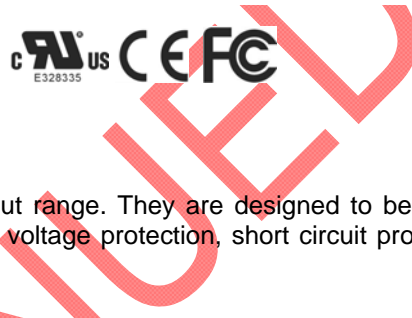


## Features

- High Efficiency (Up to 88%)
- Active Power Factor Correction (Typical 0.92)
- Constant Current Output
- Lightning Protection
- Waterproof (IP67)
- Dimming Control
- All-Round Protection: OVP, SCP, OLP
- Comply With UL8750 & EN61347 Safety Regulations
- Comply With FCC Part15 Class B



## Description

The EUC-035SxxxDT(ST) Series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. Features include Dimming control, over voltage protection, short circuit protection and over load protection.

## Models

| Output Current | Input Voltage Range | Output Voltage Range | Max. Output Power | Typical Efficiency (1) | Power Factor |        | Model Number (2, 3)   |
|----------------|---------------------|----------------------|-------------------|------------------------|--------------|--------|-----------------------|
|                |                     |                      |                   |                        | 110Vac       | 220Vac |                       |
| 2900 mA        | 90 ~ 305 Vac        | 4 ~12 Vdc            | 35 W              | 82%                    | 0.98         | 0.92   | EUC-035S290DT(ST)(6)  |
| 2450 mA        | 90 ~ 305 Vac        | 5 ~15 Vdc            | 35 W              | 83%                    | 0.98         | 0.92   | EUC-035S245DT(ST)(6)  |
| 2100 mA        | 90 ~ 305 Vac        | 6 ~18 Vdc            | 35 W              | 84%                    | 0.98         | 0.92   | EUC-035S210DT(ST)(6)  |
| 1750 mA        | 90 ~ 305 Vac        | 7 ~20 Vdc            | 35 W              | 84%                    | 0.98         | 0.92   | EUC-035S175DT(ST)(6)  |
| 1400 mA        | 90 ~ 305 Vac        | 8 ~24 Vdc            | 35 W              | 85%                    | 0.98         | 0.92   | EUC-035S140DT(ST)(6)  |
| 1050 mA        | 90 ~ 305 Vac        | 11~33 Vdc            | 35 W              | 86%                    | 0.98         | 0.92   | EUC-035S105DT(ST)(6)  |
| 700 mA         | 90 ~ 305 Vac        | 17~50 Vdc            | 35 W              | 86%                    | 0.98         | 0.92   | EUC-035S070DT(ST)(5)☆ |
| 450 mA         | 90 ~ 305 Vac        | 26~78 Vdc            | 35 W              | 87%                    | 0.98         | 0.92   | EUC-035S045DT(ST)(4)  |
| 350 mA         | 90 ~ 305 Vac        | 33~100 Vdc           | 35 W              | 88%                    | 0.98         | 0.92   | EUC-035S035DT(ST)(4)  |

- Notes:**
- (1) Measured at full load and 220 Vac input.
  - (2) The DT suffix may be changed to ST to omit the dimming function and remove the three wires associated with that function.
  - (3) A suffix -xxxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.
  - (4) Non-Class 2 output (USR & CNR).
  - (5) Class 2 output (USR), Non-Class 2 output (CNR).
  - (6) Class 2 output (USR & CNR).
  - (7) ☆: Popular model.

## Input Specifications

| Parameter       | Min.  | Typ. | Max.   | Notes                |
|-----------------|-------|------|--------|----------------------|
| Input Voltage   | 90 V  | -    | 305 V  |                      |
| Input Frequency | 47 Hz | -    | 63 Hz  |                      |
| Leakage Current | -     | -    | 0.5 mA | At 277Vac 60Hz input |

Specifications are subject to changes without notice.

