









■ Features

- · Constant Current mode output
- Plastic housing with Class II design
- · Built-in active PFC function
- · Class 2 power unit
- IP67 rating for indoor or outdoor installations
- Function: 3 in 1 dimming
- Typical lifetime>50000 hours
- 5 years warranty

Applications

- · LED panel lighting
- · LED downlight
- LED decorative lighting
- · LED tunnel lighting
- · Moving sign
- Type "HL" for use in Class I, Division 2 hazardous (Classified) location.

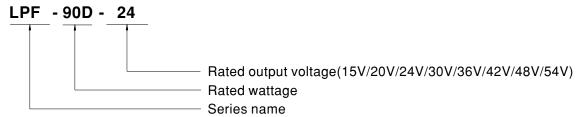
■ GTIN CODE

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

■ Description

LPF-90D series is a 90W AC/DC LED driver featuring the constant current output. LPF-90D operates from $90\sim305$ VAC and offers models with different rated voltage ranging between 15V and 54V. Thanks to the high efficiency up to 90.5%, with the fanless design, the entire series is able to operate for $-40\%\sim+70\%$ 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. LPF-90D is equipped with the 3 in 1 dimming function so as to provide the design flexibility for LED lighting system.

■ Model Encoding



90W Constant Current Mode LED Driver

LPF-90D series

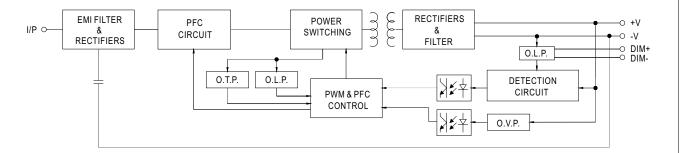
SPECIFICATION

MODEL		LPF-90D-15	LPF-90D-20	LPF-90D-24	LPF-90D-30	LPF-90D-36	LPF-90D-42	LPF-90D-48	LPF-90D-54
	DC VOLTAGE	15V	20V	24V	30V	36V	42V	48V	54V
OUTPUT	RATED CURRENT	5A	4.5A	3.75A	3A	2.5A	2.15A	1.88A	1.67A
	RATED POWER Note.5	75W	90W	90W	90W	90W	90.3W	90.24W	90.18W
	CONSTANT CURRENT REGION Note.2	-	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	CURRENT RIPPLE	5.0% max. @rated current							
	CURRENT TOLERANCE	±5.0%							
	SETUP, RISE TIME Note.6	1200ms, 200ms / 115VAC 500ms, 200ms / 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≥0.96/230VAC, PF≥0.95/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)							
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧60%/115VC,230VAC; @load≧75%/277VAC)							
	TOTAL HARMONIC DISTORTION	(Please refer to	o "TOTAL HARN	MONIC DISTOR	TION(THD)" sed	ction)			
	EFFICIENCY (Typ.)	89%	89.5%	90%	90.5%	90.5%	90.5%	90.5%	90.5%
	AC CURRENT	0.95A / 115VA	0.5A / 23	0VAC 0.4A	/ 277VAC	·			•
	INRUSH CURRENT(Typ.)	COLD START 70A(twidth=435µs measured at 50% Ipeak) at 230VAC; Per NEMA 410							
	MAX. No. of PSUs on 16A								
	CIRCUIT BREAKER	4 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC							
	LEAKAGE CURRENT	<0.75mA/240VAC							
PROTECTION	ELMOTOL CONTENT								
	OVER CURRENT	95 ~ 108%	CP - 20		-66-1020				
			1 0,		after fault conditi	_	17 501	154 0014	F0 05)/
	OVER VOLTAGE	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 60V	59 ~ 65V
		Shut down o/p voltage, re-power on to recover							
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover							
	WORKING TEMP.	Tcase=-40 ~ +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, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes							
		UL8750(type"HL"), CSA C22.2 No.250.13-12, TUV BS EN/EN61347-1, BS EN/EN61347-2-13, EAC TP TC 004,							
	SAFETY STANDARDS Note.8	GB19510.1, GB19510.14, IP67 approved; Design refer to UL60950-1							
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC							
	ISOLATION RESISTANCE I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH								
EMC		Compliance to BS EN/EN55015,BS EN/EN61000-3-2 Class C (@load ≥ 60%); BS EN/EN61000-3-3,							
	EMC EMISSION Note.8	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 02							
	MTBF	3110.7K hrs min. Telcordia SR-332 (Bellcore); 267.3Khrs min. MIL-HDBK-217F (25°C)							
OTHERS	DIMENSION	161*61*36mm (L*W*H)							
	PACKING	0.7Kg;20pcs/15Kg/0.73CUFT							
NOTE	 All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. Please refer to "DRIVING METHODS OF LED MODULE". 								
	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.								
	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								
	10. Please refer to the warranty statement on MEAN WELL'S website at http://www.meanweil.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(6500f								
		and IP water proof function installation caution, please refer our user manual before using.							
	https://www.meanwell.com/								
	∀ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx								



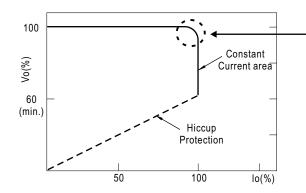
■ BLOCK DIAGRAM

fosc: 100KHz



■ DRIVING METHODS OF LED MODULE

 $\ensuremath{\, \times \,}$ This series works in constant current mode to directly 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.

