

## Features

- High Efficiency (Up to 89%)
- Second Generation with Improved Performance
- Active Power Factor Correction (Typical 0.95)
- Constant Current Output
- Lightning Protection
- Waterproof (IP67)
- Dimming Control
- All-Around Protection: OVP, SCP,OLP,OTP
- SELV



## Description

The EUC-036SxxxDV(SV) series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. Features include Dimming control, over voltage protection, short circuit protection and over load protection.

## Models

Output Current	Input Voltage Range	Output Voltage Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2, 3)
					120Vac	220Vac	
350 mA	90 ~ 305 Vac	52~103Vdc	36 W	89%	0.96	0.95	EUC-036S035DV(SV)(4)
450 mA	90 ~ 305 Vac	40~80 Vdc	36 W	88%	0.96	0.95	EUC-036S045DV(SV)(4)
700 mA	90 ~ 305 Vac	26~52 Vdc	36 W	88%	0.96	0.95	EUC-036S070DV(SV)(4)
1050 mA	90 ~ 305 Vac	18~35 Vdc	36 W	87%	0.96	0.95	EUC-036S105DV(SV)(4)
1400 mA	90 ~ 305 Vac	13~26 Vdc	36 W	86%	0.96	0.95	EUC-036S140DV(SV)(4)
1750 mA	90 ~ 305 Vac	11~21 Vdc	36 W	85%	0.96	0.95	EUC-036S175DV(SV)(4)

**Notes:** (1) Measured at full load and 220 Vac input.

(2) The DV suffix may be changed to SV to omit the dimming function and remove the three wires associated with that function.

(3) A suffix -xxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.

(4) SELV

## Input Specifications

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

Specifications are subject to changes without notice.

## Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5% I <sub>O</sub>	-	5% I <sub>O</sub>	
No load output voltage				
I <sub>O</sub> = 350 mA	-	-	114V	
I <sub>O</sub> = 450 mA	-	-	87 V	
I <sub>O</sub> = 700 mA	-	-	58 V	
I <sub>O</sub> = 1050 mA	-	-	39 V	
I <sub>O</sub> = 1400 mA	-	-	31 V	
I <sub>O</sub> = 1750 mA	-	-	26 V	
Output Current Ripple	-		50% I <sub>O</sub>	Related to V-I Curve of the LED
Output Current Overshoot / Undershoot	-	-	10%I <sub>O</sub>	At full load condition.
Line Regulation	-	-	±1%	
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 120Vac input.
	-	0.3 s	0.5 s	Measured at 220Vac input.
Temperature coefficient	-	-	0.2%/°C	Case temperature = 0°C ~T <sub>c</sub> 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-T <sub>c</sub>	Hiccup mode. When the case temperature is higher than 110°C, the power supply will turn off automatically; when the case temperature is lower than 75°C, the power supply will be auto recovery.			

## General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				Measured at full load and 120 Vac input.
I <sub>O</sub> = 350 mA	87%	89%	-	
I <sub>O</sub> = 450 mA	86%	88%	-	
I <sub>O</sub> = 700 mA	86%	87%	-	
I <sub>O</sub> = 1050 mA	85%	86%	-	
I <sub>O</sub> = 1400 mA	85%	86%	-	
I <sub>O</sub> = 1750 mA	84%	85%	-	

Specifications are subject to changes without notice.

## General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Efficiency $I_o = 350 \text{ mA}$ $I_o = 450 \text{ mA}$ $I_o = 700 \text{ mA}$ $I_o = 1050 \text{ mA}$ $I_o = 1400 \text{ mA}$ $I_o = 1750 \text{ mA}$	87% 86% 86% 85% 85% 84%	89% 88% 88% 87% 86% 85%	- - - - - -	Measured at full load and 220 Vac input.
No Load Power Dissipation	-	-	6 W	
MTBF	371,000 Hours	-	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	111,700 Hours	-	Measured at 120Vac input, 80%Load and 60°C case temperature, See life time vs. Tc curve for the details
Case Temperature	-	-	90 °C	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.77 × 1.67× 1.34 172 × 42.4× 34.0			
Net Weight	-	480 g	-	

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

## Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-40 °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

