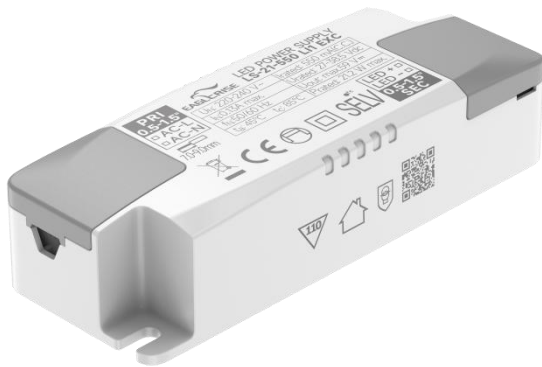


21W Constant Current power supply



■ Approve



Features

- For luminaires of protection Class II, SELV, independent
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor ≥ 0.95
- Efficiency: $\geq 85\%$
- 5 years warranty

Applications

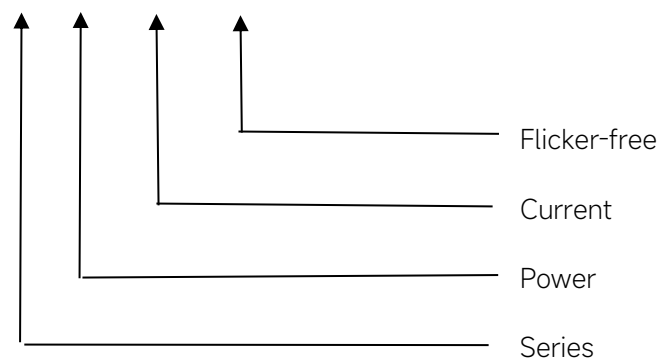
- LED panel, LED down light
- LED spot light

◆ Description

LS-21-XXX LI1 EXC is a 21W constant current LED driver that operates from 198-264Vac input with 400 to 550mA output current. With it's compact dimensions from 102 x 38.2 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-21-XXX LI1 EXC



◆ Specification

| | Constant Current (mA) | 400 | 450 | 500 | 550 |
|---------------------------|----------------------------------|--|------------|-------|---------|
| Output | Voltage Range(VDC) | 27-42 | | | 27-38.5 |
| | Unload voltage Max.(VDC)) | 59V | | | |
| | Current Accuracy | ±5% | | | |
| | Output HF current ripple(≥1KHz) | ±5% | | | |
| | Output LF current ripple(≤120Hz) | ±3% | | | |
| | SVM | ≤0.4 | | | |
| | P _{st} | ≤1 | | | |
| | Efficiency(Typ.) | 85% | 86% | | |
| | 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.) | | ≥0.95 | | | |
| Power Factor | | ≥0.95 | | | |
| Input Current max | | 0.11A | 0.12A | 0.13A | 0.14A |
| Start-up time | | < 0.5S | | | |
| No Load Power | | ≤0.5W | | | |
| THD (Typ.) | | < 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°C~+45°C | | | |
| | Humidity | 10%-90%RH | | | |
| | Tc | 85°C | | | |
| | Storage Temperature | -25°C~+60°C | | | |
| | Life time | > 50000h@Tc=75°C | | | |
| Surface | Noise | ≤20dB(A)@10cm | | | |
| | Dimension | 102x38.2x25mm | | | |
| Standards | material | PC | | | |
| | 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 | | | |

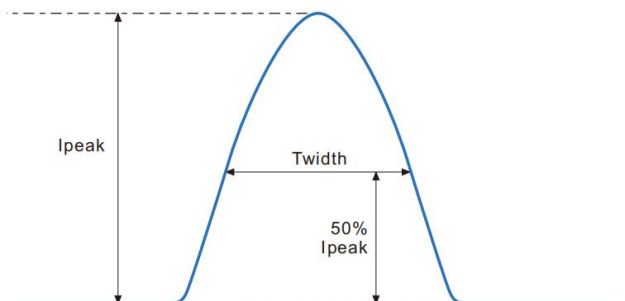
| | | |
|------|--|--------------------------------|
| | Energy Efficiency | Erp2.0 EU 2019/2020 |
| | RoHS | RoHS (2011/65/EU) (EU)2015/863 |
| Note | <p>1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.</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 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 | Input | | Output | | |
|--------|-------------------|-------------|--------------|---------------|-----------------------|-----------|
| | | Current (A) | Current (mA) | Voltage (VDC) | Voltage No load (VDC) | Power (W) |
| 1 | LS-21-400 LI1 EXC | 0.11 | 400 | 27-42 | 59 | 16.8 |
| 2 | LS-21-450 LI1 EXC | 0.12 | 450 | | | 18.9 |
| 3 | LS-21-500 LI1 EXC | 0.13 | 500 | | | 21 |
| 4 | LS-21-550 LI1 EXC | 0.14 | 550 | 27-38.5 | | 21.2 |

