

## Product Description

LF-AAD012-0400-42 is a 12W constant current DALI or PUSH dimmable LED driver. Its input voltage ranges from 198 to 264Vac and output current can be adjusted via DIP switch from 150mA to 400mA, in steps of 50mA.

## Features

- IP20
- Suitable for Class II light fixtures
- Constant current output and output current adjustable via DIP switch
- DALI or PUSH dimmable; logarithmic or linear dimming curve selectable on DALI interface
- Built-in active PFC function
- Standby power consumption <0.5W
- 0.1% dimming depth
- 5-year warranty (please refer to the warranty condition)

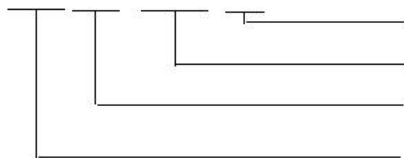


## Applications

- Horticultural lighting
- Indoor office lighting
- Decorative lighting
- Commercial lighting
- Residential lighting

## Product Naming

LF- AAD012- 0400- 42



- 42: maximum output voltage: 42V
- 0400: maximum output current: 400mA
- 012: rated power: 12W
- AAD: DALI LED driver

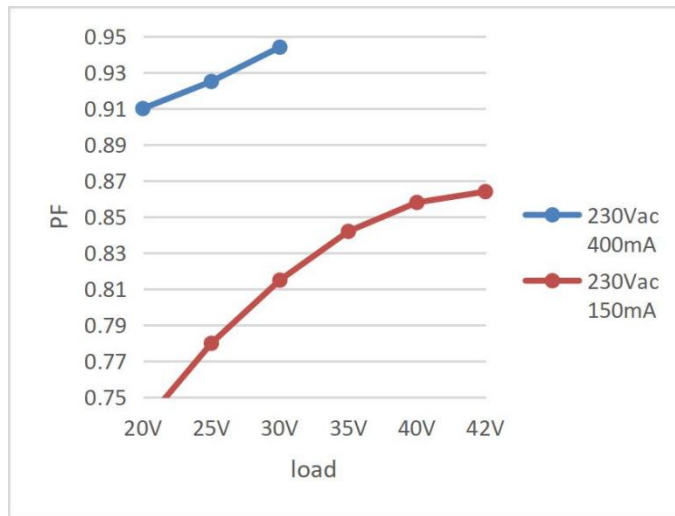
## Electrical Characteristics

| Model                     |   | LF-AAD012-0400-42   |             |             |                         |             |             |  |
|---------------------------|---|---|-------------|-------------|-------------------------|-------------|-------------|--|
| Output                    | Output Voltage (DC)                             | 9-42V   | 9-42V       | 9-42V       | 9-40V                   | 9-34V       | 9-30V       |  |
|                           | Output Current                                  | Adjustable via DIP switch; please refer to the DIP Switch Table   |             |             |                         |             |             |  |
|                           |   | 150mA   | 200mA       | 250mA       | 300mA                   | 350mA       | 400mA       |  |
|                           | Flicker Index                                   | IEC-Pst $\leq 1$ , CIE SVM $\leq 0.9$ , modulation depth $\leq 1\%$<br>Complies with the flicker-free standard (IEEE Std 1789-2015) |             |             |                         |             |             |  |
|                           | Ripple Current                                  | $< 10\%$ (rated current)  |             |             | $< 5\%$ (rated current) |             |             |  |
|                           | Current Tolerance                               | $\pm 5\%$   |             |             |                         |             |             |  |
|                           | Temperature Drift                               | $\pm 5\%$   |             |             |                         |             |             |  |
| Start-up Time             | $< 1.5S@230Vac$                                 |   |             |             |                         |             |             |  |
| Input                     | Input Voltage                                   | 220-240Vac (voltage limit: 198-264Vac)  |             |             |                         |             |             |  |
|                           | DC Input Voltage                                | 180-280Vdc  |             |             |                         |             |             |  |
|                           | Input Frequency                                 | 47Hz-63Hz   |             |             |                         |             |             |  |
|                           | Input Current                                   | 0.15A Max   |             |             |                         |             |             |  |
|                           | Power Factor                                    | $\geq 0.83$   | $\geq 0.88$ | $\geq 0.90$ | $\geq 0.92$             | $\geq 0.92$ | $\geq 0.92$ |  |
|                           | THD   | $\leq 15\%@230Vac$ (narrowband; full load)  |             |             |                         |             |             |  |
|                           | Efficiency                                      | $\geq 70\%$   | $\geq 75\%$ | $\geq 78\%$ | $\geq 80\%$             | $\geq 79\%$ | $\geq 78\%$ |  |
|                           | Inrush Current                                  | $\leq 6.5A \& 100\mu S@230Vac$  |             |             |                         |             |             |  |
|                           | Load Quantity Carried by the Circuit Breaker    | Circuit Breaker Model   | B10         |             | C10                     |             | B16 C16     |  |
|                           |   | Quantity (pcs)  | 44          |             | 44                      |             | 71 71       |  |
|                           | Surge Protection                                | L-N: 1kV; PUSH: 600V  |             |             |                         |             |             |  |
|                           | Leakage Current                                 | $\leq 0.7mA$  |             |             |                         |             |             |  |
| Standby Power Consumption | $\leq 0.5W$ (when DALI OFF signal is effective) |   |             |             |                         |             |             |  |
| Protections               | Open Circuit                                    | $< 59V$   |             |             |                         |             |             |  |
|                           | Short Circuit                                   | Hiccup mode (auto-recovery)   |             |             |                         |             |             |  |
| Environment Descriptions  | Working Temperature                             | $-20^{\circ}C - +45^{\circ}C$   |             |             |                         |             |             |  |
|                           | Working Humidity                                | 20-90%RH (no condensation)  |             |             |                         |             |             |  |
|                           | Storage Temperature/Humidity                    | $-30^{\circ}C - 80^{\circ}C$ (six months under class I environment);  |             |             |                         |             |             |  |
|                           |   | 10-90%RH (no condensation)  |             |             |                         |             |             |  |
| Atmospheric Pressure      | 86kPa~106kPa                                    |   |             |             |                         |             |             |  |

