

## Features

- High Efficiency (Up to 90%)
- Second Generation with Improved Performance
- Active Power Factor Correction (Typical 0.95)
- Constant Output Current
- Waterproof (IP66)
- Dimming Control
- All-Round Protection: OVP, SCP, OLP, OTP
- Comply With UL8750 & EN61347 Safety Regulations



## Description

The EUC-042SxxxDS(PS) series operate from a 90 ~ 305 Vac input range. These units will provide up to a 1750 mA of output current and a maximum output voltage of 120 V for 42 W maximum output power. 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	Output Voltage Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2, 3)
					110Vac	220Vac	
350 mA	90 ~ 305 Vac	60~120Vdc	42 W	90.0%	0.96	0.95	EUC-042S035DS(PS)(4)
450 mA	90 ~ 305 Vac	47~94 Vdc	42 W	89.0%	0.96	0.95	EUC-042S045DS(PS)(4)
700 mA	90 ~ 305 Vac	30~60 Vdc	42 W	89.0%	0.96	0.95	EUC-042S070DS(PS)(4)
1050 mA	90 ~ 305 Vac	18~37 Vdc	39 W	88.0%	0.96	0.95	EUC-042S105DS(PS)(6)
1280 mA	90 ~ 305 Vac	17~32 Vdc	42 W	87.0%	0.96	0.95	EUC-042S128DS(PS)(6)
1400 mA	90 ~ 305 Vac	15~30 Vdc	42 W	87.0%	0.96	0.95	EUC-042S140DS(PS)(6)
1750 mA	90 ~ 305 Vac	12~24 Vdc	42 W	87.0%	0.96	0.95	EUC-042S175DS(PS)(6)

**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).

## Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	At 277Vac 60Hz input

Specifications are subject to changes without notice.

## Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	0.6 A	Measured at full load and 100 Vac input.
	-	-	0.3 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	60 A	At 230Vac input 25°C Cold Start. Duration=100µs

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Range	-5% I <sub>o</sub>	-	5% I <sub>o</sub>	
No Load Output Voltage				
I <sub>o</sub> = 350 mA	-	-	132 V	
I <sub>o</sub> = 450 mA	-	-	104 V	
I <sub>o</sub> = 700 mA	-	-	67 V	
I <sub>o</sub> = 1050 mA	-	-	42 V	
I <sub>o</sub> = 1280 mA	-	-	37 V	
I <sub>o</sub> = 1400 mA	-	-	34 V	
I <sub>o</sub> = 1750 mA	-	-	27 V	
Output Current Ripple	-	-	50%I <sub>o</sub>	
Overshoot/Output Current	-	-	10% I <sub>o</sub>	
Line Regulation	-	-	1%	
Load Regulation	-	-	3%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 110Vac input.
	-	0.3 s	0.5 s	Measured at 220Vac input.
Output Overshoot / Undershoot	-	-	10%	When power on or off.

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

## Protection Functions

Parameter	Min.	Typ.	Max.	Notes
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.			
Over Temperature Protection	Hiccup mode. When the case temperature is higher than 110±15°C, the power supply will turn off automatically; when the case temperature is lower than 110±15°C, the power supply will start again.			

## General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency $I_o = 350 \text{ mA}$ $I_o = 450 \text{ mA}$ $I_o = 700 \text{ mA}$ $I_o = 1050 \text{ mA}$ $I_o = 1280 \text{ mA}$ $I_o = 1400 \text{ mA}$ $I_o = 1750 \text{ mA}$	87% 86% 86% 85% 84% 84%	89% 88% 88% 86% 86% 85% 85%	- - - - - - -	Measured at full load and 110 Vac input.
Efficiency $I_o = 350 \text{ mA}$ $I_o = 450 \text{ mA}$ $I_o = 700 \text{ mA}$ $I_o = 1050 \text{ mA}$ $I_o = 1280 \text{ mA}$ $I_o = 1400 \text{ mA}$ $I_o = 1750 \text{ mA}$	88.0% 87.0% 87.0% 86.0% 85.0% 85.0% 85.0%	90.0% 89.0% 89.0% 88.0% 87.0% 87.0% 87.0%	- - - - - - -	Measured at full load and 220 Vac input.
No Load Power Dissipation			6 W	
MTBF	327,000 Hours			Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	71,000 Hours			Measured at 110Vac input, 80%Load and 45°C ambient temperature
Dimensions Inches (L × W × H) Millimeters (L × W × H)	3.74 × 2.76 × 1.26 95 × 70 × 32			
Net Weight	-	350 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
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

