

## 60W Constant Current – DIP-Switch



### Features

- For luminaires of protection Class I or II, SELV, built-in
- Input Voltage : 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor : > 0.95
- Efficiency : ≥91%
- 5 years warranty

### Applications

- Linear light

■ Approve

CE CB EN SELV

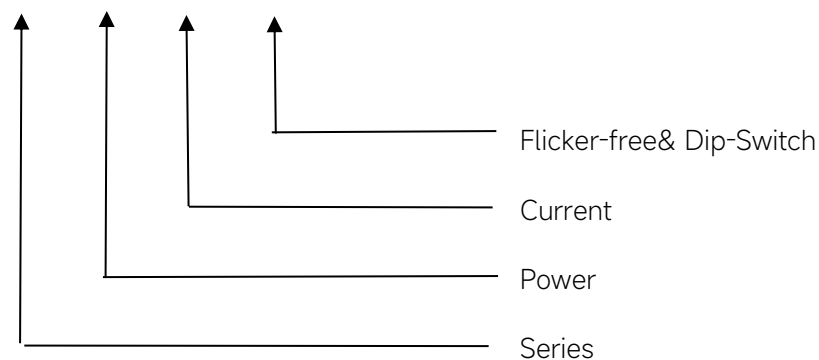


### ◆ Description

FMS-60-1200 LD EXC is a 60W constant current LED driver that operates from 198-264Vac input with 850 to 1200mA output current. The output current is selectable by DIP Switch. With its dimensions from 280 x 30 x 21mm. It is easy to integrate in linear light products. To ensure trouble-free operation, protection is provided against output short circuit, over Load and over temperature.

### ◆ Model code

#### FMS-60-1200 LD EXC



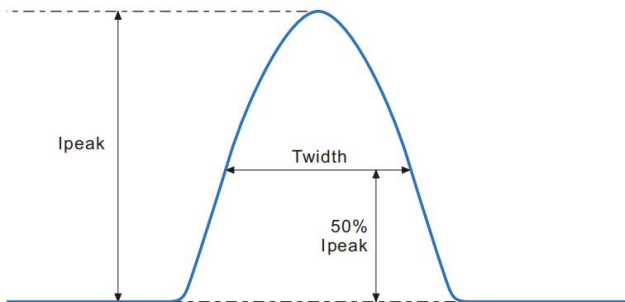
## ◆ Specification

|             |                                  |  |       |       |     |        |          |                 |
|-------------|----------------------------------|--|-------|-------|-----|--------|----------|-----------------|
| Output      | Constant Current                 | 850mA  | 900mA | 950mA | ... | 1150mA | 1200mA   |                 |
|             | Voltage Range                    | 15-51VDC   |       |       |     |        | 15-50VDC |                 |
|             | 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.)                 | 91%  |       |       |     |        |          |                 |
| 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   |       |       |     |        |          |                 |
|             | Power Factor                     | > 0.95   |       |       |     |        |          |                 |
|             | Input Current max                | 0.36A  |       |       |     |        |          |                 |
|             | Start-up time                    | < 0.5S   |       |       |     |        |          |                 |
|             | No Load Power                    | ≤0.5W  |       |       |     |        |          |                 |
|             | THD (Typ.)                       | < 10%.   |       |       |     |        |          |                 |
| Protection  | Over Load Protection             | 103-120%   |       |       |     |        |          | YES/Auto Resume |
|             | Over Voltage Protection          | > 59VDC  |       |       |     |        |          | YES/Auto Resume |
|             | Short circuit Protection         | YES/Auto Resume  |       |       |     |        |          |                 |
| capability  | Surge capability (L-N)           | 2KV  |       |       |     |        |          |                 |
|             | Surge capability (L/N-Ground)    | 2KV  |       |       |     |        |          |                 |
| Environment | Operating Temperature            | -20°C~+60°C  |       |       |     |        |          |                 |
|             | Humidity                         | 20%-90%RH  |       |       |     |        |          |                 |
|             | Tc                               | 85°C   |       |       |     |        |          |                 |
|             | Storage Temperature              | -25°C~+80°C  |       |       |     |        |          |                 |
|             | Life time                        | > 50000h@Tc=85°C,230VAC  |       |       |     |        |          |                 |
| Surface     | Noise                            | ≤25dB(A)@20cm  |       |       |     |        |          |                 |
|             | Dimension                        | 280X30X21(LXWXH)mm   |       |       |     |        |          |                 |
| Standards   | material                         | metal case   |       |       |     |        |          |                 |
|             | 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;        |       |       |     |        |          |                 |

