

Features

- Ultra High Efficiency (Up to 92.5%)
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- Lightning Protection
- All-Around Protection: SCP, OTP, OVP
- Waterproof (IP67)



Description

The EUC-150SxxxDV(SV) Series operates from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. The standard features include dimming control, lightning protection, over voltage protection, short circuit protection, and over temperature protection.

Models

Output Current	Input Voltage Range(1)	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number (3,4)
					120Vac	220Vac	
350 mA	90 ~ 305 Vac	256-428 Vdc	150 W	92.5%	0.99	0.95	EUC-150S035SV
350 mA	90 ~ 305 Vac	214-428 Vdc	150 W	92.5%	0.99	0.95	EUC-150S035DV
450 mA	90 ~ 305 Vac	200-333 Vdc	150 W	92.5%	0.99	0.95	EUC-150S045SV
450 mA	90 ~ 305 Vac	166-333 Vdc	150 W	92.5%	0.99	0.95	EUC-150S045DV
700 mA	90 ~ 305 Vac	128-214 Vdc	150 W	92.5%	0.99	0.95	EUC-150S070SV★
700 mA	90 ~ 305 Vac	107-214 Vdc	150 W	92.5%	0.99	0.95	EUC-150S070DV★
1050 mA	90 ~ 305 Vac	85-142 Vdc	150 W	92.0%	0.99	0.95	EUC-150S105SV
1050 mA	90 ~ 305 Vac	71-142 Vdc	150 W	92.0%	0.99	0.95	EUC-150S105DV
1400 mA	90 ~ 305 Vac	64-107 Vdc	150 W	92.0%	0.99	0.95	EUC-150S140SV
1400 mA	90 ~ 305 Vac	53-107 Vdc	150 W	92.0%	0.99	0.95	EUC-150S140DV
1750 mA	90 ~ 305 Vac	51-85 Vdc	150 W	91.5%	0.99	0.95	EUC-150S175SV
2100 mA	90 ~ 305 Vac	42-71 Vdc	150 W	91.5%	0.99	0.95	EUC-150S210SV
2450 mA	90 ~ 305 Vac	36-61 Vdc	150 W	91.5%	0.99	0.95	EUC-150S245SV★
2800 mA	90 ~ 305 Vac	31-53 Vdc	150 W	91.5%	0.99	0.95	EUC-150S280SV
3150 mA	90 ~ 305 Vac	28-47 Vdc	150 W	91.5%	0.99	0.95	EUC-150S315SV
3500 mA	90 ~ 305 Vac	25-42 Vdc	150 W	91.5%	0.99	0.95	EUC-150S350SV★
4200 mA	90 ~ 305 Vac	21-35 Vdc	150 W	91.5%	0.99	0.95	EUC-150S420SV
4900 mA	90 ~ 305 Vac	18-30 Vdc	150 W	90.0%	0.99	0.95	EUC-150S490SV
5950 mA	90 ~ 305 Vac	15-25 Vdc	150 W	90.0%	0.99	0.95	EUC-150S595SV

