





■ Features

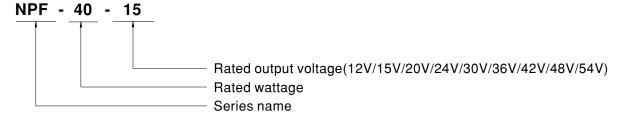
- · Constant Voltage + Constant Current mode output
- · Plastic housing with Class II design
- · Built-in active PFC function
- · Class 2 power unit
- No load power consumption < 0.15W
- IP67 rating for indoor or outdoor installations
- Typical lifetime>50000 hours
- 5 years warranty

■ 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

Description

NPF-40 series is a 40W AC/DC LED driver featuring the dual modes constant voltage and constant current output. NPF-40 operates from $90\sim305$ VAC 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 \sim +85°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.



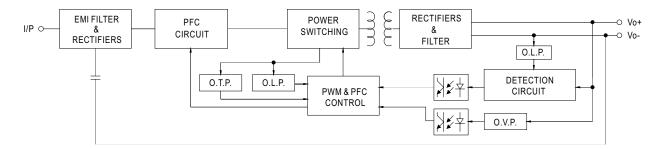


NPF-40 series

MODEL		NPF-40-12	NPF-40-15	NPF-40-20	NPF-40-24	NPF-40-30	NPF-40-36	NPF-40-42	NPF-40-48	NPF-40-54			
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V			
OUTPUT	CONSTANT CURRENT REGION Note.2		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 Note.5	40.08W	40.08W	40W	40.08W	40.2W	40.32W	40.32W	40.32W	41.04W			
	RIPPLE & NOISE (max.) Note.3		150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	350mVp-p			
	VOLTAGE TOLERANCE Note.4		±4.0%	±4.0%	±3.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%			
		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	LINE REGULATION												
	LOAD REGULATION	±1.5%	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	SETUP, RISE TIME Note.6		115VAC / 23										
	HOLD UP TIME (Typ.)	16ms/230VAC 16ms/115VAC 90 ~ 305VAC 127 ~ 431VDC											
	VOLTAGE RANGE Note.5	90 ~ 305VAC											
		`	to "STATIC CF	HARACTERIST	ic 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)											
INPUT	EFFICIENCY (Typ.)	86%	87%	88%	89%	89%	90%	90%	90%	90%			
	AC CURRENT	0.6A / 115VA	C 0.3A/2	230VAC 0	.25A / 277VAC								
	INRUSH CURRENT(Typ.)	COLD STAR	Γ50A(twidth=2	?70μs measure	d at 50% Ipeal	() at 230VAC; F	Per NEMA 410						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	9 units (circuit breaker of type B) / 16 units (circuit breaker of type C) at 230VAC											
	LEAKAGE CURRENT	<0.25mA / 277VAC											
	NO LOAD POWER CONSUMPTION												
	NO EGAD I OWER COROGINI HOR												
	OVER CURRENT	95 ~ 108% Constant current limiting, recovers automatically after fault condition is removed											
	OLIORT OIROUIT	Hiccup mode, recovers automatically after fault condition is removed											
PROTECTION	SHORT CIRCUIT												
PROTECTION	OVER VOLTAGE	15 ~ 17V	17.5 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 40V	41 ~ 46V	46 ~ 54V	54 ~ 60V	59 ~ 66V			
	OVED TEMPEDATURE	Shut down o/p voltage, re-power on to recover											
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover Trace=-40 ~ +85°C (Place refer to "OUTPUT LOAD vs TEMPERATURE" section)											
	WORKING TEMP.	Tcase=-40 ~ +85°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)											
	MAX. CASE TEMP.	Tcase=+85℃											
	WORKING HUMIDITY	20 ~ 95% RH non-condensing											
ENVIRONMENT	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											
	SAFETY STANDARDS Note.8	UL8750(type"HL"), UL879(for 12V,24V only), CSA C22.2 No. 250.13-12, ENEC EN61347-1, EN61347-2-13 independent, EN62384, EAC TP TC 004, GB19510.1,GB19510.14, IP67 approved; Design refer to EN60335-1											
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC											
EMC	ISOLATION RESISTANCE	I/P-O/P:100N	/ Ohms / 500\	/DC / 25°C / 70	% RH								
	EMC EMISSION Note.8	Compliance t	o EN55015,EN	161000-3-2 Cla	ass C (@load≧	≧60%) ; EN610	000-3-3; GB17	743 and GB176	25.1, EAC TP	TC 020			
	EMC IMMUNITY	Compliance t	o EN61000-4-2	2,3,4,5,6,8,11;	EN61547, ligh	t industry level	(surge immuni	ty Line-Line 2K	V);EAC TP TC	020			
	MTBF	1179.7K hrs r		ia SR-332 (Bel			IL-HDBK-217F						
OTHERS	DIMENSION	150*53*35mn		•									
-	PACKING		s/15.7Kg/1.0Cl	JFT									
NOTE	2. Please refer to "DRIVING N 3. Ripple & noise are measure 4. Tolerance : includes set up 5. De-rating may be needed u 6. Length of set up time is mea 7. The driver is considered as complete installation, the fin 8. This series meets the typica 9. Please refer to the warranty 10. The ambient temperature o 11. For any application note ar	pecially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. NG METHODS OF LED MODULE". assured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. et up tolerance, line regulation and load regulation. ded under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. Is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. at as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the he final equipment manufacturers must re-qualify EMC Directive on the complete installation again. Typical life expectancy of >50,000 hours of operation when Tcase, particularly (c) point (or TMP, per DLC), is about 75°C or less. Transport statement on MEAN WELL's website at http://www.meanwell.com atture derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft) ote and IP water proof function installation caution, please refer our user manual before using. Il.com/Upload/PDF/LED_EN.pdf aimer: For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx											

