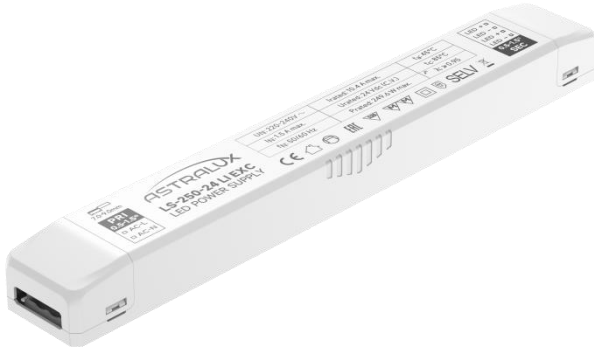


## 250W constant Voltage-LS Series



■ Approve

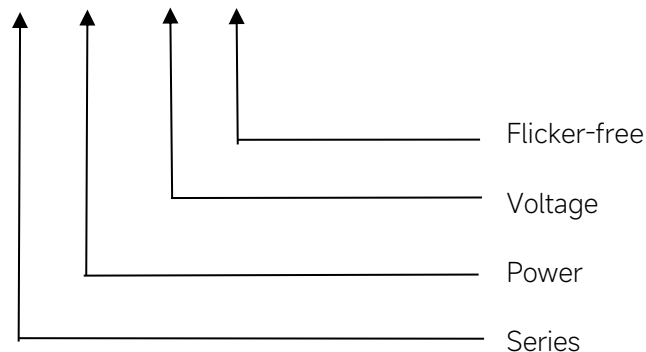


### ◆ Description

LS-250-XX LI EXC is a 250W constant voltage LED driver that operates from 198-264Vac input with 24V or 48V output voltage. With it's compact dimensions from 318 X 45 X 30mm. It is easy to integrate in LED strips products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

### ◆ Model code

LS-250-XX LI EXC



### Features

- For luminaries of protection Class II, SELV, Independent
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OTP
- Power Factor:  $\geq 0.95$  (Typ.)
- Efficiency:  $\geq 93\%$  (Typ.)
- 5 years warranty

### Applications

- LED strips

## ◆ Specification

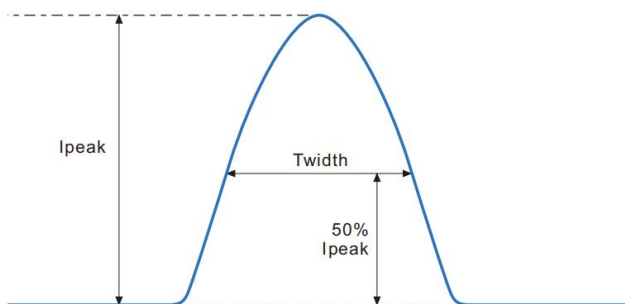
|                 |                                  |                                                                                                                |        |
|-----------------|----------------------------------|----------------------------------------------------------------------------------------------------------------|--------|
| Output          | Constant Voltage                 | 24VDC                                                                                                          | 48VDC  |
|                 | Current Range                    | 0-10.4A                                                                                                        | 0-5.2A |
|                 | Voltage Accuracy                 | ±5%                                                                                                            |        |
|                 | Output HF current ripple(≥1KHz)  | ±5%                                                                                                            |        |
|                 | Output LF current ripple(≤120Hz) | ±5%                                                                                                            |        |
|                 | SVM                              | ≤0.4                                                                                                           |        |
|                 | Pst                              | ≤1                                                                                                             |        |
|                 | Efficiency(Typ.)                 | ≥93%@Full load,230V                                                                                            |        |
| Input           | Rated input voltage              | 220-240VAC                                                                                                     |        |
|                 | Range of input voltage           | 198-264VAC                                                                                                     |        |
|                 | Frequency(Hz)                    | 50/60 Hz                                                                                                       |        |
|                 | Displacement factor              | ≥0.9                                                                                                           |        |
|                 | Power Factor                     | ≥0.95@Full load,230V                                                                                           |        |
|                 | Input Current max                | 1.5A                                                                                                           |        |