- Notes:** (1) Certified Input Voltage Range 100-240Vac
 (2) Measured at full load and 220 Vac input
 (3) The DV suffix may be changed to SV to omit the dimming function and remove the two wires associated with that function
 (4) A suffix –xxxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank
 (5) ☆: Popular model.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	DV series; at 277Vac 60Hz input
	-	-	1 mA	SV series; at 277Vac 60Hz input
Input AC Current	-	-	1.8 A	Measured at full load and 100 Vac input.
	-	-	0.9 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	75 A	At 220Vac input, 25°C cold start, duration= 2.5 ms, 10%lpk-10%lpk.
Inrush Current(I ² t)	-	-	7.5 A ² s	
Power Factor	0.9	-	-	At 100Vac-277Vac, 100%load
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
Output Current Ripple (pk-pk)	-	10%lo	15%lo	At full load condition.
Line Regulation	-	-	±1%	
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	1.5 s	3.0 s	Measured at 120Vac input.
	-	1.0 s	2.0 s	Measured at 220Vac input.
Temperature Coefficient	-	-	0.03%/°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
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.			
Over Temperature Protection	Hiccup Mode. When the case temperature reaches 110 ± 10°C, OTP mode will be triggered; The power supply shall be self-recovery until the case temperature becomes normal.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency I _o = 350 mA I _o = 450 mA I _o = 700 mA I _o = 1050 mA I _o = 1400 mA I _o = 1750 mA I _o = 2100 mA I _o = 2450 mA I _o = 2800 mA I _o = 3150 mA I _o = 3500 mA I _o = 4200 mA I _o = 4900 mA I _o = 5950 mA	89.5% 89.5% 89.5% 89.0% 89.0% 88.0% 88.0% 87.5% 87.5% 87.0% 87.0% 86.5% 86.5% 86.5%	90.5% 90.5% 90.5% 90.0% 90.0% 90.0% 90.0% 89.5% 89.5% 89.0% 89.0% 88.5% 88.5% 88.5%	- - - - - - - - - - - - - -	Measured at full load, 120Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
Efficiency I _o = 350 mA I _o = 450 mA I _o = 700 mA I _o = 1050 mA I _o = 1400 mA I _o = 1750 mA I _o = 2100 mA I _o = 2450 mA I _o = 2800 mA I _o = 3150 mA I _o = 3500 mA I _o = 4200 mA I _o = 4900 mA I _o = 5950 mA	91.5% 91.5% 91.5% 91.0% 91.0% 89.5% 89.5% 89.5% 89.5% 89.5% 89.5% 89.5% 88.0% 88.0%	92.5% 92.5% 92.5% 92.0% 92.0% 91.5% 91.5% 91.5% 91.5% 91.5% 91.5% 91.5% 90.0% 90.0%	- - - - - - - - - - - - - -	Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
Efficiency I _o = 350 mA I _o = 450 mA I _o = 700 mA I _o = 1050 mA I _o = 1400 mA I _o = 1750 mA I _o = 2100 mA I _o = 2450 mA I _o = 2800 mA I _o = 3150 mA I _o = 3500 mA I _o = 4200 mA I _o = 4900 mA I _o = 5950 mA	91.5% 91.5% 91.5% 91.0% 91.0% 89.5% 89.5% 89.5% 89.5% 89.5% 89.5% 89.5% 88.0% 88.0%	92.5% 92.5% 92.5% 92.0% 92.0% 91.5% 91.5% 91.5% 91.5% 91.5% 91.5% 91.5% 90.0% 90.0%	- - - - - - - - - - - - - -	Measured at full load, 277Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
MTBF	-	370,000 Hours	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	85,000 Hours	-	Measured at 220Vac 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 x W x H) Millimeters (L x W x H)	9.41 x 3.13 x 1.81 239 x 79.5 x 46			
Net Weight	-	1500 g	-	

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

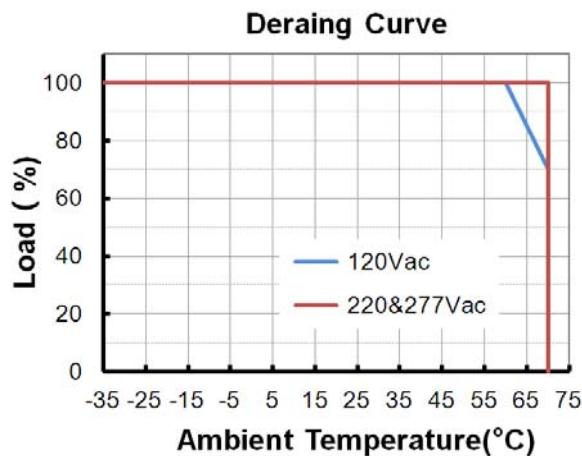
Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 °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