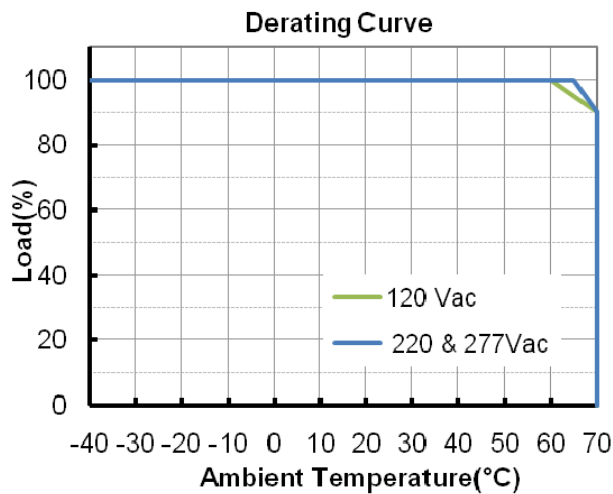
Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic Current Emissions
EN 61000-3-3	Voltage Fluctuations & Flicker
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: level 3, criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV

Specifications are subject to changes without notice.

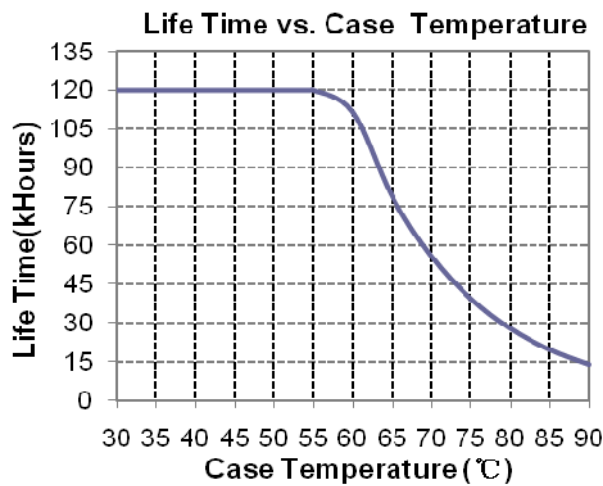
## Safety & EMC Compliance (Continued)

EMS Standards	Notes
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



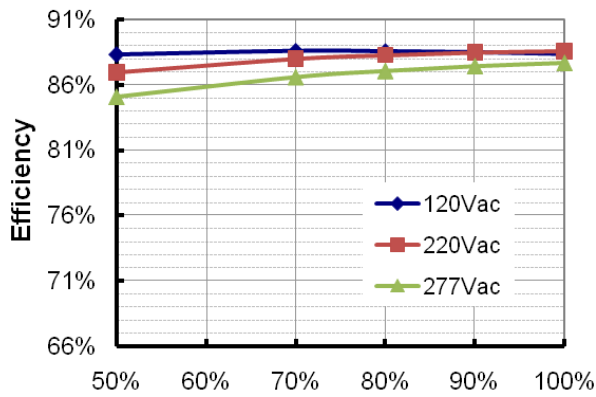
## Life Time vs. Case Temperature Curve



## Efficiency vs. Load

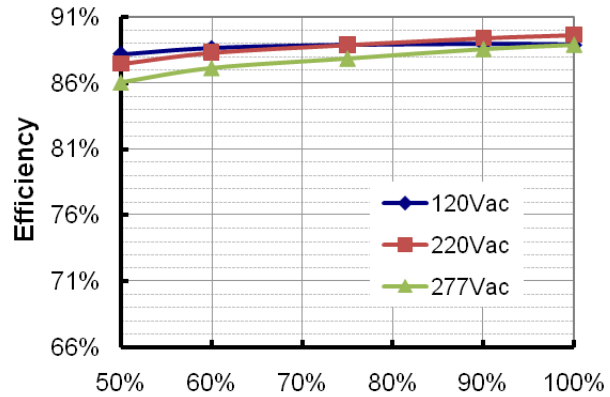
EUC-036S035DV(SV)

Efficiency vs. Output Voltage



EUC-036S045DV(SV)

