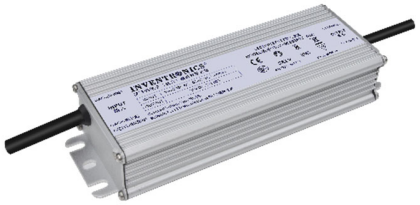
Features

- Ultra High Efficiency (Up to 90%)
- High Power Factor (0.99 Typical)
- Constant Voltage Output
- Input Surge Protection: DM 4kV, CM 6kV
- All-Round Protection: OVP, OCP, SCP, OTP
- IP67
- SELV Output
- 5 Years Warranty



Description

The *EUV-096SxxxSV* series is a 96W, constant-voltage LED driver that operates from 90-305 Vac input with excellent power factor. It is created for many lighting applications including architectural, decorative and signage, etc. The high efficiency of the driver and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, over current, output over voltage, short circuit, and over temperature.

Models

Output Voltage	Input Voltage Range	Output Current Range	Max. Output Power	Typical Efficiency (1)	Typical Power Factor		Model Number (2)
					120Vac	220Vac	
24 Vdc	90 ~ 305 Vac	0~4.00 A	96 W	88.0%	0.99	0.96	EUV-096S024SV
36 Vdc	90 ~ 305 Vac	0~2.66 A	96 W	88.0%	0.99	0.96	EUV-096S036SV
48 Vdc	90 ~ 305 Vac	0~2.00 A	96 W	88.0%	0.99	0.96	EUV-096S048SV
54 Vdc	90 ~ 305 Vac	0~1.77 A	96 W	90.0%	0.99	0.96	EUV-096S054SV

Note: (1) Measured at 25°C, 100% load and 220 Vac input.
(2) SELV output

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	1 mA	At 277Vac 60Hz input
Input AC Current	-	-	1.2 A	Measured at 100% load and 100 Vac input.
	-	-	0.6 A	Measured at 100% load and 220 Vac input.
Inrush Current	-	-	69 A	At 220Vac input, 25℃ Cold start, Duration= 2 mS, 10%Ipk-10%Ipk
Inrush Current(I^2t)	-	-	2.8 A^2s	

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
PF	0.90	-	-	At 100-277Vac, 50-60Hz, 75%-100%load. (72-96W)
THD	-	-	20%	

Output Specifications

Parameter		Min.	Typ.	Max.	Notes
Output Voltage Tolerance		-5%	-	5%	
Ripple and Noise (pk-pk)		-	-	3% V_O	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
Line Regulation		-	-	±1%	
Load Regulation		-	-	±2%	
Turn-on Delay Time		-	1.0 s	2.0 s	Measured at 120Vac input, 75%-100%load
		-	1.0 s	2.0 s	Measured at 220Vac input, 75%-100%load
Output Overshoot / Undershoot		-	-	10%	When power on or off.
Load Dynamic Response	Output Deviation	-	-	5% V_O	R/S: 1 A/uS Load: 25% ~ 75% full load.
	Settling Time	-	-	10 mS	
Temperature coefficient		-	0.03%/°C	-	Case temperature = 0°C ~Tc max

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Voltage Protection V_O = 24 V V_O = 36 V V_O = 48 V V_O = 54 V	 - - - -	 30 V 45 V 55 V 65 V	 35 V 50 V 60 V 75 V	
Over Current Protection	100% I_O		110% I_O	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection-Tc	-	110 °C	-	Maximum temperature of the case. The power supply shall be self-recovery when the fault condition 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.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency @120 Vac input: V_O = 24 V V_O = 36 V V_O = 48 V V_O = 54 V	 84.5% 84.0% 84.0% 85.0%	 86.5% 86.0% 86.0% 87.0%	 - - - -	Measured at 100% load, 120 Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be about 2.5% lower, if measured immediately after startup.
Efficiency @220 Vac input: V_O = 24 V V_O = 36 V V_O = 48 V V_O = 54 V	 86.0% 86.0% 86.0% 88.0%	 88.0% 88.0% 88.0% 90.0%	 - - - -	Measured at 100% load, 220 Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be about 2.5% lower, if measured immediately after startup.
MTBF	-	202,000 Hours	-	Measured at 120Vac input,80% Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	56,600 Hours	-	Measured at 120Vac input, 80%load; Case temperature=60℃ @ Tc point. See the lifetime vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-40°C	-	+89 °C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+70 °C	Case temperature for 5 years warranty Humidity: 10% RH to 95% RH
Storage Temperature	-40°C	-	+85 °C	Humidity: 5% RH to 95% RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.85 × 2.66 × 1.44 174 × 67.5 × 36.5			With mounting ear 7.91× 2.66 × 1.44 201× 67.5 × 36.5
Net Weight	-	925 g	-	

