## 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-120SxxxST Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 4.9 A of output current and a maximum output voltage of 343 V for 120 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 | |
| 350 mA | 90 ~ 305 Vac | 343 Vdc | 120 W | 92.0% | 0.99 | 0.96 | EUC-120S035ST☆ |
| 450 mA | 90 ~ 305 Vac | 266 Vdc | 120 W | 92.0% | 0.99 | 0.96 | EUC-120S045ST |
| 700 mA | 90 ~ 305 Vac | 171 Vdc | 120 W | 92.0% | 0.99 | 0.96 | EUC-120S070ST☆ |
| 1050 mA | 90 ~ 305 Vac | 114 Vdc | 120 W | 91.0% | 0.99 | 0.96 | EUC-120S105ST |
| 1400 mA | 90 ~ 305 Vac | 86 Vdc | 120 W | 91.0% | 0.99 | 0.96 | EUC-120S140ST☆ |
| 1750 mA | 90 ~ 305 Vac | 68 Vdc | 120 W | 91.0% | 0.99 | 0.96 | EUC-120S175ST☆ |
| 2100 mA | 90 ~ 305 Vac | 57 Vdc | 120 W | 91.0% | 0.99 | 0.96 | EUC-120S210ST☆ |
| 2450 mA | 90 ~ 305 Vac | 49 Vdc | 120 W | 91.0% | 0.99 | 0.96 | EUC-120S245ST☆ |
| 2800 mA | 90 ~ 305 Vac | 43 Vdc | 120 W | 91.0% | 0.99 | 0.96 | EUC-120S280ST |
| 3150 mA | 90 ~ 305 Vac | 38 Vdc | 120 W | 90.5% | 0.99 | 0.96 | EUC-120S315ST☆ |
| 3500 mA | 90 ~ 305 Vac | 34 Vdc | 120 W | 90.5% | 0.99 | 0.96 | EUC-120S350ST☆ |
| 4200 mA | 90 ~ 305 Vac | 28 Vdc | 120 W | 90.5% | 0.99 | 0.96 | EUC-120S420ST |
| 4900 mA | 90 ~ 305 Vac | 24 Vdc | 120 W | 90.5% | 0.99 | 0.96 | EUC-120S490ST |

**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.

## 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 | - | - | 1.5 A | Measured at full load and 100 Vac input. |
| | - | - | 0.7 A | Measured at full load and 220 Vac input. |
| Inrush current | - | - | 65 A | At 230Vac input 25℃ Cold start |

## Output Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Output Current Range | | | | |
| $I_O$ = 350 mA | 332 mA | 350 mA | 368 mA | |
| $I_O$ = 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 | 1102 mA | |
| $I_O$ = 1400 mA | 1330 mA | 1400 mA | 1470 mA | |
| $I_O$ = 1750 mA | 1662 mA | 1750 mA | 1837 mA | |
| $I_O$ = 2100 mA | 1995 mA | 2100 mA | 2205 mA | |
| $I_O$ = 2450 mA | 2327 mA | 2450 mA | 2572 mA | |
| $I_O$ = 2800 mA | 2660 mA | 2800 mA | 2940 mA | |
| $I_O$ = 3150 mA | 2992 mA | 3150 mA | 3307 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 | |
| Output Voltage Range | | | | |
| $I_O$ = 350 mA | 206 V | - | 343 V | |
| $I_O$ = 450 mA | 160 V | - | 266 V | |
| $I_O$ = 700 mA | 103 V | - | 171 V | |
| $I_O$ = 1050 mA | 68 V | - | 114 V | |
| $I_O$ = 1400 mA | 52 V | - | 86 V | |
| $I_O$ = 1750 mA | 41 V | - | 68 V | |
| $I_O$ = 2100 mA | 34 V | - | 57 V | |
| $I_O$ = 2450 mA | 29 V | - | 49 V | |
| $I_O$ = 2800 mA | 26 V | - | 43 V | |
| $I_O$ = 3150 mA | 23 V | - | 38 V | |
| $I_O$ = 3500 mA | 20 V | - | 34 V | |
| $I_O$ = 4200 mA | 17 V | - | 28 V | |
| $I_O$ = 4900 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 | - | - | 5% | |
| 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.