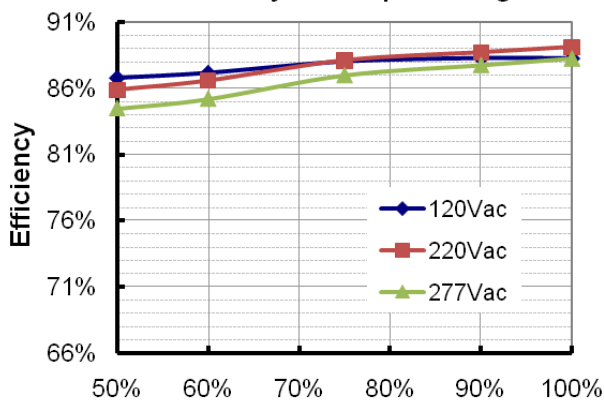
Efficiency vs. Output Voltage



Normalized Output Voltage

EUC-036S070DV(SV)

Efficiency vs. Output Voltage



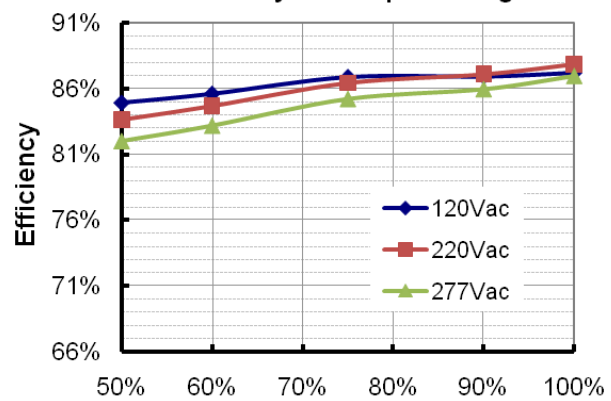
Normalized Output Voltage

EUC-036S105DV(SV)

Normalized Output Voltage

EUC-036S105DV(SV)

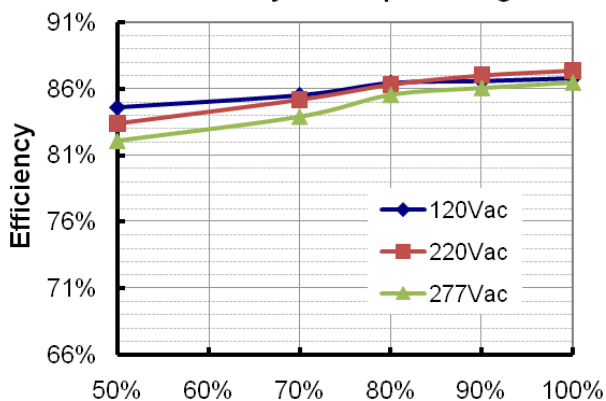
Efficiency vs. Output Voltage



Normalized Output Voltage

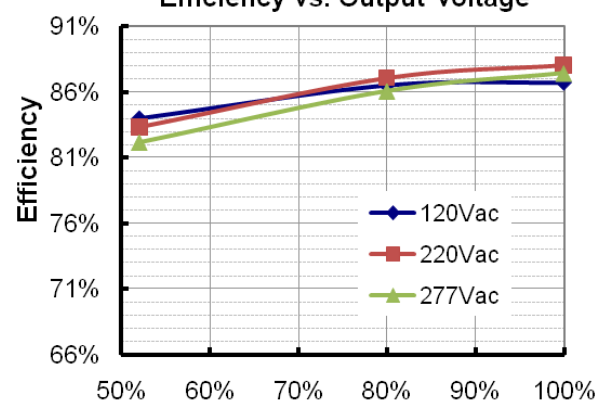
EUC-036S140DV(SV)

