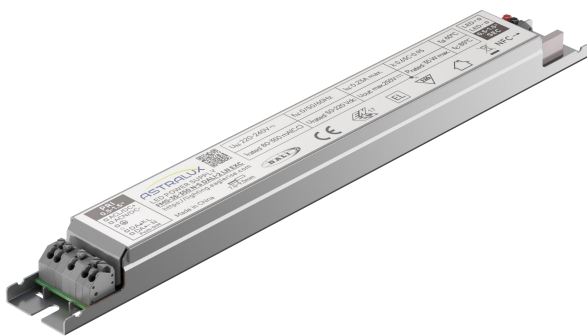


## 35W DALI + PUSH Dimming power supply



■ Approve

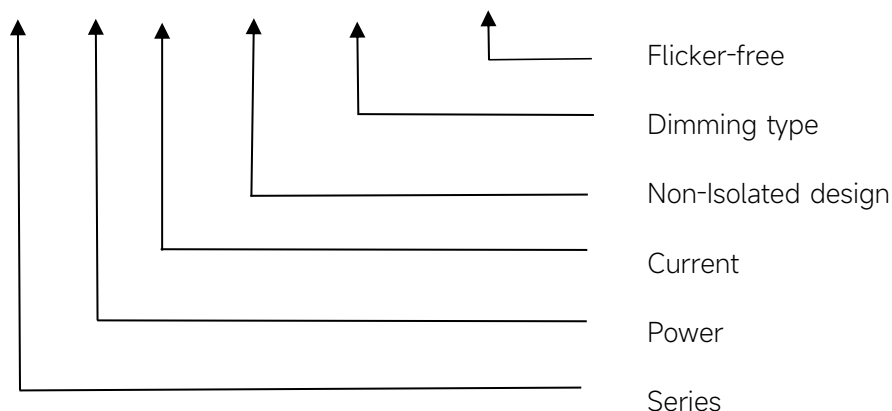


### ◆ Description

FMS-35-350 N-S DALI-2 LN EXC is a 35W constant current LED driver that operates from 198-264Vac input with 80 to 350mA output current and a forward voltage range from 50 to 220Vdc. The output current is adjustable by NFC. With it's compact dimensions from 280 x 30 x 21 mm. It is easy to integrate in linear light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

### ◆ Model code

#### FMS-35-350 N-S DALI-2 LN EXC



#### Features

- Class I, Non-Isolated design, Built-in
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor 0.95
- Efficiency : 92%
- Adjustable Output Current with NFC
- Support DALI-2, Push Dimming
- 5 years warranty

#### Applications

- Linear light

## ◆ Specification

|                  |                                  |   |     |           |           |
|------------------|----------------------------------|---|-----|-----------|-----------|
| Output           | Constant Current                 | 80-150mA  | ... | 251-300mA | 301-350mA |
|                  | Voltage Range                    | 50-220  | ... | 50-116    | 50-100    |
|                  | Uout Max.                        | <250V RMS   |     |           |           |
|                  | Current Accuracy                 | ±5%   |     |           |           |
|                  | Output LF current ripple(≤120Hz) | ±3%   |     |           |           |
|                  | SVM                              | ≤0.4@Full Load  |     |           |           |
|                  | P <sub>st</sub>                  | ≤1@Full Load  |     |           |           |
|                  | Efficiency(Typ.)                 | 92%@120-200mA   |     |           |           |
|                  | EOFI                             | 15%   |     |           |           |
| 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          |     |           |           |
|                  | Rated input voltage(DC)          | 176-280VDC  |     |           |           |
|                  | Frequency(Hz)                    | 0/50/60 Hz  |     |           |           |
|                  | Displacement factor              | ≥0.9  |     |           |           |
|                  | Power Factor                     | >0.95@Full Load,230V  |     |           |           |
|                  | Input Current                    | 0.23A max.  |     |           |           |
|                  | Start-up time                    | < 0.8S  |     |           |           |
|                  | Switch over time(AC/DC mode)     | < 0.4S  |     |           |           |
|                  | No Load Power                    | ≤0.3W   |     |           |           |
|                  | Standby Power                    | ≤0.3W   |     |           |           |
|                  | Network standby power            | ≤0.3W   |     |           |           |
|                  | THD (Typ.)                       | 10%@Full Load,230V  |     |           |           |
| Dimming          | Dimming                          | YES   |     |           |           |
|                  | Dimming mode                     | DALI-2 (IEC 62386-101,102,207,251,252,253) & Push Dimming (Corridor Function) |     |           |           |
|                  | Dimming depth                    | 2.5mA@80-250mA, 1%@250-350mA  |     |           |           |
|                  | Dimming current range            | 1 ~100%   |     |           |           |
| Protection       | Over Load Protection             | 103-120%  |     |           |           |
|                  |                                  | YES/Latch off   |     |           |           |
|                  | Over Voltage Protection          | <250V RMS   |     |           |           |
|                  |                                  | YES/Latch off   |     |           |           |
| Capability       | Short circuit Protection         | YES/Latch off   |     |           |           |
|                  | Over Temperature Protection      | YES/Auto Resume   |     |           |           |
| Surge capability | Surge capability (L-N)           | 1KV   |     |           |           |
|                  | Surge capability (L/N-Ground)    | 2KV   |     |           |           |
| Environment      | Operating Temperature            | -25°C~+60°C   |     |           |           |
|                  | Humidity                         | 20%-90%RH   |     |           |           |
|                  | Tc                               | 85°C  |     |           |           |

