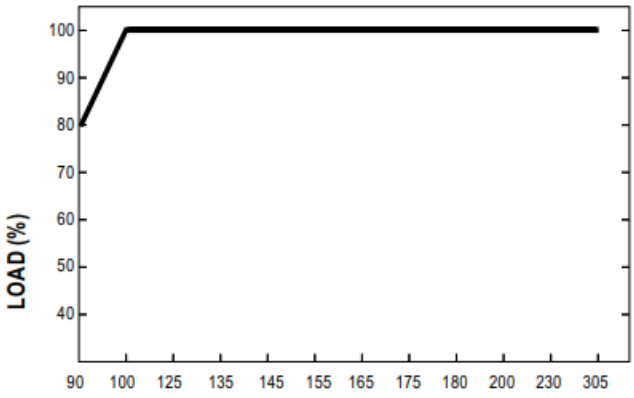


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

STATIC CHARACTERISTIC



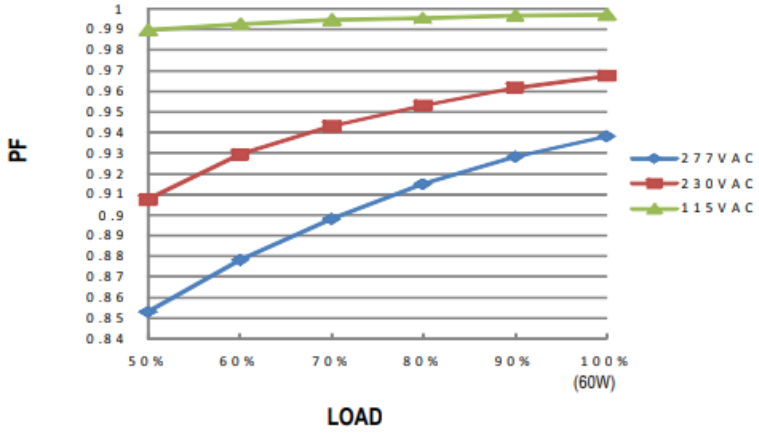
INPUT VOLTAGE (V) 60Hz

- De-rating is needed under low input voltage.

POWER FACTOR (PF) CHARACTERISTIC

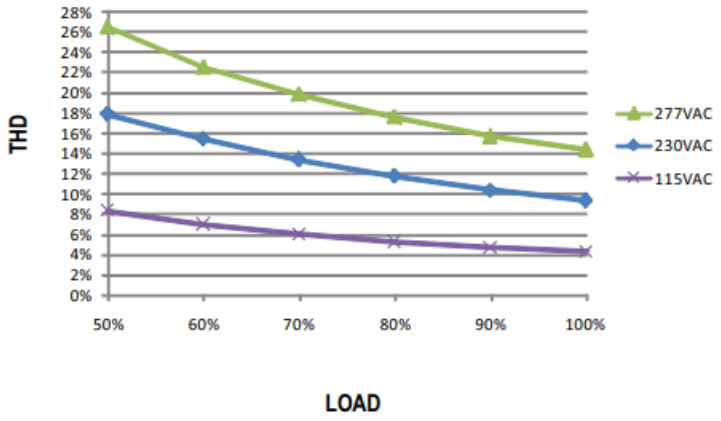
Tcase at 70°C

Constant Current Mode



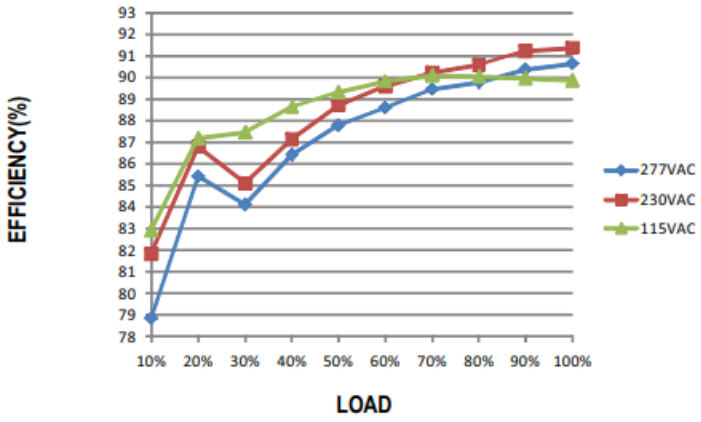
TOTAL HARMONIC DISTORTION (THD)

