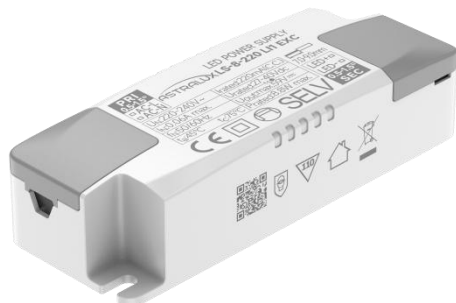


## 8W Constant Current power supply



■ Approve



### Features

- For luminaires of protection Class II, SELV, independent
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor :0.95
- Efficiency: 68-80%
- 5 years warranty

### Applications

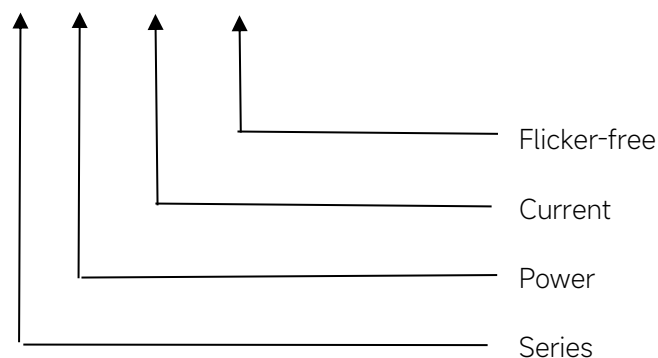
- LED panel, LED down light
- LED spot light

## ◆ Description

LS-8-XXX LI1 EXC is a 8W constant current LED driver that operates from 198-264Vac input with 70 to 220mA output current. With it's compact dimensions from 92 x 36 x 25mm it is easy to integrate in LED Panel, spot, down lights. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

## ◆ Model code

LS-8-XXX LI1 EXC



## ◆ Specification

|             |                                  |                                                                                                       |        |        |        |        |        |       |
|-------------|----------------------------------|-------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|-------|
| Output      | Constant Current (mA)            | 70                                                                                                    | 120    | 150    | 160    | 180    | 200    | 220   |
|             | Voltage Range(VDC)               | 27-42                                                                                                 |        |        |        |        | 27-40  |       |
|             | Unload voltage Max.(VDC))        | 59V                                                                                                   |        |        |        |        |        |       |
|             | Current Accuracy                 | ±10%                                                                                                  | ±7%    |        |        |        | ±5%    |       |
|             | Output HF current ripple(≥1KHz)  | ±5%                                                                                                   |        |        |        |        |        |       |
|             | Output LF current ripple(≤120Hz) | ±3%                                                                                                   |        |        |        |        |        |       |
|             | SVM                              | ≤0.4                                                                                                  |        |        |        |        |        |       |
|             | P <sub>st</sub>                  | ≤1                                                                                                    |        |        |        |        |        |       |
|             | Efficiency(Typ.)                 | 68%                                                                                                   | 76%    | 78%    |        | 79%    | 80%    |       |
| Input       | Rated input voltage              | 220-240VAC                                                                                            |        |        |        |        |        |       |
|             | Range of input voltage           | 198-264VAC                                                                                            |        |        |        |        |        |       |
|             | Maximum voltage                  | 300VAC@1 h maximum,unit might not operate in this abnormal condition                                  |        |        |        |        |        |       |
|             | Frequency(Hz)                    | 50/60 Hz                                                                                              |        |        |        |        |        |       |
|             | Displacement factor(Typ.)        | ≥0.9                                                                                                  |        |        |        |        |        |       |
|             | Power Factor                     | 0.9                                                                                                   | 0.92   | 0.95   |        |        |        |       |
|             | Input Current max                | 0.025A                                                                                                | 0.038A | 0.046A | 0.048A | 0.053A | 0.058A | 0.06A |
|             | Start-up time                    | < 0.5S                                                                                                |        |        |        |        |        |       |
|             | No Load Power                    | ≤0.5W                                                                                                 |        |        |        |        |        |       |
|             | THD (Typ.)                       | < 20%                                                                                                 |        |        |        |        | < 10%  |       |
| Protection  | Over Load Protection             | 103-130%                                                                                              |        |        |        |        |        |       |
|             |                                  | YES/Auto Resume                                                                                       |        |        |        |        |        |       |
|             | Over Voltage Protection          | 59VDC                                                                                                 |        |        |        |        |        |       |
|             |                                  | YES/Auto Resume                                                                                       |        |        |        |        |        |       |
|             | Short circuit Protection         | YES/Auto Resume                                                                                       |        |        |        |        |        |       |
| capability  | Surge capability (L-N)           | 1KV                                                                                                   |        |        |        |        |        |       |
|             | Surge capability (L/N-Ground)    | NA                                                                                                    |        |        |        |        |        |       |
| Environment | Operating Temperature            | -20℃~~+45℃                                                                                            |        |        |        |        |        |       |
|             | Humidity                         | 10%-90%RH                                                                                             |        |        |        |        |        |       |
|             | Tc                               | 75℃                                                                                                   |        |        |        |        |        |       |
|             | Storage Temperature              | -25℃~~+60℃                                                                                            |        |        |        |        |        |       |
|             | Life time                        | > 50000h@Tc=75℃                                                                                       |        |        |        |        |        |       |
|             | Noise                            | ≤20dB(A)@10cm                                                                                         |        |        |        |        |        |       |
| Surface     | Dimension                        | 92x36x25mm                                                                                            |        |        |        |        |        |       |
|             | material                         | PC                                                                                                    |        |        |        |        |        |       |
| Standards   | Safety                           | GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2-13;EN62384                  |        |        |        |        |        |       |
|             | EMC                              | GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11 |        |        |        |        |        |       |