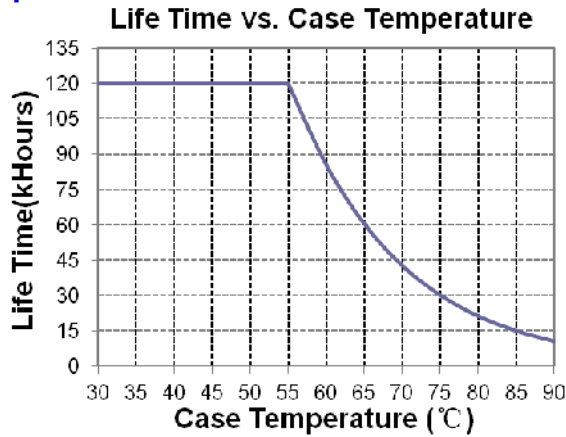
Safety & EMC Compliance

Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	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
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

Derating Curve



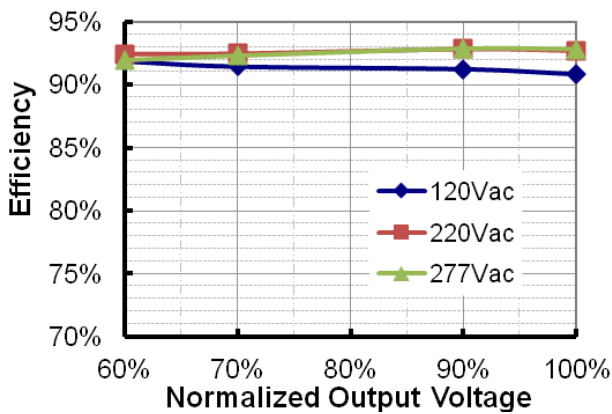
Life Time vs. Case Temperature Curve



Efficiency vs. Load

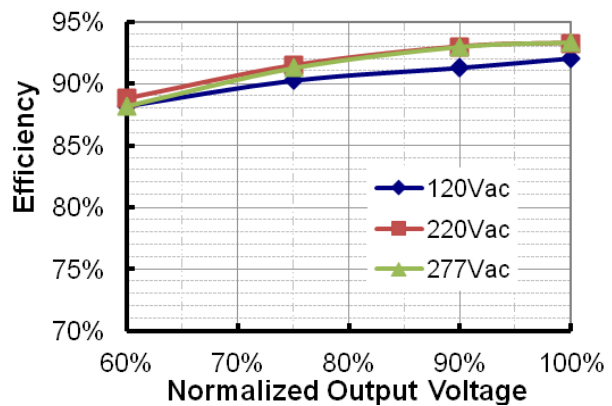
EUC-150S035DV(SV)

Efficiency vs. Output Voltage



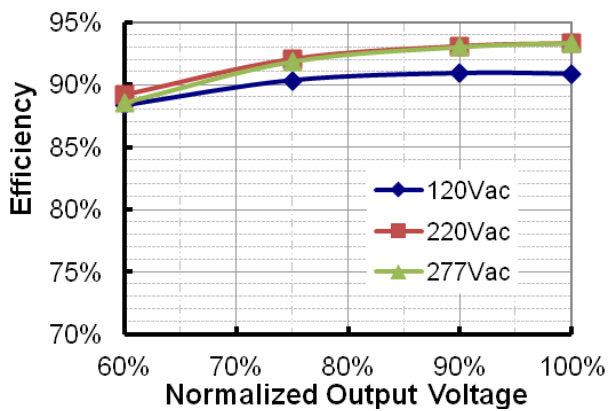
EUC-150S045DV(SV)

Efficiency vs. Output Voltage



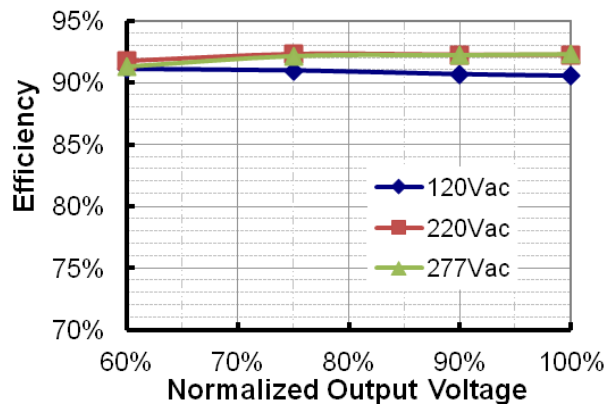
EUC-150S070DV(SV)

