

## Features

- High Efficiency (Up to 87%)
- Constant Voltage Output
- Active Power Factor Correction (Typical 0.95)
- Input Surge Protection: 4kV line-line, 6kV line-earth
- All-Round Protection: OVP, SCP, OCP, OTP
- Waterproof (IP67)
- SELV Output
- 5 Years Warranty



## Description

The EUV-036SxxxSV series is a 36W, constant-voltage IP67 LED driver that operates from 90~305 Vac input with excellent power factor. It is created for many lighting applications including architectural, decorative, tunnel and street. The high efficiency of these drivers and metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, over current, and over temperature.

## Models

Output Voltage	Input Voltage Range(1)	Output Current Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number(3)
					120Vac	220Vac	
24 Vdc	90 ~ 305 Vac	0~1500 mA	36 W	85%	0.96	0.95	EUV-036S024SV
36 Vdc	90 ~ 305 Vac	0~1000 mA	36 W	86%	0.96	0.95	EUV-036S036SV
48 Vdc	90 ~ 305 Vac	0~750 mA	36 W	87%	0.96	0.95	EUV-036S048SV

- Notes:** (1) Certified input voltage range: 100-240Vac.  
 (2) Measured at 100% load and 220 Vac input.  
 (3) SELV output.

## Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	IEC60598-1; 240Vac/60Hz
Input AC Current	-	-	0.6 A	Measured at 100% load and 100 Vac input.
	-	-	0.3 A	Measured at 100% load and 220 Vac input.
Inrush Current	-	-	60 A	At 220Vac input 25°C Cold Start.
Inrush Current(I <sup>2</sup> t)	-	-	0.2 A <sup>2</sup> s	Duration=210 μs, 10%Ipk-10%Ipk.
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load (27~36W)

## Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
THD	-	-	20%	At 100Vac-277Vac, 75%load-100%load (27~36W)

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%Vo		5%Vo	
Ripple and Noise				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	-	-	3 V	
Vo = 36 V	-	-	4 V	
Vo = 48 V	-	-	4 V	
Output Voltage Overshoot / Undershoot	-	-	10%Vo	At 100% load condition.
No Load Output Voltage				
Vo = 24 V	-	-	28 V	
Vo = 36 V	-	-	40 V	
Vo = 48 V	-	-	52 V	
Line Regulation	-	-	±2%	At 100% load condition.
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 120Vac input, 75%load-100%load
	-	0.3 s	0.5 s	Measured at 220Vac input, 75%load-100%load
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 = 24 V	83%	84%	-	Measured at 100% load and steady-state temperature in 25°C ambient.
Vo = 36 V	84%	85%	-	
Vo = 48 V	85%	86%	-	
Efficiency at 220 Vac input:				
Vo = 24 V	84%	85%	-	Measured at 100% load and steady-state temperature in 25°C ambient.
Vo = 36 V	85%	86%	-	
Vo = 48 V	86%	87%	-	
Efficiency at 277 Vac input:				
Vo = 24 V	84%	85%	-	Measured at 100% load and steady-state temperature in 25°C ambient.
Vo = 36 V	85%	86%	-	
Vo = 48 V	86%	87%	-	
No Load Power Dissipation	-	-	6 W	
MTBF	371,000 hours	-	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)

## General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Lifetime	-	111,700 Hours	-	Measured at 120Vac input, 80%Load, Case temperature=60°C @ Tc point. See life time vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-40 °C	-	+90 °C	
Operating Case Temperature for Warranty Tc_w	-40 °C	-	+70 °C	Case temperature for 5 years warranty. 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)	6.77 × 1.77 × 1.38 172 × 45.0 × 35.0			With mounting ear 7.60 × 1.77 × 1.38 193 × 45.0 × 35.0
Net Weight	-	520 g	-	

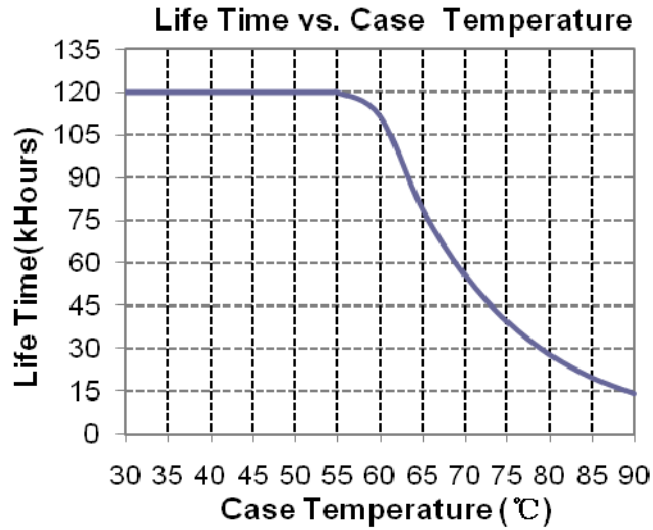
**Note:** All specifications are typical at 25 °C unless otherwise stated.

