

Features

- High Efficiency (Up to 92.5%)
- Constant Current Output
- Compact Package Design
- 0-10V Dimming Control
- Lightning Protection
- All-Around Protection: OVP, SCP, OTP
- Waterproof (IP67)
- Class II, Double Insulation
- SELV Output



Description

The EUC-150SxxxDDA(SDA) series is a 150W, constant-current LED driver that operates from 90-305 Vac input with excellent power factor. It is created for many lighting applications including high bay, tunnel and roadway. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against over voltage, short circuit, and over temperature.

Models

| Output Current | Input Voltage Range(1) | Output Voltage Range | Max. Output Power | Typical Efficiency (2) | Power Factor | | Model Number |
|----------------|------------------------|----------------------|-------------------|------------------------|--------------|--------|------------------------------------|
| | | | | | 120Vac | 220Vac | |
| 700 mA | 90~305 Vac | 107~214 Vdc | 150 W | 92.5% | 0.99 | 0.95 | EUC-150S070DDA(SDA) |
| 1400 mA | 90~305 Vac | 53~107 Vdc | 150 W | 92.5% | 0.99 | 0.95 | EUC-150S140DDA(SDA) ⁽³⁾ |

- Notes:** (1) Certificated input Voltage range 100-240Vac.
 (2) Measured at 100% load and 220 Vac input.
 (3) SELV Output.

Input Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|----------------------------------|--------|------|----------------------|--|
| Input Voltage | 90 Vac | - | 305 Vac | |
| Input Frequency | 47 Hz | - | 63 Hz | |
| Leakage Current | - | - | 0.7 mA | IEC60598-1; 240Vac/ 60Hz |
| Input AC Current | - | - | 1.8 A | Measured at 100% load and 100Vac input. |
| | - | - | 0.9 A | Measured at 100% load and 220Vac input. |
| Inrush current | - | - | 75 A | At 220Vac input, 25 °C cold start, duration=1.7 ms, 10%Ipk-10%Ipk. |
| Inrush current(I ² t) | - | - | 3.5 A ² s | |
| PF | 0.90 | - | - | At 100-277Vac, 50-60Hz, 75%-100% load (112.5-150W) |
| THD | - | - | 20% | |

Output Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|--|----------------|----------------|----------------|--------------------------------------|
| Output Current Tolerance | -5%lo | - | 5%lo | 100% load |
| No-load Output Voltage EUC-150S070DDA(SDA) EUC-150S140DDA(SDA) | 218 V 112 V | 225 V 115 V | 236 V 118 V | |
| Output Current Ripple (pk-pk) | - | 10%lo | 15%lo | 100% load |
| Output Current Overshoot / Undershoot | - | - | 10% | 100% load |
| Line Regulation | - | - | ±1% | 100% load |
| Load Regulation | - | - | ±3% | |
| Turn-on Delay Time | - | 1.0 s | 2.0 s | Measured at 120Vac and 220Vac input. |
| Temperature Coefficient | - | 0.03%/°C | - | Case temperature = 0°C ~Tc max |

Note: All specifications are typical at 25°C unless stated otherwise.

General Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|--|--|----------------|--------|--|
| Efficiency at 120 Vac input: EUC-150S070DDA(SDA) EUC-150S140DDA(SDA) | 88.0% 88.0% | 90.0% 90.0% | - - | Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| Efficiency at 220 Vac input: EUC-150S070DDA(SDA) EUC-150S140DDA(SDA) | 90.5% 90.0% | 92.5% 92.0% | - - | Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| Efficiency at 277 Vac input: EUC-150S070DDA(SDA) EUC-150S140DDA(SDA) | 90.5% 90.5% | 92.5% 92.5% | - - | Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| MTBF | - | 383,000 Hours | - | Measured at 120Vac input, 80%Loadand 25°C ambient temperature(MIL-HDBK-217F) |
| Lifetime | - | 120,000 Hours | - | Measured at 220Vac input, 80%Loadand 60°C case temperature; See life time vs. Tc curve for the details |
| Operating Case Temperature for Safety Tc_s | -40°C | - | +90°C | |
| Operating Case Temperature for Warranty Tc_w | -40°C | - | +75°C | |
| Storage Temperature | -40°C | - | +90°C | Humidity: 5%RH to 100%RH |
| Dimensions Inches (L x W x H) Millimeters (L x W xH) | 7.83 x 2.66 x 1.56 199 x 67.5 x39.5 | | | With mounting ear 8.90 x 2.66 x 1.56 226 x 67.5 x39.5 |
| Net Weight | - | 1000 g | - | |

