



Datasheet

# NF Series - 30W

Outdoor LED Driver

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**Believe in the Power of Quality**

## PRODUCT:



## FEATURES:

- Efficiency up to 88%
- PF>0.95, THD<10%
- Constant Current output
- Lightning protection level : Difference module 4KV
- IP67 rating for indoor and outdoor
- Protections: BOP, SCP, OVP
- Warranty: 3 Years

## APPLICATIONS:

LED Street light  
 LED Spotlight  
 LED Industrial Lighting  
 Etc.

## PRODUCT OVERVIEW:

The HJ-W30-NF series is an isolated single-stage structure outdoor constant current drive power supply with a rated output power of 30W. The power conversion efficiency is high, and constant power output can be achieved within a certain output voltage range; its adjustable output current and precise dimming control are beneficial to LED lighting design; it has comprehensive active and passive protection functions, it can effectively cope with various harsh working conditions, has high reliability and low defect rate, which is beneficial for the manufacturers to reduce the cost of lightings.

MODEULE	Rated input voltage	Output voltage range	Output current	Power factor	T.H.D	Efficiency	Max. Case Temp.
HJ-W30-V42A-NF	100-277V	20-42Vdc	0.75A	0.95	10.0%	88%	90°C
HJ-W30-V36A-NF	100-277V	20-36Vdc	0.9A	0.95	10.0%	88%	90°C
HJ-W30-V135A-NF	100-277V	60-135Vdc	0.3A	0.95	10.0%	88%	90°C

**Remarks:** Test conditions: 230Vac input, maximum output voltage, full load operation for 30 minutes, ambient temperature: 25°C.

INPUT:

Parameter	Min	Typ.	Max	Note
Rated input voltage	100Vac		277Vac	
Input voltage range	90Vac		305Vac	
Input frequency range	47Hz	50/60Hz	63Hz	
Input current			0.39A	100Vac, Full Load
Input power			38W	100Vac, Full Load
Input surge current peak value			40A	100Vac, Cold Start
			60A	230Vac, Cold Start
			70A	277Vac, Cold Start
Standby power consumption			1W	
Power factor	0.96	0.98		100Vac, Full Load
	0.95	0.97		230Vac, Full Load
	0.92	0.95		277Vac, Full Load
Total harmonic distortion		7%	10%	100Vac, Full Load
		7%	10%	230Vac, Full Load
		10%	15%	277Vac, Full Load
			20%	100-277Vac 50/60Hz, 70-100% Load

**Remark:** All performance parameters are measured at an ambient temperature of 25°C and with the use of LED load, unless otherwise specified.

## OUTPUT: HJ-30W-V42A-NF

Parameter	Min	Typ.	Max	Note
Output voltage range	20V		42V	
Output current	0.713A	0.75A	0.788A	Input 100-277Vac
Maximum no-load output voltage			60V	
Efficiency	84%	85%		Input 100Vac, Output 20V/0.75A
	85%	86%		Input 230Vac, Output 20V/0.75A
	84%	85%		Input 277Vac, Output 20V/0.75A
	85%	86%		Input 100Vac, Output 42V/0.75A
	87%	88%		Input 230Vac, Output 42V/0.75A
	87%	88%		Input 277Vac, Output 42V/0.75A
Current accuracy	-5%		+5%	100% load Constant Power Range
Startup current overshoot			10%	LED Load
Startup time	300ms		1000ms	100%Load @ 100-277Vac
Linear regulation rate	-5%		+5%	100%Load
Load regulation rate	-5%		+5%	100%Load
Temperature coefficient	-0.03%/°C		+0.03%/°C	Casing Temp. : 0-90°C
Short circuit protection			3W	Not damaged by prolonged short circuits, automatic recovery upon fault resolution
Input overvoltage protection	290Vac	305Vac	320Vac	No output, returns to normal after the exception is resolved
Input undervoltage protection	85Vac	90Vac	95Vac	No output, returns to normal after the exception is resolved

