

SPECIFICATION

Product name : HAE-80W-38/56/112A

Release date : 2024/4/15

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-80W-38/56/112A 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 : 4kV
 - common mode :6kV
- Function available:
 - Output current is dimmed by external potentiometer
- 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-80W-38A	120-277V 50/60Hz	80W	19-38Vdc Rated Power (32-38V)	2.1A	≥90%
HAE-100W-56A	120-277V 50/60Hz	80W	28-56Vdc Rated Power (42-56V)	1.5A	≥91%
HAE-100W-112A	120-277V 50/60Hz	80W	56-112Vdc Rated Power (76-112V)	0.9A	≥91%

Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .
2. When the input is less than 100±10Vac, the output power gradually decreases to 40W±20%, and it recovers full power of 80W when the input is above 110VAC again. Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.

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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	-	-	@200-277Vac input ,with 70%-100%
T.H.D.	-	-	10%	@230Vac input ,with full load
T.H.D.	-	-	20%	@120-277Vac input ,with 70%-100%
Input current	-	-	0.8A	@120Vac input ,with full load
Inrush current	-	-	70A	230Vac, cold start (25°C)

Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current	-	-	-	-
HAE-80W-38A	-	2.1A	-	Rated Load :38VDC
HAE-80W-56A	-	1.5A	-	Rated Load: 56VDC
HAE-80W-112A	-	0.9A	-	Rated Load: 112VDC
Output current range	-	-	-	-
HAE-80W-38A	1.5A	-	2.5A	-
HAE-80W-56A	1.05A	-	1.9A	-
HAE-80W-112A	0.5A	-	0.9A	-
Output voltage range	-	-	-	-
HAE-80W-38A	19V	-	38V	Constant power output range:32-38VDC
HAE-80W-56A	28V	-	56V	Constant power output range:42-56VDC
HAE-80W-112A	56V	-	112V	Constant power output range:76-112VDC
Available power(100±10Vac)	-	40W±20%	-	Decrease to a half once input voltage being less than 110 Vac
Rated power(120-277Vac)	-	80W	-	-

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No-load voltage					
HAE-80W-38A	-	-	50V	-	
HAE-80W-56A	-	-	70V	-	
HAE-80W-112A	-	-	130V	-	
Efficiency@230Vac					
HAE-80W-38A	-		-	@230Vac input ,with full load	
HAE-80W-56A	-	90%	-		
HAE-80W-112A	-	91%	-		
		91%			
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;

Protections

Protection	description
under-voltage protection	When the input voltage is less than $100 \pm 10\text{Vac}$, 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°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°C ;
2. Including setting error, linear adjustment rate and load adjustment rate;

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Environmental characteristics

Environmental categories	Parameter
Working temperature	-40 ~ +55℃@120-277Vac((Refer to "Service Life Curve"))
Safety case temperature	-40 ~ 90℃
Working humidity	20 ~ 95% RH,non-condensing
Storage temperature、humidity	-40~+80℃, 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 (Ta=25℃)
Lifetime	50000 hours @230Vac,80% load, Tcase=75℃,.Refer to” Tcase VS Lifetime” curve for details.

