# 20W Constant Current-FMS Series

Features

- Class I，Non-isolated，Built-in
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor：≥0.9(Typ.)
- Efficiency：≥86%(Typ.)
- Adjustable Output Current with dip-switch
- 5 years warranty
- IP20

Applications

- Linear light

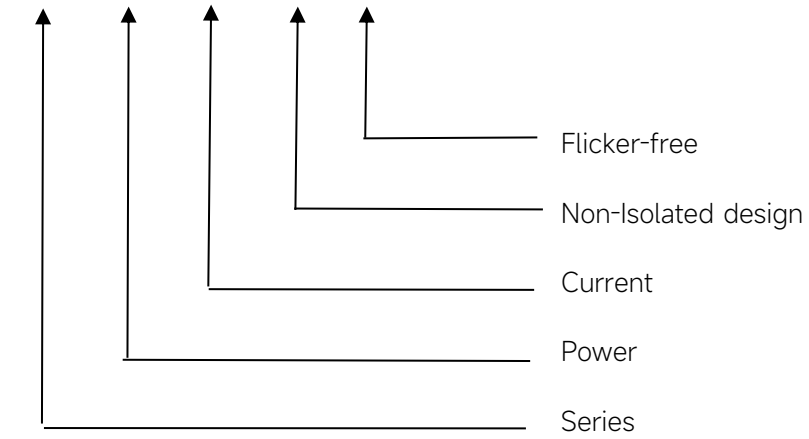
**■Approve**

## ◆ Description

FMS-20-350 N-S LD1 E is a 20W constant current LED driver that operates from 198-264Vac input with 200 to 350mA output current. The output current is adjustable by DIP Switch. With it's dimensions from 168 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 voltage and over temperature.

## ◆ Model code

FMS-20-350 N-S LD1 E



## ◆ Specification

| | | | | | |
|---|---|---|---|---|---|
| Output | Constant Current | 200mA | 250mA | 300mA | 350mA |
| | Voltage Range | 25-100VDC | 25-80VDC | 25-66.7VDC | 25-57VDC |
| | Unload voltage Max. | 250VDC | | | |
| | Current Accuracy | ±5% | | | |
| | Output LF current ripple(<120Hz) | ±5% | | | |
| | SVM | ≤0.4 | | | |
| | Pst | ≤1 | | | |
| | Efficiency(Typ.) | ≥86%@Full load ,220-240V | | | |
| 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 DC voltage(VDC) | 176-280VDC | | | |
| | Frequency(Hz) | 0/50/60 Hz | | | |
| | Displacement factor | ≥0.9 | | | |
| | Power Factor | ≥0.9@Full load ,220-240V | | | |
| | Input Current max | 0.15A | | | |
| | Start-up time | ＜0.5S | | | |
| | No Load Power | ≤0.5W | | | |
| | THD (Typ.) | <10% @Full load ,220-240V | | | |
| Protection | Over Load Protection | >105% | | | |
| | | YES/Auto Resume | | | |
| | Over Voltage Protection | >120V | | | |
| | | YES/Auto Resume | | | |
| | Short circuit Protection | YES/Auto Resume | | | |
| | Over Temperature Protection | YES/Auto Resume | | | |
| | | Ta≥75° C，reducing the output current | | | |
| capability | Surge capability (L-N) | 2KV | | | |
| | Surge capability (L/N-Ground) | 2KV | | | |
| Environment | Operating Temperature | -20℃~+50℃ | | | |
| | Humidity | 20%-90%RH | | | |
| | Tc | 75℃ | | | |
| | Storage Temperature | -25℃~+60℃ | | | |
| | Life time | ＞50000h@Tc=75℃,230VAC | | | |
| | Noise | ≤25dB(A)@20cm | | | |
| Surface | Dimension | 168 x 30 x 21(LXWXH)mm | | | |
| | material | metal case | | | |
| 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 |
| | ErP | Erp2.0 EU 2019/2020 |
| | RoHS | RoHS (2011/65/EU) (EU)2015/863 |
| Note | 1.All parameters NOT specially mentioned are measured at 230VAC input, full load and 25℃ of ambient temperature.<br>2.Ripple & Noise are measured at 20MHz of bandwidth<br>3.Switch and dimmer are not recommended to connect between this product output and luminaries.<br>4.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered..<br>5.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.<br>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. | |

