MEAN WELL
LPF-16-12 Constant
Voltage Constant
Current LED Driver

MEAN WELL LPF-16-12 Constant Voltage Constant Current LED Driver Installation Guide

Contents

MEAN WELL LPF-16-12 Constant Voltage Constant Current LED Driver

Frequently Asked Questions

Q: What is the maximum number of units that can be connected to a 16A circuit breaker?

A: The maximum number of units varies based on the type of circuit breaker and input voltage. Refer to the manual for specific details.

Q: How do I know if the LED driver is functioning correctly?

A: Monitor the constant current region and ensure the LED driver is providing the specified voltage to the LEDs within the rated power limits.

User’s Manual

User's Manual

Features

- Constant Voltage + Constant Current mode output
- Plastic housing with Class II design
- Built-in active PFC function
- Class 2 power unit
- Standard type with IP30 level,optional IP67 with fully encapsulated
- Typical lifetime >50000 hours
- 5 years warranty

Applications

- LED downlight
- LED spotlight
- LED decorative lighting
- LED tunnel lighting

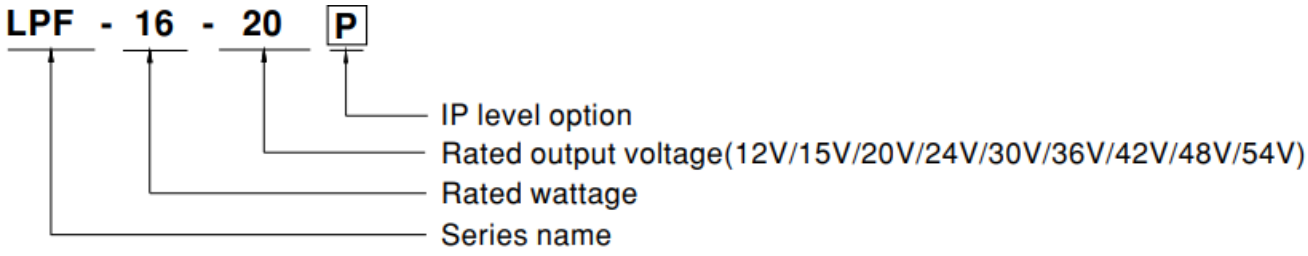
GTIN CODE

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

Description

LPF-16 series is a 16W AC/DC LED driver featuring the dual modes constant voltage and constant current output. LPF-16 operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the efficiency up to 86%, with the fanless design, the entire series is able to operate for -35°C ~ +70°C case temperature under free air convection. The entire series is suitable to work for a variety of applications at dry or damp locations and the optional models with IP67 rating is able to further work at wet locations.

