


## SPECIFICATION

Product name : HAE-150W-38/56A

Release date : 2024/01/12

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-150W-38/56A Series	REV	V1.0

Features.

- Class I type for insulation
- Input voltage range:120-277V ~ 50/60Hz
- Efficiency 90% (Typ.)
- Constant current output ,with power limitation for control mode
- Metal material case, protection grade against water and dust: IP65
- Surge level:
  - differential mode : 6kV
  - common mode :10kV
- Function available:
  - Output current is dimmed by external potentiometer (Only Type A)
- guaranteed Lifetime : 5 years
- It is recommended that this product be installed inside a lamp with waterproof function



Applications

Street lighting、Industrial lighting、Stadium lighting  
 Floodlight lighting、Landscape lighting 、Plant lighting

Model list

Model NO.	Rated Input voltage	Max Output power	Output voltage	The default current	Eff.
HAE-150W-38A	120-277V 50/60Hz (Power reduction when input is less than 120Vac)	150W	19-38Vdc Rated Power (32-38V)	4.2A	≥90%
HAE-150W-56A	120-277V 50/60Hz (Power reduction when input is less than 120Vac)	150W	28-56Vdc Rated Power (42-56V)	3.0A	≥90%

- Note:**
1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .
  2. the input is lower than 90Vac, the output power is reduced to 75w±20%; For 100-120Vac input, the power needs to be manually derated by 80%. For 120-277Vac input, the rated power is 150W. Special attention should be paid during application.

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## Input characteristics


Parameter	Min	Typ.	Max	Remark
Rated input voltage	120Vac	230Vac	277Vac	-
Input voltage range	100Vac	-	305Vac	-
Rated frequency range	47Hz	50/60Hz	63Hz	-
Power factor	0.95	-	-	@230Vac input ,with full load
Power factor	0.9	-	-	@120-277Vac input ,with 70%-100%
T.H.D.	-	-	10%	@230Vac input ,with full load
T.H.D.	-	-	20%	@200-277Vac input ,with 70%-100%
Input current	-	-	1.8A	@230Vac input ,with full load
Inrush current	-	-	70A	230Vac, cold start (25°C)

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## Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current HAE-150W-38A HAE-150W-56A	-	3.95A 2.68A	-	
Output current range HAE-150W-38A HAE-150W-56A	2.8A 2.1A	-	4.7A 3.6A	-
Output voltage range HAE-150W-38A HAE-150W-56A	19V 28V	-	38V 56V	Constant power output range 32-38VDC 42-56VDC
rated power(80-120Vac)	-	75W	-	When the input voltage is less than 95Vac, the derating is 50%
rated power(120-277Vac)	-	150W	-	-
No-load voltage HAE-150W-38A HAE-150W-56A	-	-	50V 70V	-
Efficiency@230Vac HAE-150W-38A HAE-150W-56A	-	90% 90%	-	@230Vac input ,with full load
Accuracy of output current	-5%	-	+5%	For constant-power range , with full load
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time	-	-	500ms	Full load@230Vac

**Note: 1.**The output current is limited by the input and output voltage, please refer to “I-V WORKING AREA” for details;

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## Protections

Protection	description
under-voltage protection	When the input voltage is less than $95 \pm 5V_{ac}$ , the output power decreases.Refer to derating curve for details
Output overload protection	Protection mode:hiccup mode,and recovers automatically when the fault condition is removed.
Output short circuit protection	Hiccup mode,and recovery automatically when the fault condition is removed.
Over temperature protection	Could recover automatically; when the temperature of the case is greater than $90^{\circ}C$ , the output power decreases to a half.
Output over-voltage protection	Protection mode:Hiccup or clamp at a certain output highest voltage state, the product will not be damaged, when the fault is removed, the driver works normally

### Note:

1. Unless otherwise specified, all parameters should be measured at the condition of 230Vac (50Hz) input ,with rated load ,and ambient temperature of  $25^{\circ}C$ ;
2. Including setting error, linear adjustment rate and load adjustment rate;

## Environmental characteristics

Environmental categories	Parameter
Working temperature	$-40 \sim +55^{\circ}C @ 120-277V_{ac}$ ((Refer to "Service Life Curve"))
Safety case temperature	$-40 \sim 90^{\circ}C$
Working humidity	20 ~ 95% RH,non-condensing
Storage temperature、humidity	$-40 \sim +80^{\circ}C$ , 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F ( $T_a=25^{\circ}C$ )
Lifetime	70000 hours @230Vac,80% load, $T_{case}=75^{\circ}C$ ,.Refer to” $T_{case}$ VS Lifetime” curve for details.

