

## SPECIFICATION

**Product name : LAG-150H-450A**

**Release date : 2023/11/6**

|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

## Features

- Class I type for insulation
- Input voltage range:200-240V ~ 50/60Hz
- Efficiency 96% (Typ.)
- Constant current output ,with power limitation for control mode
- Version 1: Half glue (IP42); (optional IP65)  
Version 2: bare plate construction (XP series)
- Surge level:  
differential mode : 4kV  
common mode :6kV
- guaranteed Lifetime : 5 year warranty for half glue; 3 year warranty for bare plate



## Applications

Industrial lighting、Venue lighting

## Model list

| Model NO.        | Rated Input voltage | Max Output power | Output voltage | The default current | Eff. |
|------------------|---------------------|------------------|----------------|---------------------|------|
| LAG-150H-450A    | 200-240V 50/60Hz    | 150W             | 410-450Vdc     | 0.32A               | ≥96% |
| LAG-150H-450A-XP | 200-240V 50/60Hz    | 150W             | 410-450Vdc     | 0.32A               | ≥96% |

### Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .

|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

## Input characteristics

| Parameter             | Min    | Typ.    | Max    | Remark                        |
|-----------------------|--------|---------|--------|-------------------------------|
| Rated input voltage   | -      | 230Vac  | -      | -                             |
| Input voltage range   | 200Vac | -       | 240Vac | -                             |
| Rated frequency range | -      | 50/60Hz | -      | -                             |
| Power factor          | 0.95   | -       | -      | @230Vac input ,with full load |
| T.H.D.                | -      | -       | 15%    | @230Vac input ,with full load |
| Input current         | -      | -       | 0.80A  | @180Vac input ,with full load |
| Inrush current        | -      | -       | 70A    | 230Vac, cold start (25°C)     |

## Output characteristics

| Parameter                                                 | Min         | Typ.           | Max    | Remark                        |
|-----------------------------------------------------------|-------------|----------------|--------|-------------------------------|
| Rated current<br>LAG-150H-450A<br>LAG-150H-450A-XP        | -<br>-<br>- | 0.32A<br>0.32A | -<br>- | @230Vac input ,with full load |
| Output current range<br>LAG-150H-450A<br>LAG-150H-450A-XP | 0.30A       | -              | 0.38A  | @230Vac input ,with full load |
| Output voltage range<br>LAG-150H-450A<br>LAG-150H-450A-XP | 410V        | -              | 450V   | -                             |
| Rated power@230Vac)<br>LAG-150H-450A<br>LAG-150H-450A-XP  | -           | 150W<br>150W   | -      | @230Vac input ,with full load |
| No-load voltage<br>LAG-150H-450A<br>LAG-150H-450A-XP      | -           | -              | 520V   | -                             |

|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

## Output characteristics

| Parameter                                              | Min | Typ. | Max   | Remark                                       |
|--------------------------------------------------------|-----|------|-------|----------------------------------------------|
| Efficiency@230Vac<br>LAG-150H-450A<br>LAG-150H-450A-XP | -   | 96%  | -     | @230Vac input ,with full load                |
| Accuracy of output current                             | -5% | -    | +5%   | For constant-power range ,<br>with full load |
| 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;

## Protections

| Protection                      | description                                                                                                                                                                                                  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Over temperature protection     | Could recover automatically; Bare plate test when the IC temperature is greater than $100 \pm 3$ C, the output power gradually decreases as the IC temperature increases.                                    |
| Input under-pressure protection | When the input voltage is less than 180 Vac, the output power gradually decreases with the decrease of the input voltage.                                                                                    |
| Output overload protection      | Overload protection is triggered when the load voltage is greater than $500 \pm 5$ Vdc; Protection mode: hiccup restart, which can be automatically restored after the load abnormal conditions are removed. |

**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;

|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

## Environmental characteristics

| Environmental categories     | Parameter                                                                                |
|------------------------------|------------------------------------------------------------------------------------------|
| Working temperature          | -40 ~ +55℃@200-240Vac((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 ±4KV(2Ω),common mode L, N-PE±6KV (12Ω) Refer toIEC61000-4-5 2014                    |
| High-pot test        | I/P-PE :1.5KVac                                                                                           |
| Insulation impedance | I/P-PE:100MΩ / 500VDC; I/P-O/P:100MΩ / 500VDC / 25℃/ 70% RH                                               |
| Leakage current      | <5mA@230Vac                                                                                               |