|                 | Start-up time                    | < 0.5S                                                                                                         |        |
|                 | No Load Power                    | ≤0.5W                                                                                                          |        |
|                 | THD (Typ.)                       | < 10%@Full load,230V                                                                                           |        |
| Protection      | Over Load Protection             | 105-150%                                                                                                       |        |
|                 |                                  | YES/Auto Resume                                                                                                |        |
|                 | Short circuit Protection         | YES/Auto Resume                                                                                                |        |
|                 | Over Temperature Protection      | Ta≥60°C,@Full load                                                                                             |        |
| YES/Auto Resume |                                  |                                                                                                                |        |
| capability      | Surge capability (L-N)           | 1KV                                                                                                            |        |
|                 | Surge capability (L/N-Ground)    | NA                                                                                                             |        |
| Environment     | Operating Temperature            | -20°C~~+45°C                                                                                                   |        |
|                 | Humidity                         | 20%-90%RH                                                                                                      |        |
|                 | Tc                               | 85°C                                                                                                           |        |
|                 | Storage Temperature              | -20°C~~+60°C                                                                                                   |        |
|                 | Life time                        | > 50000h@Tc=85°C                                                                                               |        |
|                 | Noise                            | ≤25dB(A)@20cm                                                                                                  |        |
| Surface         | Dimension                        | 318x45x30(LXWXH)mm                                                                                             |        |
|                 | 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, EN61547 |        |
|                 | Energy Efficiency                | Erp2.0 EU 2019/2020                                                                                            |        |
|                 | RoHS                             | RoHS (2011/65/EU) (EU)2015/863                                                                                 |        |

