

## Features

- Ultra High Efficiency (Up to 92%)
- 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-200SxxxST Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 8.33 A of output current and a maximum output voltage of 445 V for 200 W maximum output power. They are designed to be highly efficient and highly reliable. The standard features include 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 |                  |
| 450 mA         | 90 ~ 305 Vac  | 445 Vdc             | 200 W             | 92%                    | 0.99         | 0.96   | EUC-200S045ST    |
| 700 mA         | 90 ~ 305 Vac  | 285 Vdc             | 200 W             | 92%                    | 0.99         | 0.96   | EUC-200S070ST★   |
| 1050 mA        | 90 ~ 305 Vac  | 190 Vdc             | 200 W             | 92%                    | 0.99         | 0.96   | EUC-200S105ST★   |
| 1400 mA        | 90 ~ 305 Vac  | 142 Vdc             | 200 W             | 92%                    | 0.99         | 0.96   | EUC-200S140ST    |
| 1750 mA        | 90 ~ 305 Vac  | 114 Vdc             | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S175ST    |
| 2100 mA        | 90 ~ 305 Vac  | 95 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S210ST    |
| 2450 mA        | 90 ~ 305 Vac  | 81 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S245ST    |
| 2800 mA        | 90 ~ 305 Vac  | 71 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S280ST    |
| 3150 mA        | 90 ~ 305 Vac  | 63 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S315ST    |
| 3500 mA        | 90 ~ 305 Vac  | 57 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S350ST★   |
| 4200 mA        | 90 ~ 305 Vac  | 47 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S420ST    |
| 4900 mA        | 90 ~ 305 Vac  | 40 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S490ST    |
| 5600 mA        | 90 ~ 305 Vac  | 35 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S560ST    |
| 6300 mA        | 90 ~ 305 Vac  | 32 Vdc              | 200 W             | 91%                    | 0.99         | 0.96   | EUC-200S630ST    |
| 8330 mA        | 90 ~ 305 Vac  | 24 Vdc              | 200 W             | 90%                    | 0.99         | 0.96   | EUC-200S833ST    |

