


## SPECIFICATION

Product name : HVS-150W-150X(RT)

Release date : 2023/10/24

|  |                |                               |     |      |
|--|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|  | Product Series | HVS-150W-150X Series(RT)      | REV | V1.0 |

## 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



- 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-150W-260A<br>HVS-150W-260B<br>HVS-150W-260C<br>HVS-150W-150XP | 120-277V 50/60Hz<br>(Power reduction when the input is less than 120Vac ) | 150W             | 90-150Vdc<br>Rated Power ( 100-150V ) | 1.0A                | ≥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 80±10Vac, the output power gradually decreases,and it recoveries full power of 150W when the input is above 90VAC 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         | -      | -       | 1.7A   | @90Vac input ,with full load     |
| Inrush current        | -      | -       | 70A    | 230Vac, cold start (25℃)         |

## Output characteristics

| Parameter                   | Min   | Typ. | Max  | Remark  |
|-----------------------------|-------|------|------|---|
| Rated current               | -     | 1.0A | -    | -   |
| Output current range        | 0.75A | -    | 1.5A | -   |
| Output voltage range        | 90V   |      | 150V | Constant power output range:100-150Vdc                          |
| Available power(100-120Vac) | -     | 120W | -    | When the input voltage is less than 120Vac, the derating is 20% |
| Rated power(120-277Vac)     | -     | 150W | -    | -   |
| No-load voltage             | -     | -    | 300V | -   |

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## Output characteristics

| Parameter                        | Min | Typ. | Max   | Remark                                       |
|----------------------------------|-----|------|-------|--|
| Efficiency@230Vac                | -   | 93%  | -     | @230Vac input ,with full load                |
| Accuracy of output current       | -3% | -    | +3%   | For constant-power range ,<br>with full load |
| Output current ripple<br>(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<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:

- 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 $90 \pm 5^{\circ}\text{C}$ , 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  $25^{\circ}\text{C}$ ;
2. Including setting error, linear adjustment rate and load adjustment rate;

## Environmental characteristics

| Environmental categories     | Parameter   |
|------------------------------|---|
| Working temperature          | $-40 \sim +55^{\circ}\text{C}@100\text{-}277\text{Vac}$ ((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” $T_{\text{case}}$ VS Lifetime” curve for details. |

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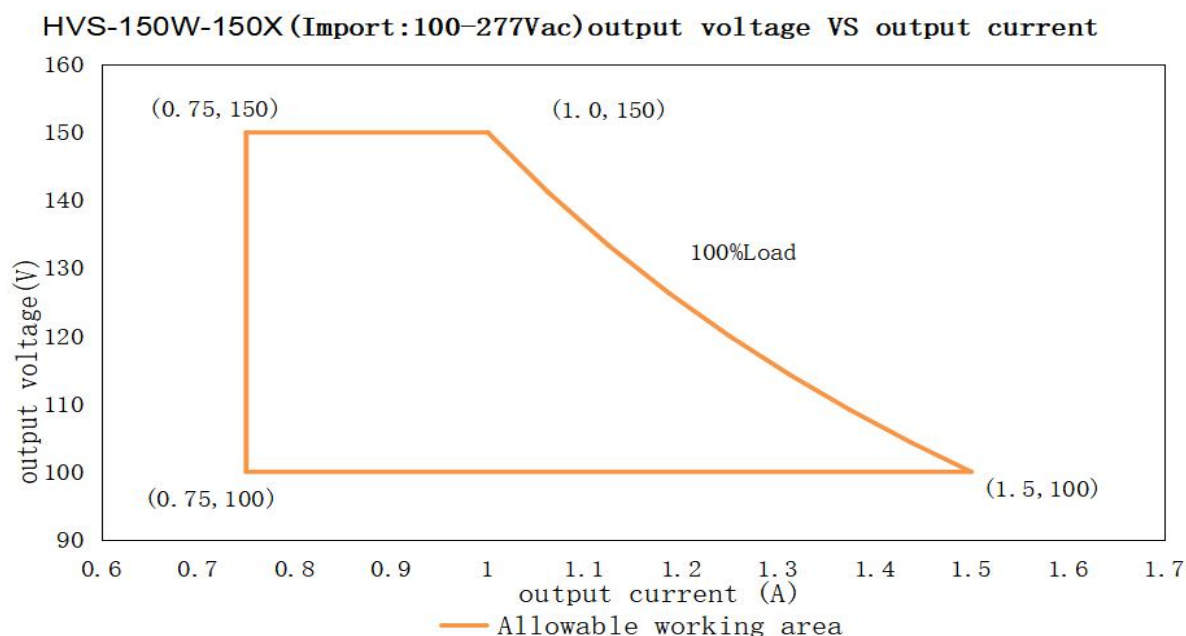
## Safety and EMC

