## Features

- High Efficiency (Up to 90%)
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- 0-10V Dimming Control
- Input Surge Protection: DM 6 kV
- All-Around Protection: SCP, OTP, OVP
- IP67
- SELV Output
- Class II with Double isolation (回)
- Suitable for Independent Use

## Description

The *EUC-075S070DD(SD)* series is a 75W, Class Ⅱ constant-current LED driver that operates from 90-305 Vac input with excellent power factor. It is created for many lighting applications including low bay, tunnel and street, etc. 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 input surge, output 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 (3) |
|---|---|---|---|---|---|---|---|
| | | | | | 120Vac | 220Vac | |
| 700 mA | 90~305 Vac | 54~108 Vdc | 75 W | 90% | 0.99 | 0.95 | EUC-075S070DD(SD) |

**Notes:** (1) Certificated input Voltage range100-240Vac.
(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 | - | - | 0.9 A | Measured at 100% load and 100Vac input. |
| | - | - | 0.42 A | Measured at 100% load and 220Vac input. |
| Inrush current | - | - | 60 A | At 220Vac input, 25℃ cold start, duration=1 ms, 10%Ipk-10%Ipk. |
| Inrush current($I^2t$) | - | - | 1.2 $A^2s$ | |
| PF | 0.90 | - | - | At 100Vac-277Vac, 50-60Hz,75%-100% Load(56.25W-75W) |
| THD | - | - | 20% | |

## Output Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Output Current Tolerance | -5% | - | 5% | |
| Total Output Current Ripple (pk-pk) | - | 10%Io | 15%Io | At 100% load condition, 20 MHz BW |
| Output Current Ripple at < 200 Hz (pk-pk) | - | 2%Io | - | At 100% load condition. Only this component of ripple is associated with visible flicker. |
| Startup Overshoot Current | - | 8% | 10% | At 100% load condition. |
| No Load Output Voltage | - | - | 116 V | |
| Line Regulation | - | - | ±1% | |
| Load Regulation | - | - | ±3% | |
| Turn-on Delay Time | - | 0.8 s | 2.0 s | Measured at 120Vac input, 75%-100% Load |
| | - | 0.4 s | 1.0 s | Measured at 220Vac input, 75%-100% Load |
| Temperature Coefficient | - | 0.03%/°C | - | Case temperature = 0°C ~Tc max |

## 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 | Latch mode. When case temperature is higher than the default, OTP will be triggered. The power supply shall return to normal operation only after the power is turn-on again. |

## General Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Efficiency at 120 Vac input: | 86% | 88% | - | 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: | 88% | 90% | - | Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| No Load Power Dissipation | - | - | 5 W | |
| MTBF | - | 380,000 Hours | - | Measured at 120Vac input, 80%Load and 25°C ambient temperature(MIL-HDBK-217F) |
| Lifetime | - | 118,000 Hours | - | Measured at 120Vac input, 80%Load and 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 | - | +70°C | |
| Storage Temperature | -40°C | - | +90°C | Humidity: 5%RH to 100%RH |

## General Specifications (Continued)

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Dimensions<br>Inches (L × W × H)<br>Millimeters (L × W ×H) | | 5.91 × 2.66 × 1.44<br>150 × 67.5 ×36.5 | | With mounting ear<br>6.97 × 2.66 × 1.44<br>177 × 67.5 ×36.5 |
| Net Weight | - | 780 g | - | |