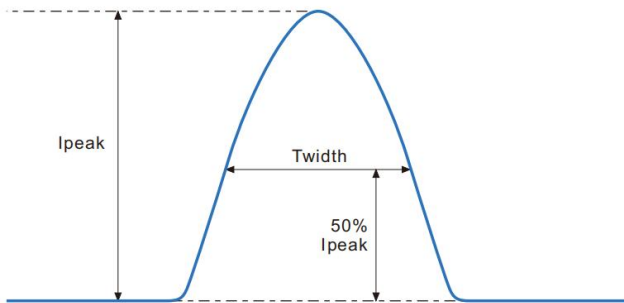
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|      | Energy Efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Erp2.0 EU 2019/2020            |
|      | RoHS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | RoHS (2011/65/EU) (EU)2015/863 |
| Note | <p>1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple &amp; Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF &amp; 47 uF parallel capacitor.</p> <p>3.Switch and dimmer are not recommended to connect between this product output and luminaries.</p> <p>4.The over-temperature protection of the product is provided by the IC.</p> <p>5.All Astralux power supply are complied with EMI regulations. Since they are belong to component and will be installed inside system enclosure. When they are integrated into a system, the EMI characteristics of the system must be re-verified again.</p> |                                |

## ◆ Model list

| Number | Model number     | Input            |                |                   | Output          |                  |                             |              |
|--------|------------------|------------------|----------------|-------------------|-----------------|------------------|-----------------------------|--------------|
|        |                  | Voltage<br>(VAC) | Current<br>(A) | Frequency<br>(Hz) | Current<br>(mA) | Voltage<br>(VDC) | Voltage<br>No load<br>(VDC) | Power<br>(W) |
| 1      | LS-8-70 LI1 EXC  | 220-240          | 0.025          | 50/60             | 70              | 27-42            | 59                          | 3            |
| 2      | LS-8-120 LI1 EXC |                  | 0.038          |                   | 120             |                  |                             | 5            |
| 3      | LS-8-150 LI1 EXC |                  | 0.046          |                   | 150             |                  |                             | 6.3          |
| 4      | LS-8-160 LI1 EXC |                  | 0.048          |                   | 160             |                  |                             | 6.7          |
| 5      | LS-8-180 LI1 EXC |                  | 0.053          |                   | 180             |                  |                             | 7.6          |
| 6      | LS-8-200 LI1 EXC |                  | 0.058          |                   | 200             | 27-40            |                             | 8            |
| 7      | LS-8-220 LI1 EXC |                  | 0.06           |                   | 220             |                  |                             | 8.8          |

