

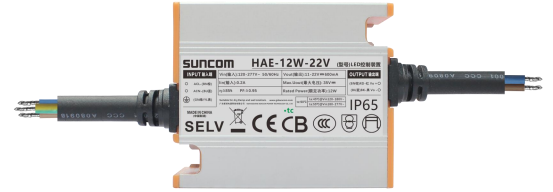
SPECIFICATION

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

Release date : 2024/1/12

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°C, 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.

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)

Output characteristics

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

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.

Safety and EMC

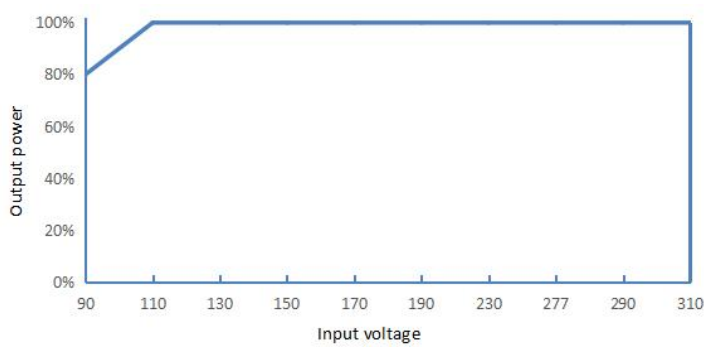
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	Differential mode L-N $\pm 2.5KV(2\Omega)$, common mode L, N-PE $\pm 2.5KV (12\Omega)$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

Note:

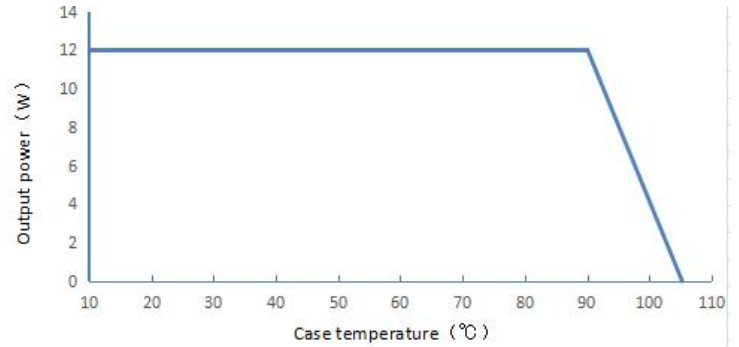
1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.

characteristic curve

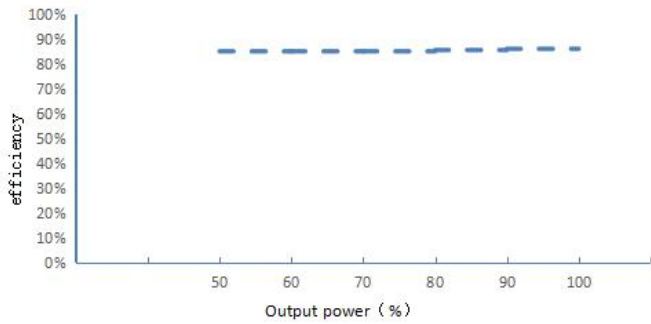
Output power vs. input voltage



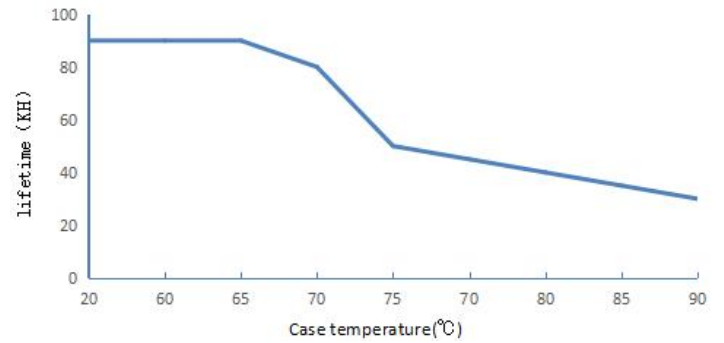
Output power vs. ambient temperature curve