Efficiency vs. Output Voltage



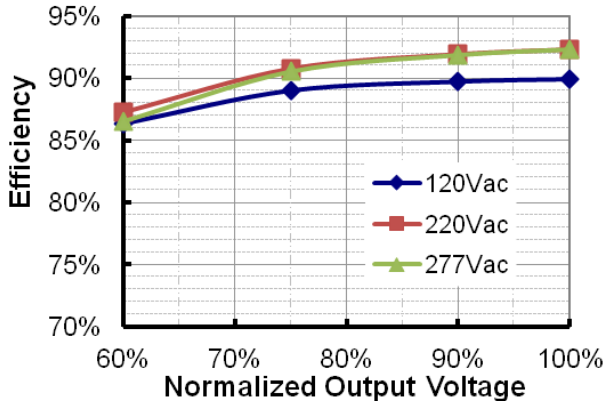
EUC-150S105DV(SV)

Efficiency vs. Output Voltage



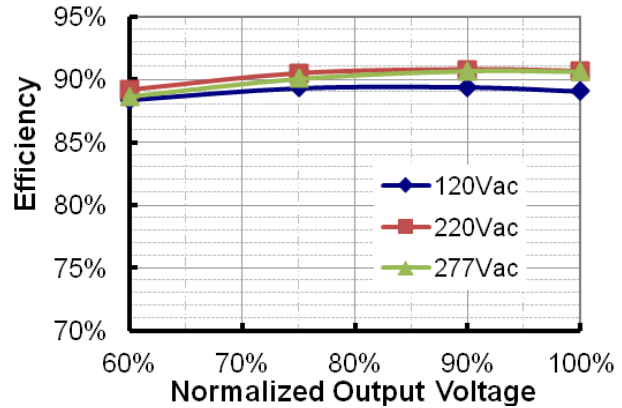
EUC-150S140DV(SV)

