

## SPECIFICATION

Product name : HAE-240W-38/56A

Release date : 2024/12/10

|               |                |                               |     |      |
|---------------|----------------|-------------------------------|-----|------|
| <b>SUNCOM</b> | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|               | Product Series | HAE-240W-38/56A Series        | REV | V1.0 |

## Features

- Class I type for insulation
- Input voltage range:120-277Vac ~ 50/60Hz
- Constant power drive, constant current output control mode
- Metal material case, protection grade against water and dust: IP65
- 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. |
|--------------|---------------------|------------------|----------------------------------|---------------------|------|
| HAE-240W-38A | 120-277Vac 50/60Hz  | 240W             | 19-38Vdc<br>Rated Power (32-38V) | 6.32A±5%            | ≥90% |
| HAE-240W-56A |                     |                  | 28-56Vdc<br>Rated power (42-56V) | 4.28A±5%            | ≥91% |

### Note:

1. Test conditions: If not specified, all specification parameters are measured at 230Vac(50Hz) input, rated load, and ambient temperature of 25°C
- 2, When the input is less than 105±15Vac, the output drops half power, and when the input is higher than 110Vac again, it returns to full power of 240W; See the "Output Power vs. Input Voltage" graph for details.

|               |                |                               |     |      |
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## Input characteristics

| Parameter             | Min    | Typ.    | Max    | Remark                                                                          |
|-----------------------|--------|---------|--------|---------------------------------------------------------------------------------|
| Rated input voltage   | 120Vac | 230Vac  | 277Vac | When the input voltage is less than 105Vac, the output power is reduced by half |
| Input voltage range   | 108Vac | 230Vac  | 305Vac | -                                                                               |
| Rated frequency range | -      | 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         | -      | -       | 2.5A   | @120Vac input ,with full load                                                   |
| Inrush current        | -      | -       | 100A   | 230Vac, cold start (25°C)                                                       |

|               |                |                               |     |      |
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## Output characteristics

| Parameter                                            | Min          | Typ.           | Max          | Remark                                                                          |
|------------------------------------------------------|--------------|----------------|--------------|---------------------------------------------------------------------------------|
| Rated current<br>HAE-240W-38A<br>HAE-240W-56A        | -            | 6.32A<br>4.28A | -            | The load is 38VDC<br>The load is 56VDC                                          |
| Output current range<br>HAE-240W-38A<br>HAE-240W-56A | 4.5A<br>3.5A | -              | 7.5A<br>5.7A | -                                                                               |
| Output voltage range<br>HAE-240W-38A<br>HAE-240W-56A | 19V<br>28V   | -<br>-         | 38V<br>56V   | Constant power range: 32-38Vdc<br>Constant power range: 42-56Vdc                |
| Rated power(100-120Vac)                              | -            | 120W           | -            | When the input voltage is less than 105Vac, the output power is reduced by half |
| Rated power(120-277Vac)                              | -            | 240W           | -            | -                                                                               |
| No-load voltage<br>HAE-240W-38A<br>HAE-240W-56A      | -            | -              | 50V<br>70V   | -                                                                               |
| Efficiency@230Vac                                    | -            | 90%            | -            | @230Vac input ,with full load                                                   |
| Accuracy of output current                           | -5%          | -              | +5%          | For constant-power range , with full load                                       |
| 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;**

|               |                |                               |     |      |
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## Protections

| Protection                      | description                                                                                                                                                                     |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| under-voltage protection        | When the input voltage is less than $105 \pm 15\text{Vac}$ , the output drops half power, and when the input is higher than 110VAC again, the full power operation is restored. |
| 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 $90^{\circ}\text{C}$ , the output power decreases with the increase of the shell temperature.                  |
| 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          | $-40 \sim +50^{\circ}\text{C}@180\text{-}277\text{Vac}$ 、 $-40 \sim +45^{\circ}\text{C}@100\text{-}180\text{Vac}$ ((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                     | 21900 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

