

## SPECIFICATION

**Product name: HVC-240W-56/343X (RT)**

**Release date: 2025/4/2**

|               |                |                               |     |      |
|---------------|----------------|-------------------------------|-----|------|
| <b>SUNCOM</b> | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|               | Product Series | HVC-240W-56/343X Series (RT)  | REV | V1.2 |

## Features

- Class I type for insulation
- Input voltage range:100-277V ~ 50/60Hz
- Efficiency 93% (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

- 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-240W-56A<br>HVC-240W-56B<br>HVC-240W-56C    | 100-277V 50/60Hz    | 240W             | 27-56Vdc<br>Rated Power (36-56V)     | 4.28A               | ≥93% |
| HVC-240W-343A<br>HVC-240W-343B<br>HVC-240W-343C | 100-277V 50/60Hz    | 240W             | 171-343Vdc<br>Rated Power (228-343V) | 0.7A                | ≥93% |

### Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .
2. When the input is less than 95±15Vac, the output power gradually decreases to 120W±20%, and it recovers full power of 240W when the input is above 95VAC again. Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.

### “X” Means Additional Function:

| “X” | Adjustable current by potentiometer | 0-10V/PWM Dim/Resistor / Programming | +AUX 12V/0.25A |
|-----|-------------------------------------|--------------------------------------|----------------|
| A   | √                                   |                                      |                |
| B   | √                                   | √                                    |                |
| C   | √                                   | √                                    | √              |

|               |                |                               |     |      |
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## Input characteristics

| Parameter             | Min    | Typ.    | Max    | Remark                           |
|-----------------------|--------|---------|--------|----------------------------------|
| Rated input voltage   | 100Vac | 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          | 0.91   | -       | -      | @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         | -      | -       | 3.0A   | @120Vac input ,with full load    |
| Inrush current        | -      | -       | 110A   | 230Vac, cold start (25°C)        |

## Output characteristics

| Parameter                  | Min  | Typ.  | Max   | Remark                                                                         |
|----------------------------|------|-------|-------|--------------------------------------------------------------------------------|
| Rated current              |      |       |       |                                                                                |
| HVC-240W-56A/B/C           | -    | 4.28A | -     | Rated Load :56VDC                                                              |
| HVC-240W-343A/B/C          | -    | 0.7A  | -     | Rated Load: 343VDC                                                             |
| Output current range       |      |       |       |                                                                                |
| HVC-240W-56A/B/C           | 3.5A | -     | 6.7A  | -                                                                              |
| HVC-240W-343A/B/C          | 0.5A | -     | 1.05A | -                                                                              |
| Output voltage range       |      |       |       |                                                                                |
| HVC-240W-56A/B/C           | 27V  | -     | 56V   | Constant power output range:36-56VDC<br>Constant power output range:228-343VDC |
| HVC-240W-343A/B/C          | 171V | -     | 343V  |                                                                                |
| Available power(90-108Vac) | -    | 120W  | -     | Decrease to a half once input voltage being less than 108 Vac                  |
| Rated power(120-277Vac)    | -    | 240W  | -     | -                                                                              |
| No-load voltage            |      |       |       |                                                                                |
| HVC-240W-56A/B/C           | -    | -     | 65V   | -                                                                              |
| HVC-240W-343A/B/C          | -    | -     | 380V  | -                                                                              |

|               |                |                               |     |      |
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## Output characteristics

| Parameter                                                  | Min | Typ.       | Max   | Remark                                       |
|------------------------------------------------------------|-----|------------|-------|----------------------------------------------|
| Efficiency@230Vac<br>HVC-240W-56A/B/C<br>HVC-240W-343A/B/C | -   | 93%<br>93% | -     | @230Vac input ,with full load                |
| Accuracy of output current                                 | -5% | -          | +5%   | For constant-power range ,<br>with full load |
| Ripple current                                             |     |            | <±5%  |                                              |
| 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<br>(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<br>(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<br>(Optional) | Rated external resistance value | 10KΩ  | -    | 100KΩ  | -                                                     |
|                                | Dimming output range            | 10%   | -    | 100%   | -                                                     |