Model Encodina



Type	IP Level	Note
Blank	IP30	In Stock
P	IP67	By request

SPECIFICATION

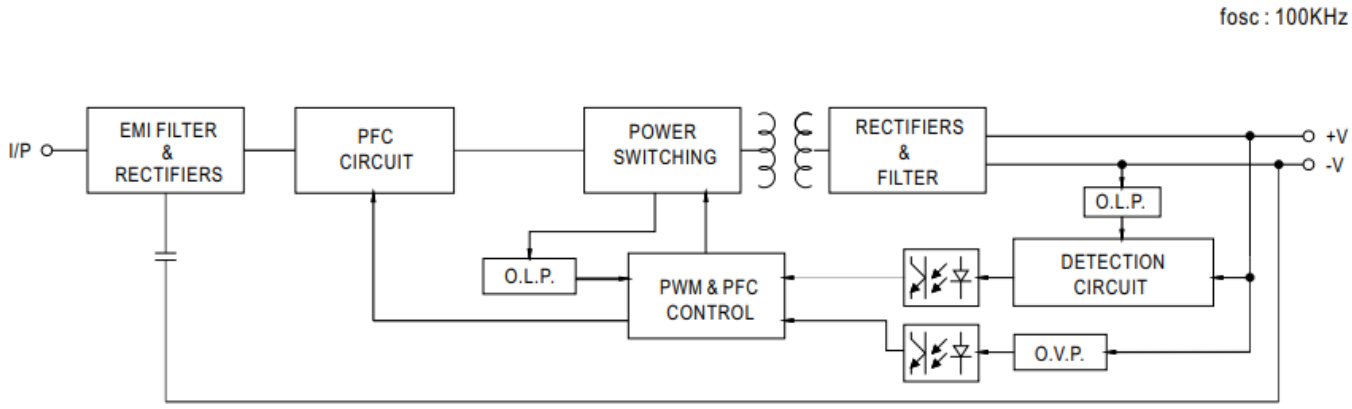
MODEL		LPF-16-12	LPF-16-15	LPF-16-20	LPF-16-24	LPF-16-30	LPF-16-36	LPF-16-42	LPF-16-48	LPF-16-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.2	6.6 ~ 12V	8.25 ~ 15V	11 ~ 20V	13.2 ~ 24V	16.5 ~ 30V	19.8 ~ 36V	23.1 ~ 42V	26.4 ~ 48V	29.7 ~ 54V
	RATED CURRENT	1.34A	1.07A	0.8A	0.67A	0.54A	0.45A	0.39A	0.34A	0.3A
	RATED POWER Note.5	16.08W	16.05W	16W	16.08W	16.2W	16.2W	16.38W	16.32W	16.2W
	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	1500ms, 80ms / 115VAC 500ms, 80ms / 230VAC								
	HOLD UP TIME (Typ.)	16ms/230VAC 16ms /115VAC								
INPUT	**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)								
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧60%/115VC,230VAC; @load≧75%/277VAC) (Please refer to “TOTAL HARMONIC DISTORTION(THD)” section)								
	EFFICIENCY (Typ.)	84%	84%	86%	86%	86%	86%	86%	86%	86%
	AC CURRENT	0.4A / 115VAC 0.25A / 230VAC 0.2A/277VAC								
	INRUSH CURRENT(Typ.)	COLD START 45A(twidth=200μs measured at 50% Ipeak) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	14 units (circuit breaker of type B) / 24 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 ~ 18V	17.5 ~ 21V	23 ~ 27 V	28 ~ 35 V	34 ~ 40 V	41 ~ 49 V	46 ~ 54 V	54 ~ 63 V	59 ~ 66 V
		Shut down and latch off o/p voltage, re-power on to recover								
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down								
	WORKING TEMP.	Tcase=-35 ~ +70℃ (Please refer to “ OUTPUT LOAD vs TEMPERATURE” section)								
	MAX. CASE TEMP.	Tcase=+70℃								

ENVIRONMENT	**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, 2G 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,J61347-1, J61347-2-13,EAC TP TC 004,GB19510.1,GB19510.14 approved,IP67 (optional) ; Design refer to UL60950-1
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH
	EMC EMISSION Note.8	Compliance to BS EN/EN55015,BS EN/EN61000-3-2 Class C (@load≧50%) ; 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**	3572.8K hrs min. Telcordia SR-332 (Bellcore) ; 427.3K hrs min. MIL-HDBK-217F (25°C)
	DIMENSION	148*40*32mm (L*W*H)
	PACKING	0.21Kg; 40pcs/9.4Kg/1.02CUFT

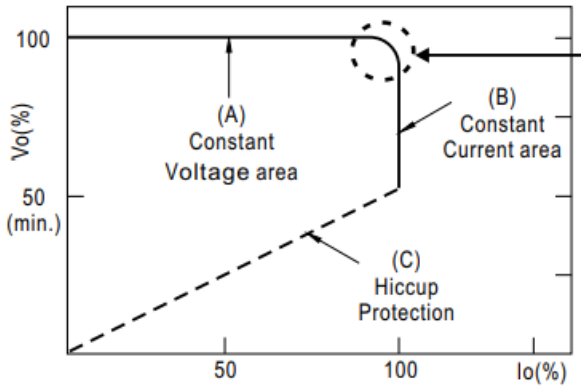
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. 2. Please refer to “DRIVING METHODS OF LED MODULE”. 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12″ twisted pair-wire terminated with a 0.1uf & 47uf parallel 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” sections 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 used 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°C 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°C/1000m with fanless models and of 5°C/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 manual 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