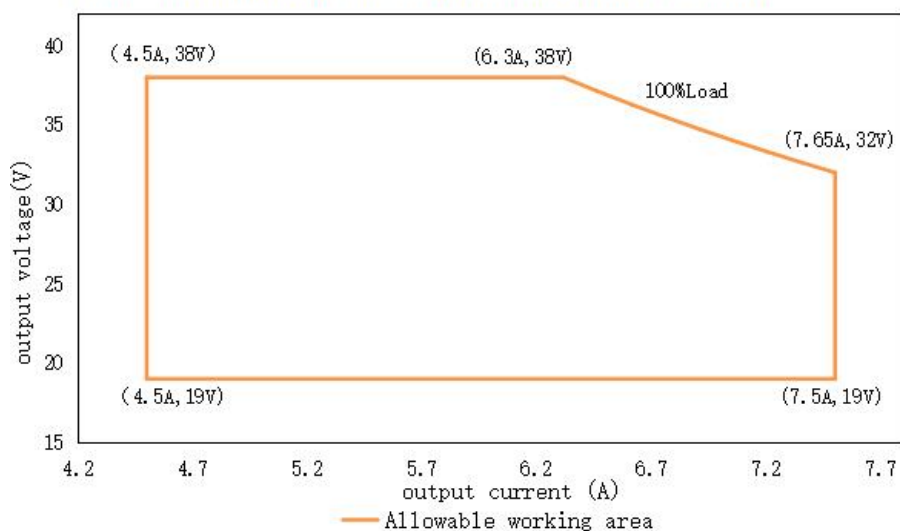
| Safety categories    | Standard                                                                                                       |
|----------------------|----------------------------------------------------------------------------------------------------------------|
| Safety               | 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 $\pm 6KV(2\Omega)$ , common mode L, N-PE $\pm 10KV(12\Omega)$ 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: 10M $\Omega$ / 500VDC; I/P-O/P: 10M $\Omega$ / 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

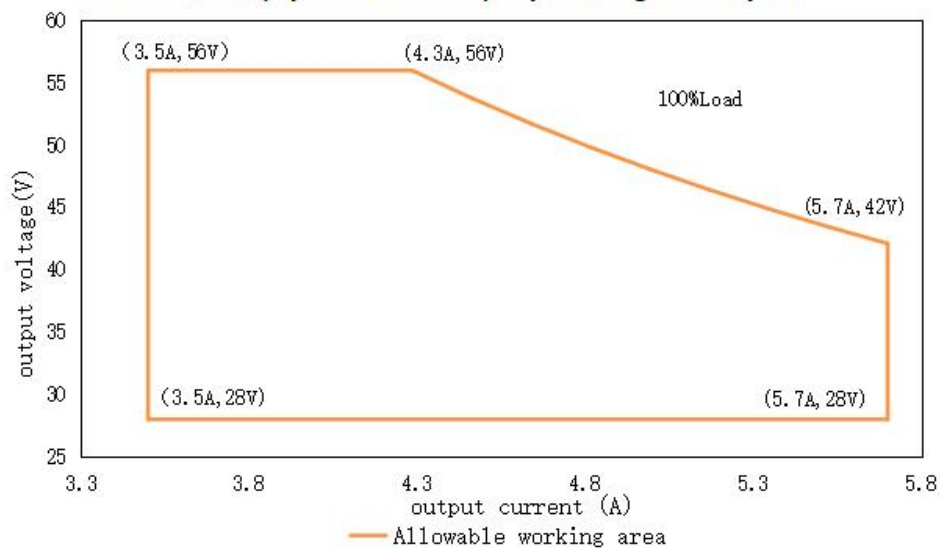
HAE-240W-38A(Inport:120-277Vac)output voltage VS output current



| Load                 | Output |      |      |      |      |      |      |        |         |
|----------------------|--------|------|------|------|------|------|------|--------|---------|
| Load working Voltage | 19V    | 22V  | 24V  | 28V  | 30V  | 32V  | 34V  | 36V    | 38V     |
| Io_MAX               | 7.5A   | 7.5A | 7.5A | 7.5A | 7.5A | 7.5A | 7A   | 6.67A  | 6.32A   |
| Po_MAX               | 142.5W | 165W | 180W | 210W | 225W | 240W | 238W | 240.1W | 240.16W |

