Features

- High Efficiency (Up to 93.0%)
- Full Power at Wide Output Current Range (Constant Power)
- Adjustable Output Current (AOC) with Dip-switch
- Non-dimming Control
- Input Surge Protection: 6 kV line-line, 10 kV line-earth
- All-Around Protection: OVP, SCP, OTP
- Waterproof (IP67)
- SELV Output
- Suitable for Independent Use
- 5 years warranty



Description

The *EUP-150SxxxSV* series is a 150W, constant-current, AOC LED driver that operates from 90-305 Vac input with excellent power factor. It is created for many lighting applications including street, tunnel and bay. The high efficiency of these drivers 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, output over voltage, short circuit, and over temperature.

Models

Adjustable Output Current Range	Full-Power Current Range (1)	Default Output Current	Input Voltage Range (2)	Output Voltage Range	Max. Output Power	Typical Efficiency (3)	Power Factor		Model Number (5)
							120Vac	220Vac	
350-700mA	450-700mA	550 mA	90~305 Vac/ 127~250 Vdc	117~333Vdc	150 W	93.0%	0.99	0.96	EUP-150S070SV
700-1050mA	700-1050mA	700 mA	90~305 Vac/ 127~250 Vdc	75~214 Vdc	150 W	93.0%	0.99	0.96	EUP-150S105SV
850-1500mA	1050-1500mA	1050 mA	90~305 Vac/ 127~250 Vdc	50~143 Vdc	150 W	92.5%	0.99	0.96	EUP-150S150SV
1000-2100mA	1400-2100mA	1400 mA	90~305 Vac/ 127~250 Vdc	38~107 Vdc	150 W	93.0%	0.99	0.96	EUP-150S210SV(4)
2100-3500mA	2450-3500mA	3150 mA	90~305 Vac/ 127~250 Vdc	22 ~ 61 Vdc	150 W	92.5%	0.99	0.96	EUP-150S350SV(4)
3500-5600mA	4200-5600mA	4200 mA	90~305 Vac/ 127~250 Vdc	14 ~ 36 Vdc	150 W	92.0%	0.99	0.96	EUP-150S560SV(4)

Notes: (1) Output current range with constant power at 150W
(2) Certified voltage range: 100-240Vac or 127-250Vdc (except CCC, PSE, KS and BIS)
(3) Measured at 100%load and 220Vac input (see below "General Specifications" for details).
(4) SELV Output.
(5) All the models are certificated to EAC, except EUP-150S150SV

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	127~250 Vdc
Input Frequency	47 Hz	-	63 Hz	

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Leakage Current	-	-	0.70 mA	IEC60598-1; 240Vac/ 60Hz,
Input AC Current	-	-	1.60 A	Measured at 100%load and 120 Vac input.
	-	-	0.90 A	Measured at 100%load and 220 Vac input.
Inrush Current(I^2t)	-	-	2.10 A^2s	At 220Vac input, 25°C cold start, duration=740 µs, 10%Ipk-10%Ipk. See Inrush Current Waveform for the details.
PF	0.9	-	-	At 100-240Vac, 50-60Hz, 60%-100% Load (90-150W)
THD	-	-	20%	
THD	-	-	10%	At 220-240Vac, 50-60Hz, 75%-100% Load (112.5-150W)

