

## Features

- High Efficiency (Up to 89%)
- Active Power Factor Correction (Typical 0.95)
- Constant Output Voltage
- Lightning Protection
- Waterproof (IP66) and Damp Location
- All-Around Protection: OVP, SCP, OCP, OTP
- Class 2 and SELV



## Description

The EUV-042SxxxPS Series operates 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, over current protection, and over temperature protection.

## Models

Output Voltage	Input Voltage Range(1)	Output Current Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number
					120Vac	220Vac	
12 Vdc	90 ~ 305 Vac	0~3500mA	42 W	84%	0.96	0.95	EUV-042S012PS (3)
24 Vdc	90 ~ 305 Vac	0~1750mA	42 W	86%	0.96	0.95	EUV-042S024PS (3)
36 Vdc	90 ~ 305 Vac	0~1160mA	42 W	87%	0.96	0.95	EUV-042S036PS (3)
48 Vdc	90 ~ 305 Vac	0~875 mA	42 W	89%	0.96	0.95	EUV-042S048PS (4)

**Notes:** (1) UL, FCC certified input voltage range: 100~277Vac, other certified input voltage range except UL & FCC: 100~240Vac.

(2) Measured at full load and 220 Vac input.

(3) Class 2 output (USR & CNR).

(4) Class 2 output (USR), Non-Class 2 output (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
	-	-	0.70 mA	IEC60598-1; 240Vac/ 60Hz
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	-	-	70 A	At 220Vac input 25°C Cold Start. Duration=100 μs, 10%Ipk-10%Ipk.
Inrush Current(I <sup>2</sup> t)	-	-	0.16 A <sup>2</sup> s	

## Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load (31.5~42W)
THD	-	-	20%	

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%Vo		5%Vo	
Output Voltage Ripple Vo = 12 V Vo = 24 V Vo = 36 V Vo = 48 V	- - - -	- - - -	3 V 4 V 4 V 4 V	Load conditions, Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
No Load Output Voltage Vo = 12 V Vo = 24 V Vo = 36 V Vo = 48 V	- - - -	- - - -	16 V 28 V 40 V 52 V	
Output Voltage Overshoot / Undershoot	-	-	10%Vo	At full load condition.
Line Regulation	-	-	±2%	Measured at full load
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	0.40 s	0.75 s	Measured at 120Vac input.
	-	0.30 s	0.50 s	Measured at 220Vac input.
Temperature coefficient	-	-	0.2%/°C	Case temperature = 0°C ~Tc max

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

## General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: Vo = 12 V Vo = 24 V Vo = 36 V Vo = 48 V	81% 83% 84% 86%	82% 84% 85% 87%	- - - -	Measured at full load and steady-state temperature in 25°C ambient.
Efficiency at 220 Vac input: Vo = 12 V Vo = 24 V Vo = 36 V Vo = 48 V	83% 85% 86% 88%	84% 86% 87% 89%	- - - -	Measured at full load and steady-state temperature in 25°C ambient.
No Load Power Dissipation	-	-	6 W	
MTBF	327,000 hours	-	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	116,000 Hours	-	Measured at 120Vac input, 80%Load, Case temperature=60°C @ Tc point. See life time vs. Tc curve for the details

## General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Operating Case Temperature for Safety Tc_s	-40 °C	-	+90 °C	
Operating Case Temperature for Warranty Tc_w	-40 °C	-	+70 °C	Humidity: 10% RH to 100% RH.
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	3.74 × 2.76 × 1.26 95 × 70 × 32			
Net Weight	-	390 g	-	

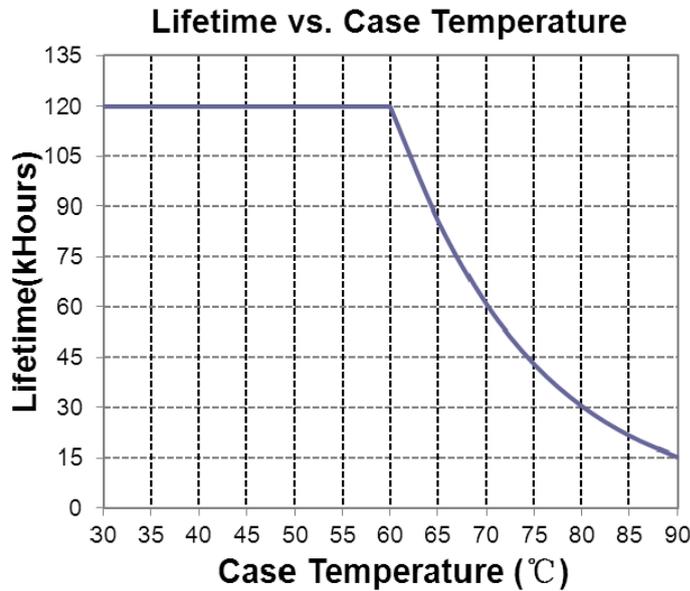
**Note:** All specifications are typical at 25 °C unless otherwise stated.