- 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 | -     | -    | 2.4 A | Measured at full load and 100 Vac input. |
|                  | -     | -    | 1.2 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     |         |         |          |  |
| $I_o = 450$ mA           | 427 mA  | 450 mA  | 473 mA   |  |
| $I_o = 700$ mA           | 665 mA  | 700 mA  | 735 mA   |  |
| $I_o = 1050$ mA          | 997 mA  | 1050 mA | 1103 mA  |  |
| $I_o = 1400$ mA          | 1330 mA | 1400 mA | 1470 mA  |  |
| $I_o = 1750$ mA          | 1662 mA | 1750 mA | 1838 mA  |  |
| $I_o = 2100$ mA          | 1995 mA | 2100 mA | 2205 mA  |  |
| $I_o = 2450$ mA          | 2327 mA | 2450 mA | 2573 mA  |  |
| $I_o = 2800$ mA          | 2660 mA | 2800 mA | 2940 mA  |  |
| $I_o = 3150$ mA          | 2992 mA | 3150 mA | 3308 mA  |  |
| $I_o = 3500$ mA          | 3325 mA | 3500 mA | 3675 mA  |  |
| $I_o = 4200$ mA          | 3990 mA | 4200 mA | 4410 mA  |  |
| $I_o = 4900$ mA          | 4655 mA | 4900 mA | 5145 mA  |  |
| $I_o = 5600$ mA          | 5320 mA | 5600 mA | 5880 mA  |  |
| $I_o = 6300$ mA          | 5985 mA | 6300 mA | 6615 mA  |  |
| $I_o = 8330$ mA          | 7915 mA | 8330 mA | 8745 mA  |  |
| Output Voltage Range     |         |         |          |  |
| $I_o = 450$ mA           | 267 V   | -       | 445 V    |  |
| $I_o = 700$ mA           | 171 V   | -       | 285 V    |  |
| $I_o = 1050$ mA          | 114 V   | -       | 190 V    |  |
| $I_o = 1400$ mA          | 85 V    | -       | 142 V    |  |
| $I_o = 1750$ mA          | 68 V    | -       | 114 V    |  |
| $I_o = 2100$ mA          | 57 V    | -       | 95 V     |  |
| $I_o = 2450$ mA          | 48 V    | -       | 81 V     |  |
| $I_o = 2800$ mA          | 42 V    | -       | 71 V     |  |
| $I_o = 3150$ mA          | 38 V    | -       | 63 V     |  |
| $I_o = 3500$ mA          | 34 V    | -       | 57 V     |  |
| $I_o = 4200$ mA          | 28 V    | -       | 47 V     |  |
| $I_o = 4900$ mA          | 24 V    | -       | 40 V     |  |
| $I_o = 5600$ mA          | 21 V    | -       | 35 V     |  |
| $I_o = 6300$ mA          | 19 V    | -       | 32 V     |  |
| $I_o = 8330$ 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       | -       | 1.0 S   | 2.0 S    | Measured at 110Vac input.  |
|                          | -       | 1.0 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     |  |        |       | Latch mode. The power supply shall return to normal operation only after the power is turn-on again. |
| I <sub>o</sub> = 450 mA     | 534 V  | 601 V  | 668 V |  |
| I <sub>o</sub> = 700 mA     | 342 V  | 385 V  | 428 V |  |
| I <sub>o</sub> = 1050 mA    | 228 V  | 257 V  | 285 V |  |
| I <sub>o</sub> = 1400 mA    | 170 V  | 192 V  | 213 V |  |
| I <sub>o</sub> = 1750 mA    | 137 V  | 154 V  | 171 V |  |
| I <sub>o</sub> = 2100 mA    | 114 V  | 128 V  | 143 V |  |
| I <sub>o</sub> = 2450 mA    | 97 V   | 109 V  | 122 V |  |
| I <sub>o</sub> = 2800 mA    | 85 V   | 96 V   | 107 V |  |
| I <sub>o</sub> = 3150 mA    | 76 V   | 85 V   | 95 V  |  |
| I <sub>o</sub> = 3500 mA    | 68 V   | 77 V   | 86 V  |  |
| I <sub>o</sub> = 4200 mA    | 56 V   | 63 V   | 71 V  |  |
| I <sub>o</sub> = 4900 mA    | 48 V   | 54 V   | 60 V  |  |
| I <sub>o</sub> = 5600 mA    | 42 V   | 47 V   | 53 V  |  |
| I <sub>o</sub> = 6300 mA    | 38 V   | 43 V   | 48 V  |  |
| I <sub>o</sub> = 8330 mA    | 29 V   | 32 V   | 36 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               |      |      |      | Measured at full load, 110Vac input, 25°C ambient temperature, after the unit is thermally stabilized.<br><br>It will be lower about 1%, if measured immediately after startup. |
| I <sub>o</sub> = 450 mA  | 89%  | 90%  | -    |   |
| I <sub>o</sub> = 700 mA  | 89%  | 90%  | -    |   |
| I <sub>o</sub> = 1050 mA | 89%  | 90%  | -    |   |
| I <sub>o</sub> = 1400 mA | 89%  | 90%  | -    |   |
| I <sub>o</sub> = 1750 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 2100 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 2450 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 2800 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 3150 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 3500 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 4200 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 4900 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 5600 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 6300 mA | 88%  | 89%  | -    |   |
| I <sub>o</sub> = 8330 mA | 87%  | 88%  | -    |   |
| Efficiency               |      |      |      | Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized.<br><br>It will be lower about 1%, if measured immediately after startup. |
| I <sub>o</sub> = 450 mA  | 91%  | 92%  | -    |   |
| I <sub>o</sub> = 700 mA  | 91%  | 92%  | -    |   |
| I <sub>o</sub> = 1050 mA | 91%  | 92%  | -    |   |
| I <sub>o</sub> = 1400 mA | 91%  | 92%  | -    |   |
| I <sub>o</sub> = 1750 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 2100 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 2450 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 2800 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 3150 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 3500 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 4200 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 4900 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 5600 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 6300 mA | 90%  | 91%  | -    |   |
| I <sub>o</sub> = 8330 mA | 89%  | 90%  | -    |   |