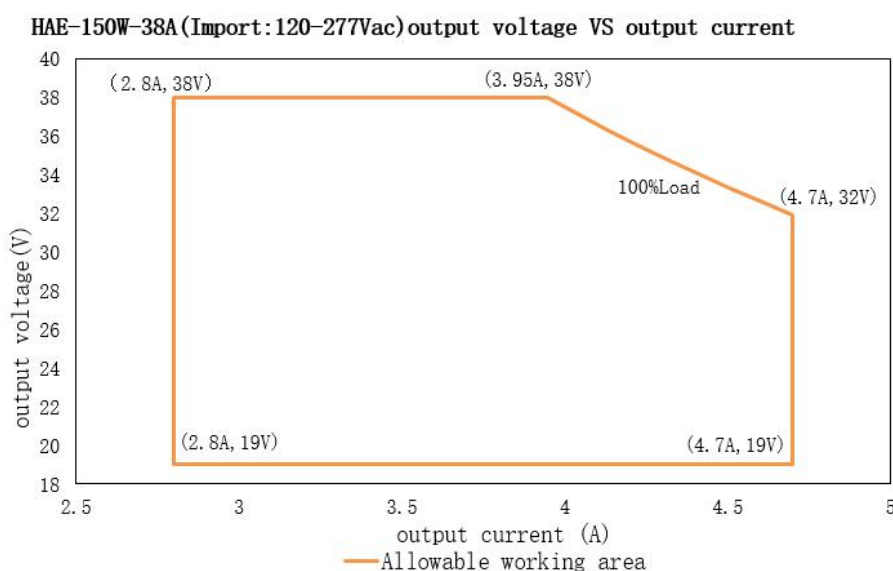
## Safety and EMC

Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	Differential mode L-N $\pm 6\text{KV}(2\Omega)$ , common mode L, N-PE $\pm 10\text{KV}(12\Omega)$ Refer to IEC61000-4-5 2014
High-pot test	I/P-O/P:3.75KVac I/P-PE :1.5KVac O/P-PE : 0.5KVac I/P-DIM:3.75KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:100M $\Omega$ / 500VDC; I/P-O/P:100M $\Omega$ / 500VDC / 25°C/ 70% RH
Leakage current	<0.7mA@277Vac

### Note:

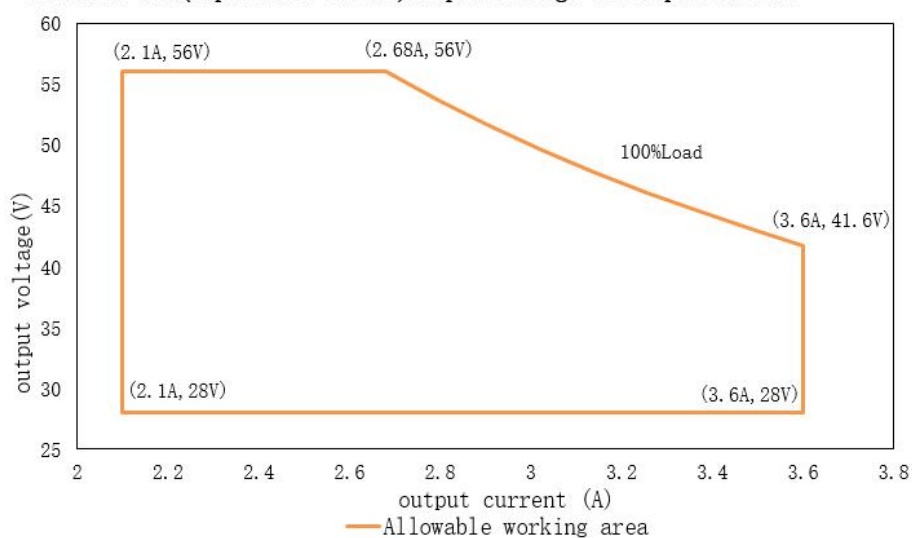
**1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.**

