

## Features

- Constant Current Output
- Ultra High Efficiency (Up to 93%)
- Active Power Factor Correction (0.99 Typical)
- Compact Package Design
- Dimming Control
- Lightning Protection
- All-Around Protection: SCP, OTP, OVP
- Waterproof IP67
- SELV



## Description

The EUC-150SxxxDVA(SVA) 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)
					120Vac	220Vac	
530 mA	90 ~ 305 Vac	142~283Vdc	150 W	93.0%	0.99	0.95	EUC-150S053DV(SV)A
700 mA	90 ~ 305 Vac	107~214Vdc	150 W	92.5%	0.99	0.95	EUC-150S070DV(SV)A
1050 mA	90 ~ 305 Vac	71~142Vdc	150 W	92.0%	0.99	0.95	EUC-150S105DV(SV)A
1400 mA	90 ~ 305 Vac	53~107Vdc	150 W	91.0%	0.99	0.95	EUC-150S140DV(SV)A(4)
2100 mA	90 ~ 305 Vac	36~71.5Vdc	150 W	91.0%	0.99	0.95	EUC-150S210DV(SV)A(4)
2450 mA	90 ~ 305 Vac	31~61.2Vdc	150 W	91.0%	0.99	0.95	EUC-150S245DV(SV)A(4)
2800 mA	90 ~ 305 Vac	27~53.5Vdc	150 W	91.0%	0.99	0.95	EUC-150S280DV(SV)A(4)
3150 mA	90 ~ 305 Vac	24~47.5Vdc	150 W	91.0%	0.99	0.95	EUC-150S315DV(SV)A(4)

- Notes:**
- (1) Certificated input Voltage range 100-240Vac.
  - (2) Measured at full load and 220 Vac input.
  - (3) A suffix -xxx may be added to denote variations or modifications to the standard product, where x can be any alphanumeric character or blank.
  - (4) SELV Output.

## Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	1 mA	At 277Vac 60Hz input

## Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	1.8 A	Measured at full load and 100Vac input.
	-	-	0.9 A	Measured at full load and 220Vac input.
Inrush current	-	-	75 A	At 220Vac input, 25°C cold start, duration=1.7 ms, 10%Ipk-10%Ipk.
Inrush current(I <sup>2</sup> t)	-	-	3.5 A <sup>2</sup> s	
PF	0.90	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%		5%	
No-load Output Voltage				
I <sub>o</sub> = 530 mA	291V	300V	309V	
I <sub>o</sub> = 700 mA	218V	225V	236V	
I <sub>o</sub> = 1050 mA	150V	155V	160V	
I <sub>o</sub> = 1400 mA	112V	115V	118V	
I <sub>o</sub> = 2100 mA	77V	80V	82V	
I <sub>o</sub> = 2450 mA	67V	69V	71V	
I <sub>o</sub> = 2800 mA	58V	60V	62V	
I <sub>o</sub> = 3150 mA	50V	52V	54V	
Output Current Ripple (pk-pk)	-	10%I <sub>o</sub>	15%I <sub>o</sub>	At full load condition.
Output Current Overshoot / Undershoot	-	8%	10%	At full load condition.
Line Regulation	-	-	±1%	
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	1.0 s	2.0 s	Measured at 120Vac input.
	-	1.0 s	2.0 s	Measured at 220Vac input.
Temperature coefficient	-	-	0.03%/°C	Case temperature = 0°C ~T <sub>c</sub> max

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

## Protection Functions

Parameter	Notes
Short Circuit Protection	No damage should occur due to any output operating under a short circuit condition. The power supply will self-recover once the fault condition is removed.
Over Temperature Protection	Decrease output current mode. When the case temperature reaches 120 ± 10°C, the output current decreases to 50%I <sub>o</sub> until the case temperature reaches 75°C.

