

16W Constant Voltage + Constant Current LED Driver

LPF-16 series



■ **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 IP30 level, optional IP67 rating
- Typical lifetime > 50000 hours
- 5 years warranty

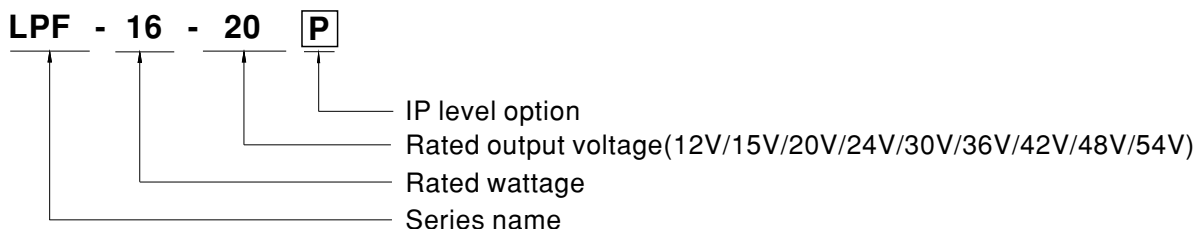
■ **Applications**

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

■ **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 Encoding**



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

16W Constant Voltage + Constant Current LED Driver

LPF-16 series

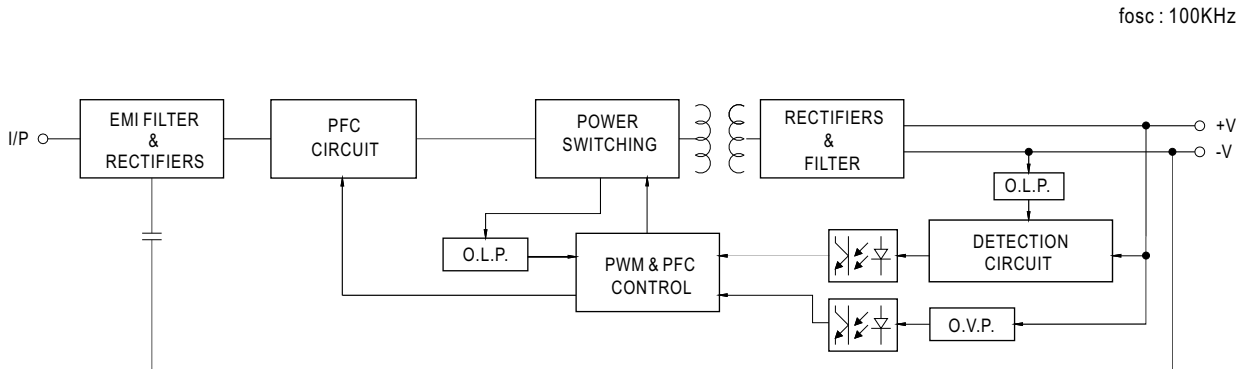
SPECIFICATION

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%/115VAC, 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									
PROTECTION	LEAKAGE CURRENT	<0.75mA / 240VAC									
	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 ~ 27V	28 ~ 35V	34 ~ 40V	41 ~ 49V	46 ~ 54V	54 ~ 63V	59 ~ 66V	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down									
ENVIRONMENT	WORKING TEMP.	Tcase=-35 ~ +70°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)									
	MAX. CASE TEMP.	Tcase=+70°C									
	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 EN61347-1, EN61347-2-13 independent, EN62384, J61347-1, J61347-2-13, EAC TP TC 004, GB19510.1, GB19510.14 approved, IP67 (optional); 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 Note.8	Compliance to EN55015, EN61000-3-2 Class C (@load ≥ 50%); EN61000-3-3, GB17743 and GB17625.1, EAC TP TC 020									
	EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547, light industry level (surge immunity Line-Line 2KV), EAC TP TC 020									
OTHERS	MTBF	473.3Khrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	148*40*32mm (L*W*H)									
	PACKING	0.21Kg; 40pcs/9.4Kg/1.02CUFT									
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.</p> <p>2. Please refer to "DRIVING METHODS OF LED MODULE".</p> <p>3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>4. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>5. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>9. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly (tc) point (> TMP, per DLC), is about 70°C or less.</p> <p>10. For warranty statement please email sales@pfyp.co.uk</p> <p>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).</p> <p>12. For any application note and IP water proof function installation caution, please email sales@pfyp.co.uk</p>										

16W Constant Voltage + Constant Current LED Driver

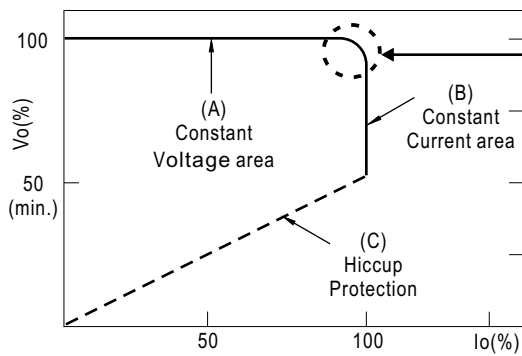
LPF-16 series

■ **BLOCK DIAGRAM**



■ **DRIVING METHODS OF LED MODULE**

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



Typical output current normalized by rated current (%)