| 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 $\pm 10\text{KV}(12\Omega)$ Refer to IEC61000-4-5 2014 |
| High-pot test        | I/P-PE:1.5KVac I/P-DIM:3.75KVac  |
| Insulation impedance | I/P-PE:10M $\Omega$ / 500VDC; I/P-O/P:10M $\Omega$ / 500VDC / 25 $^{\circ}\text{C}$ / 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.**

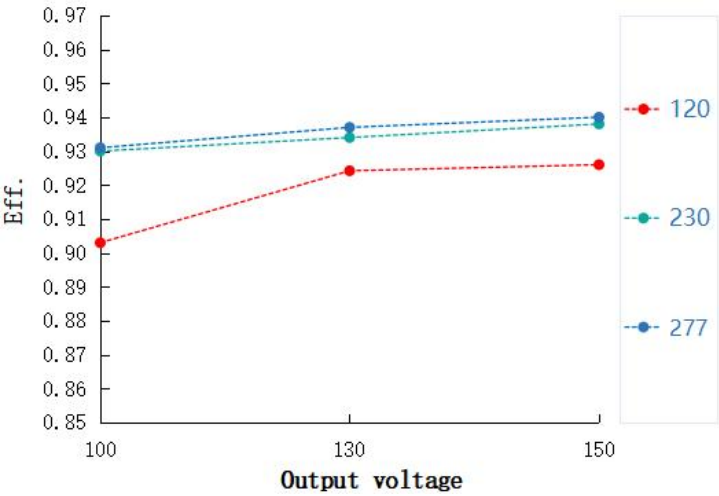
## I-V Working area



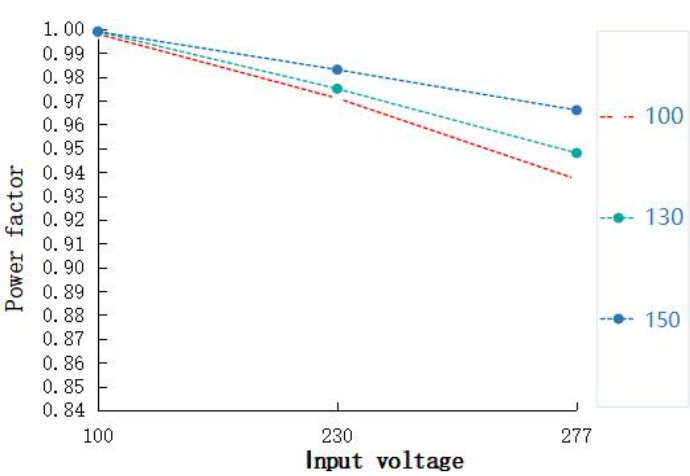
| Load                 | Output |       |       |       |       |       |       |       |      |
|----------------------|--------|-------|-------|-------|-------|-------|-------|-------|------|
| Load working Voltage | 100V   | 105V  | 110V  | 115V  | 120V  | 125V  | 130V  | 140V  | 150V |
| Io_MAX               | 1.50A  | 1.43A | 1.36A | 1.30A | 1.25A | 1.20A | 1.15A | 1.07A | 1.0A |
| Po_MAX               | 150W   | 150W  | 150W  | 150W  | 150W  | 150W  | 150W  | 150W  | 150W |