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Ioset	-	5%Ioset	100%load
Output Current Setting(Ioset) Range EUP-150S070SV EUP-150S105SV EUP-150S150SV EUP-150S210SV EUP-150S350SV EUP-150S560SV	 350 mA 700 mA 850 mA 1000 mA 2100 mA 3500 mA	 - - - - - -	 700 mA 1050 mA 1500 mA 2100 mA 3500 mA 5600 mA	
Output Current Setting Range with Constant Power EUP-150S070SV EUP-150S105SV EUP-150S150SV EUP-150S210SV EUP-150S350SV EUP-150S560SV	 450 mA 700 mA 1050 mA 1400 mA 2450 mA 4200 mA	 - - - - - -	 700 mA 1050 mA 1500 mA 2100 mA 3500 mA 5600 mA	
Total Output Current Ripple (pk-pk)	-	5%Iomax	10%Iomax	100%load. 20 MHz BW
Startup Overshoot Current	-	-	10%Iomax	100%load
No Load Output Voltage EUP-150S070SV EUP-150S105SV EUP-150S150SV EUP-150S210SV EUP-150S350SV EUP-150S560SV	 - - - - - -	 350 V 230 V 160 V 118 V 70 V 40 V	 360 V 240 V 170 V 120 V 80 V 50 V	
Line Regulation	-	-	±0.5%	100%load
Load Regulation	-	-	±1.5%	
Turn-on Delay Time	-	-	1.0 s	Measured at 120Vac input, 60%-100% Load
	-	-	0.5 s	Measured at 220Vac input, 60%-100% Load
Temperature Coefficient of Ioset	-	0.03%/°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:				Measured at 100%load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
EUP-150S070SV				
Io= 450 mA	88.0%	90.0%	-	
Io= 700 mA	87.5%	89.5%	-	
EUP-150S105SV				
Io= 700 mA	88.5%	90.5%	-	
Io=1050 mA	87.0%	89.0%	-	
EUP-150S150SV				
Io=1050 mA	88.0%	90.0%	-	
Io=1500 mA	87.0%	89.0%	-	
EUP-150S210SV				
Io=1400 mA	88.5%	90.5%	-	
Io=2100 mA	87.0%	89.0%	-	
EUP-150S350SV				
Io=2450 mA	88.0%	90.0%	-	
Io=3500 mA	86.0%	88.0%	-	
EUP-150S560SV				
Io=4200 mA	88.0%	90.0%	-	
Io=5600 mA	86.0%	88.0%	-	
Efficiency at 220 Vac input:				Measured at 100%load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
EUP-150S070SV				
Io= 450 mA	91.0%	93.0%	-	
Io= 700 mA	90.0%	92.0%	-	
EUP-150S105SV				
Io= 700 mA	91.0%	93.0%	-	
Io=1050 mA	90.0%	92.0%	-	
EUP-150S150SV				
Io=1050 mA	90.5%	92.5%	-	
Io=1500 mA	90.0%	92.0%	-	
EUP-150S210SV				
Io=1400 mA	91.0%	93.0%	-	
Io=2100 mA	89.5%	91.5%	-	
EUP-150S350SV				
Io=2450 mA	90.5%	92.5%	-	
Io=3500 mA	88.5%	90.5%	-	
EUP-150S560SV				
Io=4200 mA	90.0%	92.0%	-	
Io=5600 mA	88.0%	90.0%	-	
Efficiency at 277 Vac input:				Measured at 100%load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
EUP-150S070SV				
Io= 450 mA	91.0%	93.0%	-	
Io= 700 mA	90.5%	92.5%	-	
EUP-150S105SV				
Io= 700 mA	91.5%	93.5%	-	
Io=1050 mA	90.0%	92.0%	-	
EUP-150S150SV				
Io=1050 mA	91.0%	93.0%	-	
Io=1500 mA	90.0%	92.0%	-	
EUP-150S210SV				
Io=1400 mA	91.5%	93.5%	-	
Io=2100 mA	90.0%	92.0%	-	
EUP-150S350SV				
Io=2450 mA	91.0%	93.0%	-	
Io=3500 mA	89.0%	91.0%	-	
EUP-150S560SV				
Io=4200 mA	90.0%	92.0%	-	
Io=5600 mA	88.0%	90.0%	-	

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
MTBF	-	210,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	114,000 Hours	-	Measured at 220Vac input, 80%Load and 70°C case temperature; See lifetime 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	-	+75°C	Case temperature for 5 years warranty
Storage Temperature	-40°C	-	+85°C	Humidity: 5%RH to 100%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.74 × 2.37 × 1.44 171 × 60 × 36.5			With mounting ear 7.56 × 2.37 × 1.44 192 × 60 × 36.5
Net Weight	-	810 g	-	

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

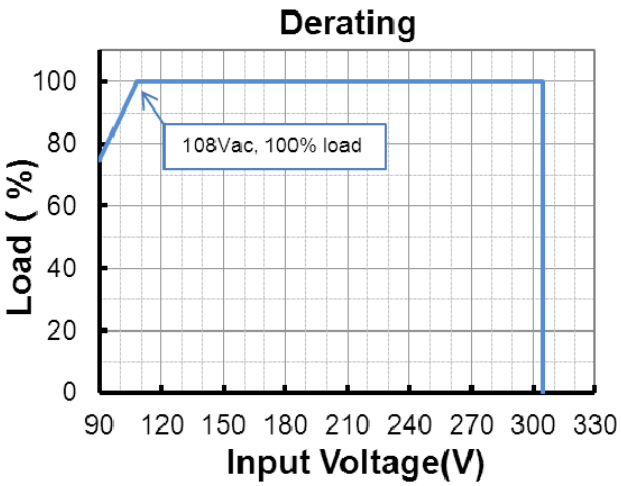
Safety &EMC Compliance

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/GB 17743(1)	Conducted emission Test &Radiated emission Test
EN 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): 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
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 6 kV, line to earth 10 kV(2)
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