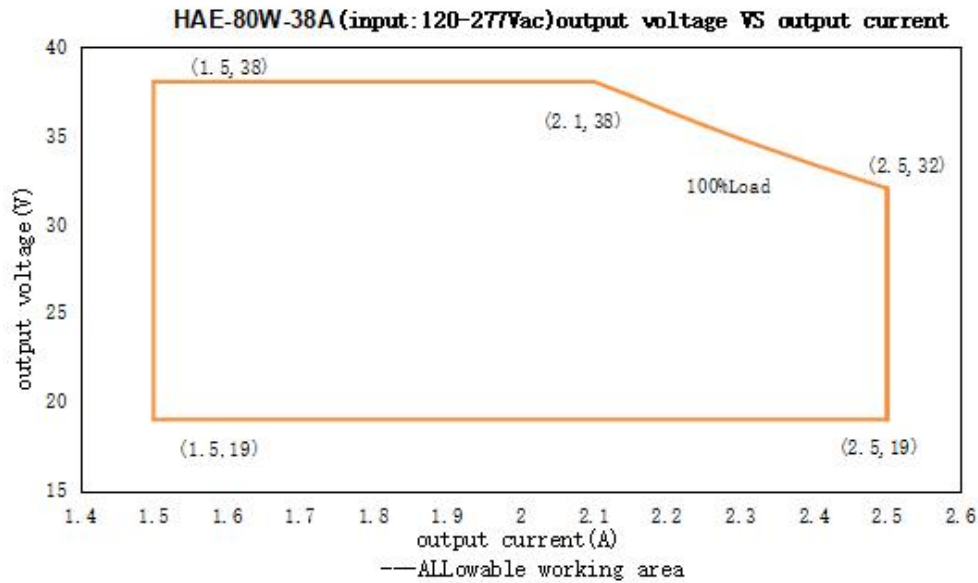
Safety and EMC

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 $\pm 4\text{KV}(2\Omega)$,common mode L, N-PE $\pm 6\text{KV}(12\Omega)$ Refer toIEC61000-4-5 2014
High-pot test	I/P-O/P:3.75KVac I/P-PE :1.5KVac O/P-PE : 0.5KVac
Insulation impedance	I/P-PE:100M Ω / 500VDC; I/P-O/P:100M Ω / 500VDC / 25℃/ 70% RH
Leakage current	<0.7mA@277Vac

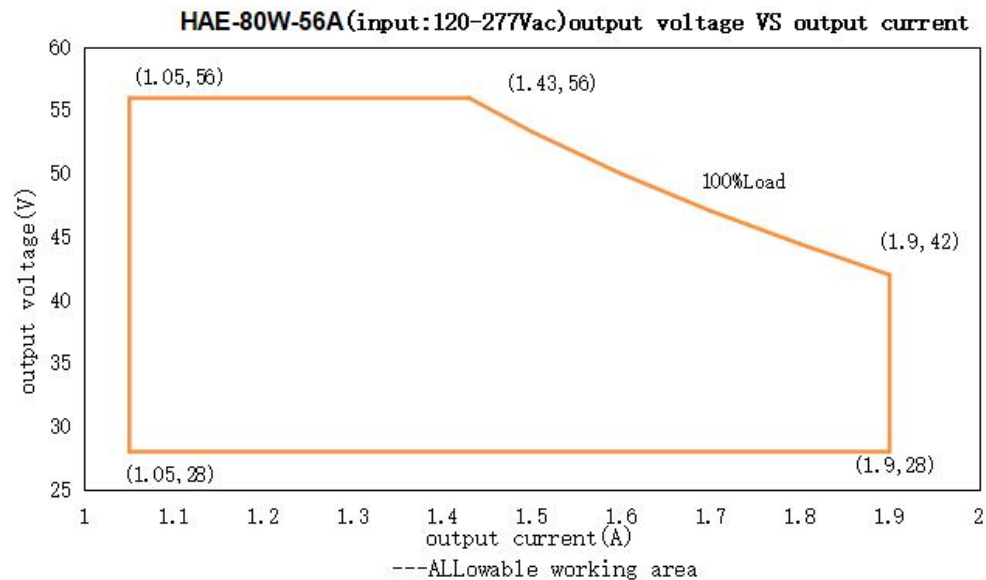
Note:

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.