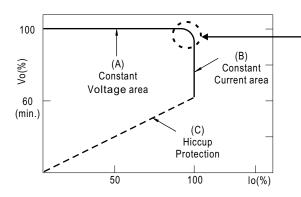


PFC fosc: 50~120KHz PWM fosc: 60~130KHz



■ DRIVING METHODS OF LED MODULE

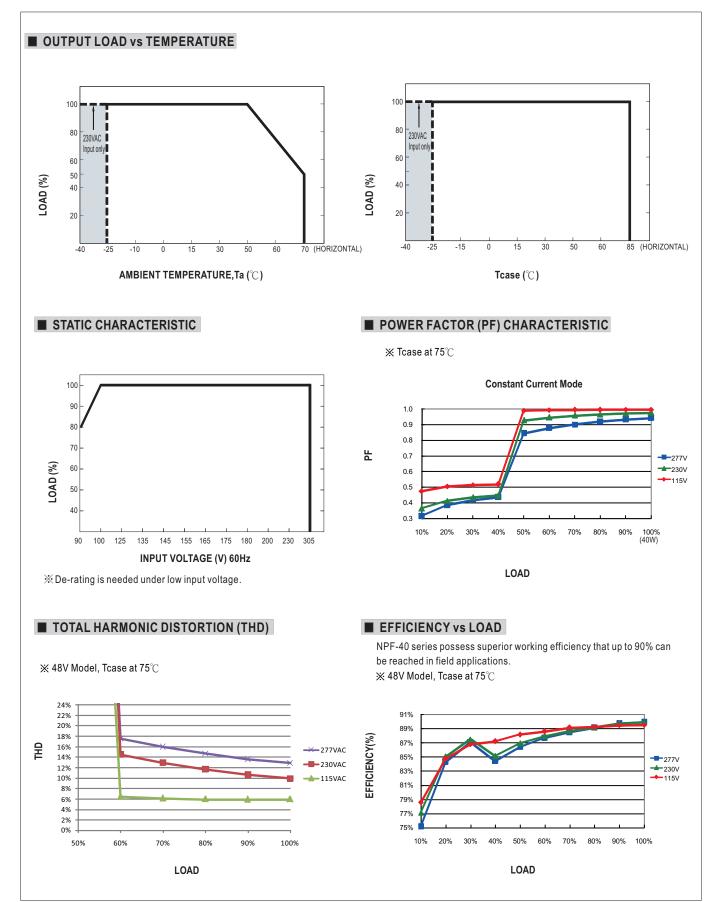
X This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



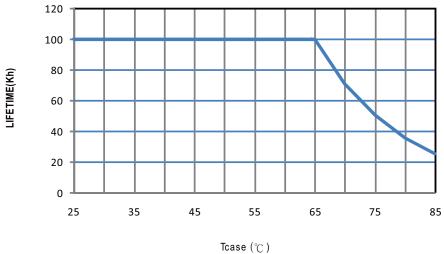
Typical output current normalized by rated current (%)

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



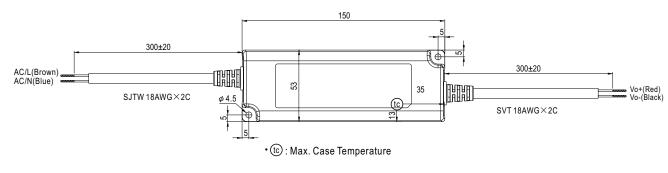








CASE NO.: NPF-60A Unit:mm





■ Recommend Mounting Direction



■ INSTALLATION MANUAL







Features

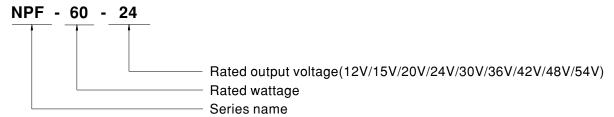
- · Constant Voltage + Constant Current mode output
- Plastic housing with Class II design
- · Built-in active PFC function
- · Class 2 power unit
- No load power consumption < 0.15W
- IP67 rating for indoor or outdoor installations
- Typical lifetime>50000 hours
- 5 years warranty

■ 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

Description

NPF-60 series is a 60W AC/DC LED driver featuring the dual modes constant voltage and constant current output. NPF-60 operates from $90\sim305$ VAC 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 \sim +85°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.