Note: All specifications are typical at 25°C unless stated otherwise.

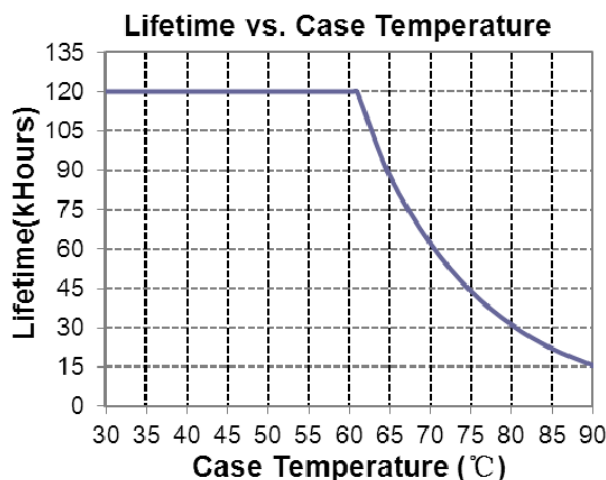
Safety & EMC Compliance

| Safety Category | Standard |
|-------------------------|--|
| CE | EN 61347-1 ⁽¹⁾ , EN61347-2-13 |
| Performance | Standard |
| ENEC | EN 62384 |
| EMI Standards | Notes |
| EN 55015 ⁽²⁾ | Conducted emission Test & Radiated emission Test |
| EN 61000-3-2 | Harmonic Current Emissions |
| EN 61000-3-3 | Voltage Fluctuations & Flicker |
| EMS Standards | Notes |
| EN 61000-4-2 | Electrostatic Discharge(ESD): 8kV air discharge, 4kV contact discharge |
| EN 61000-4-3 | Radio-Frequency Electromagnetic Field Susceptibility Test-RS |
| EN 61000-4-4 | Electrical Fast Transient/Burst-EFT |
| EN 61000-4-5 | Surge Immunity Test: AC Power Line: line to line 4 kV |
| EN 61000-4-6 | Conducted Radio Frequency Disturbances Test-CS |
| EN 61000-4-8 | Power Frequency Magnetic Field Test |
| EN 61000-4-11 | Voltage Dips |
| EN 61547 | Electromagnetic Immunity Requirements Applies To Lighting Equipment |

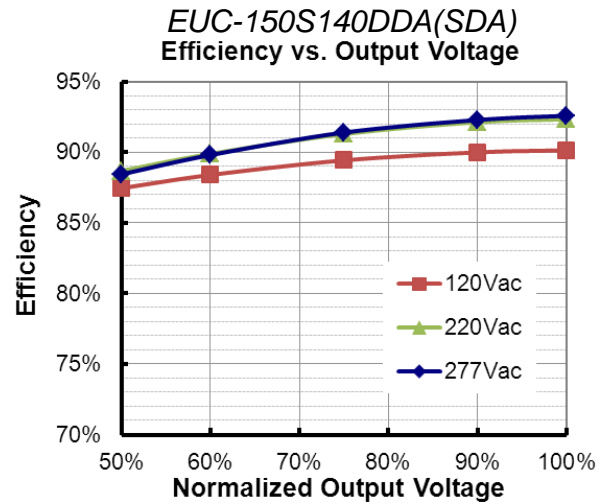
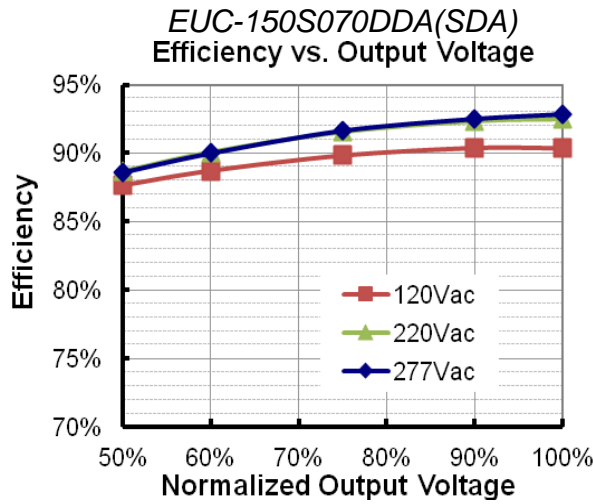
Note: (1) This product meets all requirements for EN 61347-1, Annex O (Double insulation). However, the allowed leakage current could cause a mild shock if the case is touched while energized.