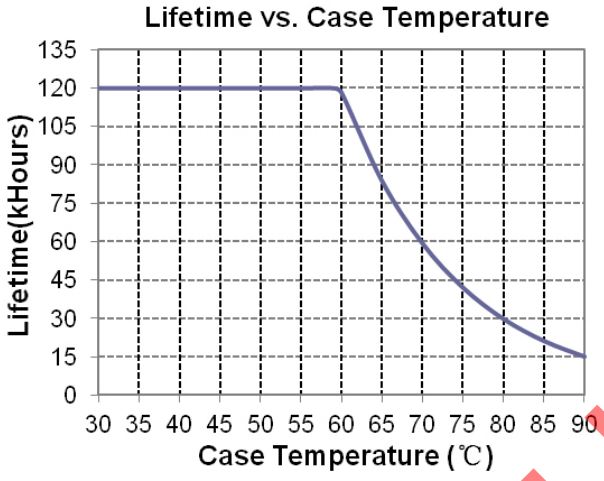
## Safety &EMC Compliance

| Safety Category | Standard |
|---|---|
| ENEC & CE | EN 61347-1(1), EN 61347-2-13 |
| CB | IEC 61347-1, IEC 61347-2-13 |
| KS | KS C 7655 |
| **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: Differential Mode 6 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 |

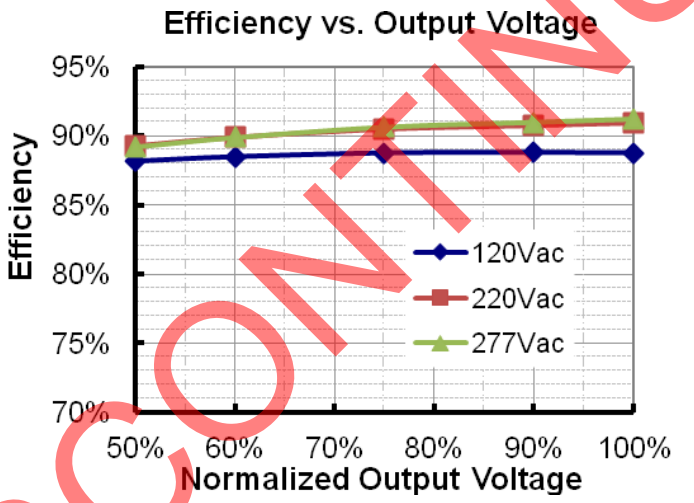


**Note:** (1) This product meets all requirements for EN=61347-1, A2:2013 Annex O (Double insulation). When the driver is energized, the allowed leakage current is perceptible but harmless.
(2) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

