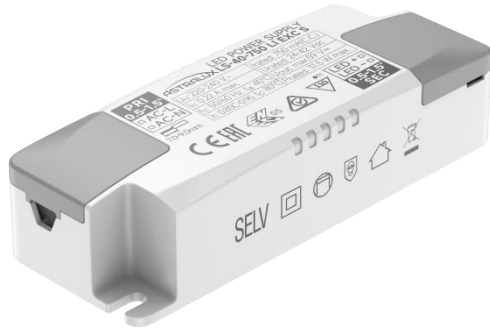


## 40W Constant Current power supply



### Features

- Class II, SELV, independent
- Input Voltage: 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: 0.95
- Efficiency: 87-89%
- 5 years warranty
- IP20

### Applications

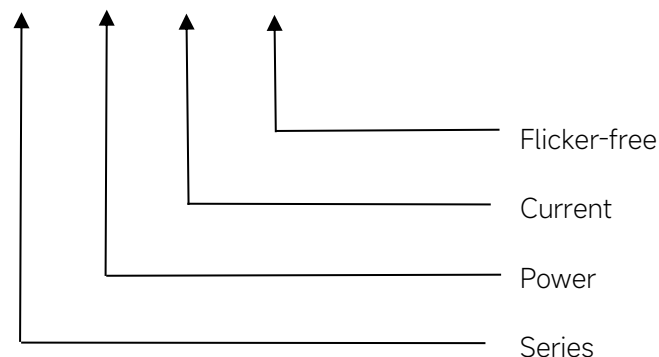
- LED panel, LED down light
- LED spot light

### ◆ Description

LS-40-XXX LI EXC S is a 40W constant current LED driver with 600 to 1050mA output current. With its compact dimensions from 102 x 38.2 x 25mm it is easy to integrate in LED Panel, spot and down lights product. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