|      |   |                                |
|------|---|--------------------------------|
|      | 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.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>4.EL compatible with IEC 61347-2-13 Annex J, compatible with EN 60598-2-22 emergency lighting fixtures, compatible with EN 50172 central battery system applications.</p> <p>5.The over-temperature protection of the product is provided by the IC.</p> <p>6.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> |                                |

## ◆ Inrush Current

| $I_{peak}$ | Twidth | B10   | B16   | B20   | C10   | C16   | C20   |
|------------|--------|-------|-------|-------|-------|-------|-------|
| 38A        | 186μs  | 11pcs | 18pcs | 23pcs | 19pcs | 31pcs | 38pcs |



### Remarks:

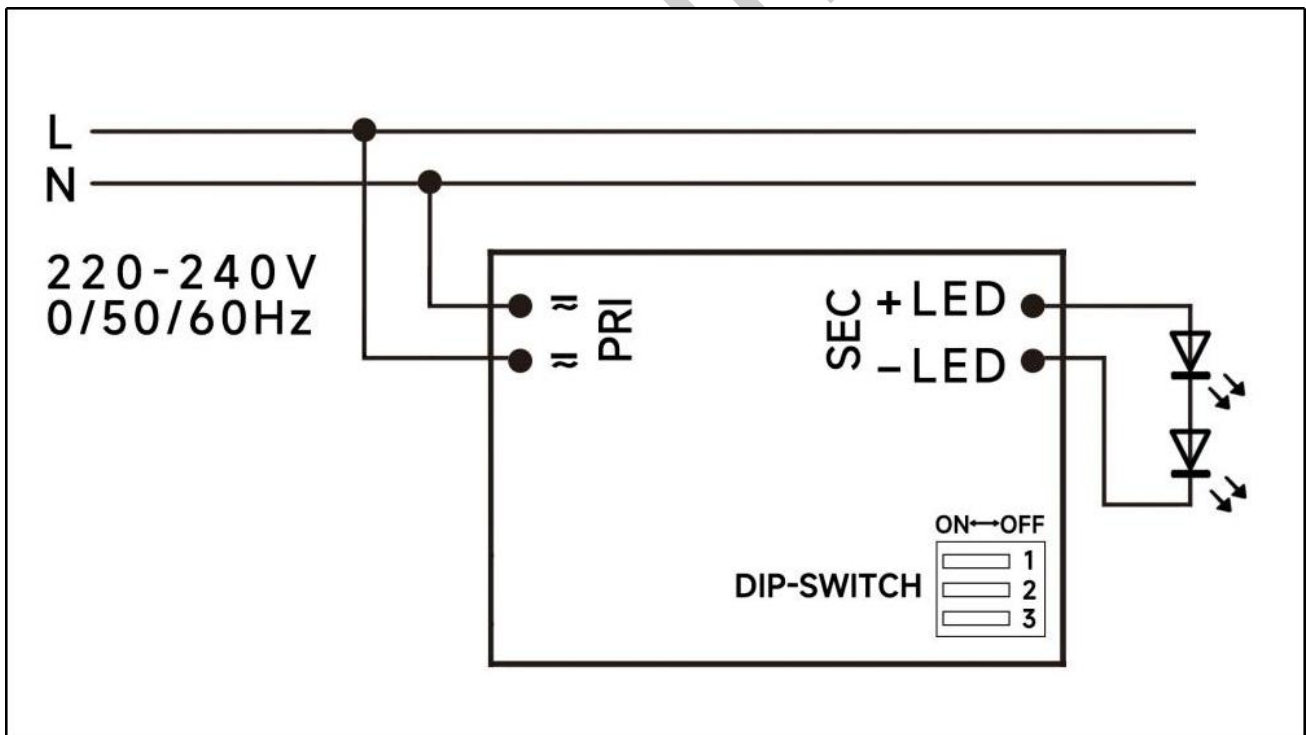
- 1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- 2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

