

## 60W Constant Current -FMS Series



■ Approve



### Features

- Class I , Built-in
- Input Voltage :220-240VAC
- Protections: SCP/OLP/OVP
- Power Factor: >0.95@full load
- Efficiency: 90%
- Adjustable Output Current with dip-switch
- 5 years warranty

### Applications

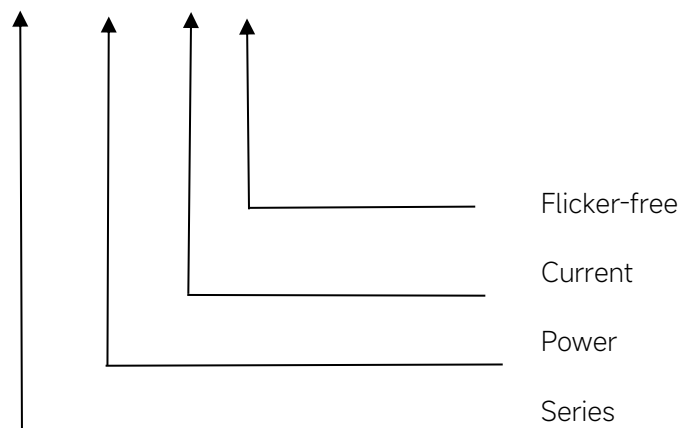
- Linear light

### ◆ Description

FMS-60-700 LD-F is a 60W isolated design constant current LED driver that operates from 198-264Vac input with 400 to 700mA output current. The output current is adjustable by dip-switch. With it's long 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-60-700 LD-F



## ◆ Specification

|             |                                  |                                                                                                   |       |       |         |         |          |          |
|-------------|----------------------------------|---------------------------------------------------------------------------------------------------|-------|-------|---------|---------|----------|----------|
| Output      | Constant Current                 | 400mA                                                                                             | 450mA | 500mA | 550mA   | 600mA   | 650mA    | 700mA    |
|             | Voltage Range                    | 40-120V                                                                                           |       |       | 40-109V | 40-100V | 40-92.3V | 40-85.7V |
|             | Unload voltage Max.              | 160VDC                                                                                            |       |       |         |         |          |          |
|             | Current Accuracy                 | ±5%                                                                                               |       |       |         |         |          |          |
|             | Output HF current ripple(≥1KHz)  | ±5%                                                                                               |       |       |         |         |          |          |
|             | Output LF current ripple(≤120Hz) | ±3%                                                                                               |       |       |         |         |          |          |
|             | SVM                              | ≤0.4                                                                                              |       |       |         |         |          |          |
|             | Pst                              | ≤1                                                                                                |       |       |         |         |          |          |
|             | Efficiency(Typ.)                 | 90%                                                                                               |       |       |         |         |          |          |
| Input       | Rated input voltage(V)           | 220-240V                                                                                          |       |       |         |         |          |          |
|             | Range of input voltage(VAC)      | 176-264VAC                                                                                        |       |       |         |         |          |          |
|             | Maximum voltage                  | 380VAC@1 h maximum,unit might not operate in this abnormal condition                              |       |       |         |         |          |          |
|             | Frequency(Hz)                    | 50/60 Hz                                                                                          |       |       |         |         |          |          |
|             | Displacement factor              | >0.95                                                                                             |       |       |         |         |          |          |
|             | Power Factor                     | >0.95@full load                                                                                   |       |       |         |         |          |          |
|             | Input Current max                | 0.45A                                                                                             |       |       |         |         |          |          |
|             | Start-up time                    | < 0.5S                                                                                            |       |       |         |         |          |          |
|             | No Load Power                    | ≤0.5W                                                                                             |       |       |         |         |          |          |
|             | THD (Typ.)                       | <10%                                                                                              |       |       |         |         |          |          |
|             | Over Load Protection             | > 105%                                                                                            |       |       |         |         |          |          |
| Protection  |                                  | YES/Auto Resume                                                                                   |       |       |         |         |          |          |
|             | Over Voltage Protection          | > 160VDC                                                                                          |       |       |         |         |          |          |
|             |                                  | 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~+50°C                                                                                       |       |       |         |         |          |          |
|             | Humidity                         | 10%-90%RH                                                                                         |       |       |         |         |          |          |
|             | Tc                               | 80°C                                                                                              |       |       |         |         |          |          |
|             | Storage Temperature              | -25°C~+85°C                                                                                       |       |       |         |         |          |          |
|             | Life time                        | > 50000h@Tc=80,230VAC                                                                             |       |       |         |         |          |          |
|             | Noise                            | ≤25dB(A)@20cm                                                                                     |       |       |         |         |          |          |
| Surface     | Dimension                        | 280X30X21(LXWXH)mm                                                                                |       |       |         |         |          |          |
|             | material                         | metal case                                                                                        |       |       |         |         |          |          |
| Standards   | Safety                           | IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13;EN62384;AS/NZS 61347- 1, AS/NZS 61347-2- 13 |       |       |         |         |          |          |
|             | EMC                              | EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN 62493;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547 |       |       |         |         |          |          |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|      | RoHS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | RoHS (2011/65/EU) (EU)2015/863 |
| Note | <p>1.All parameters not specially mentioned are measured at 240VAC 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.Temperature test: tested at high temperature(50°C)/low temperature(-20°C)/normal temperature(25°C)</p> <p>4.Data are typical values obtained from test samples</p> <p>5.Switch and dimmer are not recommended to connect between this product output and luminaries.</p> |                                |