## OUTPUT: HJ-30W-V36A-NF

Parameter	Min	Typ.	Max	Note
Output voltage range	20V		36V	
Output current	0.845A	0.90A	0.945A	Input 100-277Vac
Maximum no-load output voltage			60V	
Efficiency	84%	85%		Input 100Vac, Output 20V/0.9A
	86%	87%		Input 230Vac, Output 20V/0.9A
	85%	86%		Input 277Vac, Output 20V/0.9A
	85%	86%		Input 100Vac, Output 36V/0.9A
	87%	88%		Input 230Vac, Output 36V/0.9A
	87%	88%		Input 277Vac, Output 36V/0.9A
Current accuracy	-5%		+5%	100% load Constant Power Range
Startup current overshoot			10%	LED Load
Startup time	300ms		1000ms	100%Load @ 100-277Vac
Linear regulation rate	-5%		+5%	100%Load
Load regulation rate	-5%		+5%	100%Load
Temperature coefficient	-0.03%/°C		+0.03%/°C	Casing Temp. : 0-90°C
Short circuit protection			3W	Not damaged by prolonged short circuits, automatic recovery upon fault resolution.
Input overvoltage protection	290Vac	305Vac	320Vac	No output, returns to normal after the exception is resolved
Input undervoltage protection	85Vac	90Vac	95Vac	No output, returns to normal after the exception is resolved

## OUTPUT: HJ-30W-V135A-NF

Parameter	Min	Typ.	Max	Note
Output voltage range	60V		135V	
Output current	0.285A	0.3A	0.315A	Input 100-277Vac
Maximum no-load output voltage			160V	
Efficiency	84%	85%		Input 100Vac, Output 60V/0.3A
	85%	86%		Input 230Vac, Output 60V/0.3A
	86%	87%		Input 277Vac, Output 60V/0.3A
	86%	86%		Input 100Vac, Output 135V/0.3A
	87%	88%		Input 230Vac, Output 135V/0.3A
	87%	88%		Input 277Vac, Output 135V/0.3A
Current accuracy	-5%		+5%	100% load Constant Power Range
Startup current overshoot			10%	LED Load
Startup time	300ms		1000ms	100%Load @ 100-277Vac
Linear regulation rate	-5%		+5%	100%Load
Load regulation rate	-5%		+5%	100%Load
Temperature coefficient	-0.03%/°C		+0.03%/°C	Casing Temp. : 0-90°C
Short circuit protection			3W	Not damaged by prolonged short circuits, automatic recovery upon fault resolution.
Input overvoltage protection	290Vac	305Vac	320Vac	No output, returns to normal after the exception is resolved
Input undervoltage protection	85Vac	90Vac	95Vac	No output, returns to normal after the exception is resolved

## OTHER:

Parameter	Description	Note
Estimation of Mean Time Between Failures (MTBF)	100,000 hours	230Vac, full load, ambient temperature 25°C (MIL-HDBK-217F)
Lifetime	20,000 hours	230Vac, full load, Tc=75°C
International Protection	IP67	Suitable for dry and humid environments, avoid prolonged exposure to rain
Maximum casing temperature	90°C	
Warranty	3 Years	Casing temperature (Tc point) not exceeding 75°C
Weight	130g	Net weight
Dimension	106mm*32mm*22.5mm	Length * Width * Height

## ENVIRONMENT:

Parameter	Min	Typ.	Max	Note
Operating temperature	-30°C	60°C	90°C	Casing temperature
Operating humidity	10%RH		90%RH	No condensation
Storage temperature	-40°C	25°C	90°C	
Storage humidity	10%RH		90%RH	No condensation

## Safety and EMC:

Items	Standard	Note
Surge (shock)	EN 61000-4-5	Differential Mode L-N ± 4KV(2Ω)
Insulation	I/P-O/P:100MΩ / 500VDC / 25°C/ 70% RH	
Dielectric strength	I/P-O/P:1.5kVac	
Ground resistance	<0.1Ω, 25A/1min	
Leakage current	<0.75mA 277Vac	

## Characteristics Curve:

Vin	Peak current	Duration (@10% peak current)	Duration (@50% peak current)
100Vac	33A	226us	156us
230Vac	45A	218us	150us
277Vac	52A	215us	145us