### 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.**

|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

I-V Working area

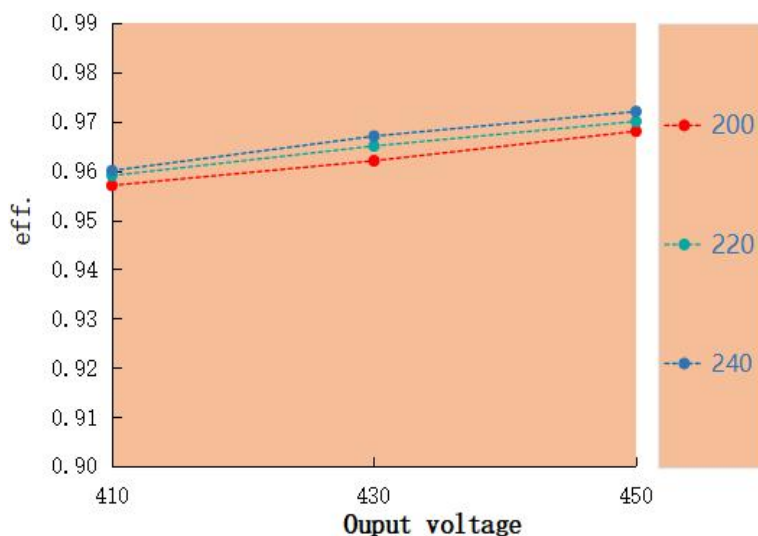
LAG-150H-450A

| Load                 | 输出     |        |        |       |        |        |        |        |       |
|----------------------|--------|--------|--------|-------|--------|--------|--------|--------|-------|
| Load working Voltage | 410V   | 415V   | 420V   | 425V  | 430V   | 435V   | 440V   | 445V   | 450V  |
| Io_MAX               | 0.32A  | 0.32A  | 0.32A  | 0.32A | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A |
| Po_MAX               | 131.2W | 132.8W | 134.4W | 136W  | 137.6W | 139.2W | 147.2W | 140.8W | 145W  |

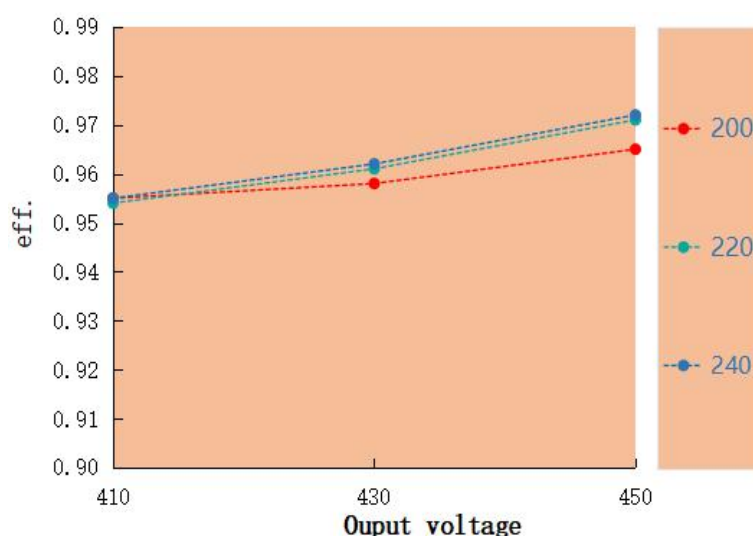
LAG-150H-450A-XP

| Load                 | 输出     |        |        |       |        |        |        |        |       |
|----------------------|--------|--------|--------|-------|--------|--------|--------|--------|-------|
| Load working Voltage | 410V   | 415V   | 420V   | 425V  | 430V   | 435V   | 440V   | 445V   | 450V  |
| Io_MAX               | 0.32A  | 0.32A  | 0.32A  | 0.32A | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A |
| Po_MAX               | 131.2W | 132.8W | 134.4W | 136W  | 137.6W | 139.2W | 147.2W | 140.8W | 145W  |