48V Model, Tcase at 70℃

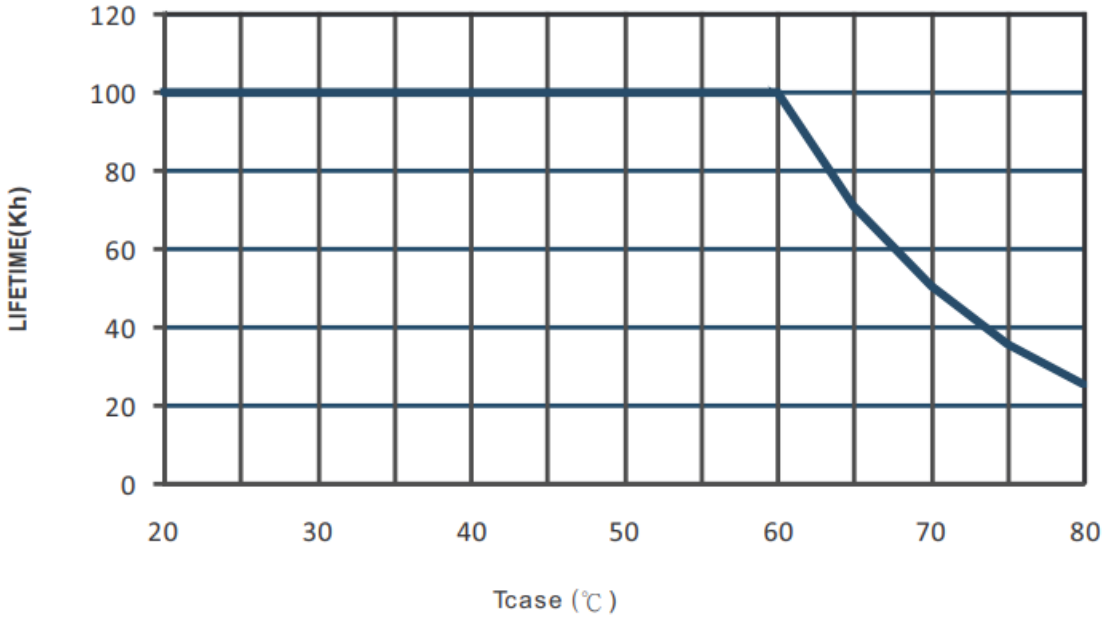


EFFICIENCY vs LOAD

- LPF-60 series possess superior working efficiency that up to 90% can be reached in field applications.
- 48V Model, Tcase at 70℃

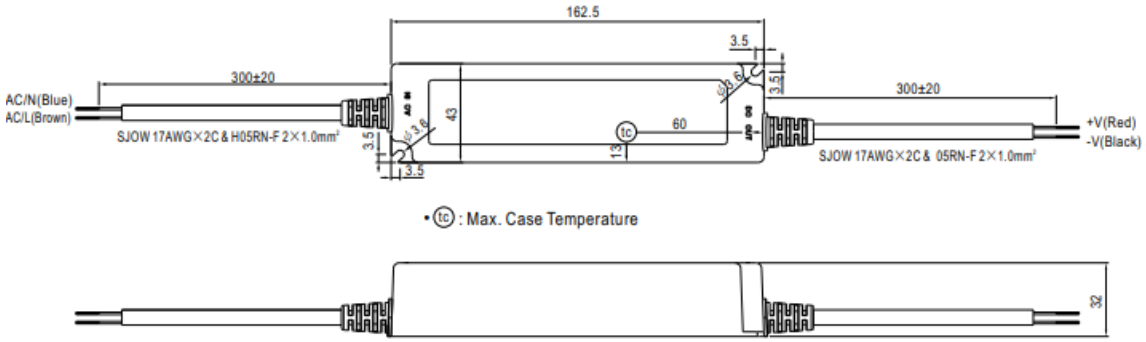


LIFETIME

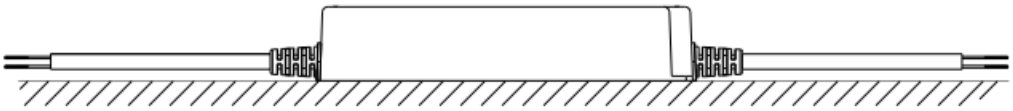


MECHANICAL SPECIFICATION

CASE NO.: LPF-60B Unit: mm



Recommend Mounting Direction



INSTALLATION MANUAL

- Please refer to: **http://www.meanwell.com/manual.html**
- Downloaded from **Arrow.com**.

Documents / Resources

	**MEAN WELL LPF-60 Constant Voltage Constant Current LED Driver** [pdf] User Guide LPF-60 Constant Voltage Constant Current LED Driver, LPF-60, Constant Voltage Constant Current LED Driver, Voltage Constant Current LED Driver, Constant Current LED Driver, Current LED Driver, LED Driver, Driver

References

- **User Manual**