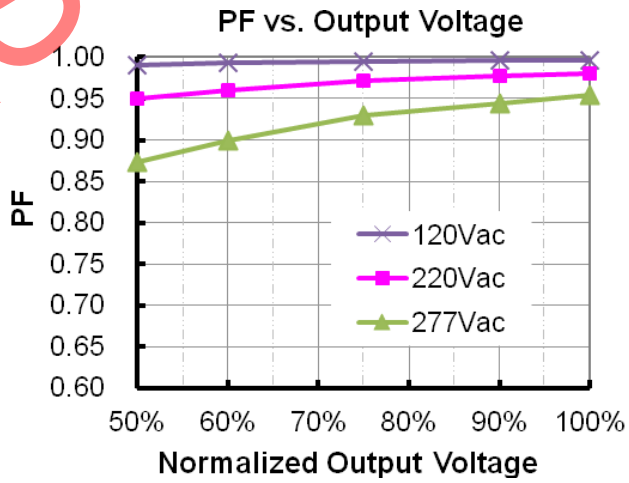
## Lifetime vs. Case Temperature Curve



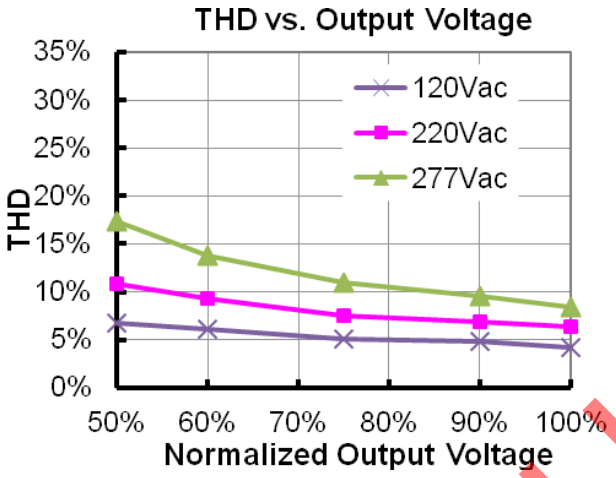

## Efficiency vs. Load




## Power Factor Characteristics

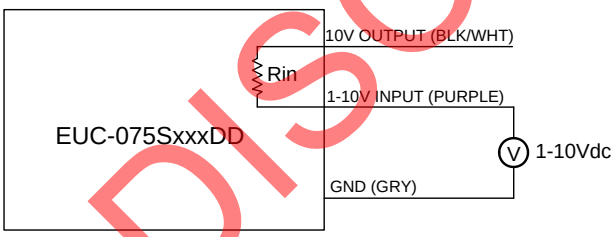


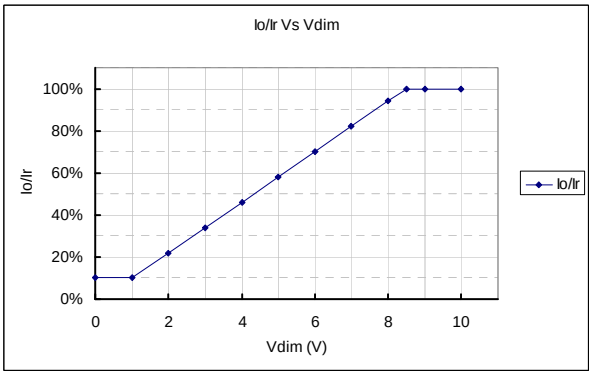
## Total Harmonic Distortion



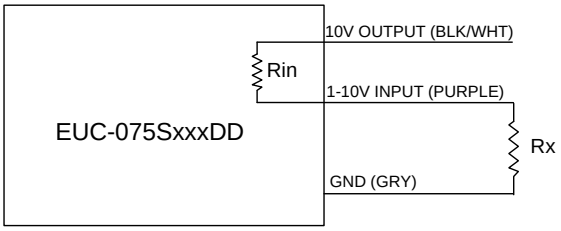

## Dimming

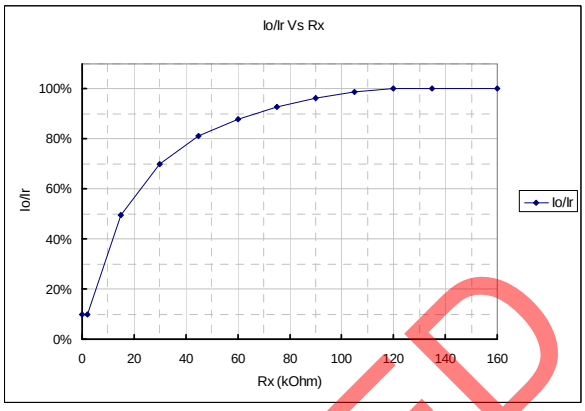
| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| 10V output voltage | 9.8 V | 10 V | 10.2 V | |
| 10V output source current | 0 mA | - | 10 mA | |
| Absolute maximum voltage on the 1~10V input pin | -2 V | - | 12 V | |
| Source current on 1~10V input pin | 0 mA | - | 0.5 mA | |
| Value of Rin ( the resistor inside the LED driver which locate between the 1-10V input and 10V output pin) | 19.8 K | 20 K | 20.2 K | |