## Input Specifications (Continued)

| Parameter        | Min. | Typ. | Max.   | Notes                                    |
|------------------|------|------|--------|--|
| Input AC Current | -    | -    | 0.49 A | Measured at full load and 100 Vac input. |
|                  | -    | -    | 0.25 A | Measured at full load and 220 Vac input. |
| Inrush Current   | -    | -    | 60 A   | At 230Vac input 25°C Cold Start          |

## Output Specifications

| Parameter                | Min. | Typ.  | Max.  | Notes                     |
|--------------------------|------|-------|-------|---------------------------|
| Output Current Tolerance | -5%  | -     | 5%    |                           |
| Current Ripple           | -    | -     | 50%   |                           |
| No Load Output Voltage   |      |       |       |                           |
| $I_o = 2900$ mA          | -    | -     | 17 V  |                           |
| $I_o = 2450$ mA          | -    | -     | 20 V  |                           |
| $I_o = 2100$ mA          | -    | -     | 24 V  |                           |
| $I_o = 1750$ mA          | -    | -     | 26 V  |                           |
| $I_o = 1400$ mA          | -    | -     | 30 V  |                           |
| $I_o = 1050$ mA          | -    | -     | 39 V  |                           |
| $I_o = 700$ mA           | -    | -     | 56 V  |                           |
| $I_o = 450$ mA           | -    | -     | 83 V  |                           |
| $I_o = 350$ mA           | -    | -     | 106 V |                           |
| Line Regulation          | -    | -     | 3%    |                           |
| Load Regulation          | -    | -     | 5%    |                           |
| Turn-on Delay Time       | -    | 2.5 s | 3.0 s | Measured at 110Vac input. |
|                          | -    | 1.5 s | 2.0 s | Measured at 220Vac input. |

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

## Protection Functions

| Parameter                | Min.   | Typ.       | Max.  | Notes   |
|--------------------------|--|------------|-------|---|
| Over Voltage Protection  |  |            |       |   |
| $I_o = 2900$ mA          | 16 V   | 17 V       | 18 V  | Hiccup mode. The power supply shall be self-recovery when the fault condition is removed. |
| $I_o = 2450$ mA          | 19 V   | 20 V       | 21 V  |   |
| $I_o = 2100$ mA          | 23V  | 24 V       | 25 V  |   |
| $I_o = 1750$ mA          | 25 V   | 26 V       | 27 V  |   |
| $I_o = 1400$ mA          | 35 V   | 30 V       | 32 V  |   |
| $I_o = 1050$ mA          | 38 V   | 40 V       | 42 V  |   |
| $I_o = 700$ mA           | 55 V   | 57 V       | 59 V  |   |
| $I_o = 450$ mA           | 83 V   | 85 V       | 87 V  |   |
| $I_o = 350$ mA           | 108 V  | 110 V      | 112 V |   |
| Over Load Protection     | -  | 1.25 Vomax | -     | Hiccup mode. The power supply shall be self-recovery when the fault condition is removed. |
| Short Circuit Protection | No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed. |            |       |   |

Specifications are subject to changes without notice.