## I-V Working area



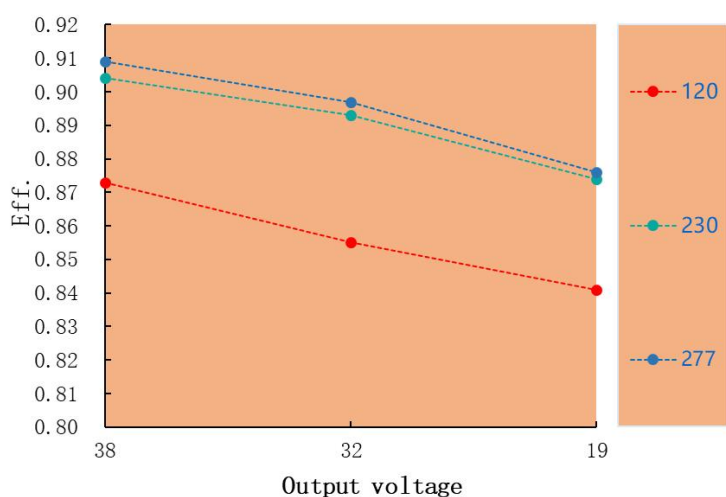
Load	Output								
Load working Voltage	19V	23V	25V	28V	30V	32V	34V	36V	38V
Io_MAX	4.7A	4.7A	4.7A	4.7A	4.7A	4.69A	4.41A	4.17A	3.95A
Po_MAX	89.3W	103.4W	117.5W	131.6W	141W	150W	150W	150W	150W

HAE-150W-56A (Import:120-277Vac) output voltage VS output current

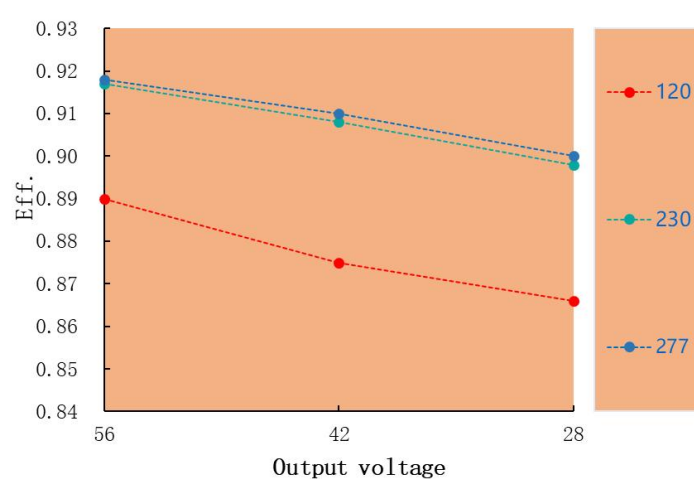


Load	Output								
Load working Voltage	28V	32V	36V	42V	48V	50V	52V	54V	56V
Io_MAX	3.6A	3.6A	3.6A	3.57A	3.26A	3.0A	2.88A	2.78A	2.68A
Po_MAX	100.8W	115.2W	129.6W	150W	150W	150W	150W	150W	150W