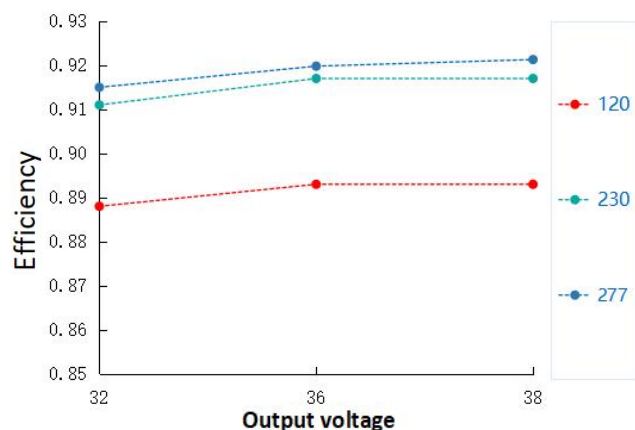
## I-V Working area

HAE-240W-56A(Inport:120-277Vac)output voltage VS output current

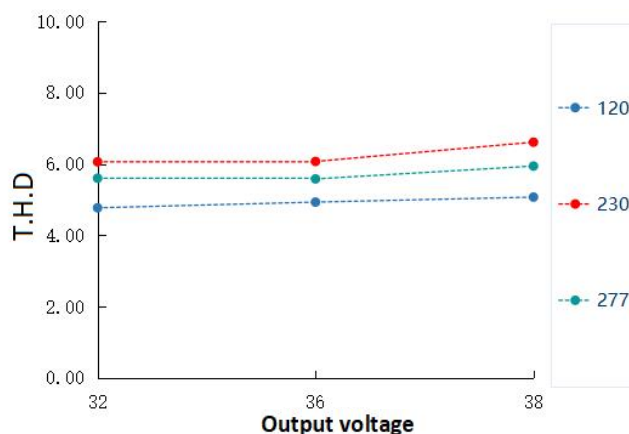


| Load                 | Output |        |        |        |      |         |      |        |        |
|----------------------|--------|--------|--------|--------|------|---------|------|--------|--------|
| Load working Voltage | 28V    | 32V    | 36V    | 38V    | 42V  | 45V     | 48V  | 52V    | 56V    |
| Io_MAX               | 5.7A   | 5.7A   | 5.7A   | 5.7A   | 5.7A | 5.33A   | 5A   | 4.62A  | 4.29A  |
| Po_MAX               | 159.6W | 182.4W | 205.2W | 216.6W | 240W | 239.85W | 240W | 240.2W | 240.2W |

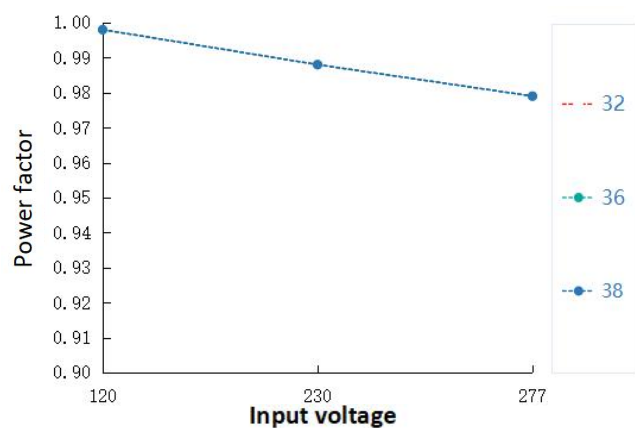
**Efficiency VS Output voltage: HAE-240W-38A**



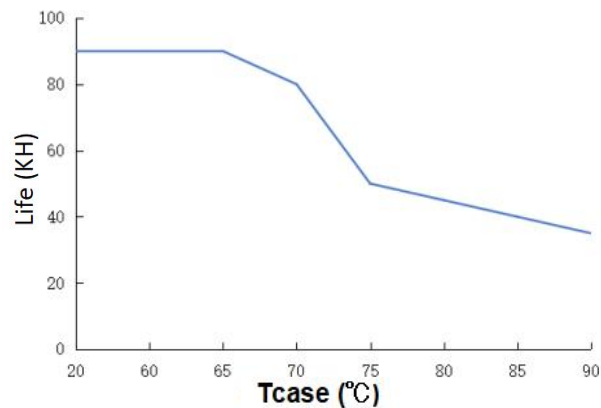
**T.H.D VS Input voltage: HAE-240W-38A**