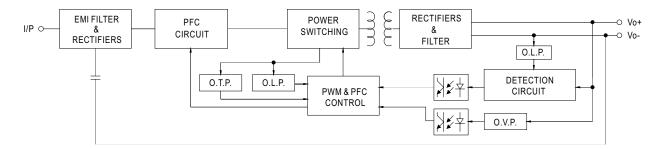


NPF-60 series

MODEL		NPF-60-12	NPF-60-15	NPF-60-20	NPF-60-24	NPF-60-30	NPF-60-36	NPF-60-42	NPF-60-48	NPF-60-54			
-	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			
OUTDUT	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	200mVp-p	200mVp-p	200mVp-p	350mVp-p			
OUTPUT	VOLTAGE TOLERANCE Note.4		±4.0%	±4.0%	±3.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%			
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	LOAD REGULATION	±1.5%	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
			115VAC / 23		±0.5 /6	±0.5 /6	10.070	10.570	±0.5 /6	1 ±0.5 /6			
	SETUP, RISE TIME Note.6	· ·											
	HOLD UP TIME (Typ.) VOLTAGE RANGE Note.5	16ms/230VA 90 ~ 305VAC	127 ~ 43										
	FREQUENCY RANGE	(Please refer	to "STATIC CF	HARACTERIST	IIC" section)								
	POWER FACTOR	$\label{eq:pf} \begin{split} PF & \geq 0.97/115 VAC, PF \geq 0.95/230 VAC, PF \geq 0.92/277 VAC \\ & (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section) \end{split}$											
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧60%/115VC,230VAC; @load≧75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)											
INPUT	EFFICIENCY (Typ.)	86%	87%	88%	89%	90%	90%	90%	90%	90%			
	AC CURRENT	0.8A / 115VA	C 0.4A/2	230VAC 0	.32A/277VAC	<u>'</u>	1		'				
	INRUSH CURRENT(Typ.)	COLD STAR	T 50A(twidth=2	270µs measure	ed at 50% Ipea	k) at 230VAC; F	Per NEMA 410						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	COLD START 50A(twidth=270µs measured at 50% Ipeak) at 230VAC; Per NEMA 410 8 units (circuit breaker of type B) / 16 units (circuit breaker of type C) at 230VAC											
	LEAKAGE CURRENT	<0.25mA / 277VAC											
	NO LOAD POWER CONSUMPTION	<0.15W											
	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											
PROTECTION	OHORT OIROUT	15 ~ 17V	17.5 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 40V	41 ~ 46V	46 ~ 54V	54 ~ 60V	59 ~ 66V			
	OVER VOLTAGE						41 400	10 011	34 ° 00 V	33 00V			
	OVER TEMPERATURE	Shut down and latch off o/p voltage, re-power on to recover											
		Shut down o/p voltage, re-power on to recover											
	WORKING TEMP.	Tcase=-40 ~ +85°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)											
	MAX. CASE TEMP.	Tcase=+85°C											
	WORKING HUMIDITY	20 ~ 95% RH non-condensing											
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH											
	TEMP. COEFFICIENT	±0.03%/℃ (0)∼50°C)										
	VIBRATION	10 ~ 500Hz, §	5G 12min./1cy	cle, period for	72min. each a	long X, Y, Z axe	es						
	SAFETY STANDARDS Note.8	UL8750(type"HL"), UL879(for 12V,24V only), CSA C22.2 No. 250.13-12, ENEC EN61347-1, EN61347-2-13 independent, EN62384, EAC TP TC 004, GB19510.1,GB19510.14, IP67 approved; Design refer to EN60335-1											
SAFETY &	WITHSTAND VOLTAGE	I/P-O/P:3.75	KVAC										
EMC	ISOLATION RESISTANCE	I/P-O/P:100	M Ohms / 500\	/DC / 25°C / 70)% RH								
LIVIO	EMC EMISSION Note.8					≥60%); EN610	000-3-3;GB177	'43 and GB176	25.1, EAC TP	ΓC 020			
	EMC IMMUNITY						(surge immuni						
	MTBF	1178.7K hrs r			llcore); 367	•	MIL-HDBK-21	-	,.				
OTHERS	DIMENSION	150*53*35mr			,,			, , , ,					
	PACKING		s/15.7Kg/1.0Cl	UFT									
	All parameters NOT special	• •			out rated our	ant and 25°C a	f amhiont tom	nerature					
NOTE	Please refer to "DRIVING N Ripple & noise are measure Tolerance: includes set up De-rating may be needed u Length of set up time is mea. The driver is considered as complete installation, the fin This series meets the typica Please refer to the warranty The ambient temperature The ambient temperature Series may application note an https://www.meanwell.com	ETHODS OF d at 20MHz o tolerance, line der low input assured at first a component al equipment I ll life expectan statement on derating of 3.5 and IP water pro/ //Upload/PDF/I/	LED MODUL f bandwidth by regulation and voltages. Plea cold start. Turt that will be opmanufacturers cy of >50,000 MEAN WELL* © /1000m with pof function ins. LED_EN.pdf	E". y using a 12" t d load regulative d load regulative sase refer to "S ning ON/OFF erated in combust re-qualithours of oper. 's website at h fanless mode stallation cautive.	wisted pair-wir on TATIC CHAR/ the driver may bination with fii y EMC Directi ation when Tc. titp://www.mea els and of 5°C, on, please refe	e terminated water a comment of the	with a 0.1uf & 4 sections for de se of the set us Since EMC po plete installatio y (tc) point (or n models for o	7uf parallel ca tails. p time. erformance wil n again. TMP, per DLC perating altitud ng.	I be affected b	or less.			