## General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency I <sub>o</sub> = 530 mA I <sub>o</sub> = 700 mA I <sub>o</sub> = 1050 mA I <sub>o</sub> = 1400 mA I <sub>o</sub> = 2100 mA I <sub>o</sub> = 2450 mA I <sub>o</sub> = 2800 mA I <sub>o</sub> = 3150 mA	88.0% 88.0% 88.0% 87.0% 87.0% 87.0% 87.0%	90% 90% 90% 89% 89% 89% 89%	- - - - - - -	Measured at full load, 120Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2% lower, if measured immediately after startup.
Efficiency I <sub>o</sub> = 530 mA I <sub>o</sub> = 700 mA I <sub>o</sub> = 1050 mA I <sub>o</sub> = 1400 mA I <sub>o</sub> = 2100 mA I <sub>o</sub> = 2450 mA I <sub>o</sub> = 2800 mA I <sub>o</sub> = 3150 mA	91.0% 90.5% 90.0% 89.0% 89.0% 89.0% 89.0%	93.0% 92.5% 92.0% 91.0% 91.0% 91.0% 91.0%	- - - - - - -	Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2% lower, if measured immediately after startup.
Efficiency I <sub>o</sub> = 530 mA I <sub>o</sub> = 700 mA I <sub>o</sub> = 1050 mA I <sub>o</sub> = 1400 mA I <sub>o</sub> = 2100 mA I <sub>o</sub> = 2450 mA I <sub>o</sub> = 2800 mA I <sub>o</sub> = 3150 mA	91.0% 90.5% 90.0% 89.0% 89.0% 89.0% 89.0%	93.0% 92.5% 92.0% 91.0% 91.0% 91.0% 91.0%	- - - - - - -	Measured at full load, 277Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2% lower, if measured immediately after startup.
No Load Power Dissipation	-	-	5 W	
MTBF	-	284,000 Hours	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	117,000 Hours	-	Measured at 220Vac input, 80%Load and 60°C case temperature; 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)	7.83 x 2.66 x 1.56 199 x 67.5 x 39.5			
Net Weight	-	1000 g	-	

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

## Environmental Specifications

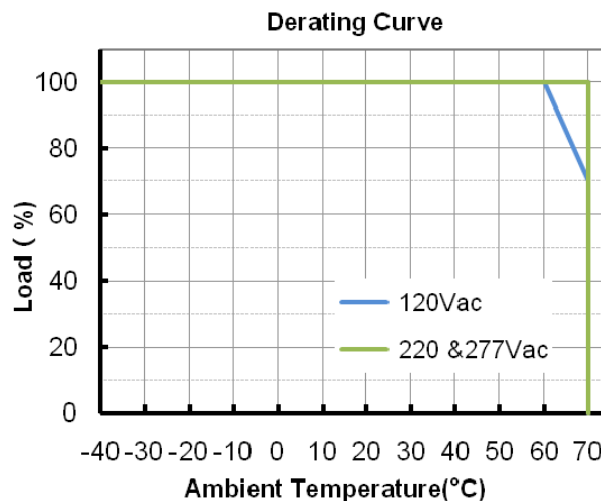
Parameter	Min.	Typ.	Max.	Notes
Operating Ambient Temperature	-40 °C	-	+70 °C	Humidity: 10% RH to 100% RH See Derating Curve for more details
Operating Case Temperature	-40 °C	-	+90 °C	Humidity: 5% RH to 100% RH
Storage Temperature	-40 °C	-	+ 90°C	Humidity: 5% RH to 100% RH

Specifications are subject to changes without notice.

