SPECIFICATION

Product name：HVC-320W-56X (RT)

Release date：2025/06/05

Add: Suncom Industrial Park, No.1 Yongyi 3rd Rd,Yongxing Industrial Zone, Henglan Town, ZhongShan,Guangdong,China 528478
400-136-4566 www.gdsuncom.com

Features·

- Class I type for insulation
- Input voltage range:100-277Vac ～ 50/60Hz
- Constant power drive, constant current output control mode
- Metal material case, protection grade against water and dust: IP67
- Surge level：

  differential mode : 6kV

  common mode :10kV
- 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.
HVC-320W-56A/B/C	100-277Vac 50/60Hz	320W	25-56Vdc Rated Power（42-56V）	5.71A±5%	≥94%

Note：

1. Test conditions: If not specified, all specification parameters are measured at 230Vac(50Hz) input, rated load, and ambient temperature of 25℃

2, When the input is less than 85±5Vac, the output is turned off, when the input is higher than 95Vac again, it restores to 320W full power; See the "Output Power vs. Input Voltage" graph for details.

Input characteristics

Parameter	Min	Typ.	Max	Remark
Rated input voltage HVC-320W-56A/B/C	100Vac	230Vac	277Vac	When the input is less than 85±5Vac, the output is turned off
Input voltage range HVC-320W-56A/B/C	100Vac	230Vac	305Vac	When the input is below 120Vac, adjust to 80% load output
Rated frequency range HVC-320W-56A/B/C	-	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	-	-	4.0A	@100Vac input ,with full load
Inrush current	-	-	100A	230Vac, cold start (25℃)

Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current HVC-320W-56A HVC-320W-56B HVC-320W-56C	4.2A	-	7.65A	
Output current range HVC-320W-56A HVC-320W-56B HVC-320W-56C	4A	-	8.3A	-
Output voltage range HVC-320W-56A HVC-320W-56B HVC-320W-56C	25V	-	56V	Constant power output range 42-56VDC
rated power(100-277Vac) HVC-320W-56A HVC-320W-56B HVC-320W-56C	-	320W	-	When the input is less than 85±5Vac, the output is turned off When the input is below 120Vac, adjust to 80% load output
No-load voltage HVC-320W-56A HVC-320W-56B HVC-320W-56C	-	-	63V	-
Efficiency@230Vac	-	94%	-	@230Vac input ,with full load
Accuracy of output current	-5%	-	+5%	For constant-power range , with full load
Ripple current		±5%	±10%	
Line regulation	-5%	-	+5%	full load
Load regulation	-5%	-	+5%	full load
Starting time	-	-	800ms	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;

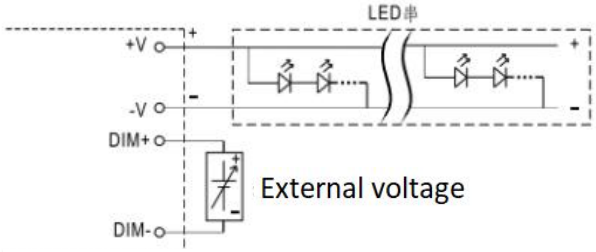
Dimming characteristic(Only applicable to B/C version, B version does not have 12V auxiliary source)

- **3-in-1 dimming function and 12V auxiliary source output:**
- Connect a resistance or 0-10V DC voltage or PWM signal between DIM+ (purple line) and DIM- (black line) to adjust the value of the output constant current;
- Dimming port output current: 100uA (typical value)
- Auxiliary source :12V/250mA(pink wire)