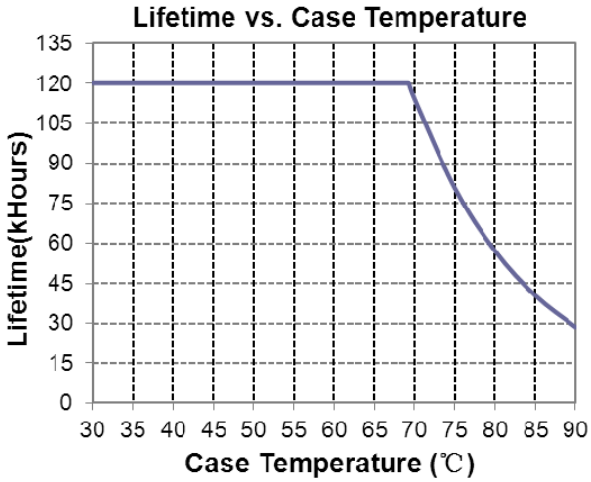
Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

(2) To perform electric strength (hi-pot) testing, the “GDT ground disconnect” (nut and metal lock sheet) on the driver end-cap should be removed temporarily to prevent the internal gas discharge tube from conducting (as allowed by IEC 60598-1 Clause 10.2). After testing is completed, these items must be reinstalled to restore line-to-earth surge protection and secure the end cap.

