

SPECIFICATION

Product name : HVS-120W-260X(RT)

Release date : 2023/10/24

	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	HVS-120W-260X Series(RT)	REV	V1.0

Features

- Class I type for insulation
- Input voltage range:100-277V ~ 50/60Hz
- Efficiency 94% (Typ.)
- Constant current output ,with power limitation for control mode
- Metal material case, protection grade against water and dust: IP67
- Surge level:
 - differential mode : 6kV
 - common mode :10kV
- Function available:
 - Output current is dimmed by external potentiometer (Only Type A)
 - Output current is dimmed by Isolated 3 in 1 dimmer (Only Type B)
 - Output current dimmed by isolated 3-in-1 dimmer +12V auxiliary power output (Only Type C)
- guaranteed Lifetime : 5 years



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.
HVS-120W-260A HVS-120W-260B HVS-120W-260C HVS-120W-260XP	120-277V 50/60Hz (Power reduction when the input is less than 120Vac)	120W	180-260Vdc Rated Power (200-260V)	0.5A	≥94%

Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .
2. When the input is less than 80±10Vac, the output power gradually decreases to 0W,and it recoveries full power of 120W when the input is above 80VAC 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	90Vac	-	305Vac	-
Rated frequency range	47Hz	50/60Hz	63Hz	-
Power factor	0.95	-	-	@230Vac input ,with full load
Power factor	0.9	-	-	@100-277Vac input ,with 70%-100%
T.H.D.	-	-	10%	@230Vac input ,with full load
T.H.D.	-	-	20%	@100-277Vac input ,with 70%-100%
Input current	-	-	1.5A	@230Vac input ,with full load
Inrush current	-	-	70A	230Vac, cold start (25℃)

Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current	0.3A	-	0.6A	-
Output current range	0.28A	-	0.63A	-
Output voltage range	180V		260V	Constant power output range:200-260VDC
Available power(75-80Vac)	-	0W	-	When the input voltage is less than 80Vac, the output is turned off and the power gradually derates to 0W
Rated power(100-277Vac)	-	120W	-	Power reduction when the input is less than 120Vac
No-load voltage	-	-	300v	-

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Output characteristics

Parameter	Min	Typ.	Max	Remark
Efficiency@230Vac	-	94%	-	@230Vac input ,with full load
Accuracy of output current	-3%	-	+3%	For constant-power range , with full load
Output current ripple (PK-AV)		5%	10%	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;

Dimming characteristics

Dimming function		Min	Typ.	Max	Instructions
1-10V Dimming (Optional)	Safe operation voltage range	1V	-	12V	Beyond the range may lead to a failure of the driver.
	Dimming output range	10%	-	100%	-
	Rated operation voltage range	1V	-	10V	-
PWM Dimming (Optional)	PWM high level	9.5V	-	10.5V	-
	PWM low level	0V	-	0.3V	-
	Rated dimming frequency	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	full power output at 99%duty cycle
Resistor Dimming (Optional)	Rated external resistance value	10KΩ	-	100KΩ	-
	Dimming output range	10%	-	100%	-

Note:

- 1.Output current of dimming port: 100uA (typical value).
- 2.The maximum operation voltage for the dimming port is 12V. Wrong voltage beyond the range or a reverse connection may lead to a critical failure of the driver.
- 3.1-10V dimming, when the dimming signal is 0V, Vout drops to 40% of the rated voltage, the lamp board discharges through the Y capacitor, and there is a slight bright phenomenon (afterglow).

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Protections

Protection	description
under-voltage protection	When the input voltage is less than $80 \pm 10\text{Vac}$, 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	Self-recoverable type; When the casing temperature is greater than 90°C , the output power decreases as the casing temperature increases
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	$-40 \sim +55^{\circ}\text{C}@100\text{-}277\text{Vac}$ ((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	50000 hours @230Vac,80% load, $T_{\text{case}}=75^{\circ}\text{C}$.,.Refer to” T_{case} VS Lifetime” curve for details.