## Safety & EMC Compliance

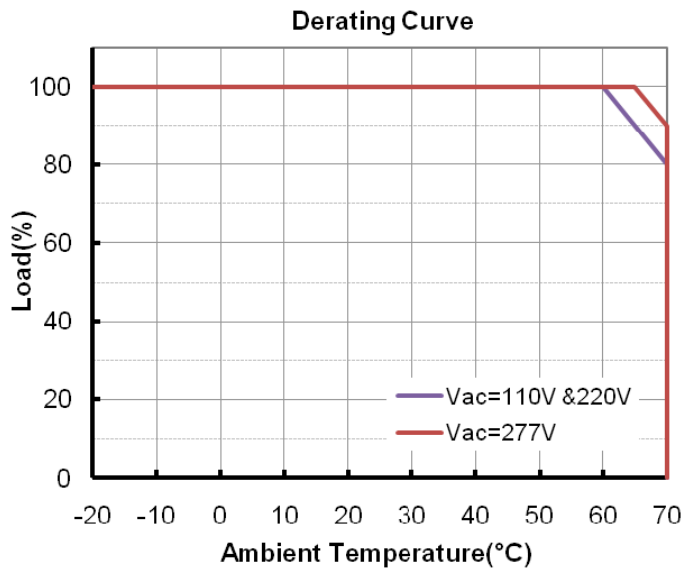
Safety Category	Standard
UL/CUL	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic Current Emissions
EN 61000-3-3	Voltage Fluctuations & Flicker

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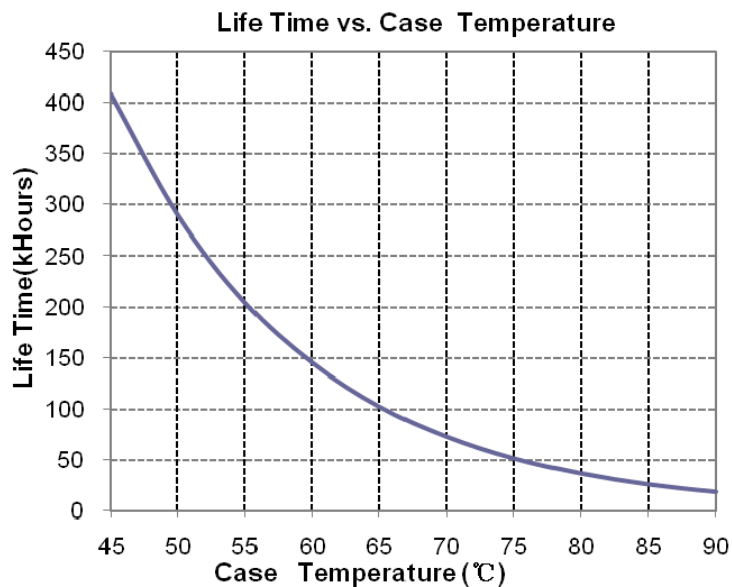
## Safety & EMC Compliance(Continued)

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: level 3, criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 2 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

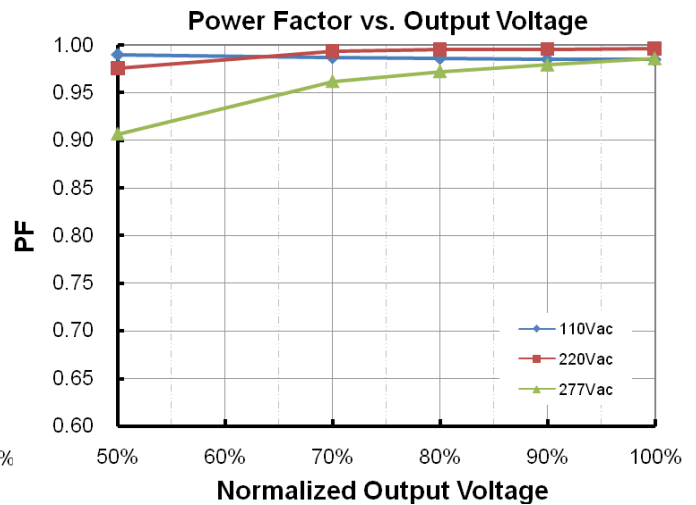
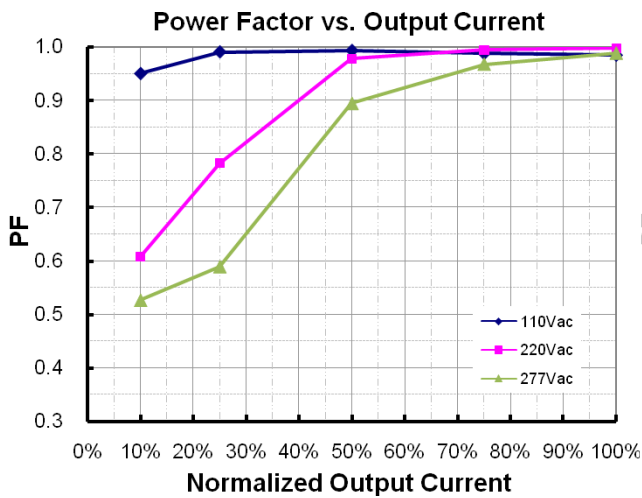