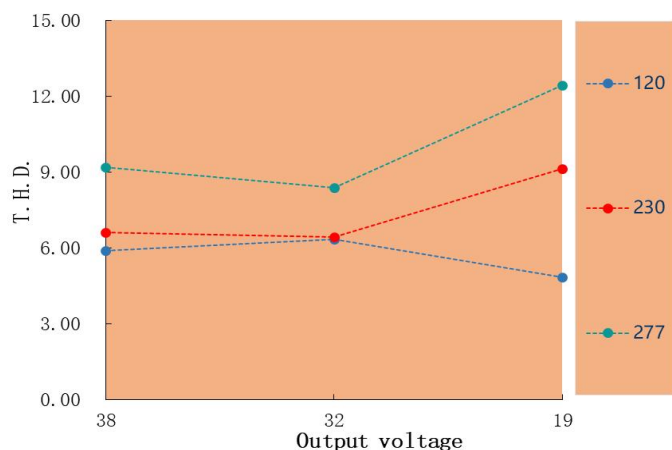
Eff. VS Output voltage HAE-150W-38A



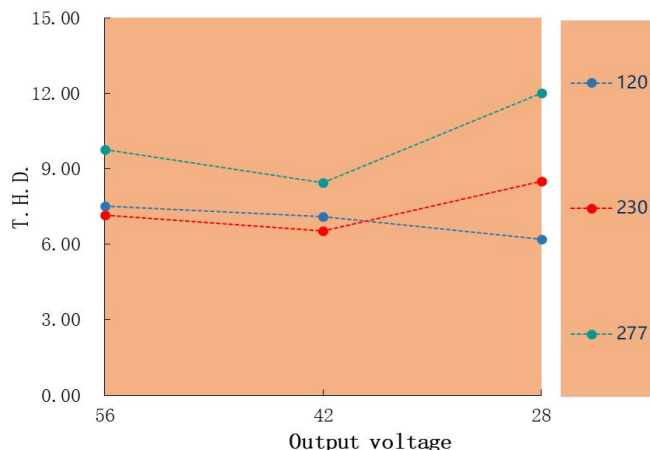
Eff. VS Output voltage HAE-150W-56A



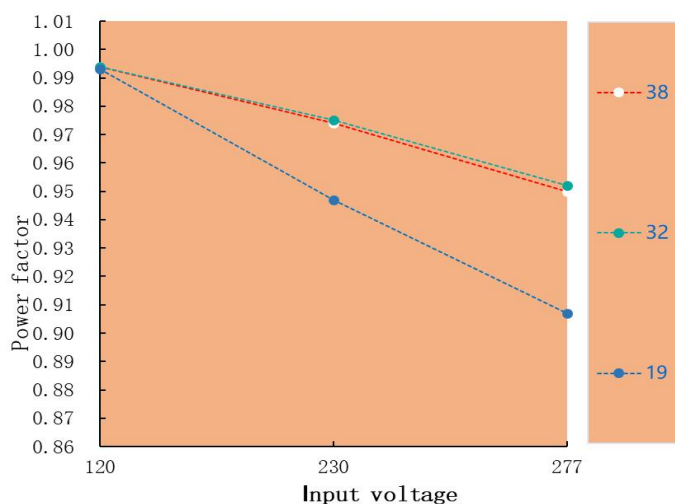
**T.H.D. VS Output voltage HAE-150W-38A**



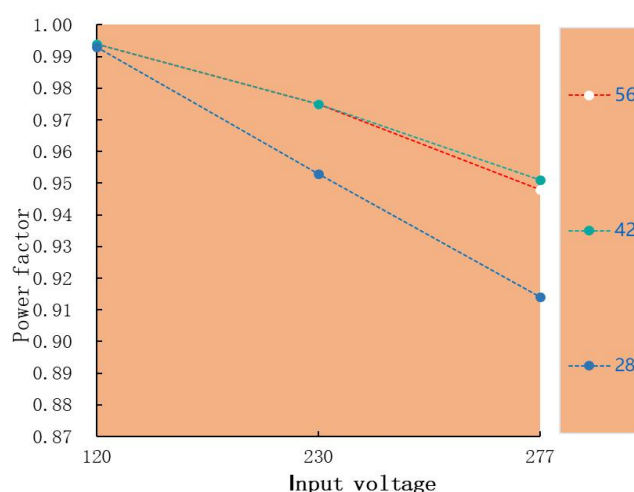
**T.H.D. VS Output voltage HAE-150W-56A**



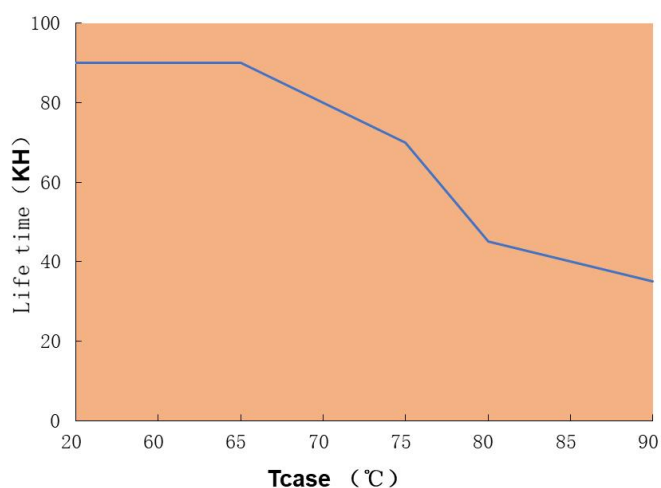
**Power factor VS Input voltage HAE-150W-38A**