## General Specifications

| Parameter   | Min.  | Typ.  | Max.                                      | Notes  |
|---|---|---|---|--|
| Efficiency<br>I <sub>o</sub> = 2900 mA<br>I <sub>o</sub> = 2450 mA<br>I <sub>o</sub> = 2100 mA<br>I <sub>o</sub> = 1750 mA<br>I <sub>o</sub> = 1400 mA<br>I <sub>o</sub> = 1050 mA<br>I <sub>o</sub> = 700 mA<br>I <sub>o</sub> = 450 mA<br>I <sub>o</sub> = 350 mA | 80%<br>81%<br>81%<br>81%<br>83%<br>85%<br>85%<br>86%<br>87% | 81%<br>82%<br>82%<br>82%<br>84%<br>86%<br>86%<br>87%<br>88% | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | Measured at full load and 110 Vac input.                                       |
| Efficiency<br>I <sub>o</sub> = 2900 mA<br>I <sub>o</sub> = 2450 mA<br>I <sub>o</sub> = 2100 mA<br>I <sub>o</sub> = 1750 mA<br>I <sub>o</sub> = 1400 mA<br>I <sub>o</sub> = 1050 mA<br>I <sub>o</sub> = 700 mA<br>I <sub>o</sub> = 450 mA<br>I <sub>o</sub> = 350 mA | 81%<br>82%<br>83%<br>83%<br>84%<br>85%<br>85%<br>86%<br>87% | 82%<br>83%<br>84%<br>84%<br>85%<br>86%<br>86%<br>87%<br>88% | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | Measured at full load and 220 Vac input.                                       |
| No Load Power Dissipation   |   |   | 6 W                                       |  |
| MTBF  | 541,000 hours   |   |   | Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F) |
| Life Time   | 87,000 hours  |   |   | Measured at 110Vac input, 80%Load and 45°C ambient temperature                 |
| Case Temperature  |   |   | 85°C                                      | 2900 mA: 77°C  |
| Dimensions<br>Inches (L x W x H)<br>Millimeters (L x W x H)   |   | 6.77 x 1.67 x 1.36<br>172 x 42.5 x 34.5                     |   |  |
| Net Weight  | -   | 480 g   | -   |  |

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

## Environmental Specifications

| Parameter             | Min.   | Typ. | Max.   | Notes  |
|-----------------------|--------|------|--------|--|
| Operating Temperature | -40 °C | -    | +55 °C | Humidity: 10% RH to 100% RH<br>See Derating Curve for more details |
| Storage Temperature   | -40 °C | -    | +85 °C | Humidity: 5% RH to 100% RH   |

## Safety & EMC Compliance

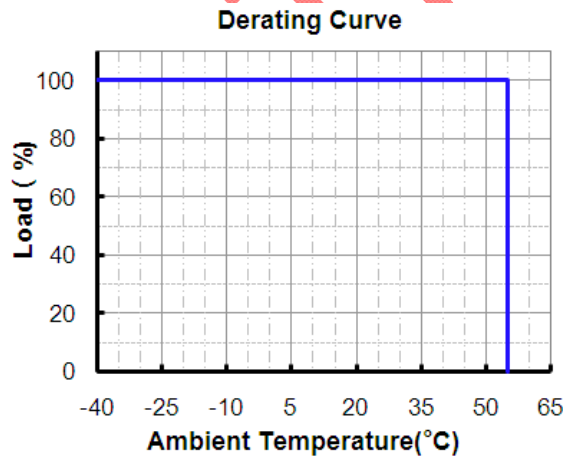
| Safety Category | Standard   |
|-----------------|--|
| CUL             | UL8750, UL935, UL1012, UL1310 Class 2,<br>CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2 |
| CE              | EN 61347-1, EN61347-2-13   |
| EMI Standards   | Notes  |
| EN 55015        | Conducted emission Test & Radiated emission Test   |
| EN 61000-3-2    | Harmonic current emissions   |

Specifications are subject to changes without notice.

## Safety & EMC Compliance (Continued)

| EMI Standards | Notes   |
|---------------|---|
| EN 61000-3-3  | Voltage fluctuations & flicker  |
| FCC           | FCC Part 15 Class B, ANSI C63.4: 2009.                                    |
| EMS Standards | Notes   |
| EN 61000-4-2  | Electrostatic Discharge (ESD): 8 Kv air discharge, 4 Kv 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 2 Kv, line to earth 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       |

