

Features

- High Efficiency (Up to 84%)
- Active Power Factor Correction (Typical 0.92)
- Constant Output Current
- Waterproof (IP66)
- Dimming Control
- All-Around Protection: OVP, SCP, OLP
- Comply With UL8750 & EN61347 Safety Regulations
- Comply With ANSI/IEEE C62.41, Class A Operation



Description

The EUC-025SxxxDS(PS) Series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. Features include 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 | |
| 2080 mA | 90 ~ 305 Vac | 4~12 Vdc | 25 W | 80% | 0.98 | 0.92 | EUC-025S208DS(PS)(6) |
| 1750 mA | 90 ~ 305 Vac | 5~14 Vdc | 25 W | 81% | 0.98 | 0.92 | EUC-025S175DS(PS)(6) |
| 1400 mA | 90 ~ 305 Vac | 6~18 Vdc | 25 W | 81% | 0.98 | 0.92 | EUC-025S140DS(PS)(6) |
| 1050 mA | 90 ~ 305 Vac | 8~24 Vdc | 25 W | 82% | 0.98 | 0.92 | EUC-025S105DS(PS)(6) |
| 700 mA | 90 ~ 305 Vac | 12~36 Vdc | 25 W | 83% | 0.98 | 0.92 | EUC-025S070DS(PS)(6)★ |
| 620 mA | 90 ~ 305 Vac | 13~40 Vdc | 25 W | 83% | 0.98 | 0.92 | EUC-025S062DS(PS)(5) |
| 450 mA | 90 ~ 305 Vac | 19~56 Vdc | 25 W | 84% | 0.98 | 0.92 | EUC-025S045DS(PS)(5) |
| 350 mA | 90 ~ 305 Vac | 24~72 Vdc | 25 W | 84% | 0.98 | 0.92 | EUC-025S035DS(PS)(4)★ |

- Notes:**
- (1) Measured at full load and 220 Vac input.
 - (2) The DS suffix may be changed to PS 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 |

Input Specifications (Continued)

| Parameter | Min. | Typ. | Max. | Notes |
|------------------|------|------|--------|--|
| Input AC Current | - | - | 0.32 A | Measured at full load and 100 Vac input. |
| | - | - | 0.15 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% | |
| Ripple Current | - | - | 50%Io | |
| No Load Output Voltage | | | | |
| Io = 2080 mA | - | - | 16 V | |
| Io = 1750 mA | - | - | 18 V | |
| Io = 1400 mA | - | - | 22 V | |
| Io = 1050 mA | - | - | 30 V | |
| Io = 700 mA | - | - | 42 V | |
| Io = 620 mA | - | - | 48 V | |
| Io = 450 mA | - | - | 61 V | |
| Io = 350 mA | - | - | 79 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 | 110% | 120% | 130% | Hiccup mode. The power supply shall be self-recovery when the fault condition is removed. |
| 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. | | | |

General Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|--------------|------|------|------|--|
| Efficiency | | | | |
| Io = 2080 mA | 78% | 79% | - | Measured at full load and 110 Vac input. |
| Io = 1750 mA | 79% | 80% | - | |
| Io = 1400 mA | 79% | 80% | - | |
| Io = 1050 mA | 80% | 81% | - | |
| Io = 700 mA | 81% | 82% | - | |
| Io = 620 mA | 81% | 82% | - | |
| Io = 450 mA | 82% | 83% | - | |
| Io = 350 mA | 82% | 83% | - | |

General Specifications (Continued)

| Parameter | Min. | Typ. | Max. | Notes |
|--|--|--|--------------------------------------|--|
| Efficiency $I_o = 2080 \text{ mA}$ $I_o = 1750 \text{ mA}$ $I_o = 1400 \text{ mA}$ $I_o = 1050 \text{ mA}$ $I_o = 700 \text{ mA}$ $I_o = 620 \text{ mA}$ $I_o = 450 \text{ mA}$ $I_o = 350 \text{ mA}$ | 79% 80% 80% 81% 82% 82% 83% 83% | 80% 81% 81% 82% 83% 83% 84% 84% | - - - - - - - - | Measured at full load and 220 Vac input. |
| No Load Power Dissipation | - | - | 6 W | |
| MTBF | 484,000 hours | - | - | Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F) |
| Life Time | 79,000 hours | - | - | Measured at 110Vac input, 80%Load and 45°C ambient temperature |
| Case Temperature | - | - | 89 °C | |
| Dimensions Inches (L x W x H) Millimeters (L x W x H) | 3.07 x 3.15 x 1.06 78 x 80 x 27 | | | |
| Net Weight | - | 200 g | - | |