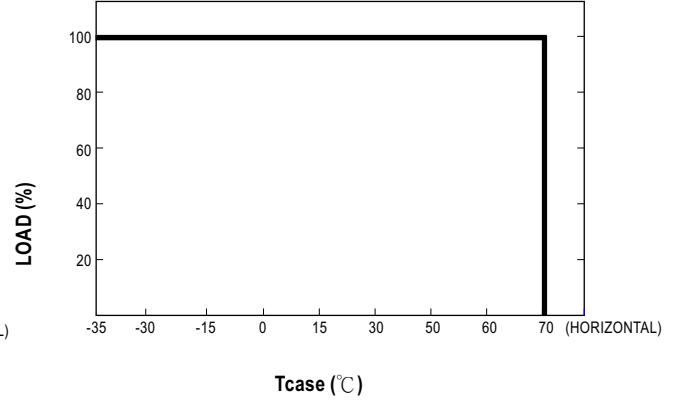
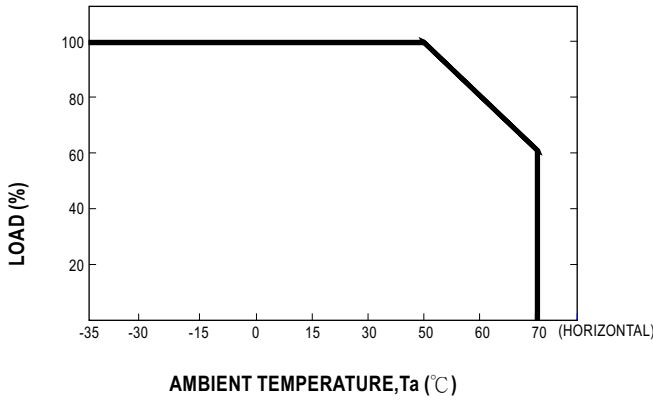
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact sales@pfyp.co.uk.

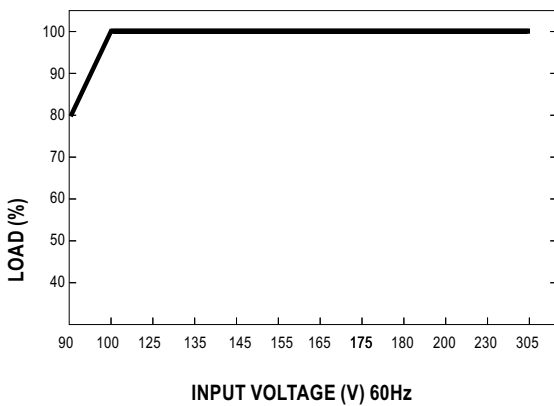
16W Constant Voltage + Constant Current LED Driver

LPF-16 series

OUTPUT LOAD vs TEMPERATURE



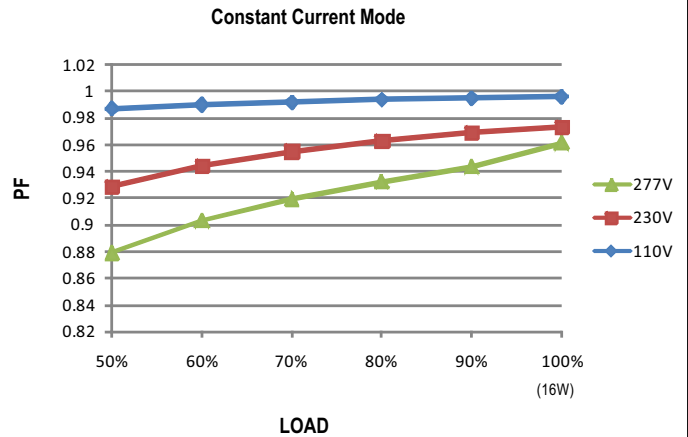
STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

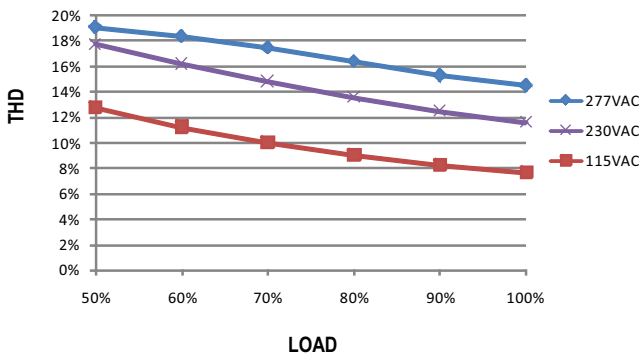
POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 60°C