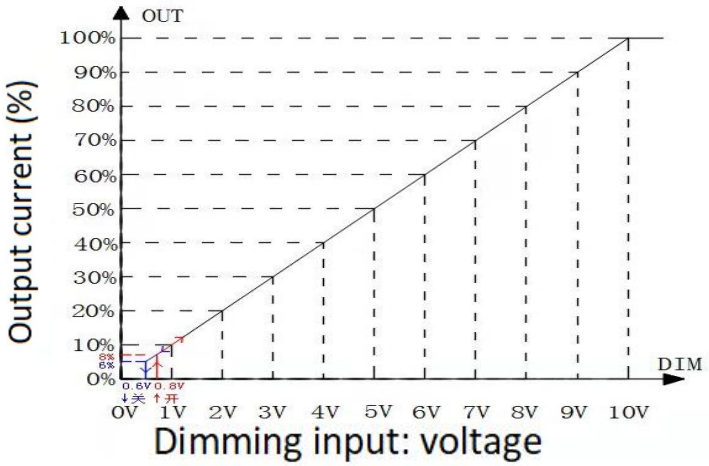
3-in-1 dimming curve

0-10Vdc dimming

■ **Apply an external voltage of 0-10Vdc**

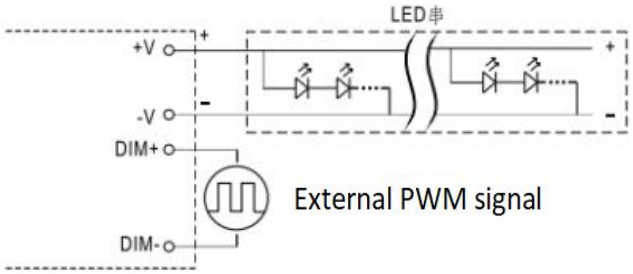


Do not connect "DIM-" to "V-"

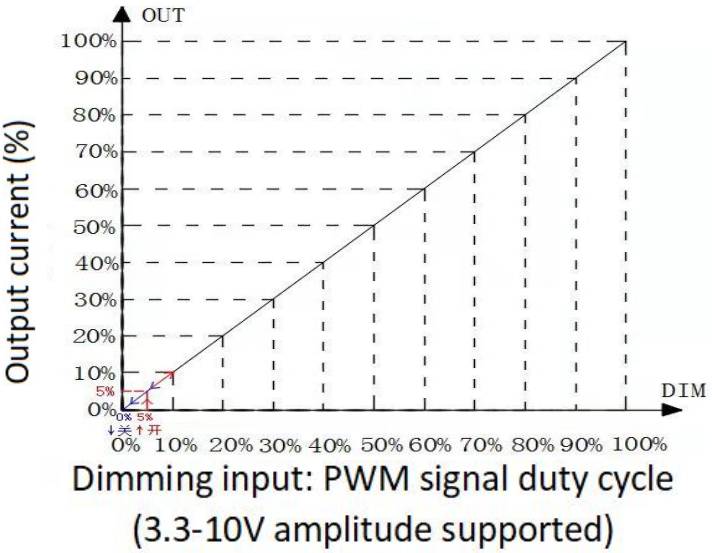


PWM dimming (PWM frequency 1KHZ)

■ **With external PWM signal (frequency 0.5K-5K)**



Do not connect "DIM-" to "V-"



Note:

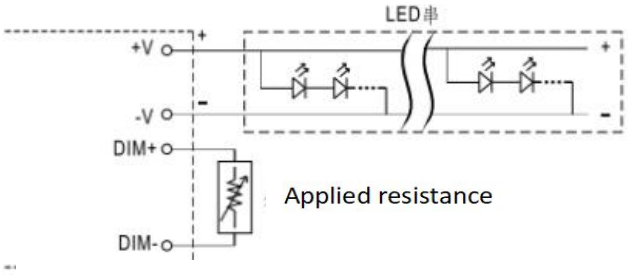
1. The dimmer port can withstand a maximum voltage of 60V. If the voltage of the external power supply exceeds 60V, the power supply may be damaged.

2, this product has 0-10V dimming function, standby power consumption >0.5W when the 10V dimming is turned off, it is recommended that the terminal use 0-9.6V dimming;

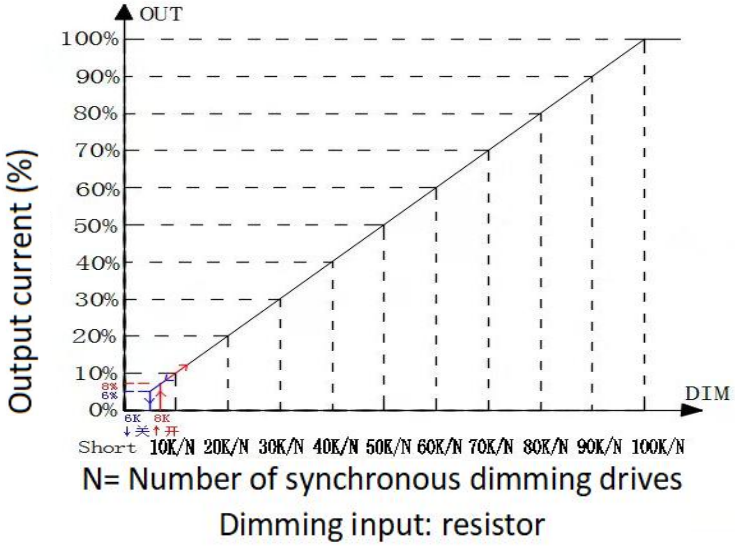
Dimming characteristic(Only applicable to B/C version, B version does not have 12V auxiliary source)