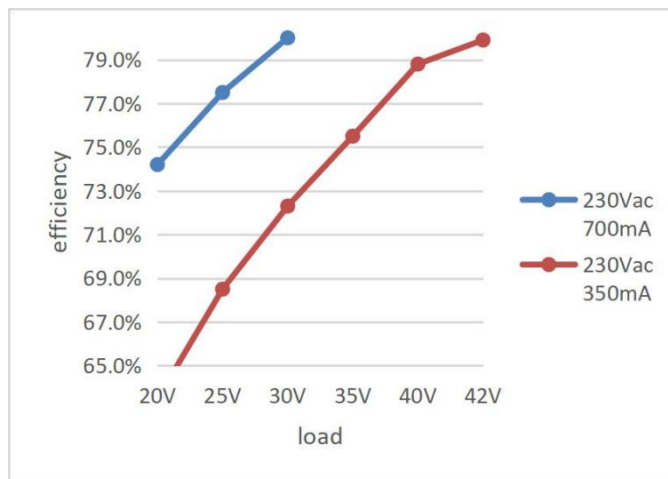
|  |   |   |
|--|---|---|
| Safety &<br>Electromagnetic<br>Compatibility | Certifications  | TUV-ENEC, CE, CB, RCM, CCC  |
|  | Withstanding Voltage  | I/P-O/P: 3.75kV 5mA 60S   |
|  | Insulation Resistance   | I/P-O/P: >100MΩ@500Vdc  |
|  | Safety Standards  | ENEC: EN61347-1: 2015, EN 61347-2-13: 2014/A1: 2017,<br>EN 62384: 2016/A1: 2009<br>CE-LVD: EN 61347-2-13: 2014/A1: 2017, EN 61347-1: 2015,<br>EN 62493: 2015<br>RCM: AS 61347.2-13: 2018<br>CB: IEC 61347-1: 2015, IEC61347-2-3: 2014,<br>IEC 61347-2-13: 2014/AMD1: 2016<br>CCC: GB19510.1-2009, GB19510.14-2009 |
|  | EMI   | CE-EMC/RCM: EN55015, EN61000-3-2, EN61000-3-3<br>CCC:GB/T17743, GB17625.1, GB17625.2  |
|  | EMS   | CE-EMC/RCM: EN61000-4-2, 3, 4, 5 (lightning strike 1kV), 6, 11<br>CCC: GB/T17626.2, 3, 4, 5 (lightning strike 1kV), 6, 11   |
| Others                                       | IP Rating   | IP20  |
|  | RoHS  | RoHS 2.0 (EU) 2015/863  |
|  | Warranty Condition  | 5 years (Tc≤79℃)  |
|  | DALI Standard   | IEC 62386-101 102 207: DALI 2.0   |
| Remarks                                      | <ol style="list-style-type: none"> <li>1. It is recommended that customer should install over voltage, under voltage and surge protection devices in the power supply circuits of the light fixtures to ensure safety before connecting to electricity.</li> <li>2. When adjusting the output current via the DIP switch, please disconnect input AC power supply first so as to use the DIP switch without the input AC power supply connected.</li> <li>3. The PC cover, casing, end caps and other parts of the LED driver inside the LED light fixture must conform to UL94-V0 flammability standard or above.</li> <li>4. As an accessory, the LED driver is not the only factor determining the EMC performance of the LED light fixture. The structure and the wiring of the light fixture are also relevant. Thus it's strongly recommended the LED light fixture manufacturer should re-confirm the EMC of the whole LED light fixture.</li> <li>5. Unless otherwise stated, the parameters above are test results under these conditions: ambient temperature 25℃, humidity 50%, 100% load, maximum output current and input voltage 230Vac.</li> </ol> |   |