Efficiency vs. Output Voltage



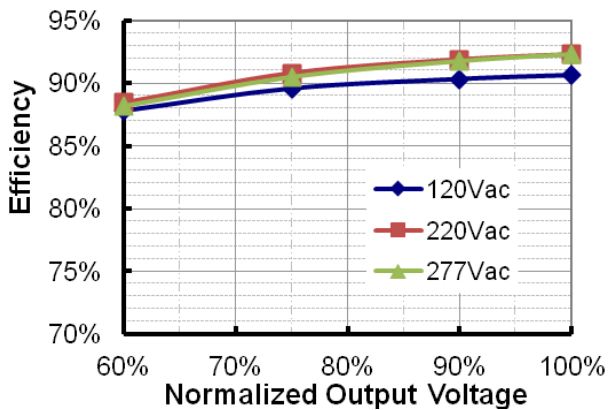
EUC-150S175SV

Efficiency vs. Output Voltage



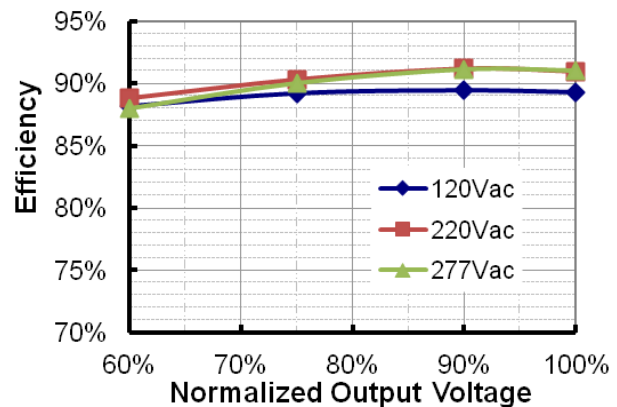
EUC-150S210SV

Efficiency vs. Output Voltage



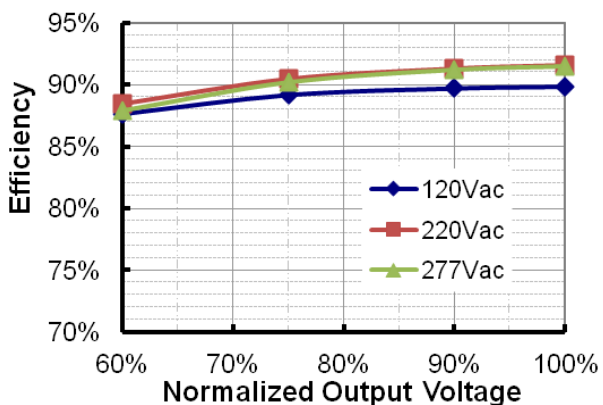
EUC-150S245SV

Efficiency vs. Output Voltage



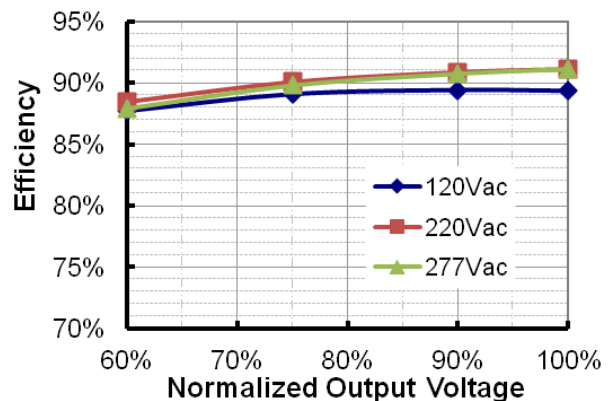
EUC-150S280SV

Efficiency vs. Output Voltage



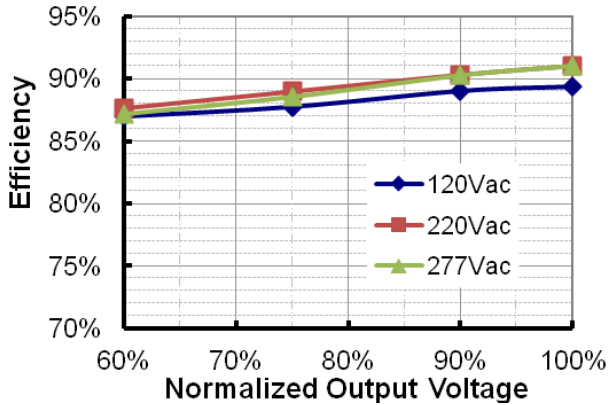
EUC-150S315SV

Efficiency vs. Output Voltage



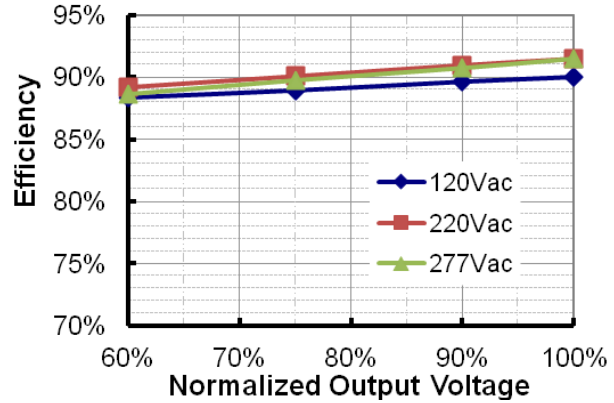
