

Smart LED Driver

Design and Quality EASEIC of USA



LNAI27 AL Smart E-Dim 0/1-10V DRIVER

SPEC SHEET

27W 3-62V 250-700mA 0/1-10V Dim
LNAI27 AL
632127



SELV RoHS

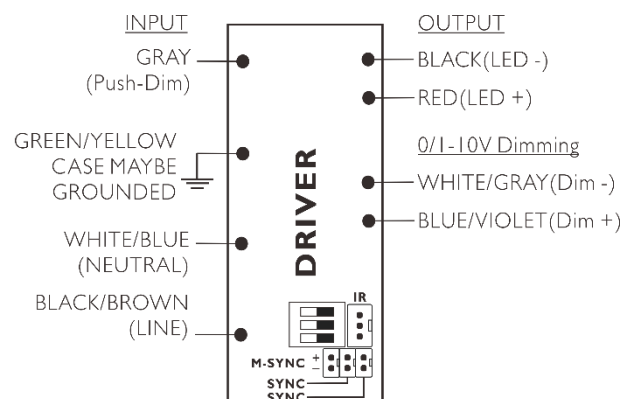
Features

- Multilevel current output, Constant current output 250-700mA
- Multi-power driver supplied with dip-switch for the selection of the output current
- Built-in infrared remote control dimming control.
- Built-in 3 in 1 dimming function(0/1-10V,PWM or Resistance)
- Dimming range from 0 - 100%.
- SYNC Dim, On/off Dim and PUSH-Dim, dimming and switching via push-button with memory function.
- Universal AC input (90~265Vac)
- Designed for LED lighting applications
- UL Class 2 output, Class 2 protection against electric shock for direct or indirect contact
- Compact form factor; Fully isolated metal case.
- Can be switched on and off on secondary circuit for power LED.
- Protections: Short circuit , Over voltage, Over Current
- 5 year warranty

Benefits

- Enables design of low profile and compact fixtures
- Helps to maximize energy savings and allows application specific light levels
- Supports majority of available dimming solutions

Wire Diagram



Note:

Install in accordance with National and Local Electrical Codes.

Use 16-24 AWG solid copper wire rated $\geq 300V/85^{\circ}C$.

Strip wire 3/8".

Please pay special attention to wiring installation guidelines, Wrong wiring will cause damage to the LED driver.

Before connection the power; make sure you have access to the LED load.

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Electrical Specifications

| | | | |
|--|--|--------------|--------------|
| Ordering Information | | | |
| Type | LNAI27 AL | | |
| Order Code | 632127 | | |
| Full product name | Smart 27W 3-62V 250-700mA 0/1-10V Dim | | |
| Input Information | | | |
| Line Voltage | 100-240Vac_rms | | |
| Line Current | 0.32A@100VAC | 0.27A@120VAC | 0.14A@230VAC |
| Line Frequency | 50/60Hz | | |
| Min, Mains Voltage operational | 90[min] | | |
| Max, Mains Voltage operational | 265[max] | | |
| THD(total) | <20% | | |
| Power Factor(PF) | >0.95 | | |
| Input Power (Max.) | 32.2W | | |
| Efficiency @Max Load and 70°C case | 87%@100VAC | 87%@120VAC | 87%@230VAC |
| Inrush Current(Typ.) | Cold Start 55A(twidth=270us measured at 50% Ipeak) at 230VAC | | |
| Leakage Current(Typ.) | <0.5mA/230VAC | | |
| Output Information | | | |
| Output Power | 27W(See Output current settings table) | | |
| Output voltage | 3V to 62V | | |
| Output Constant Current | 250-700mA ±5%(See Output current settings table) | | |
| Maximum open circuit voltage | <60V | | |
| Output Current Ripple (ripple=peak to peak) | 2% of nominal output voltage (whichever is greater), measured at 20Mhz bandwidth with 0.1uf ceramic capacitor in parallel with 10uf electrolytic capacitor connected at the end of the output connector. | | |
| Protections | Over Current, Over Voltage, Short Circuit and Open Circuit Protection for LED+ and LED- | | |
| Ambient Temp Range | -20°C to +50°C, 20-95% RH non-condensing | | |
| Max Case Temperature(Tc) | 75°C for Life & 85°C for UL Safety | | |
| Dimming Features | | | |
| Dimming Interface | 0/1-10V, Push-Dim, On/off Dim,10K PWM, Resistance, IR, SYNC | | |
| 0/1-10V Dimming Specifications | Sink Current <0.5mA | | |
| Dimming range | 0-100% | | |
| Environment & Approbation | | | |
| Environmental Protection Rating | UL damp and dry | | |
| Agency Approbations | UL8750,UL1310, CSA-C22.2 No.250.0-08,ENEC EN61347-1,EN61347-2-13 independent, EN62384,TUV EN60950-1 | | |
| Electromagnetic Compliance | FCC Title 47 Part 15 Class A Compliance to EN55015,EN61000-3-2 Class C(@100% Load);en6100-3-3 Compliance to EN61000-4-2,3,4,5,6,8,11;EN61547,EN55024, light industry level(surge 2KV), criteria A | | |
| Audible noise | <24dB Class A | | |
| Other information | | | |
| Dimension | 280x30x26mm (LxWxH) | | |
| Packing | 0.23Kg(0.51lbs); 40Pcs/10.1kg(22.2Lbs) | | |