## Safety & EMC Compliance

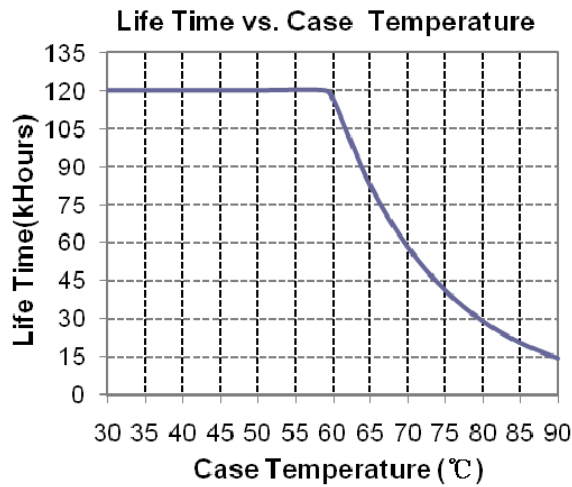
Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
CQC	GB19510.14-2009, GB19510.1-2009
PSE	J 61347-1(H20), J 61347-2-13(H21)
EMI Standards	Notes
EN 55015/ GB17743-2007	Conducted emission Test & Radiated emission Test
EN 61000-3-2/ GB17625.1-2003	Harmonic Current Emissions
EN 61000-3-3	Voltage Fluctuations & Flicker
PSE	J 55015 (H20)
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

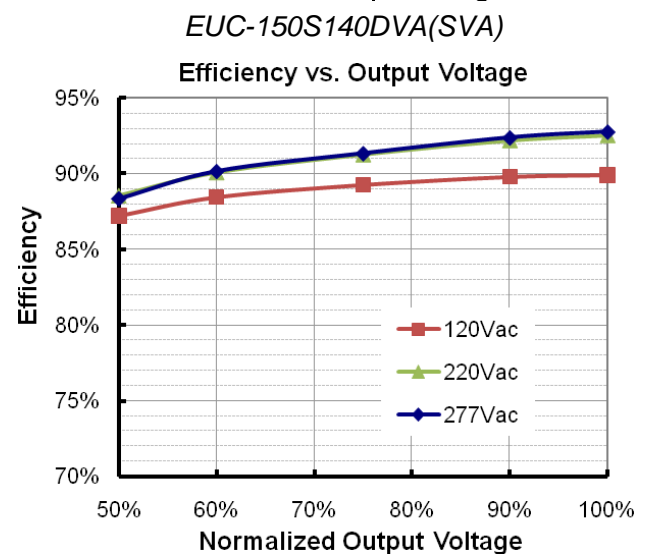
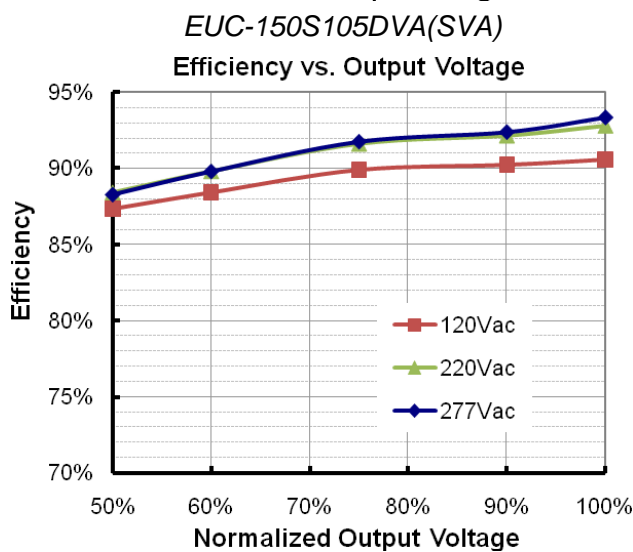
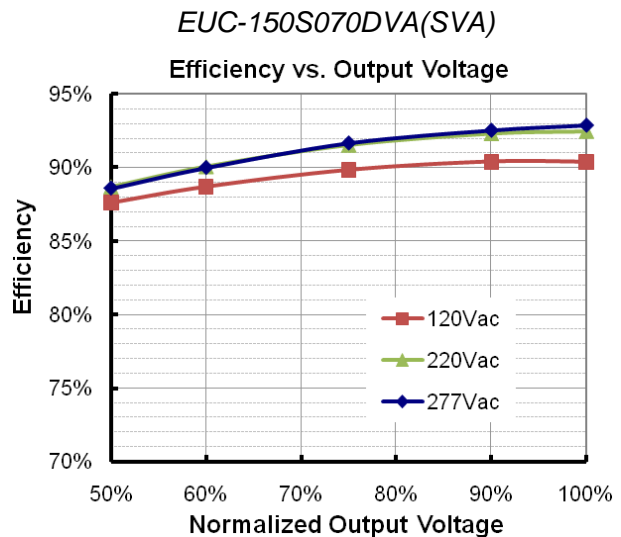
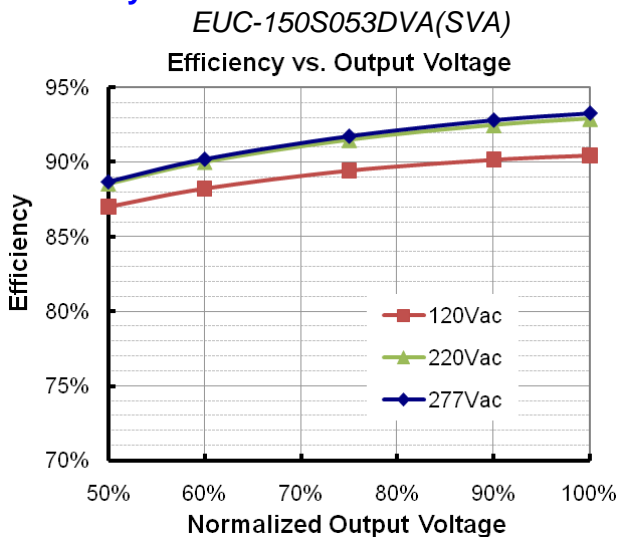