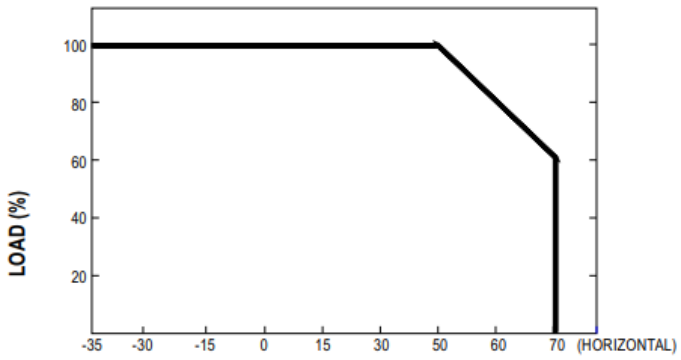
This series is able to work in either Constant Current mode (a direct driveway) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



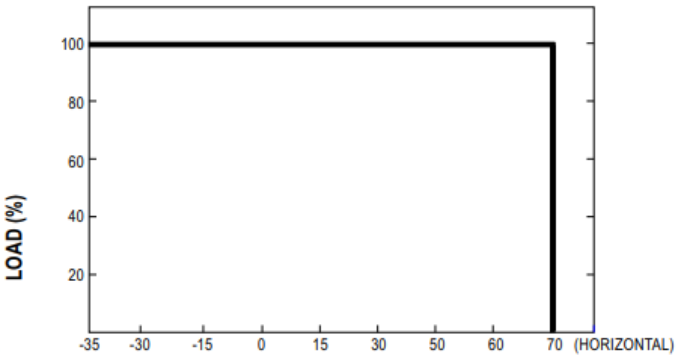
Typical output current normalized by rated current (%)

