

Features

- Ultra High Efficiency (Up to 91%)
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- Lightning Protection
- All-Round Protection: SCP, OTP, OVP
- Waterproof (IP67)
- Comply With UL8750 & EN61347 Safety Regulations



Description

The EUC-100SxxxDT Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 4.2 A of output current and a maximum output voltage of 286 V for 100 W maximum output power. They are designed to be highly efficient and highly reliable. The standard features include dimming control, lightning protection, over voltage protection, short circuit protection, and over temperature protection.

Models

| Output Current | Input Voltage | Max. Output Voltage | Max. Output Power | Typical Efficiency (1) | Power Factor | | Model Number (2) |
|----------------|---------------|---------------------|-------------------|------------------------|--------------|--------|------------------|
| | | | | | 110Vac | 220Vac | |
| 350 mA | 90 ~ 305 Vac | 286 Vdc | 100 W | 91.0% | 0.99 | 0.96 | EUC-100S035DT |
| 450 mA | 90 ~ 305 Vac | 222 Vdc | 100 W | 91.0% | 0.99 | 0.96 | EUC-100S045DT☆ |
| 700 mA | 90 ~ 305 Vac | 143 Vdc | 100 W | 90.5% | 0.99 | 0.96 | EUC-100S070DT☆ |
| 1050 mA | 90 ~ 305 Vac | 95 Vdc | 100 W | 90.5% | 0.99 | 0.96 | EUC-100S105DT |
| 1400 mA | 90 ~ 305 Vac | 72 Vdc | 100 W | 90.5% | 0.99 | 0.96 | EUC-100S140DT |
| 1750 mA | 90 ~ 305 Vac | 57 Vdc | 100 W | 90.5% | 0.99 | 0.96 | EUC-100S175DT☆ |
| 2100 mA | 90 ~ 305 Vac | 48 Vdc | 100 W | 90.5% | 0.99 | 0.96 | EUC-100S210DT |
| 2450 mA | 90 ~ 305 Vac | 41 Vdc | 100 W | 90.5% | 0.99 | 0.96 | EUC-100S245DT |
| 2800 mA | 90 ~ 305 Vac | 36 Vdc | 100 W | 90.0% | 0.99 | 0.96 | EUC-100S280DT |
| 3150 mA | 90 ~ 305 Vac | 32 Vdc | 100 W | 90.0% | 0.99 | 0.96 | EUC-100S315DT |
| 3570 mA | 90 ~ 305 Vac | 28 Vdc | 100 W | 90.0% | 0.99 | 0.96 | EUC-100S357DT |
| 4200 mA | 90 ~ 305 Vac | 24 Vdc | 100 W | 90.0% | 0.99 | 0.96 | EUC-100S420DT |

- Notes:** (1) Measured at full load and 220 Vac input.
 (2) A suffix -xxxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.
 (3) ☆: Popular model.

Specifications are subject to changes without notice.

Input Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|------------------|-------|------|-------|--|
| Input Voltage | 90 V | - | 305 V | |
| Input Frequency | 47 Hz | - | 63 Hz | |
| Leakage Current | - | - | 1 mA | At 277Vac 50Hz input |
| Input AC Current | - | - | 1.3 A | Measured at full load and 100 Vac input. |
| | - | - | 0.6 A | Measured at full load and 220 Vac input. |
| Inrush current | - | - | 65 A | At 230Vac input 25°C Cold start |