## Life Time vs. Case Temperature Curve

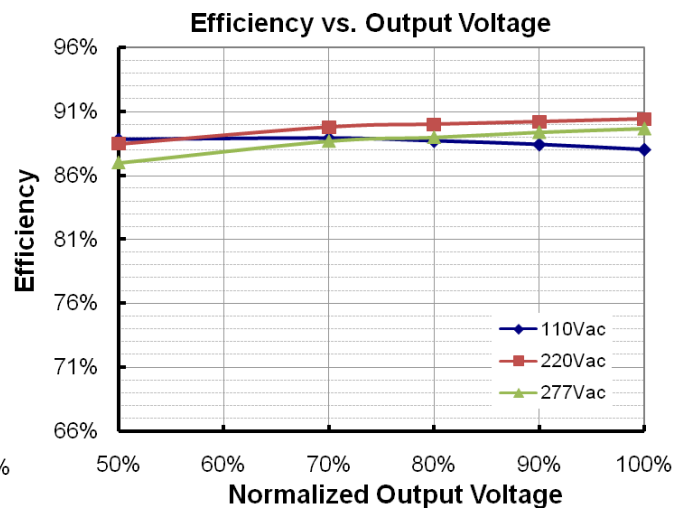
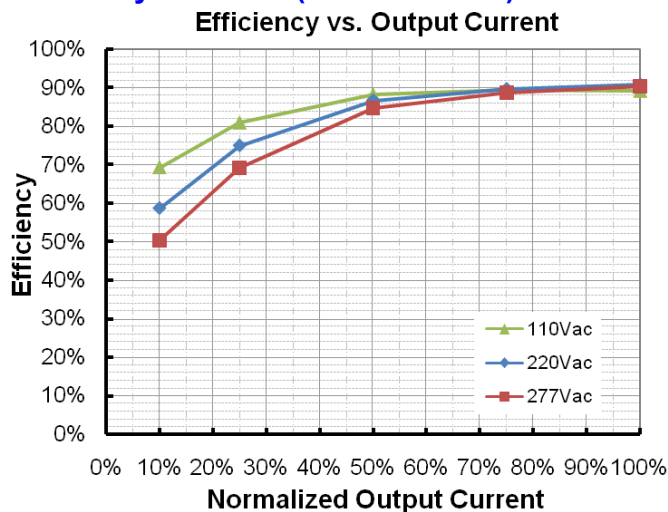


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## Power Factor Characteristics



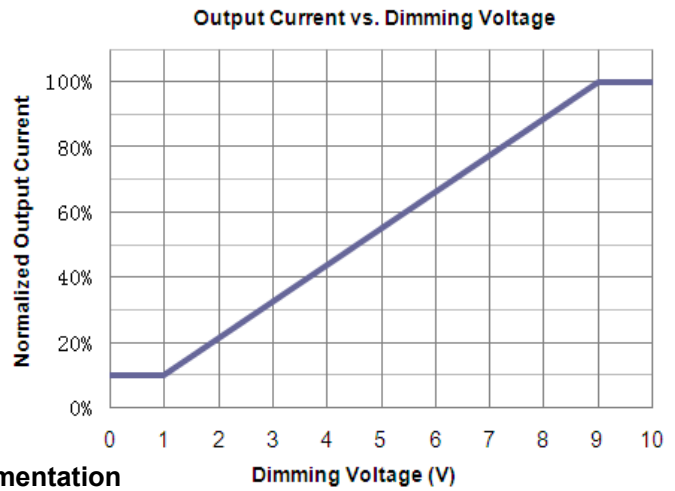
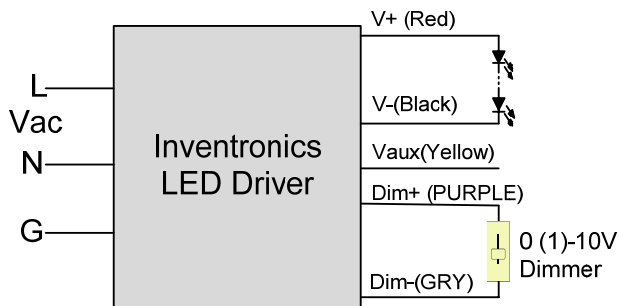
## Efficiency vs. Load (350mA Model)



