

SPECIFICATION

Product name : HAE-24W

Release date : 2024/1/12

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-24W Series	REV	V1.0

Features.

- Class I type for insulation
- Input voltage range:100-277V ~ 50/60Hz
- Efficiency 85% (Typ.)
- Constant current output ,with power limitation for control mode
- Metal material case, protection grade against water and dust: IP65
- Surge level:
 - differential mode : 2.5kV
 - common mode :2.5kV
- 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-24W-36V	120-277V 50/60Hz	24W	19-36Vdc	0.7A	≥85%
HAE-24W-42V			21-42Vdc	0.6A	≥85%
HAE-24W-68V			34-68Vdc	0.35	≥85%
HAE-24W-72V			36-72Vdc	0.3	≥85%

Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .
- 2.When the input is lower than 95±10Vac, the output power gradually derates. 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	-	-	@120-277Vac 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	-	-	0.3A	@200Vac 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				Rated Load :36VDC
HAE-24W-36V	665mA	700mA	735mA	Rated Load: 42VDC
HAE-24W-42V	570mA	600mA	630mA	Rated Load: 68VDC
HAE-24W-68V	333mA	350mA	368mA	Rated Load: 72VDC
HAE-24W-72V	285mA	300mA	315mA	
Output current range				Without potentiometer, the current error is typical $\pm 5\%$
HAE-24W-36V		700mA		
HAE-24W-42V	-	600mA	-	
HAE-24W-68V	-	350mA	-	
HAE-24W-72V		300mA		
Output voltage range				
HAE-24W-36V	19V	-	36V	
HAE-24W-42V	21V	-	42V	
HAE-24W-68V	34V	-	68V	
HAE-24W-72V	36V		72V	
Available power(95 $\pm$ 10Vac)	-	-	-	When the input voltage is less than 95 $\pm$ 10Vac, linear derating begins
Rated power(120-277Vac)	-	24W	-	-
No-load voltage				
HAE-24W-36V	-	-	50V	
HAE-24W-42V	-	-	50V	
HAE-24W-68V	-	-	85V	
HAE-24W-72V			85V	
Efficiency@230Vac				@230Vac input ,with full load
HAE-24W-36V	-	85%	-	
HAE-24W-42V	-		-	
HAE-24W-68V				
HAE-24W-72V				
Accuracy of output current	-5%	-	+5%	For constant-power range , with full load
Output current Ripple (PK-AV)	-	80%	100%	100% load, 20 MHz BW
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 $95 \pm 10\text{Vac}$, 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;

Environmental characteristics

Environmental categories	Parameter
Working temperature	$-40 \sim +55^{\circ}\text{C}$ @100-277Vac((Refer to "Service Life Curve"))
Safety case temperature	$-40 \sim 90^{\circ}\text{C}$
Working humidity	20 ~ 95% RH,non-condensing
Storage temperature、humidity	$-40 \sim +80^{\circ}\text{C}$, 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 ($T_a=25^{\circ}\text{C}$)
Lifetime	70000 hours @230Vac,80% load, $T_{\text{case}}=75^{\circ}\text{C}$.,Refer to” T_{case} VS Lifetime” curve for details.

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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 $\pm 2.5\text{KV}(2\Omega)$, common mode L, N-PE $\pm 2.5\text{KV}(12\Omega)$ 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
Insulation impedance	I/P-PE: $100\text{M}\Omega / 500\text{VDC}$; I/P-O/P: $100\text{M}\Omega / 500\text{VDC} / 25^\circ\text{C} / 70\% \text{RH}$
Leakage current	$<0.7\text{mA}@277\text{Vac}$

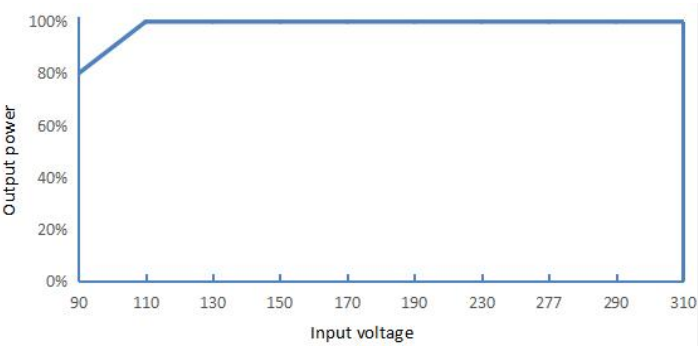
Note:

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.