(2) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

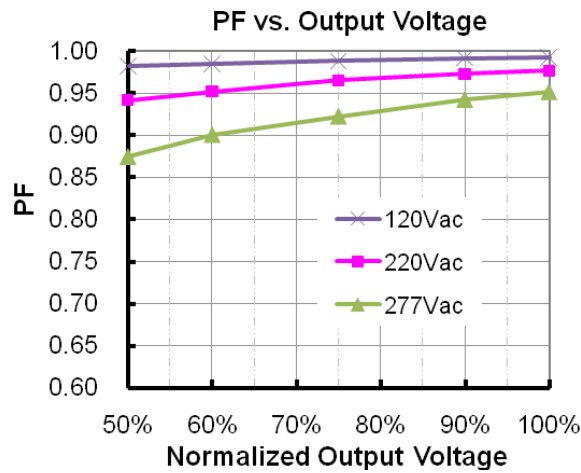
Lifetime vs. Case Temperature Curve



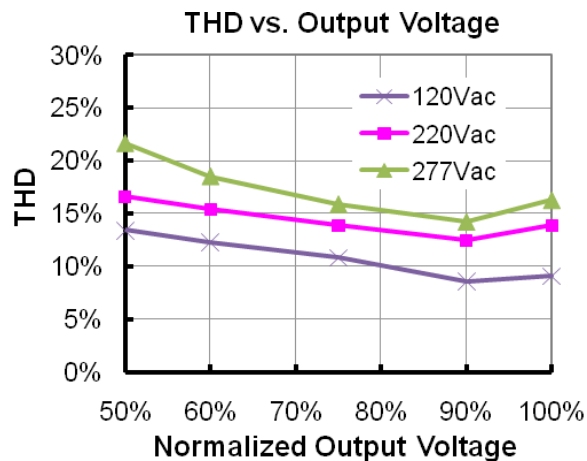
Efficiency vs. Load



Power Factor Characteristics



Total Harmonic Distortion



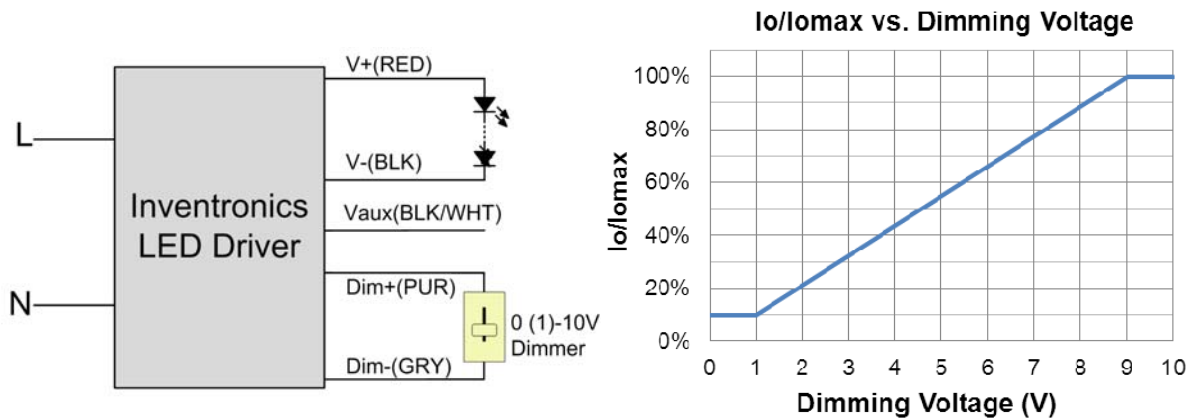
Protection Functions

| Parameter | Notes |
|-----------------------------|--|
| Short Circuit Protection | No damage should occur due to any output operating under a short circuit condition. The power supply will self-recover once the fault condition is removed. |
| Over Temperature Protection | Decrease output current mode. When the case temperature reaches $120 \pm 10^\circ\text{C}$, the output current decreases to $50\%I_o$ until the case temperature reaches 75°C . |