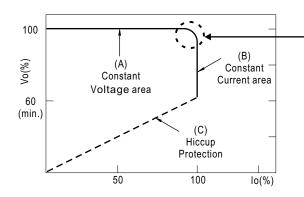


PFC fosc: 50~120KHz PWM fosc: 60~130KHz



■ DRIVING METHODS OF LED MODULE

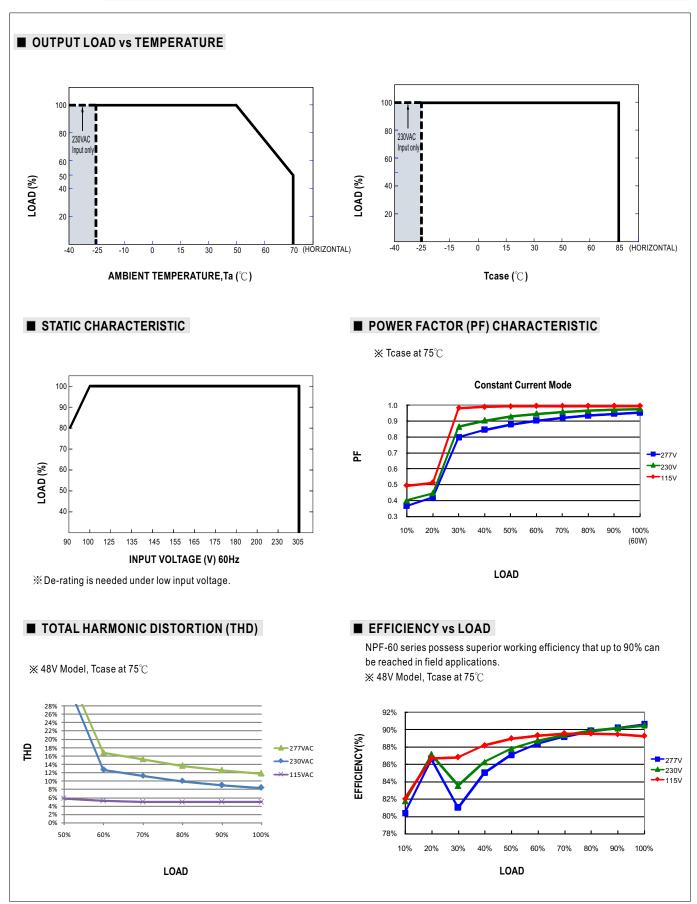
X This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



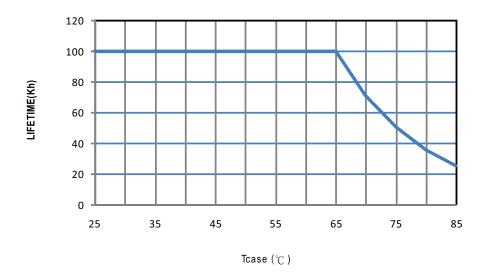
Typical output current normalized by rated current (%)

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



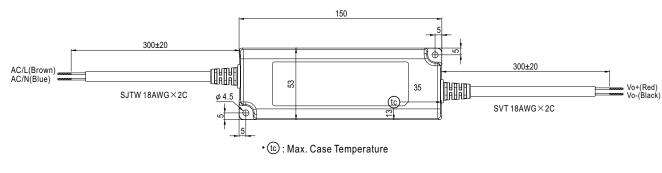








CASE NO.: NPF-60A Unit:mm





■ Recommend Mounting Direction



■ INSTALLATION MANUAL







■ Features

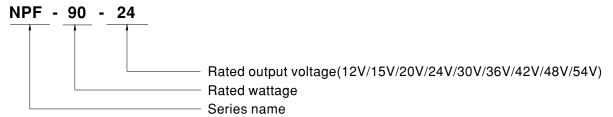
- · Constant Voltage + Constant Current mode output
- · Plastic housing with Class II design
- · Built-in active PFC function
- Class 2 power unit(except NPF-90-12/15)
- No load power consumption < 0.15W
- IP67 rating for indoor or outdoor installations
- Typical lifetime>50000 hours
- 5 years warranty

Applications

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

Description

NPF-90 series is a 90W AC/DC LED driver featuring the dual modes constant voltage and constant current output. NPF-90 operates from $90\sim305$ VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the hign efficiency up to 91%, with the fanless design, the entire series is able to operate for -40°C \sim +85°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.