Safety & EMC Compliance

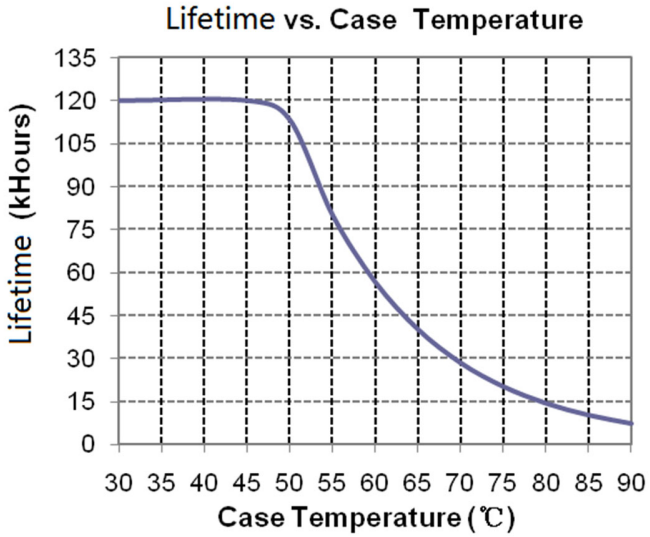
Safety Category	Standard
CE	EN 61347-1, EN 61347-2-13
CCC	GB 19510.1, GB 19510.14
KS	KS C 7655
EMI Standards	**Notes**
EN IEC 55015/GB/T 17743(1)	Conducted emission Test &Radiated emission Test
EN IEC 61000-3-2/GB 17625.1	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	**Notes**
EN 61000-4-2	Electrostatic Discharge (ESD): 15 kV air discharge, 8 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT

Safety & EMC Compliance (Continued)

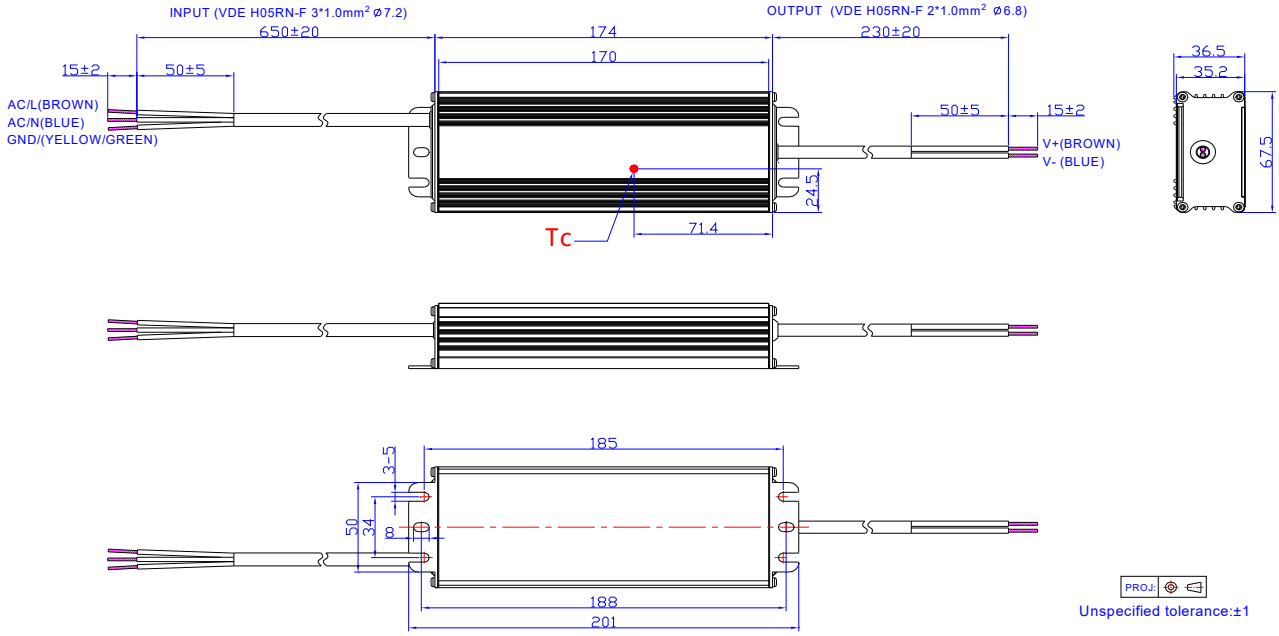
EMS Standards	Notes
EN 61000-4-5	Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 6 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies 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