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

Environmental Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|-----------------------|--------|------|--------|--|
| Operating Temperature | -20 °C | - | +70 °C | Humidity: 10% RH to 100% RH See Derating Curve for more details |
| Storage Temperature | -40 °C | - | +85 °C | Humidity: 5% RH to 100% RH |

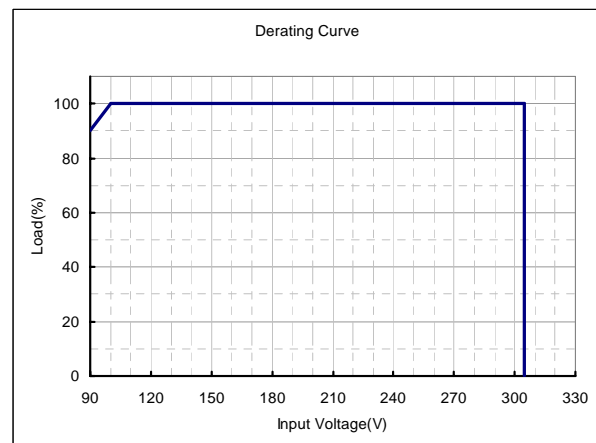
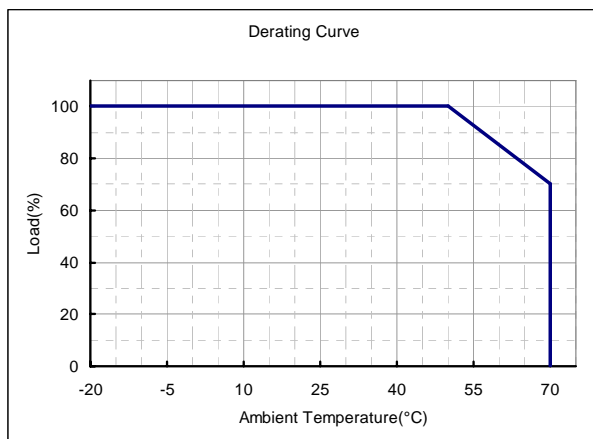
Safety & EMC Compliance

| Safety Category | Standard |
|-----------------|---|
| CUL | UL8750, UL1012, UL1310 Class 2, 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 |
| EN 61000-3-3 | Voltage fluctuations & flicker |
| 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 |

Safety & EMC Compliance (Continued)

| EMS Standards | Notes |
|-----------------------|---|
| EN 61000-4-4 | Electrical Fast Transient / Burst-EFT |
| 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 |
| ENERGY STAR Standards | Notes |
| ANSI/IEEE C62.41-1991 | Transient Protection, power supply shall comply with Class A operation. The line transient shall consist of seven strikes of a 100 kHz ring wave, 2.5 kV level, for both common mode and differential mode. |

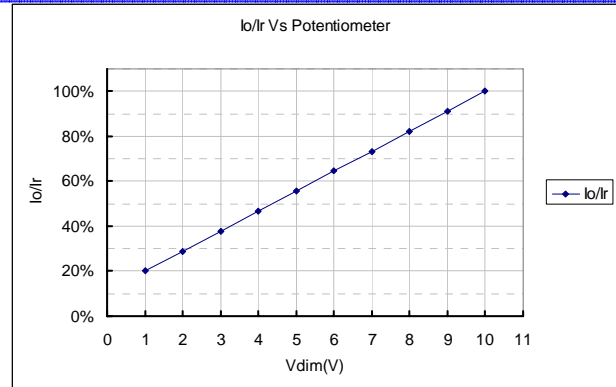
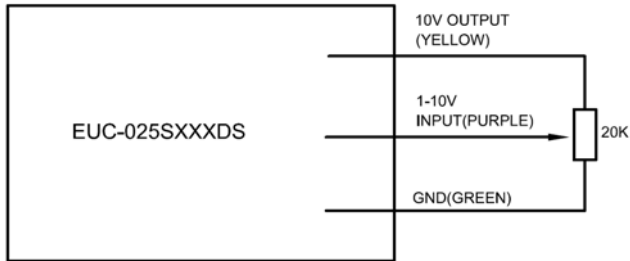
Derating Curve