### Note:

- Output current of dimming port: 100uA (typical value).
- 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.
- For B version, 0-10V dimming function, the standby power is >0.5W. If requiring the standby power <0.5W, please choose C version. C version, the standby power is <0.5W.

|               |                |                               |     |      |
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## Protections

| Protection                      | description                                                                                                                                                      |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| under-voltage protection        | When the input voltage is less than $95 \pm 15\text{Vac}$ , 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 $90^{\circ}\text{C}$ , 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  $25^{\circ}\text{C}$ ;
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                     | 50000 hours @230Vac,80% load, $T_{\text{case}}=75^{\circ}\text{C}$ .,Refer to" $T_{\text{case}}$ VS Lifetime" curve for details. |

|               |                |                               |     |      |
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## Safety and EMC

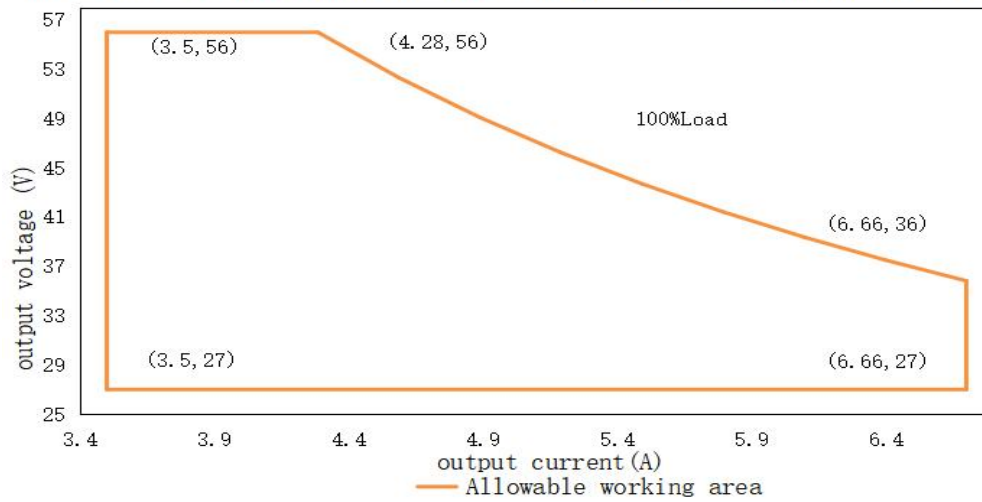
| Safety categories    | Standard                                                                                                          |
|----------------------|-------------------------------------------------------------------------------------------------------------------|
| Safety               | 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 $\pm (12\Omega)$ 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 I/P-DIM:3.75KVac O/P-DIM:1.5KVac                                |
| Insulation impedance | I/P-PE:100M $\Omega$ / 500VDC; I/P-O/P:100M $\Omega$ / 500VDC / 25°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.**