## Protection Functions

| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Over Voltage Protection | | | | |
| Io = 350 mA | 411 V | 446 V | 480 V | Latch mode. The power supply shall return to normal operation only after the power is turn-on again. |
| Io = 450 mA | 319 V | 346 V | 373 V | |
| Io = 700 mA | 205 V | 222 V | 240 V | |
| Io = 1050 mA | 136 V | 148 V | 160 V | |
| Io = 1400 mA | 103 V | 112 V | 121 V | |
| Io = 1750 mA | 81 V | 88 V | 96 V | |
| Io = 2100 mA | 68 V | 74 V | 80 V | |
| Io = 2450 mA | 58 V | 64 V | 69 V | |
| Io = 2800 mA | 51 V | 56 V | 61 V | |
| Io = 3150 mA | 45 V | 49 V | 54 V | |
| Io = 3500 mA | 40 V | 44 V | 48 V | |
| Io = 4200 mA | 33 V | 36 V | 40 V | |
| Io = 4900 mA | 28 V | 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 | 89.0% | 90.0% | - | Measured at full load, 110Vac input, 25℃ ambient temperature, after the unit is thermally stabilized.<br><br>It will be lower about 1%, if measured immediately after startup. |
| $I_O$ = 450 mA | 89.0% | 90.0% | - | |
| $I_O$ = 700 mA | 89.0% | 90.0% | - | |
| $I_O$ = 1050 mA | 88.0% | 89.0% | - | |
| $I_O$ = 1400 mA | 88.0% | 89.0% | - | |
| $I_O$ = 1750 mA | 88.0% | 89.0% | - | |
| $I_O$ = 2100 mA | 88.0% | 89.0% | - | |
| $I_O$ = 2450 mA | 88.0% | 89.0% | - | |
| $I_O$ = 2800 mA | 88.0% | 89.0% | - | |
| $I_O$ = 3150 mA | 87.5% | 88.5% | - | |
| $I_O$ = 3500 mA | 87.5% | 88.5% | - | |
| $I_O$ = 4200 mA | 87.5% | 88.5% | - | |
| $I_O$ = 4900 mA | 87.5% | 88.5% | - | |
| Efficiency | | | | |
| $I_O$ = 350 mA | 91.0% | 92.0% | - | Measured at full load, 220Vac input, 25℃ ambient temperature, after the unit is thermally stabilized.<br><br>It will be lower about 1%, if measured immediately after startup. |
| $I_O$ = 450 mA | 91.0% | 92.0% | - | |
| $I_O$ = 700 mA | 91.0% | 92.0% | - | |
| $I_O$ = 1050 mA | 90.0% | 91.0% | - | |
| $I_O$ = 1400 mA | 90.0% | 91.0% | - | |
| $I_O$ = 1750 mA | 90.0% | 91.0% | - | |
| $I_O$ = 2100 mA | 90.0% | 91.0% | - | |
| $I_O$ = 2450 mA | 90.0% | 91.0% | - | |
| $I_O$ = 2800 mA | 90.0% | 91.0% | - | |
| $I_O$ = 3150 mA | 89.5% | 90.5% | - | |
| $I_O$ = 3500 mA | 89.5% | 90.5% | - | |
| $I_O$ = 4200 mA | 89.5% | 90.5% | - | |
| $I_O$ = 4900 mA | 89.5% | 90.5% | - | |
| MTBF | | | | |
| $I_O$ = 4900 mA | 227,000 hours | | | Measured at 110Vac input, 80%Load and 25° C ambient temperature (MIL-HDBK-217F). |
| $I_O$ = 350 mA | 474,000 hours | | | |
| Life Time | | | | |
| $I_O$ = 4900 mA | 122,000 hours | | | Measured at 220Vac input, 80%Load and 45° C ambient temperature. |
| $I_O$ = 350 mA | 122,000 hours | | | |
| Dimensions | | | | |
| Inches (L × W × H) | 7.64 × 2.66 × 1.46 | | | |
| Millimeters (L × W × H) | 194 × 67.5 × 37 | | | |
| Net Weight | - | 1000 g | - | |