### ◆ Parameter

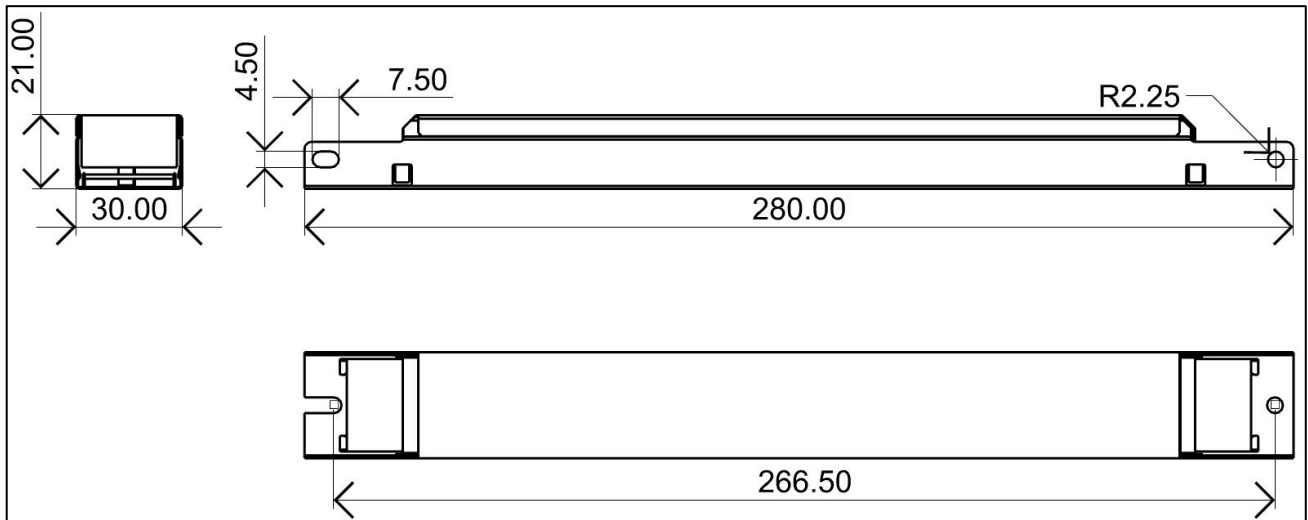
| Number | Output       |               |                       |           | Switch position |    |    |
|--------|--------------|---------------|-----------------------|-----------|-----------------|----|----|
|        | Current (mA) | Voltage (VDC) | Voltage No load (VDC) | Power (W) | 1               | 2  | 3  |
| 1      | 850mA        | 15-51VDC      | 59                    | 43.4      | --              | -- | -- |
| 2      | 900mA        |               |                       | 45.9      | ON              | -- | -- |
| 3      | 950mA        |               |                       | 48.5      | --              | ON | -- |
| 4      | 1000mA       |               |                       | 51        | ON              | ON | -- |
| 5      | 1050mA       |               |                       | 53.6      | --              | -- | ON |
| 6      | 1100mA       |               |                       | 56.1      | ON              | -- | ON |
| 7      | 1150mA       |               |                       | 58.7      | --              | ON | ON |
| *8     | 1200mA       | 15-50VDC      |                       | 60        | ON              | ON | ON |