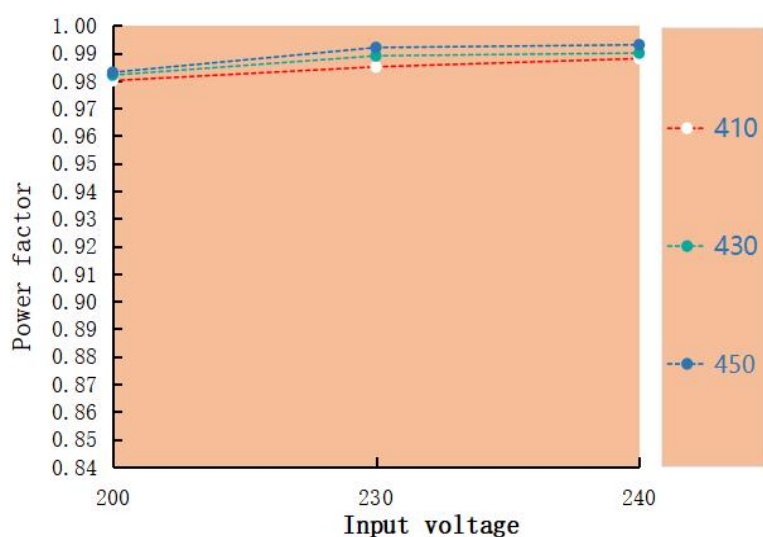
**Eff. VS Output voltage LAG-150H-450A**



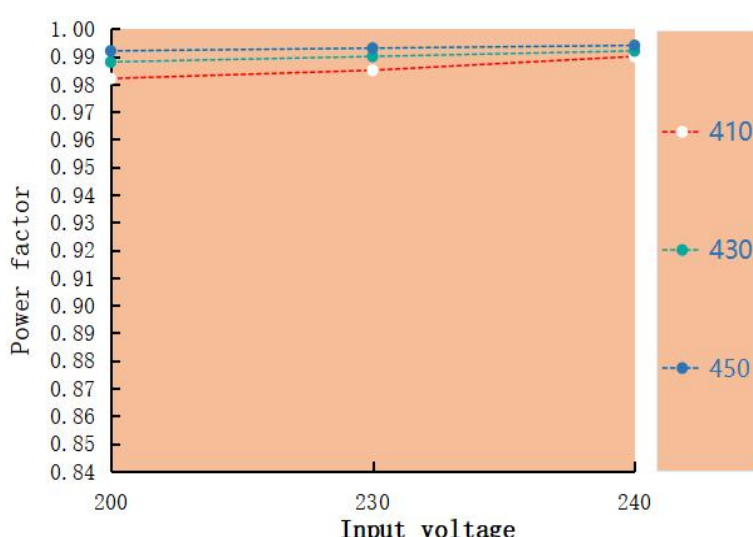
**Eff. VS Output voltage LAG-150H-450A-XP**



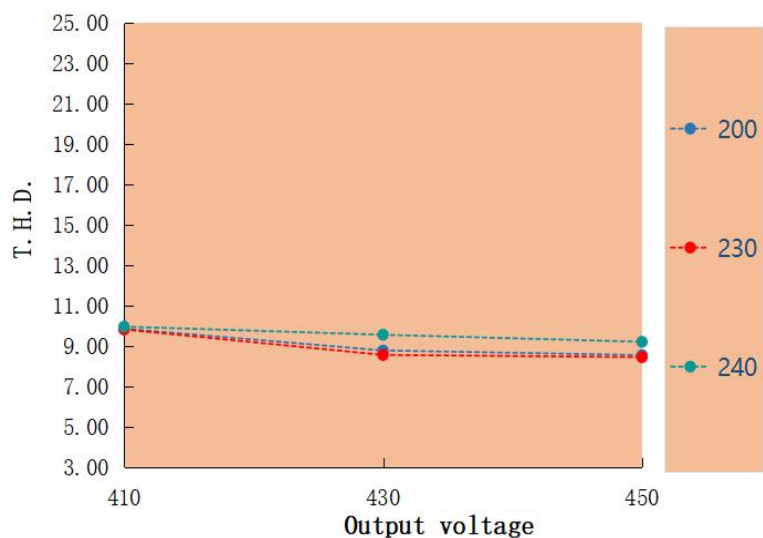
**Power factor VS Input voltage LAG-150H-450A**