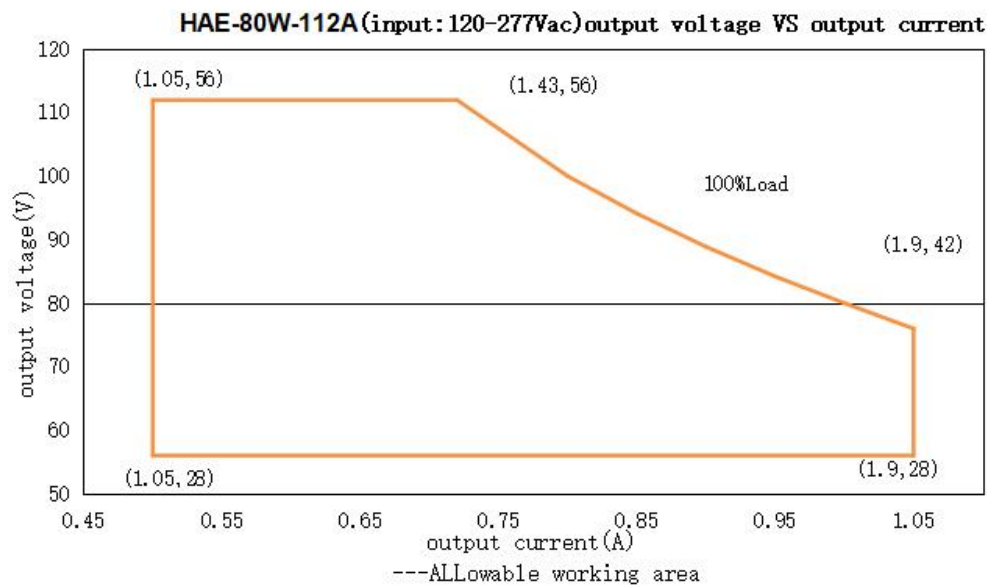
I-V Working area



Load	Output								
Load working Voltage	19V	21V	24V	27V	30V	32V	34V	36V	38V
Io_MAX	2.5A	2.5A	2.5A	2.5A	2.5A	2.5A	2.35A	2.22A	2.1A
Po_MAX	47.5W	52.5W	60W	67.5W	75W	80W	80W	80W	80W

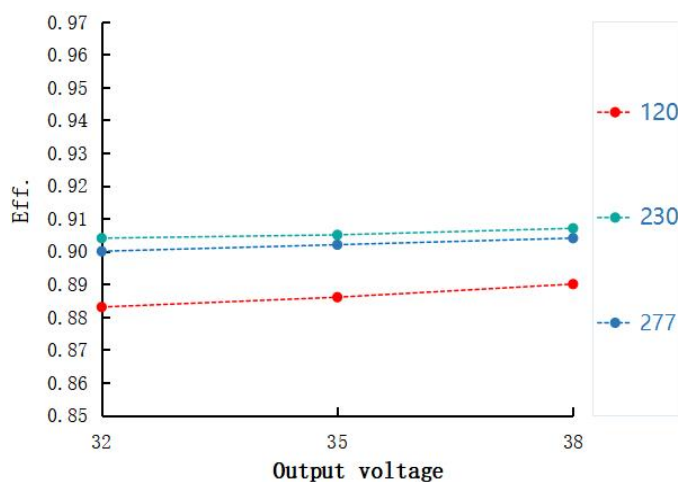


Load	Output								
Load working Voltage	28V	32V	42V	46V	48V	50V	52V	54V	56V
Io_MAX	1.9A	1.9A	1.9A	1.74A	1.67A	1.6A	1.54A	1.48A	1.43A
Po_MAX	53.2W	60.8W	80W	80W	80W	80W	80W	80W	80W

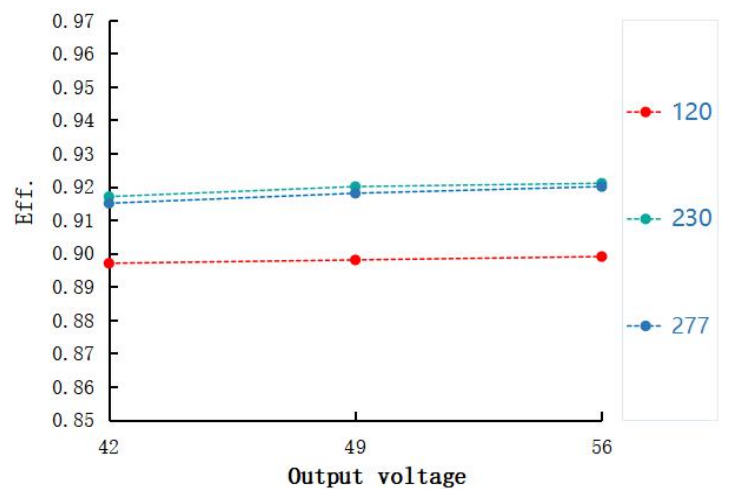


Load	Output								
Load working Voltage	56V	64V	70V	76V	84V	92V	99V	106V	112V
Io_MAX	1.05A	1.05A	1.05A	1.05A	0.95A	0.87A	0.81A	0.75A	0.72A
Po_MAX	58.8W	67.2W	73.5W	80W	80W	80W	80W	80W	80W