## Safety & EMC Compliance

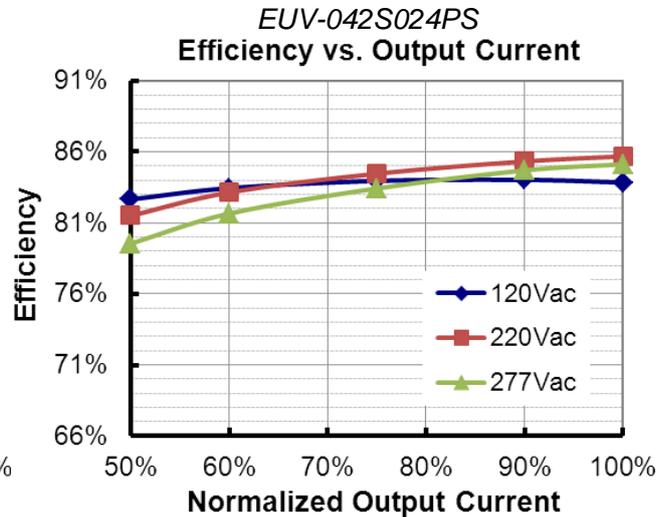
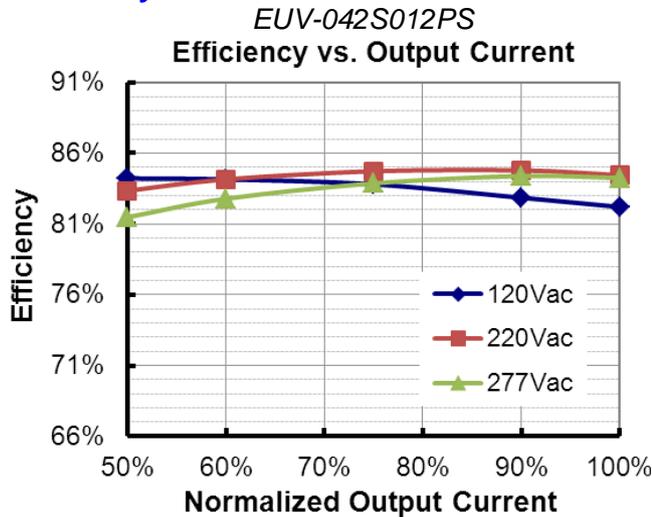
Safety Category	Standard
UL/CUL	UL8750, UL1012, UL1310 Class 2, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
KS	KS C 7655: 2011
EMI Standards	Standard
EN 55015 <sup>(1)</sup>	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15 <sup>(1)</sup>	ANSI C63.4: 2009 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired operation.
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

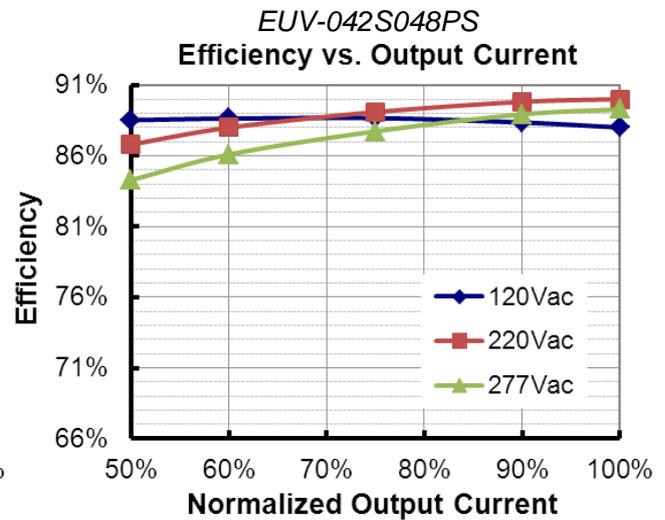
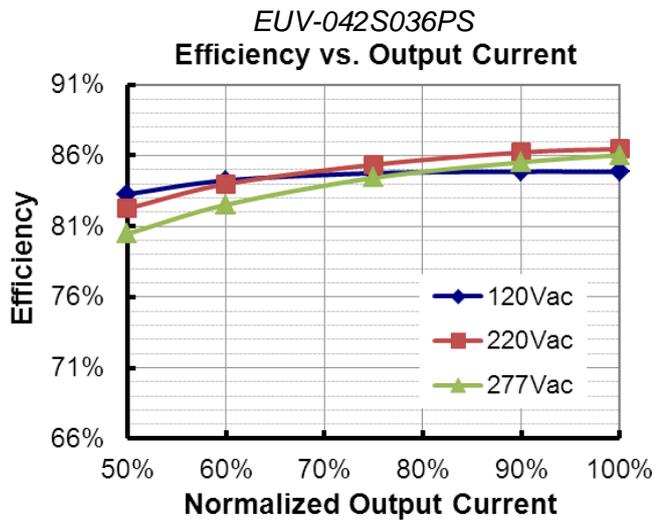
**Note:** (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