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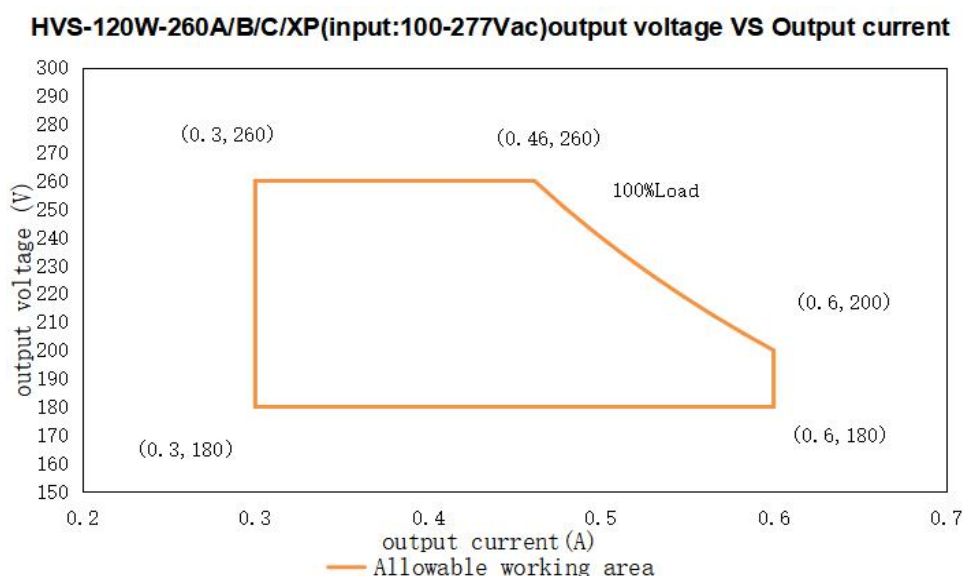
Safety and EMC

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 $\pm 6\text{KV}(2\Omega)$, common mode L, N-PE $\pm 10\text{KV}(12\Omega)$ Refer to IEC61000-4-5 2014
High-pot test	I/P-PE: 1.5KVac I/P-DIM: 3.75KVac
Insulation impedance	I/P-PE: $10\text{M}\Omega / 500\text{VDC}$; I/P-O/P: $10\text{M}\Omega / 500\text{VDC} / 25^\circ\text{C} / 70\% \text{RH}$
Leakage current	$<0.7\text{mA}@277\text{Vac}$

Note:

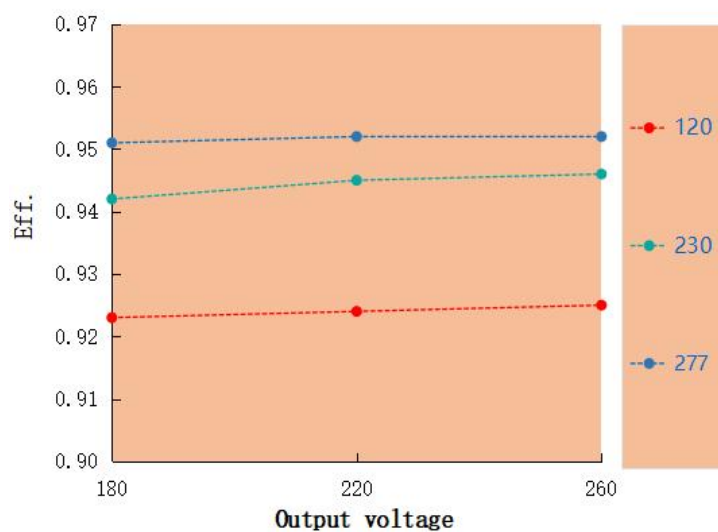
1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.

I-V Working area

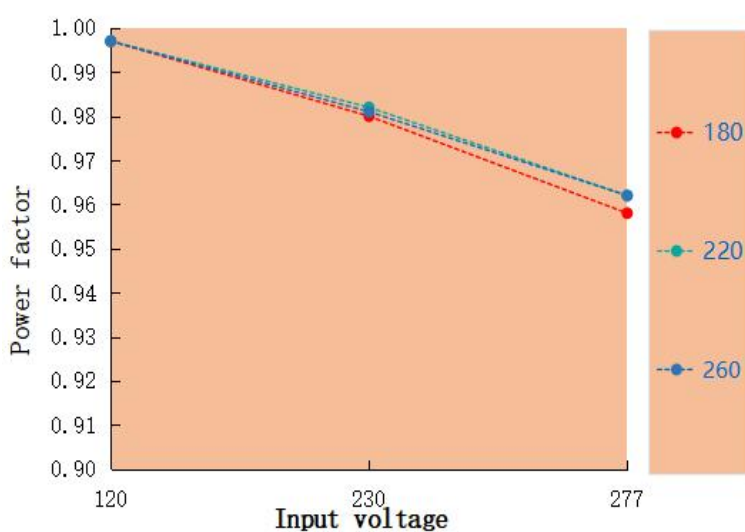


Load	Output								
Load working Voltage	180V	190V	200V	210V	220V	230V	240V	250V	260V
Io_MAX	0.60A	0.60A	0.60A	0.57A	0.54A	0.52A	0.50A	0.48A	0.46A
Po_MAX	108W	114W	120W	120W	120W	120W	120W	120W	120W