Efficiency vs. Output Voltage



Normalized Output Voltage

Efficiency vs. Output Voltage

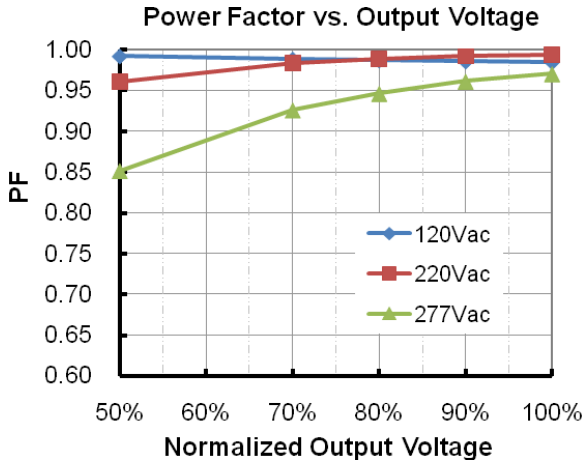


Normalized Output Voltage

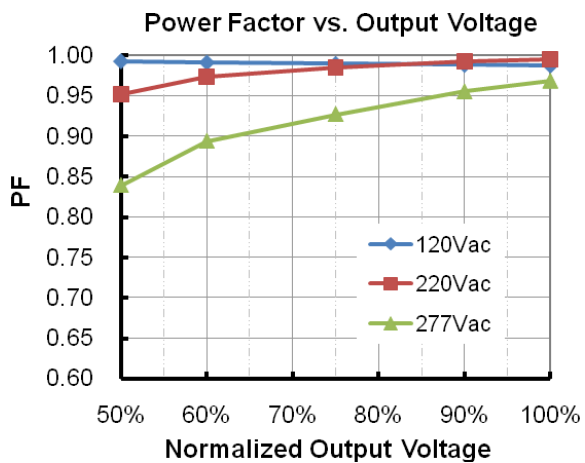
Specifications are subject to changes without notice.

## Power Factor Characteristics

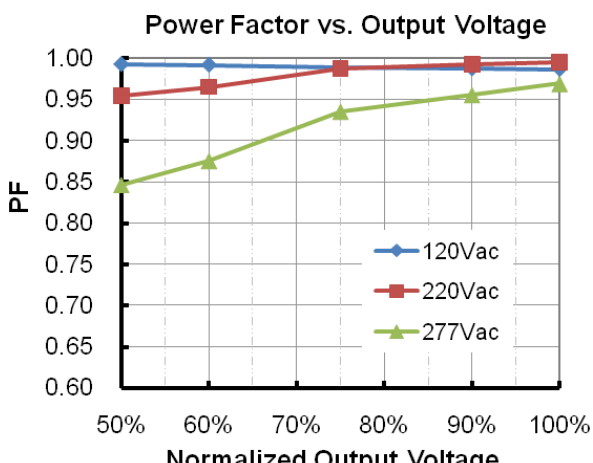
EUC-036S035DV(SV)



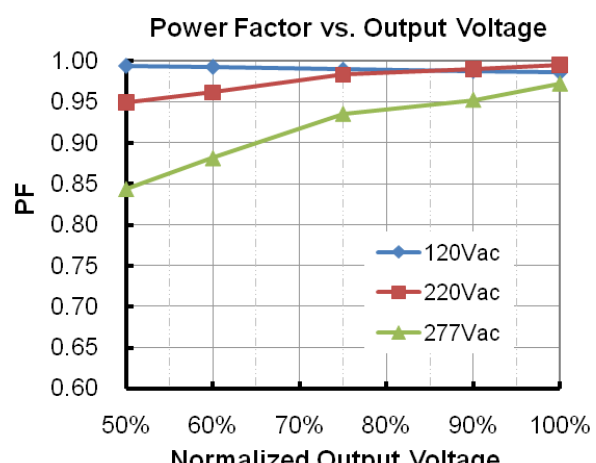
EUC-036S045DV(SV)



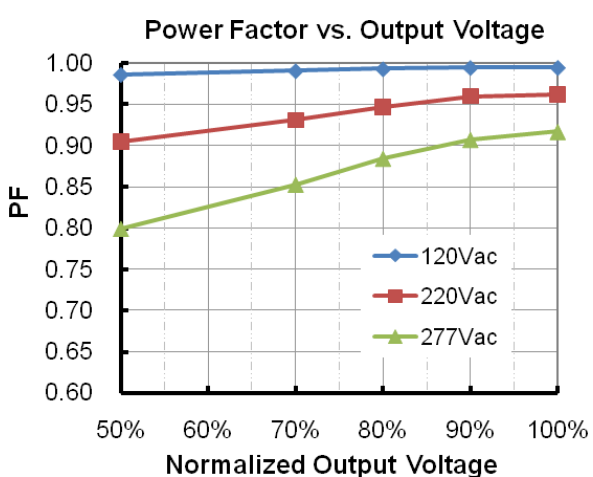
EUC-036S070DV(SV)