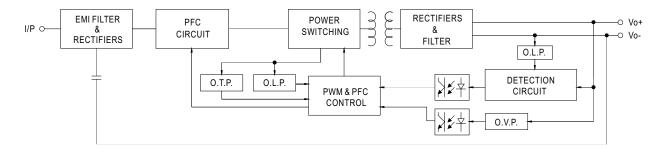


NPF-90 series

MODEL		NPF-90-12	NPF-90-15	NPF-90-20	NPF-90-24	NPF-90-30	NPF-90-36	NPF-90-42	NPF-90-48	NPF-90-54			
	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	7.5A	6A	4.5A	3.75A	3A	2.5A	2.15A	1.88A	1.67A			
	RATED POWER Note.5	90W	90W	90W	90W	90W	90W	90.3W	90.24W	90.18W			
OUTDUT	RIPPLE & NOISE (max.) Note.3		150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	250mVp-p	250mVp-p	350mVp-p			
OUTPUT	VOLTAGE TOLERANCE Note.4	±4.0%	±4.0%	±4.0%	±3.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%			
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	LOAD REGULATION	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	SETUP, RISE TIME Note.6		115VAC / 230		1 - 21277			1	1 - 1117,7	1 - 111/4			
	HOLD UP TIME (Typ.)	16ms/230VA		115VAC									
	VOLTAGE RANGE Note.5	90 ~ 305VAC	127 ~ 43		TC" section)								
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR	PF≥0.98/115VAC, PF≥0.96/230VAC, PF≥0.94/277VAC@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)										
INPUT	EFFICIENCY (Typ.)	89%	89.5%	90.5%	91%	89.5%	90.5%	90.5%	90.5%	90.5%			
	AC CURRENT	0.95A / 115VA	AC 0.5A/	230VAC	0.4A / 277VAC								
	INRUSH CURRENT(Typ.)	COLD START	Γ60A(twidth=5	50μs measure	d at 50% Ipeak	at 230VAC; F	Per NEMA 410						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	COLD START 60A(twidth=550µs measured at 50% Ipeak) at 230VAC; Per NEMA 410 3 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC											
	LEAKAGE CURRENT	<0.25mA / 277VAC											
	NO LOAD POWER CONSUMPTION	<0.15W											
	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											
PROTECTION	OHORI GIRGON	15 ~ 17V		23 ~ 27V	28 ~ 34V	34 ~ 40V	41 ~ 46V	46 ~ 54V	54 ~ 60V	59 ~ 66V			
	OVER VOLTAGE			-		1	11 100		01 001	00 001			
	OVER TEMPERATURE	Shut down and latch off o/p voltage, re-power on to recover Shut down o/p voltage, re-power on to recover											
	WORKING TEMP.	Tcase=-40 ~ +85°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)											
	MAX. CASE TEMP.	Tcase=+85°C											
	WORKING HUMIDITY	20 ~ 95% RH non-condensing											
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80°C,		'' '									
ENVIRONMENT	TEMP. COEFFICIENT												
	VIBRATION	±0.03%°C (0~50°C)											
	SAFETY STANDARDS Note.8	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes UL8750, CSA C22.2 No. 250.13-12, ENEC EN61347-1, EN61347-2-13 independent, EN62384, GB19510.1,GB19510.14, EAC TP TC 004.IP67 approved; Design refer to EN60335-1											
04557/4	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC											
SAFETY &	ISOLATION RESISTANCE			/DC / 25°C / 70	% RH								
EMC	EMC EMISSION Note.8					≥60%) : EN610	00-3-3;GB177	43 and GB176	25.1.EAC TP T	C 020			
	EMC IMMUNITY	· ·					(surge immuni						
	MTBF	1011.4K hrs r		ia SR-332 (Bel			MIL-HDBK-217		.,,_,				
OTHERS	DIMENSION	171*63*37.5r		011 002 (20.	, 202.			. (200)					
OTTLENO	PACKING		s/14.9Kg/0.820	CUET									
NOTE	1. All parameters NOT special 2. Please refer to "DRIVING N 3. Ripple & noise are measurec 4. Tolerance: includes set up to 5. De-rating may be needed u 6. Length of set up time is med 7. The driver is considered as complete installation, the fin 8. This series meets the typica 9. Please refer to the warranty 10. The ambient temperature o 11. For any application note an https://www.meanwell.com X. Product Liability Disclaimer	ly mentioned a JETHODS OF I at 20MHz of It Jerance, line re- nder low input assured at first: a component a al equipment re- I life expectan- statement on Jerating of 3.5 d IP water pre- //Upload/PDF/I	are measured: LED MODULI bandwidth by u agulation and k voltages. Plea cold start. Turn that will be open manufacturers cy of >50,000 MEAN WELL' C'/1000m with boof function ins. LED_EN.pdf	at 230VAC inp E". ssing a 12" twis and regulation. sise refer to "S' ning ON/OFF te erated in comb must re-qualifi- hours of opera so website at h in fanless mode stallation caution	TATIC CHARA the driver may bination with fir y EMC Directiv ation when To: ttp://www.mea sls and of 5°C/ bn, please refe	crminated with a CTERISTIC": lead to increa all equipment. we on the company particularly an experience of the company with fair our user many company and the company with fair our user many company with the company with	a 0.1uf & 47uf sections for de se of the set u Since EMC pe olete installatio y (to) point (or n models for o nual before usi	parallel capacito tails. p time. erformance will n again. TMP, per DLC perating altitud ng.	be affected b	C or less.			