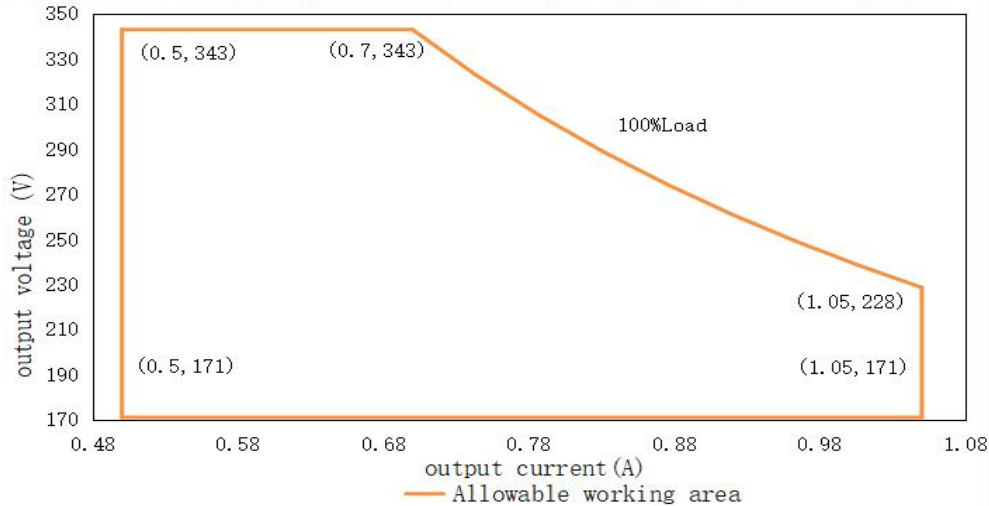
## I-V Working area

**HVC-200W-56A/B/C (input:120-277Vac) output voltage VS Output current**



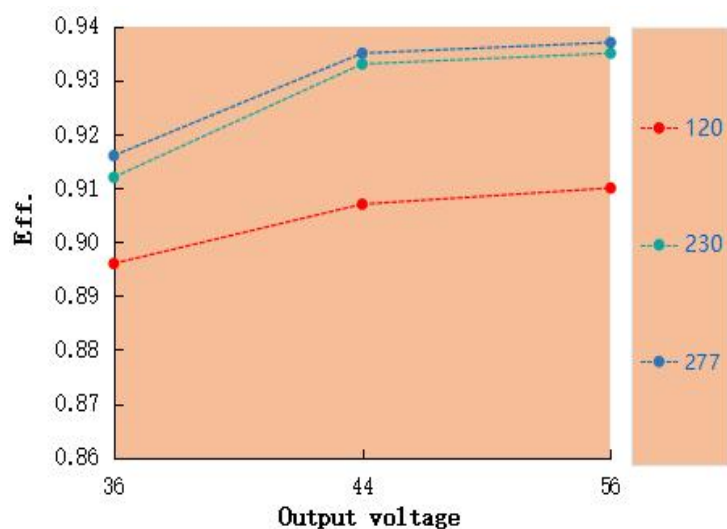
| Load                 | Output |        |       |       |       |       |      |       |       |
|----------------------|--------|--------|-------|-------|-------|-------|------|-------|-------|
| Load working Voltage | 27V    | 32V    | 36V   | 39V   | 42V   | 45V   | 48V  | 52V   | 56V   |
| Io_MAX               | 6.66A  | 6.66A  | 6.66A | 6.15A | 5.71A | 5.33A | 5.0A | 4.62A | 4.28A |
| Po_MAX               | 179.8W | 213.1W | 240W  | 240W  | 240W  | 240W  | 240W | 240W  | 240W  |