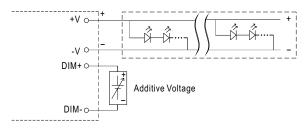
Should there be any compatibility issues, please contact MEAN WELL.



■ DIMMING OPERATION

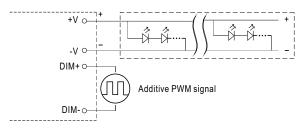


- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:
- $1 \sim 10 \text{VDC}$, or 10 V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: $100\mu A$ (typ.)
- O Applying additive 1 ~ 10VDC



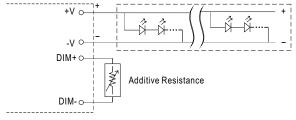
"DO NOT connect "DIM- to -V"

O Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):

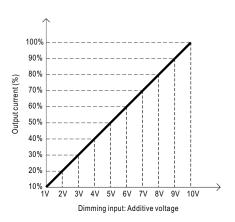


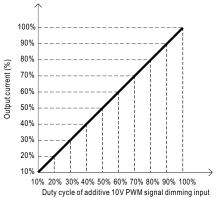
"DO NOT connect "DIM- to -V"

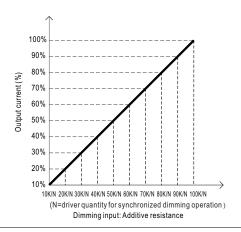
Applying additive resistance:



"DO NOT connect "DIM- to -V"

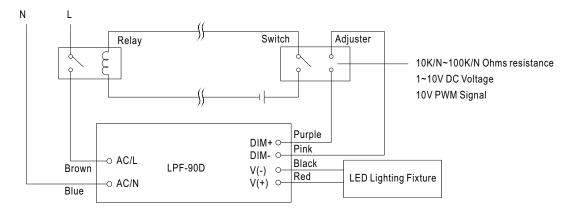








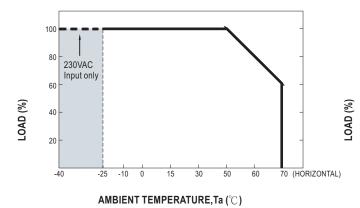
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.

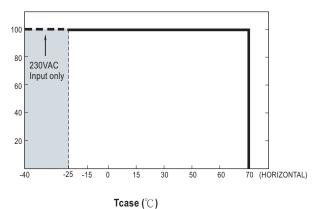


Using a switch and relay can turn ON/OFF the lighting fixture.

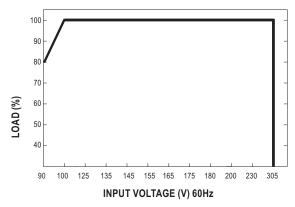


■ OUTPUT LOAD vs TEMPERATURE





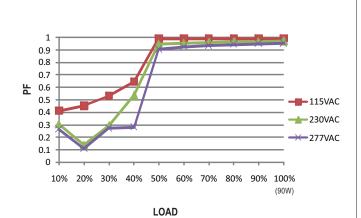
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

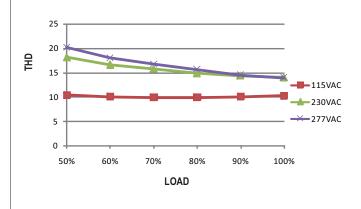
■ POWER FACTOR (PF) CHARACTERISTIC

★ Tcase at 60°C



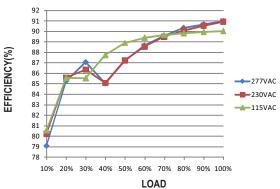
■ TOTAL HARMONIC DISTORTION (THD)

imes 48V Model, Tcase at 60 $^{\circ}$ C



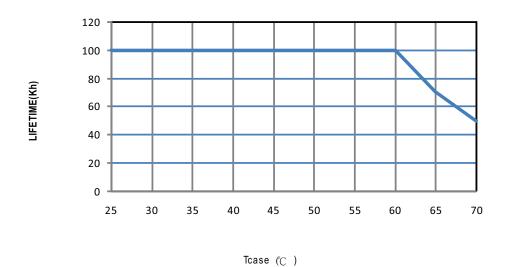
■ EFFICIENCY vs LOAD

LPF-90D series possess superior working efficiency that up to 90.5% can be reached in field applications.





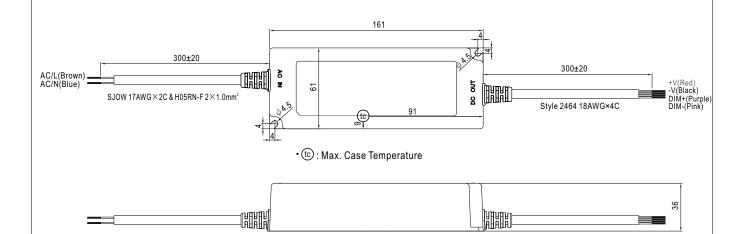
■ LIFE TIME





■ MECHANICAL SPECIFICATION

CASE NO.: LPF-90A Unit:mm Tolerance:±1



■ Recommend Mounting Direction



■ INSTALLATION MANUAL

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



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Simpex Electronic AG

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Manufaktur

Simpex Electronic SA

En Bas-le-Port 1 CH-2088 Cressier E-Mail contact@simpex.ch Internet www.simpex.ch