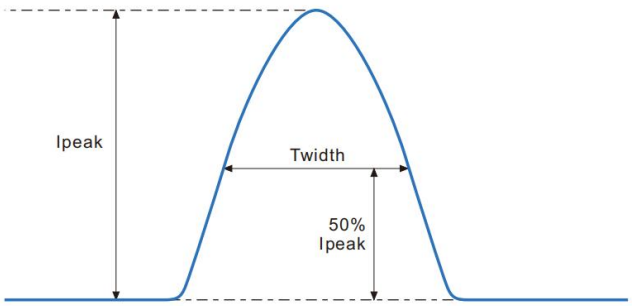
## ◆ Parameter

| Number | Output | | | | Switch position | |
|---|---|---|---|---|---|---|
| | Current (mA) | Voltage (VDC) | Voltage No load (VDC) | Power (W) | 1 | 2 |
| 1 | 200mA | 25-100 | 250 | 20W | -- | -- |
| 2 | 250mA | 25-80 | | 20W | ON | -- |
| 3 | 300mA | 25-66.7 | | 20W | -- | ON |
| *4 | 350mA | 25-57 | | 20W | ON | ON |

* Factory default

## ◆ Inrush Current

| $I^{peak}$ | Twidth | B10 | B16 | B20 | C10 | C16 | C20 |
|---|---|---|---|---|---|---|---|
| 13.1A | **112μs** | 53pcs | 85pcs | 106pcs | 53pcs | 85pcs | 106pcs |

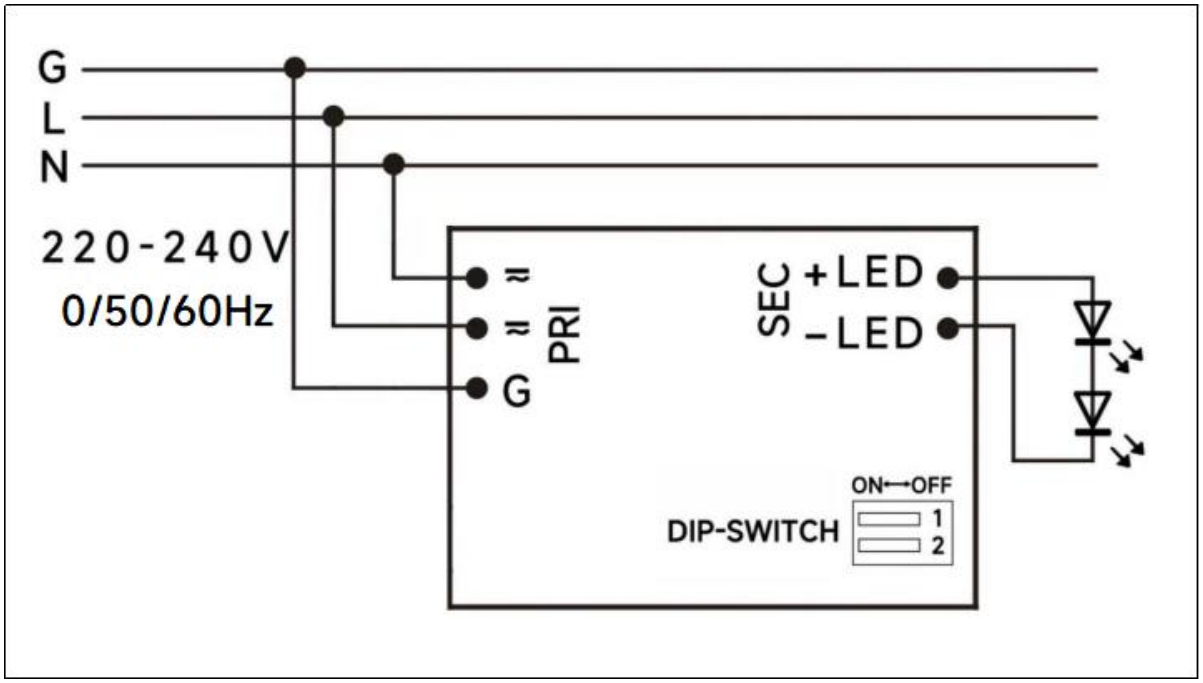



Remarks:

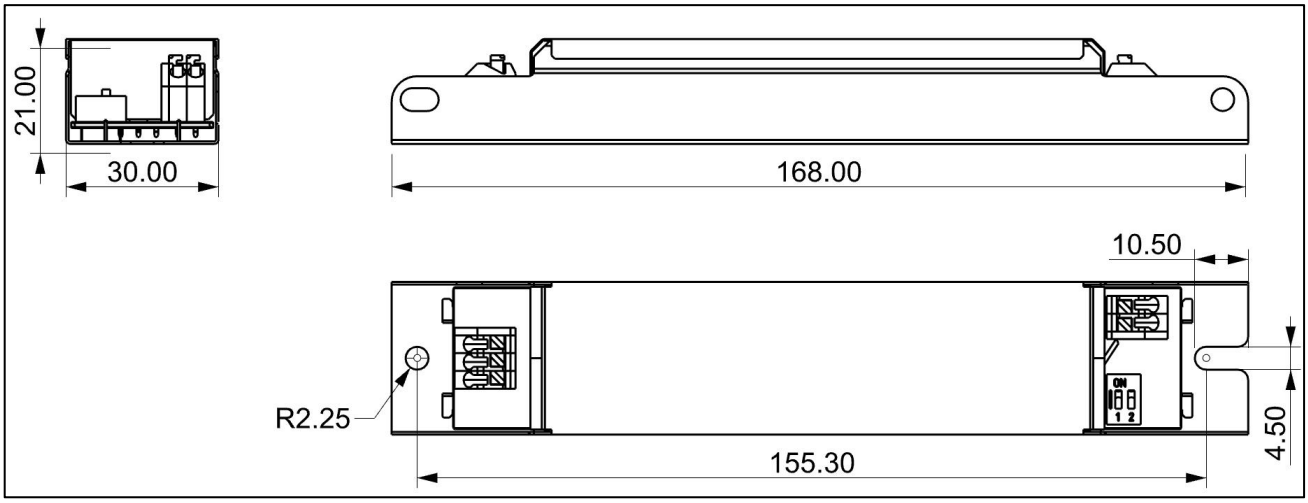
1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.