◆ Inrush Current

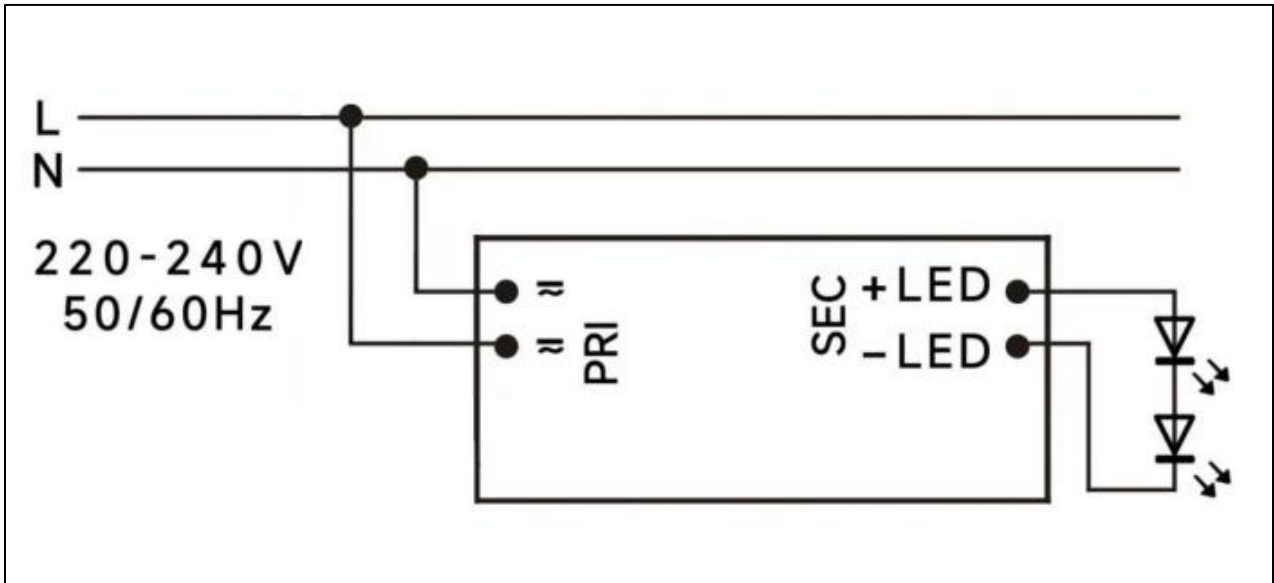
| I ^{peak} | T _{width} | B10 | B16 | B20 | C10 | C16 | C20 |
|-------------------|--------------------|-------|-------|--------|-------|-------|--------|
| 15A | 110μs | 51pcs | 82pcs | 102pcs | 61pcs | 98pcs | 123pcs |



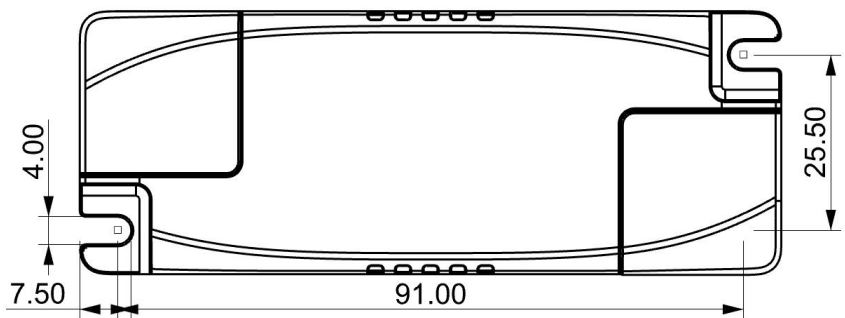
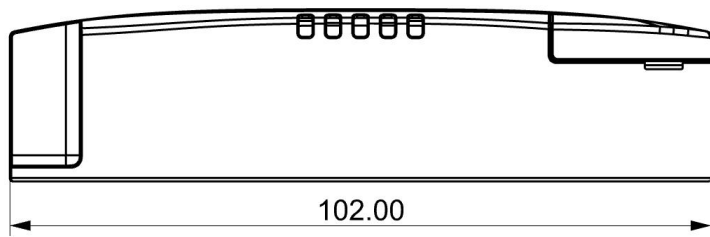
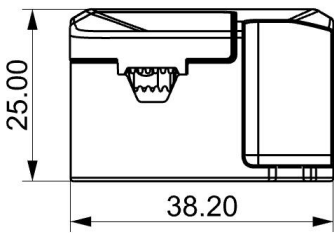
Remarks:

- 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



◆ Wiring & Connections

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

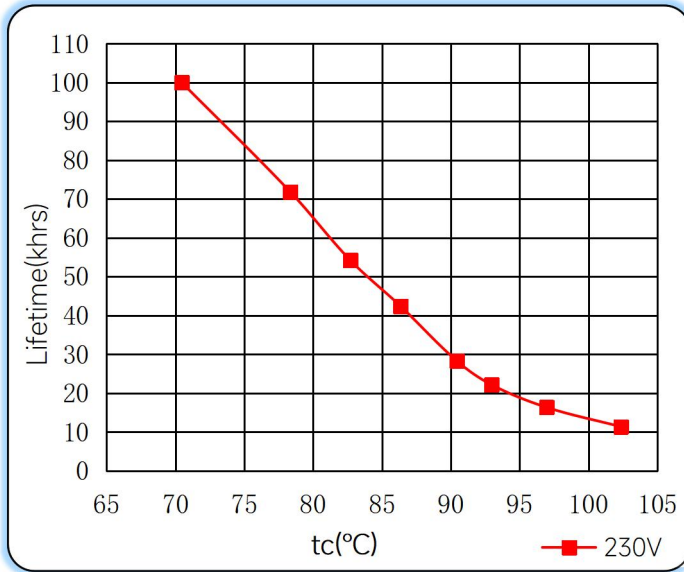
◆ Recommended wire

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

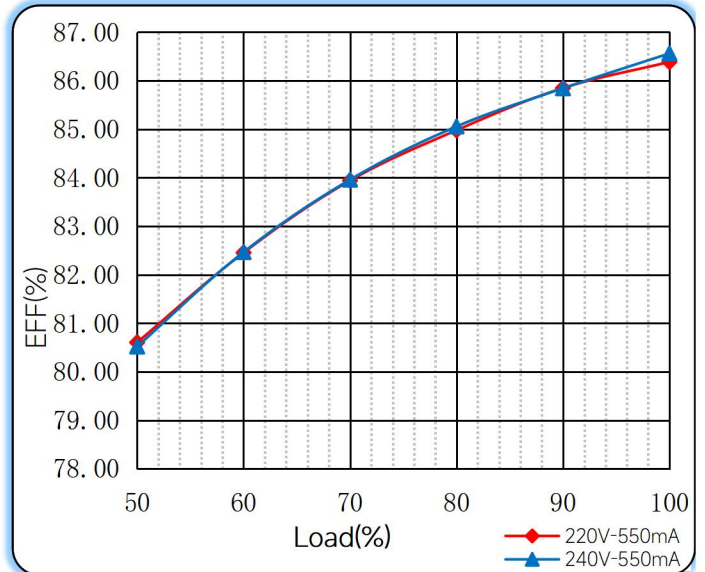
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ **Curve for LS-21-XXX LI1 EXC, I_o=550mA**