|           |  |  |
|-----------|--|--|
|           | Storage Temperature  | -25°C~+60°C  |
|           | Lifetime   | >50000h,@Tc=75°C   |
|           | Noise  | ≤25dB(A)@20cm  |
| Surface   | Dimension  | 280 x 30 x 21(LXWXH)mm   |
|           | material   | metal case   |
| 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 |
|           | Energy Efficiency  | Erp2.0 EU 2019/2020  |
|           | RoHS   | RoHS (2011/65/EU) (EU)2015/863   |
| DALI      | EN 62386-101 (DALI-2) EN 62386-102 (DALI-2) EN 62386-207 (DALI-2,including part251,252,253)  |  |
| 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.</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.Switch and dimmer are not recommended to connect between this product output and luminaries.</p> <p>5.DALI protocol comprises 16 groups and 64 addresses.Up to 32 drivers can perform the PUSH dimming at the same time when utilizing one push button.</p> <p>6.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>7.Prohibition of electrically charged operation.</p> <p>8.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> |  |

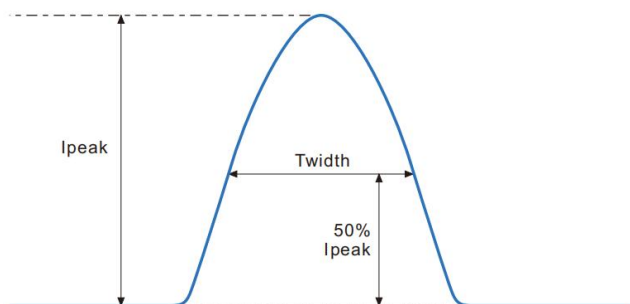
## ◆ Parameter

| Number | Output          |                  |                   |              |
|--------|-----------------|------------------|-------------------|--------------|
|        | Current<br>(mA) | Voltage<br>(VDC) | Uout Max<br>(VDC) | Power<br>(W) |
| *1     | 80-150mA        | 50-220VDC        | 250               | 33           |
| 2      | 151-200mA..     | 50-175VDC        |                   | 35           |
| 3      | 201-250mA       | 50-140VDC        |                   | 35           |
| 4      | 251-300mA       | 50-116VDC        |                   | 35           |
| 5      | 301-350mA       | 50-100VDC        |                   | 35           |