Resistance dimming (100K)

■ **With external resistance (0-100K)**



Do not connect "DIM-" to "V-"



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Protections

Protection	description
under-voltage protection	When the input voltage is less than 85 ±5Vac, turn off the output, and resume work when the input is again higher than 95VAC.
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-restorable type; When the shell temperature is greater than 90° C, the output power decreases with the increase of the shell temperature.

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℃;
2. Including setting error, linear adjustment rate and load adjustment rate;

Environmental characteristics

Environmental categories	Parameter
Working temperature	-40 ~ +55℃@200-277Vac、-40 ~ +45℃@100-200Vac((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.

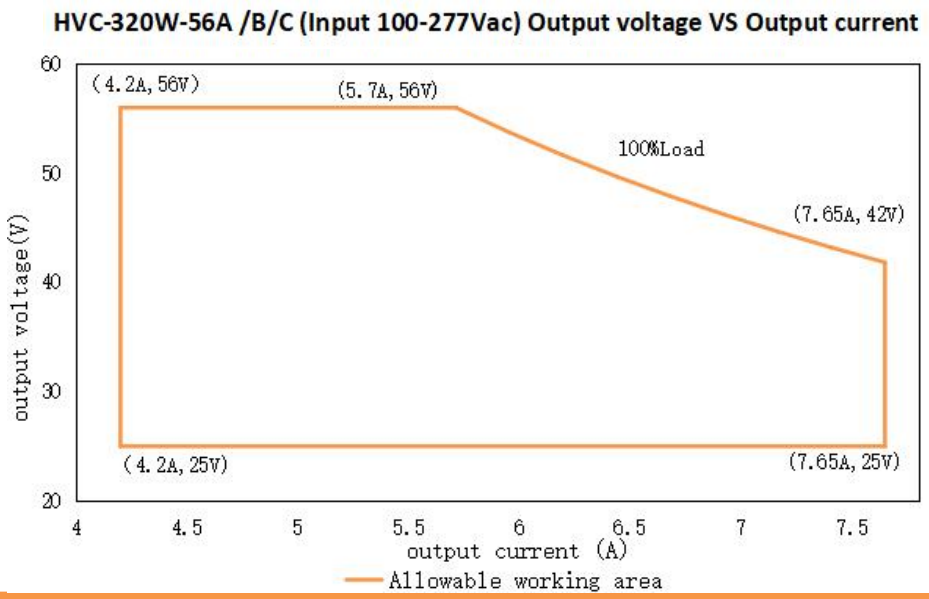
Safety and EMC

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 ±6KV(2Ω),common mode L，N-PE±10KV(12Ω) Refer toIEC61000-4-5 2014
High-pot test	I/P-O/P:3.75KVac I/P-PE :1.5KVac O/P-PE : 0.5KVac I/P-DIM:3.75KVac O/P-DIM:1.5KVac
Insulation impedance	I/P-PE:10MΩ / 500VDC; I/P-O/P:10MΩ / 500VDC / 25℃/ 70% RH
Leakage current	<0.7mA@277Vac

Note:

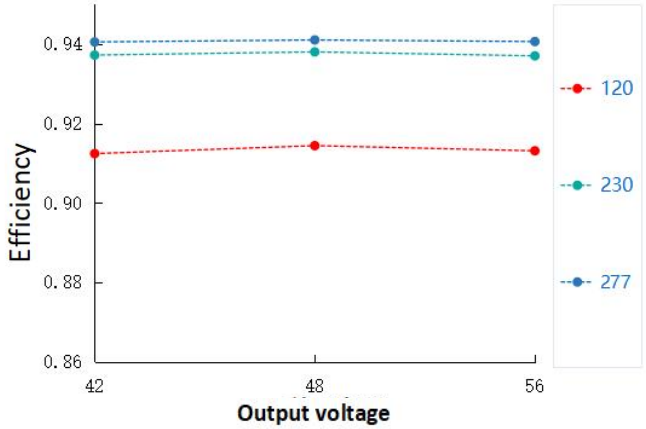
1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.