TOTAL HARMONIC DISTORTION (THD)

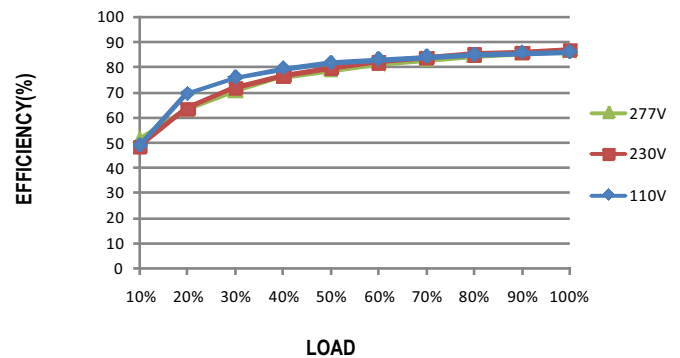
※ 48V Model, Tcase at 60°C



EFFICIENCY vs LOAD

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

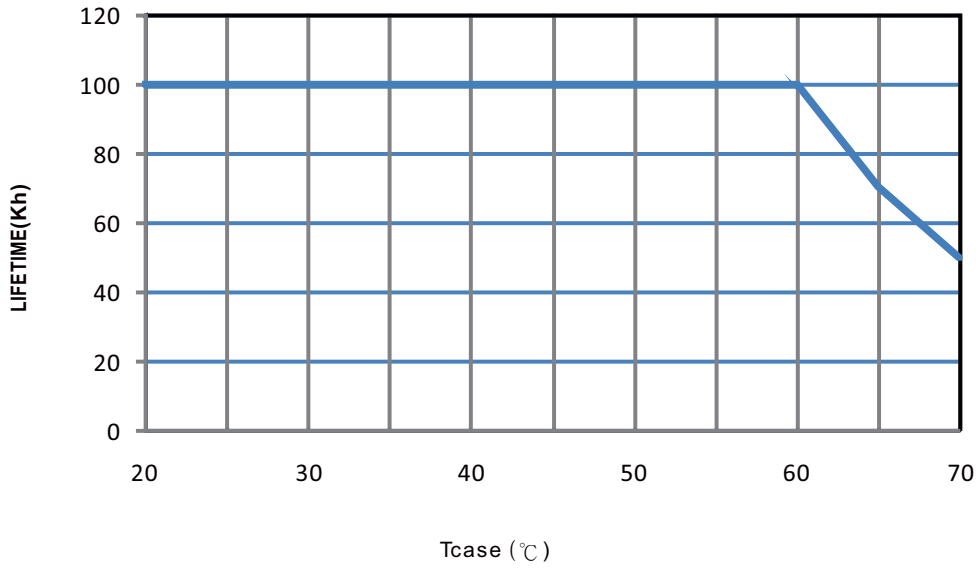
※ 48V Model, Tcase at 60°C



16W Constant Voltage + Constant Current LED Driver

LPF-16 series

■ LIFE TIME

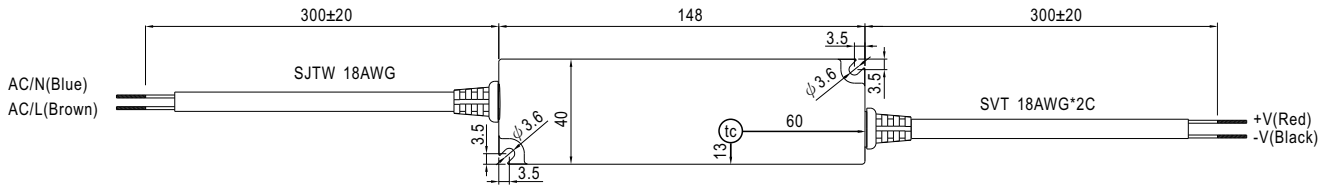


16W Constant Voltage + Constant Current LED Driver

LPF-16 series

■ MECHANICAL SPECIFICATION

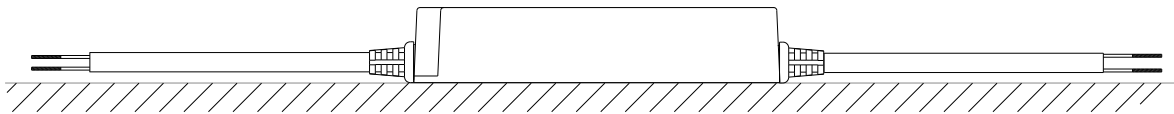
CASE NO.: LPF-16A Unit:mm



• (tc) : Max. Case Temperature



■ Recommend Mounting Direction



■ INSTALLATION MANUAL

Please email sales@pfyp.co.uk