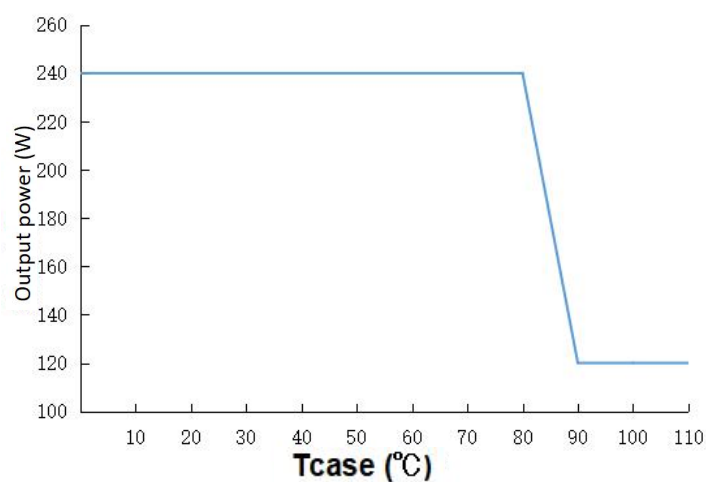
**Power factor VS Input voltage: HAE-240W-38A**



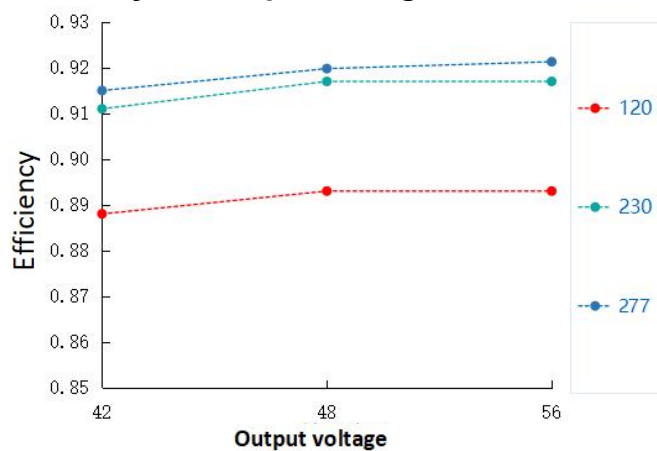
**Tcase VS Life time: HAE-240W-38A**



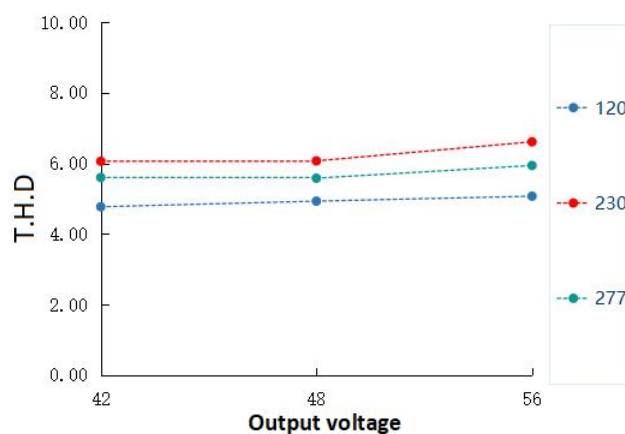
**Output power VS Tcase : HAE-240W-38A**



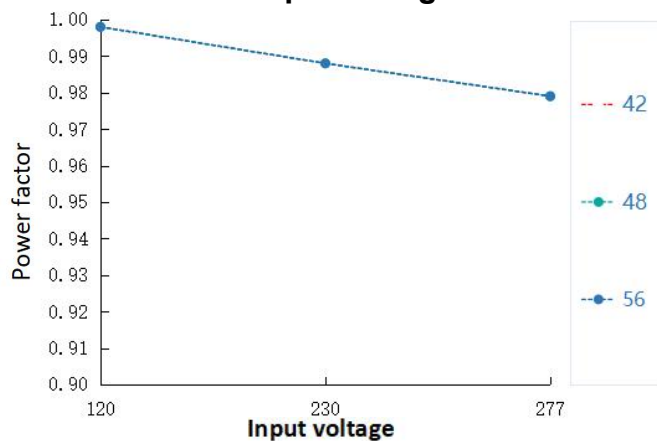
**Efficiency VS Output voltage: HAE-240W-56A**