EUC-150S350SV

Efficiency vs. Output Voltage



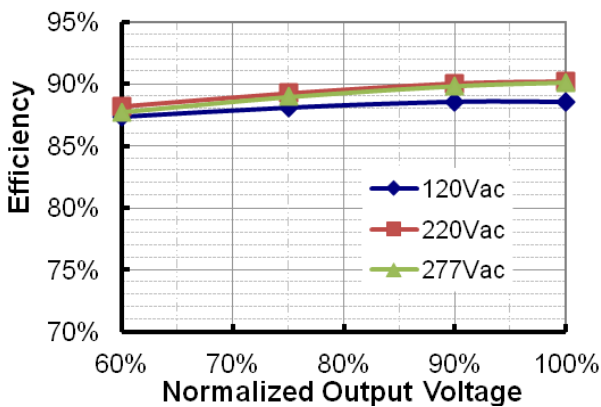
EUC-150S420SV

Efficiency vs. Output Voltage



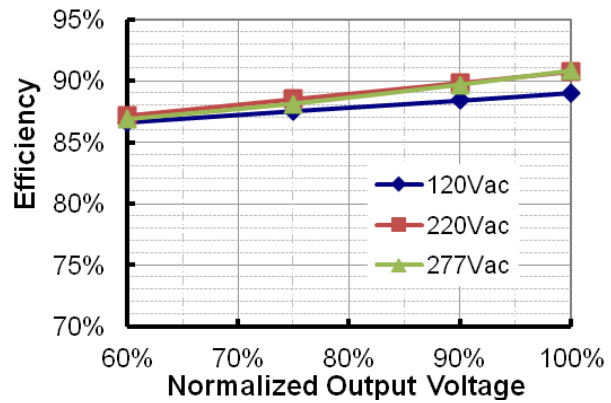
EUC-150S490SV

Efficiency vs. Output Voltage



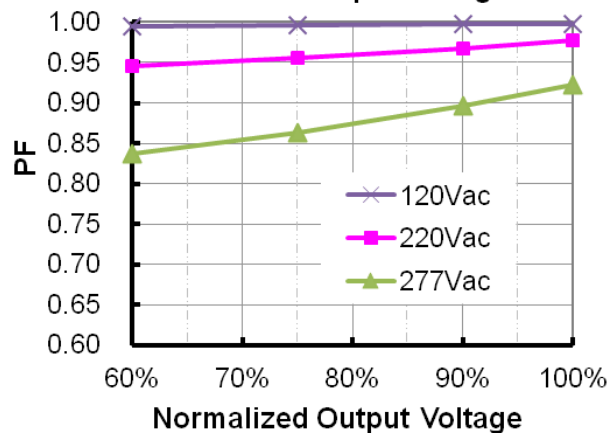
EUC-150S595SV

Efficiency vs. Output Voltage

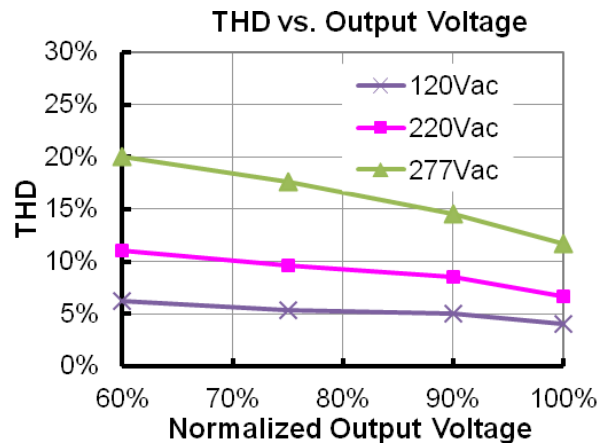


Power Factor Characteristics

PF vs. Output Voltage



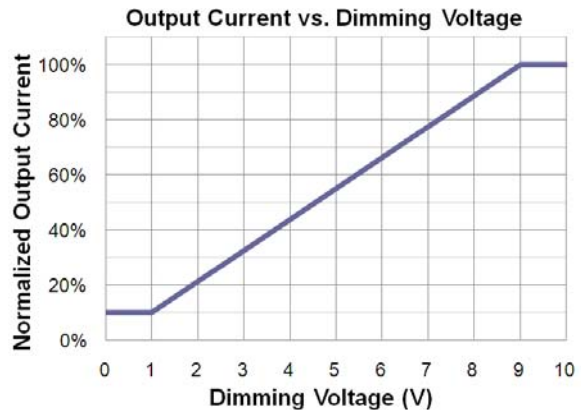
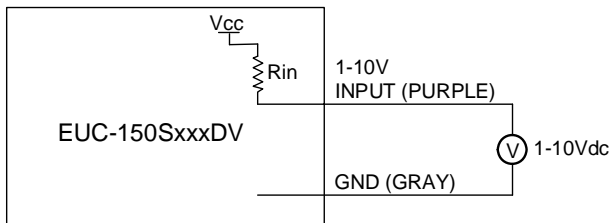
Total Harmonic Distortion