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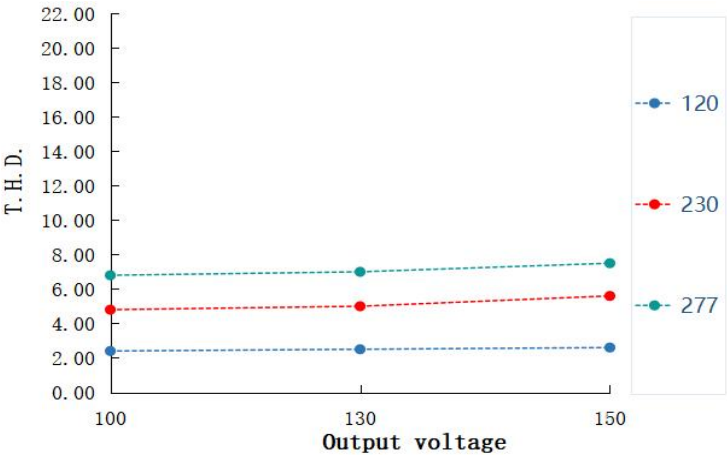
Eff. VS Output voltage



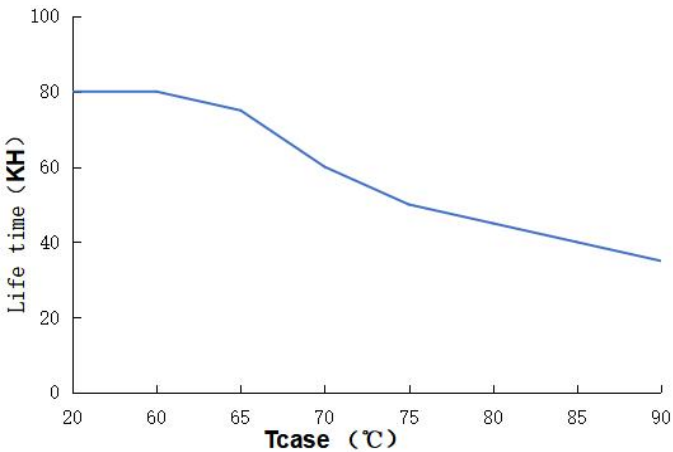
Power factor VS Input voltage



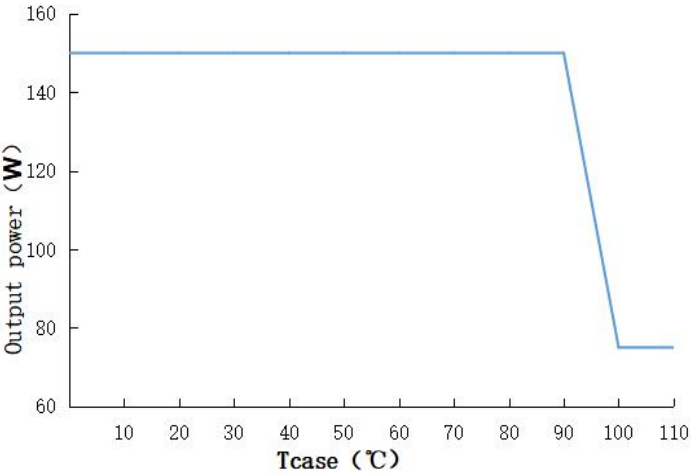
T.H.D. VS Output voltage



Tcase VS Life time

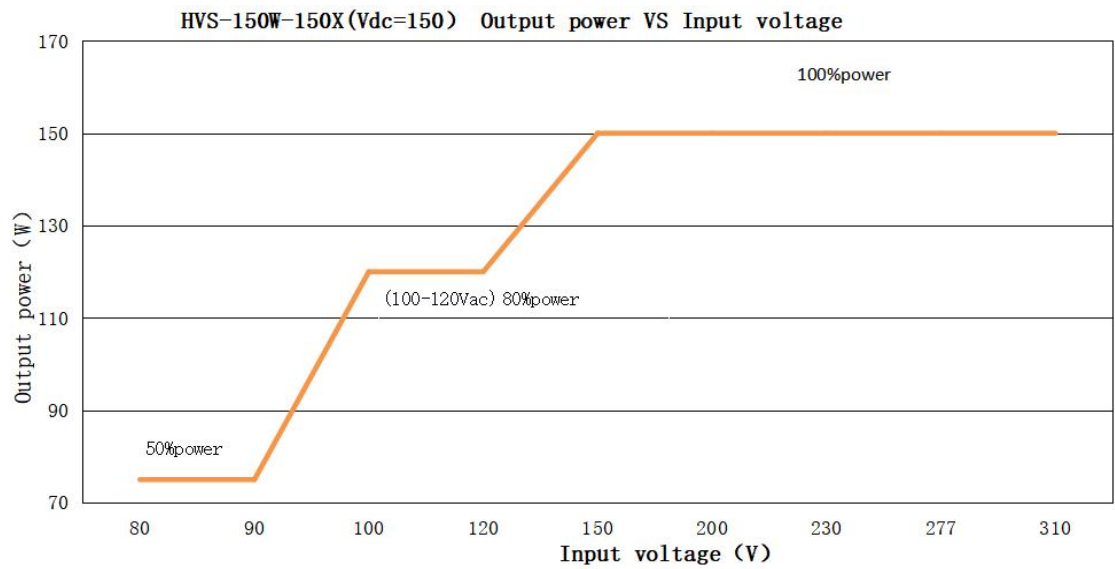


Output power VS Tcase



|               |                |                               |     |      |
|---------------|----------------|-------------------------------|-----|------|
| <b>SUNCOM</b> | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
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Output power VS Input voltage




| HVS-150W-150X(For output 150Vdc, the rated output current & power under different input voltage) |       |        |        |        |        |        |        |        |
|--|-------|--------|--------|--------|--------|--------|--------|--------|
| Input Voltage  | 80Vac | 100Vac | 110Vac | 120Vac | 150Vac | 180Vac | 230Vac | 277Vac |
| Io   | 0. 5A | 0. 8A  | 0. 8A  | 1. 0A  | 1. 0A  | 1. 0A  | 1. 0A  | 1. 0A  |
| Po   | 75W   | 120W   | 120W   | 150W   | 150W   | 150W   | 150W   | 150W   |

Note:

1. 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 150W.