\* Factory default

## ◆ Inrush Current

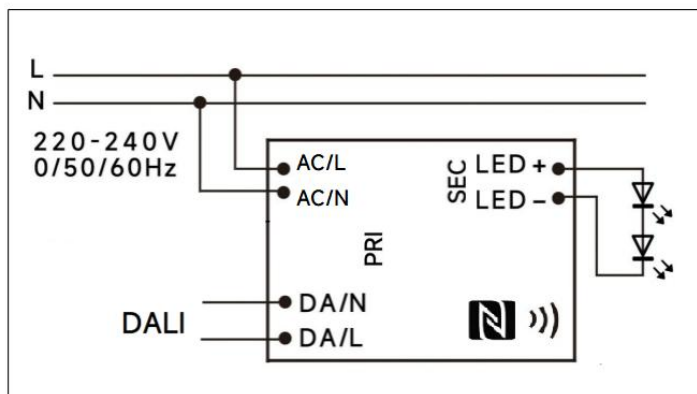
| $I_{peak}$ | $T_{width}$                 | B10   | B16   | B20   | C10   | C16   | C20   |
|------------|-----------------------------|-------|-------|-------|-------|-------|-------|
| 23A        | <b>168<math>\mu</math>s</b> | 21pcs | 34pcs | 42pcs | 34pcs | 55pcs | 69pcs |



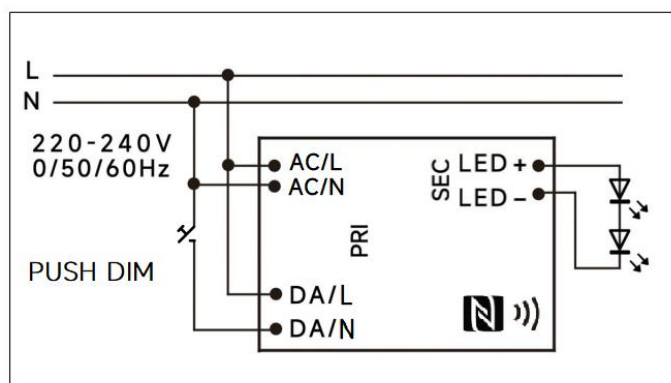
### Remarks:

- 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.