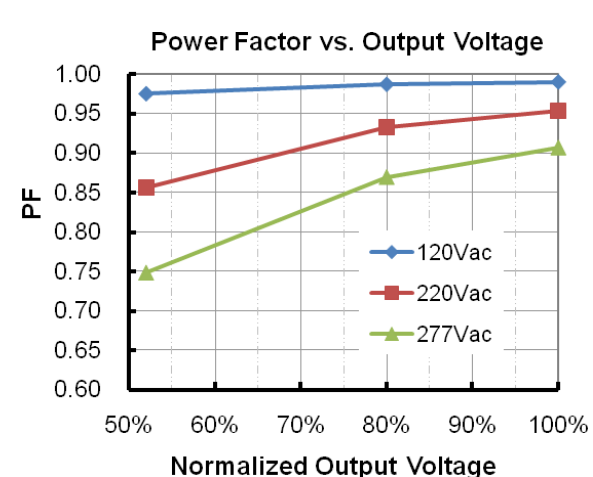
EUC-036S105DV(SV)



EUC-036S140DV(SV)

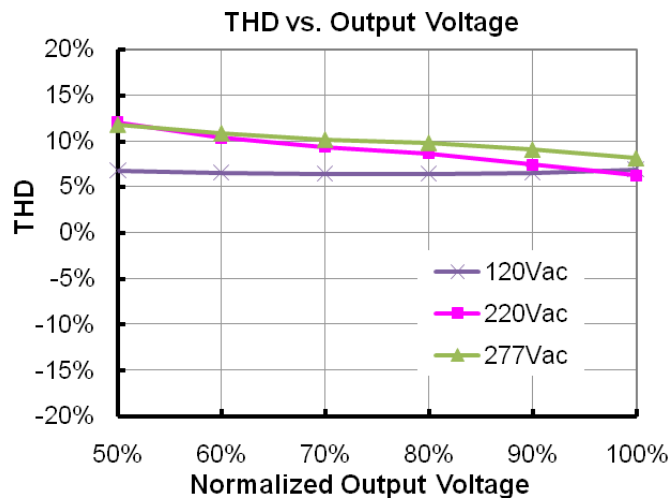


EUC-036S175DV(SV)



Specifications are subject to changes without notice.

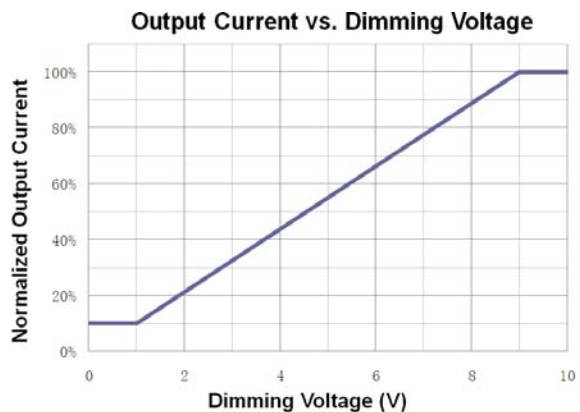
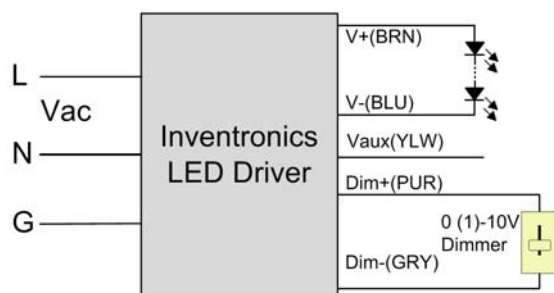
## Total Harmonic Distortion Curve (700mA Model)