### Product Characteristic Curves

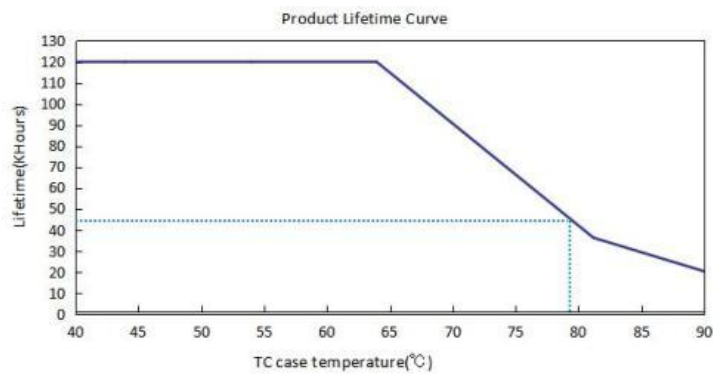
#### ■ PF Curve



#### ■ Efficiency Curve



#### ■ Lifetime Curve



## Dimming Operation Instructions

### ■ Product Terminals

#### INPUT

|          |  |
|----------|--|
| DA1 PUSH | Input terminal of DA1 and PUSH dimming |
| DA2 PUSH | Input terminal of DA2 and PUSH dimming |
| AC-L     | Input terminal of AC live wire         |
| AC-N     | Input terminal of AC neutral wire      |

#### OUTPUT

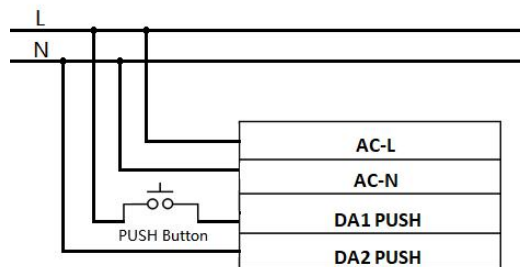
|      |   |
|------|---|
| LED+ | Positive electrode output of the driver |
| LED- | Negative electrode output of the driver |

### ■ Product DIP Switch

| I rated (CC) | 1   | 2   | 3   |
|--------------|-----|-----|-----|
| 400mA        | OFF | OFF | OFF |
| 350mA        | OFF | OFF | ON  |
| 300mA        | OFF | ON  | OFF |
| 250mA        | OFF | ON  | ON  |
| 200mA        | ON  | OFF | OFF |
| 150mA        | ON  | OFF | ON  |

Remark: except the settings mentioned in the table above, other DIP switch settings are default to be the maximum current 400mA.

### ■ Wiring Diagram of PUSH Dimming



**⚠** Remark: when using PUSH dimming function, please make sure to power on AC-L/AC-N before powering on the PUSH terminal, otherwise the PUSH terminal may be burnt out.

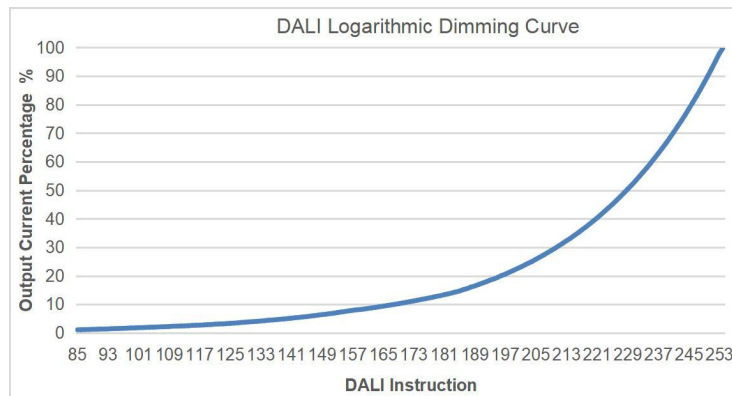
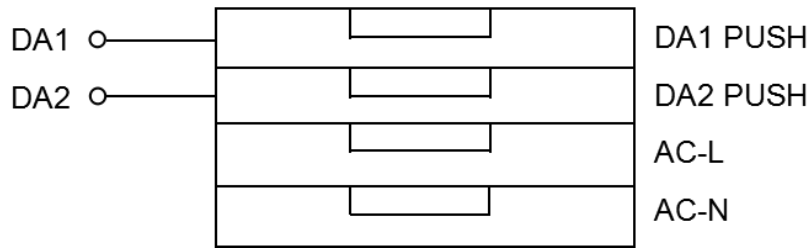
### ■ PUSH Dimming Operation Instructions

| Operations   | Operation Time | Functions                    |
|--------------|----------------|------------------------------|
| Instant Push | 0.1-0.5 sec    | Light on / off               |
| Long Push    | 0.6-9 sec      | Dim up / down                |
| Reset Push   | > 9 sec        | Reset to PUSH 50% brightness |