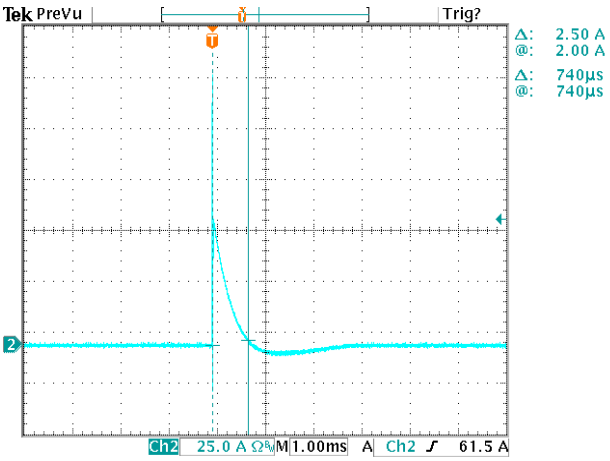
Derating



Lifetime vs. Case Temperature

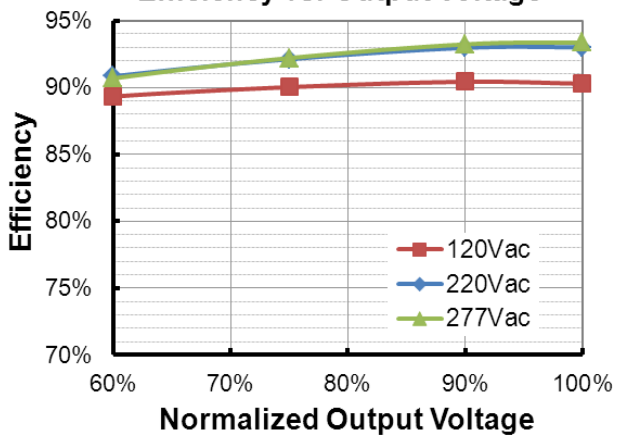


Inrush Current Waveform

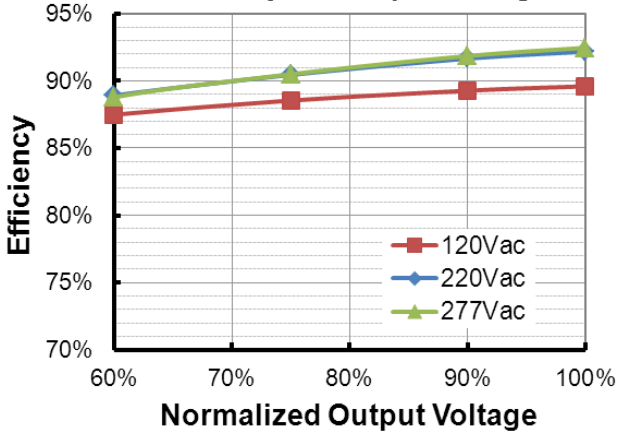


Efficiency vs. Load

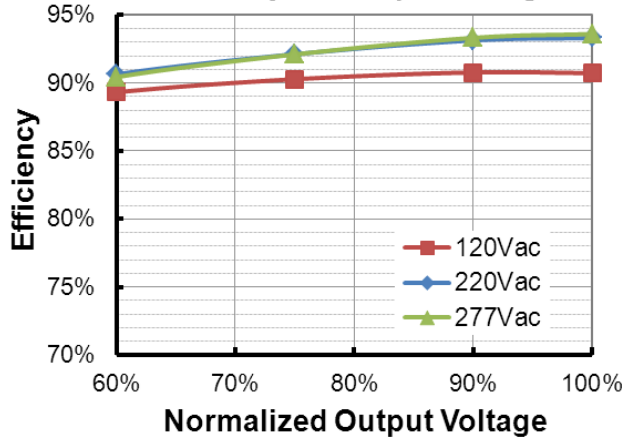
EUP-150S070SV(Io=450mA)



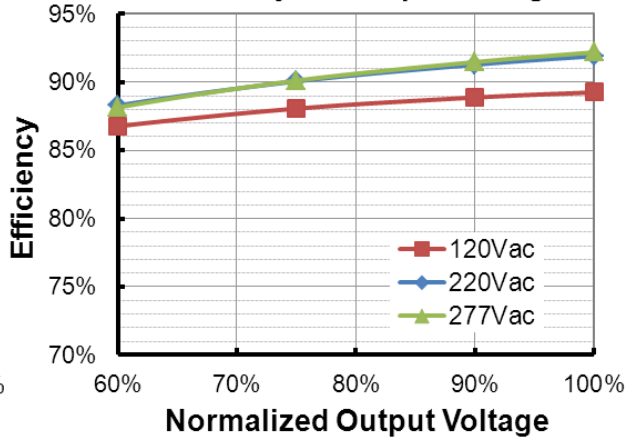
EUP-150S070SV(Io=700mA)



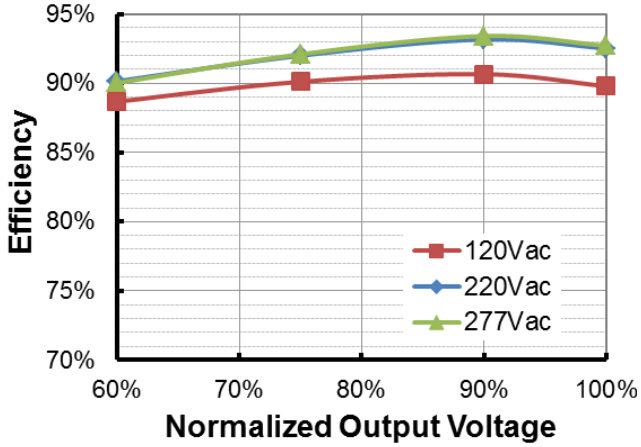
EUP-150S105SV(Io=700mA)



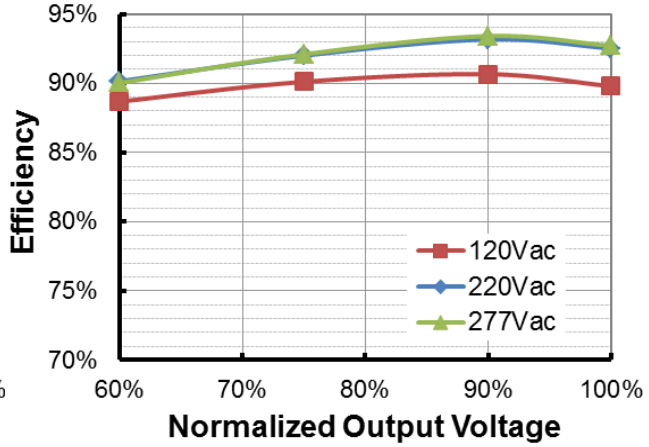
EUP-150S105SV(Io=1050mA)