Output Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|--------------------------|---------|---------|----------|--|
| Output Current Range | | | | Without dimming |
| $I_o = 350 \text{ mA}$ | 332 mA | 350 mA | 368 mA | |
| $I_o = 450 \text{ mA}$ | 427 mA | 450 mA | 473 mA | |
| $I_o = 700 \text{ mA}$ | 665 mA | 700 mA | 735 mA | |
| $I_o = 1050 \text{ mA}$ | 997 mA | 1050 mA | 1102 mA | |
| $I_o = 1400 \text{ mA}$ | 1330 mA | 1400 mA | 1470 mA | |
| $I_o = 1750 \text{ mA}$ | 1662 mA | 1750 mA | 1837 mA | |
| $I_o = 2100 \text{ mA}$ | 1995 mA | 2100 mA | 2205 mA | |
| $I_o = 2450 \text{ mA}$ | 2327 mA | 2450 mA | 2572 mA | |
| $I_o = 2800 \text{ mA}$ | 2660 mA | 2800 mA | 2940 mA | |
| $I_o = 3150 \text{ mA}$ | 2992 mA | 3150 mA | 3307 mA | |
| $I_o = 3570 \text{ mA}$ | 3391 mA | 3570 mA | 3748 mA | |
| $I_o = 4200 \text{ mA}$ | 3990 mA | 4200 mA | 4410 mA | |
| Output Voltage Range | | | | |
| $I_o = 350 \text{ mA}$ | 172 V | - | 286 V | |
| $I_o = 450 \text{ mA}$ | 132 V | - | 222 V | |
| $I_o = 700 \text{ mA}$ | 86 V | - | 143 V | |
| $I_o = 1050 \text{ mA}$ | 57 V | - | 95 V | |
| $I_o = 1400 \text{ mA}$ | 43 V | - | 71 V | |
| $I_o = 1750 \text{ mA}$ | 34 V | - | 57 V | |
| $I_o = 2100 \text{ mA}$ | 29 V | - | 48 V | |
| $I_o = 2450 \text{ mA}$ | 25 V | - | 41 V | |
| $I_o = 2800 \text{ mA}$ | 22 V | - | 36 V | |
| $I_o = 3150 \text{ mA}$ | 19 V | - | 32 V | |
| $I_o = 3570 \text{ mA}$ | 17 V | - | 28 V | |
| $I_o = 4200 \text{ mA}$ | 14 V | - | 24 V | |
| Ripple and Noise (pk-pk) | - | - | 3% V_o | Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor. |
| Line Regulation | - | - | 1% | |
| Load Regulation | - | - | 3% | |
| Turn-on Delay Time | - | 0.6 S | 1.0 S | Measured at 110Vac input. |
| | - | 0.6 S | 1.0 S | Measured at 220Vac input. |

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

Specifications are subject to changes without notice.

Protection Functions

| Parameter | Min. | Typ. | Max. | Notes |
|-----------------------------|--|--------|-------|--|
| Over Voltage Protection | | | | |
| I _o = 350 mA | 343 V | 372 V | 401 V | Latch mode. The power supply shall return to normal operation only after the power is turn-on again. |
| I _o = 450 mA | 266 V | 289 V | 311 V | |
| I _o = 700 mA | 171 V | 186 V | 200 V | |
| I _o = 1050 mA | 114 V | 124 V | 133 V | |
| I _o = 1400 mA | 86 V | 94 V | 101 V | |
| I _o = 1750 mA | 68 V | 74 V | 80 V | |
| I _o = 2100 mA | 57 V | 63 V | 67 V | |
| I _o = 2450 mA | 49 V | 53 V | 58 V | |
| I _o = 2800 mA | 43 V | 47 V | 51 V | |
| I _o = 3150 mA | 38 V | 42 V | 45 V | |
| I _o = 3570 mA | 33 V | 36 V | 40 V | |
| I _o = 4200 mA | 28V | 31 V | 34 V | |
| Over Temperature Protection | - | 110 °C | - | Maximum temperature of components inside the case. |
| 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. | | | |

General Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|--------------------------|--------------------|--------|------|---|
| Efficiency | | | | |
| I _o = 350 mA | 88.0% | 89.0% | - | Measured at full load, 110Vac input, 25°C ambient temperature, after the unit is thermally stabilized. |
| I _o = 450 mA | 88.0% | 89.0% | - | |
| I _o = 700 mA | 87.5% | 88.5% | - | |
| I _o = 1050 mA | 87.5% | 88.5% | - | |
| I _o = 1400 mA | 87.5% | 88.5% | - | |
| I _o = 1750 mA | 87.5% | 88.5% | - | |
| I _o = 2100 mA | 87.5% | 88.5% | - | |
| I _o = 2450 mA | 87.5% | 88.5% | - | |
| I _o = 2800 mA | 87.0% | 88.0% | - | |
| I _o = 3150 mA | 87.0% | 88.0% | - | |
| I _o = 3570 mA | 87.0% | 88.0% | - | |
| I _o = 4200 mA | 87.0% | 88.0% | - | |
| Efficiency | | | | |
| I _o = 350 mA | 90.0% | 91.0% | - | Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. |
| I _o = 450 mA | 90.0% | 91.0% | - | |
| I _o = 700 mA | 89.5% | 90.5% | - | |
| I _o = 1050 mA | 89.5% | 90.5% | - | |
| I _o = 1400 mA | 89.5% | 90.5% | - | |
| I _o = 1750 mA | 89.5% | 90.5% | - | |
| I _o = 2100 mA | 89.5% | 90.5% | - | |
| I _o = 2450 mA | 89.5% | 90.5% | - | |
| I _o = 2800 mA | 89.0% | 90.0% | - | |
| I _o = 3150 mA | 89.0% | 90.0% | - | |
| I _o = 3570 mA | 89.0% | 90.0% | - | |
| I _o = 4200 mA | 89.0% | 90.0% | - | |
| MTBF | 350,000 hours | | | For 1050 mA output model, measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F). |
| Life Time | 100,000 hours | | | For 1050 mA output model, measured at 220Vac input, 80%Load and 45°C ambient temperature |
| Dimensions | | | | |
| Inches (L x W x H) | 7.64 x 2.66 x 1.46 | | | |
| Millimeters (L x W x H) | 194 x 67.5 x 37 | | | |
| Net Weight | - | 1000 g | - | |