Specifications are subject to changes without notice.

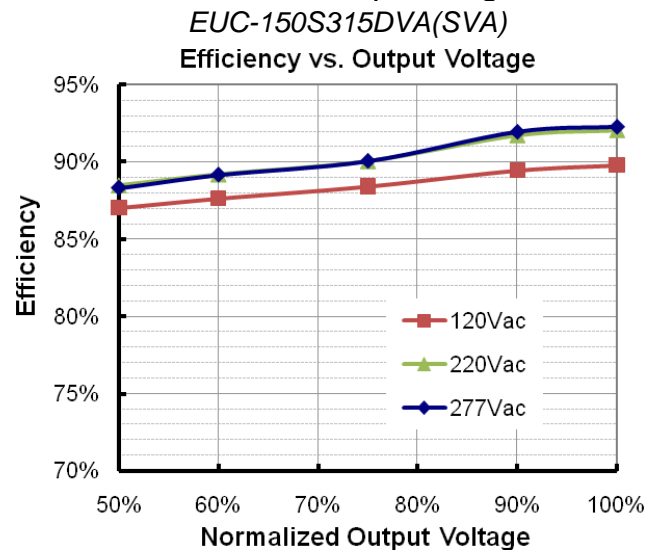
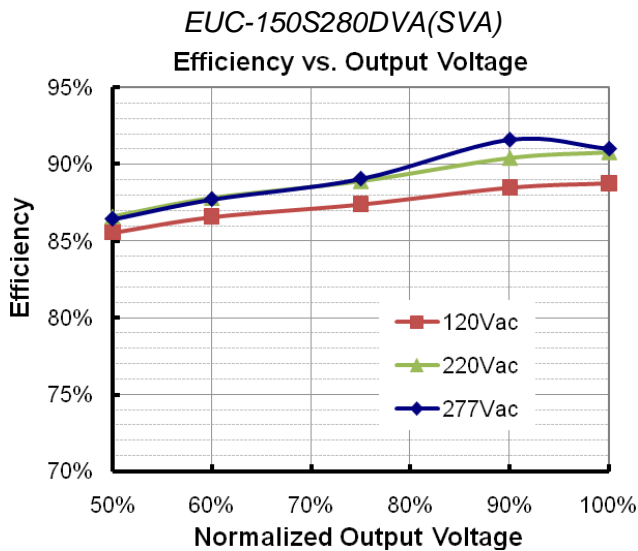
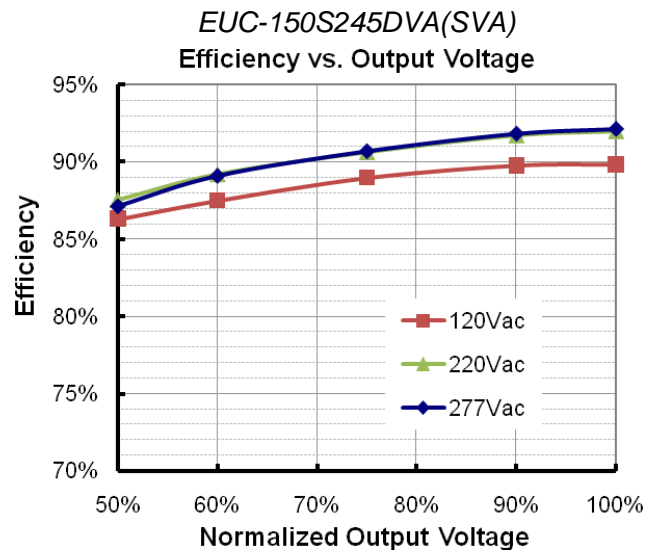
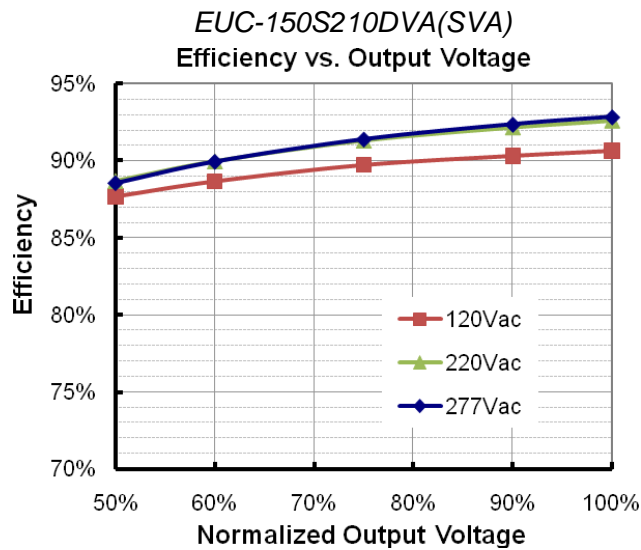
## Life Time vs. Case Temperature Curve



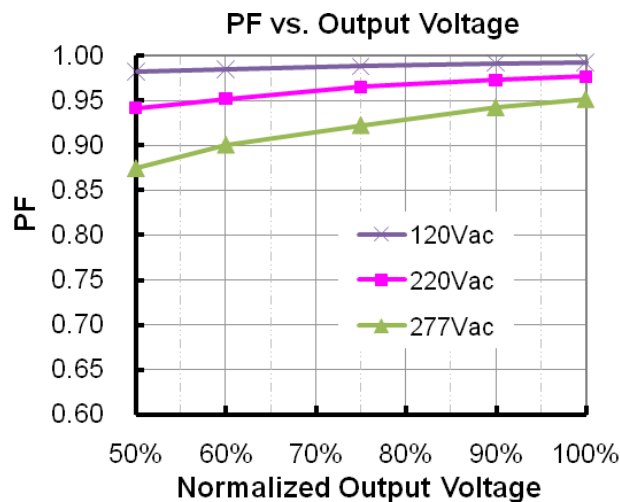
## Efficiency vs. Load



Specifications are subject to changes without notice.