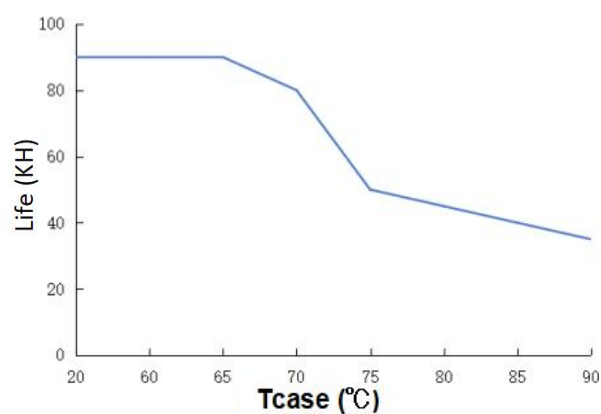
**T.H.D VS Input voltage: HAE-240W-56A**



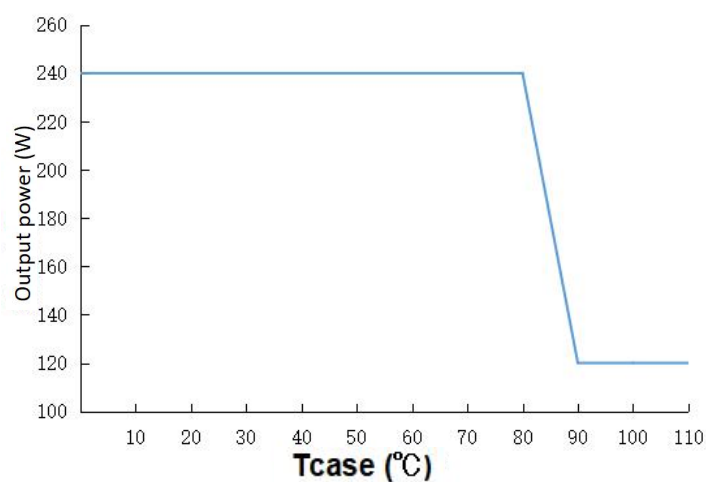
**Power factor VS Input voltage: HAE-240W-56A**