**Note**

- 1.All parameters NOT specially mentioned are measured at 240VAC input , full load and 25°C of ambient temperature.
- 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.
- 3.Switch and dimmer are not recommended to connect between this product output and luminaries.
- 4.The efficiency testing will be affected by the instrument used and the results may also be different.
- 5.Only 90% of full load at 198V input.
- 6.All 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.

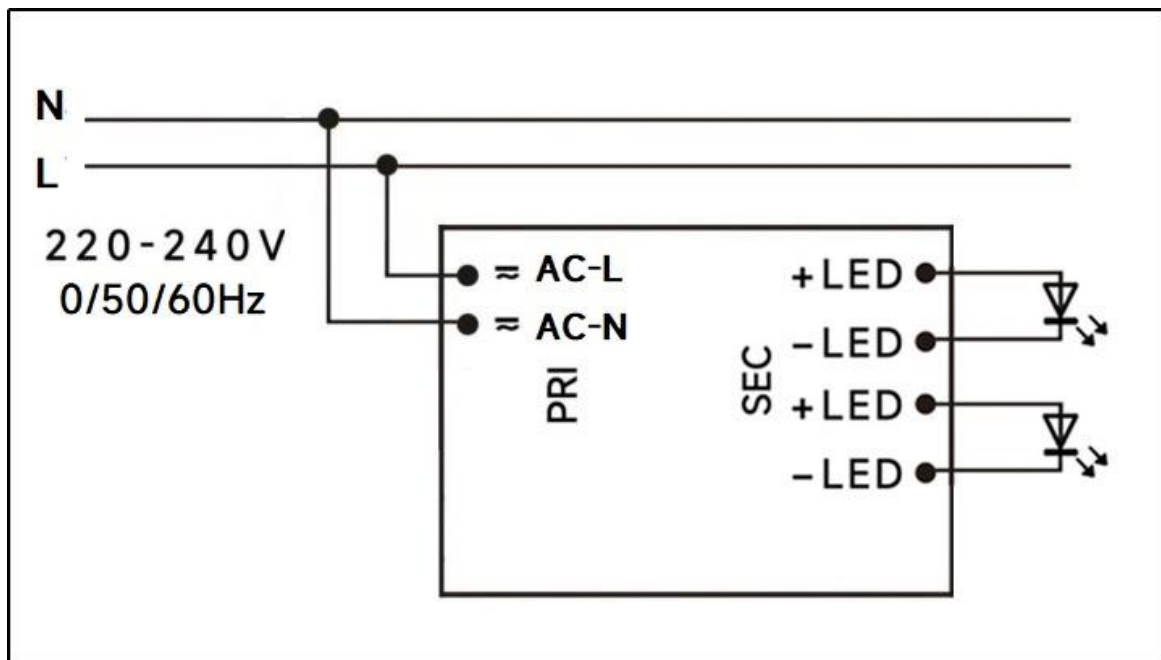
## ◆ Inrush Current

| $I_{peak}$ | Twidth | B10  | B16  | B20  | C10  | C16  | C20  |
|------------|--------|------|------|------|------|------|------|
| 46.4A      | 680μs  | 2pcs | 3pcs | 4pcs | 4pcs | 6pcs | 8pcs |

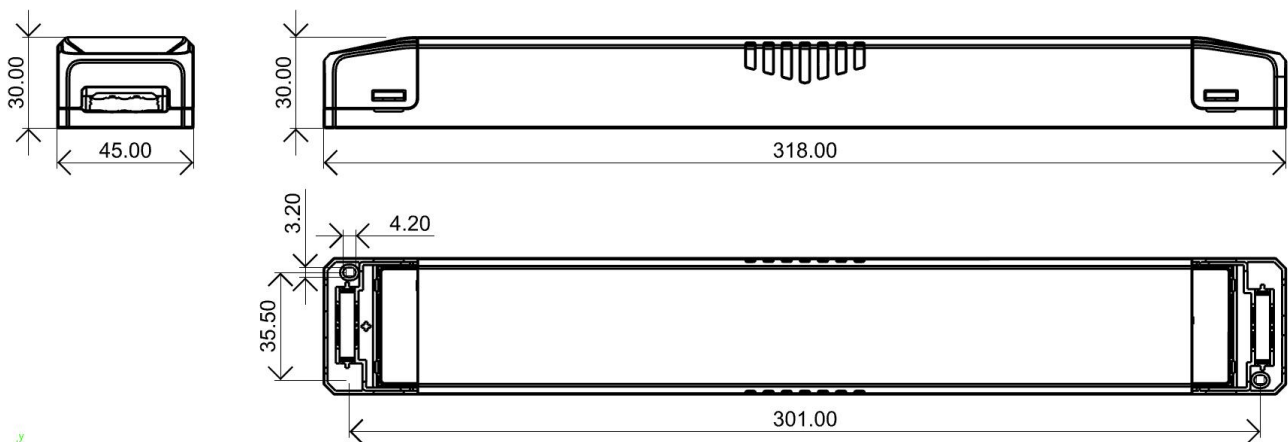

**Remarks:**

- 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.