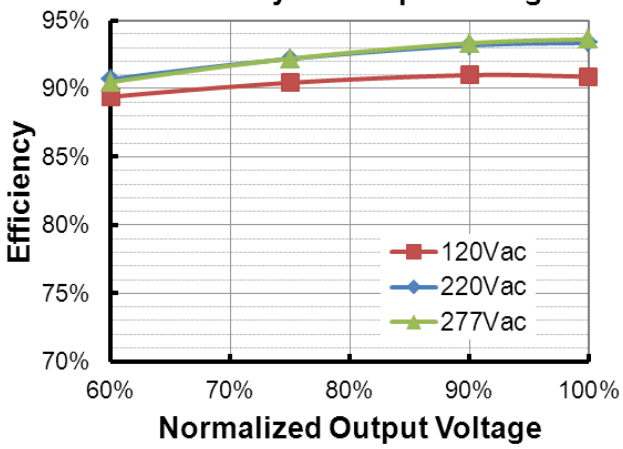
EUP-150S150SV(Io=1050mA)



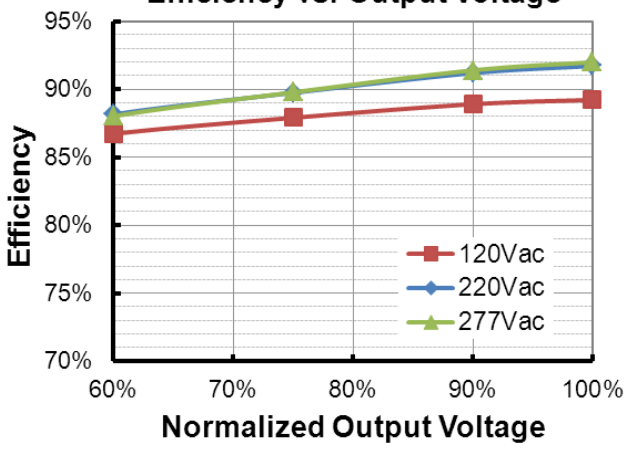
EUP-150S150SV(Io=1500mA)



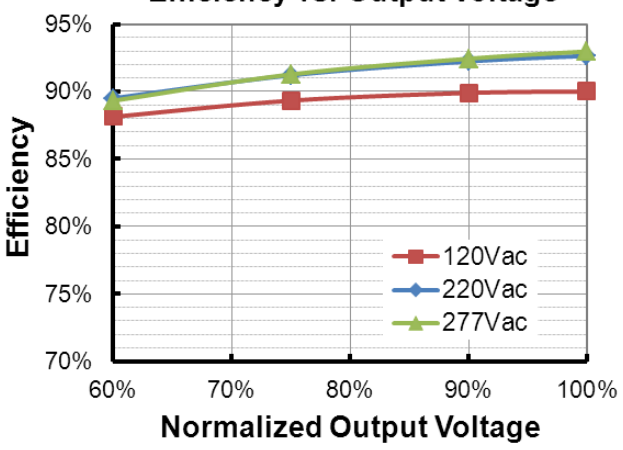
EUP-150S210SV(Io=1400mA)



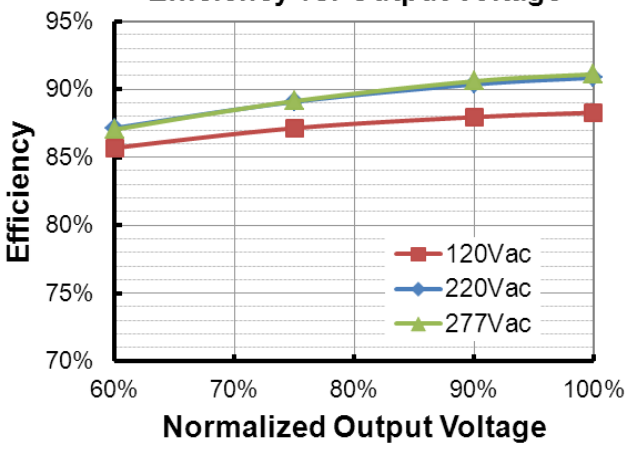
EUP-150S210SV(Io=2100mA)