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

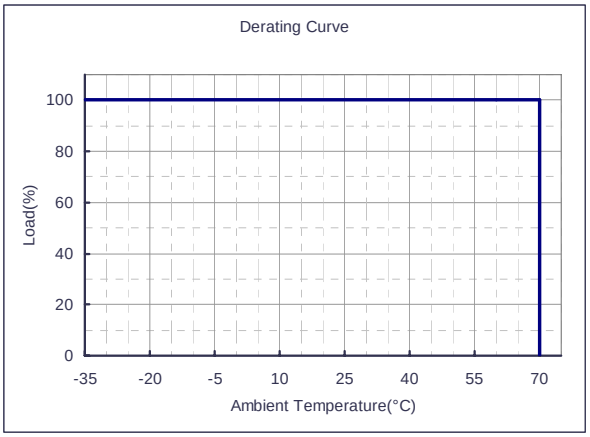
## Environmental Specifications

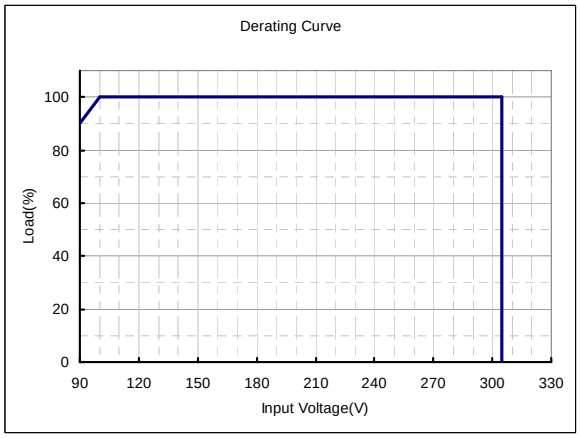
| Parameter | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| Operating Temperature | -35 ℃ | - | +70 ℃ | Humidity: 10% RH to 100% RH |
| Storage Temperature | -40 ℃ | - | +85 ℃ | Humidity: 5% RH to 100% RH |

## Safety & EMC Compliance

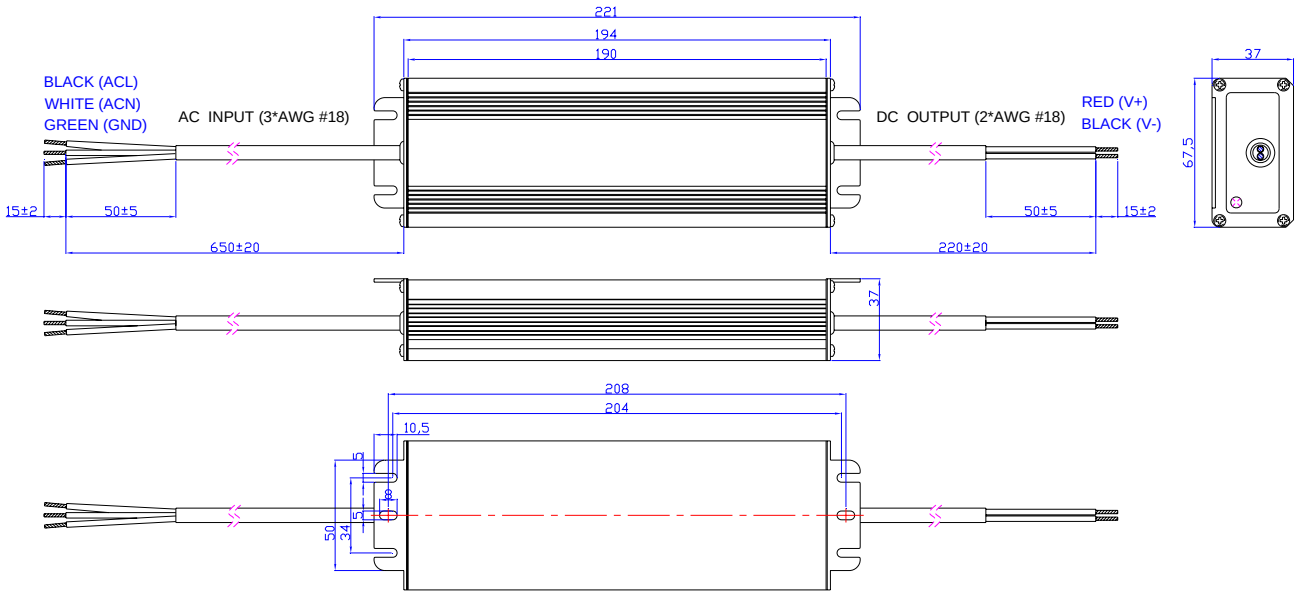
| Safety Category | Country | Standard |
|---|---|---|
| CUL | USA & Canada | UL8750, UL935, UL1012, CSA-C22.2 No. 107.1 |
| CE | Europe | EN 61347-1, EN61347-2-13 |
| **EMI Standards** | | **Notes** |
| EN 55015 | | Conducted emission Test & Radiated emission Test with 6 dB margin |
| **EMS Standards** | | **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



## 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.

## Revision History

| Change Date | Rev. | Description of Change | | |
|---|---|---|---|---|
| | | Item | From | To |
| 2009-09-02 | A | Change MTBF and Life Time.<br>Add the model of 350mA. | | |
| 2009-09-11 | B | Change Turn-on Delay Time | | |
| 2009-10-15 | C | Delete “UL1310 Class2” in Safety & EMC Compliance | | |
| 2009-11-10 | D | Change notes of efficiency. | | |
| 2010-05-31 | E | Add star rank for recommended models | / | ☆: Popular model. |
| | | Add Leakage Current in Input Specifications | / | Max. 1 mA At 277Vac 50Hz input |
| | | Standardize the tolerance in Mechanical Outline | / | / |
| 2011-01-14 | F | Change popular models | / | / |
| | | Update MTBF & Life Time Date | For One Model | For Two Models |