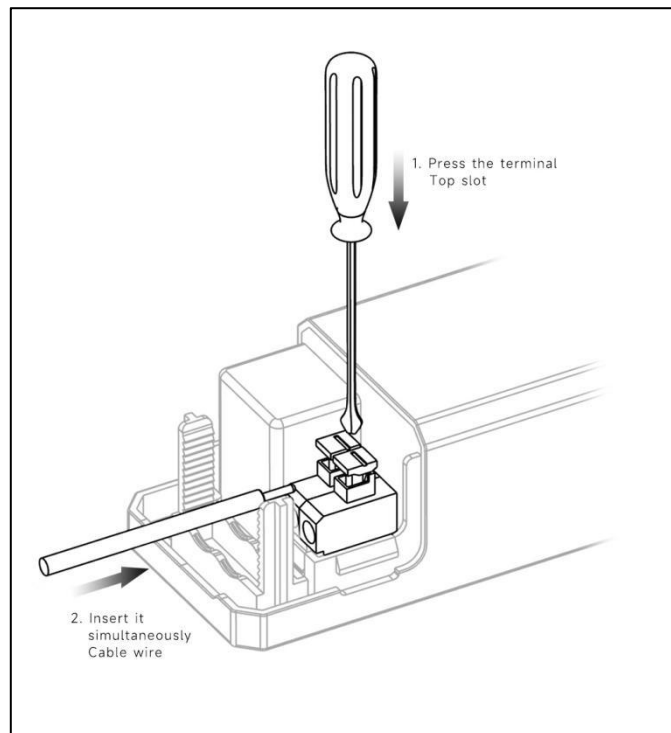
## ◆ Wiring diagram



## ◆ 2D diagram



Terminal



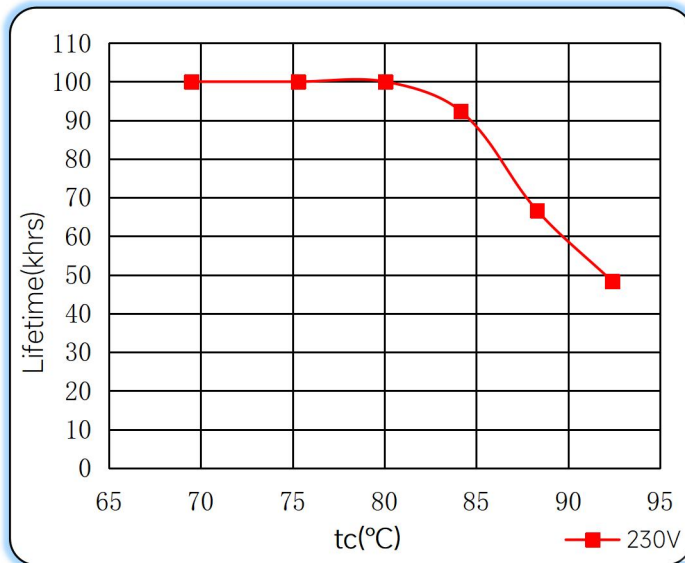
## ◆ Wiring & Connections

| 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                   |

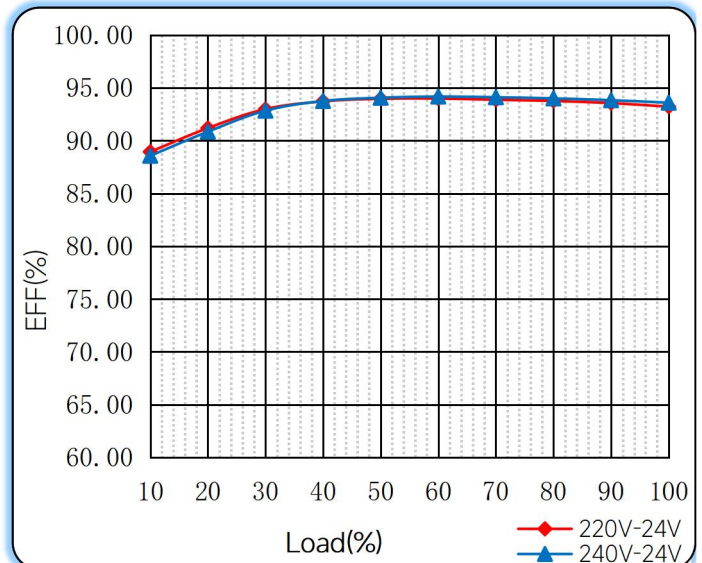
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