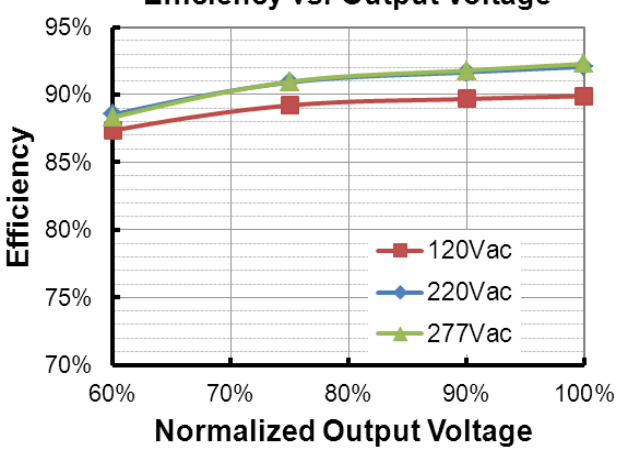
EUP-150S350SV(Io=2450mA)



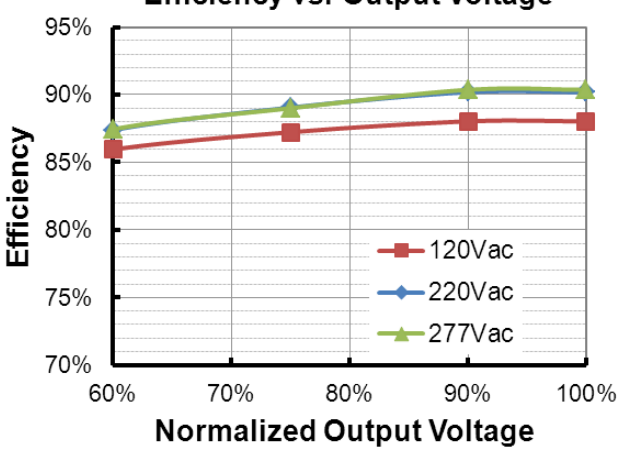
EUP-150S350SV(Io=3500mA)



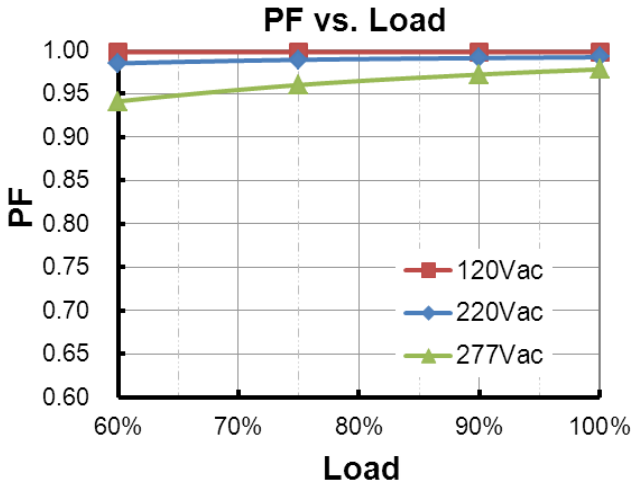
EUP-150S560SV(Io=4200mA)



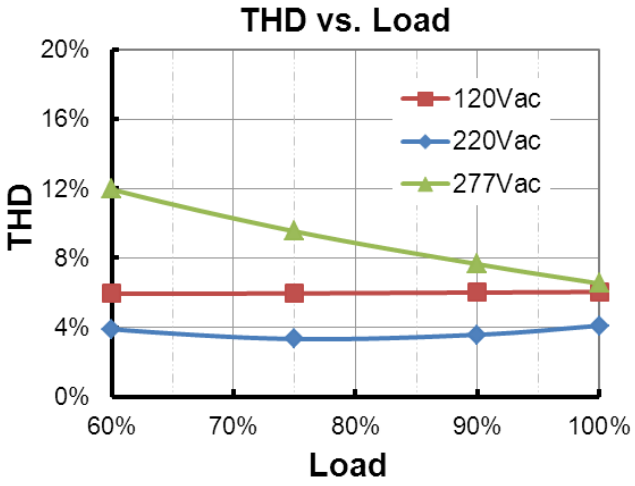
EUP-150S560SV(Io=5600mA)



Power Factor



Total Harmonic Distortion



Protection Functions

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	Auto Recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.
Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fails.