## Lifetime vs. Case Temperature Curve

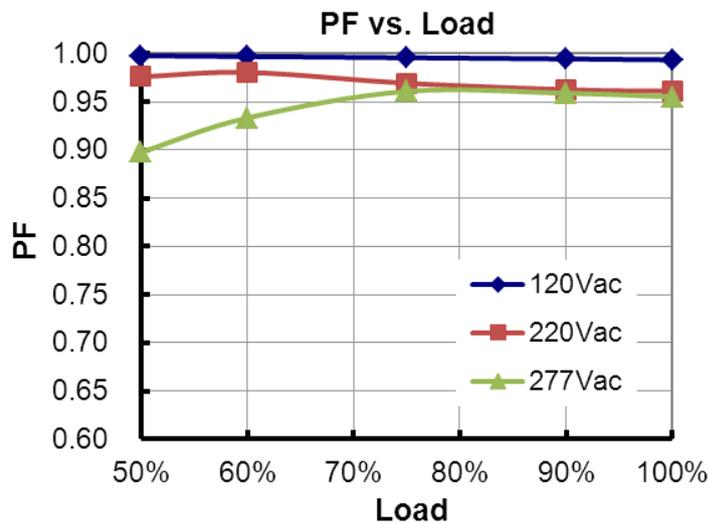


## Efficiency vs. Load





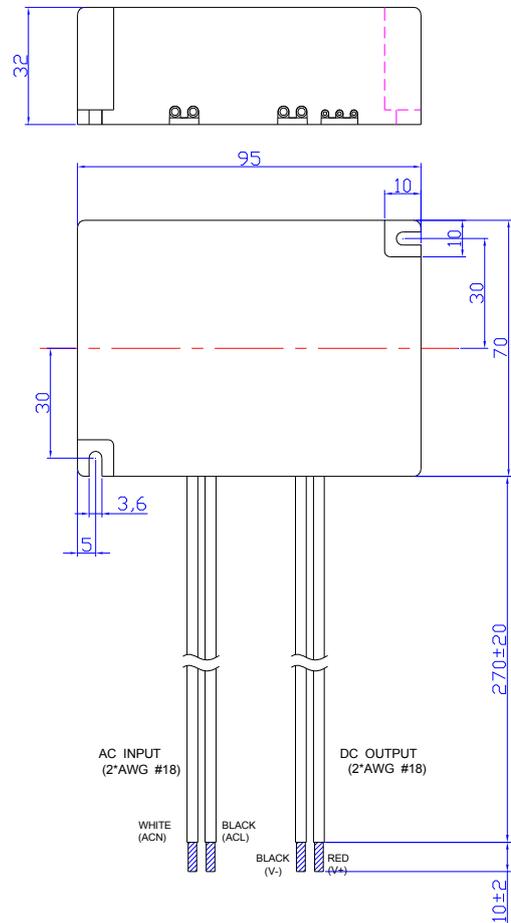
### Power Factor



### Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	1.1 I <sub>o</sub>	1.4 I <sub>o</sub>	1.7 I <sub>o</sub>	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection-T <sub>c</sub>	Hiccup mode. When the case temperature is higher than 110°C, the power supply will turn off automatically; when the case temperature is lower than 75°C, the power supply will be auto recovery.			
Short Circuit Protection	Auto Recovery. 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.			

## Mechanical Outline



## 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
2012-04-24	A	Datasheets Release	/	/
2012-05-25	B	OTP	/	Added
		EN 61000-4-5--- line to line 2 kV, line to earth 4 kV	/	Corrected
2012-06-06	C	Life time vs. Tc Curve	/	Added
		Notes of life time	/	Updated
2012-7-2	D	Description of OTP	/	Updated
2012-7-17	E	Max Case Temperature	/	Updated
2012-7-30	F	Min Operating Temperature	-20°C	-40°C
2012-8-16	G	Derating Curve	/	Updated
		Inrush Current(I2t)	/	Added
		Inrush Current	60A	70A
		Temperature co-efficient	/	Added
2012-11-26	H	Life time	Min 50,000hrs	Typical 116,000hrs
		Life time Curve	/	Updated
2013-07-01	I	Energy star	/	Deleted
2016-08-02	J	Turn-on Delay Time at 120Vac	Max.=1.0 s	Max.=0.75 s
		Operating Case Temperature for Warranty Tc_w	/	Added
		Net Weight	350 g	390 g
		Environmental Specifications	/	Deleted
		KS Certificate Regulation	/	Added
		Note of EMI Standard	/	Added
		Derating Curve	/	Deleted