- The PUSH operation won't cause any variations if it's less than 0.1S.
  - Connect the PUSH switch in series between AC-L terminal and DA1 terminal; short circuit AC-N and DA2 terminals.
  - Minimum dimming depth of PUSH dimming: 1% (lout)
  - The PUSH dimming mode has the memory function in case of any power failure. Power on the driver again and the light will return to the state before the power failure.
  - Maximum wire length between the PUSH switch and the farthest LED driver: 135m;
- wire diameter: 16-22AWG
- Maximum quantity of LED driver connected in parallel in DALI dimming and PUSH dimming modes: 64

**■ DALI Dimming Operation Instructions**

- Default setting: 100% brightness.
- Connect the DALI signal to DA1 and DA2 terminals.
- DALI protocol includes 16 groups and 64 IP addresses.
- Minimum dimming depth of DALI dimming: 0.1% (lout).



**⚠ Remark:** DALI and PUSH dimming functions can not be used at the same time, otherwise the DALI dimmer may be damaged.

**Label**

**Lifud**<sup>®</sup> LED Driver(LED控制装置) Model: LF-AAD012-0400-42  
 Input: 220-240V ~ 50/60Hz Max.0.15A 17.5mm  
 U out: 59V = PF:>0.9C P rated:12W(Max) tc:90°C  
 For Australia and New Zealand,the marking label with "X" preparation for input and output

DA1 PUSH  
 DA2 PUSH  
 AC-L  
 AC-N  
 0.75-1.5

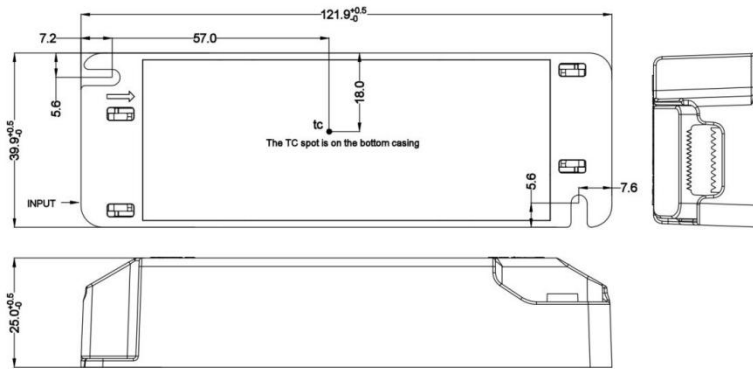
**Output current and setting table**

| ta   | Vo DC | I rated(CC) | 1   | 2   | 3   |
|------|-------|-------------|-----|-----|-----|
| 45°C | 9-30V | 400mA       | OFF | OFF | OFF |
|      | 9-34V | 350mA       | OFF | OFF | ON  |
|      | 9-40V | 300mA       | OFF | ON  | OFF |
|      | 9-42V | 250mA       | OFF | ON  | ON  |
|      | 9-42V | 200mA       | ON  | OFF | OFF |
|      | 9-42V | 150mA       | ON  | OFF | ON  |

Dimmable 0.1%-100%  
 For LED modules only ON OFF  
 www.lifud.com  
 Made in China (中国制造)

OUTPUT LED+ LED- 0.5-1.0

**Structure & Dimensions (unit: mm)**



**Packaging Specifications**

|                      |  |
|----------------------|--|
| Model                | LF-AAD012-0400-42                      |
| Packaging Dimensions | 385*285*210 mm (L*W*H)                 |
| Quantities           | 14 pcs/layer; 6 layers/ctn; 84 pcs/ctn |
| Weights              | 0.085 kg/pc; 8.2 kg/ctn                |

## Transportation & Storage

### ■ Transportation

- Suitable transportation means: vehicles, boats and aircraft.
- During transportation, there should be awnings for rain protection and sun protection. Civilized loading and unloading are required. There should be no severe vibration or impact.

### ■ Storage

- Storage in accordance with the provisions of the Class I environment. For products which have been stored for more than six months, they mustn't be used until they pass the re-inspection.

## Attention

- Please use this product according to its specifications otherwise there may be malfunction.
- Use light fixtures that have not been certified or are not compatible with the LED drivers may cause fire or other hazards.
- Man-made damage, any use beyond the specification and non-original-factory modification are not covered by warranty.

Remark: The final interpretation right of the contents of this data sheet belongs to Lifud Technology Co., Ltd.