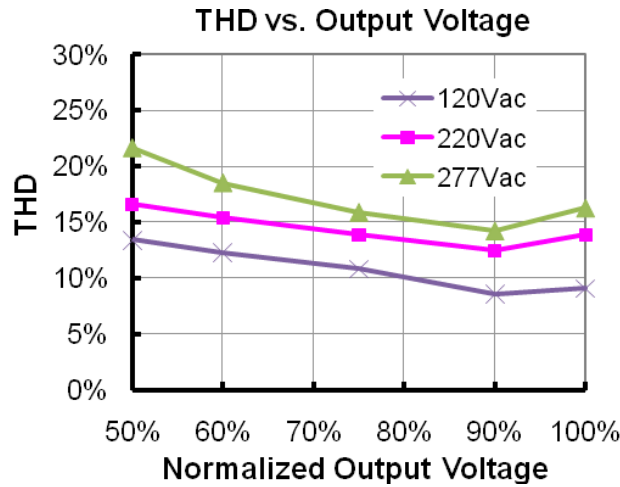


## Power Factor Characteristics



Specifications are subject to changes without notice.

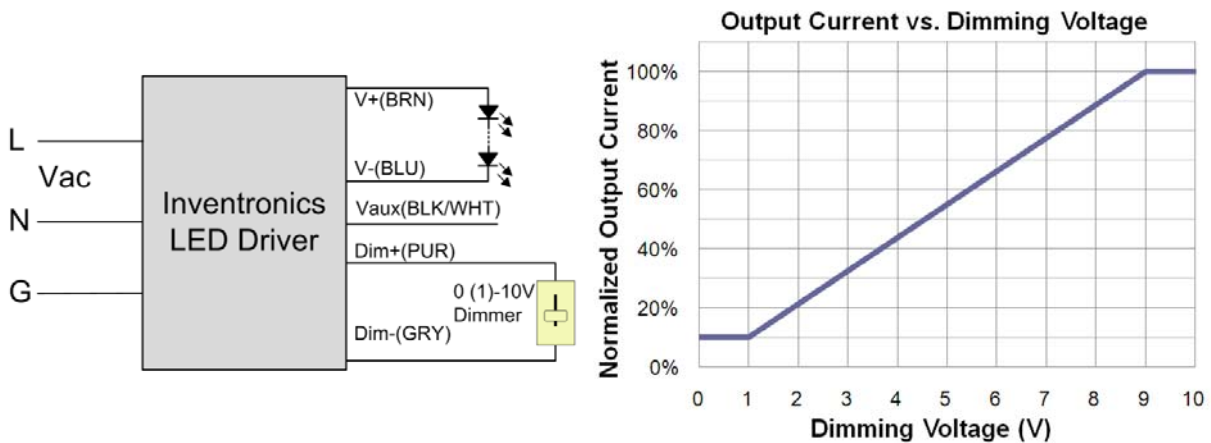
## Total Harmonic Distortion



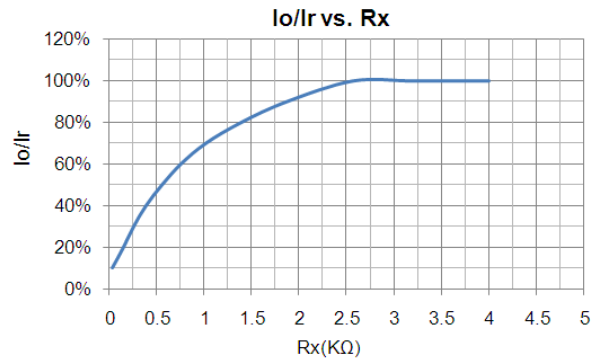
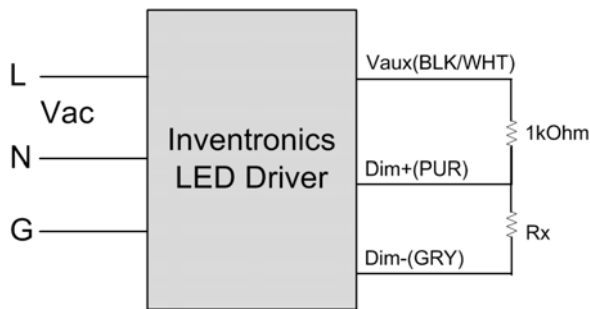
## Dimming Control