## Dimming Control (On secondary side)

Parameter	Min.	Typ.	Max.	Notes
12V Output Voltage	10.8 V	12 V	13.2 V	
12V Output Source Current	0 mA	-	20 mA	
Absolute Maximum Voltage on the 0~10V Input Pin	0 V	-	15 V	
Source Current on 0~10V Input Pin	0 uA	-	200 uA	

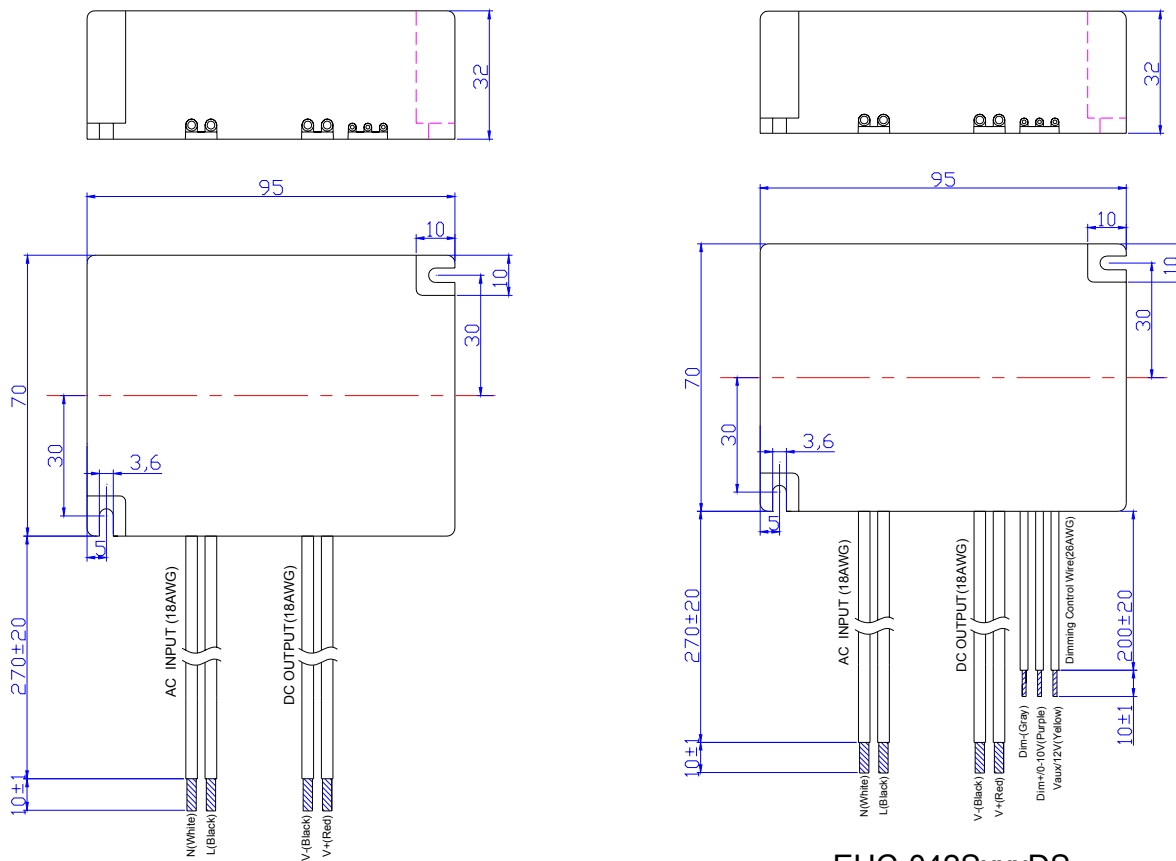
The dimmer control may be operated from either a dimmer or from an input signal of 0 – 10 Vdc. The recommended implementation is provided below.



**Notes:**

Do not connect the Dim- to the V-, otherwise, the LED driver cannot work normally.

**Mechanical Outline**



EUC-042SxxxDS

**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
2012-02-17	A	Preliminary Datasheets First Release	/	/
2012-03-21	B	EUC-042S105DS(PS) CUL Class 2 added	/	/