## Derating Curve

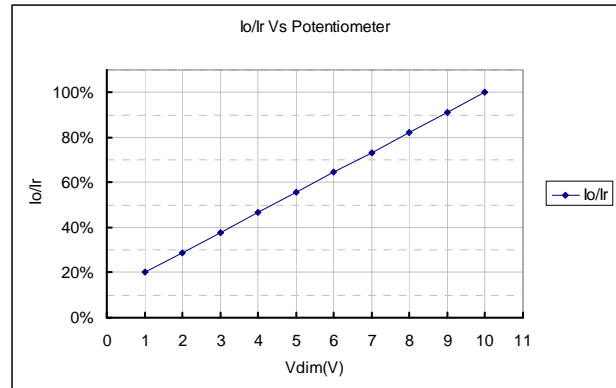
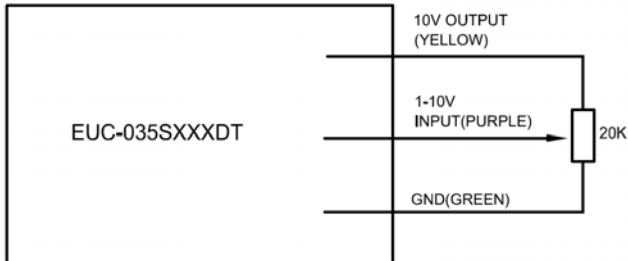


## Dimming Control (On secondary side)

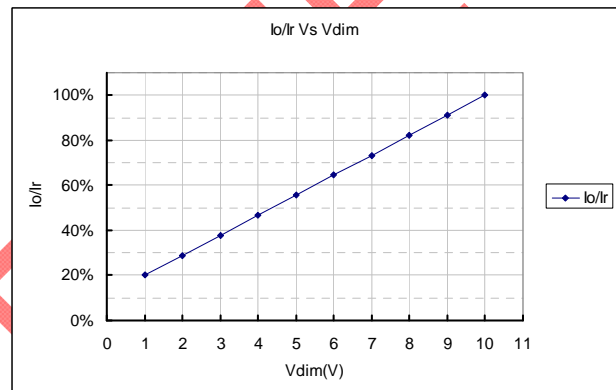
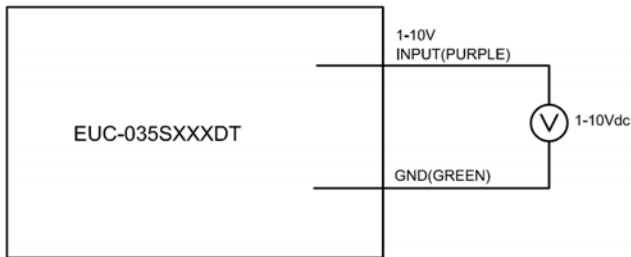
| Parameter                                       | Min.   | Typ. | Max.   | Notes |
|---|--------|------|--------|-------|
| 10V output voltage                              | 9.8 V  | 10 V | 10.2 V |       |
| 10V output source current                       | -10 Ma | -    | 2 Ma   |       |
| Absolute maximum voltage on the 1~10V input pin | -2 V   | -    | 15 V   |       |
| Source current on 1~10V input pin               | 0 Ma   | -    | 1 Ma   |       |

The dimmer control may be operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Two recommended implementations are provided below.

Specifications are subject to changes without notice.