### ◆ Model code

LS-40-XXX LI EXC S



## ◆ Specification

|             |                                  |                                                                                                                |     |     |     |     |     |     |     |       |         |
|-------------|----------------------------------|----------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-------|---------|
| Output      | Constant Current (mA)            | 600                                                                                                            | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000  | 1050    |
|             | Voltage Range(VDC)               | 24-42                                                                                                          |     |     |     |     |     |     |     | 24-40 | 24-38.5 |
|             | Unload voltage Max.              | 59VDC                                                                                                          |     |     |     |     |     |     |     |       |         |
|             | Current Accuracy                 | ±5%                                                                                                            |     |     |     |     |     |     |     |       |         |
|             | Output HF current ripple(≥1KHz)  | ±3%                                                                                                            |     |     |     |     |     |     |     |       |         |
|             | Output LF current ripple(≤120Hz) | ±3%                                                                                                            |     |     |     |     |     |     |     |       |         |
|             | SVM                              | ≤0.4                                                                                                           |     |     |     |     |     |     |     |       |         |
|             | Pst                              | ≤1                                                                                                             |     |     |     |     |     |     |     |       |         |
|             | Efficiency(Typ.)                 | 87%                                                                                                            |     |     |     |     |     |     | 89% |       |         |
| Input       | Rated input voltage              | 220-240V                                                                                                       |     |     |     |     |     |     |     |       |         |
|             | Range of input voltage           | 198-264VAC                                                                                                     |     |     |     |     |     |     |     |       |         |
|             | Maximum voltage                  | 300VAC@1 h maximum,unit might not operate in this abnormal condition                                           |     |     |     |     |     |     |     |       |         |
|             | Range of input voltage(VDC)      | 176-280VDC                                                                                                     |     |     |     |     |     |     |     |       |         |
|             | Frequency(Hz)                    | 0/50/60 Hz                                                                                                     |     |     |     |     |     |     |     |       |         |
|             | Displacement factor              | ≥0.9                                                                                                           |     |     |     |     |     |     |     |       |         |
|             | Power Factor(Typ.230VAC)         | 0.95                                                                                                           |     |     |     |     |     |     |     |       |         |
|             | Input Current max (mA)           | 170                                                                                                            | 190 | 200 | 220 | 230 | 250 | 260 | 270 | 270   | 290     |
|             | Start-up time                    | < 0.5S                                                                                                         |     |     |     |     |     |     |     |       |         |
|             | No Load Power                    | ≤0.5W                                                                                                          |     |     |     |     |     |     |     |       |         |
|             | Standby Power                    | ≤0.5W                                                                                                          |     |     |     |     |     |     |     |       |         |
|             | THD (Typ.)                       | <10%                                                                                                           |     |     |     |     |     |     |     | ≤7%   |         |
| Protection  | Over Load Protection             | 103-130%                                                                                                       |     |     |     |     |     |     |     |       |         |
|             |                                  | YES/Auto Resume                                                                                                |     |     |     |     |     |     |     |       |         |
|             | Over Voltage Protection          | 59VDC                                                                                                          |     |     |     |     |     |     |     |       |         |
|             |                                  | YES/Auto Resume                                                                                                |     |     |     |     |     |     |     |       |         |
|             | Short circuit Protection         | YES/Auto Resume                                                                                                |     |     |     |     |     |     |     |       |         |
|             | Over Temperature Protection      | YES/Auto Resume                                                                                                |     |     |     |     |     |     |     |       |         |
| capability  | Surge capability (L-N)           | 2KV                                                                                                            |     |     |     |     |     |     |     |       |         |
|             | Surge capability (L/N-Ground)    | 4KV                                                                                                            |     |     |     |     |     |     |     |       |         |
| Environment | Operating Temperature            | -20℃~~+45℃                                                                                                     |     |     |     |     |     |     |     |       |         |
|             | Humidity                         | 20%-90%RH                                                                                                      |     |     |     |     |     |     |     |       |         |
|             | Tc                               | 80℃                                                                                                            |     |     |     |     |     |     |     |       |         |
|             | Storage Temperature              | -25℃~~+60℃                                                                                                     |     |     |     |     |     |     |     |       |         |
|             | Life time                        | > 50000h@Tc=75℃                                                                                                |     |     |     |     |     |     |     |       |         |
|             | Noise                            | ≤20dB(A)@10cm                                                                                                  |     |     |     |     |     |     |     |       |         |
| Surface     | Dimension                        | 102X38.2X25(LXWXH)mm                                                                                           |     |     |     |     |     |     |     |       |         |
|             | material                         | PC                                                                                                             |     |     |     |     |     |     |     |       |         |
| Standards   | Safety                           | GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;AS 61347.2.13;EN62384; |     |     |     |     |     |     |     |       |         |

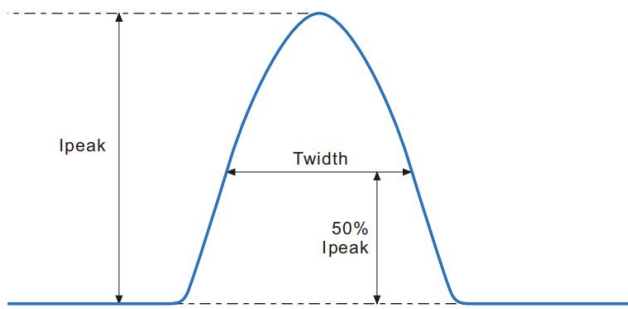
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                    |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | EMC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547 |
|      | ErP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 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 DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered.</p> <p>5.All Eaglerise 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        | Output          |                  |                             |              |
|--------|---------------------|-----------------|------------------|-----------------------------|--------------|
|        |                     | Current<br>(mA) | Voltage<br>(VDC) | Voltage<br>No load<br>(VDC) | Power<br>(W) |
| 1      | LS-40-600 LI EXC S  | 600             | 24-42            | 59                          | 25.2         |
| 2      | LS-40-650 LI EXC S  | 650             |                  |                             | 27.3         |
| 3      | LS-40-700 LI EXC S  | 700             |                  |                             | 29.4         |
| 4      | LS-40-750 LI EXC S  | 750             |                  |                             | 31.5         |
| 5      | LS-40-800 LI EXC S  | 800             |                  |                             | 33.6         |
| 6      | LS-40-850 LI EXC S  | 850             |                  |                             | 35.7         |
| 7      | LS-40-900 LI EXC S  | 900             |                  |                             | 37.8         |
| 8      | LS-40-950 LI EXC S  | 950             |                  |                             | 39.9         |
| 9      | LS-40-1000 LI EXC S | 1000            | 24-40            |                             | 40           |
| 10     | LS-40-1050 LI EXC S | 1050            | 24-38.5          |                             | 40.4         |