Efficiency vs. output power



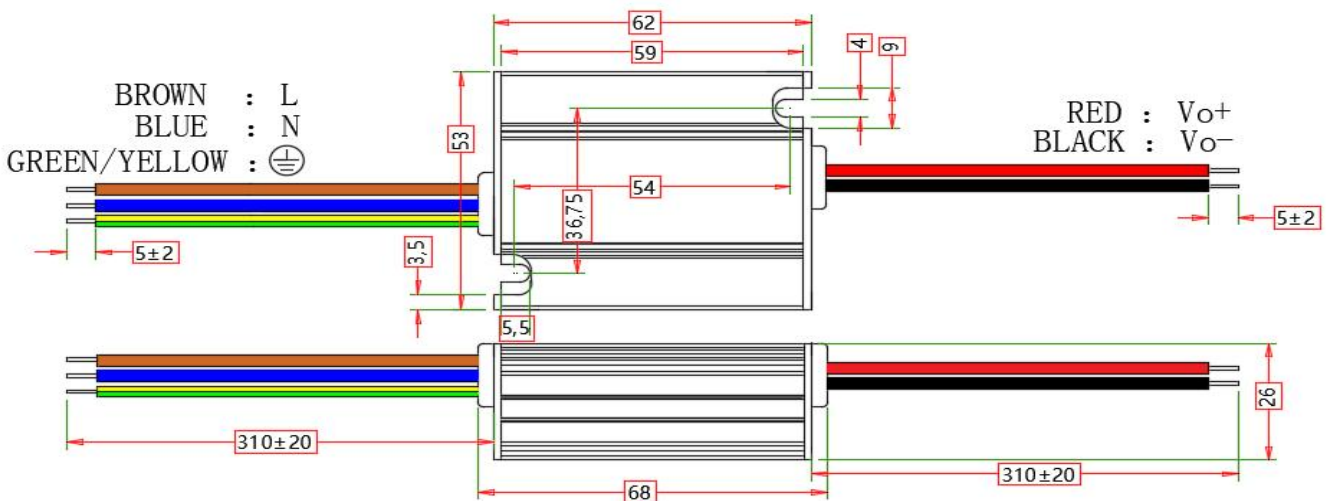
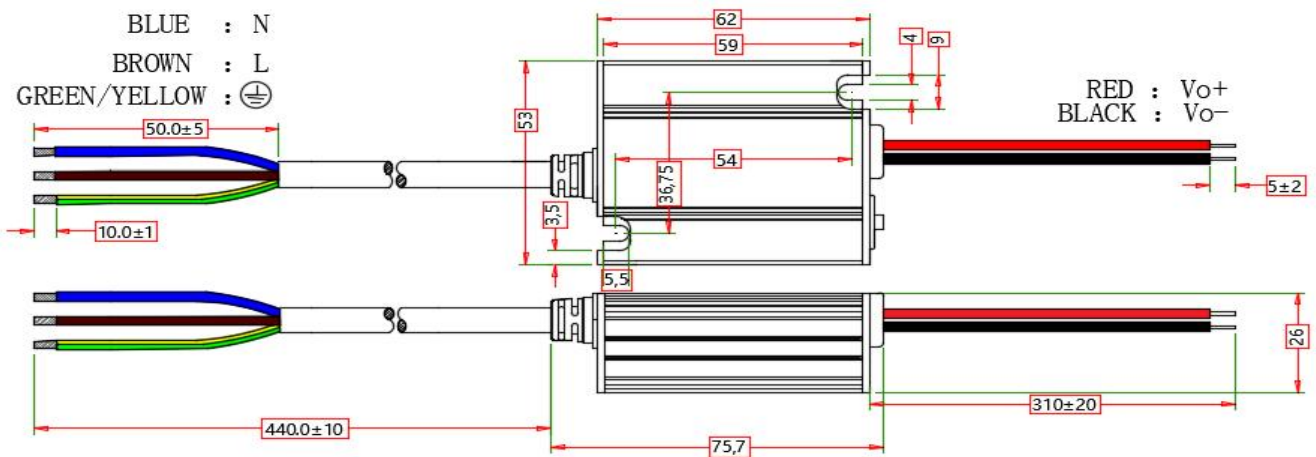
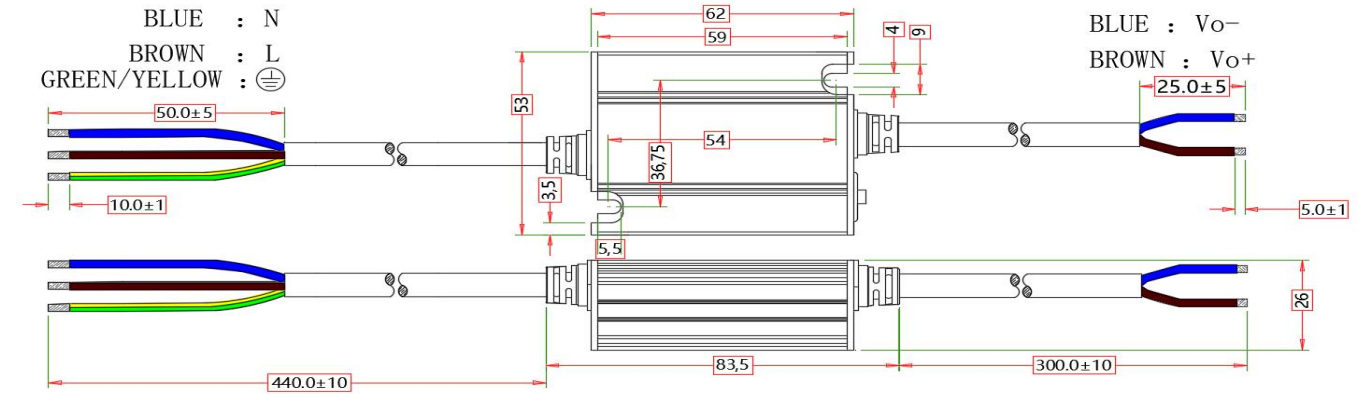
Tc VS Life (HAE-12W)



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	