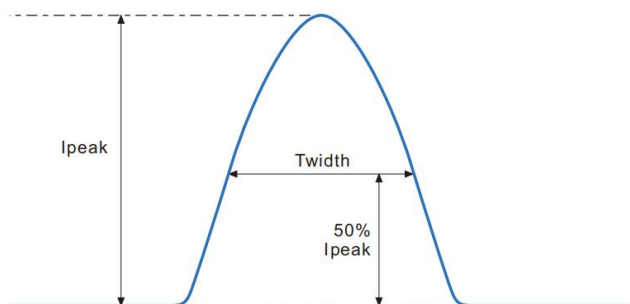
## ◆ Parameter

| Number | Output          |                  |                             |              | Switch position |    |    |    |
|--------|-----------------|------------------|-----------------------------|--------------|-----------------|----|----|----|
|        | Current<br>(mA) | Voltage<br>(VDC) | Voltage<br>No load<br>(VDC) | Power<br>(W) | 1               | 2  | 3  | 4  |
| 1      | 400mA           | 40-120VDC        | 160VDC                      | 48           | --              | -- | -- | -- |
| 2      | 450mA           | 40-120VDC        |                             | 54           | ON              | -- | -- | -- |
| 3      | 500mA           | 40-120VDC        |                             | 60           | --              | ON | -- | -- |
| 4      | 550mA           | 40-109VDC        |                             | 60           | ON              | ON | -- | -- |
| 5      | 600mA           | 40-100VDC        |                             | 60           | ON              | -- | ON | -- |
| 6      | 650mA           | 40-92.3VDC       |                             | 60           | ON              | ON | ON | -- |
| *7     | 700mA           | 40-85.7VDC       |                             | 60           | ON              | ON | ON | ON |