I-V Working area

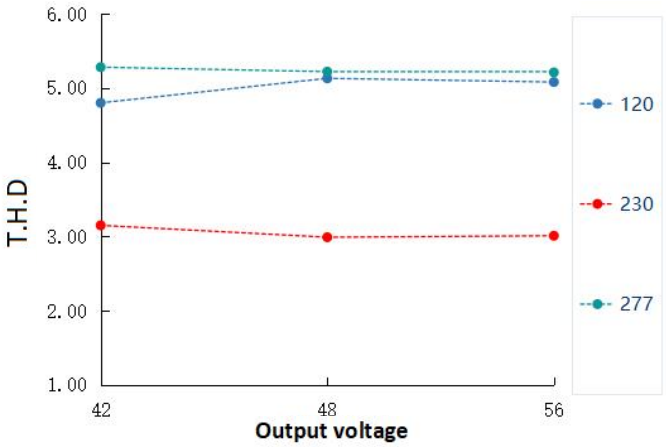


Load	Output								
Load working Voltage	25V	29V	33V	37V	42V	45V	48V	52V	56V
Io_MAX	7.65A	7.65A	7.65A	7.65A	7.62A	7.1A	6.7A	6.2A	5.7A
Po_MAX	191.3W	221.9W	252.5W	283.1W	320W	320W	320W	320W	320W

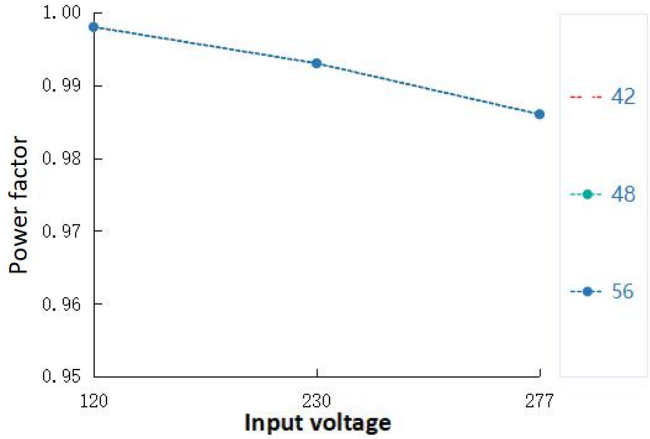
Efficiency VS Output voltage: HVC-320W-56A/B/C



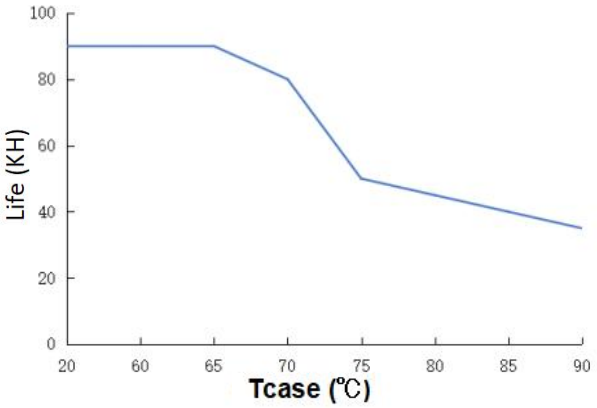
T.H.D VS Input voltage:HVC-320W-56A/B/C



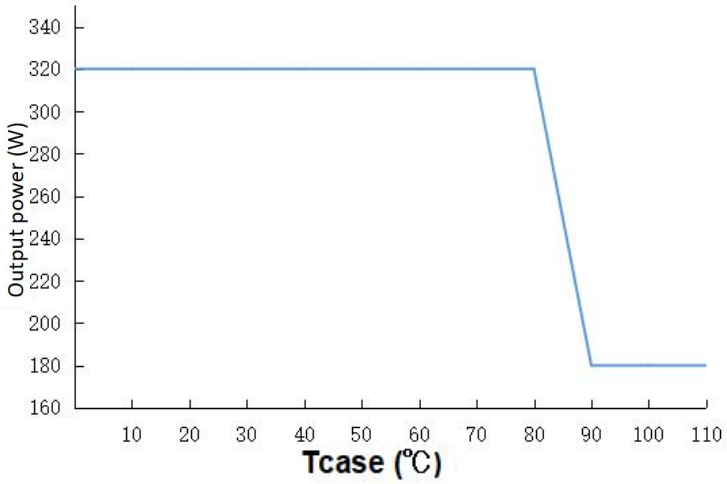
Power factor VS Input voltage:HVC-320W-56A/B/C