## ◆ Inrush Current

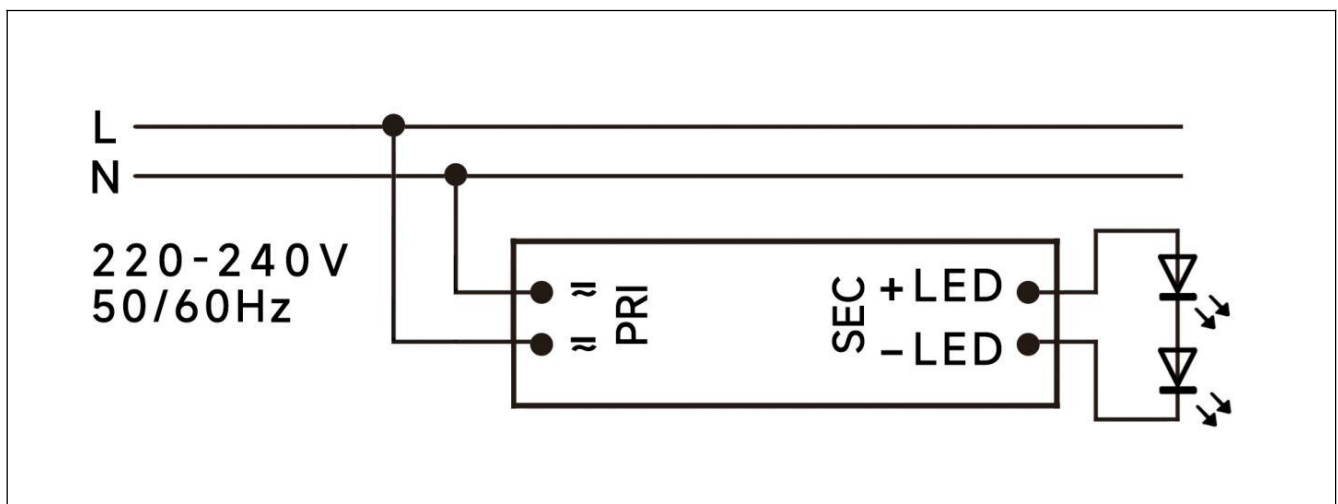
| I <sub>peak</sub> | T <sub>width</sub> | B10   | B16   | B20   | C10   | C16   | C20   |
|-------------------|--------------------|-------|-------|-------|-------|-------|-------|
| 28.8A             | 138μs              | 21pcs | 33pcs | 42pcs | 30pcs | 49pcs | 61pcs |