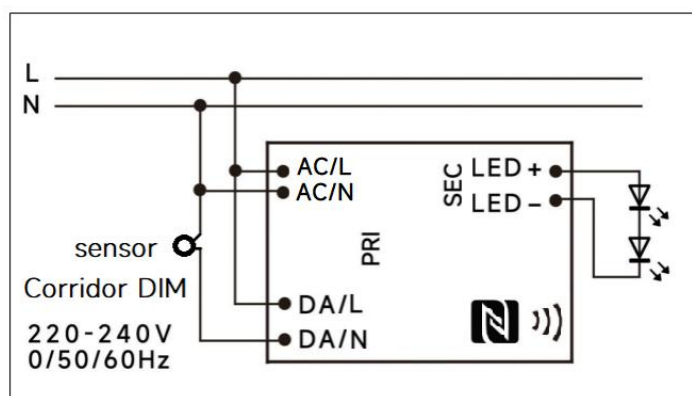
## ◆ Wiring diagram



DALI dimming application

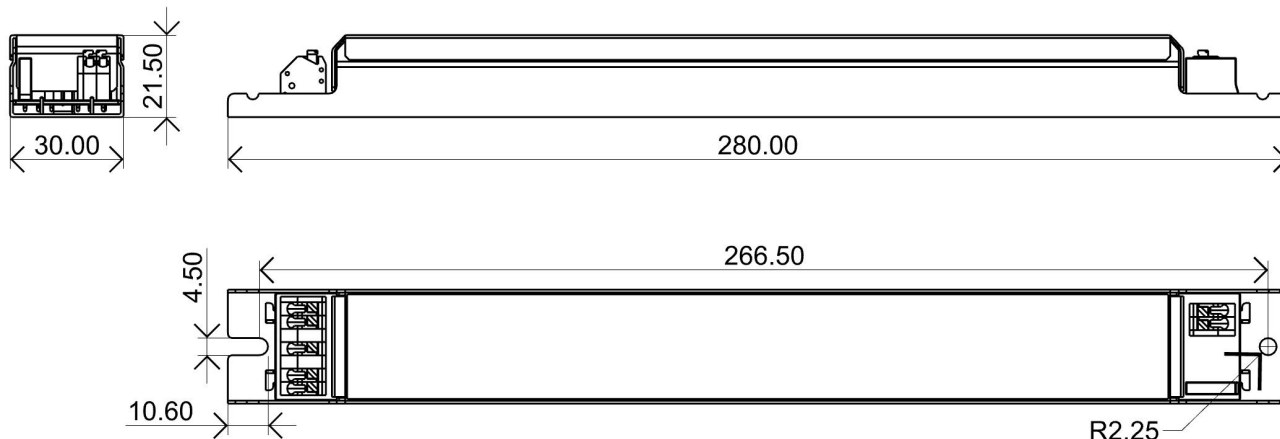


PushDIM dimming application



Corridor DIM dimming application

## ◆ 2D diagram



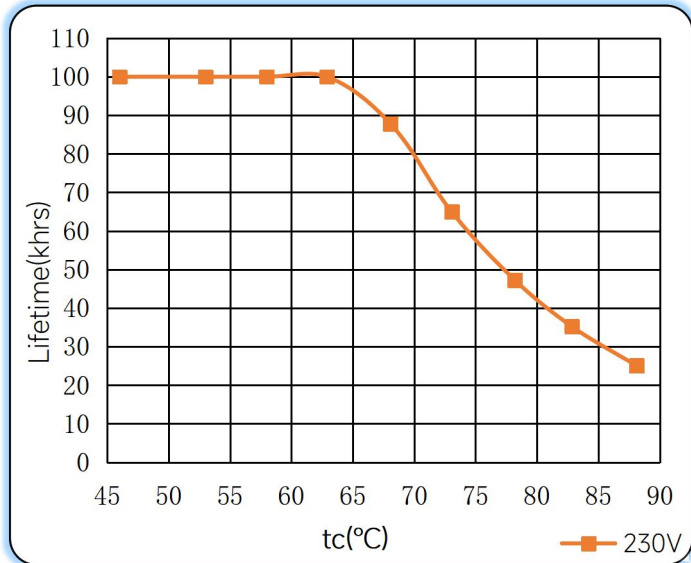
## ◆ Wiring & Connections

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

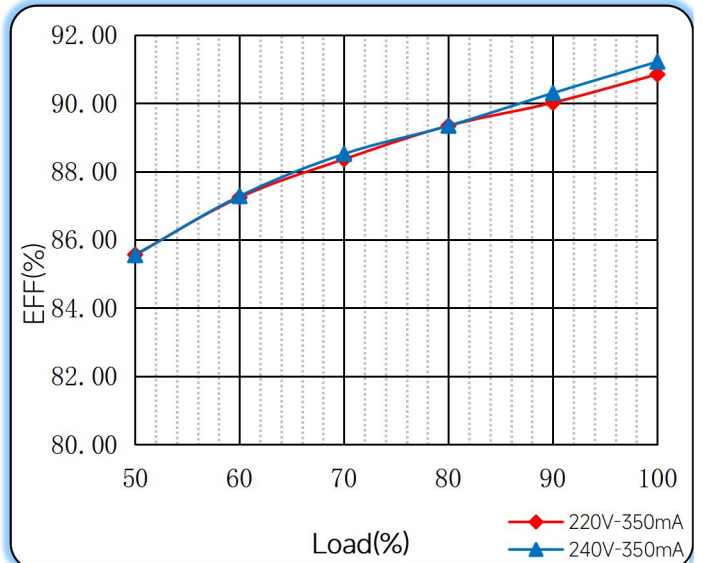
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