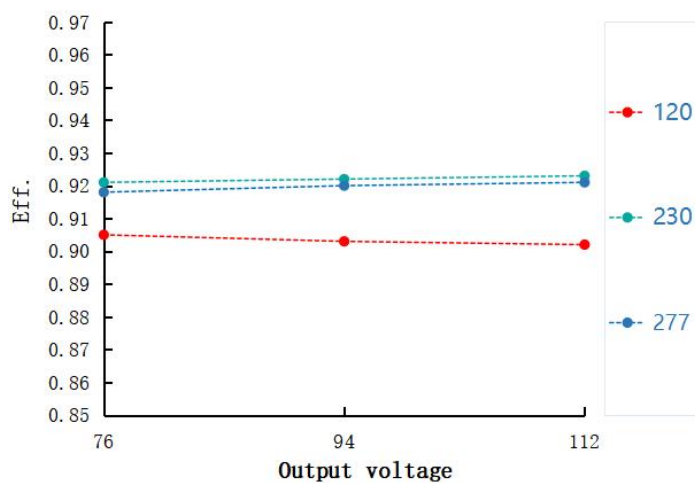
Eff. VS Output voltage HAE-80W-38A



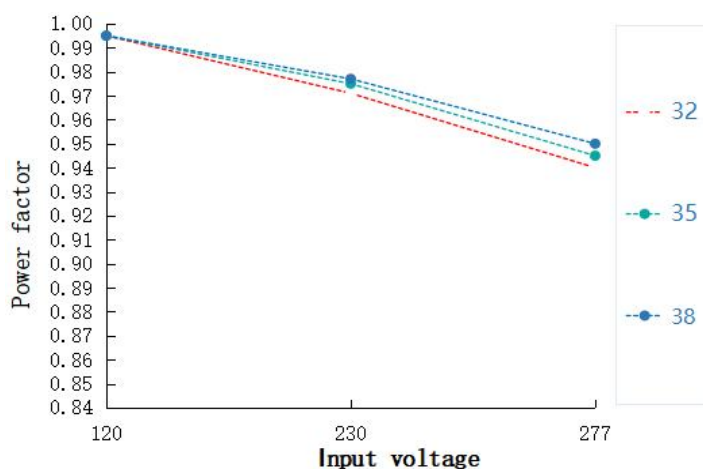
Eff. VS Output voltage HAE-80W-56A



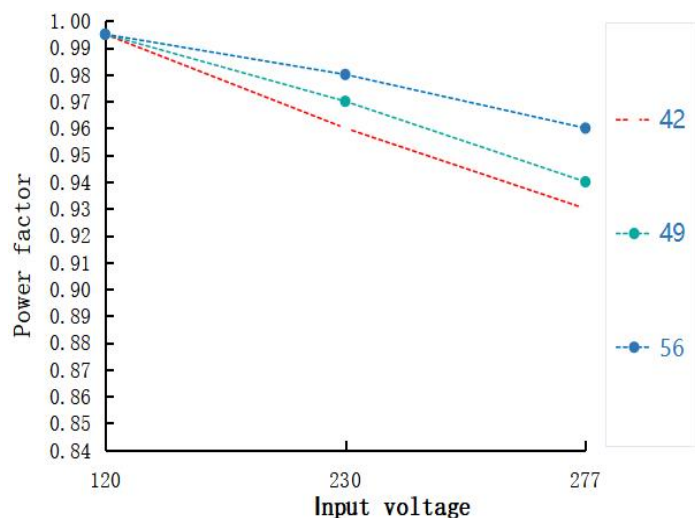
Eff. VS Output voltage HAE-80W-112A



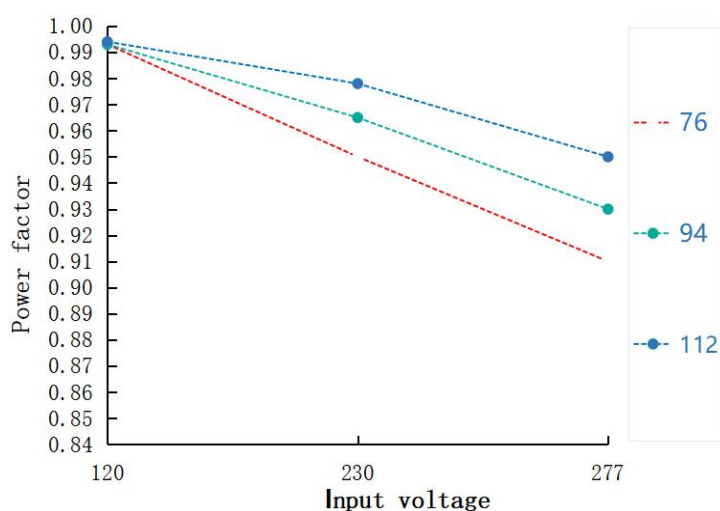
Power factor VS Input voltage HAE-80W-38A