**HVC-240W-343A/B/C (input:120-277Vac) output voltage VS Output current**

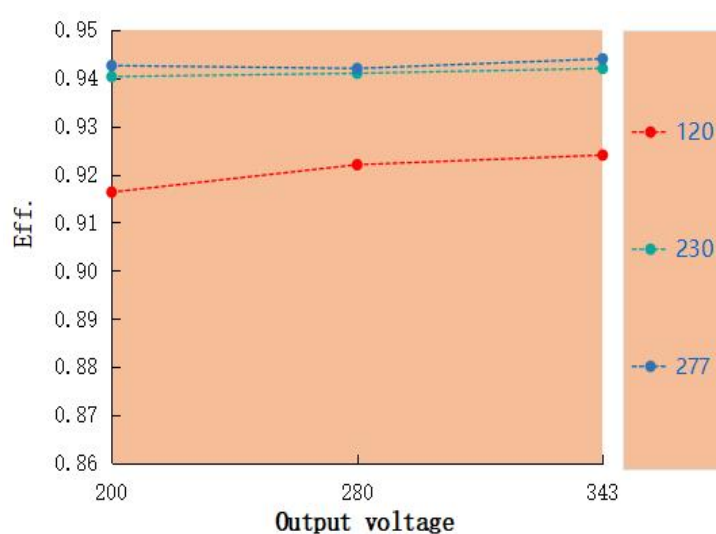


| Load                 | Output |       |       |      |       |       |      |       |      |
|----------------------|--------|-------|-------|------|-------|-------|------|-------|------|
| Load working Voltage | 171V   | 200V  | 228V  | 240V | 260V  | 280V  | 300V | 320V  | 343V |
| Io_MAX               | 1.05A  | 1.05A | 1.05A | 1.0A | 0.92A | 0.86A | 0.8A | 0.75A | 0.7A |
| Po_MAX               | 179.6W | 210W  | 240W  | 240W | 240W  | 240W  | 240W | 240W  | 240W |

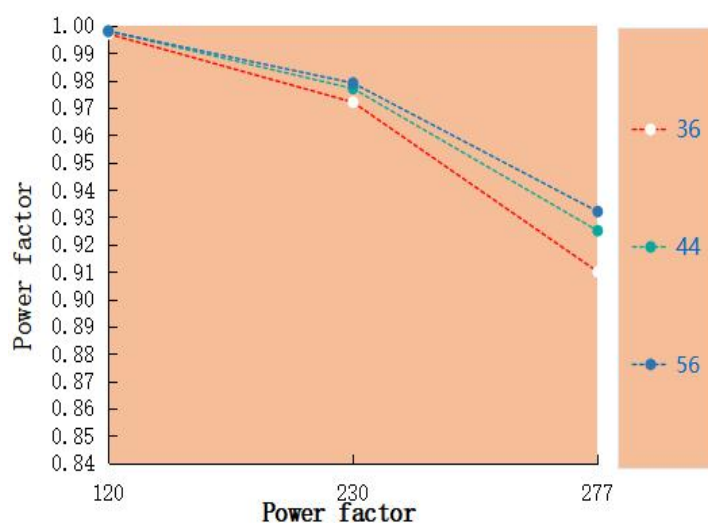
**Eff. VS Output voltage HVC-240W-56A/B/C**



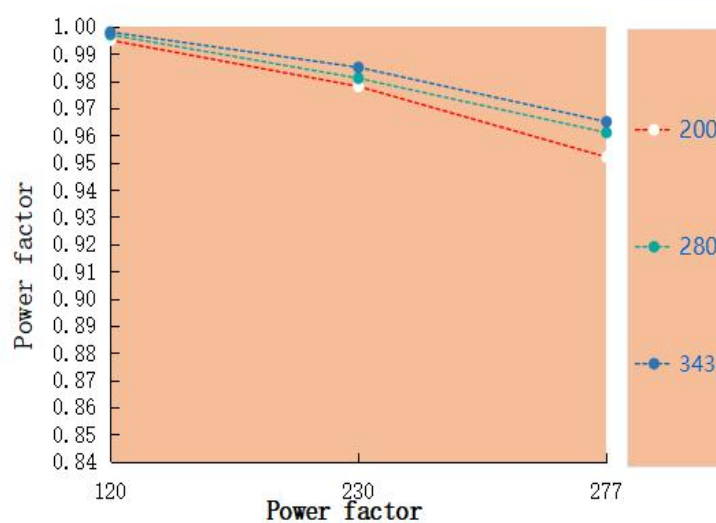
**Eff. VS Output voltage HVC-240W-343A/B/C**