## ◆ Curve for LS-250-24 LI EXC

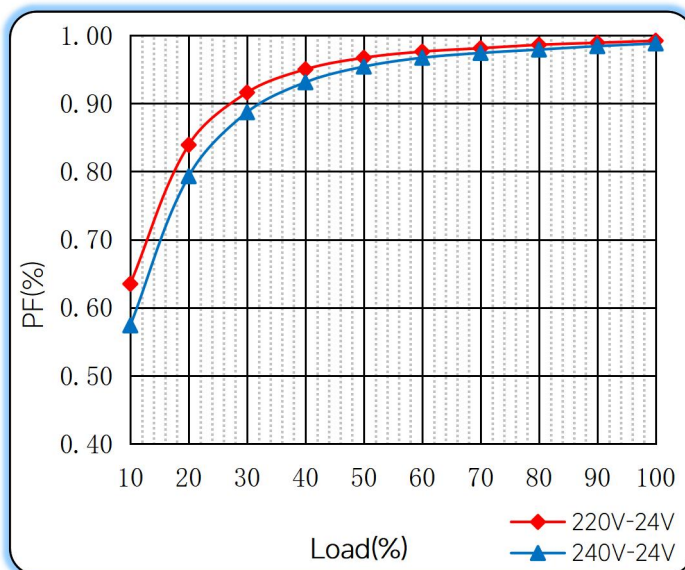
Lifetime vs. Temperature Curve



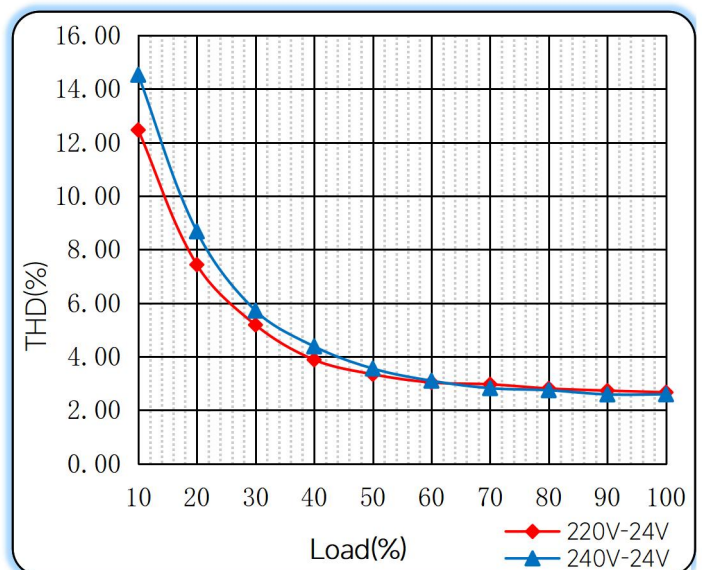
Efficiency vs. Load



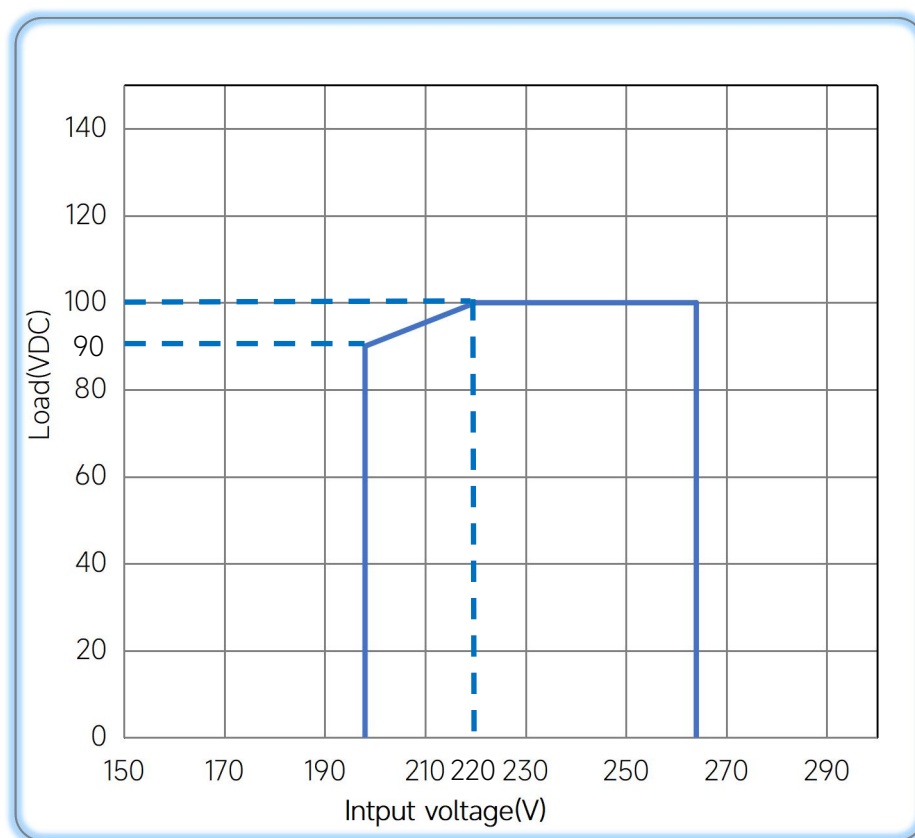
Power Factor Characteristics



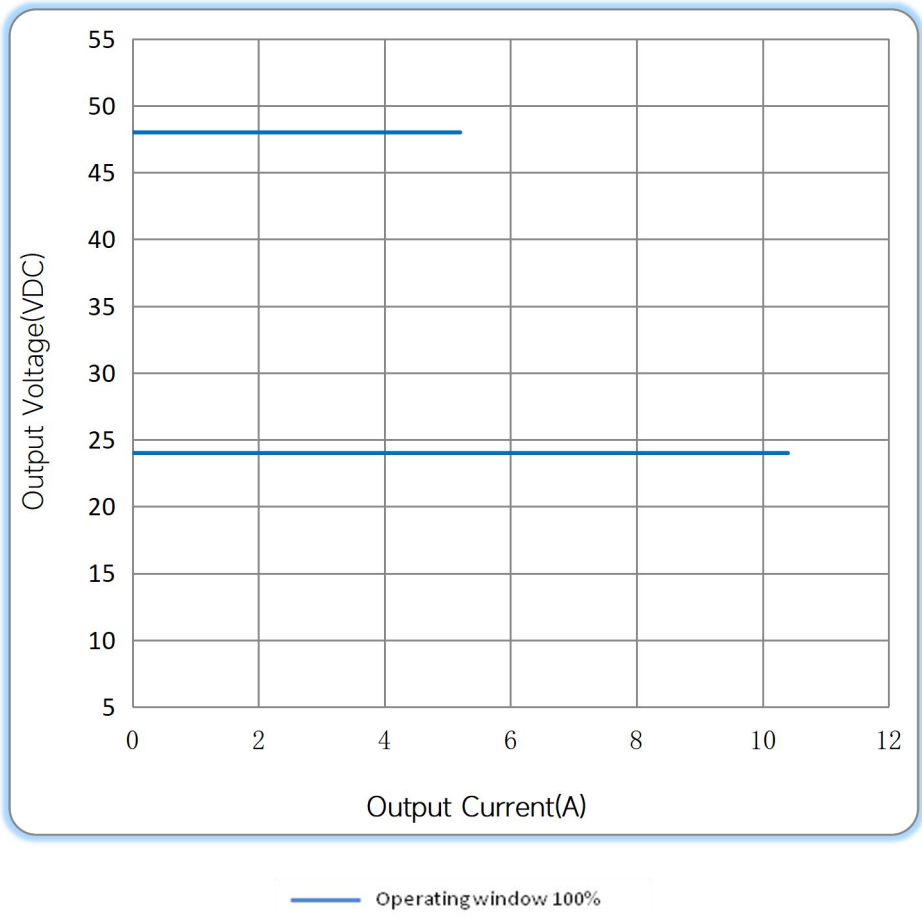
THD vs. Load



## ◆ Derating curve



### ◆ Operating window



### ◆ Revision Updates

| ITEM    | BEFORE   | AFTER    | VERSION | DATE       |
|---------|----------|----------|---------|------------|
| Initial |          |          | A       | 2024/03/02 |
| Tc/THD  | 90°C/15% | 85°C/10% | B       | 2024/11/18 |

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

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