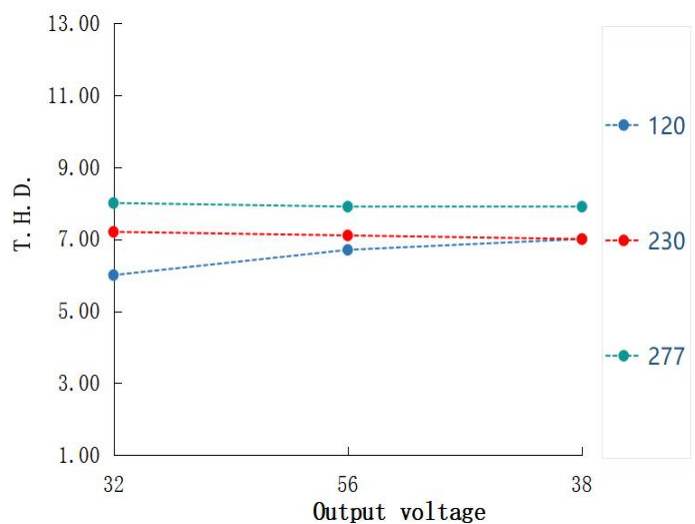
Power factor VS Input voltage HAE-80W-56A



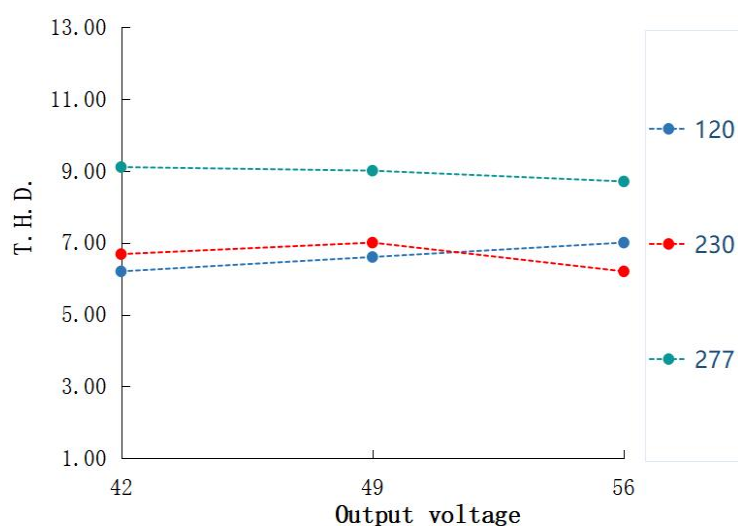
Power factor VS Input voltage HAE-80W-112A