**Implementation 1: DC input**



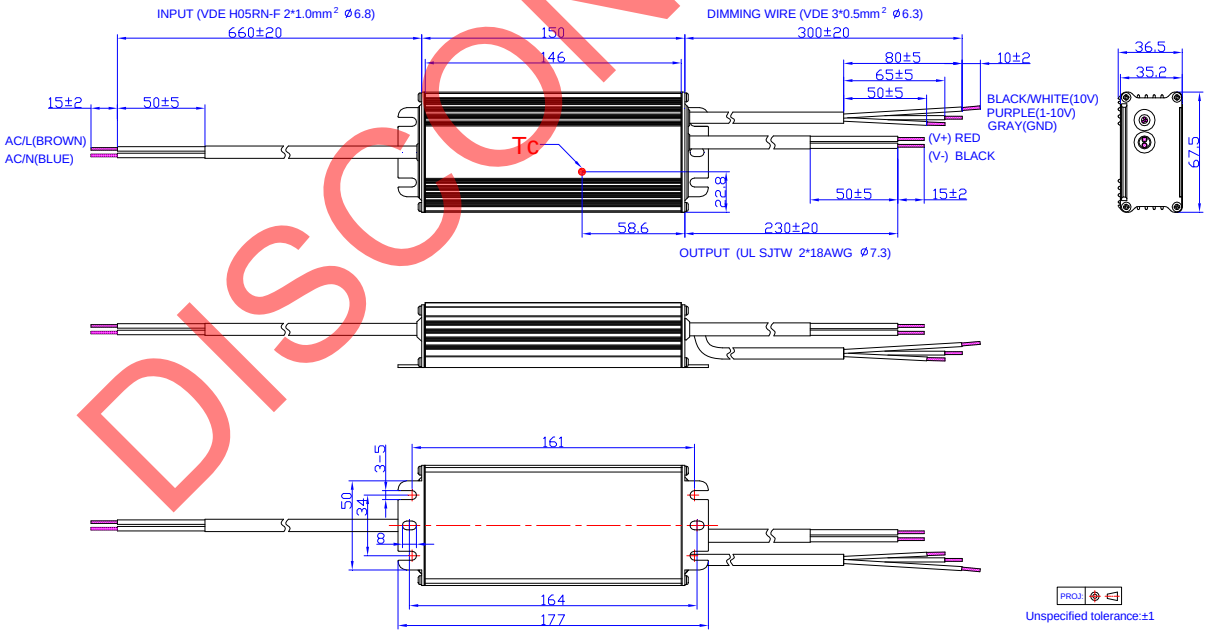

**Implementation 2: External resistor**

**Notes:**

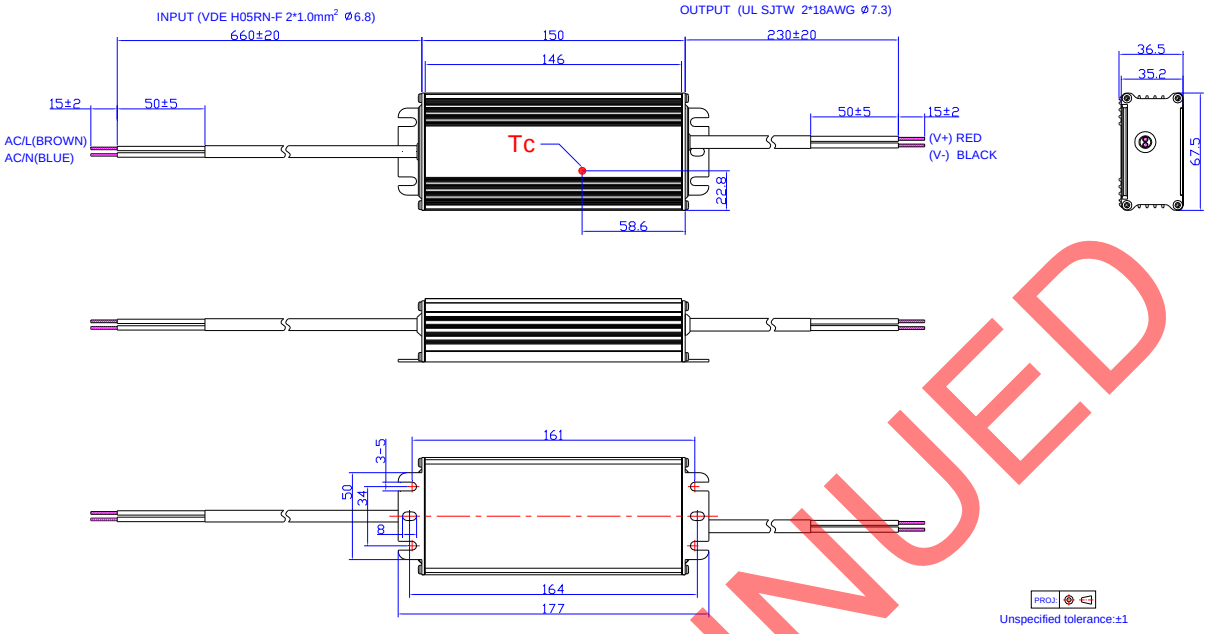
1. If the dimming function is not used, please let the dimming leads floated.
2. Io is actual output current and Ir is rated current without dimming control.
3. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 50% of the max. output voltage for any given model).
4. If the output voltage is maintained above 50% of the maximum output voltage, the dimming control may be operated over the entire 1-10V range with output current varying from 100% down to practically 10%.
5. The dimming signal is allowed to be less than 1V, however, when it for 0-1V, the output current can maintain about 10%Ir. When it for 8.5-10V, the output current can maintain about 100%Ir.
6. Do not connect the GND of dimming to the output; otherwise, the LED driver cannot work normally.

## Mechanical Outline

*EUC-075SxxxDD*



*EUC-075SxxxSD*




**Note:** Must Be Installed Inside the Light Fixture

## RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

## Revision History

| Change Date | Rev. | Description of Change | | |
|---|---|---|---|---|
| | | Item | From | To |
| 2013-11-27 | A | Datasheets Release | / | / |
| 2014-06-30 | B | Description | / | Updated |
| 2016-03-28 | C | Format | / | Updated |
| | | Features | / | Updated |
| | | Description | / | Updated |
| | | Models | Notes | Updated |
| | | Output Specifications | Output Current Ripple (pk-pk) | Total Output Current Ripple (pk-pk) |