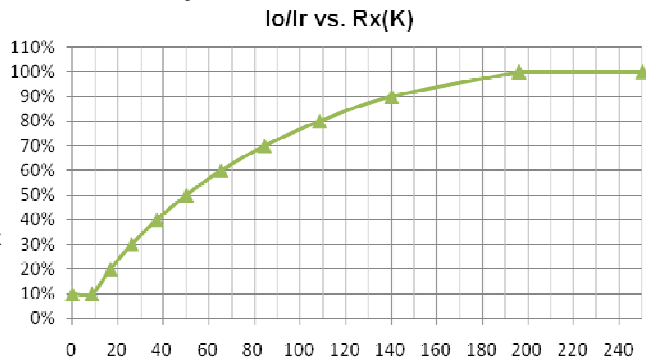
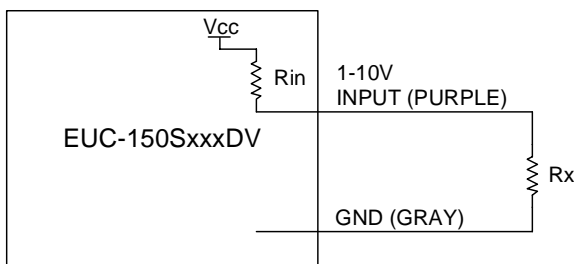
Dimming Control (On secondary side)

Parameter	Min.	Typ.	Max.	Notes
Absolute maximum voltage on the 1~10V input pin	-2 V	-	12 V	
Source current on 1~10V input pin	0 uA	-	200 uA	

The dimmer control may be operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Two recommended implementations are provided below.