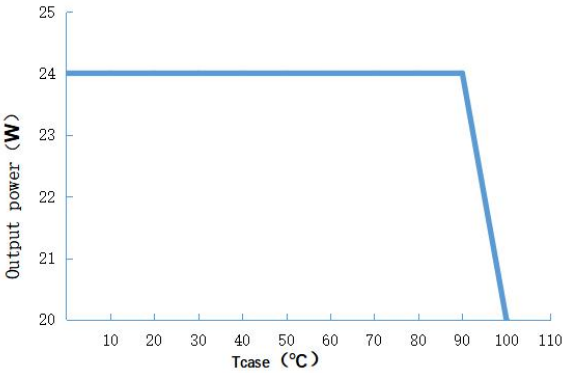
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characteristic curve

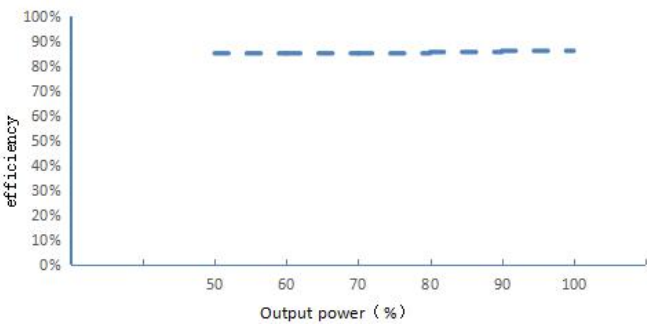
Output power vs. input voltage



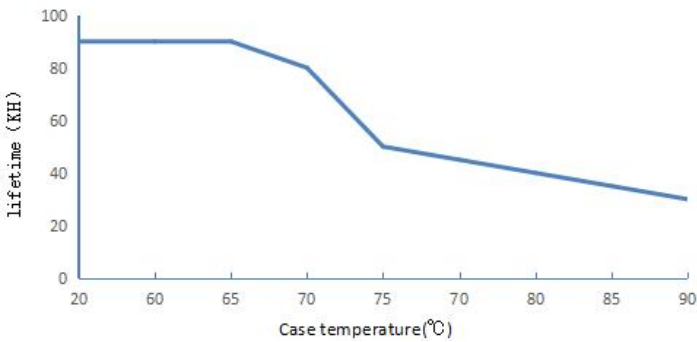
Output power vs. ambient temperature curve



