

SPECIFICATION

Product name : HAE-12W-22/42V

Release date : 2024/1/12

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-12W Series	REV	V1.0

Features•

- Class I type for insulation
- Input voltage range:120-277V ~ 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-12W-22V	120-277V 50/60Hz	12W	11-22Vdc	0.6A	≥85%
HAE-12W-42V			21-42Vdc	0.3A	≥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.

SUNCOM	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-12W Series	REV	V1.0

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	-	-	0.2A	@200Vac input ,with full load
Inrush current	-	-	70A	230Vac, cold start (25°C)

SUNCOM	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-12W Series	REV	V1.0

Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current HAE-12W-22V HAE-12W-42V	570mA 285mA	600mA 300mA	630mA 315mA	Rated Load :22VDC Rated Load: 42VDC
Output current range HAE-12W-22V HAE-12W-42V	- -	0.6A 0.3A	- -	Without potentiometer, the current error is typical $\pm 5\%$
Output voltage range HAE-12W-22V HAE-12W-42V	11V 21V	- - -	22V 42V	
Available power(95 ± 10 Vac)	-	-	-	When the input voltage is less than 95 ± 10 Vac, linear derating begins
Rated power(120-277Vac)	-	12W	-	-
No-load voltage HAE-12W-22V HAE-12W-42V	- -	- -	35V 50V	- -
Efficiency@230Vac HAE-12W-22V HAE-12W-42V	- -	85%	- -	@230Vac input ,with full load
Accuracy of output current	-5%	-	+5%	For constant-power range , with full load
Output current Ripple (PK-AV)	-	85%	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;

SUNCOM	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-12W Series	REV	V1.0

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	$-40 \sim +55^{\circ}\text{C}@120\text{-}277\text{Vac}$ ((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.

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-12W Series	REV	V1.0

Safety and EMC

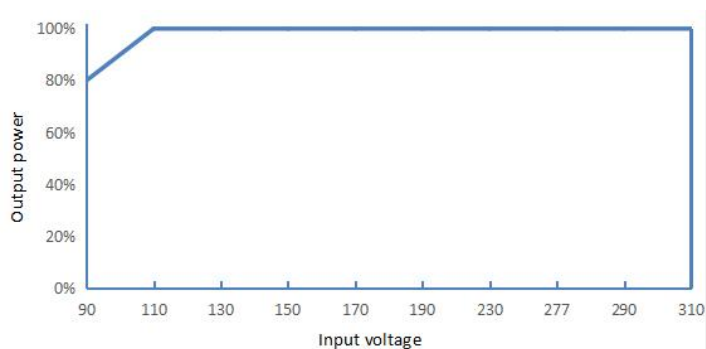
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	Differential mode L-N $\pm 2.5\text{KV}(2\Omega)$, common mode L, N-PE $\pm 2.5\text{KV}(12\Omega)$ 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: 100M Ω / 500VDC; I/P-O/P: 100M Ω / 500VDC / 25 $^{\circ}\text{C}$ / 70% RH
Leakage current	<0.7mA@277Vac

Note:

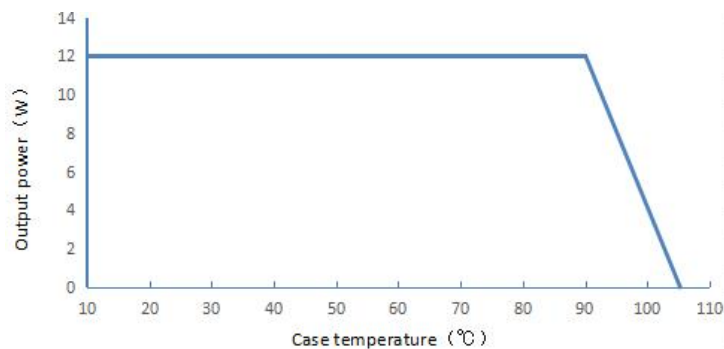
1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.

characteristic curve

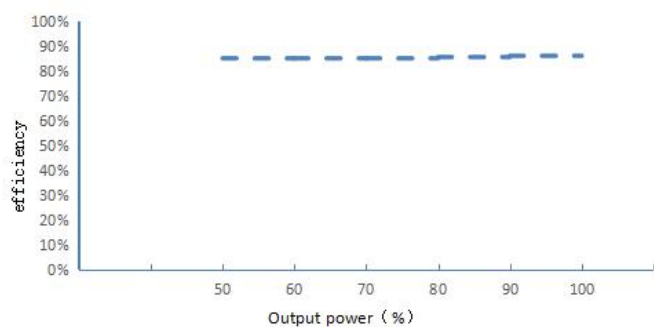
Output power vs. input voltage



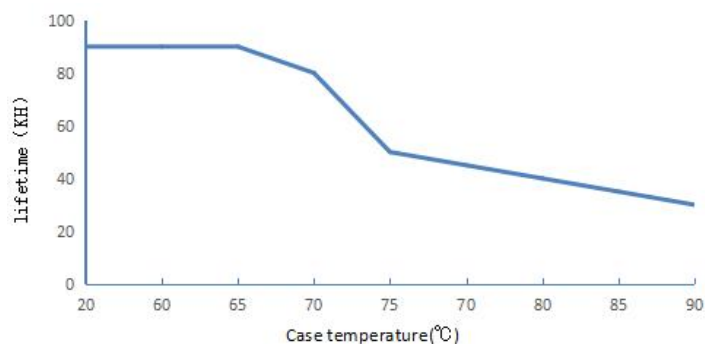
Output power vs. ambient temperature curve