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

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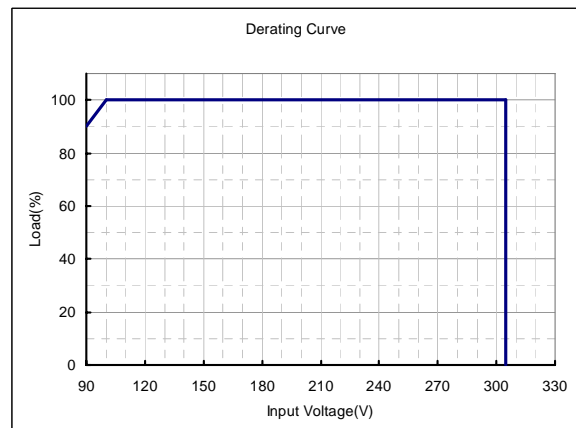
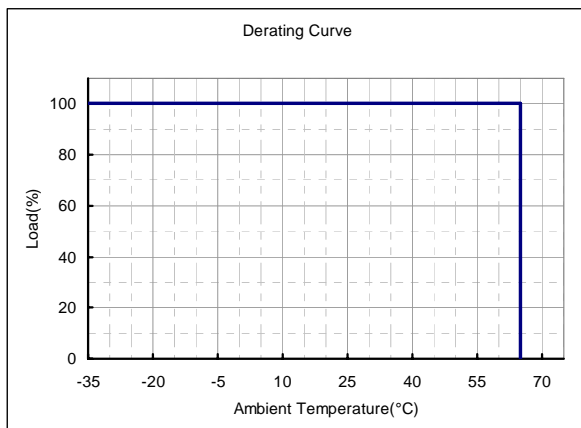
Environmental Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|-----------------------|--------|------|--------|-----------------------------|
| Operating Temperature | -35 °C | - | +65 °C | Humidity: 10% RH to 100% RH |
| Storage Temperature | -40 °C | - | +85 °C | Humidity: 5% RH to 100% RH |

Safety & EMC Compliance

| Safety Category | Country | Standard |
|-----------------|--------------|--|
| CUL | USA & Canada | UL8750 Compliance to UL1012 UL935, CAN/CSA-C22.2 No. 0, CSA-C22.2 No. 107.1, CSA-C22.2 No. 250.0 |
| CE | Europe | EN 61347-1, EN61347-2-13 |
| EMI Standards | | Notes |
| EN 55015 | | Conducted emission Test & Radiated emission Test with 6 dB margin |
| EMS Standards | | Notes |
| EN 61000-3-2 | | Harmonic current emissions |
| EN 61000-3-3 | | Voltage fluctuations & flicker |
| 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