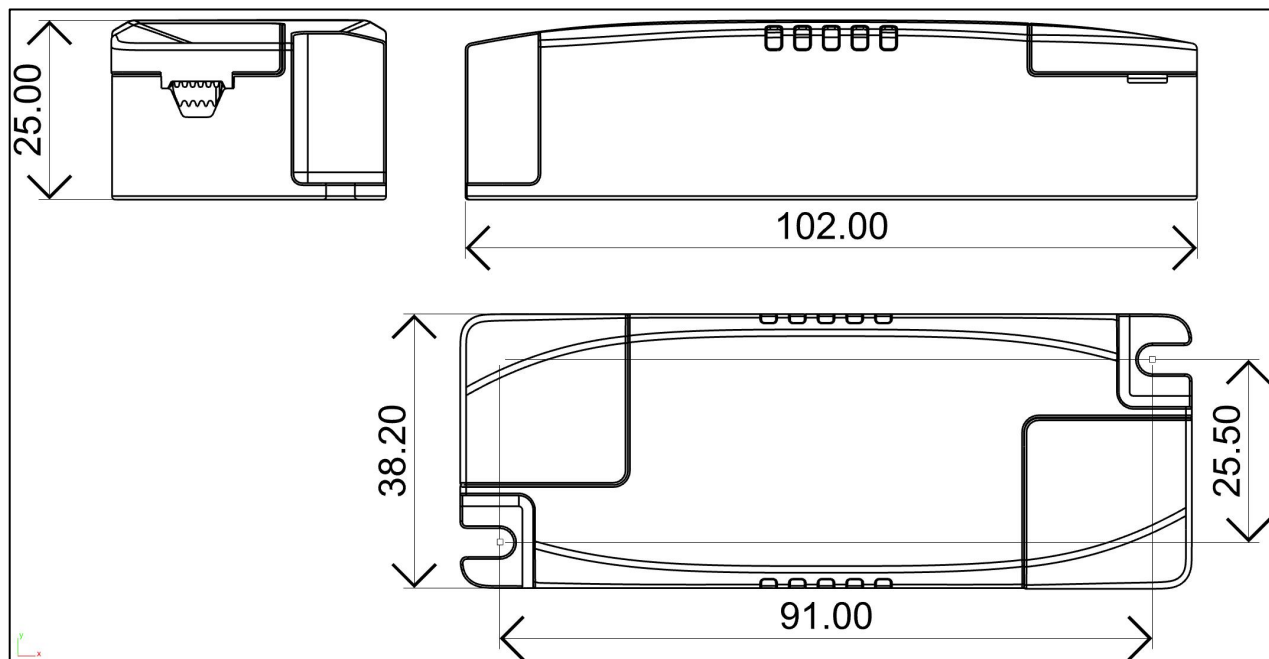
Remarks:

- 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.