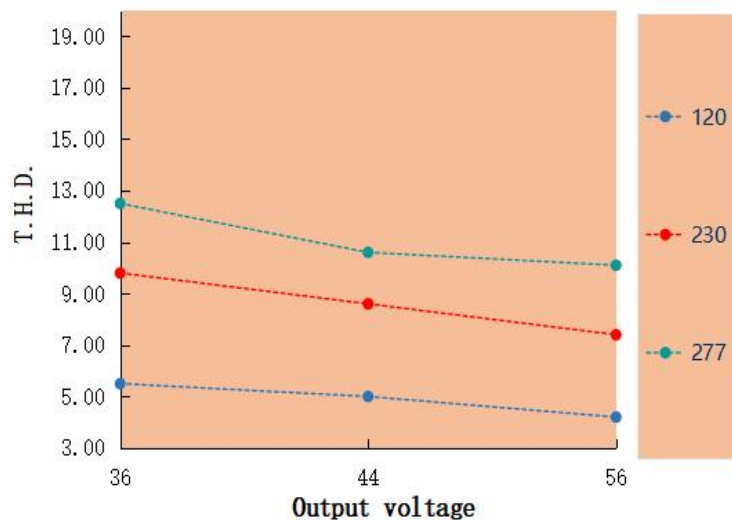
**Power factor VS Input voltage HVC-240W-56A/B/C**



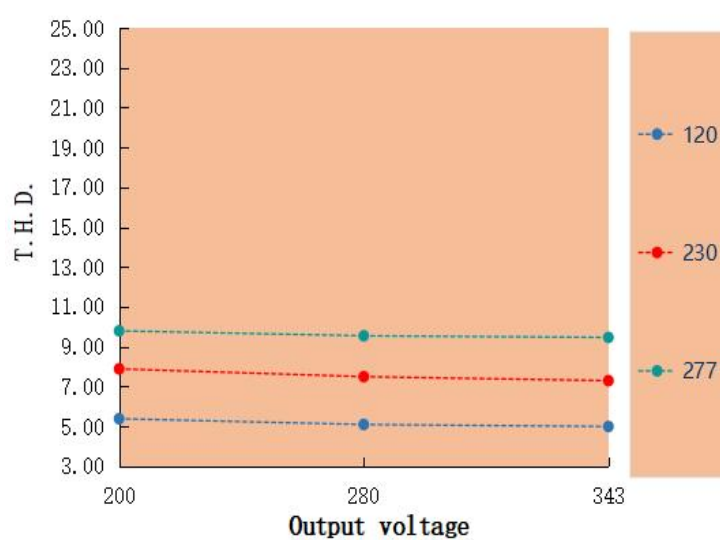
**Power factor VS Input voltage HVC-240W-343A/B/C**



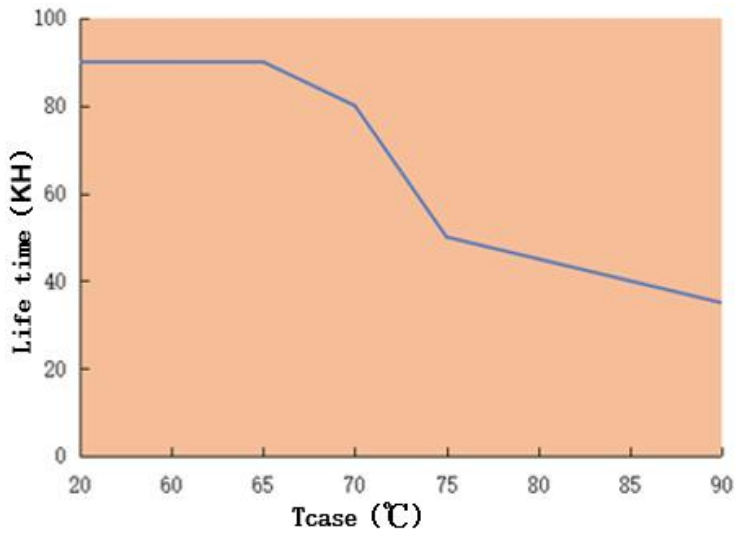
**T.H.D. VS Output voltage HVC-240W-56A/B/C**