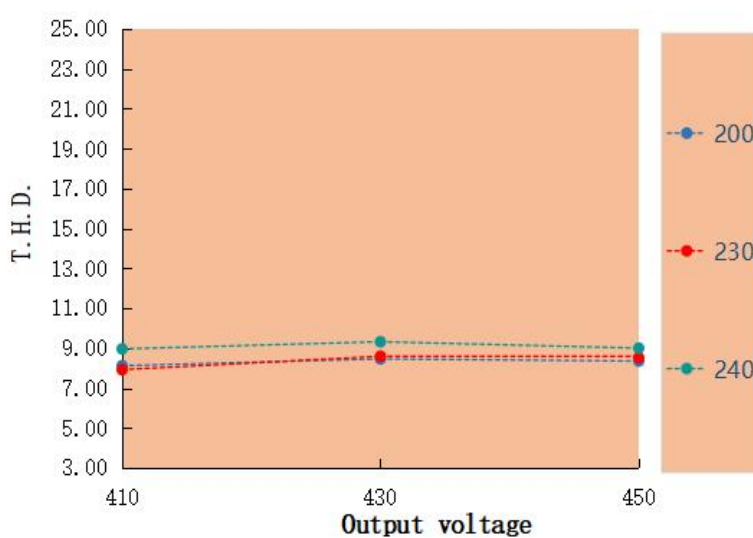
**Power factor VS Input voltage LAG-150H-450A-XP**