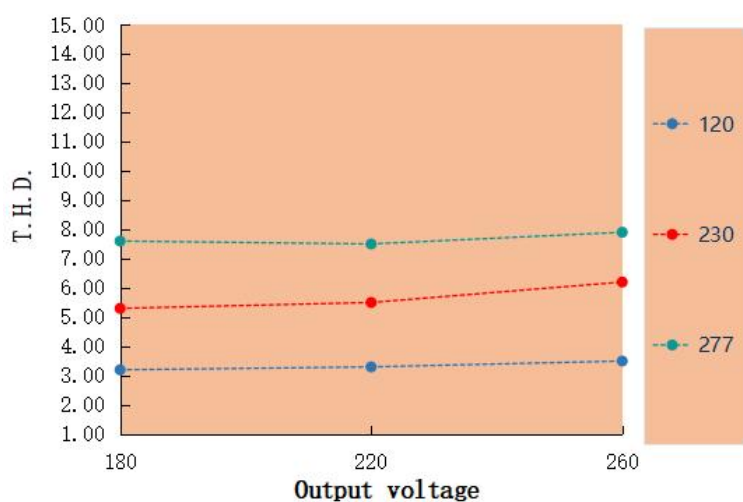
Eff. VS Output voltage



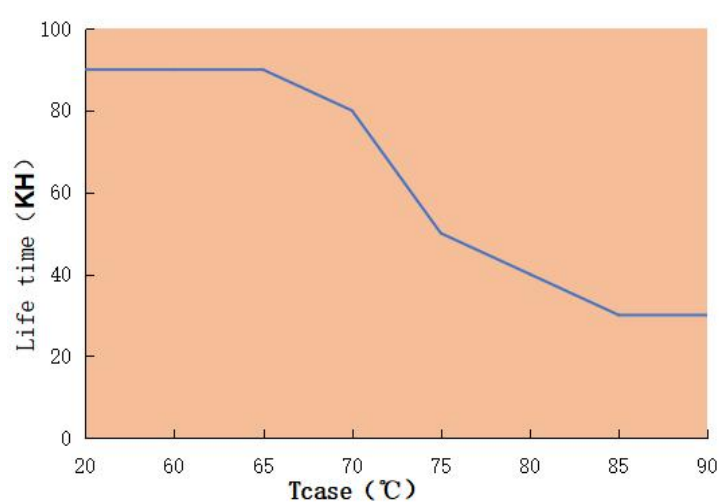
Power factor VS Input voltage



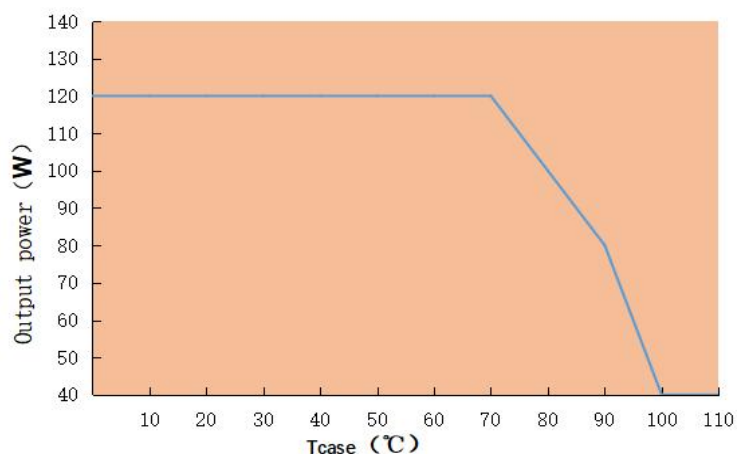
T.H.D. VS Output voltage



Tcse VS Life time

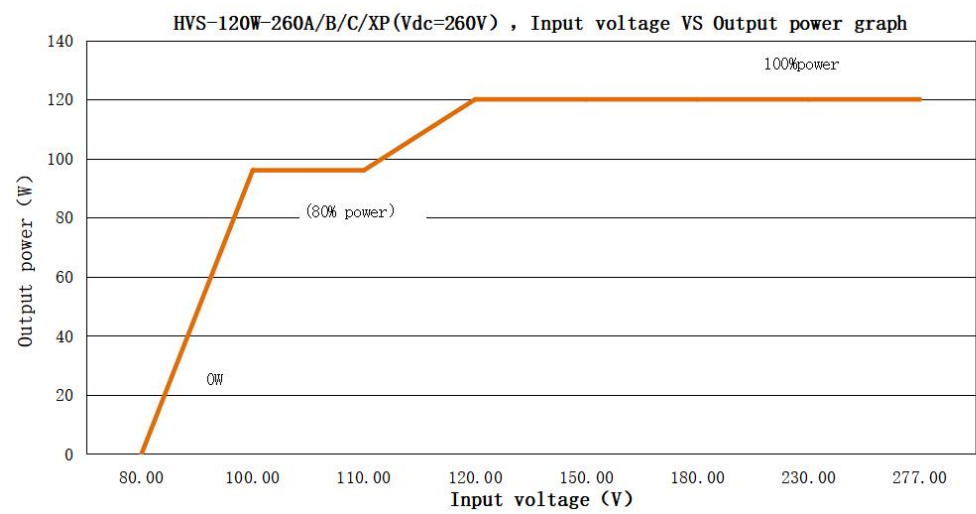


Output power VS Tcse



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Output power VS Input voltage



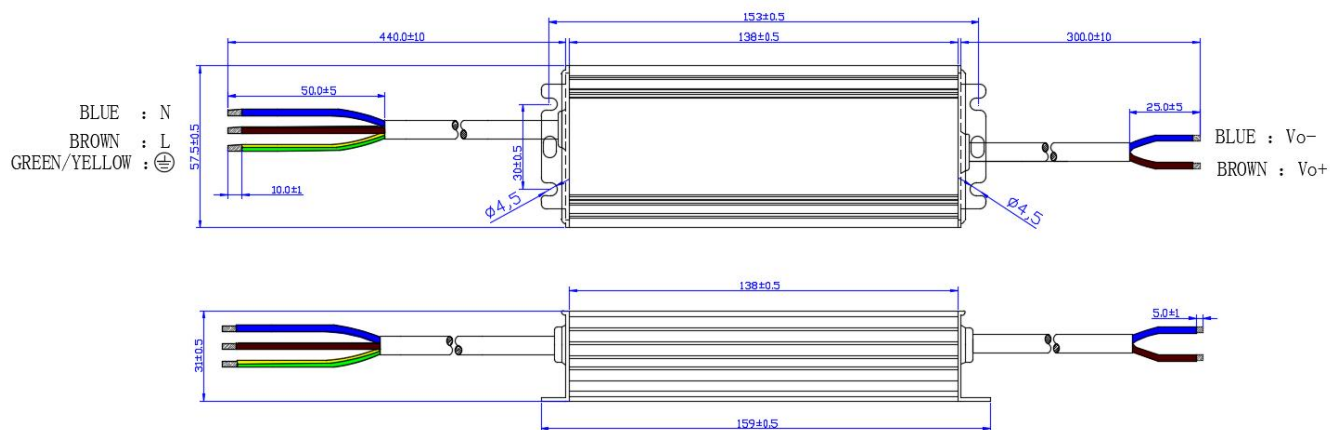
HVS-120W-260A/B/C/XP (For output 260Vdc, the rated output current & power under different input voltage)								
Input Voltage	80Vac	100Vac	110Vac	120Vac	150Vac	180Vac	230Vac	277Vac
I _o	0A	0.37A	0.37A	0.46A	0.46A	0.46A	0.46A	0.46A
P _o	0W	96W	96W	120W	120W	120W	120W	120W

- Note:
1. If the input voltage is lower than 80±10Vac, turn off the output, and the power gradually derates to 0W.
 2. If the input voltage is lower than 120Vac, adjust the potentiometer to derate 80% power. If the input voltage is higher than 120VAC, adjust the potentiometer to restore the full power of 120W.