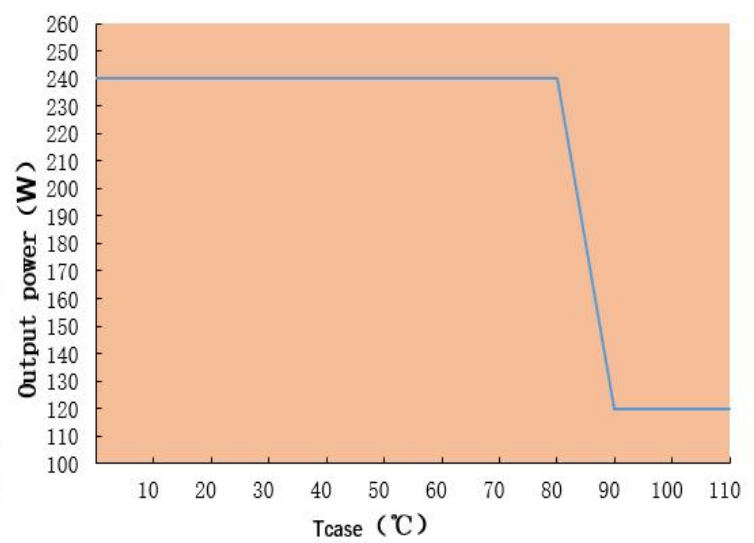
**T.H.D. VS Output voltage HVC-240W-343A/B/C**



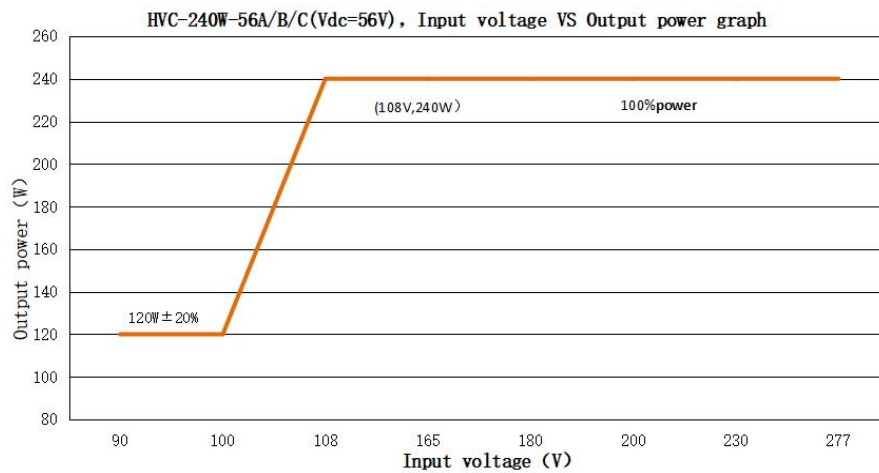
Tcase VS Life time (HVC-240W-56A/B/C)



Output power VS Tcase(HVC-240W-343A/B/C)



## Output power VS Input voltage



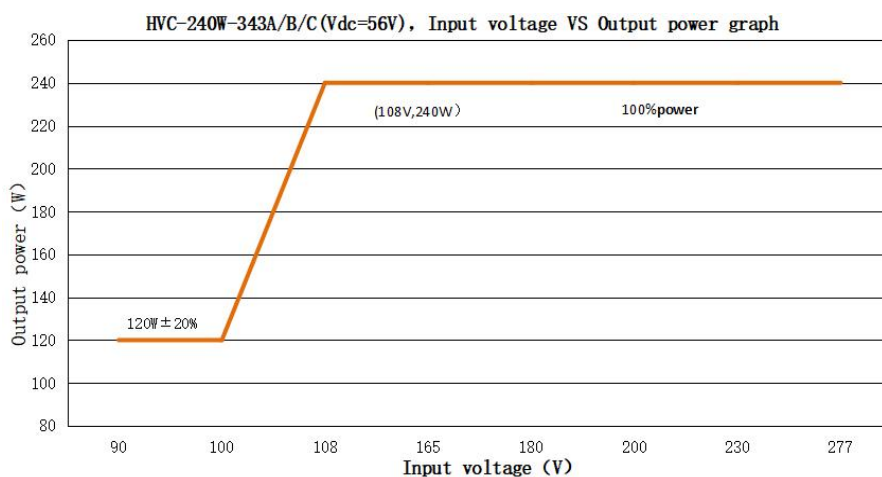
HVC-240W-56A/B/C (For output 56Vdc, the rated output current & power under different input voltage)