All the specifications are typical and at 25 °C Tcase unless specified otherwise

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Output Current Settings

LNA127 AL, Constant Current output 250-700mA.

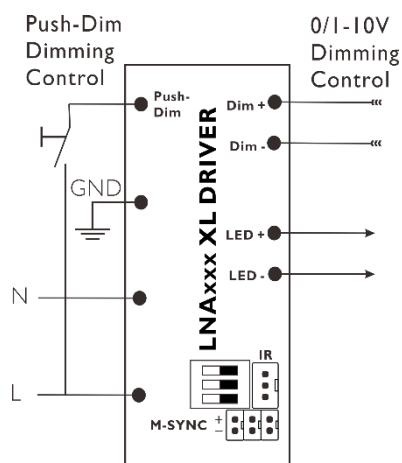
Multi-power driver supplied with dip-switch for the selection of the output current.

Factory default setting is 250mA.

| LNA127 AL | | DIP-Switch Settings | | | |
|-----------|---------|---------------------|----|----|----|
| Pout Max. | Vout DC | Iout DC | 1 | 2 | 3 |
| 16W | 3-62V | 250mA | -- | -- | -- |
| 22W | 3-62V | 350mA | ON | -- | -- |
| 25W | 3-62V | 400mA | -- | ON | -- |
| 27W | 3-62V | 450mA | -- | -- | ON |
| 27W | 3-54V | 500mA | ON | ON | -- |
| 27W | 3-50V | 550mA | ON | -- | ON |
| 27W | 3-45V | 600mA | -- | ON | ON |
| 27W | 3-39V | 700mA | ON | ON | ON |

Dimming Control Wiring Diagrams

➤ Push-dim 0-100% dimming control



By pressing the push button for less than one second the LEDs turn on or off.

By pressing the push button for more than one second the light intensity of the LEDs is dimmed according to the following modalities:

- ✧ If the light intensity is not at maximum, by pressing the key there will be an increase of this to maximum or to the corresponding level at the moment the key is released;
- ✧ A further pressure on the key inverts the dimming direction to the minimum value or to the corresponding level at the moment the key is released;
- ✧ If light intensity is at maximum by pressing the key there will be a decrease to the minimum value or to the corresponding level at the moment the key is released.

Total length of PUSH cables <20m. Factory dimming setting at 100%.



Note: Only use self-reset push button without indicator light.

Risk of short circuit. The self-reset button can only be linked between the Push-dim and the L(AC).