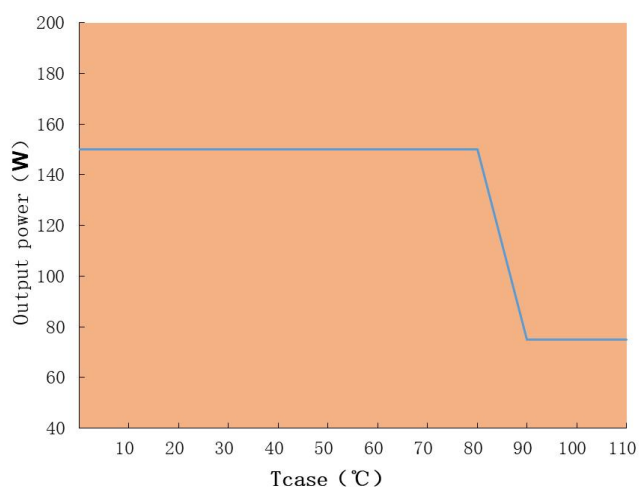
**Power factor VS Input voltage HAE-150W-56A**



**Tcase VS Life time HAE-150W-38/56A**

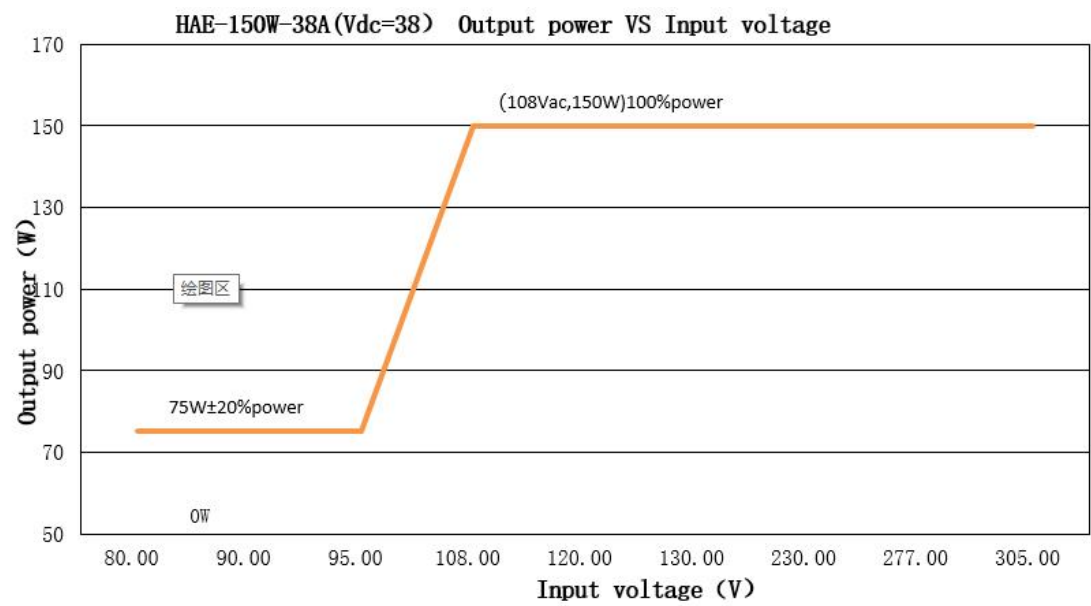


**Output power VS Tcase HAE-150W-38/56A**



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Output power VS Input voltage    HAE-150W-38/56A



HAE-150W-38A (For output 38Vdc, the rated output current & power under different input voltage)

Input Voltage	80Vac	90Vac	95Vac	110Vac	120Vac	130Vac	230Vac	305Vac
Io	1.975A	1.975A	1.975A	3.95A	3.95A	3.95A	3.95A	3.95A
Po	75W	75W	75W	150W	150W	150W	150W	150W

HAE-150W-56A (For output 56Vdc, the rated output current & power under different input voltage)

Input Voltage	80Vac	90Vac	95Vac	110Vac	120Vac	130Vac	230Vac	305Vac
Io	1.34A	1.34A	1.34A	2.68A	2.68A	2.68A	2.68A	2.68A
Po	75W	75W	75W	150W	150W	150W	150W	150W