Implementation 1: Potentiometer control



Implementation 2: DC input

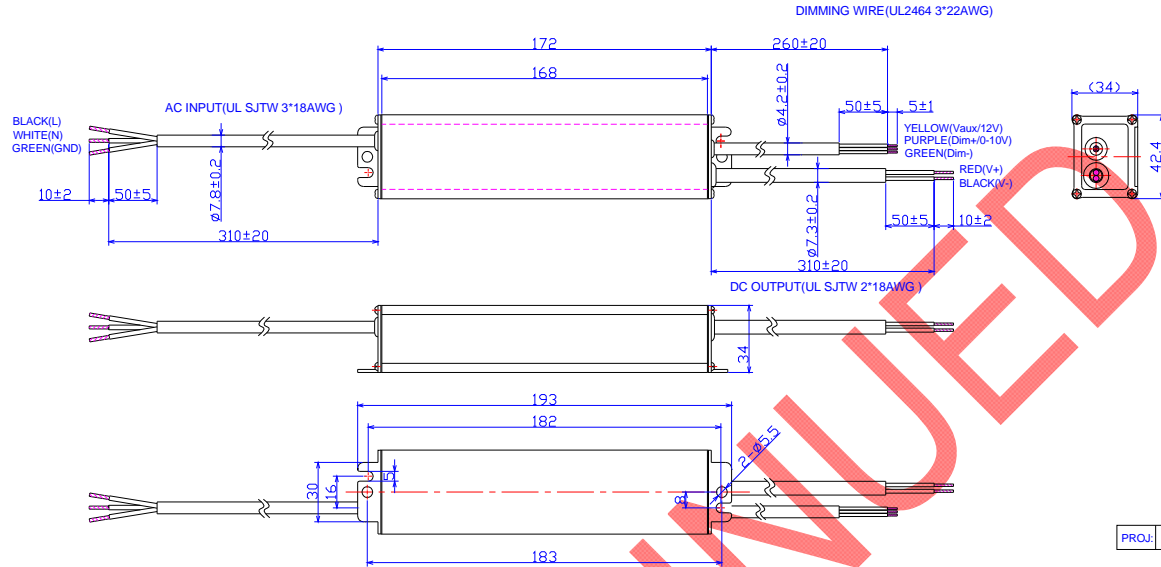
**Notes:**

1. The dimming voltage can be tuned down to less than 1V, and the output current will be decreased to about 20%Ir; but the connected LEDs may flicker. Keeping dimming voltage greater than 1V in application is strongly recommended.
2. Do not connect the GND of dimming to the output; otherwise, the LED driver can not work normally.

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## Mechanical Outline

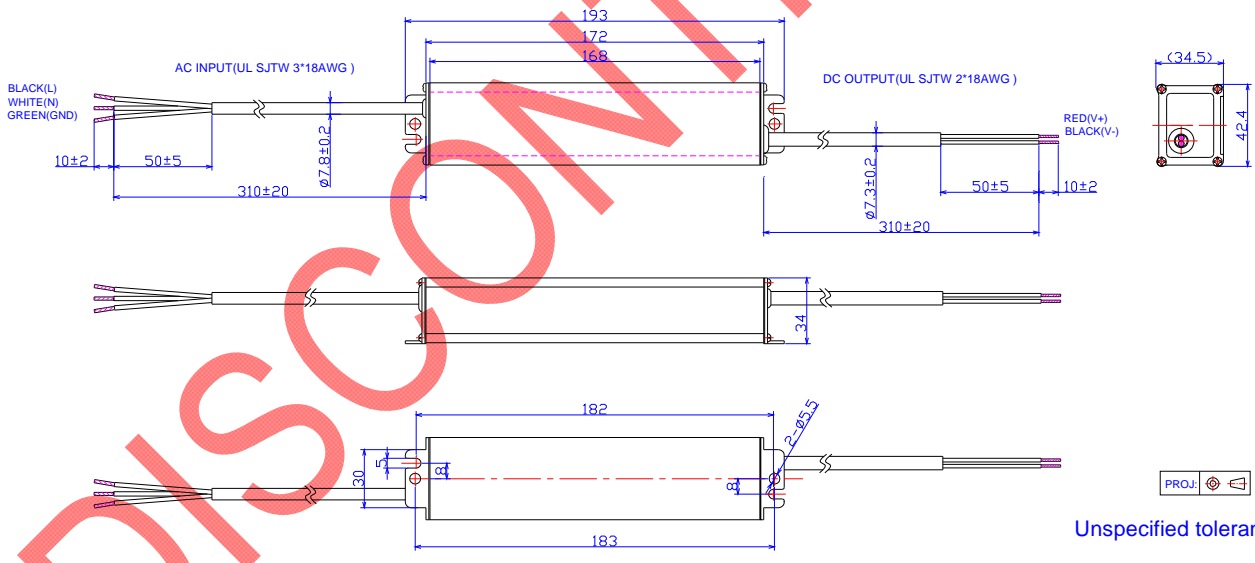
### EUC-035SxxxDT



PROJ.