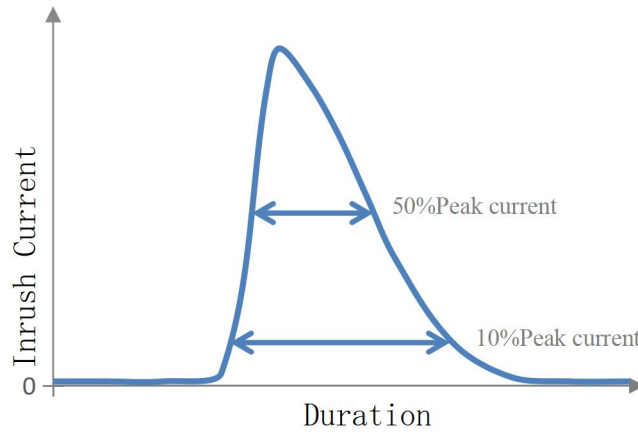


Fig. 1. Inrush Current VS Duration

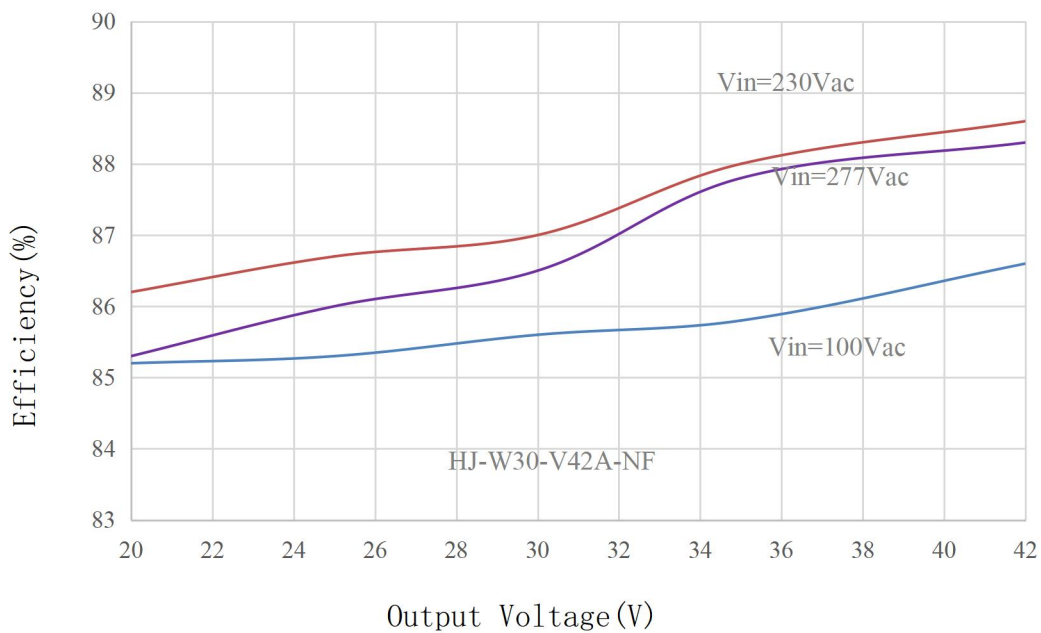


Fig. 2. Efficiency VS Output Voltage



## Characteristics Curve:

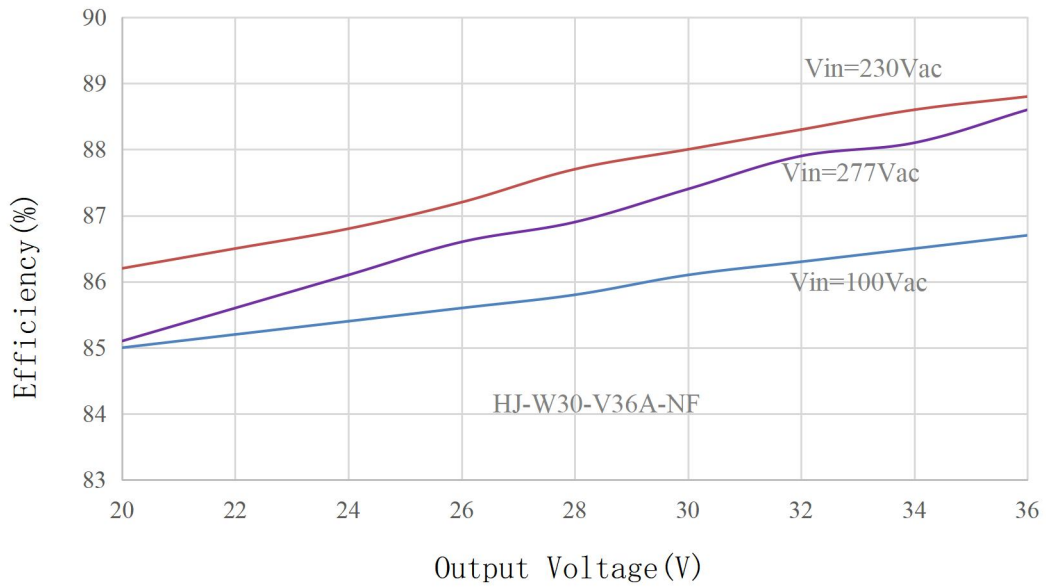


Fig. 3. Efficiency VS Output Voltage

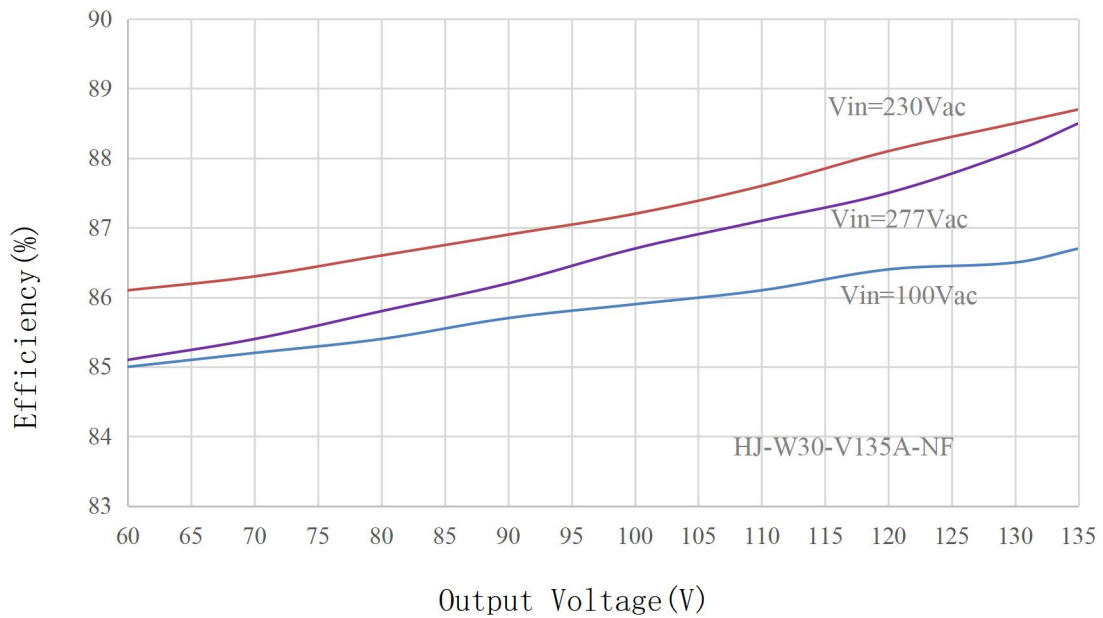


Fig. 4. Efficiency VS Output Voltage

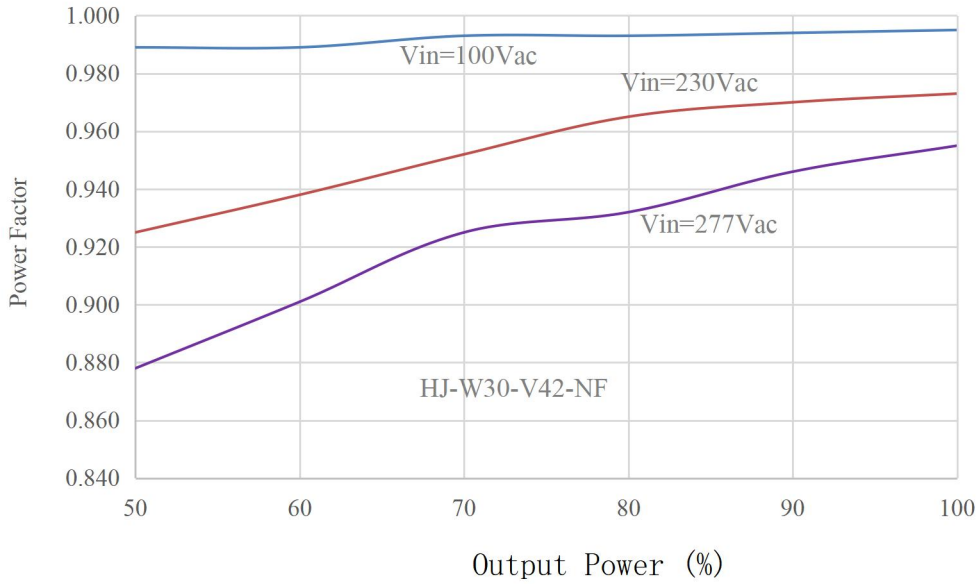