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## General Specifications (Continued)

| Parameter  | Min. | Typ.                                  | Max. | Notes  |
|--|------|---------------------------------------|------|--|
| MTBF<br>$I_o = 8330 \text{ mA}$<br>$I_o = 450 \text{ mA}$      |      | 179,000 hours<br>345,000 hours        |      | Measured at 110Vac input, 80%Load and 25° C ambient temperature (MIL-HDBK-217F). |
| Life Time<br>$I_o = 8330 \text{ mA}$<br>$I_o = 450 \text{ mA}$ |      | 59,000 hours<br>60,000 hours          |      | Measured at 220Vac input, 80%Load and 45° C ambient temperature.                 |
| Dimensions<br>Inches (L x W x H)<br>Millimeters (L x W x H)    |      | 9.37 x 3.13 x 1.81<br>238 x 79.5 x 46 |      |  |
| Net Weight   | -    | 1500 g                                | -    |  |

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

## Environmental Specifications

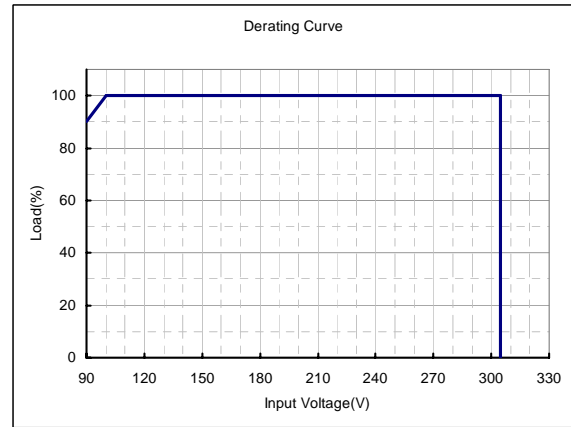
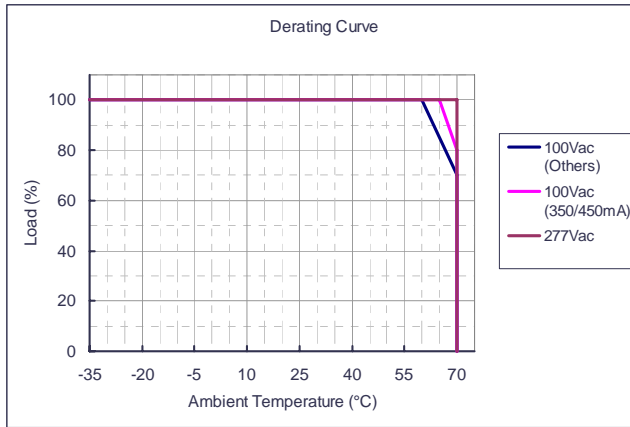
| Parameter             | Min.    | Typ. | Max.    | Notes                       |
|-----------------------|---------|------|---------|-----------------------------|
| Operating Temperature | -35 ° C | -    | +70 ° C | Humidity: 10% RH to 100% RH |
| Storage Temperature   | -40 ° C | -    | +85 ° C | Humidity: 5% RH to 100% RH  |