\* Factory default

### ◆ Wiring diagram



### ◆ 2D diagram



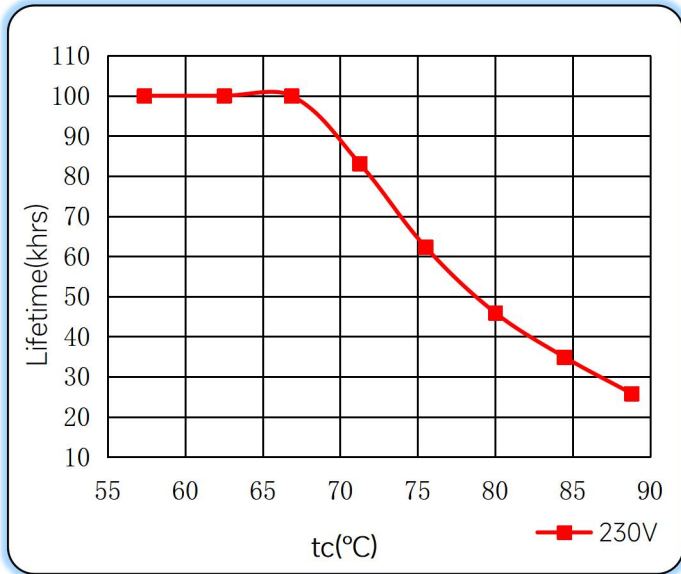
### ◆ Wiring & Connections

| Specification item |                           | Value (Unit )   |
|--------------------|---------------------------|---|
| Input              | Input wire cross-section  | 0.5...1.5 mm <sup>2</sup> (With side caps: 0.75...1.5 mm <sup>2</sup> ) |
|                    | Input wire gauge.         | 16...20 AWG (With side caps: 16...22 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   |

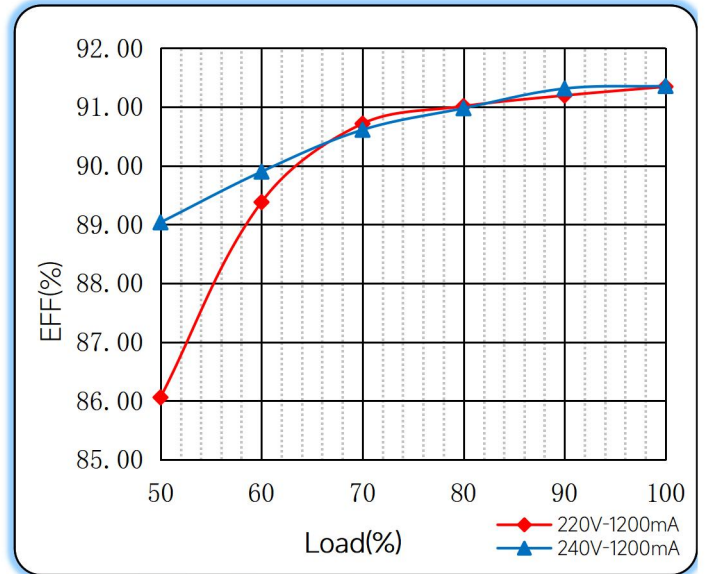
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