2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

## ◆ Wiring diagram



## ◆ 2D diagram



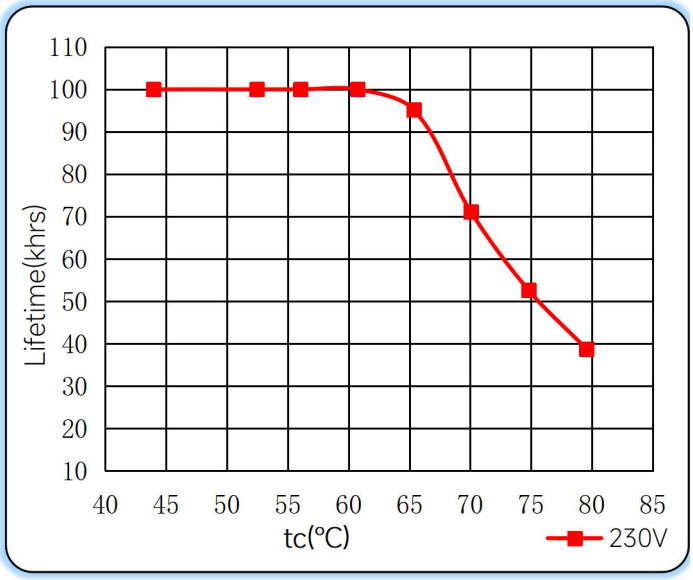

## ◆ Wiring & Connections

| 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 |

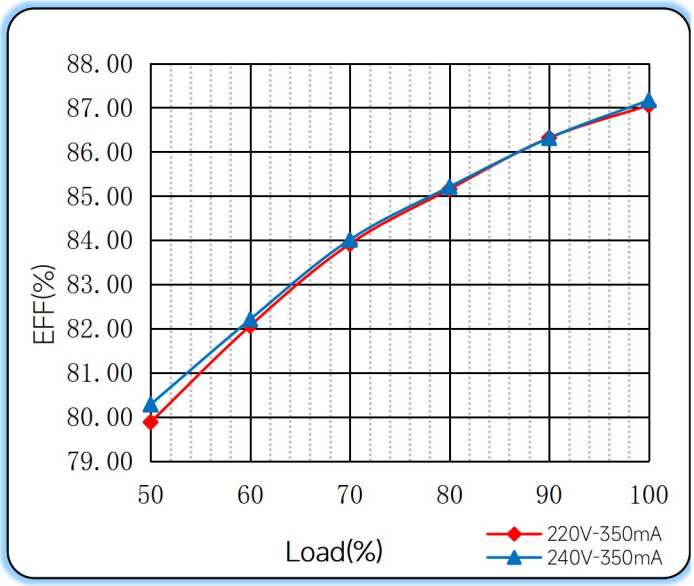
Note:Solid wire is risky to use on an angled terminal.Stranded wire is recommended for this kind of use.