\* Factory default

## ◆ Inrush Current

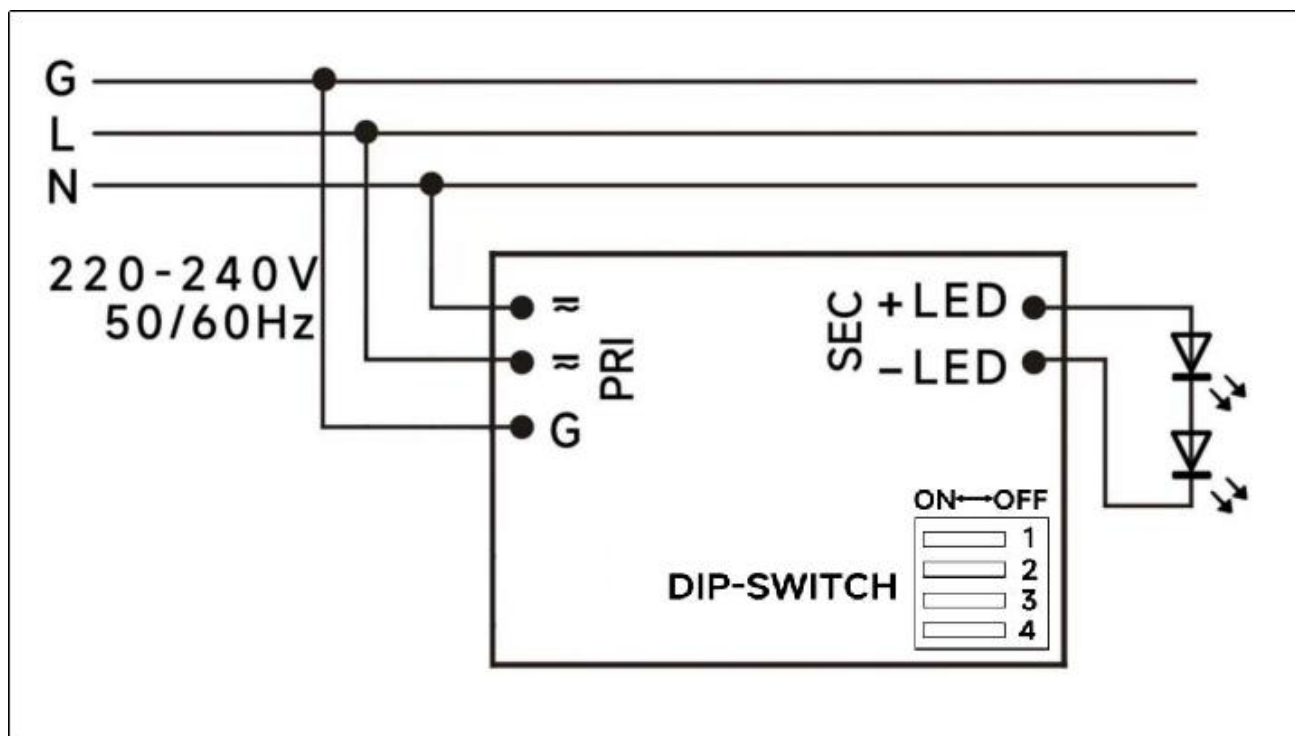
| $I_{peak}$ | $T_{width}$ | B10  | B16   | B20   | C10   | C16   | C20   |
|------------|-------------|------|-------|-------|-------|-------|-------|
| 41.2A      | 218 $\mu$ s | 9pcs | 14pcs | 18pcs | 15pcs | 24pcs | 30pcs |



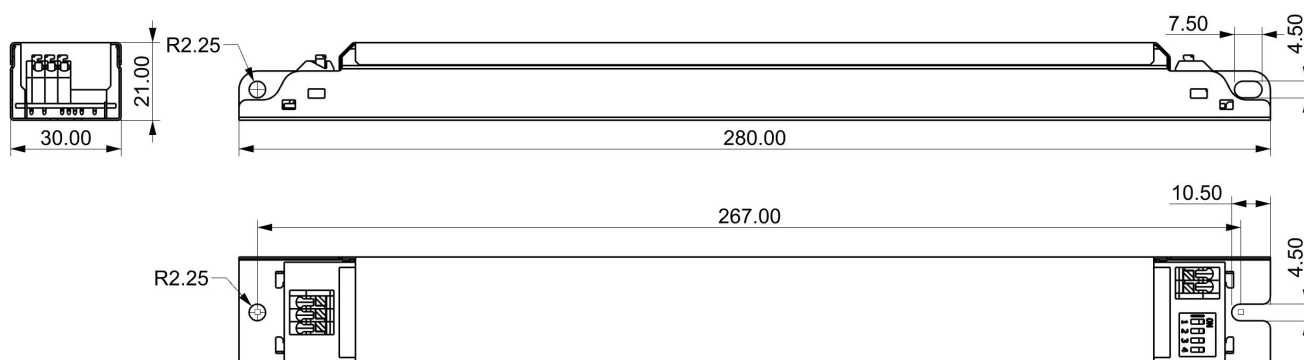
### Remarks:

- 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



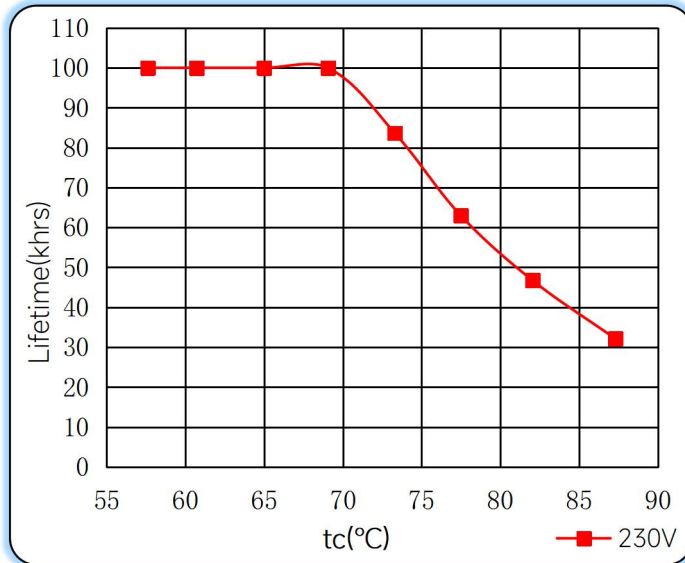
## ◆ Wiring & Connections

| Specification item |                           | Value (Unit )             |
|--------------------|---------------------------|---------------------------|
| Input              | Input wire cross-section  | 0.5...1.5 mm <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                   |

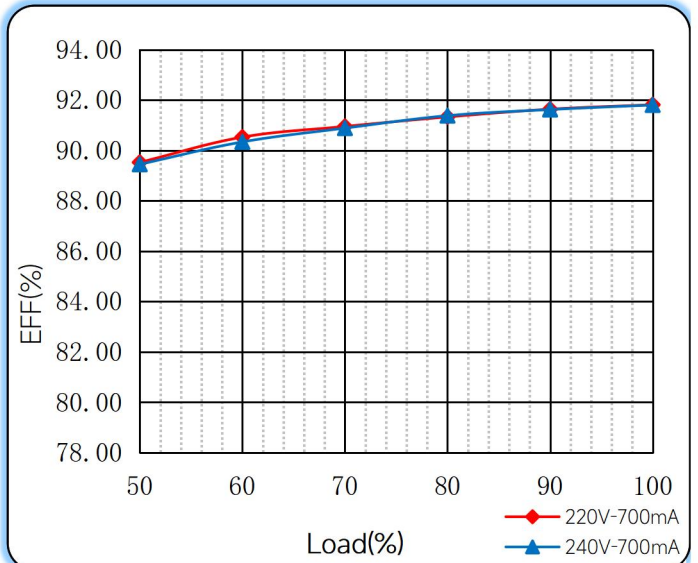
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