## ◆ Curve for FMS-60-1200 LD EXC, I<sub>o</sub>=1200mA

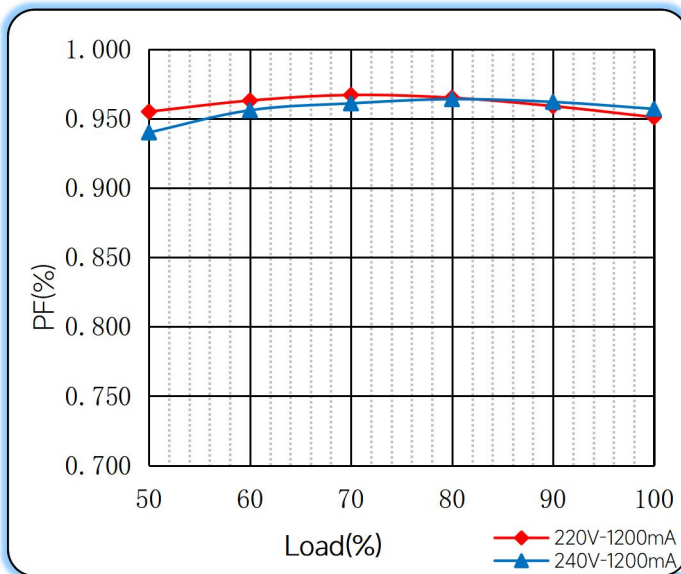
### Lifetime vs. Temperature Curve



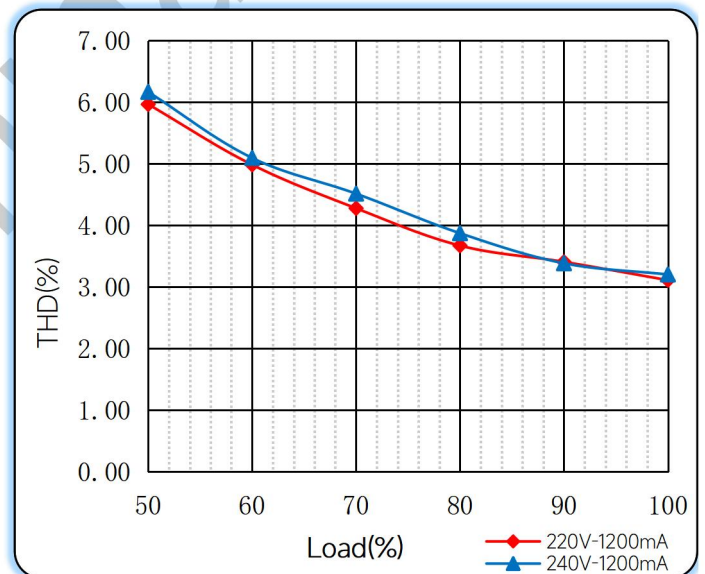
### Efficiency vs. Load



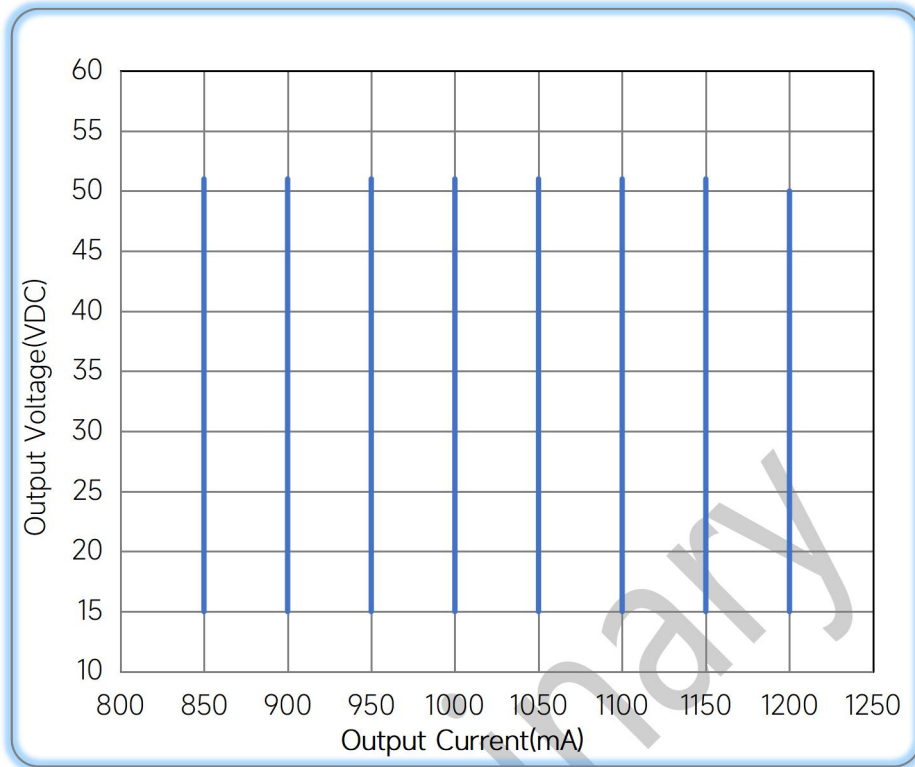
### Power Factor Characteristics



### THD vs. Load



### ◆ Operating window



— Operating window 100%

### ◆ Revision Updates

| ITEM          | BEFORE | AFTER | VERSION | DATE       |
|---------------|--------|-------|---------|------------|
| Initial       |        |       | A       | 2023/08/15 |
| Voltage Range | 15-54  | 15-51 | B       | 2024/04/18 |

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

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Manual