Fig 5. Power Factor VS Output Power

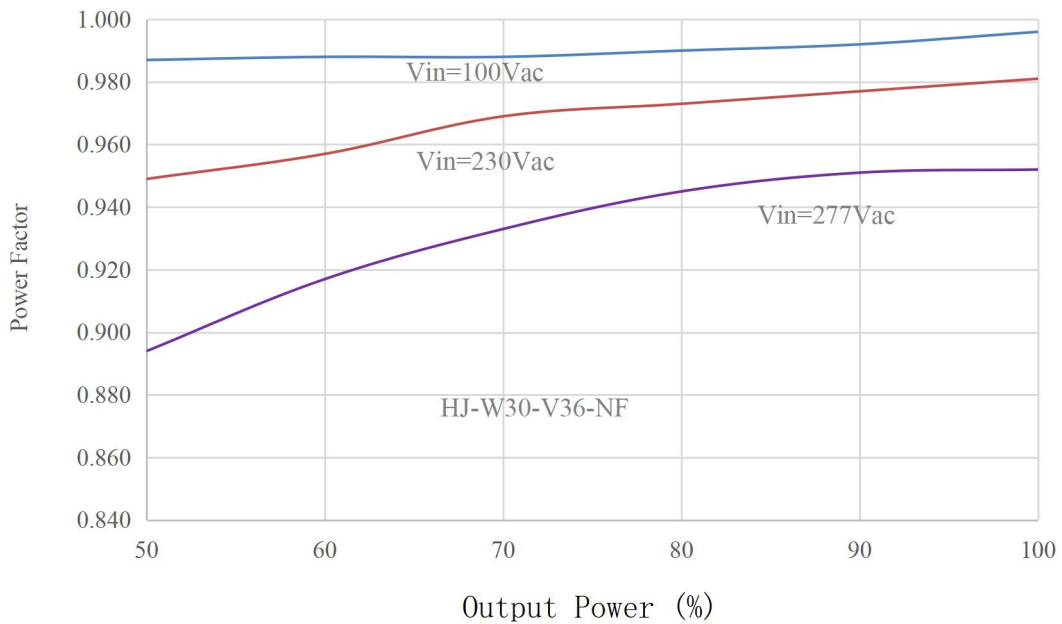


Fig 6. Power Factor VS Output Power

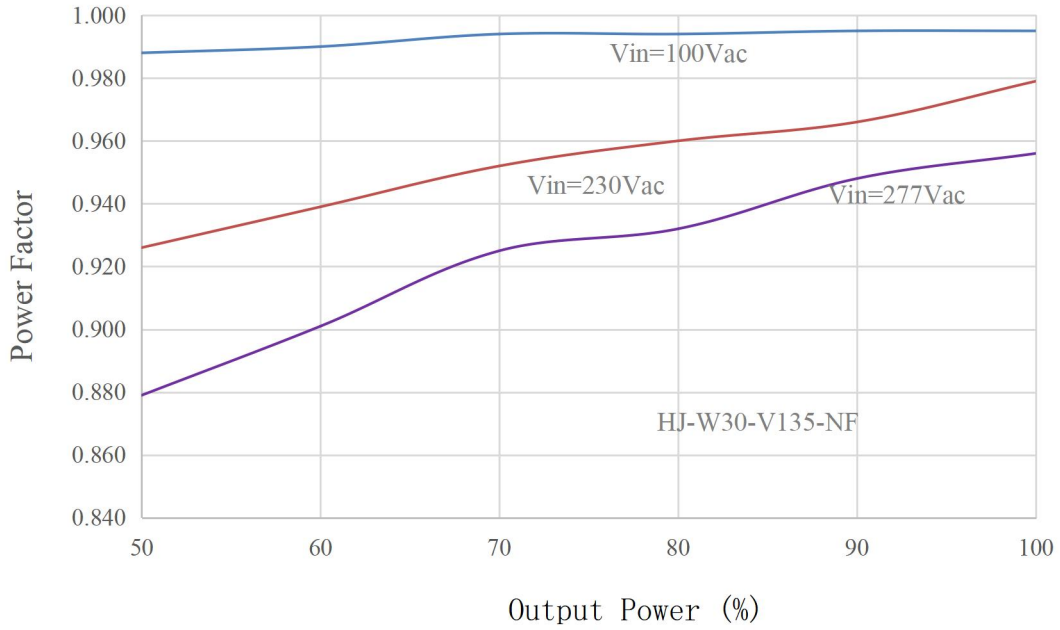


Fig 7. Power Factor VS Output Power