## ◆ Inrush Current

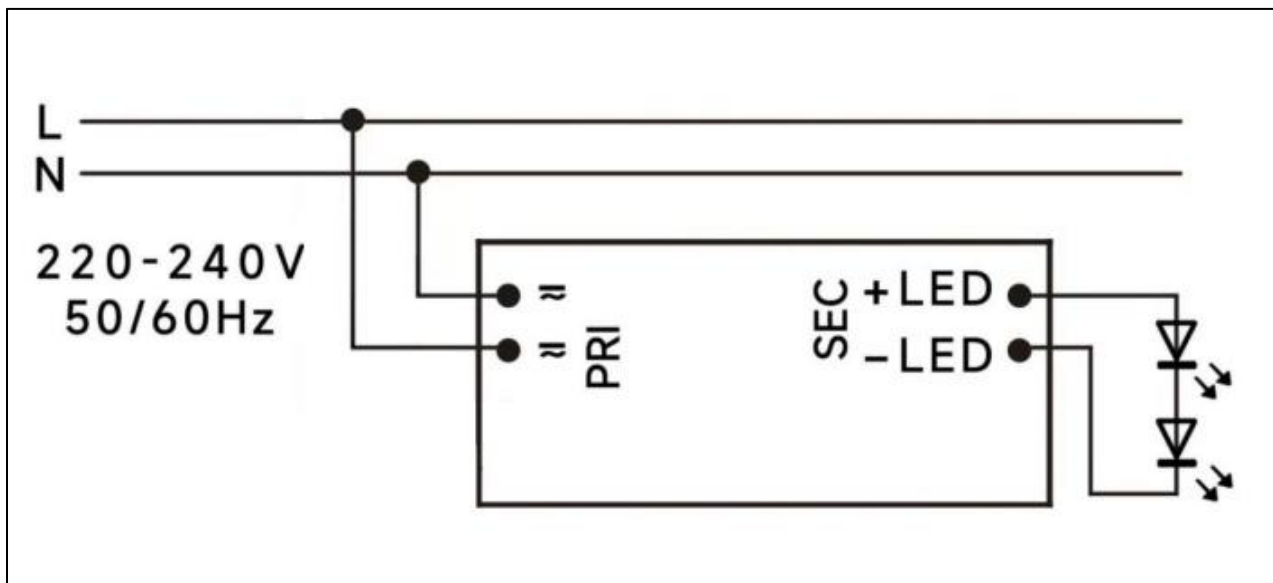
| $I_{peak}$ | Twidth      | B10    | B16    | B20    | C10    | C16    | C20    |
|------------|-------------|--------|--------|--------|--------|--------|--------|
| 6.76A      | 122 $\mu$ s | 102pcs | 163pcs | 204pcs | 133pcs | 213pcs | 266pcs |