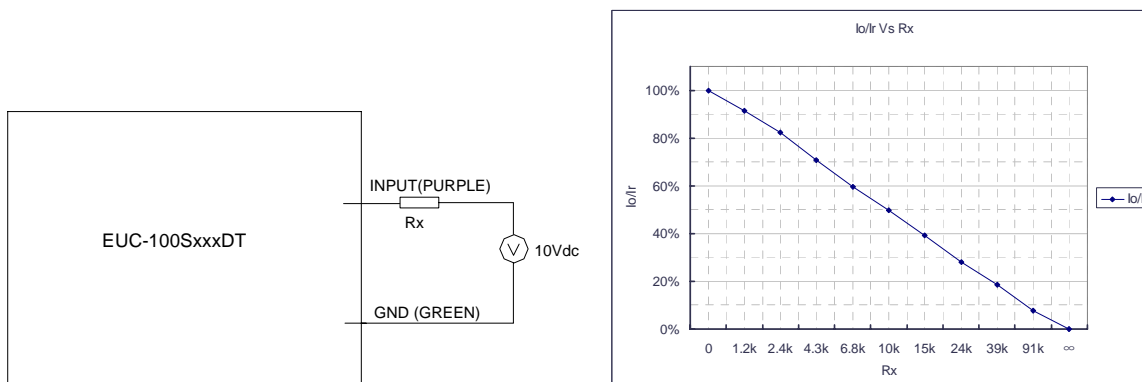
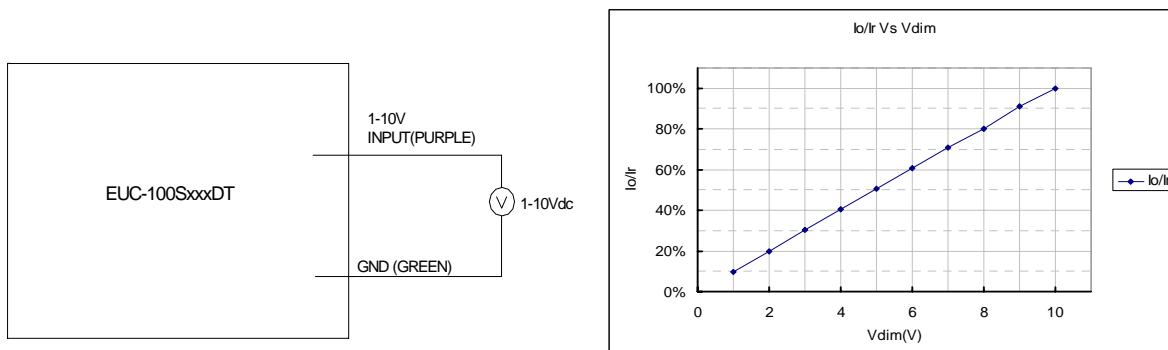
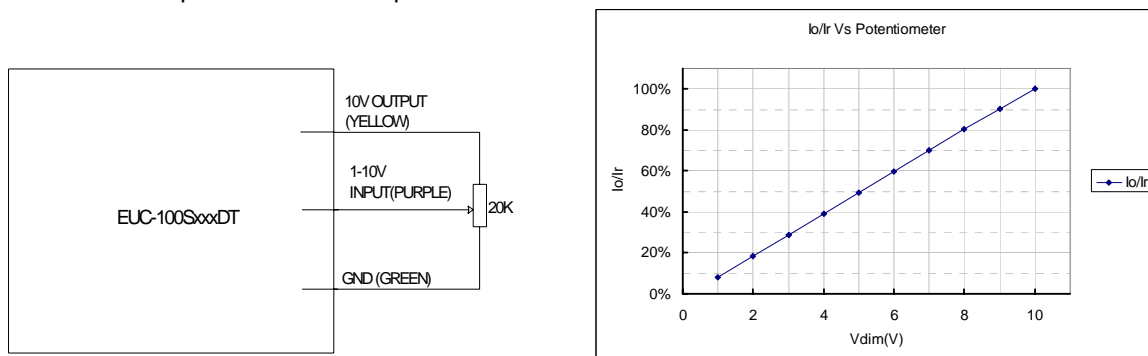


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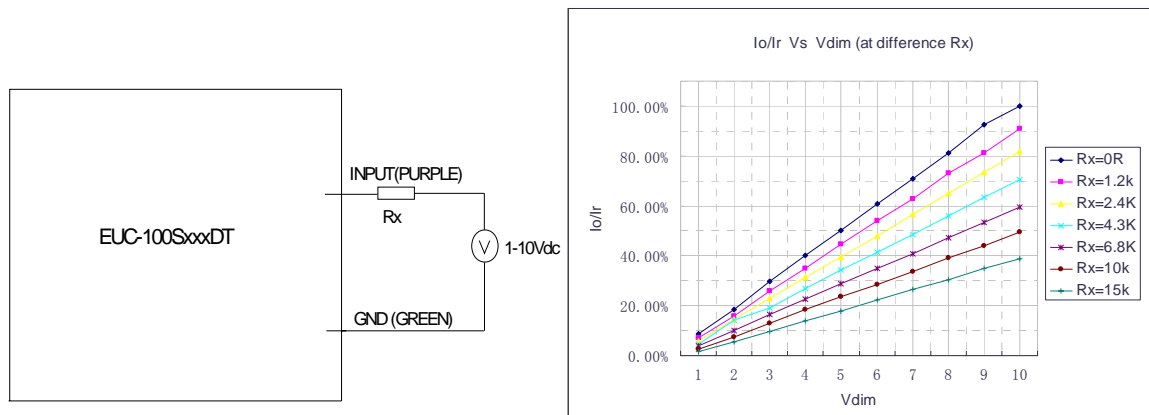
Dimming Control (On secondary side)

| Parameter | Min. | Typ. | Max. | Notes |
|---|--------|------|--------|-------|
| 10V output voltage | 9.8 V | 10 V | 10.2 V | |
| 10V output source current | -10 mA | | 10 mA | |
| Absolute maximum voltage on the 1~10V input pin | 0 V | - | 12 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. Four recommended implementations are provided below.