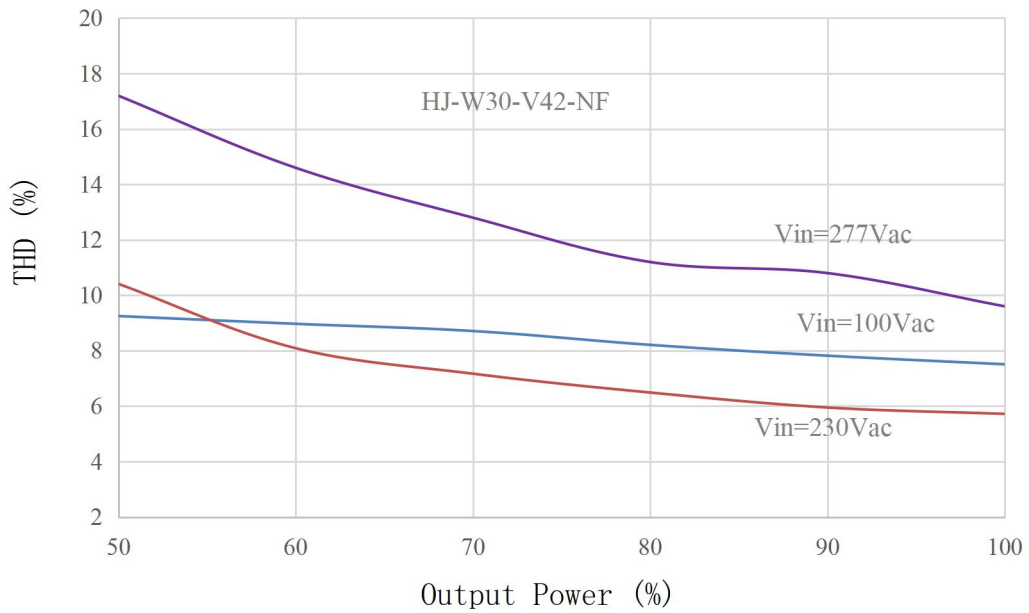


Fig.8. THD VS Output Power

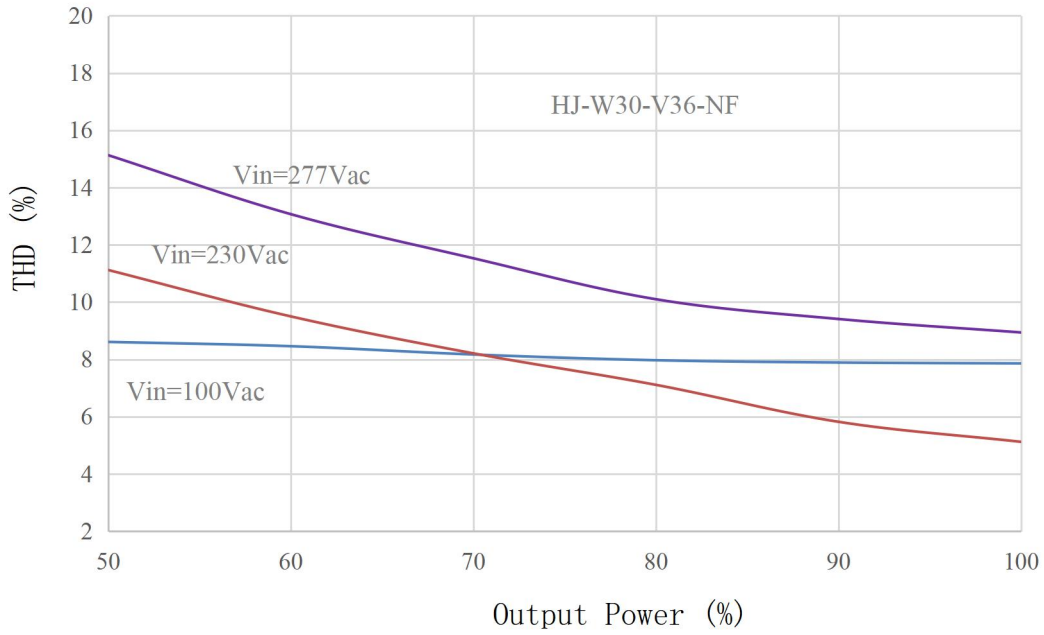


Fig 9. THD VS Output Power

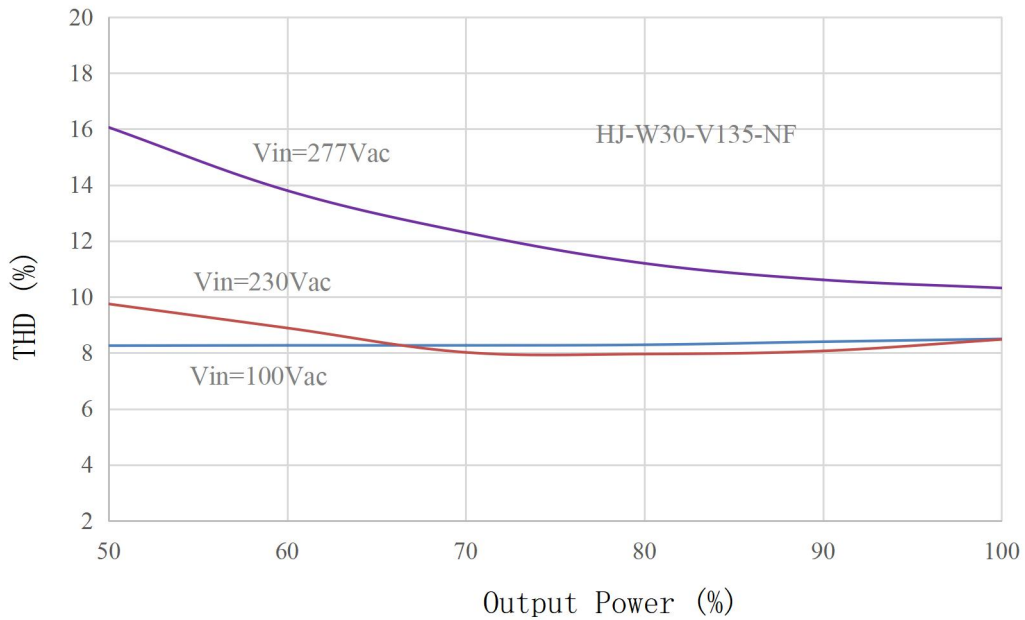