## ◆ Curve for FMS-60-700 LD-F, $I_o=700\text{mA}$

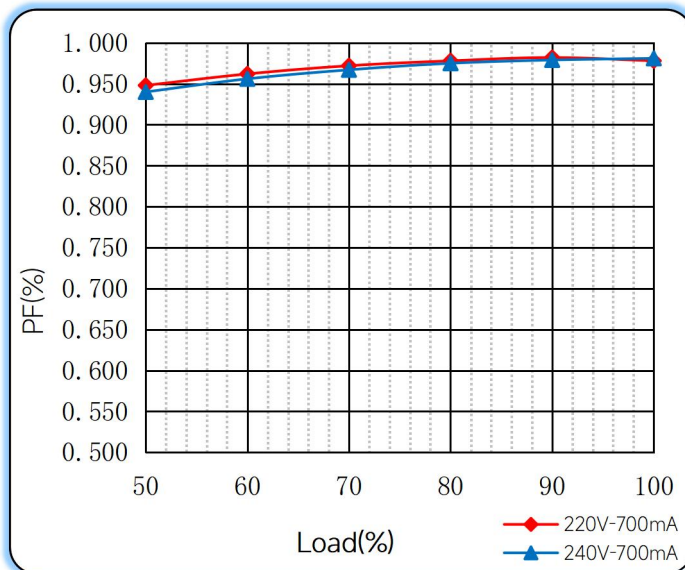
Lifetime vs. Temperature Curve



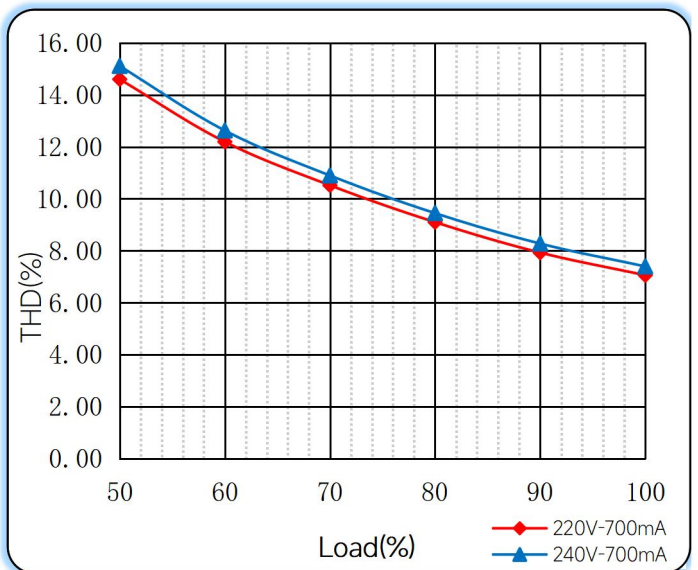
Efficiency vs. Load



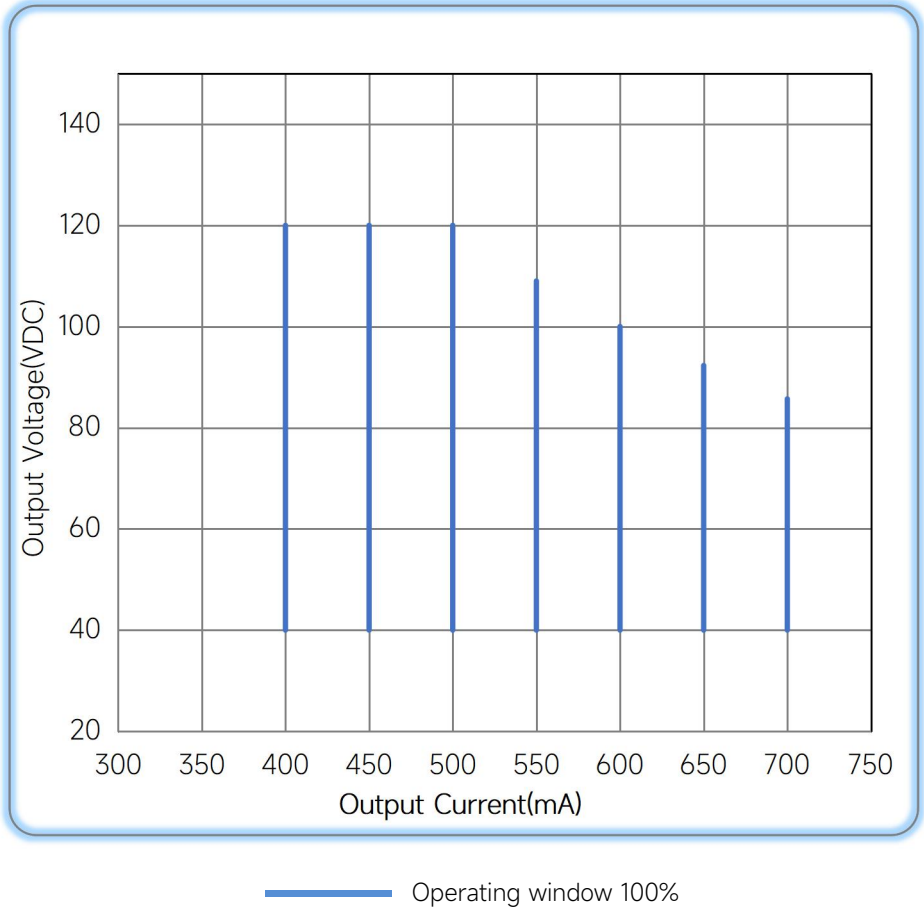
Power Factor Characteristics



THD vs. Load



### ◆ Operating window



### ◆ Revision Updates

| ITEM    | BEFORE | AFTER | VERSION | DATE       |
|---------|--------|-------|---------|------------|
| Initial |        |       | A       | 2024/11/05 |
|         |        |       |         |            |

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

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