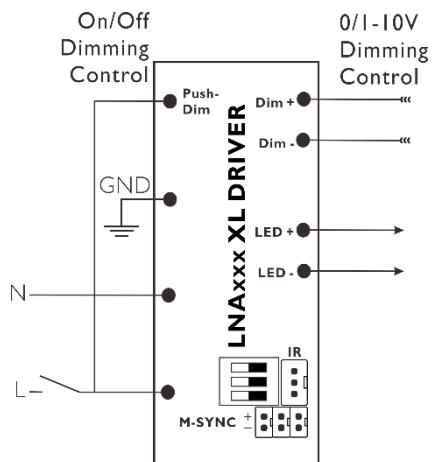
Do Not connect the self-reset button to the N(AC)

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➤ On/Off sectional dimming control



By pressing the push button for less than one second the LEDs turn on or off.
By pressing the push button for more than one second the light intensity of the LEDs is dimmed according to the following modalities:

- ✧ If the light intensity is not at maximum, by pressing the key there will be an increase of this to maximum or to the corresponding level at the moment the key is released;
- ✧ A further pressure on the key inverts the dimming direction to the minimum value or to the corresponding level at the moment the key is released;
- ✧ If light intensity is at maximum by pressing the key there will be a decrease to the minimum value or to the corresponding level at the moment the key is released.

Total length of PUSH cables <20m. Factory dimming setting at 100%.

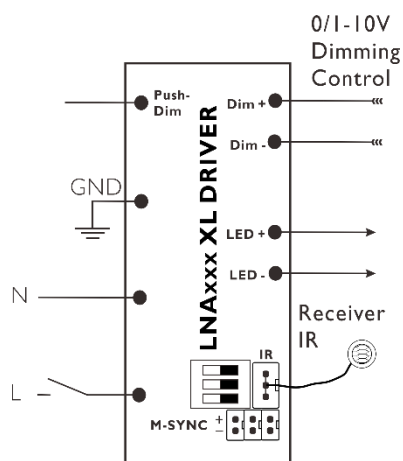


Note: Only use self-reset push button without indicator light.

Risk of short circuit. The self-reset button can only be linked between the Push-dim and the L(AC).

Do Not connect the self-reset button to the N(AC)

➤ IR 0-100% scenes dimming control



LNA series drive with an external infrared receiver; 6 scenes can be easily set up and call a quick scene, but also to be completed by 0-100% stepless infrared wireless dimming control.

Remote Accessories

| Name | Model | Article number |
|----------------|---------|----------------|
| Remote Control | DLR613S | 530613 |
| Receiver | IR01 | 530614 |



