

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 ² t)	-	-	0.16 A ² 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 x W x H) Millimeters (L x W x H)	3.74 x 2.76 x 1.26 95 x 70 x 32			
Net Weight	-	390 g	-	

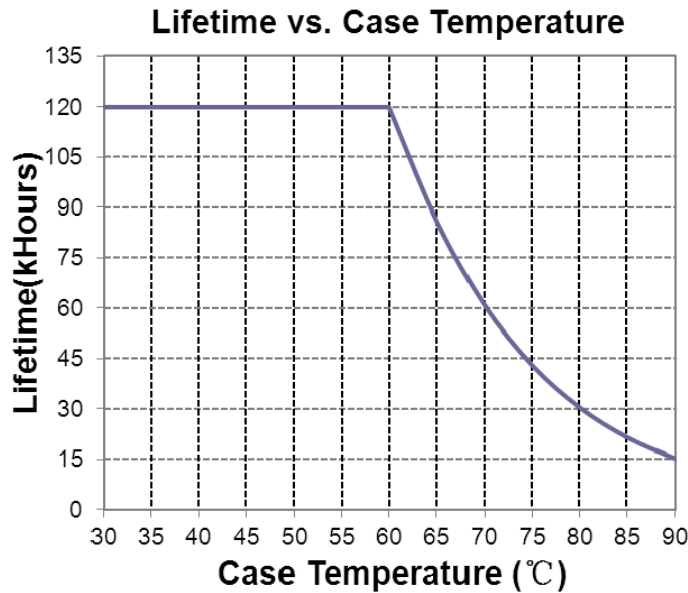
Note: All specifications are typical at 25 °C unless otherwise stated.

Safety & EMC Compliance

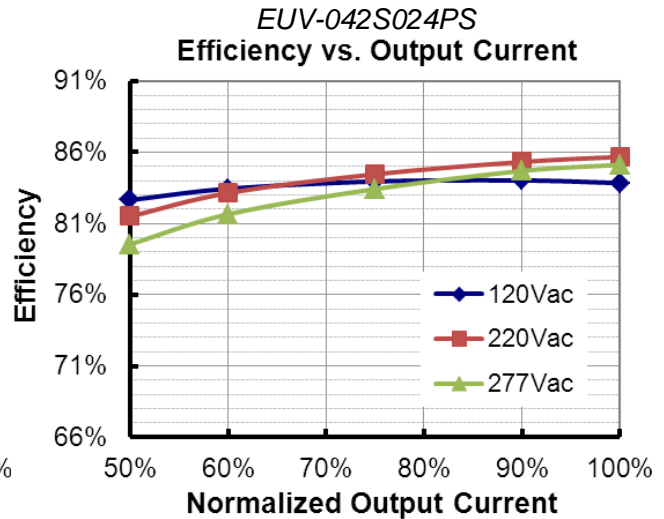
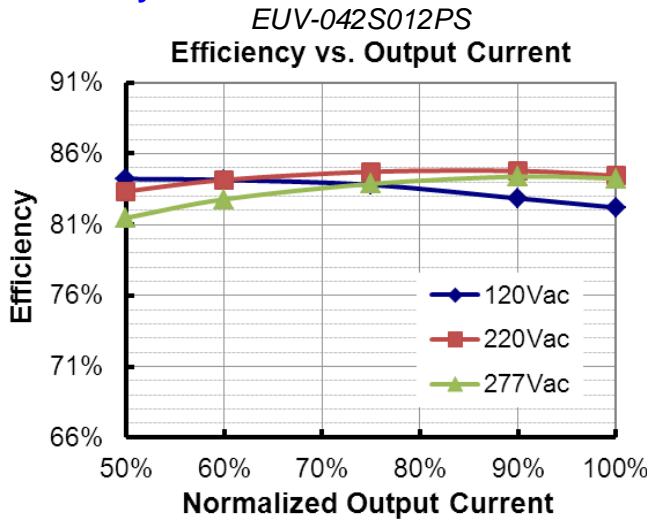
Safety Category	Standard
UL/CUL	UL8750, UL1012, UL1310 Class 2, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
KS	KS C 7655: 2011
EMI Standards	Standard
EN 55015 ⁽¹⁾	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15 ⁽¹⁾	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