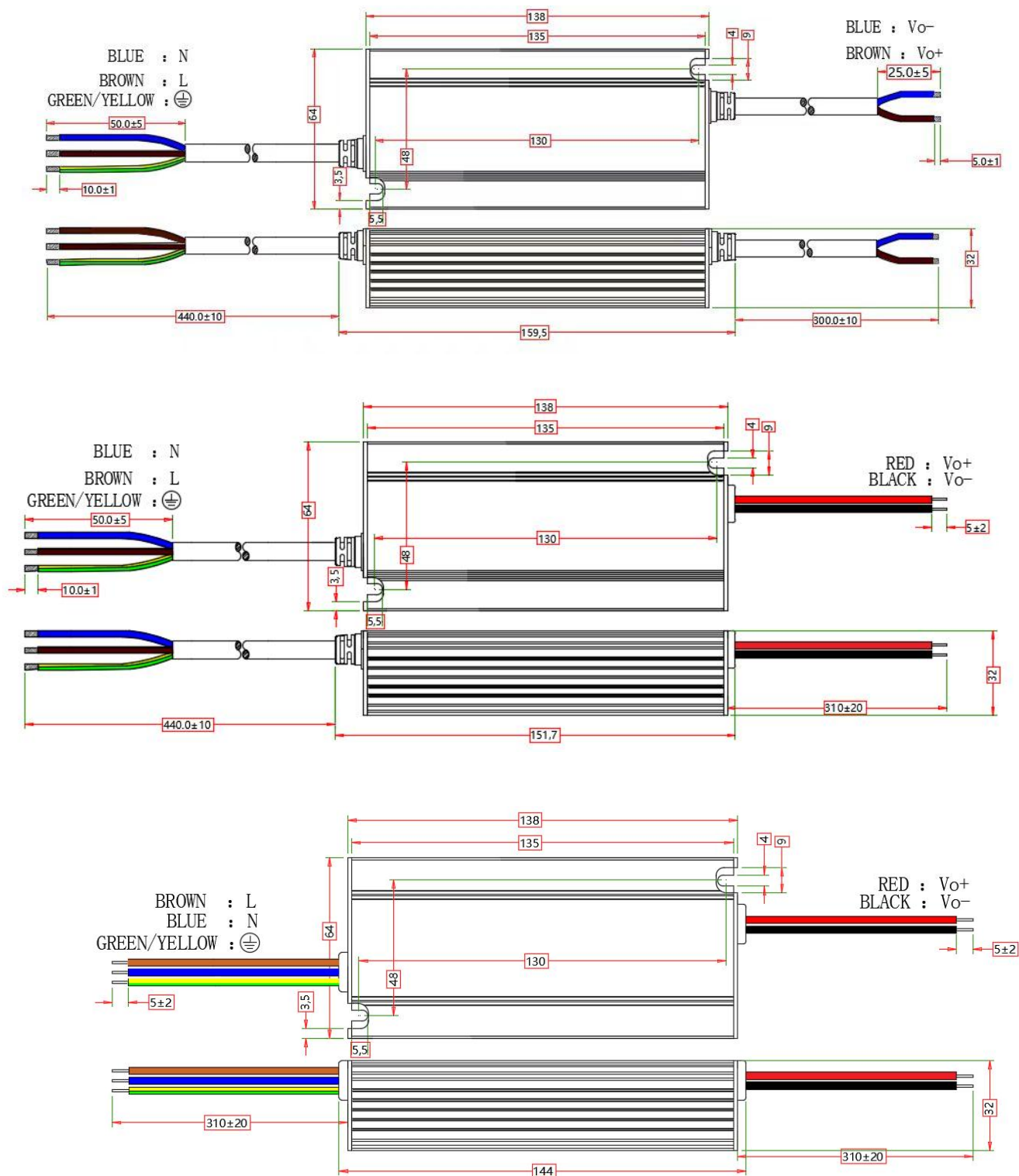
Note:

1.When the input voltage is below 95±5Vac,the output power decreases to 75W±20%.


## Mechanical specification

Size (mm)	138*64*32mm(L*W*H)
Weight (Kg)	580g
Packaging (mm)	

## HAE-150W-38A/56A



The input electronic line has not yet obtained the certificate yet

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Version

DATE	DESCRIPTION	REV.	CHECK
2024.01.12	Initial version.	V1.0	