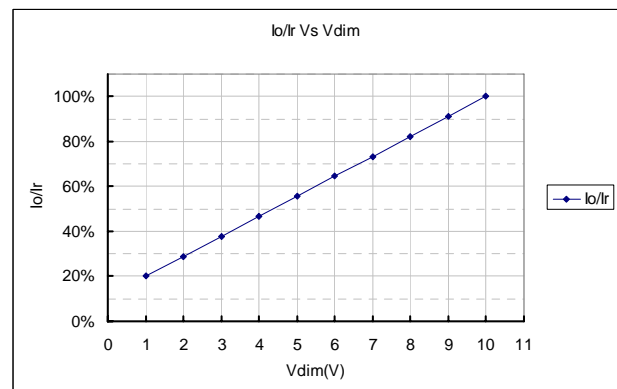
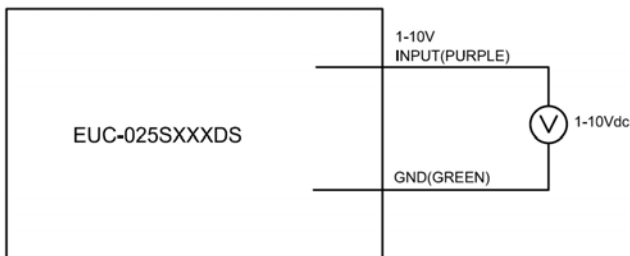
Dimming Control (On secondary side)

| 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.



Implementation 1: Potentiometer Control



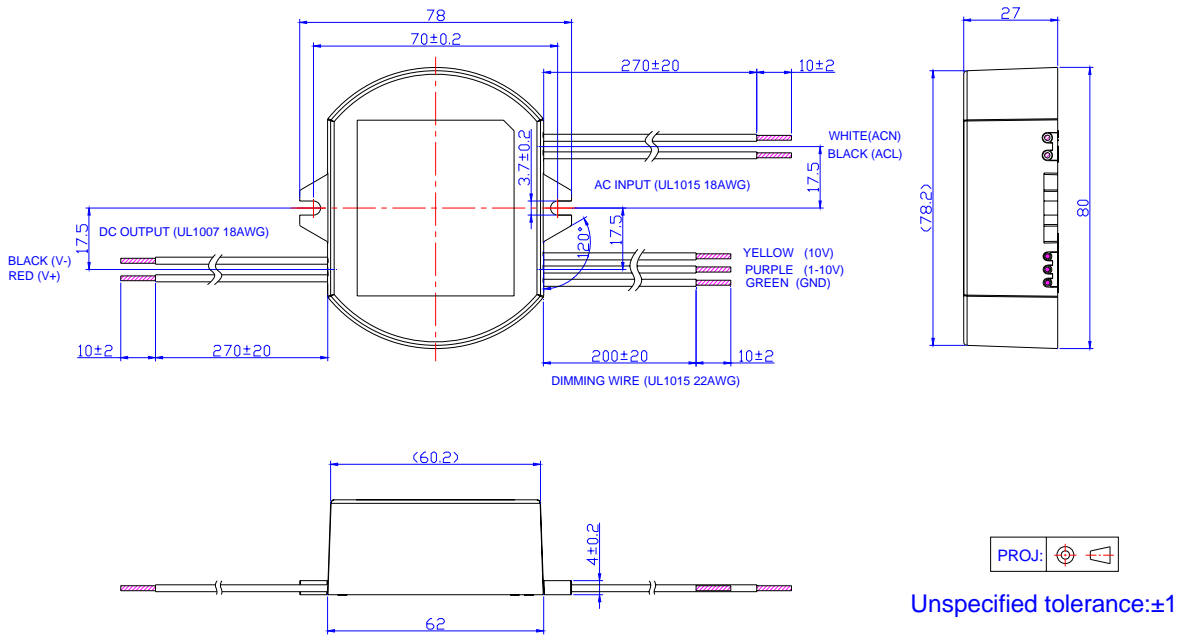
Implementation 2: DC input

Notes:

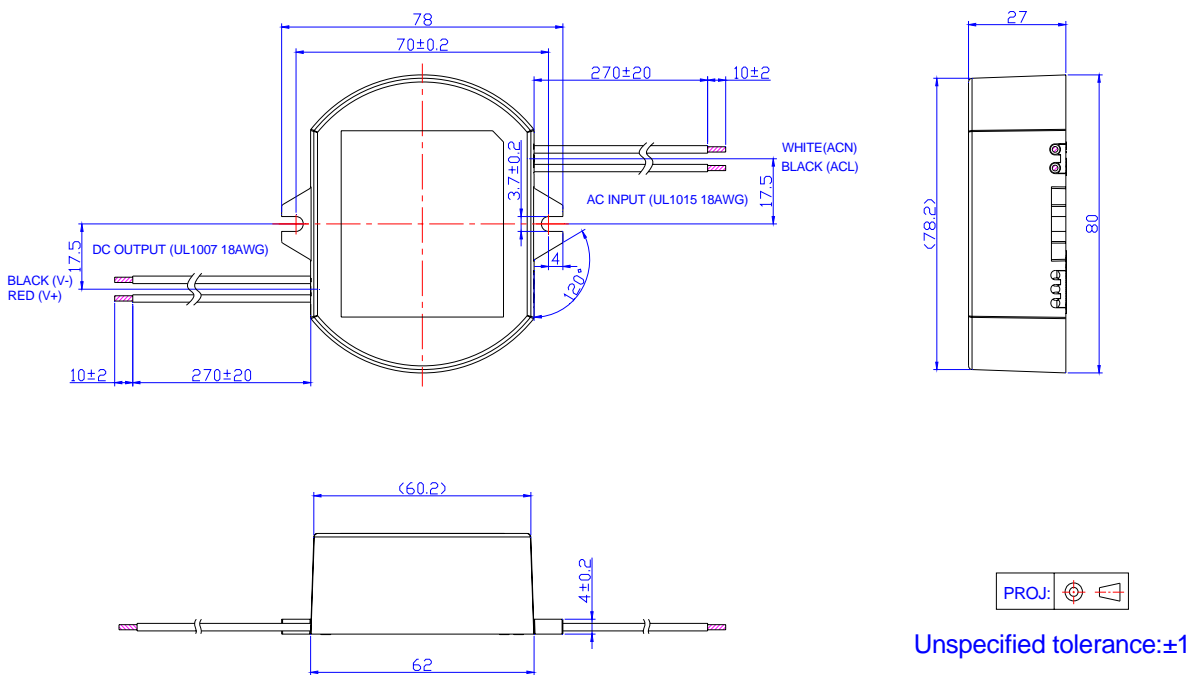
1. The dimming voltage can be tuned down to less than 1V, and the output current will be decreased to about 20%Ir; but the connected LEDs may flicker. Keeping dimming voltage greater than 1V in application is strongly recommended.
2. Do not connect the GND of dimming to the output; otherwise, the LED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

Mechanical Outline

EUC-025SxxxDS



EUC-025SxxxPS



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 |
| 2009-12-15 | A | Change Typical Efficiency and Ripple and Noise, No Load Power Dissipation | | |
| 2010-01-13 | B | Modify the derating curve | | |
| 2010-04-12 | C | Change the Power Factor | 110Vac 0.99 220Vac 0.94 | 0.98 0.92 |
| | | 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 _o | The max. value of every model. |
| | | Change Turn-on Delay Time | Typ. Max. 110Vac 1.7S 2.0S 220Vac 0.7S 1.0S | Typ. Max. 2.5S 3.0S 1.5S 2.0S |
| | | Delete Output Overshoot / Undershoot | Max. 10% | / |
| | | Change Over Load Protection | Typ.: 1.25P _o | Typ.: 1.25 V _{max} |
| | | Change the efficiency (110Vac) | Min. Typ. I _o = 1750 Ma 78% 79% I _o = 1400 Ma 80% 81% | Min. Typ. 79% 80% 79% 80% |
| | | Change the efficiency (220Vac) | Min. Typ. I _o = 1750 Ma 79% 80% I _o = 1400 Ma 81% 82% | Min. Typ. 80% 81% 80% 81% |
| | | Change No Load Power Dissipation | ≤ 5 W | ≤ 6 W |
| | | Change linearity of dimming curve | / | / |
| Change the notes in Dimming Control | / | / | | |
| 2010-05-31 | D | Add star rank for recommended models | / | ☆: Popular model. |
| 2010-06-04 | E | Change Dimensions and Mechanical Outline (The height) | 25 cm | 27 cm |
| 2010-10-14 | F | Change the notes in Dimming Control | / | / |
| | | Add Energy Star Standard | / | Comply With ANSI/IEEE C62.41, Class A Operation |
| 2011-1-10 | G | Change popular models | / | / |
| | | Change Over Voltage Protection | Min. Typ. Max. I _o = 2080 Ma 13V 15V 18V I _o = 1750 Ma 16V 18V 20V I _o = 1400 Ma 21V 23V 24V I _o = 1050 Ma 26V 28V 30V I _o = 700 Ma 42V 44V 46V I _o = 620 Ma 44V 46V 48V I _o = 450 Ma 59V 50V 62V I _o = 350 Ma 82V 88V 90V | Min. Typ. Max. 110% 120% 130% |
| | | Mechanical outline---center to center distance and slot Width | 70 MM & 4 MM | 71 MM & 3.8 MM |
| | | Max Case Temperature | / | Updated |

EUC-025SxxxDS(PS) Rev. J

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|------------|---|---------------|---|---------|
| 2013-02-22 | J | Dimming Notes | / | Updated |
|------------|---|---------------|---|---------|