## Safety & EMC Compliance

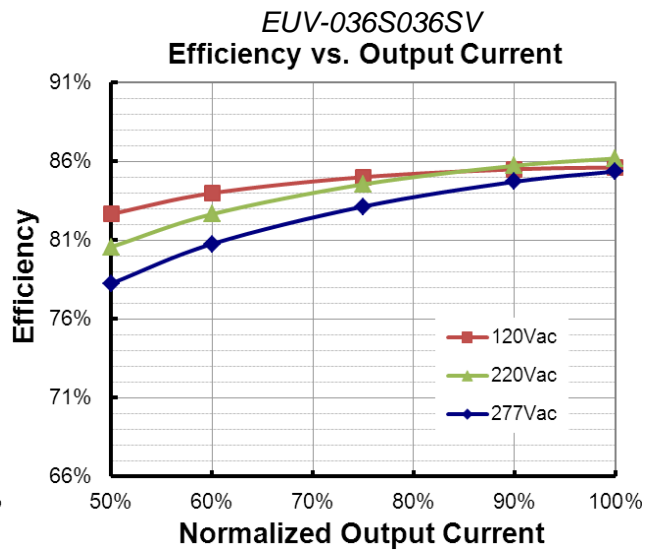
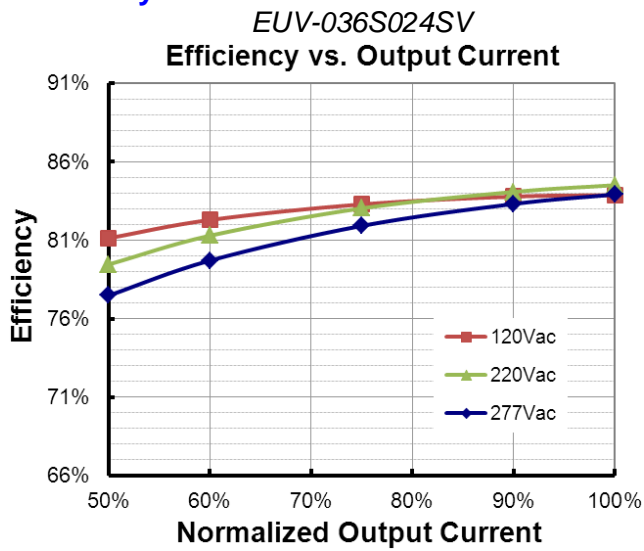
Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
CCC	GB 19510.1, GB 19510.14
KS	KS C 7655
EMI Standards	Notes
EN 55015 <sup>(1)</sup>	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	Notes
EN 61000-4-2	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 4 kV, line to earth 6 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

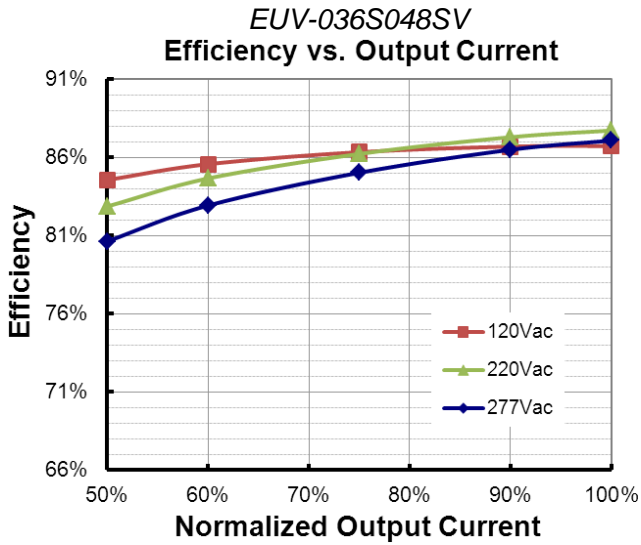
**Note:** (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