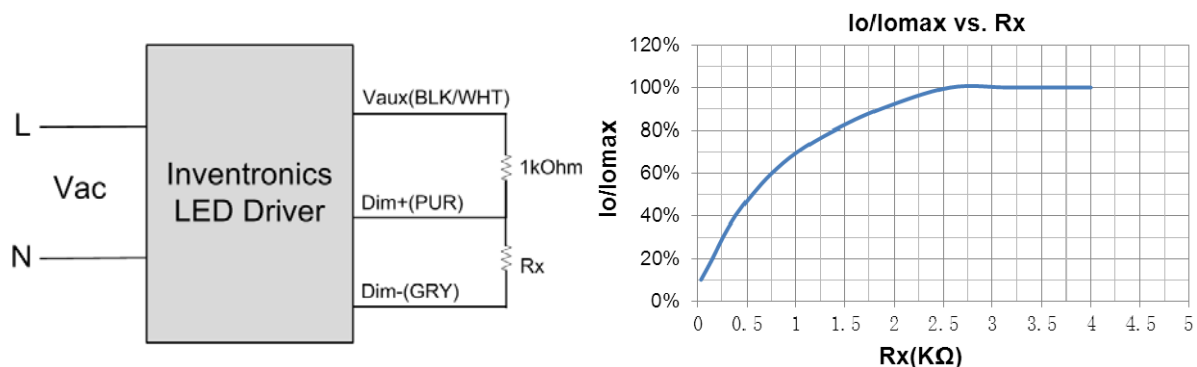
Dimming Control

| Parameter | Min. | Typ. | Max. | Notes |
|---|-------------------|-------------------|-------------------|-------|
| 12V output voltage (V_{aux}) | 10V | 12 V | 13 V | |
| V_{aux} source current | - | - | 20 mA | |
| Absolute maximum voltage Range on the 0~10V input pin | -20 V | - | 20 V | |
| Source current on 0~10V input pin | 100 μA | 140 μA | 180 μA | |

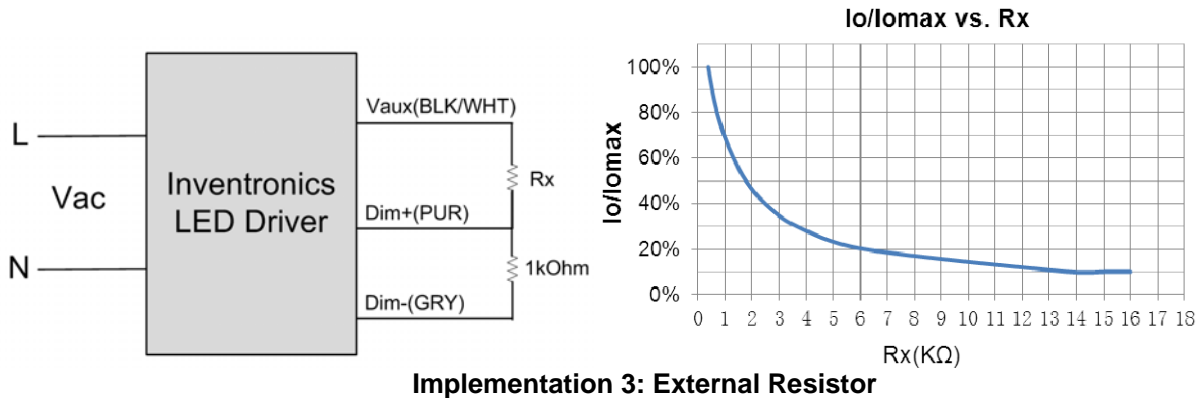
The dimmer control is operated from an input signal of 0-10 Vdc. Recommended implementations are provided below.