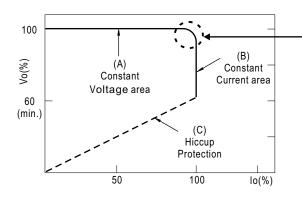


PFC fosc: 50~120KHz PWM fosc: 60~130KHz



■ DRIVING METHODS OF LED MODULE

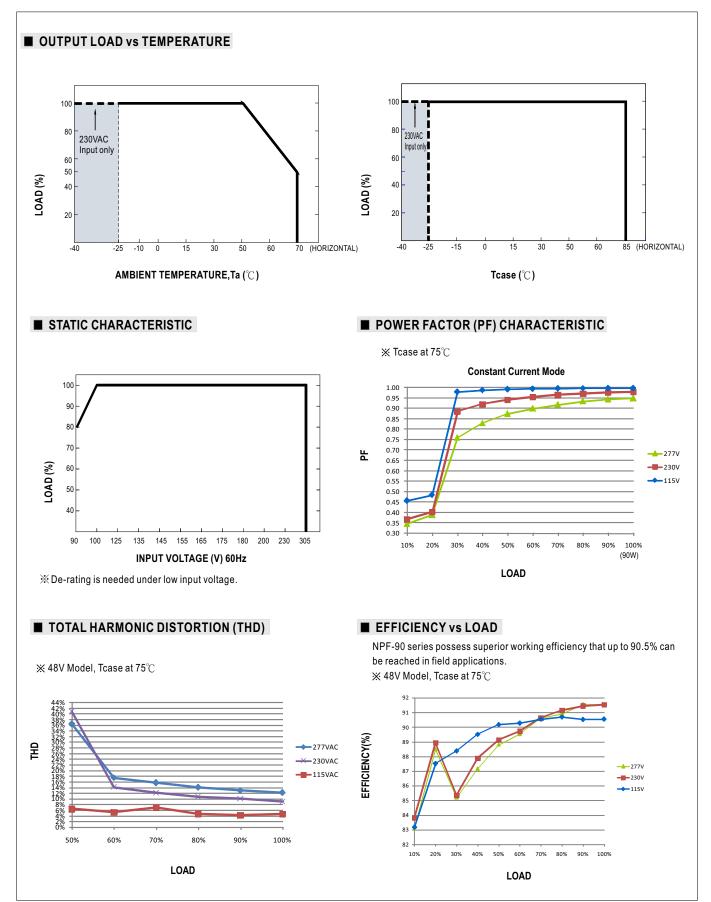
X This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



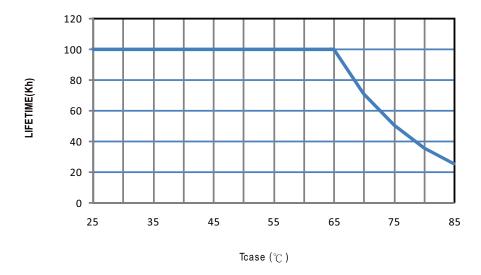
Typical output current normalized by rated current (%)