Parameter	Min.	Typ.	Max.	Notes
12V output voltage (Vaux)	10 V	12 V	13 V	
Vaux source current	-	-	20 mA	
Absolute maximum voltage Range on the 0~10V input pin	-20 V	-	20 V	
Source current on 0~10V input pin	100 uA	140 uA	180 uA	

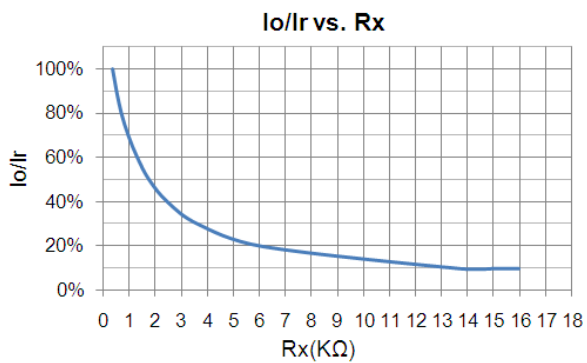
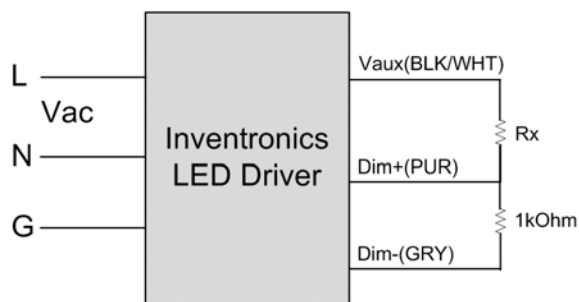
The dimmer control is operated from an input signal of 0 – 10 Vdc. Recommended implementations are provided below.