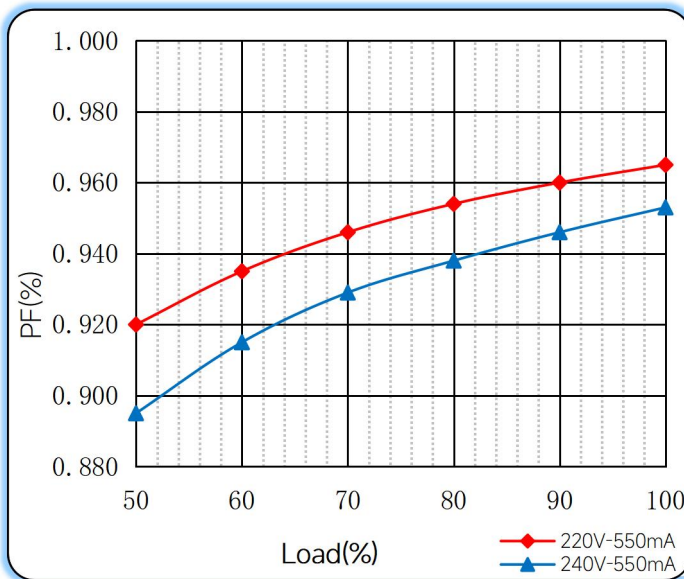
Lifetime vs. Temperature Curve



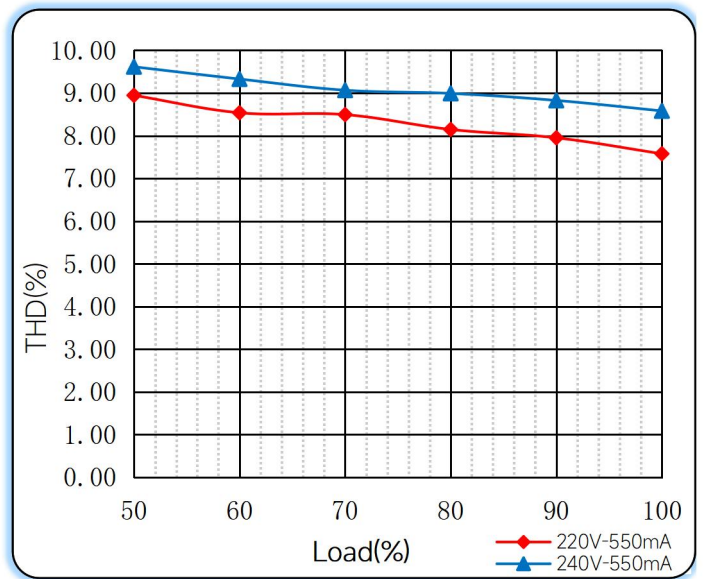
Efficiency vs. Load



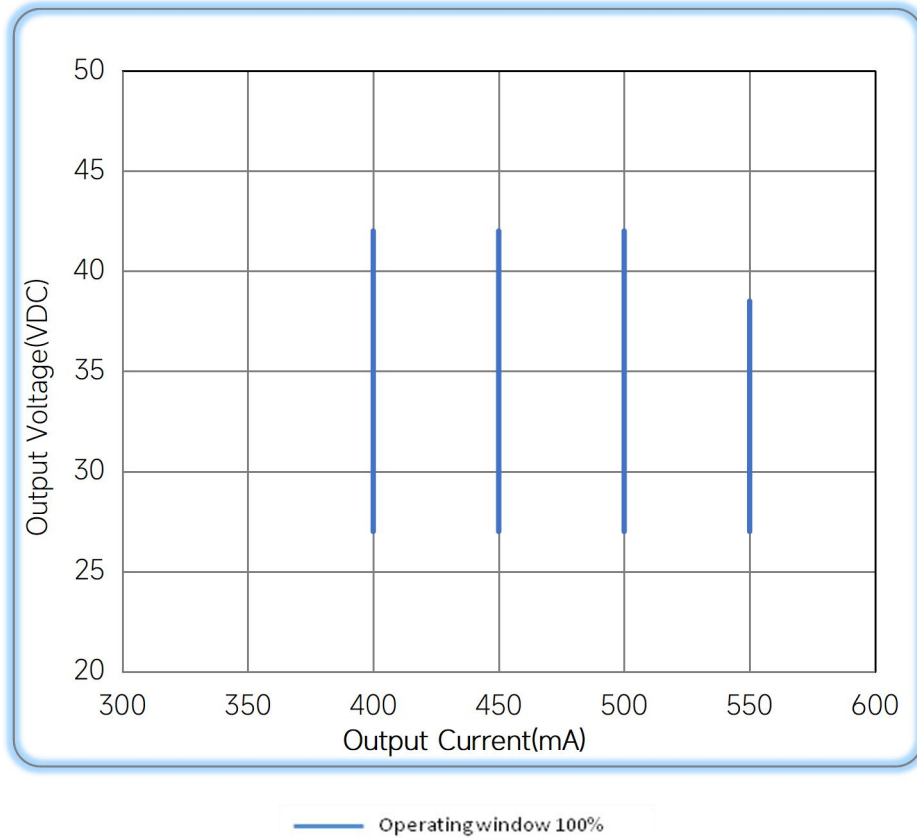
Power Factor Characteristics



THD vs. Load



◆ Operating window



◆ Revision Updates

| ITEM | BEFORE | AFTER | VERSION | DATE |
|---------|--------|-------|---------|------------|
| Initial | | | A | 2024/01/09 |
| Tc | 80°C | 85°C | B | 2024/08/27 |

Remark: The final interpretation of the contents of the specification belongs to Eaglerise Electric & Electronic (China) Co., Ltd.

Tel: +86-0757-86256822, +86-0757-86256831

E-mail: sales@eaglerise.com

Website : <https://lighting.eaglerise.com>



EAGLERISE



Manual