Unspecified tolerance: ± 1

### EUC-035SxxxST



PROJ.

Unspecified tolerance: ± 1

## RoHS Compliance

Our products comply with the European Directive 2002/95/EC, calling for the elimination of lead and other hazardous substances from electronic products.

Specifications are subject to changes without notice.

## Revision History

| Change Date | Rev. | Description of Change   |  |   |
|-------------|------|---|--|---|
|             |      | Item  | From   | To  |
| 2009-12-08  | A    | Modify the PF value, no-load power dissipation, dimming range   |  |   |
| 2010-01-12  | B    | Modify the derating curve and mechanical outline  |  |   |
| 2010-04-12  | C    | Change the Power Factor<br>110Vac   | 0.99   | 0.98  |
|             |      | Add Leakage Current in Input Specifications   | /  | Max. 0.5 Ma At 277Vac 50Hz input  |
|             |      | Change Inrush Current   | 20A  | 60A   |
|             |      | Change Line Regulation  | 2%   | 3%  |
|             |      | Add No Load Output Voltage  | /  | The max. value of every model.  |
|             |      | Change Ripple and Noise   | Max. 25% V <sub>O</sub>  | The max. value of every model.  |
|             |      | Change Turn-on Delay Time<br>110Vac<br>220Vac   | Typ. 1.7S<br>Max. 2.0S<br>0.7S 1.0S  | Typ. 2.5S<br>Max. 3.0S<br>1.5S 2.0S   |
|             |      | Delete Output Overshoot / Undershoot  | Max. 10%   | /   |
|             |      | Change Over Load Protection   | Typ.: 1.25P <sub>o</sub>   | Typ.: 1.25*V <sub>max</sub>   |
|             |      | Delete part of the notes in Operating Temperature   | Derating: 2% per °C from 55°C to 70°C.   | /   |
|             |      | Change the Max. Ambient Temperature in Derating Curve   | +70 °C   | +55 °C  |
|             |      | Change linearity of dimming curve   | /  | /   |
|             |      | Change the notes in Dimming Control   | /  | /   |
| 2010-10-14  | D    | Change the notes in Dimming Control   |  |   |
| 2011-1-10   | E    | Change popular models   | /  | /   |
|             |      | Change No Load Output Voltage<br>I <sub>o</sub> = 350 Ma  | Max. 104V  | Max. 106V   |
|             |      | Change Over Voltage Protection<br>I <sub>o</sub> = 2900 mA<br>I <sub>o</sub> = 2450 mA<br>I <sub>o</sub> = 2100 mA<br>I <sub>o</sub> = 1750 mA<br>I <sub>o</sub> = 1400 mA<br>I <sub>o</sub> = 1050 mA<br>I <sub>o</sub> = 700 mA<br>I <sub>o</sub> = 450 mA<br>I <sub>o</sub> = 350 mA | Min. 13V<br>Typ. 15V<br>Max. 17V<br>16V 18V 20V<br>19V 21V 23V<br>23V 25V 27V<br>25V 26V 27V<br>30V 32V 34V<br>39V 41V 43V<br>57V 58V 59V<br>95V 97V 99V<br>118V 120V 122V | Min. 16V<br>Typ. 17V<br>Max. 18V<br>19V 20V 21V<br>23V 24V 25V<br>25V 26V 27V<br>35V 30V 32V<br>38V 40V 42V<br>55V 57V 59V<br>83V 85V 87V<br>108V 110V 112V |
|             |      | Add FCC Part15 Class B  | /  | FCC Part 15 Class B, ANSI C63.4: 2009.  |
|             |      | 2012-7-17   | F  | Max Case Temperature  |
| 2012-7-30   | G    | Min Operating Temperature   | -35°C  | -40°C   |
|             |      | Derating Curve  | /  | Updated   |
| 2013-02-22  | J    | Dimming Notes   | /  | Updated   |

Specifications are subject to changes without notice.



DISCONTINUED