

## Features

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



## Description

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

## Models

Output Voltage	Input Voltage Range	Output Current Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					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) Measured at full load and 220 Vac input.  
 (2) A suffix -xxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.  
 (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
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	
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	

Specifications are subject to changes without notice.

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%	-	5%	
No Load Output Voltage				
Vo = 12 V	-	-	16 V	
o = 24 V	-	-	28 V	
Vo = 36 V	-	-	40 V	
Vo = 48 V	-	-	52 V	
Ripple and Noise				
Vo = 12 V	-	-	3 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.
Vo = 24 V	-	-	4 V	
Vo = 36 V	-	-	4 V	
Vo = 48 V	-	-	4 V	
Output Voltage Overshoot / Undershoot	-	-	10%	At full load condition.
Line Regulation	-	-	±2%	
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 120Vac input.
	-	0.3 s	0.5 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.

## Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	1.1 Io	1.4 Io	1.7 Io	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection-Tc	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	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				
Vo = 12 V	81%	82%	-	Measured at full load and 120 Vac input.
Vo = 24 V	83%	84%	-	
Vo = 36 V	84%	85%	-	
Vo = 48 V	86%	87%	-	
Efficiency				
Vo = 12 V	83%	84%	-	Measured at full load and 220 Vac input.
Vo = 24 V	85%	86%	-	
Vo = 36 V	86%	87%	-	
Vo = 48 V	88%	89%	-	
No Load Power Dissipation	-	-	6 W	
MTBF	327,000 hours	-	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)

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## General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Life Time	-	116,000 Hours	-	Measured at 120Vac input, 80%Load, Case temperature=60°C @ Tc point. See life time vs. Tc curve for the details
Case Temperature	-	-	90 °C	
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	-40 °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

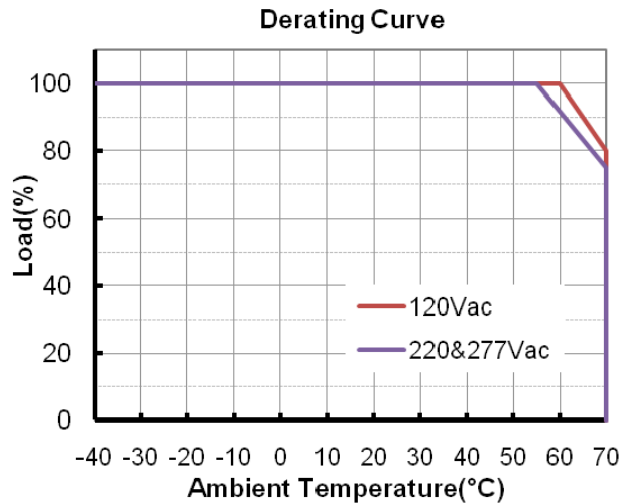
Safety Category	Standard
UL/CUL	UL8750, UL1012, UL1310 Class 2, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
EMI Standards	Standard
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15	ANSI C63.4: 2009 Class B
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

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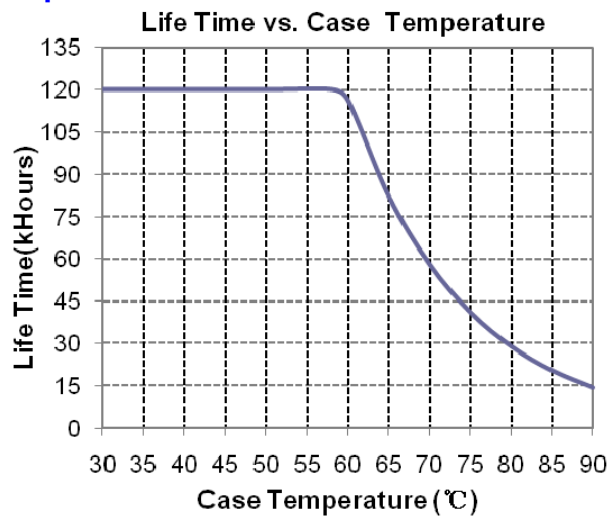
## Safety & EMC Compliance (Continued)