Output Current vs. Dip Switch Setting

● EUP-150S070SV

Dip Switch Setting				Output Current Setting(loset)	Output Voltage Range		Notes
1	2	3	4	Typ.	Min.	Max.	/
OFF	ON	ON	ON	700mA	117V	214V	Output Current Setting with Constant Power.
OFF	ON	ON	OFF	650mA	116V	231V	
OFF	ON	OFF	ON	600mA	125V	250V	
OFF	ON	OFF	OFF	550mA	137V	273V	
OFF	OFF	ON	ON	500mA	150V	300V	
OFF	OFF	ON	OFF	450mA	167V	333V	
OFF	OFF	OFF	ON	400mA	188V	333V	Output Current Setting with Power Derating.
OFF	OFF	OFF	OFF	350mA	214V	333V	

● EUP-150S105SV

Dip Switch Setting				Output Current Setting(loset)	Output Voltage Range		Notes
1	2	3	4	Typ.	Min.	Max.	/
ON	ON	ON	ON	1050mA	75V	143V	Output Current Setting with Constant Power.
ON	ON	ON	OFF	1000mA	75V	150V	
ON	ON	OFF	ON	950mA	79V	158V	
ON	ON	OFF	OFF	900mA	83V	166V	
ON	OFF	ON	ON	850mA	88V	176V	
ON	OFF	ON	OFF	800mA	94V	187V	
ON	OFF	OFF	ON	750mA	100V	200V	
ON	OFF	OFF	OFF	700mA	107V	214V	

● EUP-150S150SV

Dip Switch Setting				Output Current Setting (Ioset)	Output Voltage Range		Notes
1	2	3	4	Typ.	Min.	Max.	/
ON	ON	ON	ON	1500mA	50V	100V	Output Current Setting with Constant Power.
ON	ON	ON	OFF	1450mA	52V	104V	
ON	ON	OFF	ON	1400mA	54V	107V	
ON	ON	OFF	OFF	1350mA	56V	111V	
ON	OFF	ON	ON	1300mA	58V	116V	
ON	OFF	ON	OFF	1250mA	60V	120V	
ON	OFF	OFF	ON	1200mA	63V	125V	
ON	OFF	OFF	OFF	1150mA	66V	131V	
OFF	ON	ON	ON	1100mA	69V	137V	
OFF	ON	ON	OFF	1050mA	72V	143V	
OFF	ON	OFF	ON	1000mA	75V	143V	Output Current Setting with Power Derating.
OFF	ON	OFF	OFF	950mA	79V	143V	
OFF	OFF	ON	ON	900mA	84V	143V	
OFF	OFF	ON	OFF	850mA	89V	143V	

● EUP-150S210SV

Dip Switch Setting				Output Current Setting(loset)	Output Voltage Range		Notes
1	2	3	4	Typ.	Min.	Max.	/
ON	ON	ON	ON	2100mA	38V	71V	Output Current Setting with Constant Power.
ON	ON	ON	OFF	2000mA	38V	75V	
ON	ON	OFF	ON	1900mA	40V	79V	
ON	ON	OFF	OFF	1800mA	42V	83V	
ON	OFF	ON	ON	1700mA	44V	88V	
ON	OFF	ON	OFF	1600mA	47V	94V	
ON	OFF	OFF	ON	1500mA	50V	100V	
ON	OFF	OFF	OFF	1400mA	54V	107V	
OFF	ON	ON	ON	1300mA	58V	107V	Output Current Setting with Power Derating.
OFF	ON	ON	OFF	1200mA	63V	107V	
OFF	ON	OFF	ON	1100mA	68V	107V	
OFF	ON	OFF	OFF	1000mA	75V	107V	

● EUP-150S350SV

Dip Switch Setting				Output Current Setting(loset)	Output Voltage Range		Notes
1	2	3	4	Typ.	Min.	Max.	/
ON	ON	ON	ON	3500mA	22V	43V	Output Current Setting with Constant Power.
ON	ON	ON	OFF	3325mA	23V	45V	
ON	ON	OFF	ON	3150mA	24V	47.5V	
ON	ON	OFF	OFF	2975mA	26V	50.5V	
ON	OFF	ON	ON	2800mA	27V	53.5V	
ON	OFF	ON	OFF	2625mA	29V	57V	
ON	OFF	OFF	ON	2450mA	32V	61V	
ON	OFF	OFF	OFF	2275mA	33V	61V	Output Current Setting with Power Derating.
OFF	ON	ON	ON	2100mA	36V	61V	