**T.H.D. VS Output voltage LAG-150H-450A**

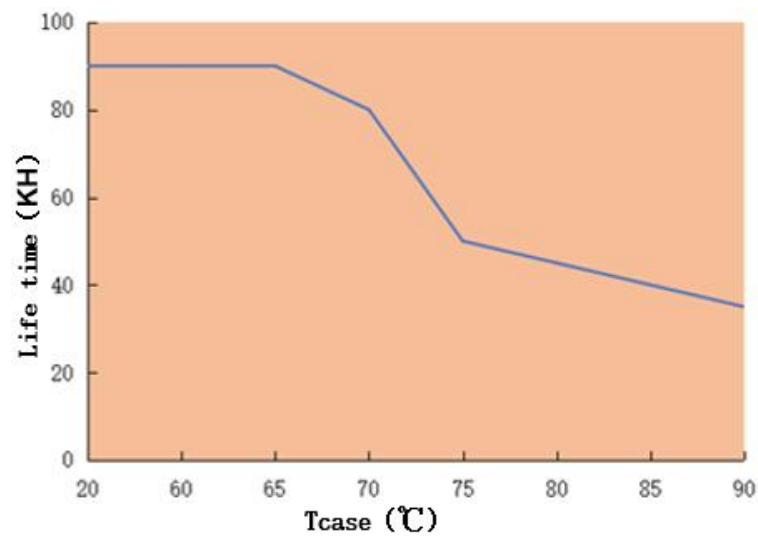


**T.H.D. VS Output voltage LAG-150H-450A-XP**

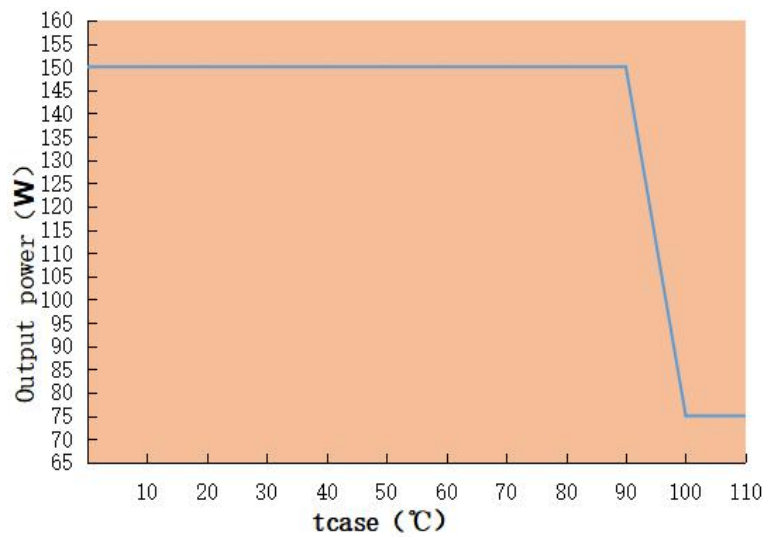


|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

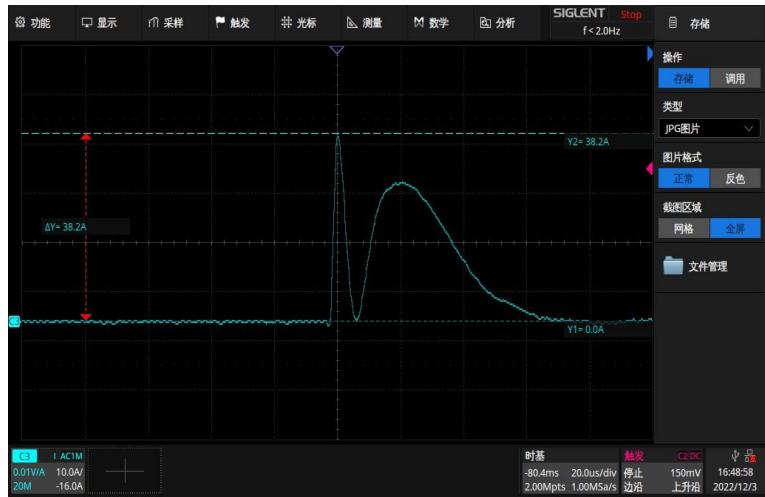
Tcase VS Life time LAG-150H-450A



Output power VS Tcase LAG-150H-450A

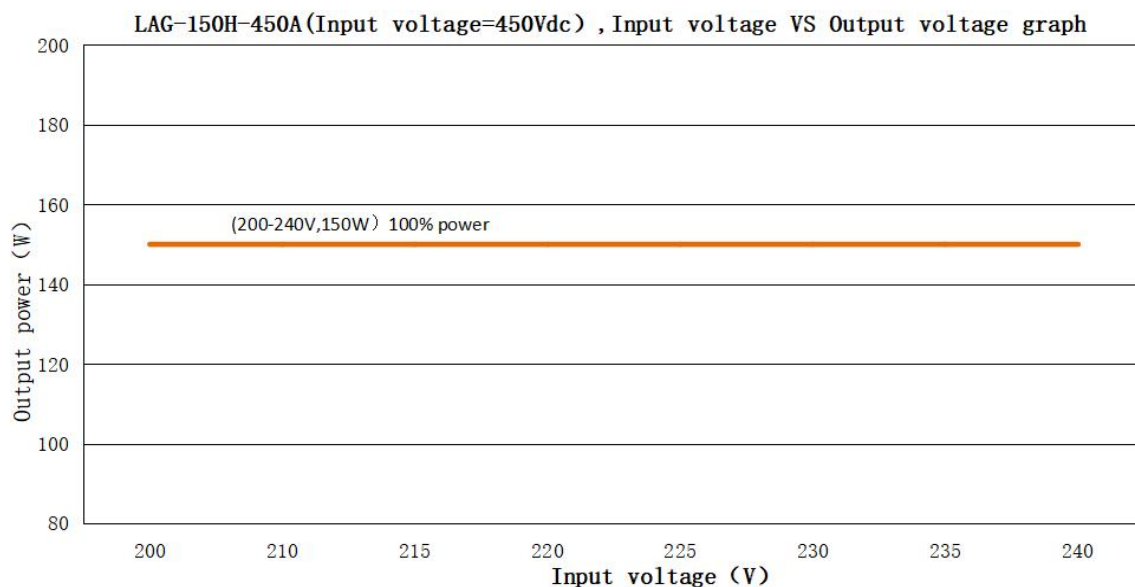


Surge curve LAG-150H-450A





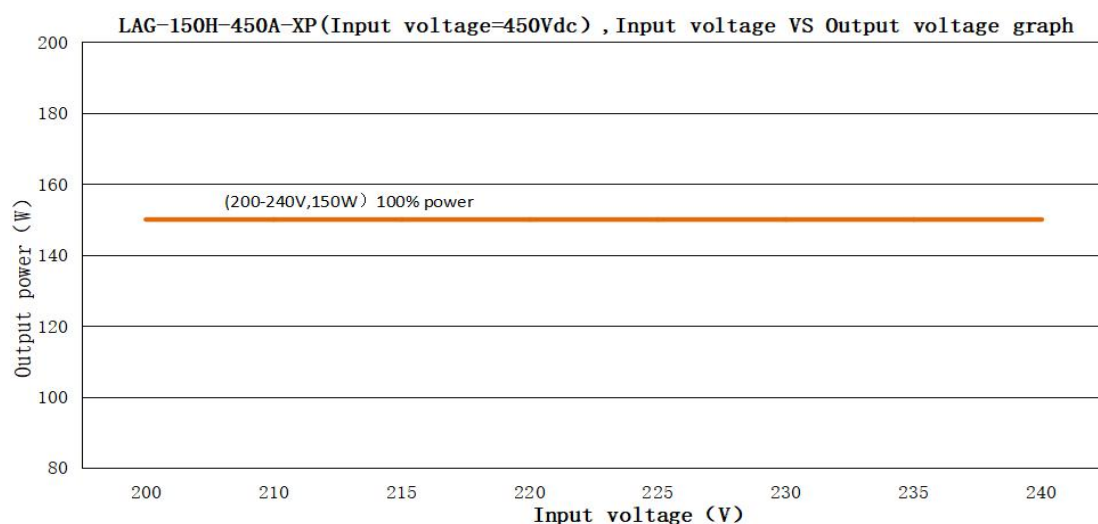
## Output power VS Input voltage



LAG-150H-450A (Vdc=450Vdc, the rated output current & power under different input voltage)