## Safety & EMC Compliance

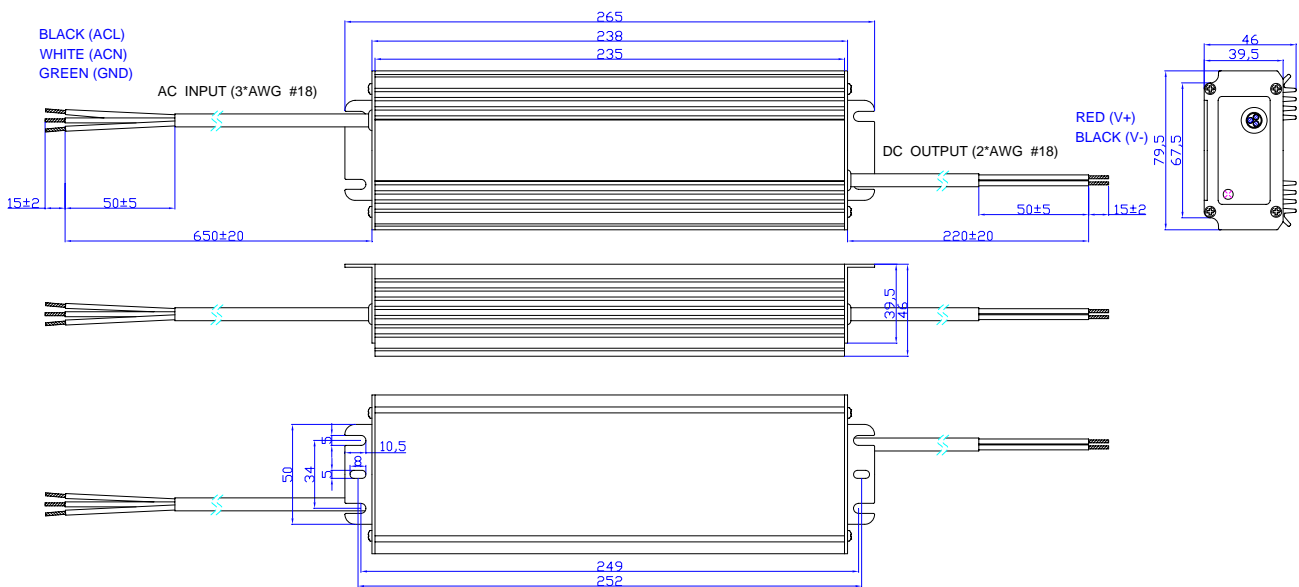
| Safety Category | Country      | Standard   |
|-----------------|--------------|--|
| CUL             | USA & Canada | UL8750 Compliance to UL1012 UL935, CAN/CSA-C22.2 No. 0, CSA-C22.2 No. 107.1, CSA-C22.2 No. 250.0 |
| CE              | Europe       | EN 61347-1, EN61347-2-13   |
| EMI Standards   |              | 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                              |

Specifications are subject to changes without notice.

## Derating Curve



## 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                                |
| 2009-09-02  | V3.3 | Change MTBF and Life Time                           |               |                                   |
| 2009-09-11  | V3.4 | Change Turn-on Delay Time                           |               |                                   |
| 2009-09-16  | V3.5 | Update Life Time                                    |               |                                   |
| 2009-10-15  | V3.6 | Delete "UL1310 Class2" in Safety & EMC Compliance   |               |                                   |
| 2009-11-10  | V4.0 | Change notes of efficiency.                         |               |                                   |
| 2009-12-04  | V4.1 | Add a model of 450mA.<br>Update Mechanical Outline. |               |                                   |
| 2010-01-15  | A    | Change the derating curve                           |               |                                   |
| 2010-05-31  | B    | Add star rank for recommended models                | /             | ☆: Popular model.                 |
|             |      | Add Leakage Current in Input Specifications         | /             | Max. 1 mA At 277Vac<br>50Hz input |
|             |      | Standardize the tolerance in Mechanical Outline     | /             | /                                 |
| 2010-07-22  | C    | Delete Output Overshoot / Undershoot                | Max. 10%      | /                                 |
| 2011-01-14  | D    | Change popular models                               | /             | /                                 |
|             |      | Update MTBF & Life Time Date                        | For One Model | For Two Models                    |