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

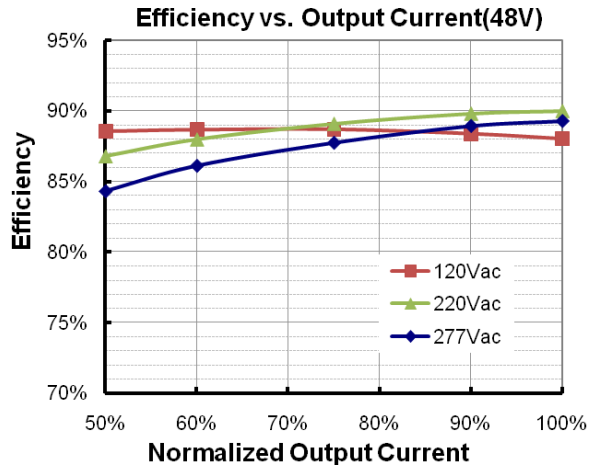
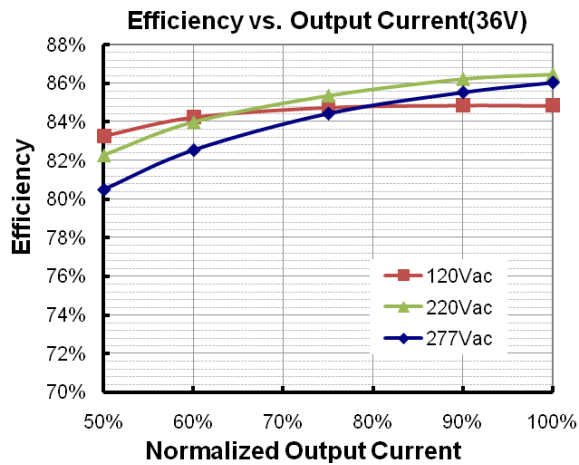
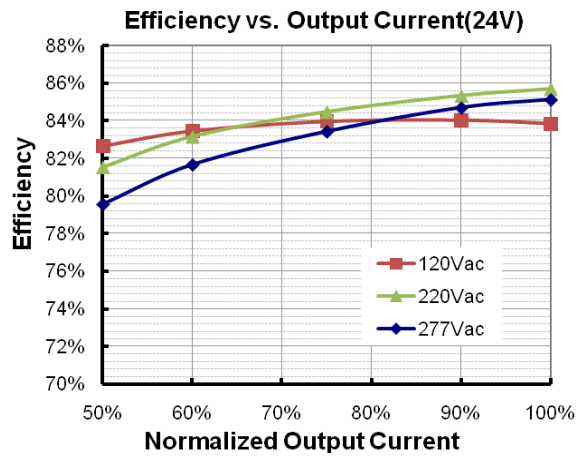
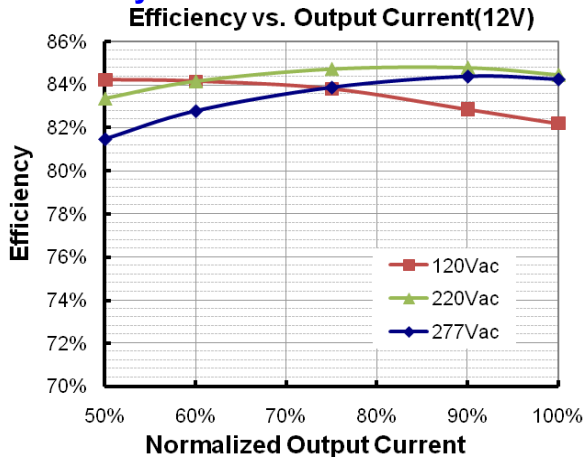


## Life Time vs. Case Temperature Curve

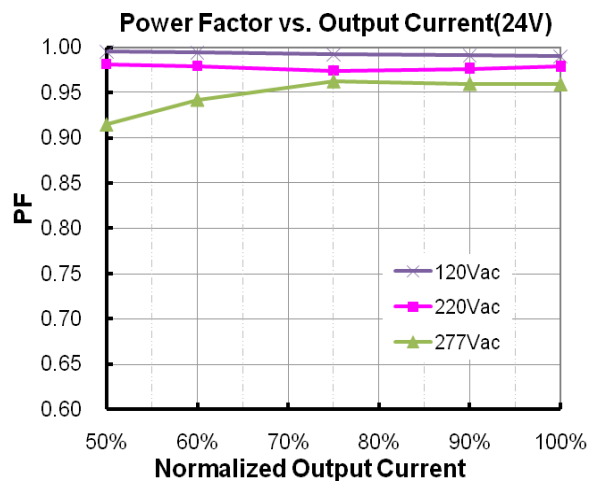
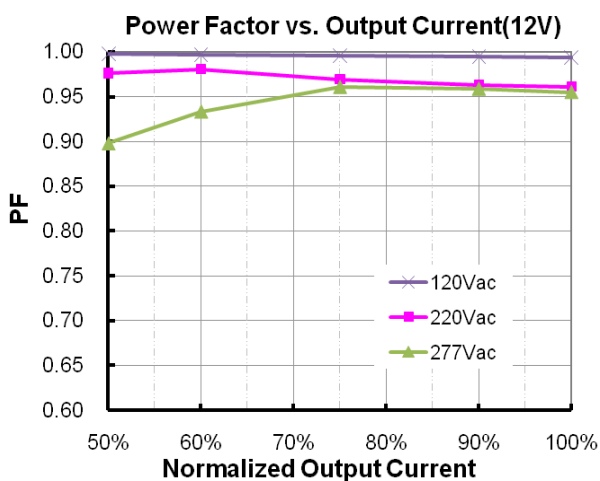