Implementation 1: DC Input



Implementation 2: External Resistor

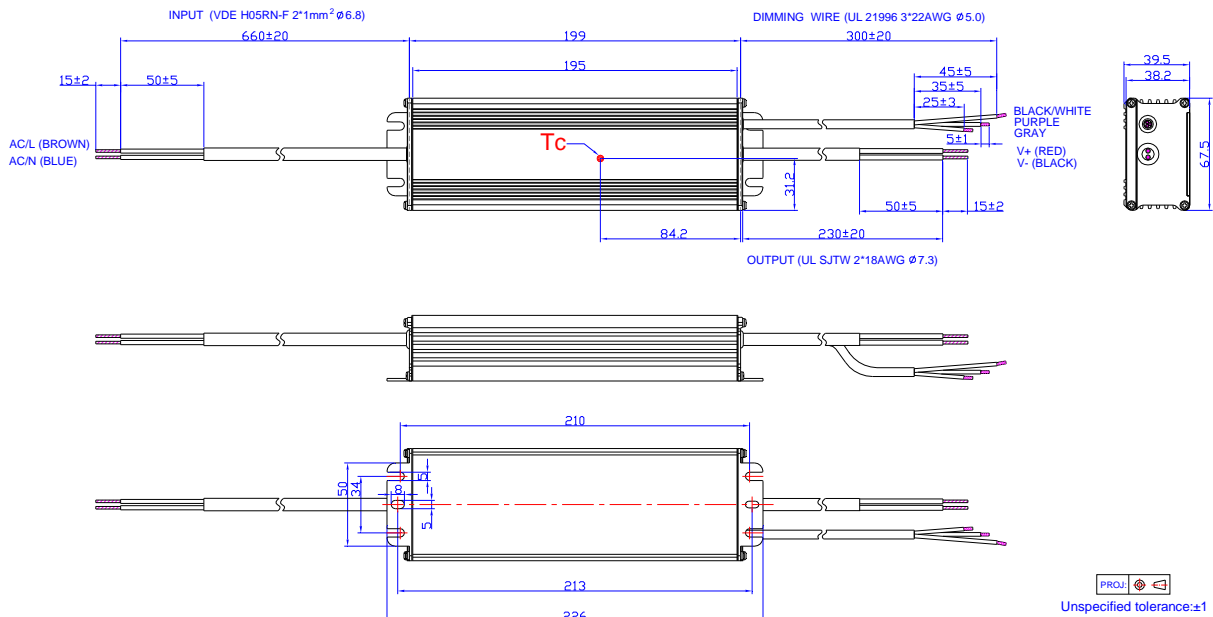


Notes:

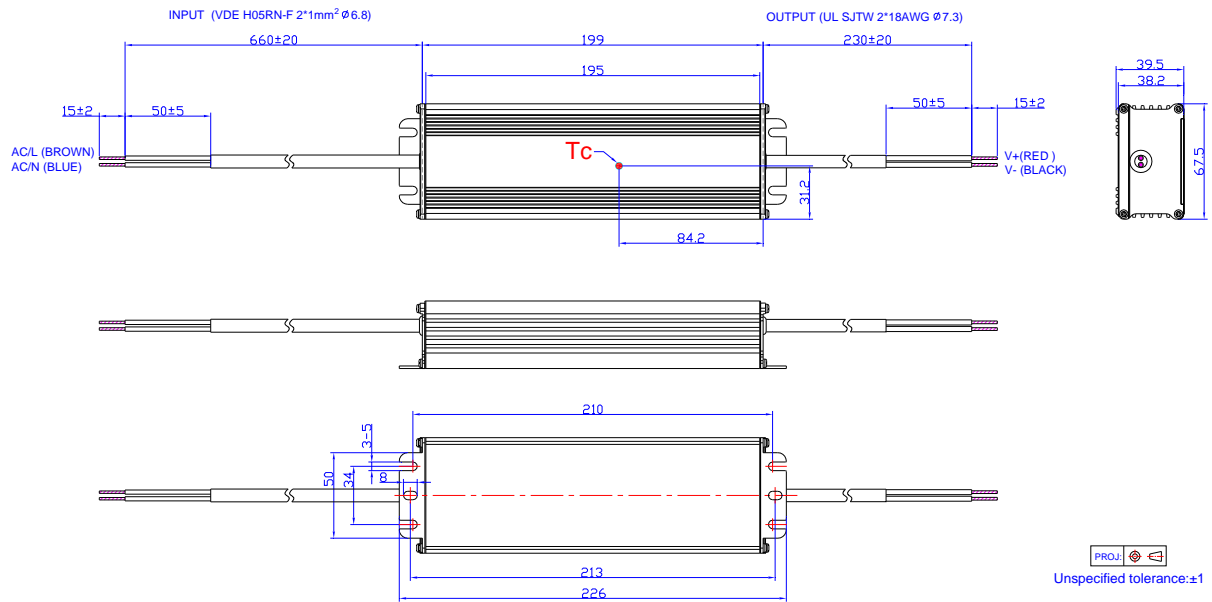
1. The dimmer can also be replaced by an active 0-10V voltage source signal or passive components like resistors and zener.
2. The dimming signal is allowed to be less than 1V, when it is between 0 and 1V, the output level is 10%.
3. Do NOT connect the Gray Wire (dim-) and Black Wire (V-) together.
4. The dimming section is not isolated from output.
5. If 0-10V dimming is not used, Dim + can be either open or connected to Vaux.

Mechanical Outline

EUC-150SxxxDDA



EUC-150SxxxSDA



Note: Must be installed inside the light fixture.

RoHS Compliance

Our products comply with the European Directive 2011/65/EC, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

| Change Date | Rev. | Description of Change | | |
|--------------------|------|--|--|--|
| | | Item | From | To |
| 2013-04-24 | A | Datasheets Release | / | / |
| 2014-06-30 | B | 1400 mA Model | / | Added |
| | | Description | / | Updated |
| 2015-01-06 | C | Format | / | Updated |
| | | Leakage Current | At 240Vac 60Hz input | IEC60598-1; 240Vac/ 60Hz |
| | | No Load Power Dissipation | / | Delete |
| | | Case Temperature | Case Temperature | Operating Case Temperature for Safety Tc_s |
| | | Operating Case Temperature for Warranty Tc_w | / | Added |
| | | Mechanical Outline | / | Updated |
| 2018-04-03 | D | Description | / | Updated |
| | | Models | Notes: | Updated |
| | | Input Specifications | PF/THD | Updated |
| | | Output Specifications | No-load Output Voltage | Updated |
| | | Output Specifications | Temperature Coefficient | Updated |
| | | General Specifications | Efficiency at 120 Vac input: | Updated |
| | | General Specifications | Efficiency at 220 Vac input: | Updated |
| | | General Specifications | Efficiency at 277 Vac input: | Updated |
| | | General Specifications | Operating Case Temperature for Safety Tc_s | Updated |
| | | General Specifications | Operating Case Temperature for Warranty Tc_w | Updated |
| | | General Specifications | Storage Temperature | Updated |
| | | General Specifications | Dimensions | Updated |
| | | Environmental Specifications | / | Deleted |
| | | Safety & EMC Compliance | / | Updated |
| | | Derating Curve | / | Deleted |
| Mechanical Outline | / | Updated | | |