| | | Output Specifications | Output Current Ripple at < 200 Hz (pk-pk) | Added |
| | | Output Specifications | Output Current Overshoot / Undershoot | Startup Overshoot Current |
| | | General Specifications | Life Time | Lifetime |
| | | General Specifications | Case Temperature | Operating Case Temperature for Safety Tc_s |
| | | General Specifications | Operating Case Temperature for Warranty Tc_w | Added |
| | | General Specifications | Storage Temperature | Added |
| | | General Specifications | With mounting ear | Updated |
| | | General Specifications | Net Weight | Updated |
| | | Environmental Specifications | / | Delete |
| | | Safety &EMC Compliance | KS | Added |
| | | With pull-down resistor: (The model number has a suffix -0040) | / | Delete |
| | | Mechanical Outline | / | Updated |
| 2019-08-26 | D | ENEC Logo | / | Updated |
| | | Features | Input surge protection | Updated |
| | | Description | / | Updated |
| | | Input Specifications(PF/THD) | 50-60Hz | Added |
| | | Safety &EMC Compliance | CB | Added |
| | | Safety &EMC Compliance | KS | Updated |
| | | Safety &EMC Compliance | EN 61000-4-5 | Updated |
| | | Mechanical Outline | / | Updated |
| | | RoHS Compliance | / | Updated |

## Revision History

| Change Date | Rev. | Description of Change | | |
|---|---|---|---|---|
| | | Item | From | To |
| 2020-01-15 | E | Features | Waterproof (IP67) | IP67 |
| | | Derating Curve | / | Deleted |
| | | Format | Page footer | Updated |