## ◆ Curve for FMS-20-350 N-S LD1 E, Io=350mA

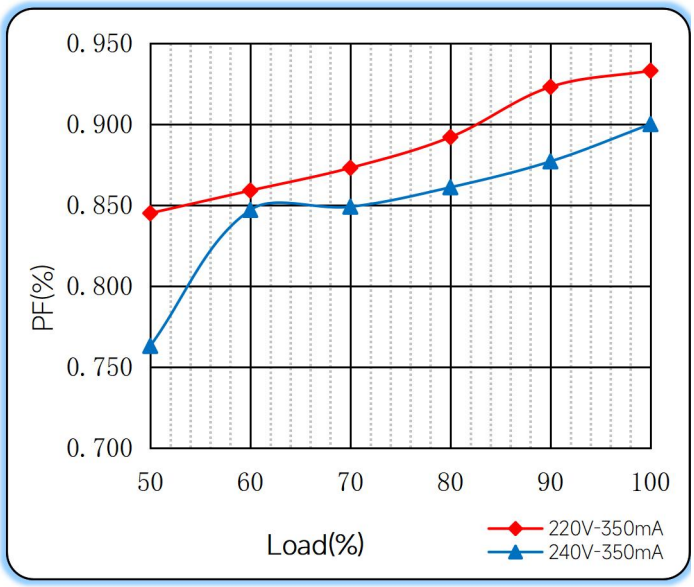
### Lifetime vs. Temperature Curve



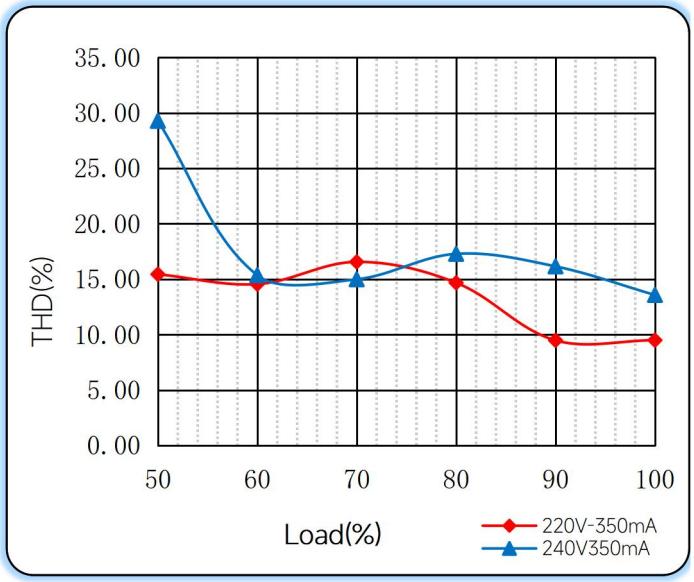

### Efficiency vs. Load



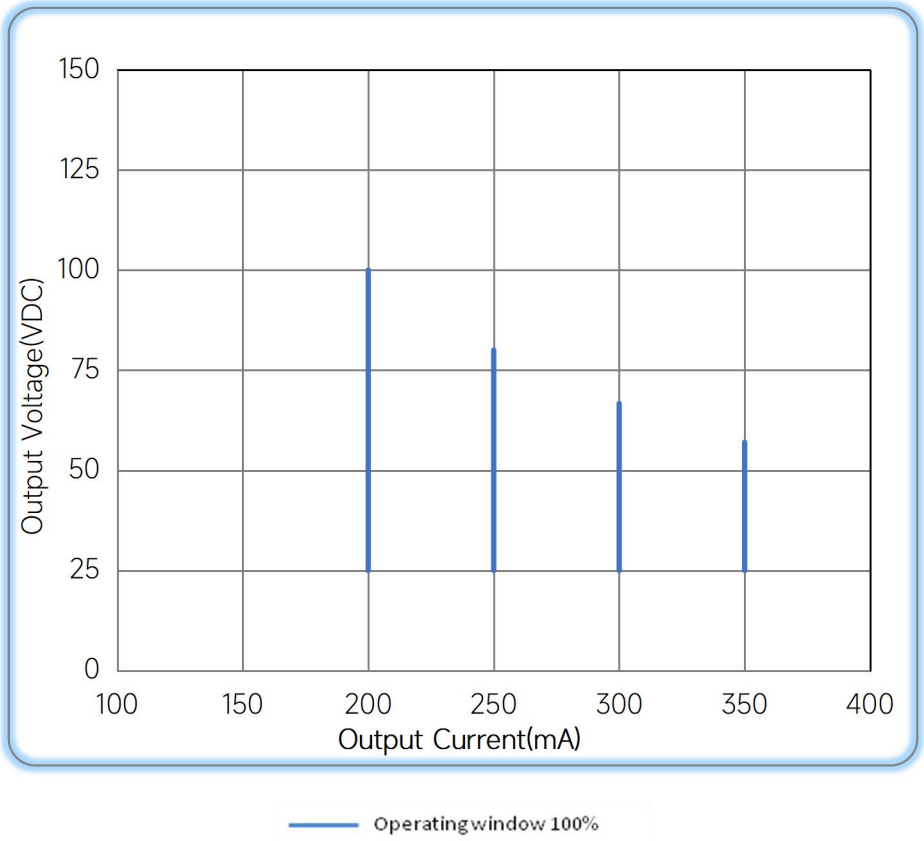

### Power Factor Characteristics




### THD vs. Load



## ◆ Operating window




## ◆ Revision Updates

| ITEM | BEFORE | AFTER | VERSION | DATE |
|---|---|---|---|---|
| Initial | | | A | 2024/01/09 |
| | | | | |

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