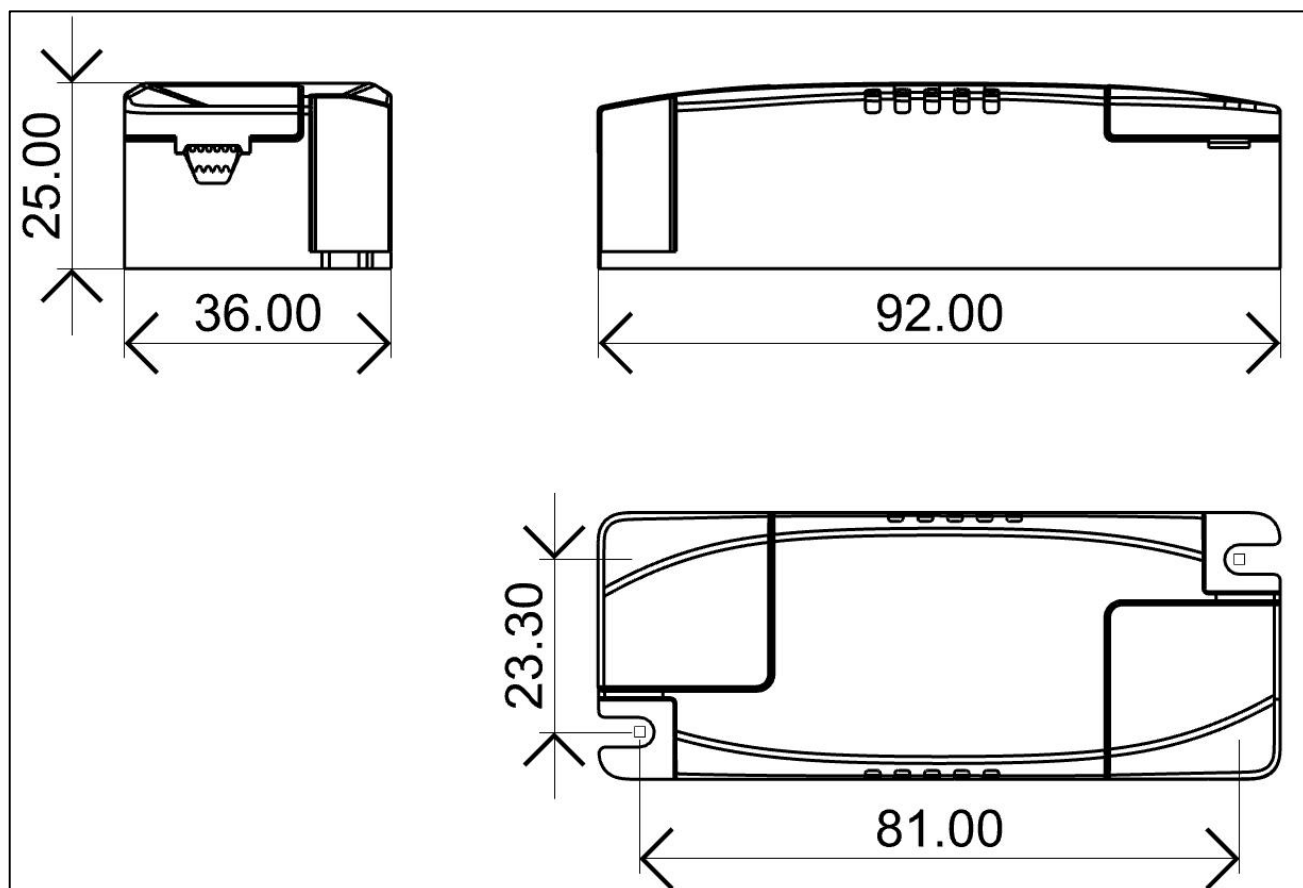
Remarks:

- 1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- 2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

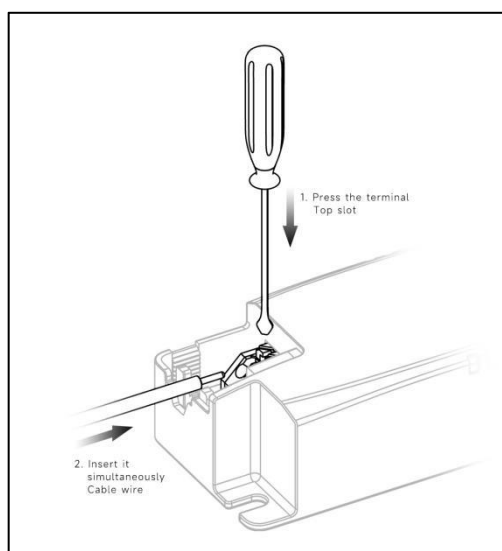
## ◆ Wiring diagram



◆ 2D diagram



Terminal



## ◆ Wiring & Connections

| Specification item |                           | Value (Unit )             |
|--------------------|---------------------------|---------------------------|
| Input              | Input wire cross-section  | 0.5...1.5 mm <sup>2</sup> |
|                    | Input wire gauge.         | 16...20 AWG               |
|                    | Input wire strip length   | 7...9mm                   |
| Output             | Output wire cross-section | 0.5...1.5 mm <sup>2</sup> |
|                    | Output wire gauge.        | 16...20 AWG               |
|                    | Output wire strip length  | 7...9mm                   |