# ◆ Curve for FMS-35-350 N-S DALI-2 LN EXC, $I_o=350mA$

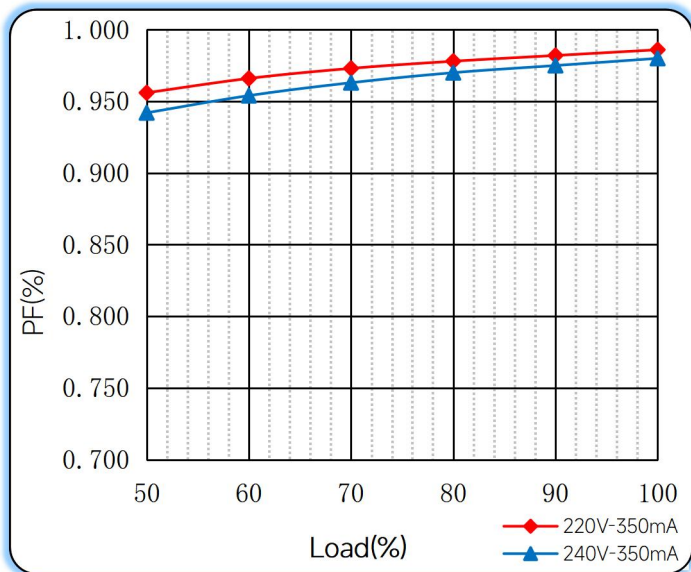
Lifetime vs. Temperature Curve



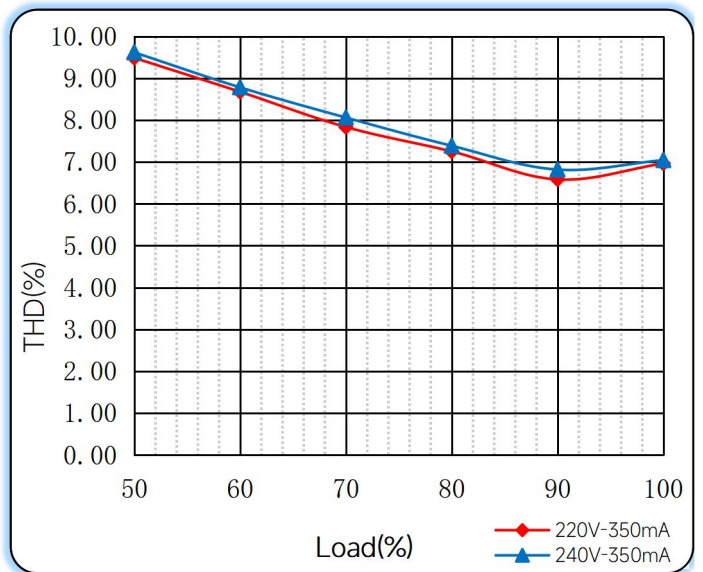
Efficiency vs. Load



Power Factor Characteristics



THD vs. Load





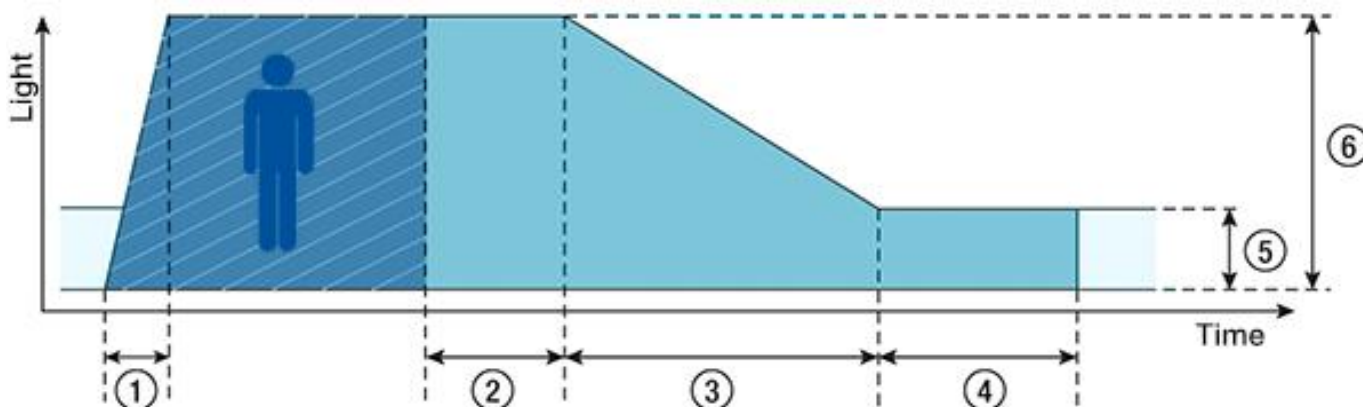
## ◆ Push dimming operation

| Action                   | Action duration | Function  |
|--------------------------|-----------------|---|
| Short push               | <0.5s           | Turn on/off   |
| Short push<br>twice      | <0.5s           | LED on: Save current brightness level<br>LED off: Delete saved level and turn on at 100% brightness   |
| Short push five<br>times | <3s             | Quit Corridor mode  |
| Long push                | 0.5-14s         | Dimming up or down  |
| Long push                | 15s-2mins       | Sync all LEDs to be 100% brightness   |
| Long push                | >2mins          | Enter Corridor mode - LED keep 100% brightness for 2mins.<br>Then brightness will turn to be 10% within 32s if no action during 2mins<br>100% brightness. |