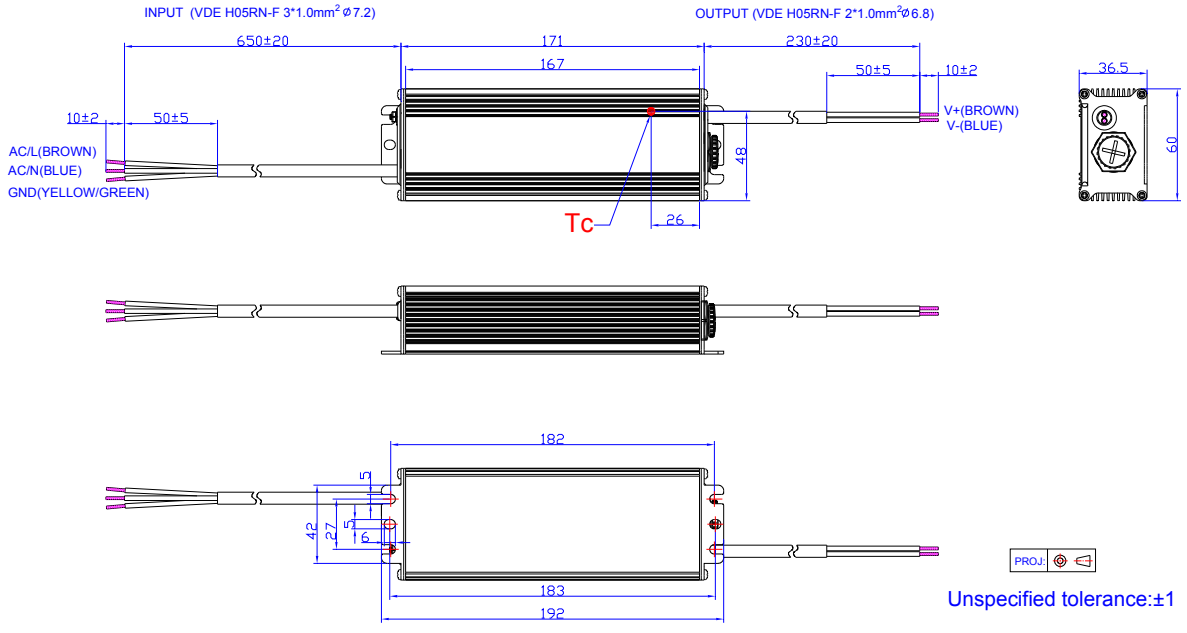
- **EUP-150S560SV**

Dip Switch Setting				Output Current Setting(loset)	Output Voltage Range		Notes
1	2	3	4	Typ.	Min.	Max.	/
OFF	ON	ON	ON	5600mA	14V	26.5V	Output Current Setting with Constant Power.
OFF	ON	ON	OFF	5250mA	15V	28.5V	
OFF	ON	OFF	ON	4900mA	16V	30.5V	
OFF	ON	OFF	OFF	4550mA	17V	33V	
OFF	OFF	ON	ON	4200mA	18V	36V	
OFF	OFF	ON	OFF	3850mA	20V	36V	Output Current Setting with Power Derating.
OFF	OFF	OFF	ON	3500mA	22V	36V	

Notes:

1. Dip switch must be set in the setting range as specified to insure the driver operates as expected.
2. Endcap covering dip switch must be tight to insure IP67 rating.

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
2016-08-11	A	Datasheets Release	/	/
2018-04-23	B	Features	/	Updated
		Description	/	Updated
		Models	/	Updated
		Input Specifications	PF/THD	Updated
		Output Specifications	Temperature Coefficient	Updated Updated
		Operating Case Temperature for Warranty Tc_w	Case temperature for 5 years warranty	Added
		Safety &EMC Compliance	/	Updated
		Mechanical Outline	/	Updated
2018-07-16	C	EAC	/	Added
2018-08-30	D	Models	EUP-150S150SV	Updated
		Output Current Setting(Ioset) Range	EUP-150S150SV	Updated
		Output Current Setting Range with Constant Power	EUP-150S150SV	Updated
		No Load Output Voltage	EUP-150S150SV	Updated
		Efficiency at 120 Vac input:	EUP-150S150SV	Updated
		Efficiency at 220 Vac input:	EUP-150S150SV	Updated
		Efficiency at 270 Vac input:	EUP-150S150SV	Updated
		Efficiency vs. Load	EUP-150S150SV	Updated
		Output Current vs. Dip Switch Setting	EUP-150S150SV	Updated