Efficiency vs. output power



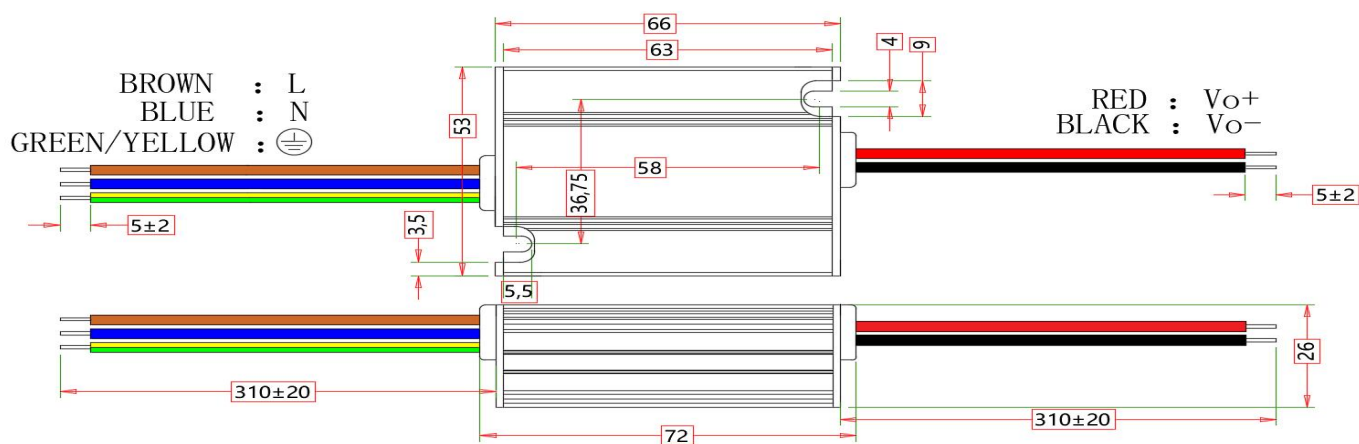
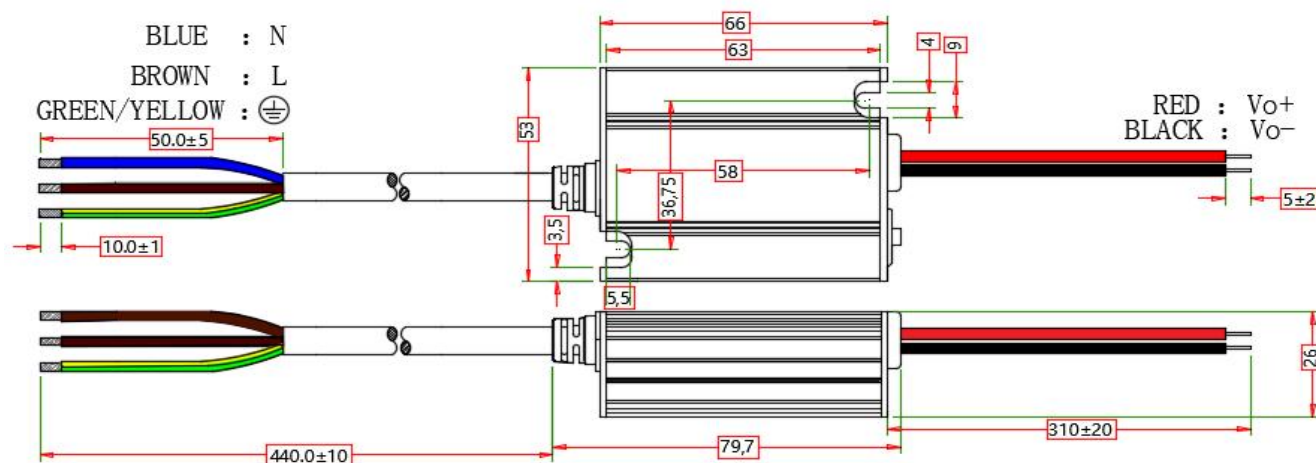
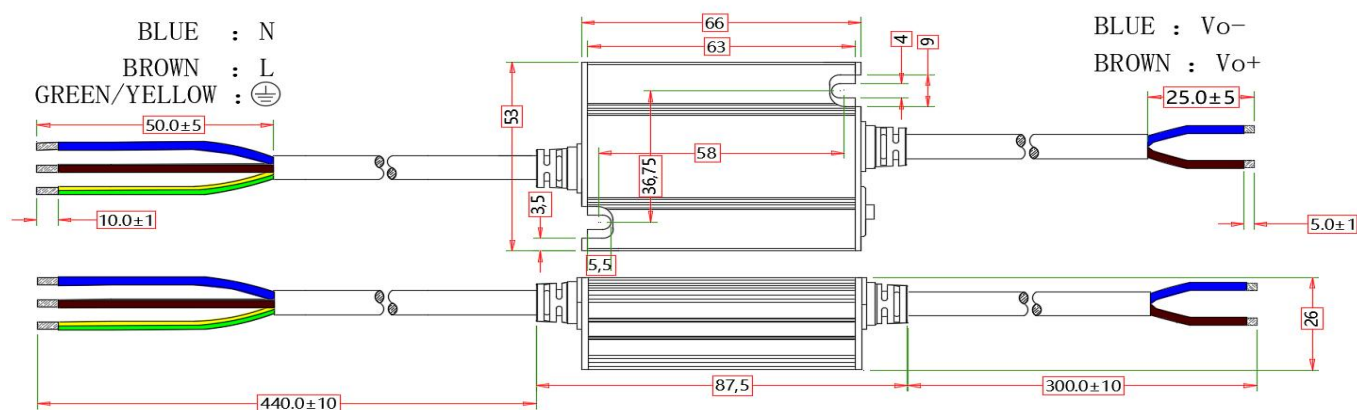
Tc VS Life (HAE-24W)



Mechanical specification

Size (mm)	L66mm*W53mm*H26mm
Weight (Kg)	370g
Packaging (mm)	

HAE-24W-36/42/68/72V



The input electronic line has not yet obtained the certificate yet

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Version

DATE	DESCRIPTION	REV.	CHECK
2024.1.12	Initial version.	V1.0	