Remote Control
DLR613S



Receiver
IR01

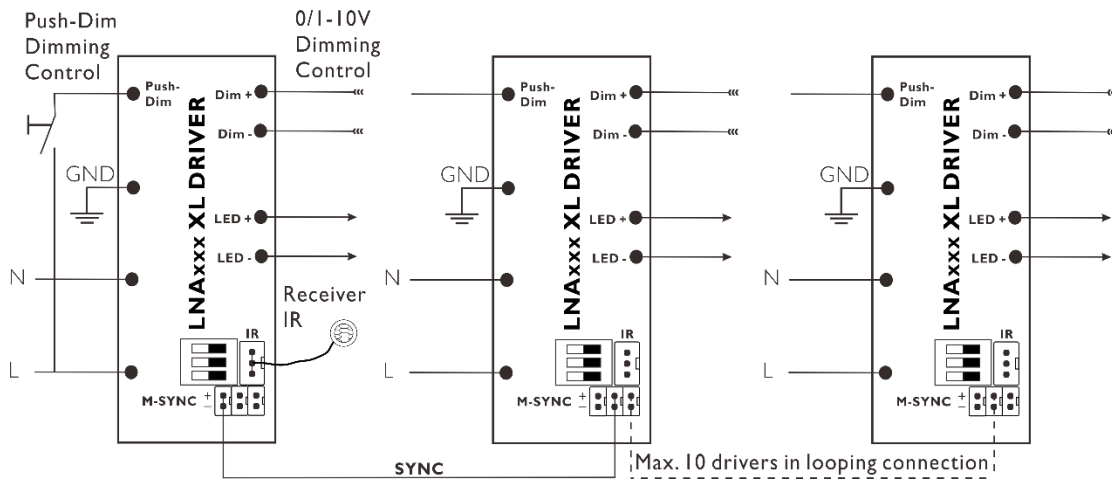
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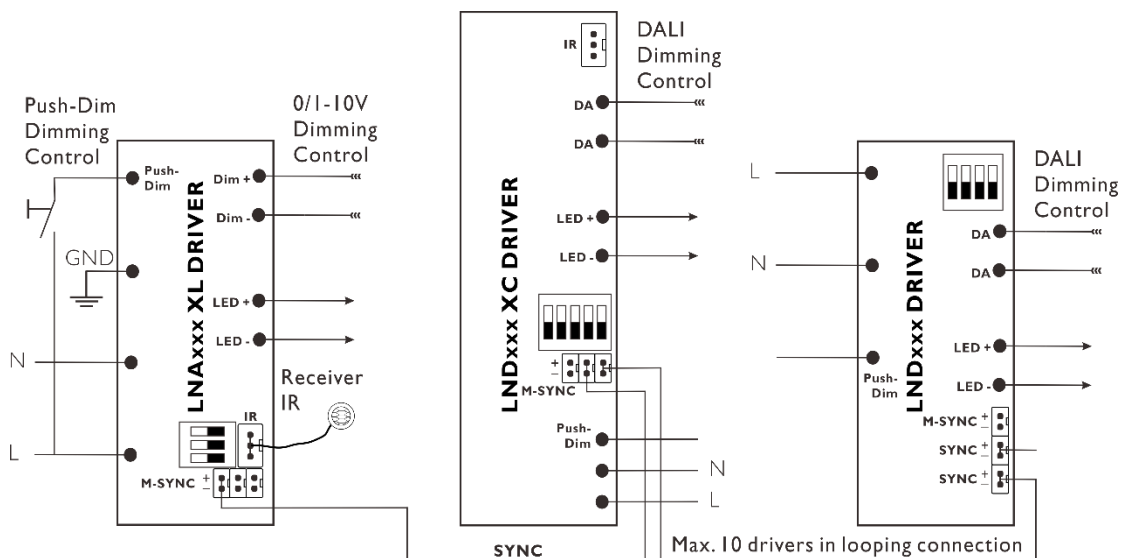
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➤ Synchronization dimming control

W1:



W2:



The lights driver by LNX units(slaves) can be dimmed synchronously through a LNX unit(master) directly controlled via IR remote control, 0/1-10V, 10V PWM, DALI, Push-dim, On/Off sectional dimming control function.

Wiring diagram as shown on the right. note the following:

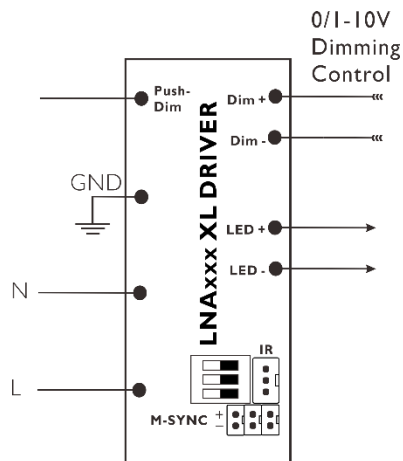
- ✧ According SYNC instructions on wiring housing wiring distinguish SYNC + and -;
- ✧ Max. number of the LNX units, 10 (1 master + 9 Slaves);
- ✧ Max. cable length between each units, 20m (based on a cable with cross-section of 0.15mm² - 0.3mm²);
- ✧ Don not connect dimming circuit to slaves.
- ✧ Please make sure all units are set to 100% dimming setting (factory default) before synchronizing.