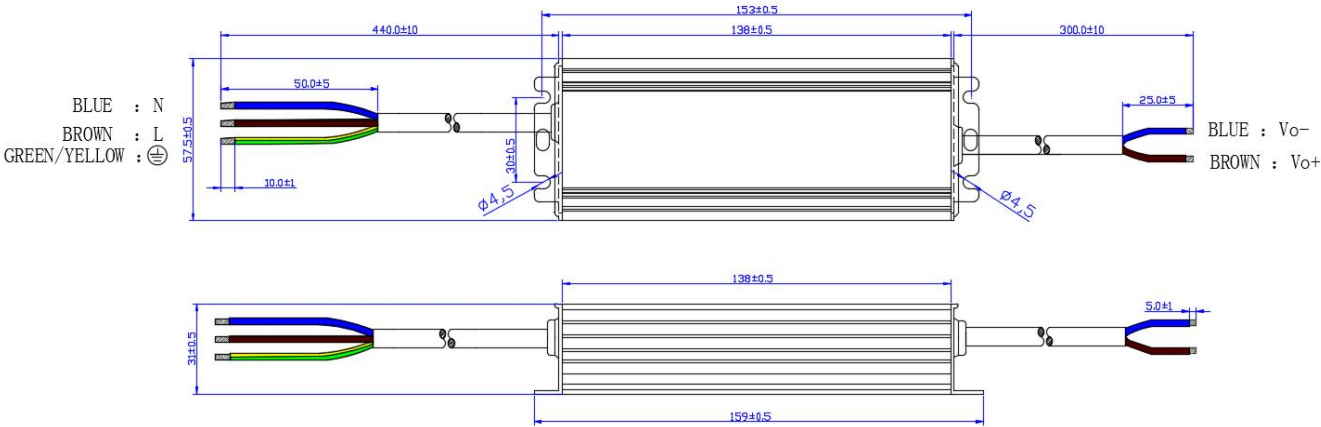


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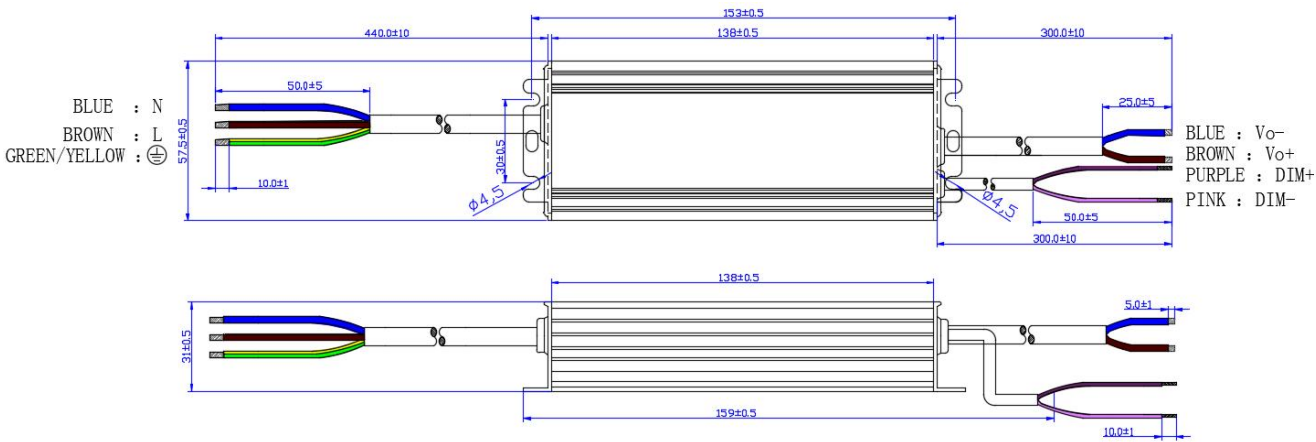
Mechanical specification

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

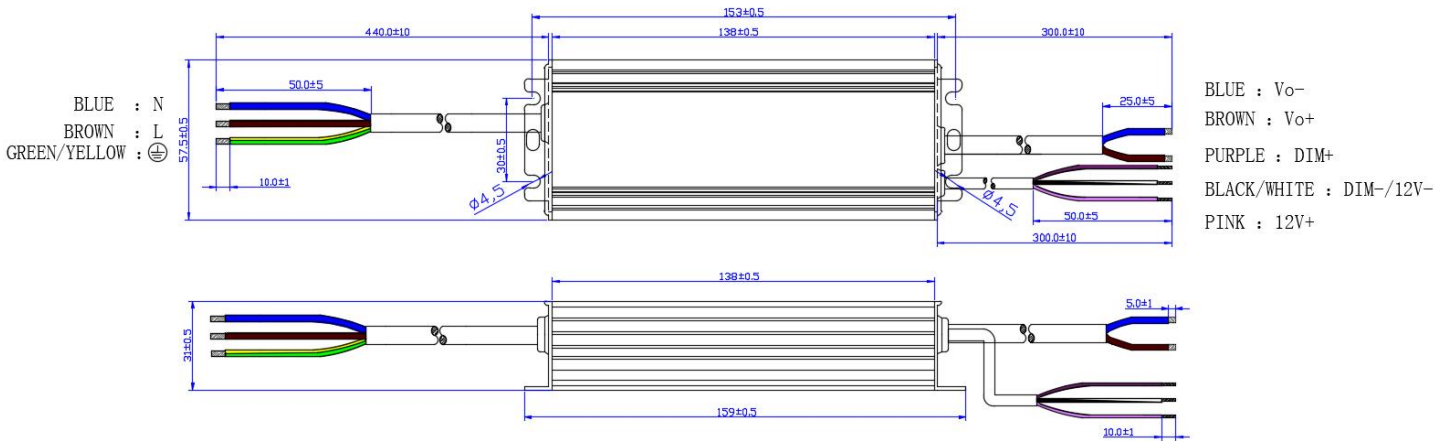
HVS-150W-150A




HVS-150W-150B



HVS-150W-150C/XP



|  |                |                               |     |      |
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Version

| DATE       | DESCRIPTION      | REV. | CHECK |
|------------|------------------|------|-------|
| 2024.04.09 | Initial version. | V1.0 |       |