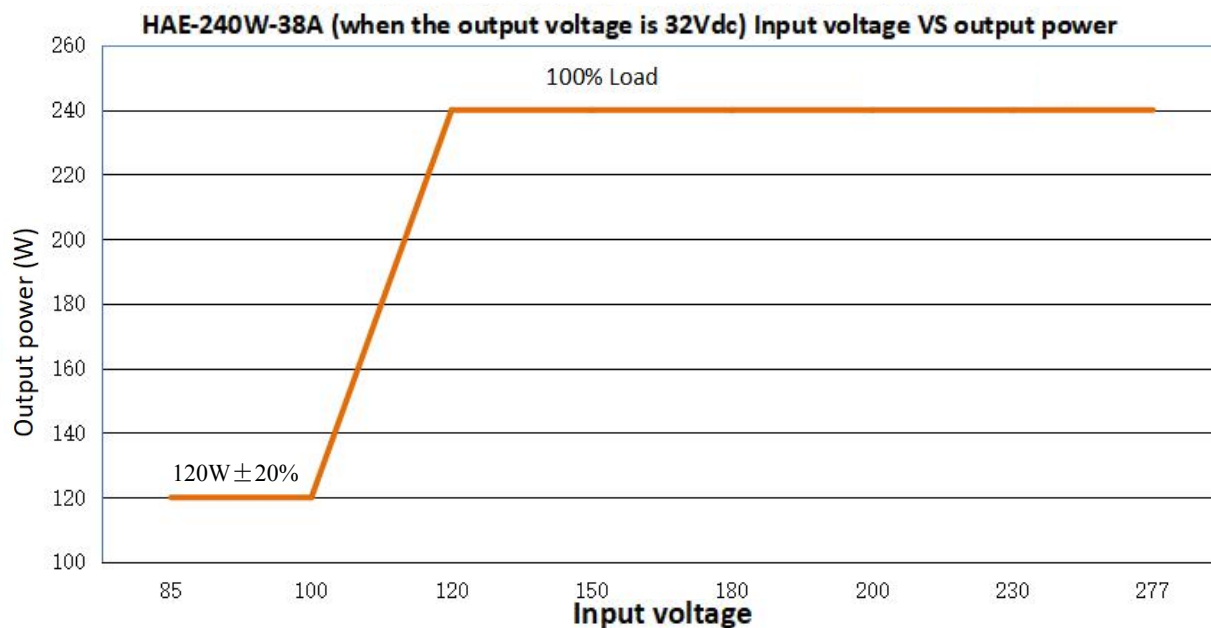
**Tcase VS Life time: HAE-240W-56A**



**Output power VS Tcase : HAE-240W-56A**



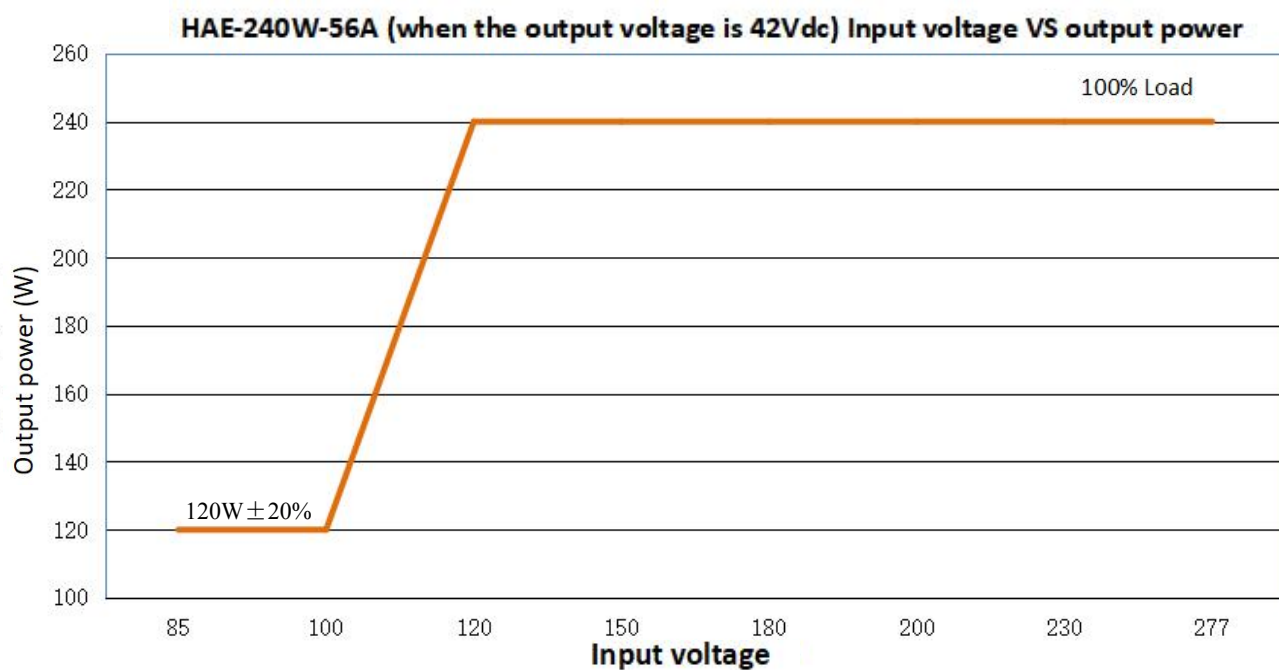
## Output power VS Input voltage



**HAE-240W-38A (For output 32Vdc, the rated output current & power under different input voltage)**

| Input Voltage  | 100Vac | 105Vac | 110Vac | 120Vac | 150Vac | 180Vac | 230Vac | 277Vac |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| I <sub>o</sub> | 3.75A  | 3.75A  | 7.5A   | 7.5A   | 7.5A   | 7.5A   | 7.5A   | 7.5A   |
| P <sub>o</sub> | 120W   | 120W   | 240W   | 240W   | 240W   | 240W   | 240W   | 240W   |