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



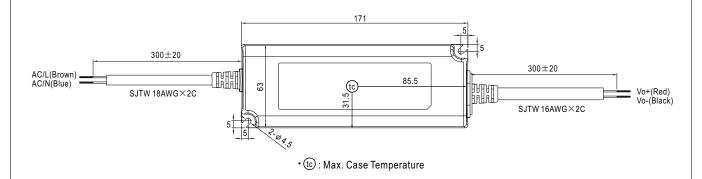


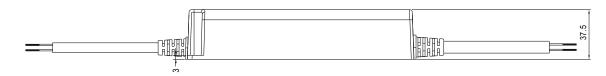






CASE NO.: PWM-90P Unit:mm





■ Recommend Mounting Direction



■ INSTALLATION MANUAL







■ Features

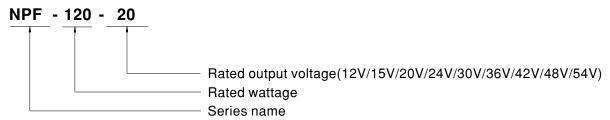
- · Constant Voltage + Constant Current mode output
- · Plastic housing with Class II design
- · Built-in active PFC function
- No load power consumption <0.15W
- IP67 rating for indoor or outdoor installations
- Typical lifetime>50000 hours
- 5 years warranty

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

Description

NPF-120 series is a 120W AC/DC LED driver featuring the dual modes constant voltage and constant current output. NPF-120 operates from $90\sim305$ VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the hign efficiency up to 90.5%, with the fanless design, the entire series is able to operate for -40°C \sim +90°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.

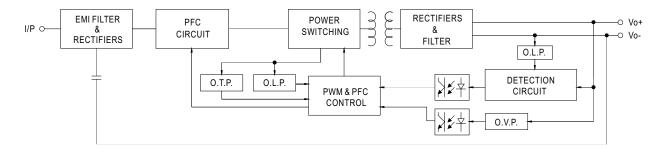




NPF-120 series

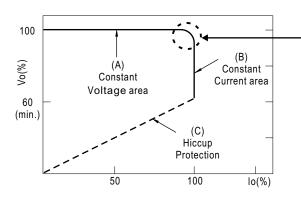
MODEL		NPF-120-12	NPF-120-15	NPF-120-20	NPF-120-24	NPF-120-30	NPF-120-36	NPF-120-42	NPF-120-48	NPF-120-54			
	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V			
QUITNUT	CONSTANT CURRENT REGION Note.2	7.2 ~ 12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V			
	RATED CURRENT	10A	8A	6A	5A	4A	3.4A	2.9A	2.5A	2.3A			
	RATED POWER Note.5	120W	120W	120W	120W	120W	122.4W	121.8W	120W	124.2W			
	RIPPLE & NOISE (max.) Note.3	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	250mVp-p	250mVp-p	350mVp-p			
OUTPUT	VOLTAGE TOLERANCE Note.4	±4.0%	±4.0%	±4.0%	±4.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%			
	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		115VAC / 230		1 - 1 - 1 - 1	1 - 111/4			1.0,0	,			
	HOLD UP TIME (Typ.)	16ms/230VA											
	TIOLD OF THE (Typ.)	90 ~ 305VAC 127 ~ 431VDC											
	VOLTAGE RANGE Note.5			ARACTERIST	IC" section)								
	FREQUENCY RANGE	47 ~ 63Hz			,								
	TREGORNOT TO MODE		F≥0.96/230VAC, PF≥0.96/230VAC, PF≥0.94/277VAC@full load Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)										
	POWER FACTOR												
	TOTAL HARMONIC DISTORTION		THD< 20%(@load≧60%/115VC,230VAC; @load≧75%/277VAC)										
		<u>'</u>			TORTION(THE		000/	000/	000/	00.504			
INPUT	EFFICIENCY (Typ.)	89%	89%	90%	90.5%	89.5%	90%	90%	90%	90.5%			
	AC CURRENT	1.3A / 115VAC).55A / 277VAC								
	INRUSH CURRENT(Typ.)	COLD START	60A(twidth=5	20μs measured	d at 50% Ipeak) at 230VAC; P	er NEMA 410						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	4 units (circu	4 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC										
	LEAKAGE CURRENT	<0.25mA/27	<0.25mA/277VAC										
	NO LOAD POWER CONSUMPTION	<0.15W											
		95 ~ 108%											
	OVER CURRENT	Constant current limiting, recovers automatically after fault condition is removed											
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed											
PROTECTION		15 ~ 17V	17.5 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 40V	41 ~ 46V	46 ~ 54V	54 ~ 60V	59 ~ 66V			
	OVER VOLTAGE	Shut down an	d latch off o/p	voltage, re-pow	ver on to recove	er		l					
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover											
	WORKING TEMP.	Tcase=-40 ~ +90°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)											
	MAX. CASE TEMP.	Tcase=+90°C											
	WORKING HUMIDITY	20 ~ 95% RH non-condensing											
ENVIRONMENT	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											
	SAFETY STANDARDS Note.8	UL8750(type"HL"), CSA C22.2 No. 250.13-12, ENEC EN61347-1, EN61347-2-13 independent, EN62384,											
	WITHSTAND VOLTAGE	EAC TP TC 004,GB19510.1,GB19510.14, IP67 approved; Design refer to EN60335-1 I/P-O/P:3.75KVAC											
SAFETY &	ISOLATION RESISTANCE			DC / 25°C / 70°	% RH								
EMC	EMC EMISSION Note.8	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH Compliance to EN55015,EN61000-3-2 Class C (@load ≥ 60%) ; EN61000-3-3; GB17743 and GB17625.1, EAC TP TC 020											
	EMC IMMUNITY				EN61547, light								
	MTBF	965.5K hrs m		SR-332 (Bello	, 0	, ,	IL-HDBK-217F	,	.,, = .0 11 10				
OTHERS	DIMENSION	191*63*37.5n			,, 200.11			(0)					
3	PACKING		s/15.6Kg/0.870	CUFT									
NOTE	All parameters NOT speciall Please refer to "DRIVING M Ripple & noise are measured Tolerance: includes set up to De-rating may be needed ui Length of set up time is mee The driver is considered as complete installation, the fin. This series meets the typica Please refer to the warranty The ambient temperature of	ally mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. METHODS OF LED MODULE". Id at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Intolerance, line regulation and load regulation. Inder low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. Passured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. Is a component that will be operated in combination with final equipment. Since EMC performance will be affected by the nal equipment manufacturers must re-qualify EMC Directive on the complete installation again. Il life expectancy of >50,000 hours of operation when Tcase, particularly (to point (or TMP, per DLC), is about 75°C or less. by statement on MEAN WELL's website at http://www.meanwell.com derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).											
11. 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								-					