| Input Voltage | 200Vac | 210Vac | 215Vac | 220Vac | 225Vac | 230Vac | 235Vac | 240Vac |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Io            | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  |
| Po            | 150W   | 150W   | 150W   | 150W   | 150W   | 150W   | 150W   | 150W   |

## Output power VS Input voltage



LAG-150H-450A-XP (Vdc=450Vdc, the rated output current & power under different input voltage)

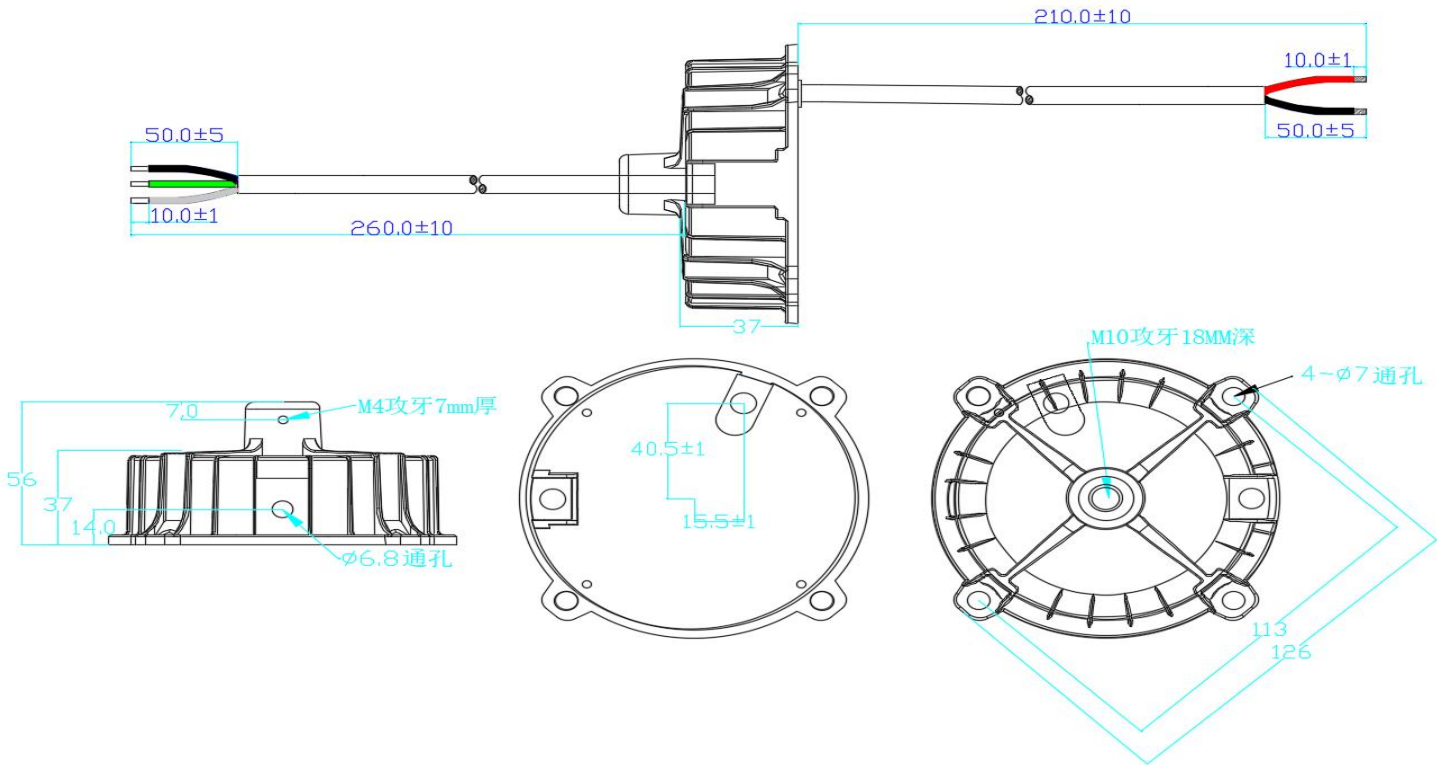
| Input Voltage | 200Vac | 210Vac | 215Vac | 220Vac | 225Vac | 230Vac | 235Vac | 240Vac |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Io            | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  | 0.32A  |
| Po            | 150W   | 150W   | 150W   | 150W   | 150W   | 150W   | 150W   | 150W   |