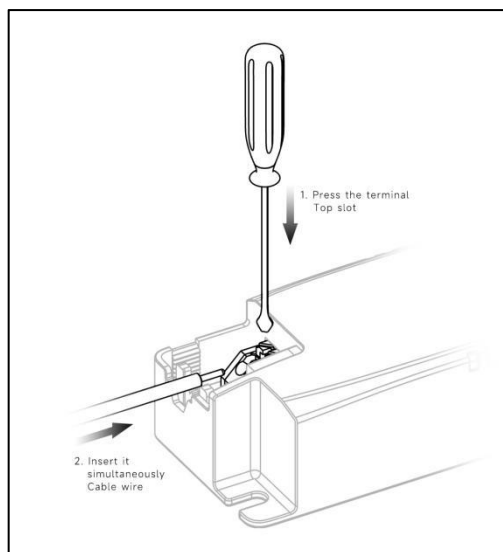
## ◆ Wiring diagram



◆ 2D diagram



Termina



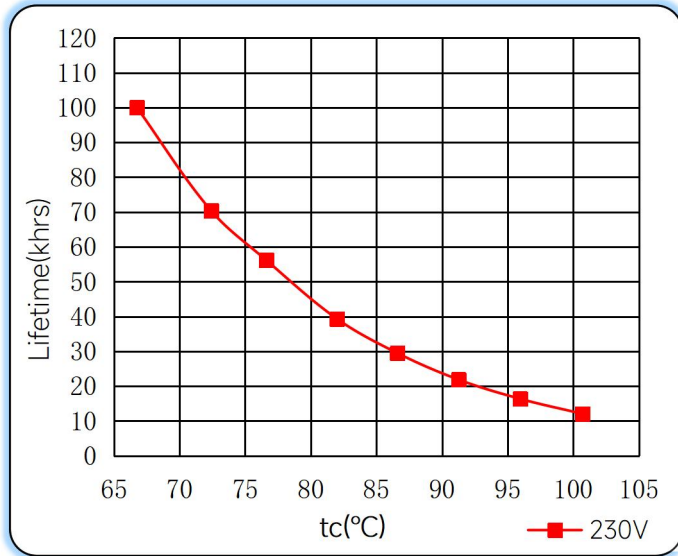
## ◆ Wiring & Connections

| 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                   |

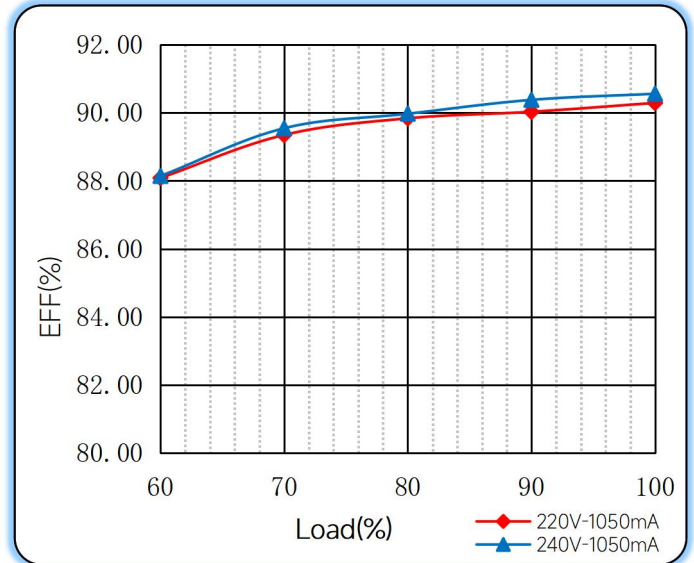
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