| Input Voltage | 90Vac | 100Vac | 108Vac | 140Vac | 170Vac | 200Vac | 230Vac | 277Vac |
|---------------|-------|--------|--------|--------|--------|--------|--------|--------|
| Io            | 2.14A | 2.14A  | 2.14A  | 2.14A  | 4.28A  | 4.28A  | 4.28A  | 4.28A  |
| Po            | 120W  | 120W   | 240W   | 240W   | 240W   | 240W   | 240W   | 240W   |

### Note:

- When the input voltage is below 95±15Vac, the output power decreases to 120W±20%.

## Output power VS Input voltage



HVC-240W-343A/B/C (For output 343V<sub>dc</sub>, the rated output current & power under different input voltage)

| Input Voltage  | 90Vac | 100Vac | 108Vac | 140Vac | 170Vac | 200Vac | 230Vac | 277Vac |
|----------------|-------|--------|--------|--------|--------|--------|--------|--------|
| I <sub>o</sub> | 0.35A | 0.35A  | 0.7A   | 0.7A   | 0.7A   | 0.7A   | 0.7A   | 0.7A   |
| P <sub>o</sub> | 120W  | 120W   | 240W   | 240W   | 240W   | 240W   | 240W   | 240W   |

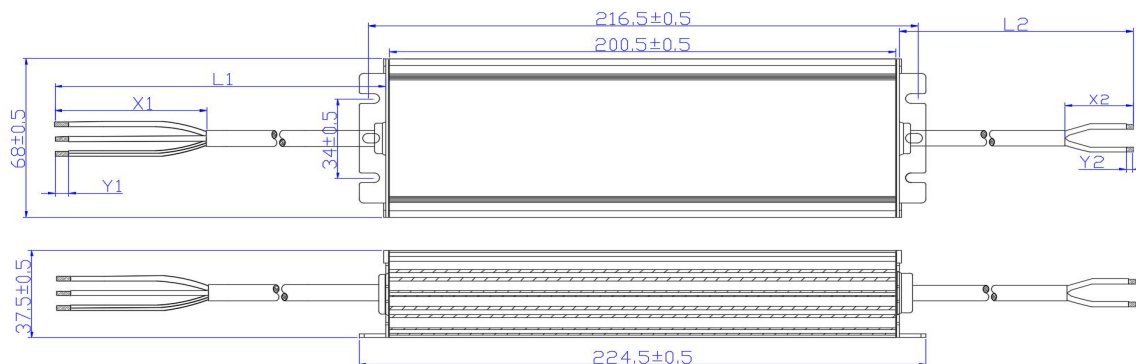
### Note:

1. When the input voltage is below 95±15Vac, the output power decreases to 120W±20%.

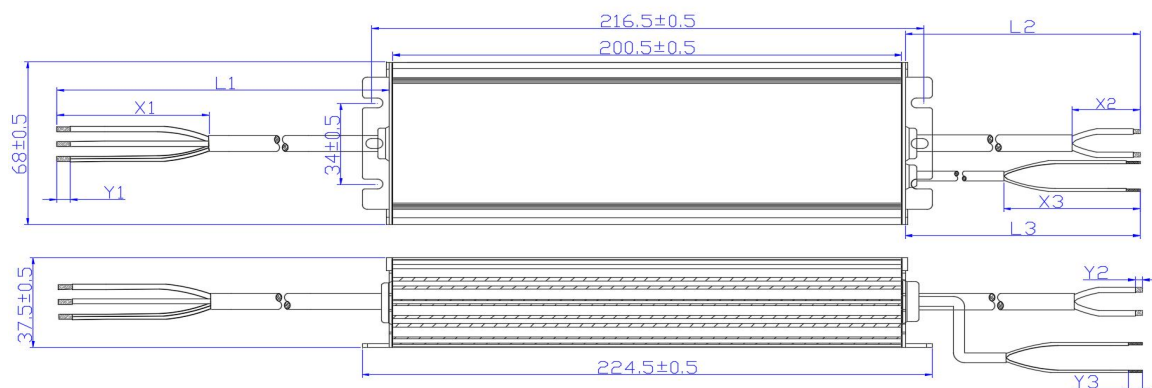
## Mechanical specification

|                |                        |
|----------------|------------------------|
| Size (mm)      | L224.5mm*W68mm*H37.5mm |
| Weight (Kg)    | 1120g                  |
| Packaging (mm) |                        |

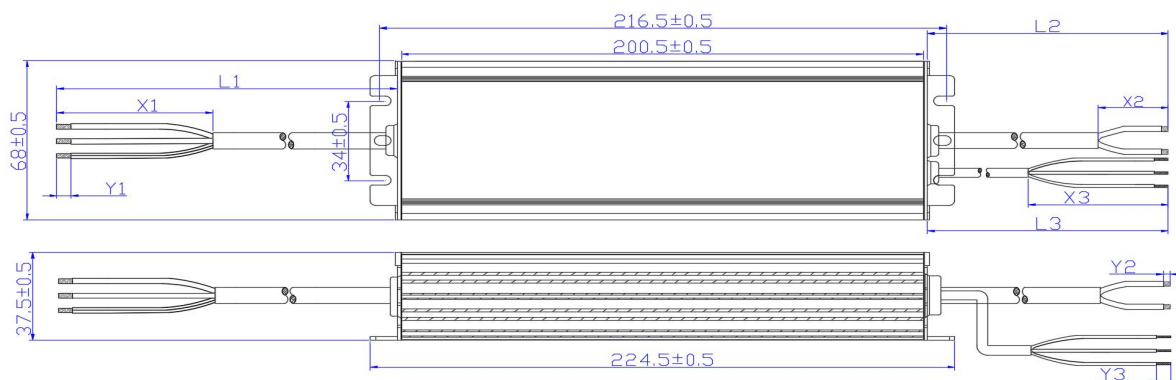
### HVC-240W-56A/343A



### HVC-240W-56B/343B



### HVC-240W-56C/343C



| Type           | Input Wire                                                     | Output Wire                                                   | Dimming Wire & AUX Output Wire    |
|----------------|----------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------|
| Specifications | H05RN-F 3*1.0mm <sup>2</sup> OD:7.2mm<br>300V/500V VDE/CCC/SAA | H05RN-F 2*1.0mm <sup>2</sup> OD:6.8mm<br>300/500V VDE/CCC/SAA | PVC 22AWG<br>300V 105°C OD: 4.8mm |
| Color          | AC-L(Brown); AC-N(Blue)<br>PG(Yellow/Green)                    | LED+(Brown);LED-(Blue)                                        | DIM+(Purple);DIM-(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)                       |

|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | HVC-240W-56/343X Series (RT)  | REV | V1.2 |

Version

| DATE       | DESCRIPTION                                                                                    | REV. | CHECK |
|------------|------------------------------------------------------------------------------------------------|------|-------|
| 2024.07.19 | Initial version.                                                                               | V1.0 |       |
| 2024.08.01 | Typical values for update efficiency                                                           | V1.1 |       |
| 2025.4.2   | 1、Updated the standby power consumption description;<br>2、Update the authentication identifier | V1.2 |       |