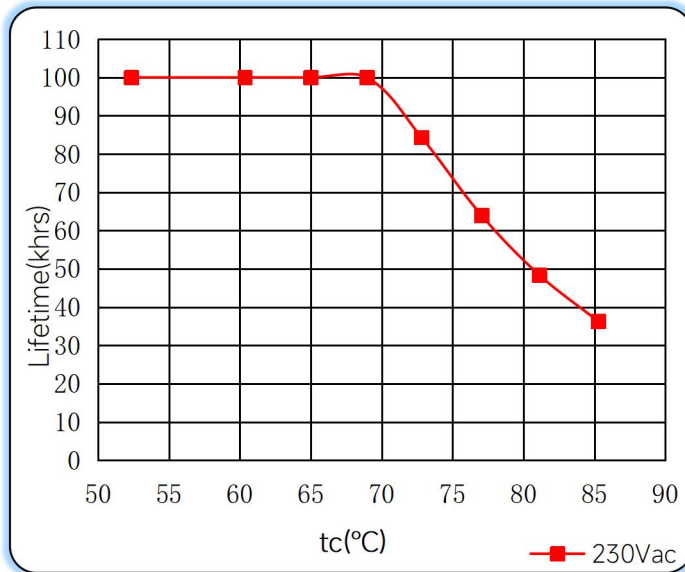
## ◆ Recommended wire

| Wire cross-section          | Wire type       |
|-----------------------------|-----------------|
| 2*0.5mm <sup>2</sup>        | H03VVH2-F 2core |
| 2*0.75mm <sup>2</sup>       | H03VVH2-F 2core |
| 1.5mm <sup>2</sup>          | CCC 08(RV-90)   |
| 16AWG(1.25mm <sup>2</sup> ) | UL1015          |

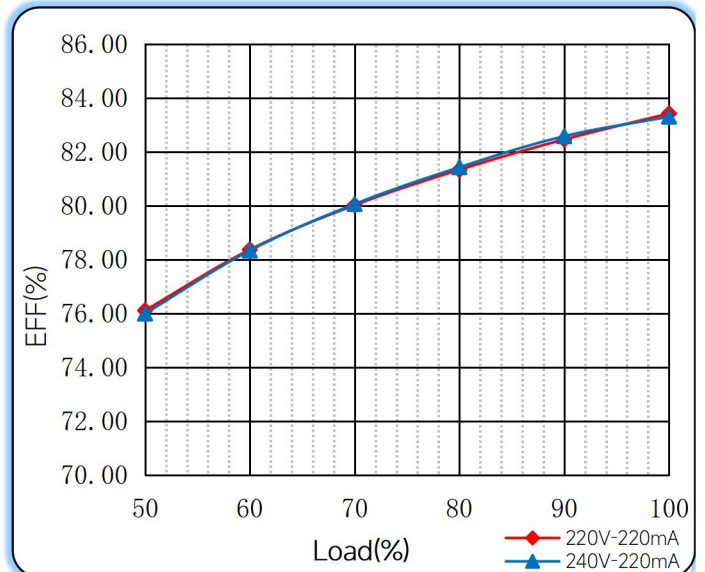
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