PFC fosc: 50~120KHz PWM fosc: 60~130KHz



■ DRIVING METHODS OF LED MODULE

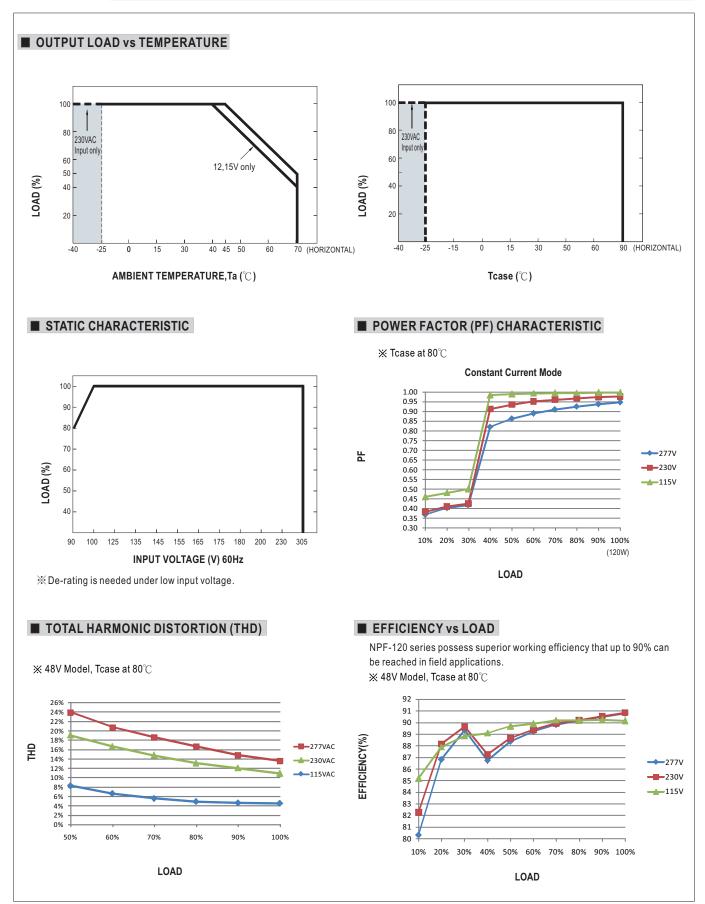
X This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



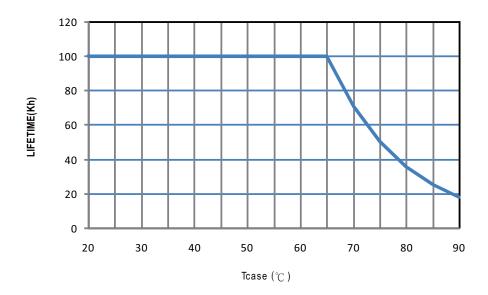
Typical output current normalized by rated current (%)

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

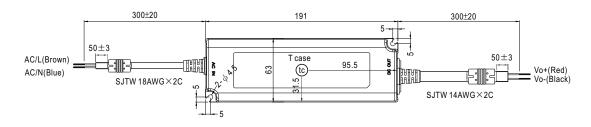




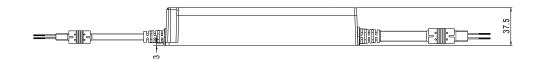




CASE NO.: PWM-120 Unit:mm



ullet (tc) : Max. Case Temperature



■ Recommend Mounting Direction



■ INSTALLATION MANUAL