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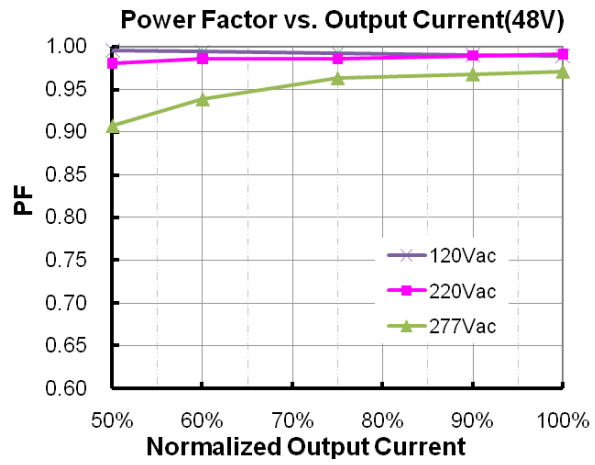
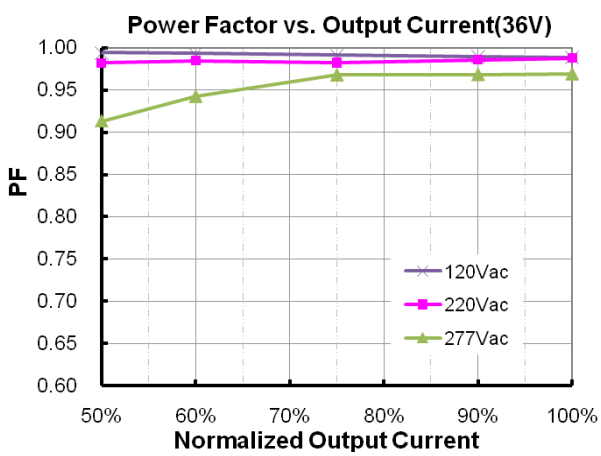
## Efficiency Curve



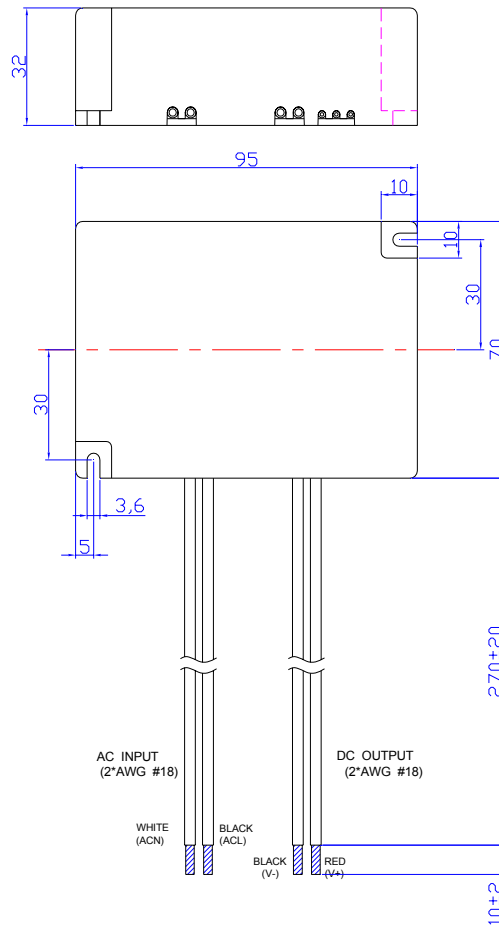
## Power Factor Characteristics



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## 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
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(I <sup>2</sup> t)	/	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

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