Fig 10. THD VS Output Power

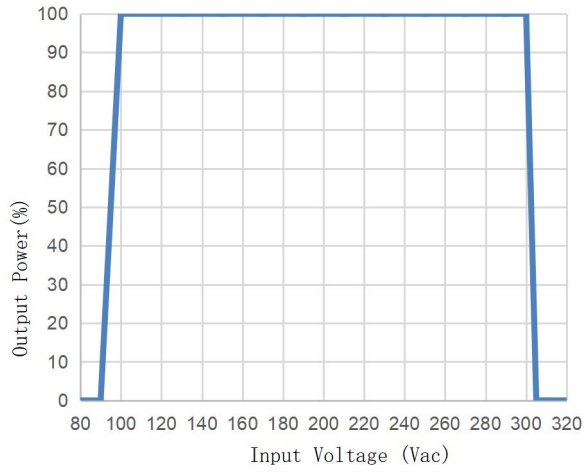


Fig 11. Output Power VS Input Voltage

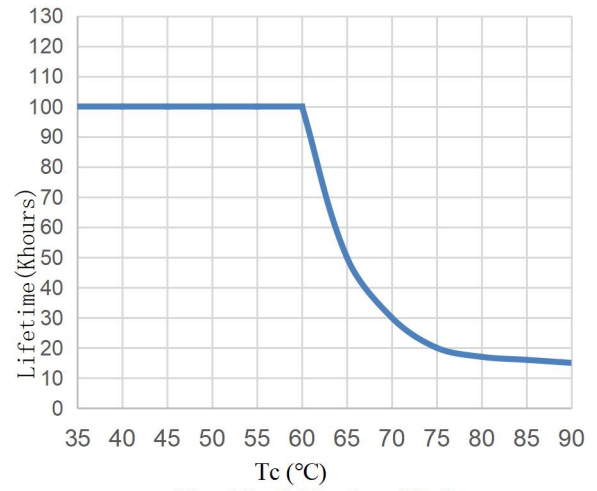
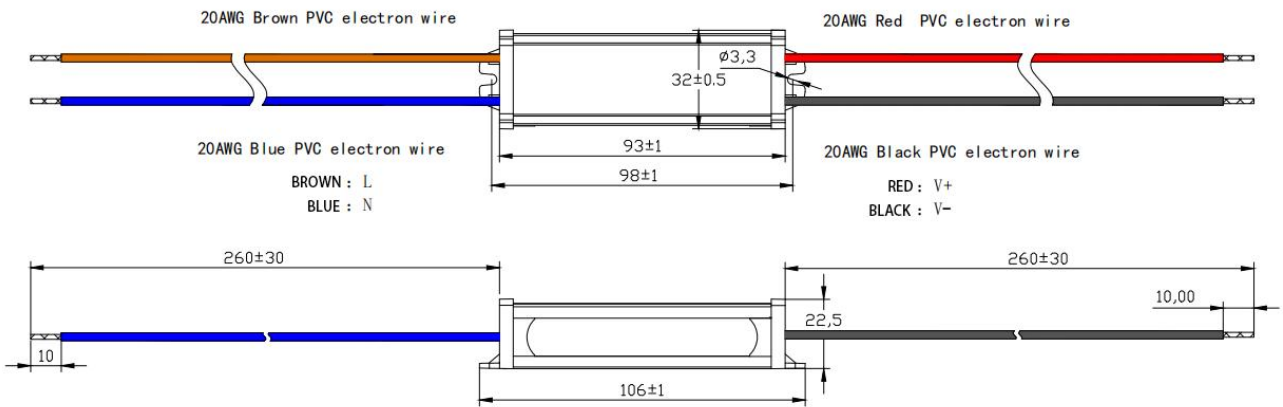