T.H.D. VS Output voltage HAE-80W-38A

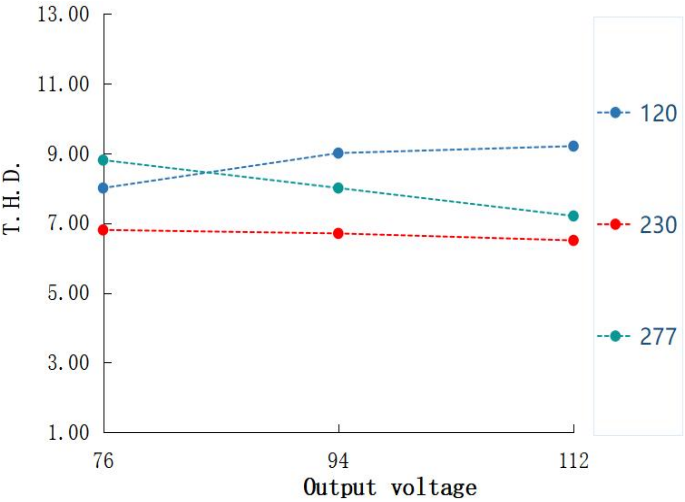


T.H.D. VS Output voltage HAE-80W-56A

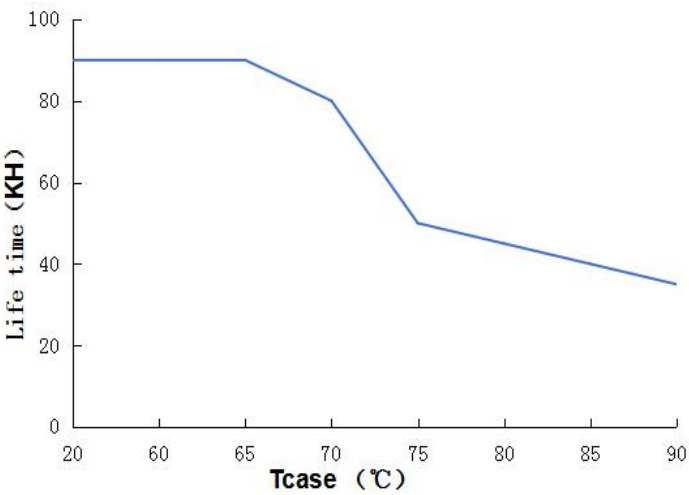


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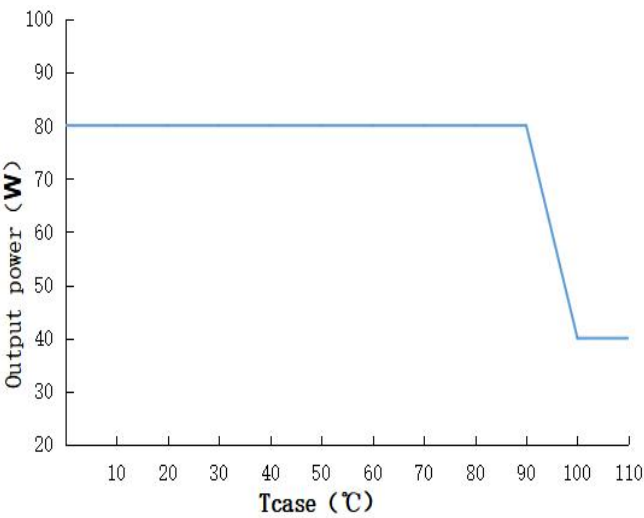
T.H.D. VS Output voltage HAE-80W-112A



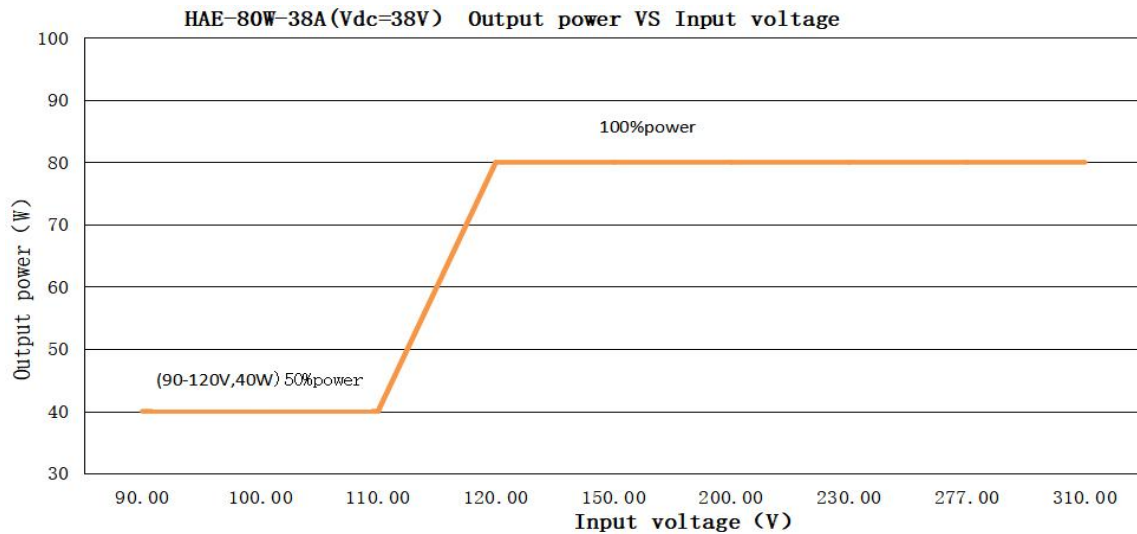
Tcase VS Life time (HAE-80W-38/56/112A)



Output power VS Tcase(HAE-80W-38/56/112A)