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➤ 0/1-10V interface dimming control



DC 0/1-10V interface dimming function, output constant current level can be adjusted through output terminal by DC 0/1-10V or 10V PWM signal between dimming control interface + and -.

✧ 0/1-10V dimming function for output current adjustment (Typical)

| Dim-control Value | 0V | 1V | 2V | 3V | 4V | 5V |
|-------------------|-----|-----|-----|-----|------|------|
| Output Current | 0% | 10% | 20% | 30% | 40% | 50% |
| Dim-control Value | 6V | 7V | 8V | 9V | 10V | Open |
| Output Current | 60% | 70% | 80% | 90% | 100% | 100% |

✧ Each 0 / 1-10V LED dimming drivers will consume 0.5mA control terminal of the current.

✧ 10V PWM signal for output current adjustment (Typical):
Frequency range : 1KHz - 3KHz

| Duty Value | 0% | 10% | 20% | 30% | 40% | 50% |
|----------------|-----|-----|-----|-----|------|------|
| Output Current | 0% | 10% | 20% | 30% | 40% | 50% |
| Duty Value | 60% | 70% | 80% | 90% | 100% | 100% |
| Output Current | 60% | 70% | 80% | 90% | 100% | 100% |

0/1-10V Interface Lighting Controller



EID110EA



DRF02E



DRF01E



DRFK1



DALI RGBW



DRF CCTE



DBC410A



DRF02U



DRF CCTU

More 0/1-10V Lighting control modules and details , please browse www.easeic.com

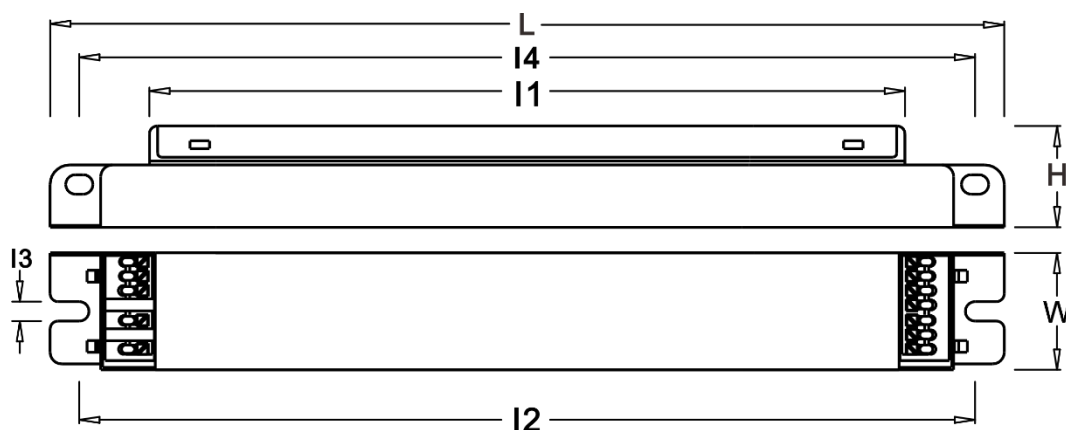
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Mechanical Specifications

Mechanical Drawing:



Dimensions

| | In. | mm |
|--------------------|------|-----|
| Case Length(L) | 11.0 | 280 |
| Case Width(W) | 1.2 | 30 |
| Case Height(H) | 1.0 | 26 |
| Mounting Holes(I1) | 8.7 | 222 |
| Mounting Holes(I2) | 10.6 | 270 |
| Mounting Holes(I3) | 0.2 | 5 |
| Mounting Holes(I4) | 10.6 | 270 |
| Overall Length | 11.0 | 280 |

Suggested max. number of the LNX units that can be connected to a MCB@230VAC

| MCB | B10 | B16 | C10 | C16 |
|-----------|-----|-----|-----|-----|
| LNAI27 AL | 13 | 20 | 22 | 32 |

Note: These calculated values are based on MCB S201 series manufactured by ABB

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