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

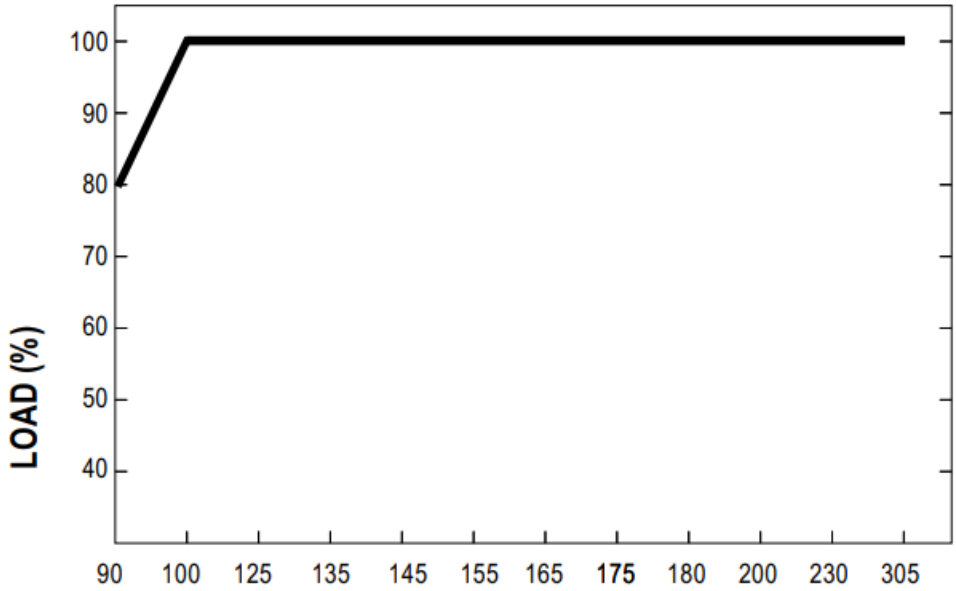


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