Implementation 1: DC input



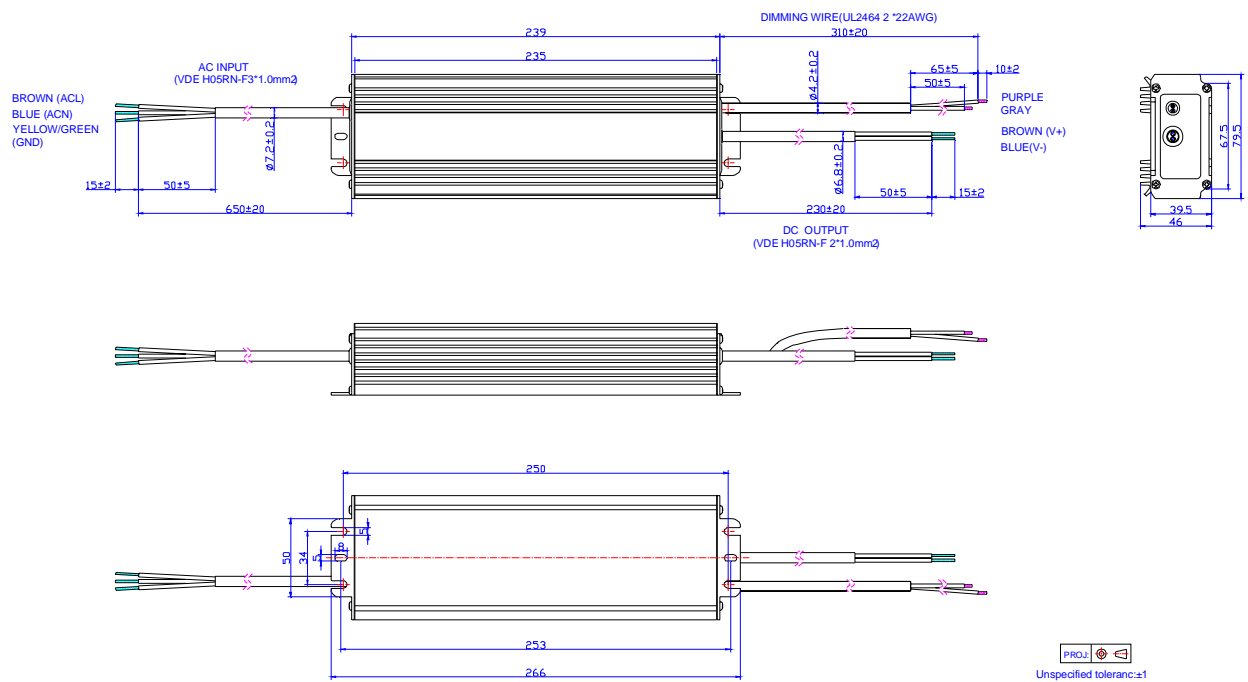
Implementation 2: External resistor

Notes:

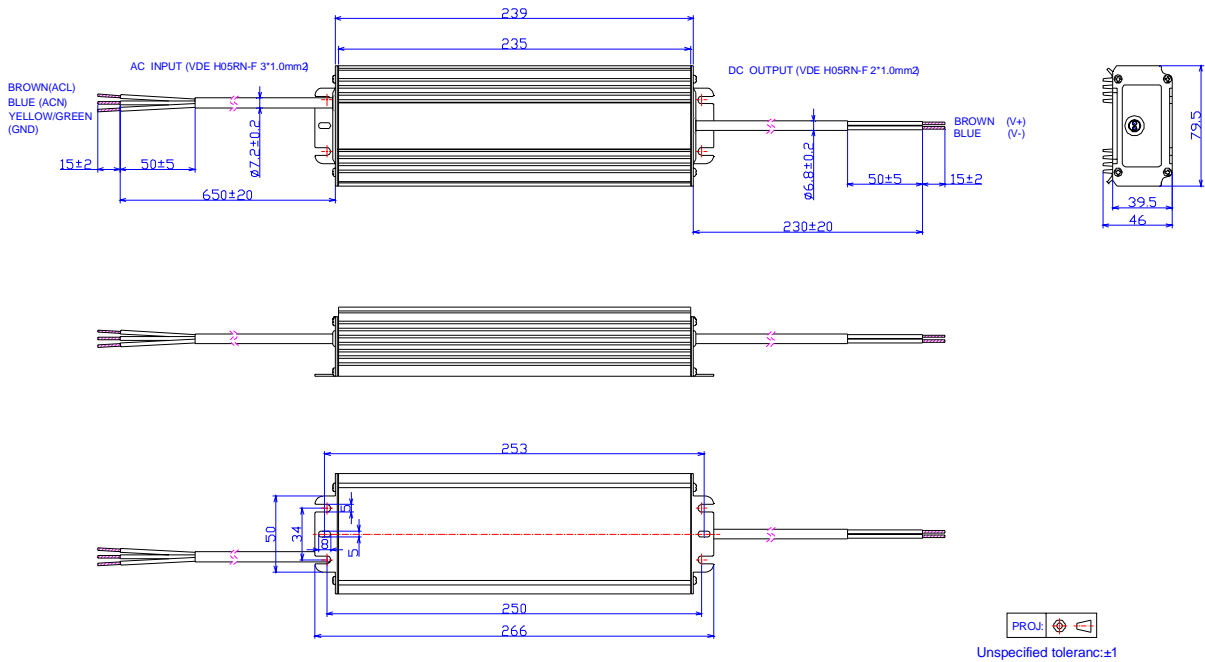
1. I_o is actual output current and I_r is rated current without dimming control.
2. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 50% of the max. output voltage for any given model).
3. If the output voltage is maintained above 50% of the maximum output voltage, the dimming control may be operated over the entire 1-10V range with output current varying from 100% down to practically 10%.
4. The dimming signal is allowed to be less than 1V, however, when it for 0-1V, the output current is 10% I_o .
5. Do not connect the GND of dimming to the output; otherwise, the LED driver cannot work normally.

Mechanical Outline

EUC-150SxxxDV



EUC-150SxxxSV



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
2013-11-22	A	Datasheets Release	/	/