## Output power VS Input voltage

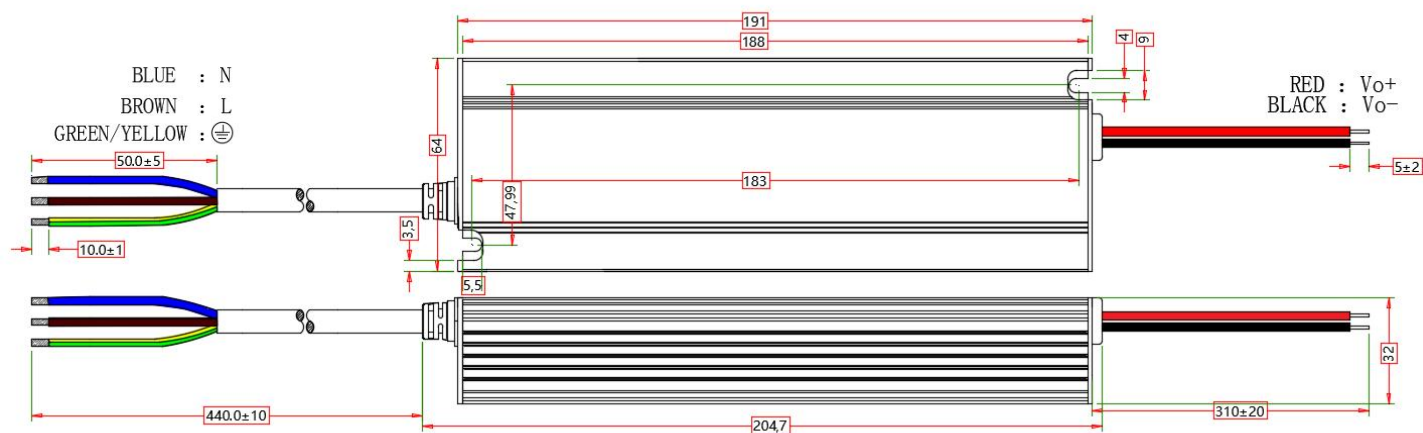
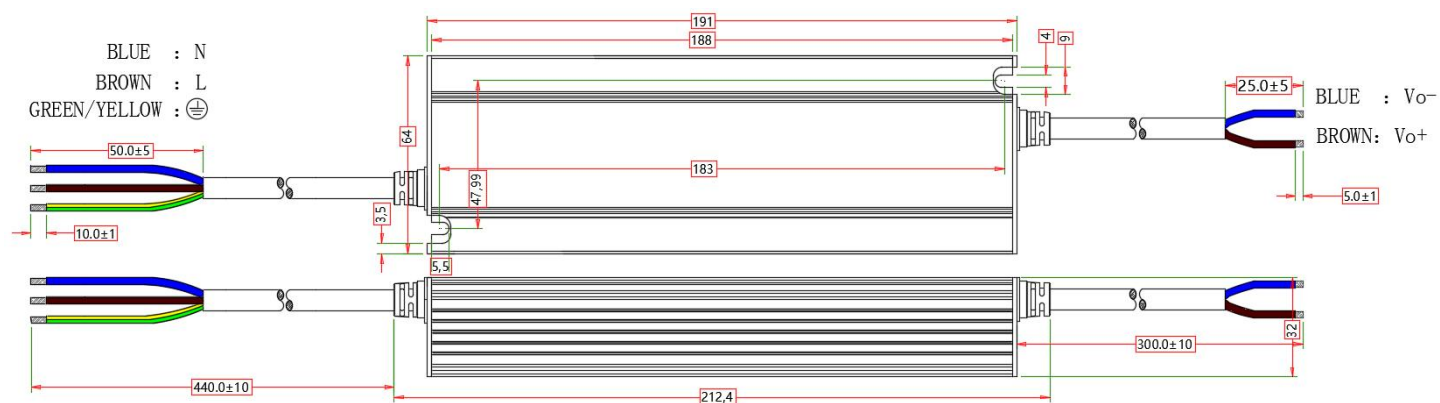


**HAE-240W-56A (For output 42Vdc, the rated output current & power under different input voltage)**

| Input Voltage  | 100Vac | 105Vac | 110Vac | 120Vac | 150Vac | 180Vac | 230Vac | 277Vac |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| I <sub>o</sub> | 2.86A  | 2.86A  | 5.71A  | 5.71A  | 5.71A  | 5.71A  | 5.71A  | 5.71A  |
| P <sub>o</sub> | 120W   | 120W   | 240W   | 240W   | 240W   | 240W   | 240W   | 240W   |

## Mechanical specification

|                |                     |
|----------------|---------------------|
| Size (mm)      | 191*64*32mm (L*W*H) |
| Weight (Kg)    | 850g                |
| Packaging (mm) |                     |



|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | HAE-240W-38/56A Series        | REV | V1.0 |

Version

| DATE       | DESCRIPTION      | REV. | CHECK |
|------------|------------------|------|-------|
| 2024.12.10 | Initial version. | V1.0 |       |