Mechanical Outline



RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/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	
2010-12-21	A	Change PF at 220Vac	0.95		0.96	
		Change the notes for models	/		/	
		Change Ripple and Noise (pk-pk)	2% Vo		3% Vo	
		Delete Derating Curve	/		/	
		Add Max. Case Temperature	/		tc: 89 ℃	
		Update safety standards	/		/	
		Add FCC Part15 Class B	/		FCC Part 15 Class B, ANSI C63.4：2009.	
		Update mechanical Outline	/		/	
2011-07-08	B	Models-TE	88%,89%,89%,90%		87%,88%,88%,90%	
		Input Specifications-Input AC Current	1.2A		1.3A	
		Inrush Current	50A		69A	
		Output Specifications-Turn-on Delay Time	0.8S	1S	1S	3S
			0.8S	1S	0.8S	2S
		Protection Functions	/			
		General Specifications-Typ.	86%		86%	
			87%		87%	
			87%		87%	
			88%		88%	
			88%		87%	
			89%		88&	
			89%		88%	
			90%		90%	
		General Specifications-Notes	1%		2-3%	
2012-01-18	C	Input AC Current	1.3 A		1.2 A	
2012-05-17	D	All Models-Min Efficiency	/		1% Lower	
2012-06-08	E	Derating Curve	/		Updated	
		Life time vs. Tc Curve	/		Added	

Revision History (Continued)

Change Date	Rev.	Description of Change				
		Item	From		To	
2012-7-17	F	Max Case Temperature	/		Updated	
		EN61000-4-5	line to line 2 kV, line to earth 4 kV		line to line 4 kV, line to earth 6 kV	
2012-8-6	G	SELV Output	/		Added	
		Duration of Inrush Current	140 μs		2 mS	
		Operating Temperature/Derating Curve	/		Updated	
2012-10-16	H	MTBF & Life time Typical	/		Added	
		Life time Curve	/		Updated	
		Min PF, Max THD, Temperature Coefficient	/		Added	
2013-1-10	I	Turn-on delay time	1s	3s	1s	2s
			0.8s	2s	1s	2s
2018-10-26	J	CQC	CCC		Updated	
		PSE	/		Added	
		Features	5 Years Warranty		Added	
		Description	/		Updated	
		Models	/		Updated	
		Input Specifications	PF/THD		Updated	
		Output Specifications	Turn-on Delay Time		Updated	
		Temperature coefficient	Max 0.03%/℃		Typ 0.03%/℃	
		General Specifications	Operating Case Temperature for Safety Tc_s		Updated	
		General Specifications	Operating Case Temperature for Warranty Tc_w		Updated	
		General Specifications	Storage Temperature		Updated	
		Environmental Specifications	/		Deleted	
		Dimensions	With mounting ear		Added	
		Net Weight	850g		925g	
		Safety & EMC Compliance	/		Updated	
		Max. Case Temperature	/		Deleted	
		Lifetime vs. Case Temperature Curve	/		Updated	

Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2018-10-26	J	Mechanical Outline	/	Updated
2019-09-20	K	KS Logo	/	Added
		Features	Waterproof (IP67)	IP67
		Input Specifications (Power Factor / THD)	(72W-96W)	Added
		Safety &EMC Compliance	KS	Added
		Safety &EMC Compliance	J 55015	Deleted
		Safety &EMC Compliance	EN 61000-4-5	Updated
		Safety &EMC Compliance	Note	Added
		Derating Curve	/	Deleted
		RoHS Compliance	/	Updated
2021-09-29	L	Models	Typical Efficiency	Updated
		General Specifications	Efficiency @120 Vac input:	Updated
		General Specifications	Efficiency @220 Vac input:	Updated
2023-10-16	M	PSE logo	/	Deleted
		Safety &EMC Compliance	/	Updated