Fig 12. Lifetime VS Tc

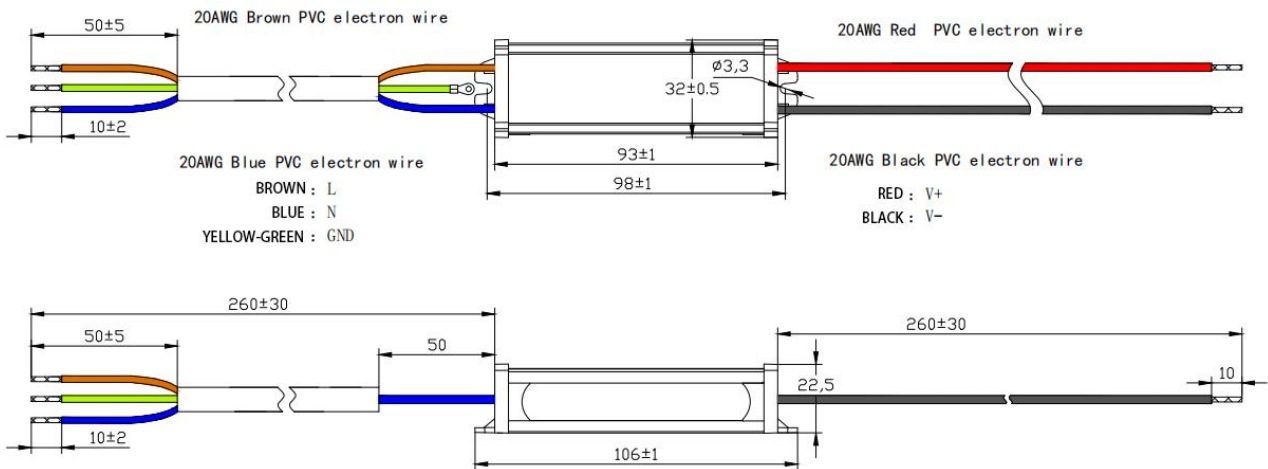
# Mechanical Specification:

## HJ-W30-V42A/36A/135A-NF

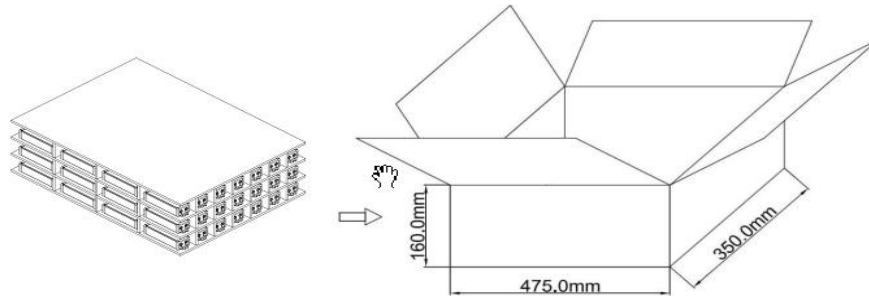
### Standard wire:



### Optional wires:



## Packaging:



## Packaging Description:

- The external dimensions of the packaging box (unit: mm) are: Length x Width x Height = 475 x 350 x 160;
- Each box contains 84units, arranged in 3layers with 28units per layer. The gross weight is 11.8kg;
- Net weight per unit: 130g;
- The packaging box includes product name, model, manufacturer's identification, quality department's inspection certificate, manufacturing date, and other information.

## Shipping:

The packaging is suitable for transportation by car, ship, and airplane. During transport, it should be protected from moisture, sunlight, and handled with care during loading and unloading.

## Storage:

Product storage should comply with the provisions of GB 3873-83.

Products stored for more than 1 year should undergo re-inspection, and only after passing the inspection can they be used.

## RoHS:

The product complies with the European Union RoHS Directive (2011/65/EU) and the European Parliament Amendment 2015/863/EU.

## Update History:

Versions	Description of Update	Update Date	Note
V00	Initial release	2024.03.26	

Edit	Audit	Approval