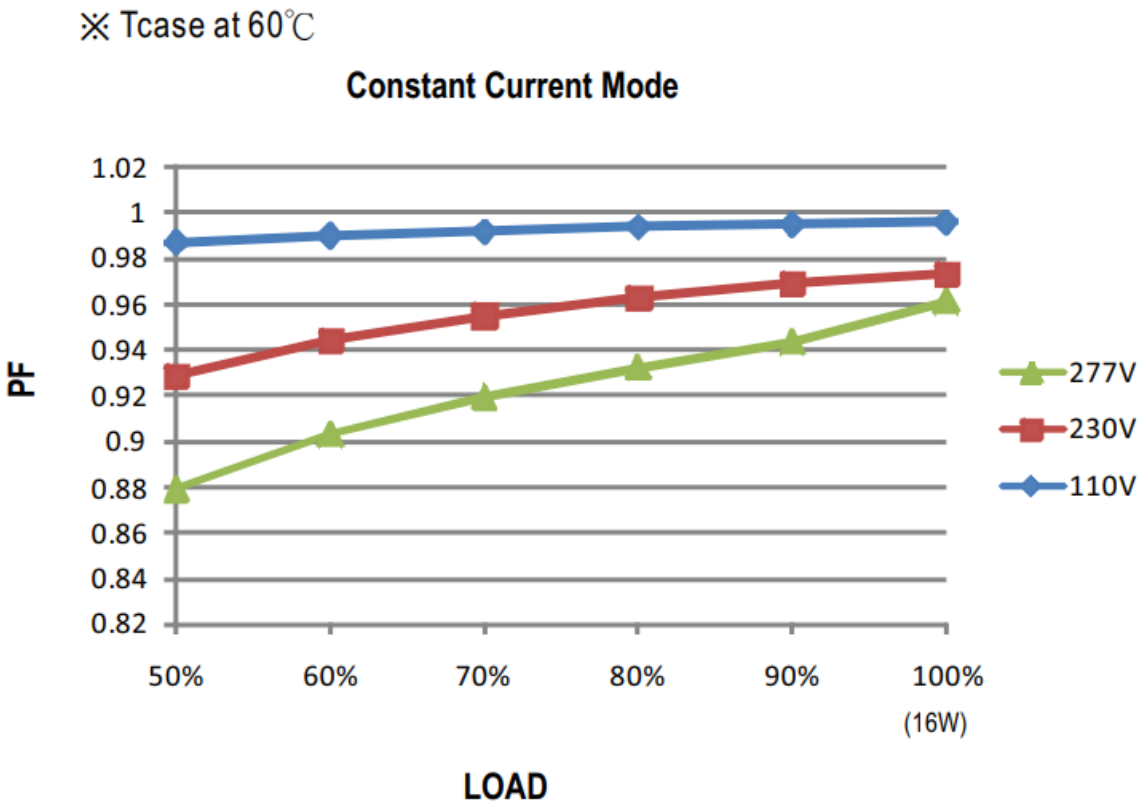
STATIC CHARACTERISTIC



INPUT VOLTAGE (V) 60Hz

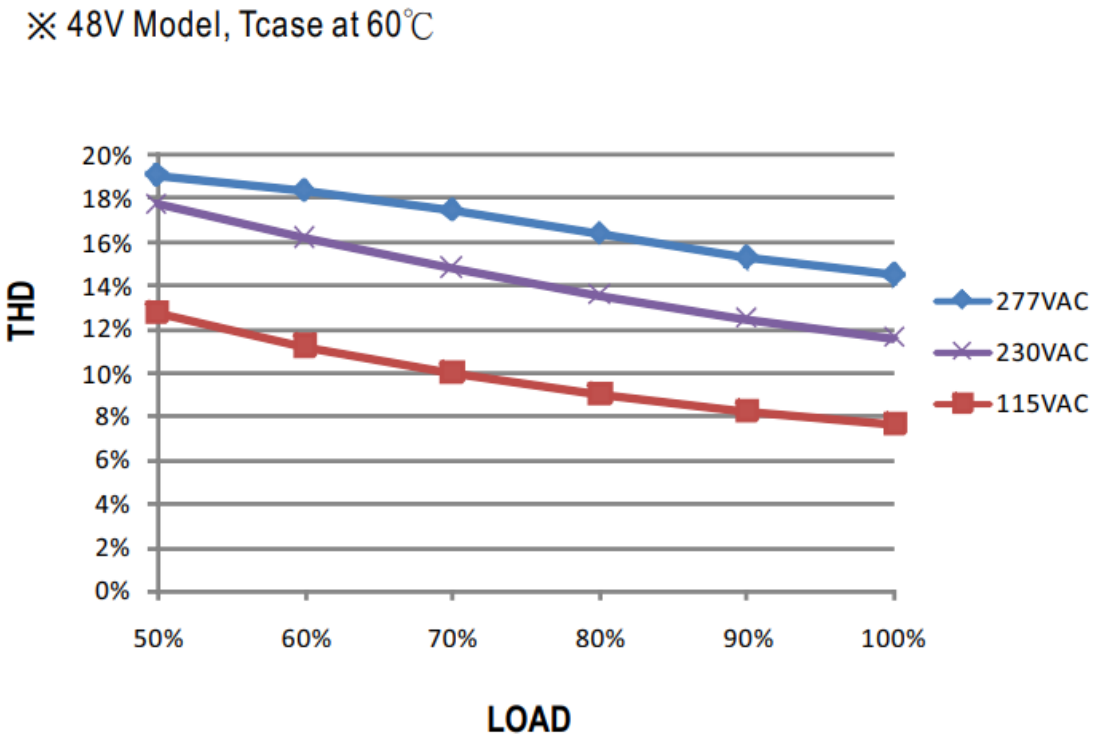
※ De-rating is needed under low input voltage.