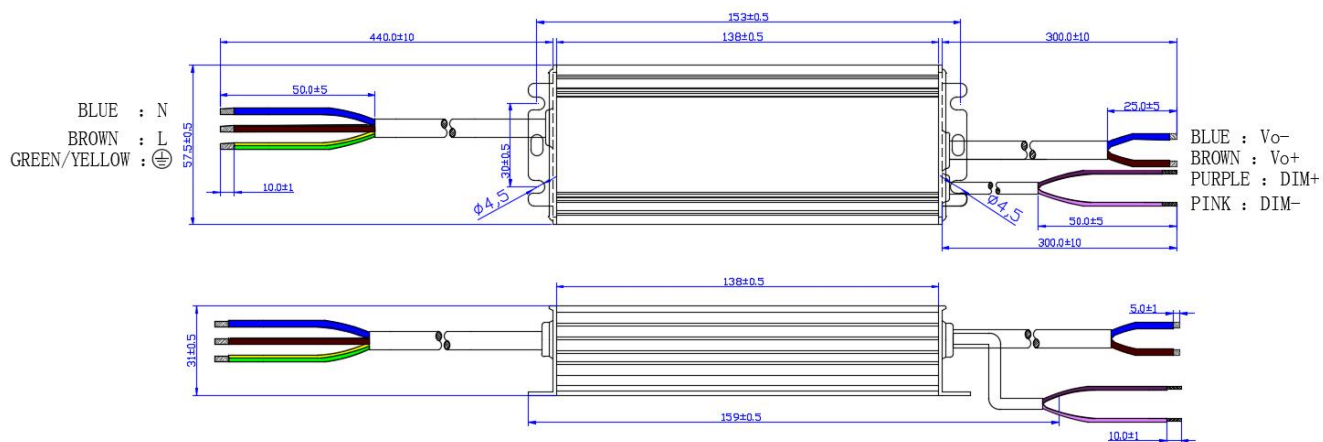
Mechanical specification

Size (mm)	L159mm*W57.5mm*H31mm
Weight (Kg)	500g
Packaging (mm)	

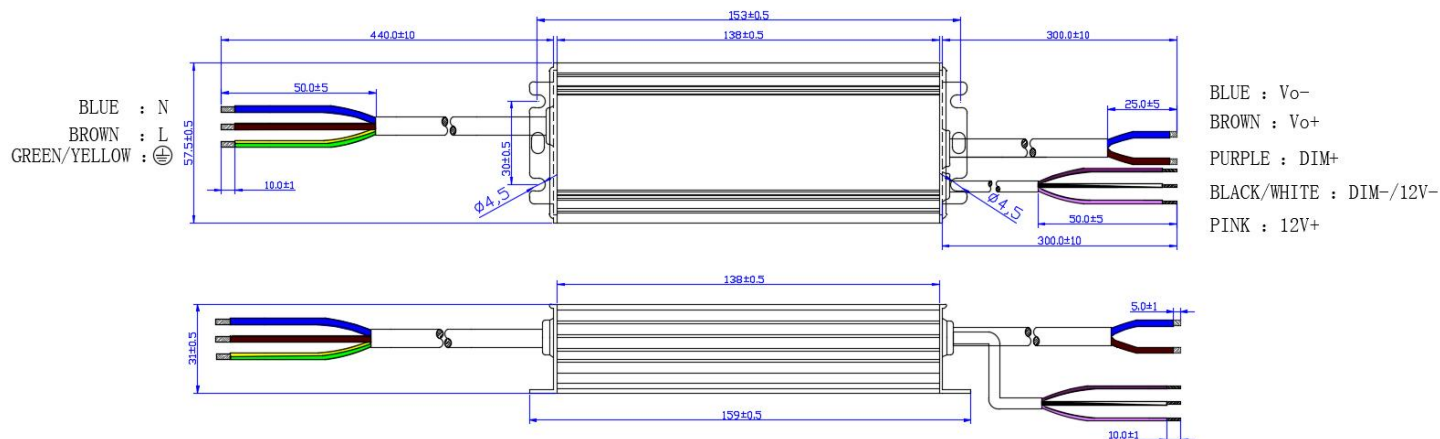
HVS-120W-260A



HVS-120W-260B



HVS-120W-260C/XP



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Version

DATE	DESCRIPTION	REV.	CHECK
2023.10.24	Initial version.	V1.0	