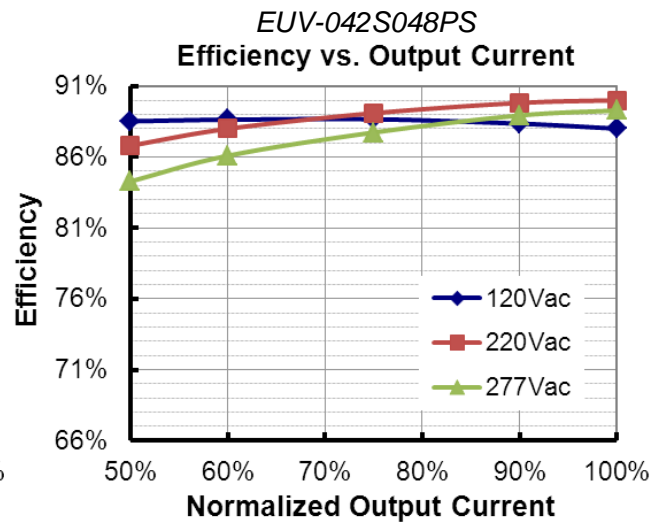
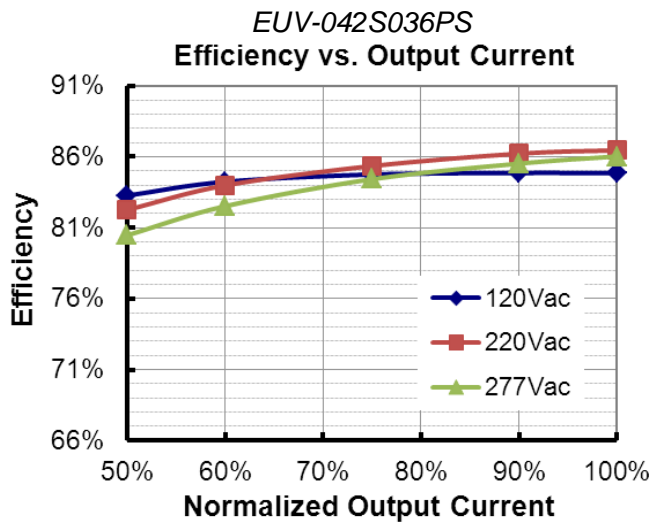
Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

Lifetime vs. Case Temperature Curve

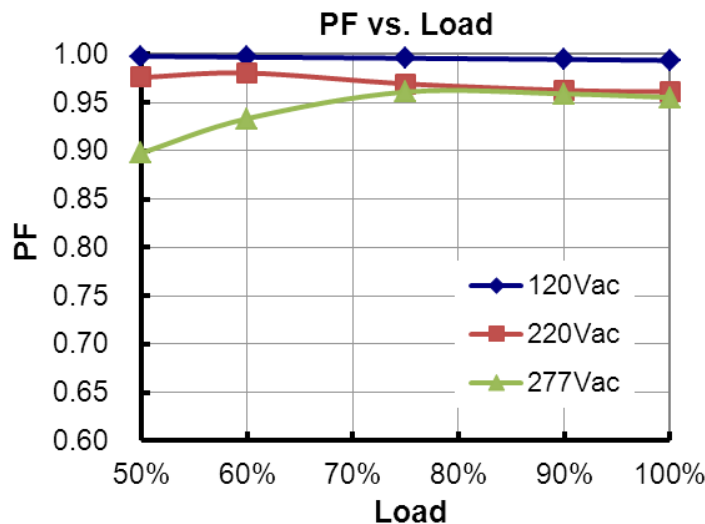


Efficiency vs. Load





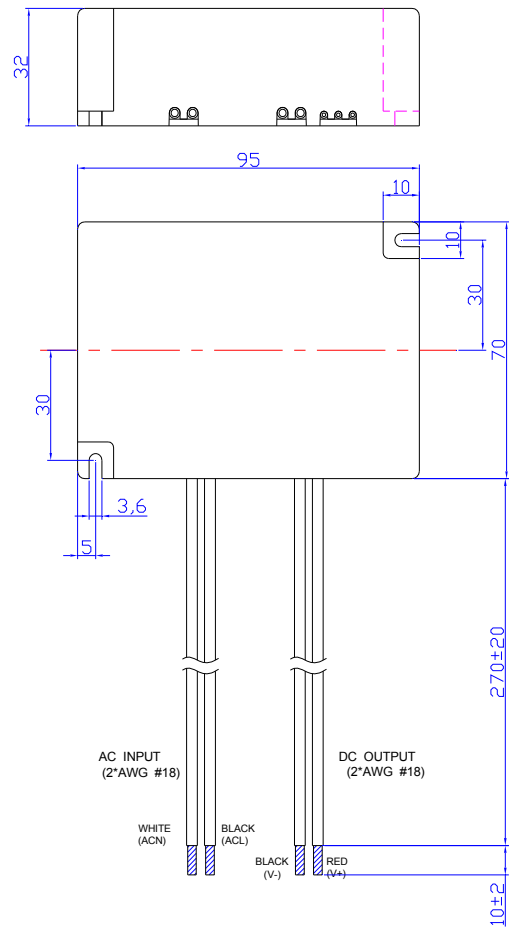
Power Factor



Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	1.1 I _o	1.4 I _o	1.7 I _o	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection-T _c	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