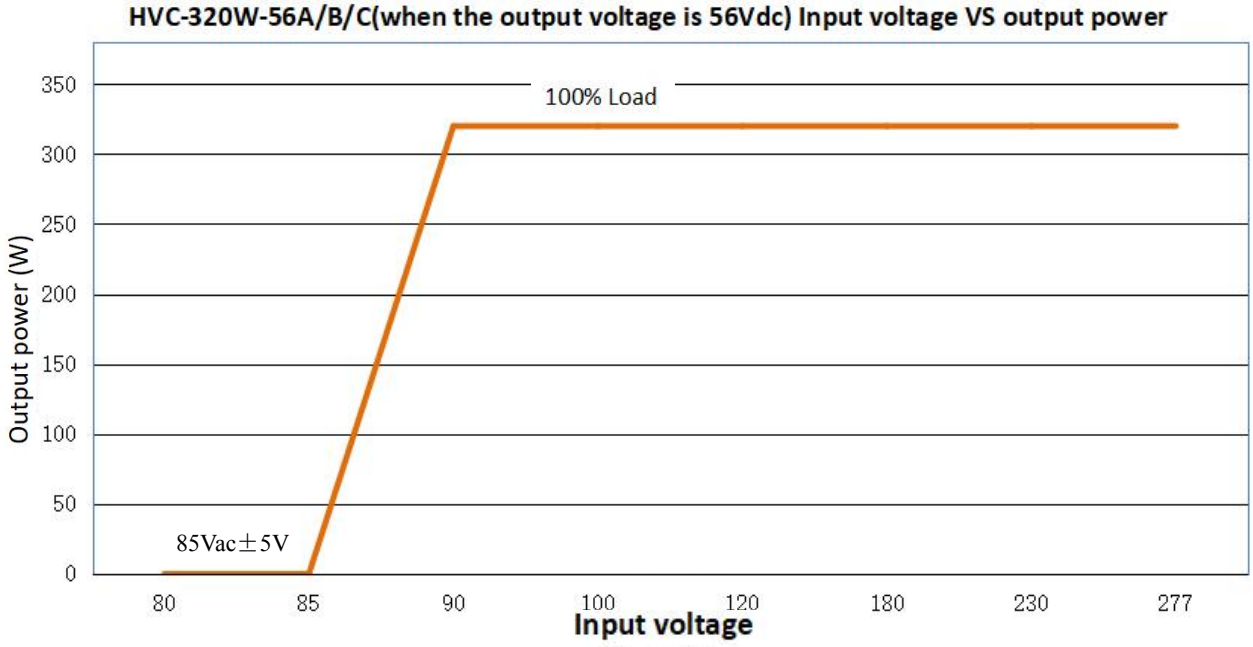
Tcase VS Life time:HVC-320W-56A/B/C



Output power VS Tcase :HVC-320W-56A/B/C



Output power VS Input voltage

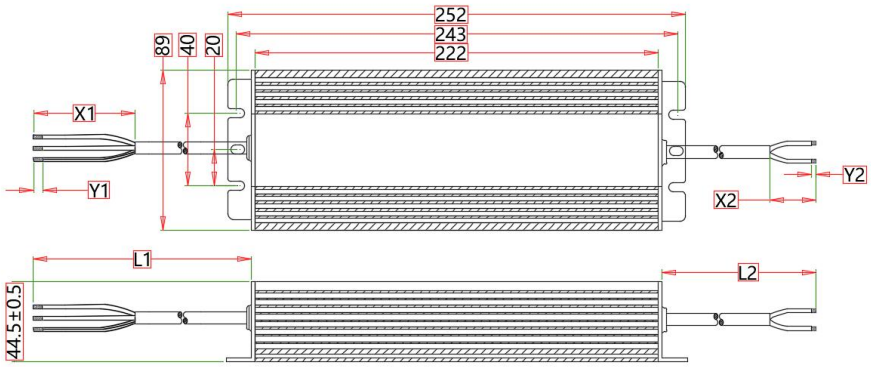


HVC-320W-56A/B/C (For output 56Vdc, the rated output current & power under different input voltage)								
Input Voltage	80Vac	85Vac	90Vac	100Vac	120Vac	180Vac	230Vac	277Vac
Io	0A	0A	4.56A	4.56A	5.7A	5.7A	5.7A	5.7A
Po	0W	0W	320W	320W	320W	320W	320W	320W

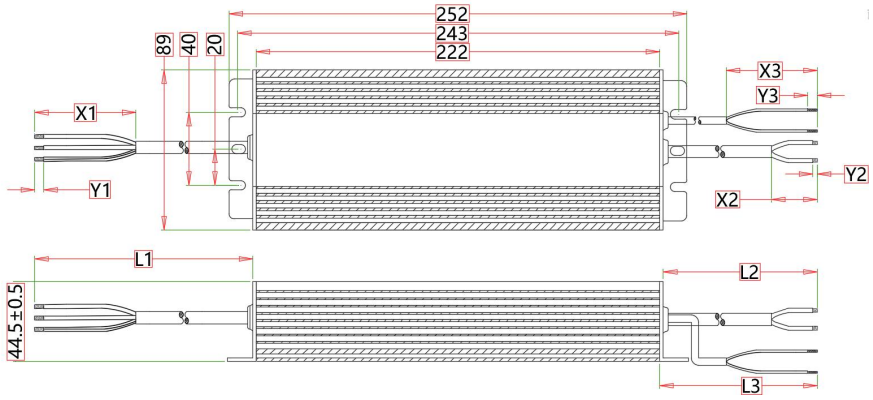
Mechanical specification

Size（mm）	252*89*44.5mm (L*W*H)
Weight（Kg）	1760g
Packaging（mm）	

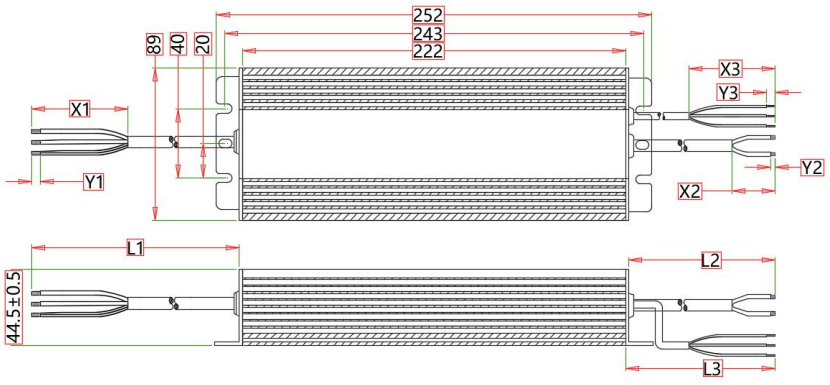
HVC-320W-56A



HVC-320W-56B



HVC-320W-56C



Type	Input Wire	Output Wire	Dimming Wire & AUX Output Wire
Specifications	H05RN-F 3*1.0mm² OD:7.2mm 300V/500V VDE/CCC/SAA	H05RR-F 2*1.5mm² OD:8.2mm 300/500V VDE/CCC/SAA	PVC 22AWG 300V 105℃ OD：4.8mm
Color	AC-L(Brown); AC-N(Blue) PG(Yellow/Green)	LED+(Brown);LED-(Blue)	B: DIM+(Purple);DIM-(Pink) C: DIM+(Purple);DIM-(Black);12V+(Pink)
Length	440±10mm (L1)	300±10mm (L2)	300±10mm (L3)
Peeled	50±5mm(X1)	25±5mm(X2)	50±5mm(X3)
Tinned	10±1mm (Y1)	5±1mm (Y2)	10±1mm (Y3)

Version

DATE	DESCRIPTION	REV.	CHECK
2024.7.25	Release version C	V1.0	
2024.10.7	Add A/B version	V1.1	
2025.3.14	Added current ripple description	V1.2	
2025.06.05	Update the input voltage and chart data	V1.3	