Efficiency vs. output power



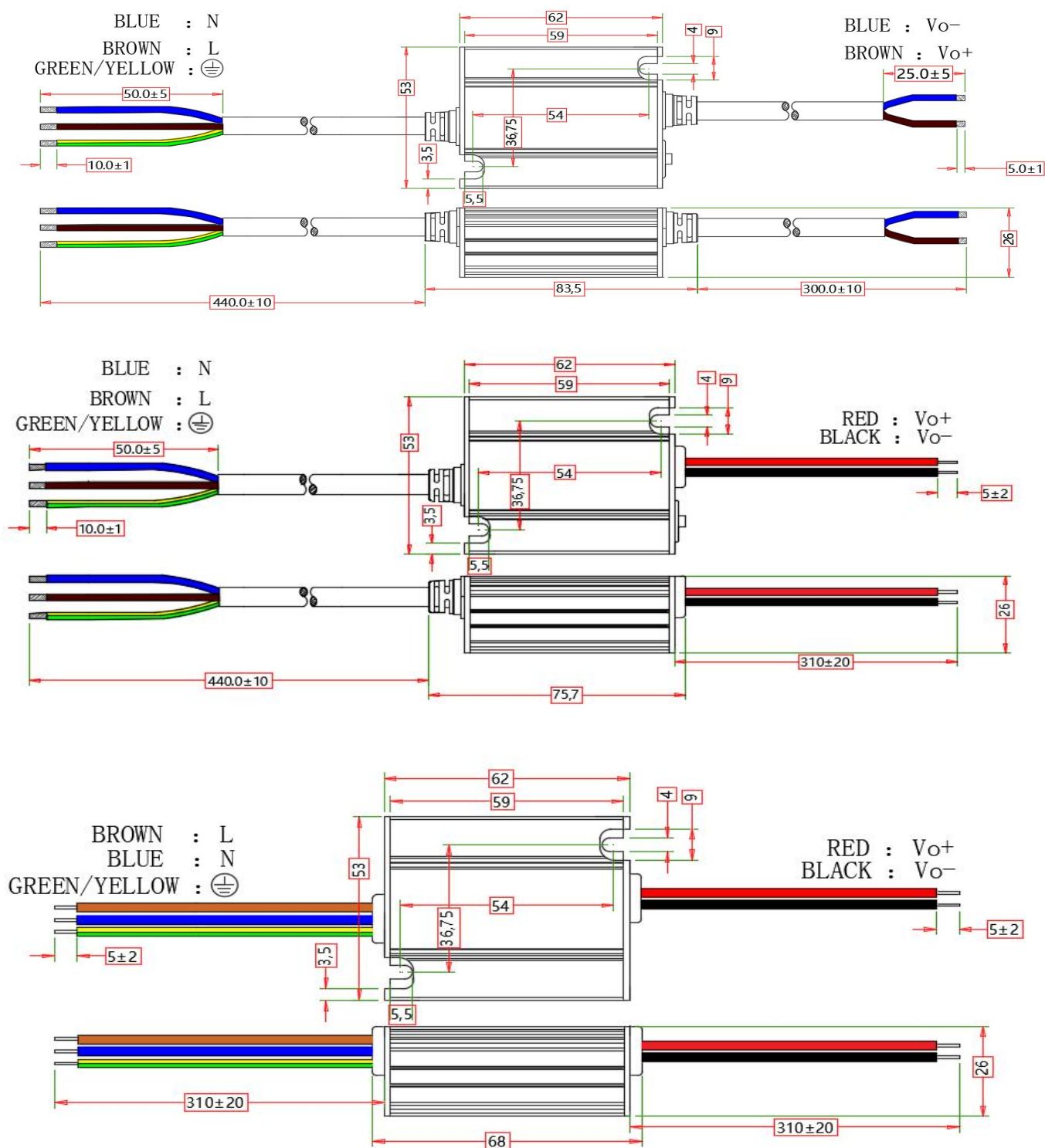
Tc VS Life (HAE-12W)



Mechanical specification

Size (mm)	L62mm*W53mm*H26mm
Weight (Kg)	170g
Packaging (mm)	

HAE-12W-22/42V



The input electronic line has not yet obtained the certificate yet

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HAE-12W Series	REV	V1.0

Version

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