### Note:

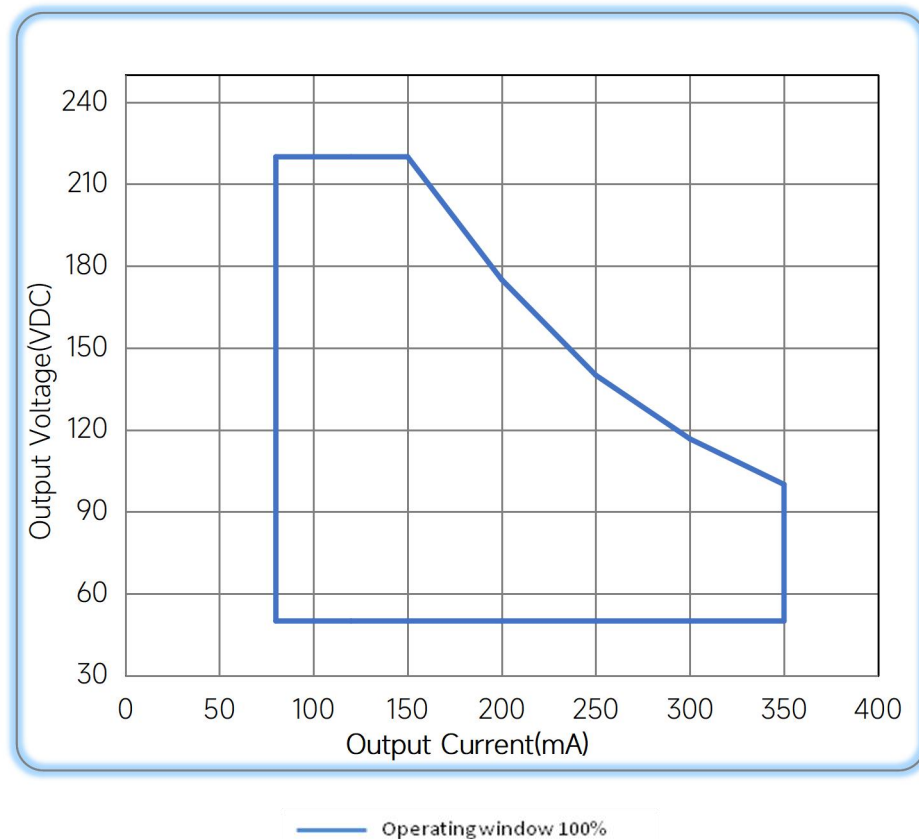
- 1.The factory default brightness is at 100%.
- 2.Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
- 3.The maximum length of the cable from the push button to the last driver is 200 meters.

## ◆ Corridor mode



- ◆ ① **Fade-in time(0.5s)**: the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.
- ◆ ② **Run-on time(120s)**: the time that starts as soon as the presence of a person is no longer detected. If the presence of a person is detected again during the run-on time the run-on time is restarted from zero. If no presence is detected during the run-on time the fade time is started as soon as the run-on time expires.
- ◆ ③ **Fade time(32s)**: the time during which the luminous intensity is faded from the presence value to the absence value.
- ◆ ④ **Switch-off delay (Never Off)**: the time during which the absence value is held before the lighting is switched off. Depending on the profile selected the switch-off delay may have different values or may not be defined.
- ◆ ⑤ **Absence value(default: 10 %)**: the luminous intensity when there is no person present.
- ◆ ⑥ **Presence value (default: 100 %)**: the luminous intensity when persons are present.

## ◆ Operating window



## ◆ Revision Updates

| ITEM             | BEFORE             | AFTER         | VERSION | DATE       |
|------------------|--------------------|---------------|---------|------------|
| Initial          |                    |               | A       | 2024/08/15 |
| Efficiency(Typ.) | 92%@Full Load,230V | 92%@120-200mA | B       | 2024/12/27 |

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

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