# ◆ Curve for LS-8-200 LI1 EXC, Io=200mA

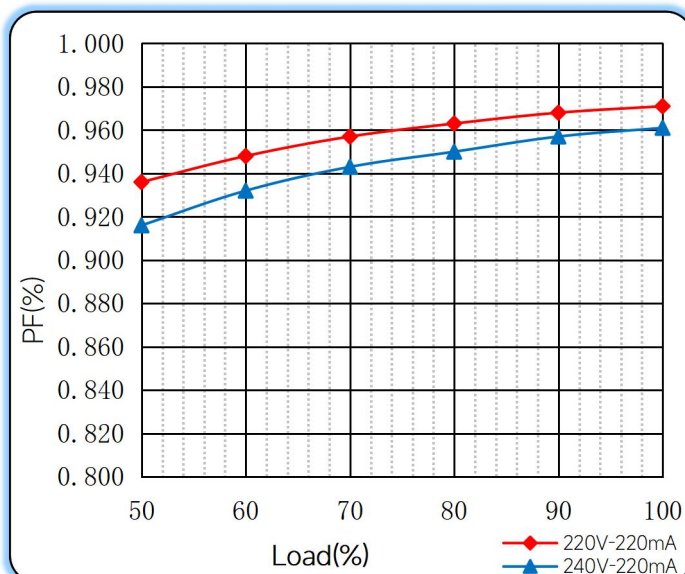
Lifetime vs. Temperature Curve



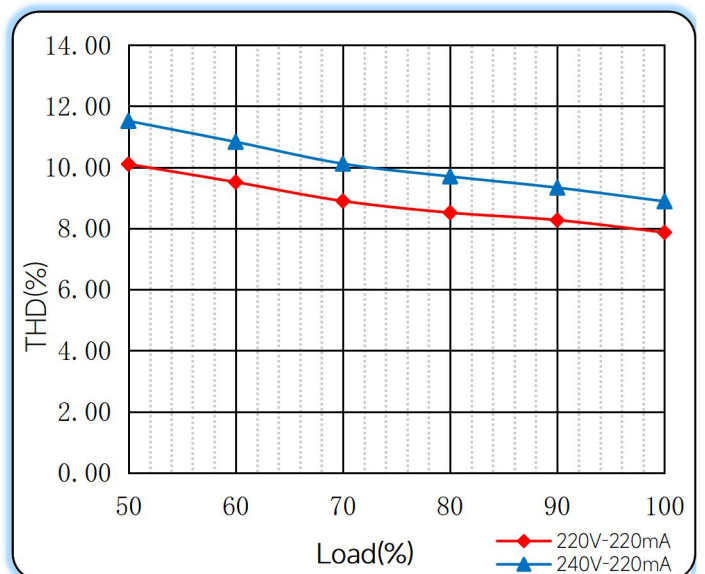
Efficiency vs. Load



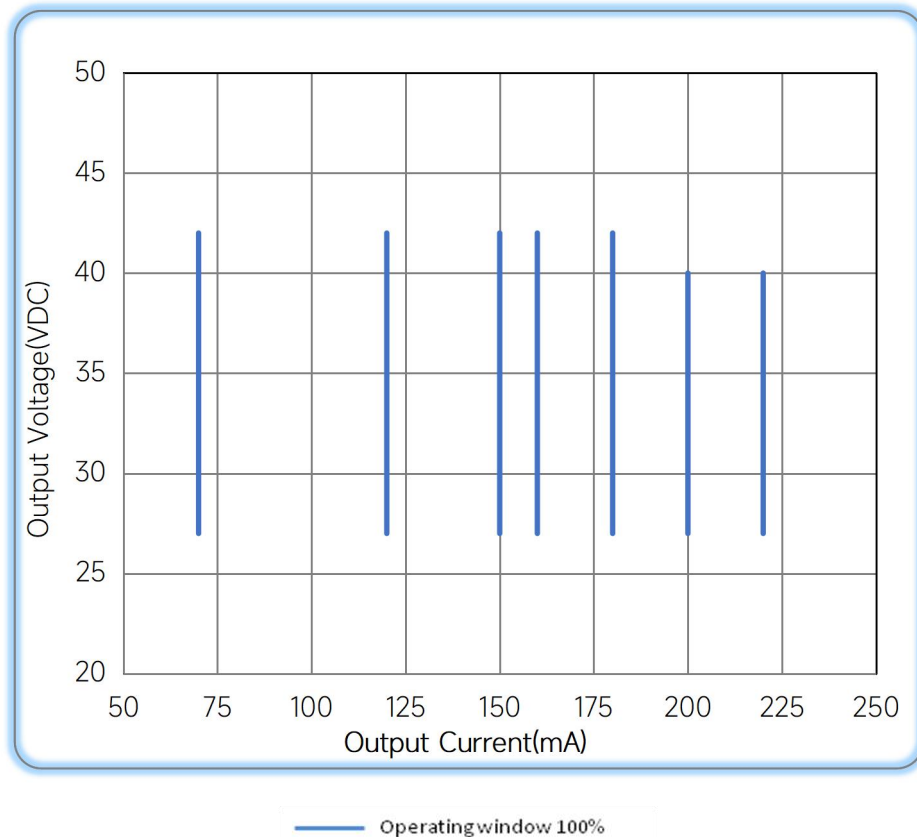
Power Factor Characteristics



THD vs. Load



## ◆ Operating window



## ◆ Revision Updates

| ITEM    | BEFORE | AFTER | VERSION | DATE       |
|---------|--------|-------|---------|------------|
| Initial |        |       | A       | 2024/01/09 |
|         |        |       |         |            |

Remark: The final interpretation of the contents of the specification belongs to Astralux.

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