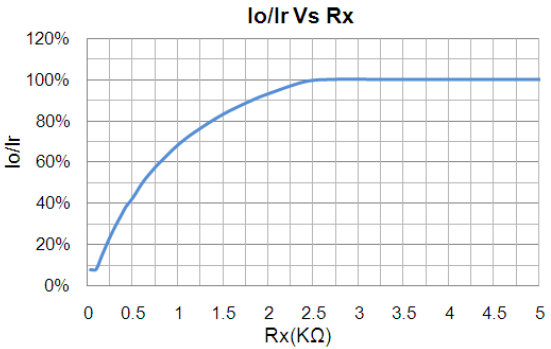
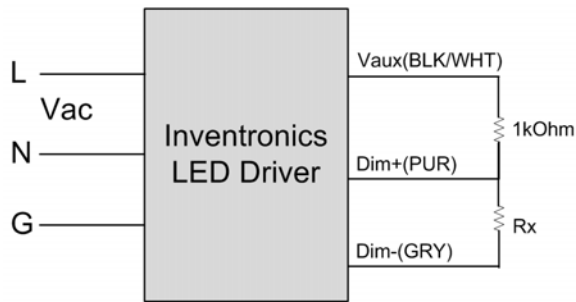
## Dimming Control (On Secondary Side)

Parameter	Min.	Typ.	Max.	Notes
12V Output Voltage	10.8 V	12 V	13.2 V	
12V Output Source Current	0 mA	-	20 mA	
Absolute Maximum Voltage on the 0~10V Input Pin	0 V	-	15 V	
Source Current on 0~10V Input Pin	0 uA	-	200 uA	

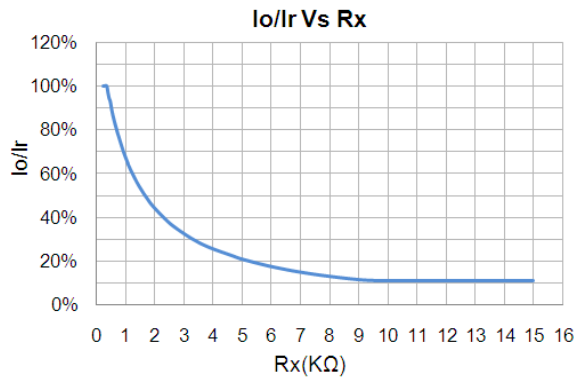
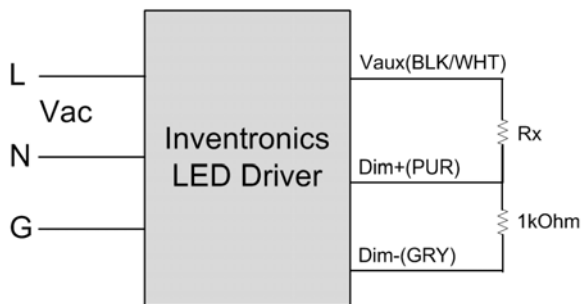
The dimmer control may be operated from either a dimmer or from an input signal of 0 – 10 Vdc. The recommended implementation is provided below.