POWER FACTOR (PF) CHARACTERISTIC



TOTAL HARMONIC DISTORTION (THD)

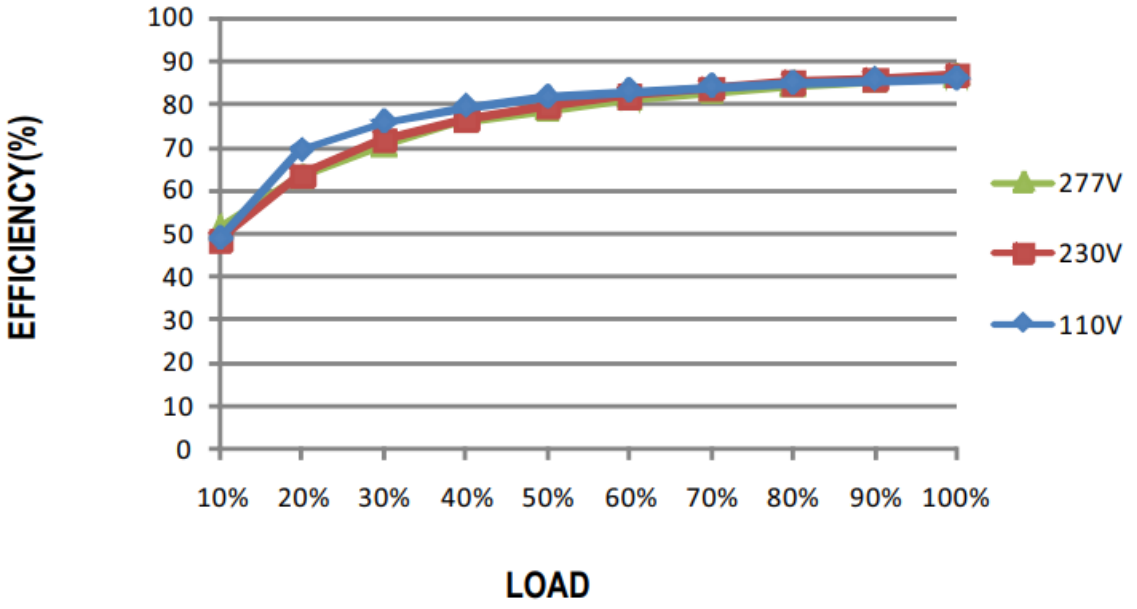
48V Model, Tcase at 60°C



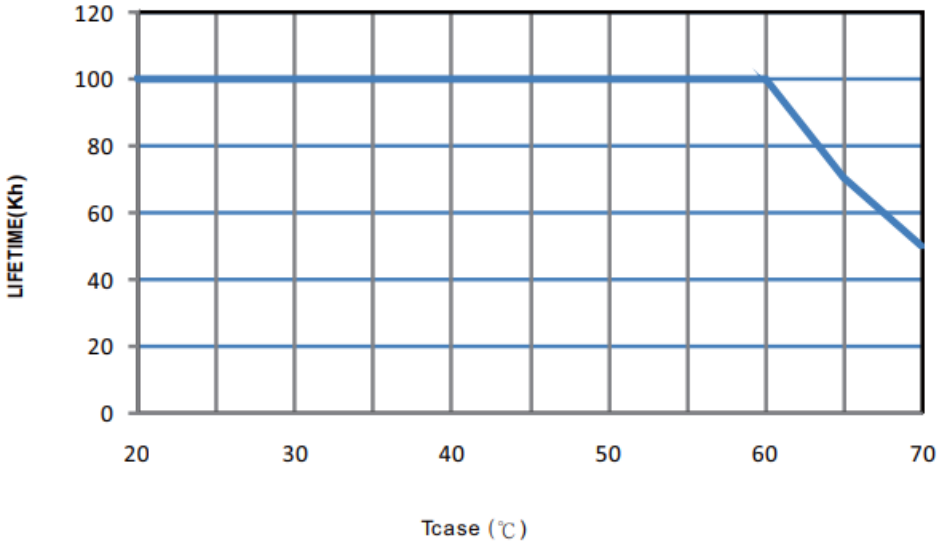
EFFICIENCY vs LOAD

LPF-16 series possess superior working efficiency that up to 86% can be reached in field applications.

48V Model, Tcase at 60°C

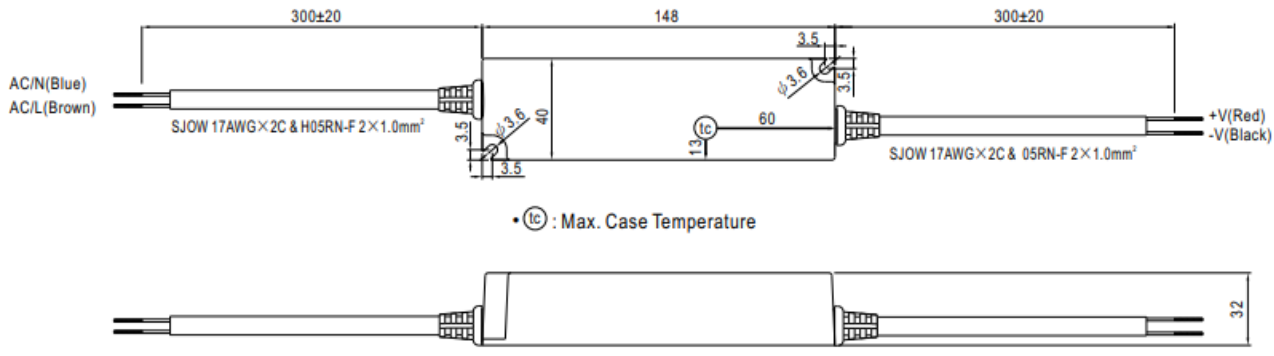


LIFE TIME

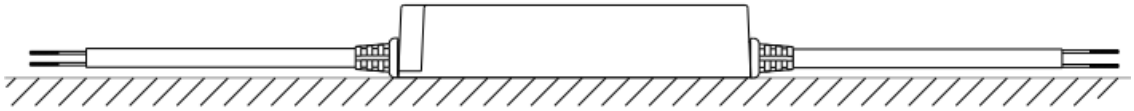


MECHANICAL SPECIFICATION

CASE NO.: LPF-16A Unit:mm Tolerance:±1



Recommend Mounting Direction



INSTALLATION MANUAL

Please refer to:http://www.meanwell.com/manual.html

Documents / Resources

	MEAN WELL LPF-16-12 Constant Voltage Constant Current LED Driver [pdf] Installation Guide LPF-16-12, LPF-16-15, LPF-16-20, LPF-16-24, LPF-16-30, LPF-16-12 Constant Voltage Constant Current LED Driver, LPF-16-12, Constant Voltage Constant Current LED Driver, Voltage Constant Current LED Driver, Constant Current LED Driver, Current LED Driver, LED Driver, Driver

References

- User Manual