Implementation 1: DC Input



**Implementation 2: External Resistor**



**Implementation 3: External Resistor**

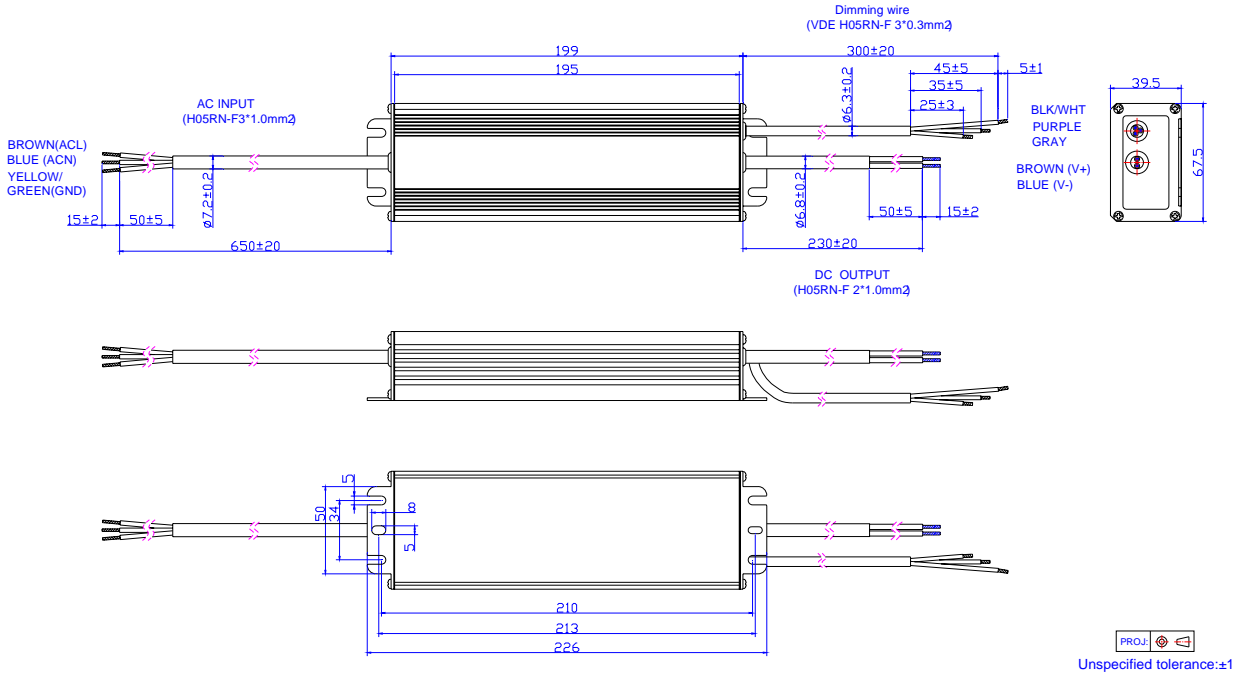
**Notes:**

1. The dimmer can also be replaced by an active 0-10V voltage source signal or passive components like resistors and zener.
2. The dimming signal is allowed to be less than 1V, when it is between 0 and 1V, the output level is 10%.
3. Do NOT connect the Gray Wire (dim-) and Blue Wire (V-) together.
4. The dimming section is not isolated from output.
5. If 0-10V dimming is not used, Dim + can be either open or connected to Vaux.

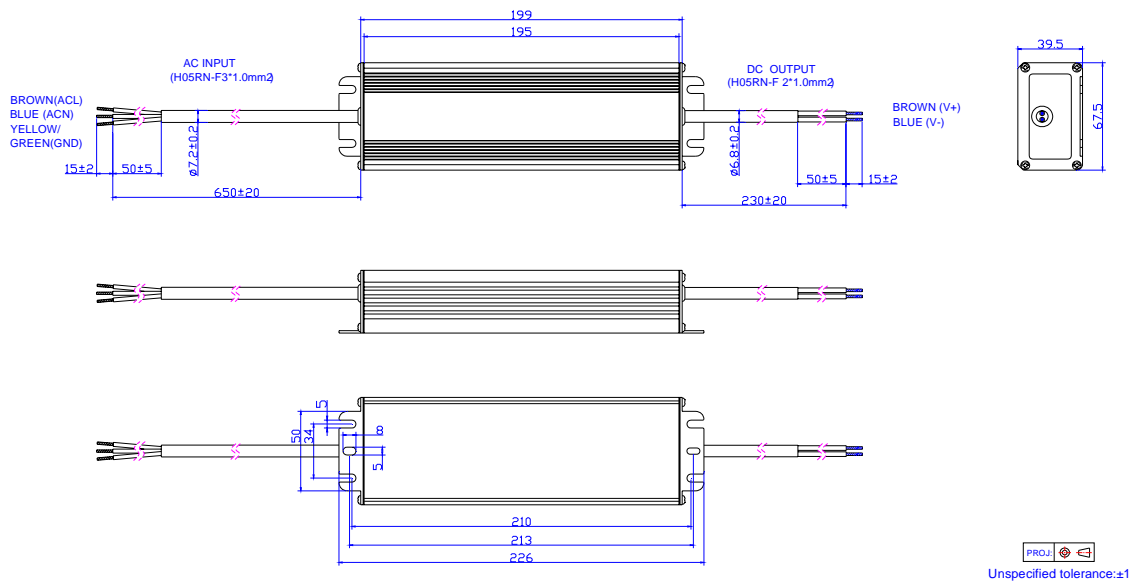


## Mechanical Outline

### EUC-150SxxxDVA



### EUC-150SxxxSVA



## 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
2013-01-18	A	Datasheets Release	/	/

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