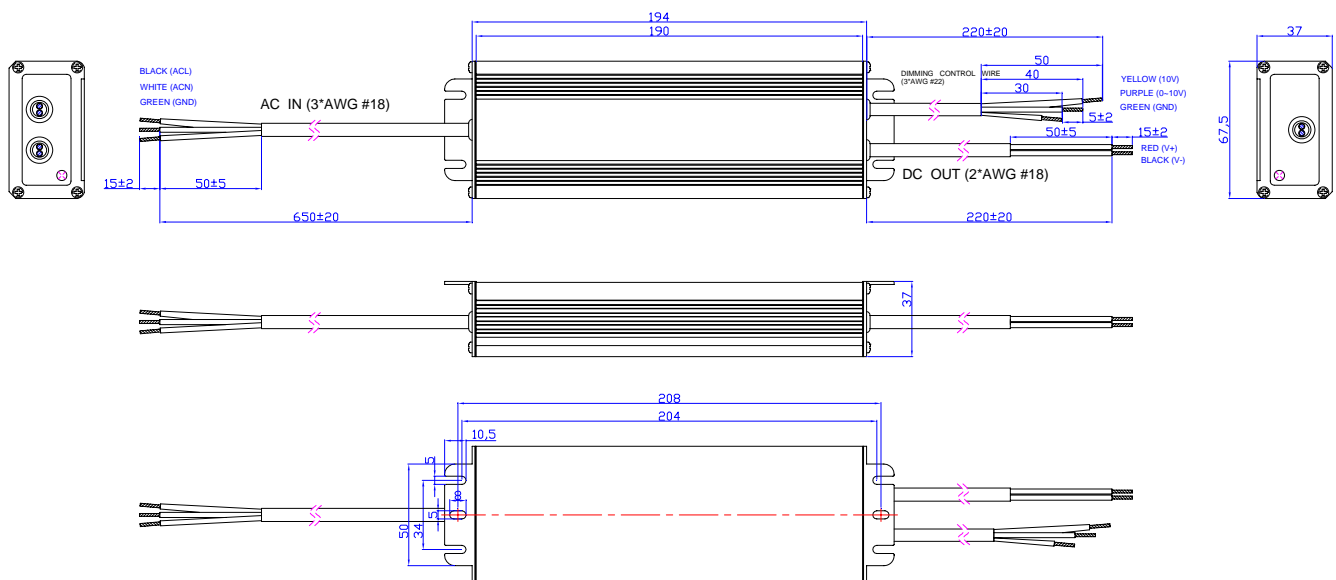
Specifications are subject to changes without notice.



Notes:

1. If the dimming function is not used, please short 10V output pin (yellow) and 1-10 input pin (purple).
2. I_o is actual output current and I_r 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. 60% of the max. output voltage for any given model).
4. If the output voltage is maintained above 60% 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 not guarantee that a good linearity.
6. The R_p , which stands for the potentiometer in the Implementation 1, is recommended between 10K~100K.
7. Do not connect the GND of dimming to the output; otherwise, the LED driver can not work normally.

Mechanical Outline



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.

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Revision History

| Change Date | Rev. | Description of Change | | |
|-------------|------|---|---|--|
| | | Item | From | To |
| 2009-09-15 | V2.0 | Change output voltage range | | |
| 2009-10-27 | V2.1 | Change the Min. Output Voltage | | |
| 2009-12-02 | V2.2 | Change the efficiency and output voltage range | | |
| 2010-03-23 | A | Add Leakage Current in Input Specifications | / | Max. 1 mA At 277Vac 50Hz input |
| | | Change the Max. value of Operating Temperature | +70 °C | +65 °C |
| | | Change the Max. Ambient Temperature in Derating Curve | +70 °C | +65 °C |
| | | Change the MTBF data and testing condition | 450,000 hours / Measured at EUC-100S140DT | 350,000 hours / Measured at EUC-100S105DT |
| | | Change the Life Time testing condition | Measured at EUC-100S140DT | Measured at EUC-100S105DT |
| | | Add one note in Dimming Control | / | 7. Do not connect the GND of dimming to the output; otherwise, the LED driver can not work normally. |
| | | Change the dimming control line in Mechanical Outline | / | / |
| 2010-05-31 | B | Add star rank for recommended models | / | ☆: Popular model. |

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