# ◆ Curve for LS-40-1050 LI EXC S, Io=1050mA

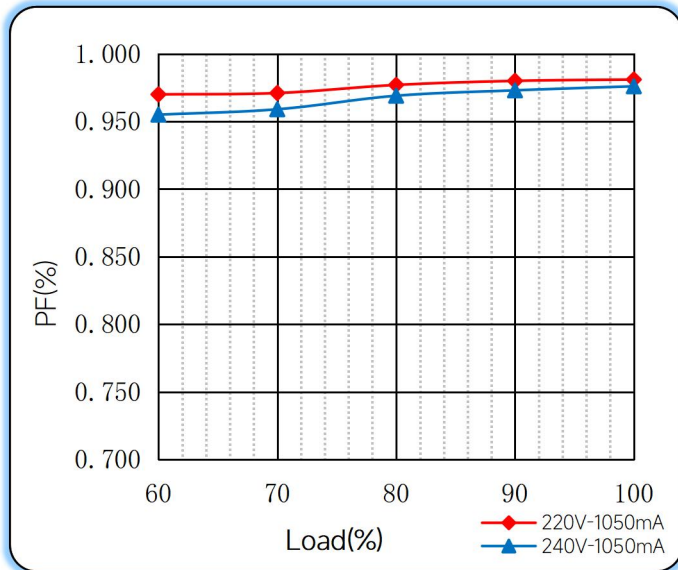
Lifetime vs. Temperature Curve



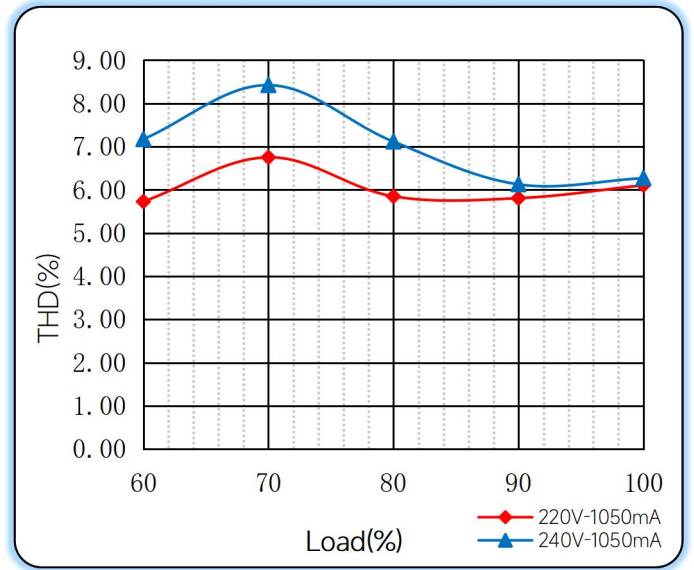
Efficiency vs. Load



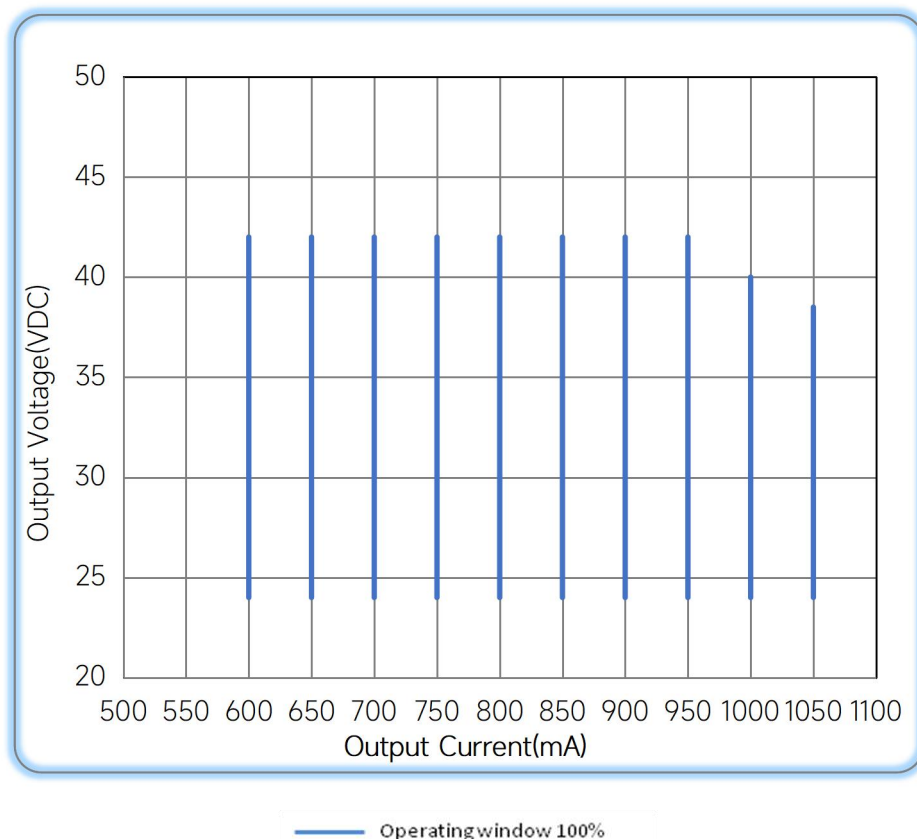
Power Factor Characteristics



THD vs. Load



## ◆ Operating window



## ◆ Revision Updates

| ITEM                 | BEFORE   | AFTER    | VERSION | DATE       |
|----------------------|----------|----------|---------|------------|
| Initial              |          |          | A       | 2023/10/13 |
| PF,Tc                |          | update   | B       | 2023/11/23 |
| Over Load Protection | 103-120% | 103-130% | C       | 2023/12/26 |

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

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 Website : [www.astralux-driver.com](http://www.astralux-driver.com)