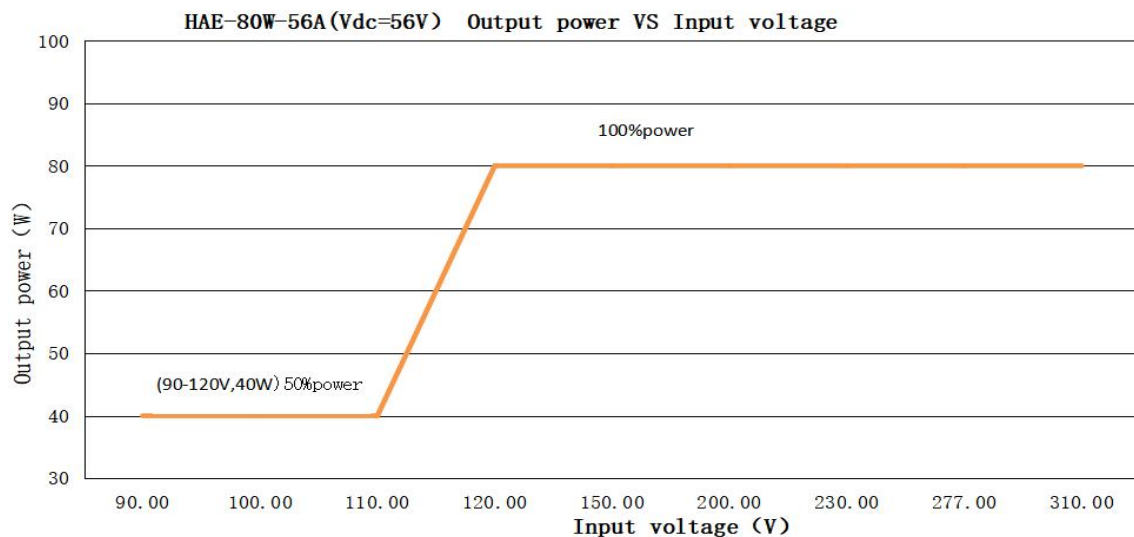


Output power VS Input voltage



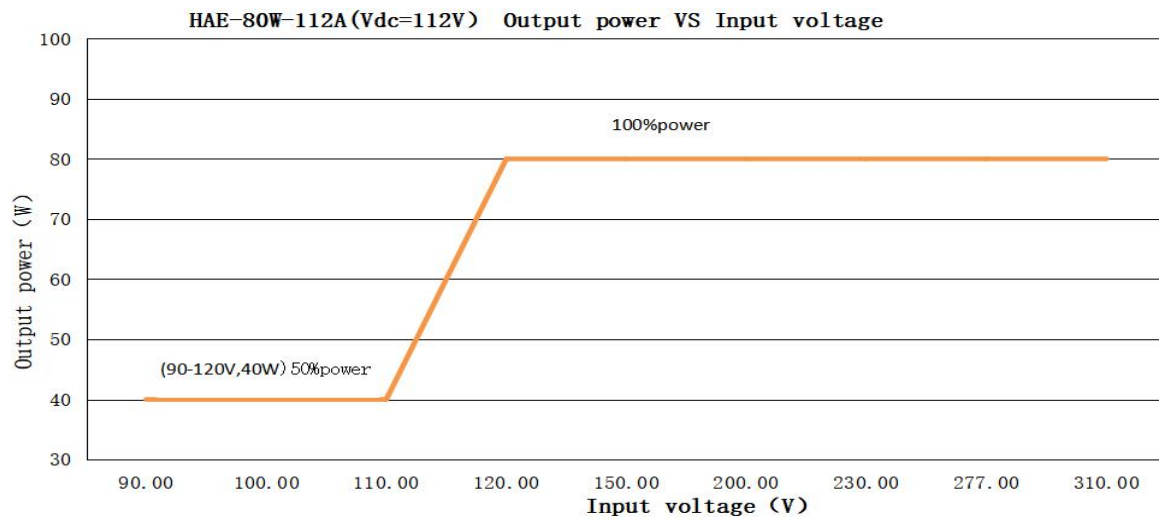
HAE-80W-38A (For output 38Vdc, the rated output current & power under different input voltage)

Input Voltage	90Vac	100Vac	110Vac	120Vac	150Vac	180Vac	230Vac	277Vac
I _o	1.05A	1.05A	1.05A	2.1A	2.1A	2.1A	2.1A	2.1A
P _o	40W	40W	40W	80W	80W	80W	80W	80W



HAE-80W-56A (For output 56Vdc, the rated output current & power under different input voltage)

Input Voltage	90Vac	100Vac	110Vac	120Vac	150Vac	180Vac	230Vac	277Vac
I _o	0.72A	0.72A	0.72A	1.43A	1.43A	1.43A	1.43A	1.43A
P _o	40W	40W	40W	80W	80W	80W	80W	80W



HAE-80W-112A (For output 112Vdc, the rated output current & power under different input voltage)