## Lifetime vs. Case Temperature Curve

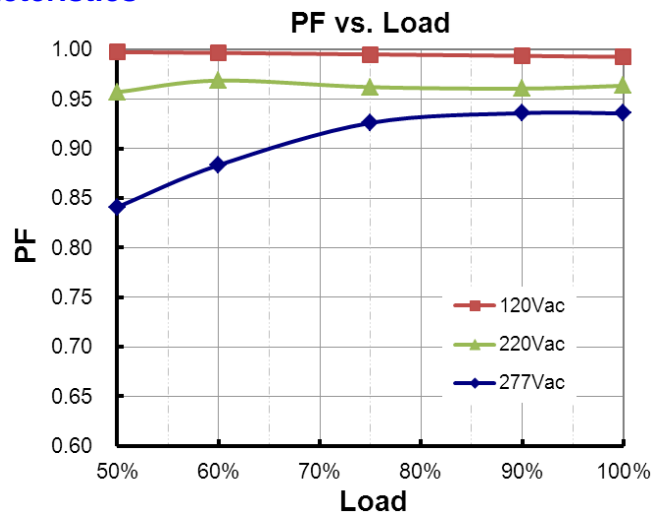


## Efficiency vs. Load





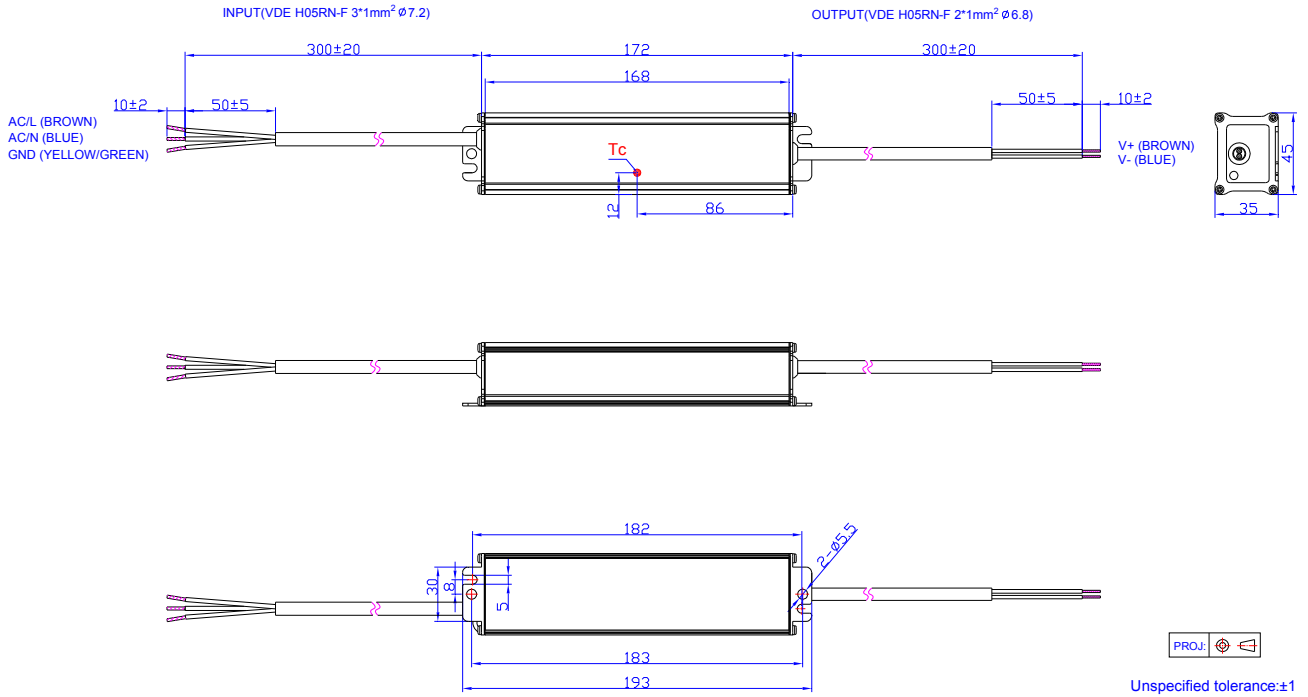
### Power Factor Characteristics



### Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	1.1 I <sub>o</sub>	1.4 I <sub>o</sub>	1.70 I <sub>o</sub>	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection	Auto Recovery. Returning to normal after over temperature is removed.			
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.			

## Mechanical Outline



## RoHS Compliance

Our products comply with the European Directive 2002/95/EU, calling for the elimination of lead and other hazardous substances from electronic products.

## Revision History

Change Date	Rev.	Description of Change			
		Item	From	To	
2012-4-24	A	Datasheets Release	/	/	
2012-05-25	B	OTP	/	Added	
2012-06-06	C	Life time vs. Tc Curve	/	Added	
		Notes of life time	/	Updated	
2012-07-02	D	Description of OTP	/	Updated	
2012-7-17	E	Max Case Temperature	/	Updated	
		Mechanical Outline— wire length 320±20mm	/	Corrected	
2012-7-30	F	Min Operating Temperature	-35°C	-40°C	
2012-8-16	G	Derating Curve	/	Updated	
		Inrush Current(I <sup>2</sup> t)	/	Added	
		Min PF	/	Added	
		Max THD	/	Added	
		Temperature coefficient	/	Added	
2012-11-26	H	Life time	Min 50,000hrs	Typical 111,700hrs	
		Life time Curve	/	Updated	
		Mechanical Outline	/	Updated	
2017-09-11	I	Features	/	Updated	
		Description	/	Updated	
		Efficiency at 277 Vac input	/	Added	
		Warranty Tc_w	/	Added	
		Environmental Specifications	/	Deleted	
		CCC certificate	/	Added	
		KS certificate	/	Added	
		Note of EMI Standard	/	Added	
		Derating Curve	/	Deleted	
		Power Factor Curve	/	Updated	
		Dimensions	Inches (L × W × H) Millimeters (L × W × H)	6.77 × 1.67 × 1.34 172 × 42.4 × 34.0	6.77 × 1.77 × 1.38 172 × 45.0 × 35.0
		Net Weight		480 g	520 g

## Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2017-09-11	I	Protection Functions - Over Temperature Protection	/	Updated
		Mechanical Outline	/	Updated
2018-04-12	J	PSE Certificate	/	Added
		Description	/	Updated
		Safety & EMC Compliance - CCC certificate regulation	/	Added