|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

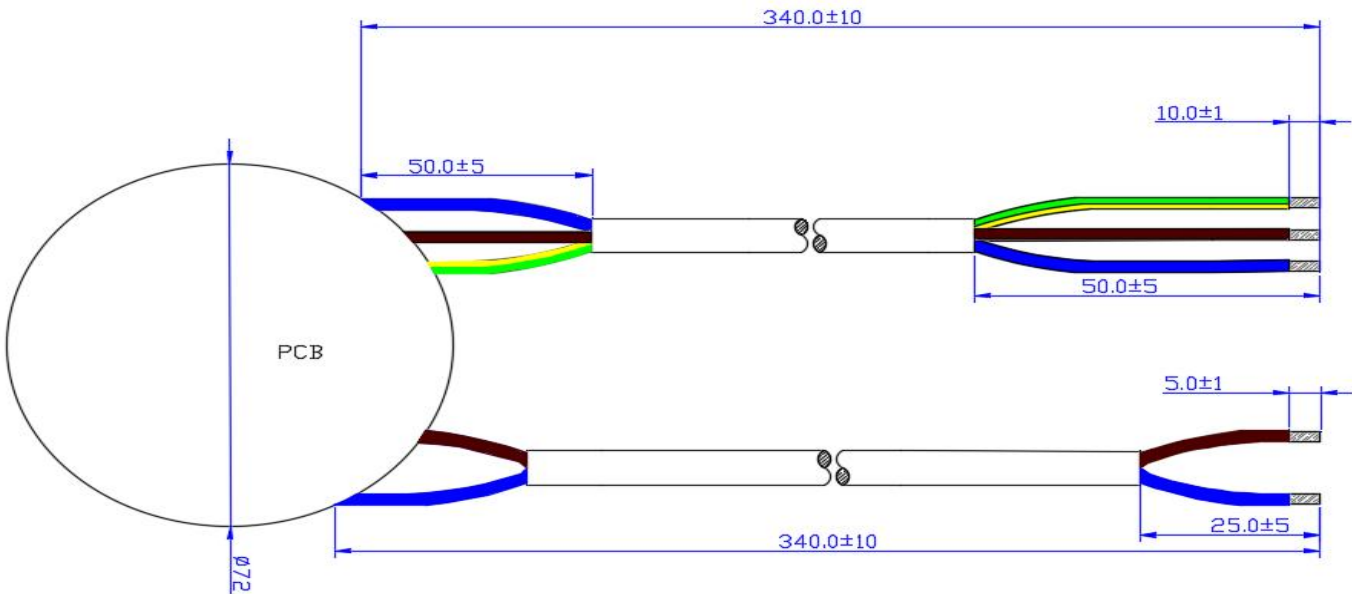
Mechanical specification

|             |                      |                         |  |  |
|-------------|----------------------|-------------------------|--|--|
| Size (mm)   | Φ 126mm   H 56mm     |                         |  |  |
| Weight (Kg) | LAG-150H-450A   460g | LAG-150H-450A-XP   150g |  |  |

LAG-150H-450A



LAG-150H-450A-XP



|                                                                                  |                |                               |     |      |
|----------------------------------------------------------------------------------|----------------|-------------------------------|-----|------|
|  | Product Type   | LED INTEGRATED SPECIAL DRIVER |     |      |
|                                                                                  | Product Series | LAG-150H-450A Series          | REV | V1.0 |

Version

| DATE       | DESCRIPTION      | REV. | CHECK |
|------------|------------------|------|-------|
| 2023.11.06 | Initial version. | V1.0 |       |