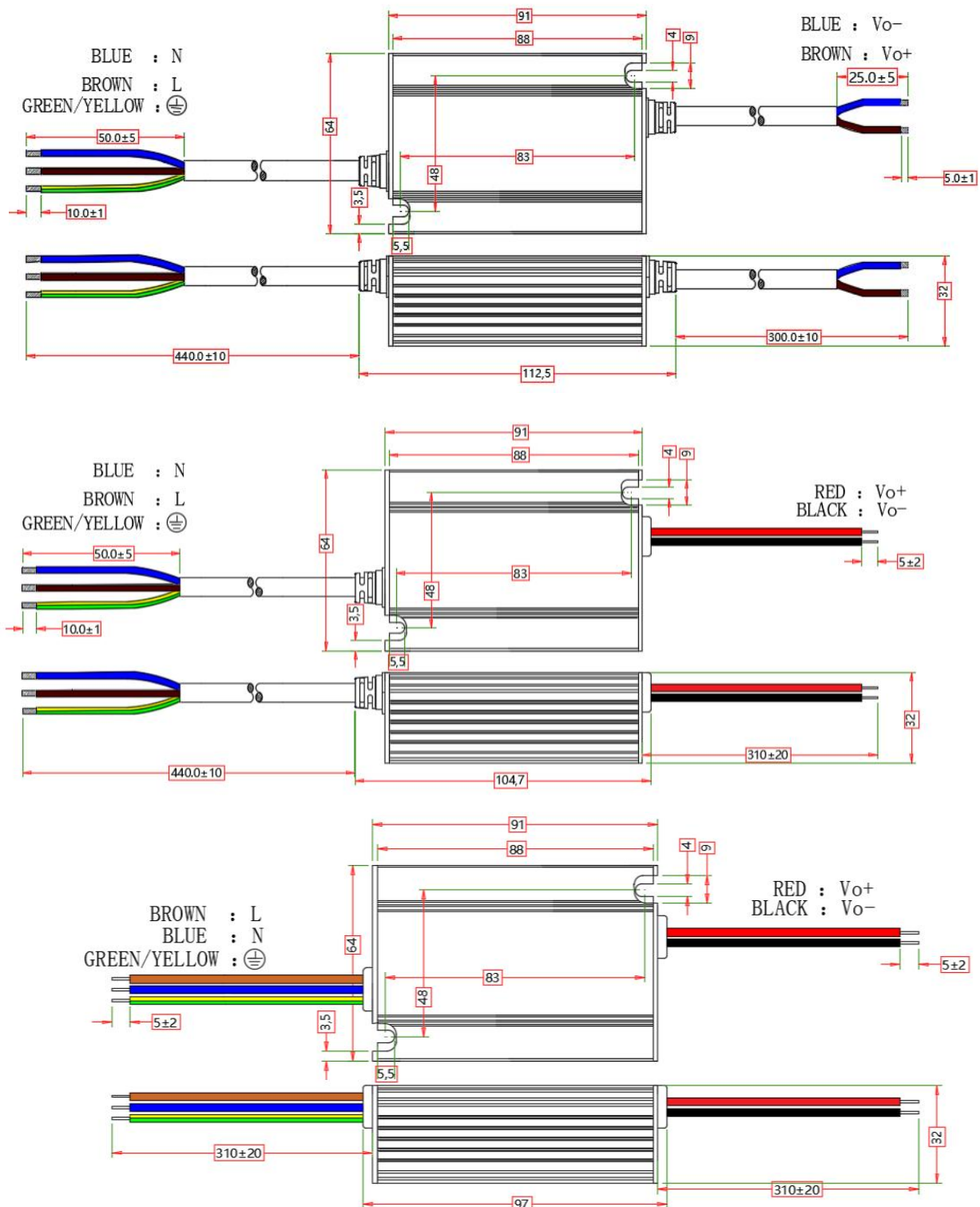
Input Voltage	90Vac	100Vac	110Vac	120Vac	150Vac	180Vac	230Vac	277Vac
I _o	0.36A	0.36A	0.36A	0.72A	0.72A	0.72A	0.72A	0.72A
P _o	40W	40W	40W	80W	80W	80W	80W	80W

- When the input voltage is below 100 ± 10 Vac, the output power decreases to $40W \pm 20\%$.

Mechanical specification

Size (mm)	91*64*32mm(L*W*H)
Weight (Kg)	400g
Packaging (mm)	

HAE-100W-38/56/112A



The input electronic line has not yet obtained the certificate yet

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-80W-38/56/112A Series	REV	V1.0

Version

DATE	DESCRIPTION	REV.	CHECK
2024/4/15	Initial version.	V1.0	