Implementation 1: DC Input



### Implementation 2: External Resistor



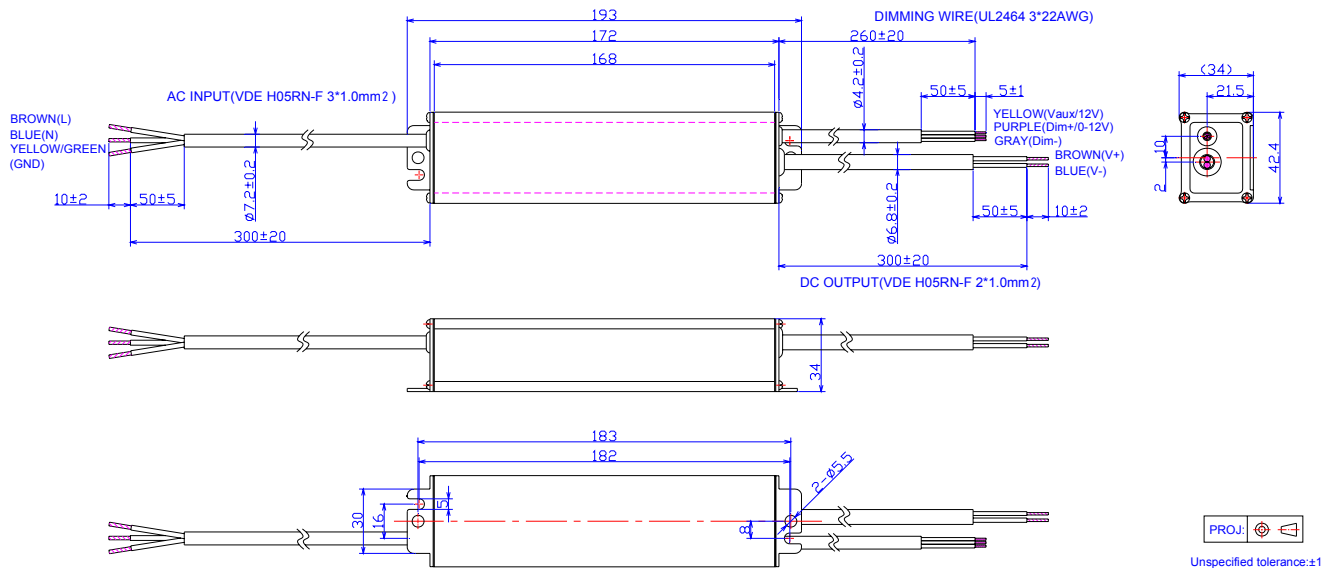
### Implementation 3: External Resistor

**Notes:**

- Do not connect the GND of dimming to the output, otherwise, the LED driver cannot work normally.
- If 0-10V dimming is not used, Dim + can be either open or connected to Vaux.

### Mechanical Outline

EUC-036SxxxDV

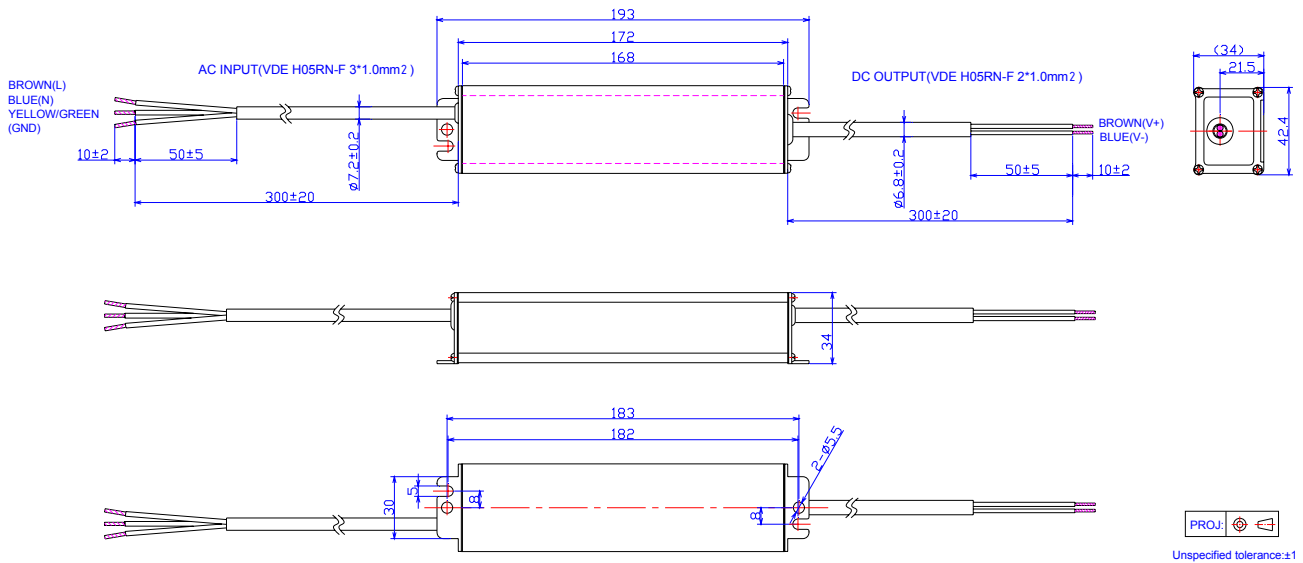


PROJ: Unspecified tolerance: ±1

Specifications are subject to changes without notice.



EUC-036SxxxSV



## 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
2012-5-4	A	Datasheets Release	/	/
2012-05-25	B	EN 61000-4-5--- line to line 4 kV, line to earth 6 kV	/	Corrected
		Life time	/	50,000 Hours
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
		Temperature co-efficient	/	Added
2012-11-21	H	Life time	Min 50,000hrs	Typical 111,700hrs
		Life time Curve	/	Updated
		Mechanical Outline	/	Updated
		THD Curve	/	Added
		Io/Ir Vs Rx Curve	/	Added
		EFF and PF Curve of other models	/	Added

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